RENAULT

SCENIC

01

Technical data

Notes			Specified value	Measured value
Vehicle identification				
	No. of cylinders	Type	**4/OHC**	
	Capacity	cc	**1870**	
	Compression ratio	:1	**18,3**	
	Fuel system	Make	**Bosch**	
Injection system				
	Air metering	Type	**Mass**	
	Fuel/injection pump assembly	Make	**Bosch**	
	Pump type		**Common rail**	
	Injection sequence		**1-3-4-2**	
	Injector nozzle	Make	**Bosch**	
	Engine coolant temperature (ECT) sensor	Ohm/°C	**2252/25**	
	Crankshaft position (CKP) sensor/engine speed (RPM) sensor	Ohm	**720-880**	
Tuning and emissions				
	Idle speed	rpm	**800±50**	
	Rated no load speed	rpm	**4700-5000**	
	Oil temperature	°C	**80**	
	Water temperature	°C	**90**	
	Maximum time at governed speed	secs	**1,0**	
	Test mode	A/B	**B**	
	Probe type	1/2	**1**	
	Smoke opacity - EU limit	m-1 (%)	**3,00 (73)**	
	Smoke opacity - homologation value	m-1 (%)	**1,50 (46)**	
Starting and charging				
	Battery	V/RC(Ah)	**12**	
	Alternator output	A/V/rpm	**105/14,8/3000**	
Glow plugs				
	Glow plug nominal rating	V/A	**12/20**	
	Glow plug - part no.	Original equipment	**Beru**	
	Glow plug - part no.	Beru	**GN 018**	
	Glow plug - part no.	NGK	**NGK Y-732J**	
Service checks and adjustments				
	Valve clearance - INLET	mm	**0,15-0,25 cold**	
	Valve clearance - EXHAUST	mm	**0,35-0,45 cold**	
	Oil pressure	bar/rpm	**3,5/3000**	
	Radiator cap	bar	**1,3-1,5**	
	Thermostat (primary/secondary) open	°C	**90**	
Lubricants and capacities				
Engine oil options				
	Ambient temperature range		**-30°C —>**	
	Engine oil grade	SAE	**0W/40**	
347	Engine oil classification	OEM	**RN0700**	
	Engine oil classification	API/ACEA	**CF/B4**	
	Ambient temperature range		**-25°C —>**	
327	Engine oil grade	SAE	**0W/30, 5W/30**	
347	Engine oil classification	OEM	**RN0720**	
	Engine oil classification	API/ACEA	**CF/C3**	
	Ambient temperature range		**-25°C —>**	
	Engine oil grade	SAE	**5W/40**	
347	Engine oil classification	OEM	**RN0700**	

	Engine oil classification	API/ACEA	**CF/B4**	
	Ambient temperature range		**-20°C —>**	
	Engine oil grade	SAE	**10W/40**	
347	Engine oil classification	OEM	**RN0700**	
	Engine oil classification	API/ACEA	**CF/B4**	
	Engine with filter(s)	litres	**4,9**	
Other lubricants and capacities				
	Manual transmission oil grade	SAE	**75W/80**	
	Manual transmission oil classification		**GL-4**	
	Manual transmission	litres	**2,1**	
	Automatic transmission fluid	Type	**Dexron III**	
415	Automatic transmission (drain & refill)	litres	**3,5**	
	Cooling system - total capacity	litres	**7,6**	
	Brake fluid	Type	**DOT 4**	
	Brake fluid	litres	**0,7**	
Tightening torques				
	Cylinder head instructions			
Cylinder head				
		Renew bolts	**Yes**	
	Stage 1	Tighten	**30 Nm**	
	Stage 2	Tighten	**30 Nm**	
	Stage 3	Tighten	**230°±6°**	
Other engine tightening torques				
	Main bearings	Renew bolts/nuts	**Yes**	
	Main bearings	Stage 1	**30 Nm**	
	Main bearings	Stage 2	**65 Nm**	
	Big end bearings	Renew bolts/nuts	**Yes**	
	Big end bearings	Stage 1	**20 Nm**	
	Big end bearings	Stage 2	**50 Nm**	
	Oil pump to cylinder block		**25 Nm**	
	Sump bolts		**14 Nm**	
	Sump drain bolt		**20 Nm**	
65	Flywheel/driveplate		**55 Nm**	
	Clutch pressure plate		**20 Nm**	
340	Crankshaft pulley/damper centre bolt			
	Camshaft sprocket/gear		**60 Nm**	
	Camshaft carrier/cap		**20 Nm**	
	Camshaft/rocker cover		**12 Nm**	
	Inlet manifold to cylinder head		**28 Nm**	
	Exhaust manifold to cylinder head		**28 Nm**	
	Water pump		**10 Nm**	
	Injector/clamp		**27 Nm**	
	Injector pipe unions		**25 Nm**	
	Fuel/injection pump sprocket/gear		**70 Nm**	
	Fuel/injection pump mounting		**30 Nm**	
	Glow plugs		**15 Nm**	
	Crankshaft position (CKP) sensor/engine speed (RPM) sensor		**10 Nm**	
	Camshaft position (CMP) sensor		**9 Nm**	
	Engine oil pressure switch		**38 Nm**	
	Oil filter		**12 Nm**	
Chassis tightening torques				
	Front hub		**280 Nm**	
230	Rear hub		**220 Nm**	

	Steering wheel		**44 Nm**	
	Steering rack/box mounting		**105 Nm**	
	Steering track rod end		**37 Nm**	
	Brake disc to hub	Front	**15 Nm**	
	Brake caliper to carrier	Front	**32 Nm**	
	Brake caliper carrier to hub	Front	**105 Nm**	
	Brake disc to hub	Rear	**15 Nm**	
	Brake caliper to carrier	Rear	**36 Nm**	
	Brake caliper carrier to hub	Rear	**105 Nm**	
	ABS sensor	Front	**8 Nm**	
	ABS sensor	Rear	**8 Nm**	
460	Road wheels		**130 Nm**	
Brake disc and drum dimensions				
	Minimum disc thickness - ventilated	Front	**21,8 mm**	
	Minimum disc thickness	Rear	**6,5 mm**	
	Disc runout	Front	**0,07 mm**	
	Disc runout	Rear	**0,07 mm**	
118	Minimum pad thickness	Front	**6 mm**	
118	Minimum pad thickness	Rear	**6 mm**	
Air conditioning				
353	No. of AC service connectors		**One high-pressure service connector**	
	Air conditioning restrictor type		**Expansion valve**	
	Air conditioning refrigerant	Type	**R134a**	
	Air conditioning refrigerant quantity	grams	**550±35**	
	Air conditioning oil	Type	**Planetelf PAG 488**	
	Air conditioning oil quantity	cmł	**150**	
	Air conditioning oil viscosity	ISO	**150**	

Autodata Note 347

Exceeds ACEA classification and can be used for all model years.

Autodata Note 327

Models with diesel particulate filter (DPF)
Low ash engine oil MUST be used to ensure long service life of diesel particulate filter (DPF).

Autodata Note 415

1) Ensure selector lever in 'P'.
2) Connect diagnostic equipment to check ATF temperature.
3) Ensure ATF temperature is 60°C. Drain ATF.
4) Fill transmission with specified amount.
5) Run engine until ATF temperature is 60°C.
6) Remove level plug with engine running. If no fluid loss apparent or the quantity collected is below 0,1 litre switch off engine, add 0,5 litre of oil and let the transmission cool to 50°C.
7) Repeat steps 5 and 6 until 0,1 litre of oil is obtained.
NOTE: Always replace the plastic overflow pipe.
Fig. 111786
Fig. 100287

Autodata Note 65

Use new nuts/bolts.

Autodata Note 340

Use new bolt.
Bolt with washer = 40 Nm + 110±10°
Bolt without washer = 20 Nm + 115±15°

Autodata Note 230

LWB (Grande Scénic) = 280 Nm

Autodata Note 460

Lightly coat mating surfaces between wheel centre hole and hub (use copper anti-seize grease).

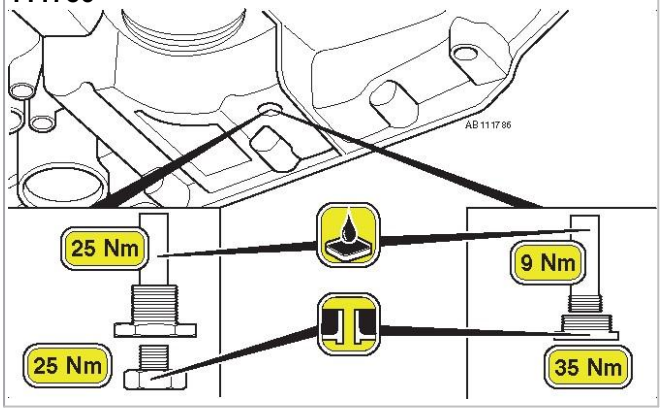
Autodata Note 118

Measurement includes lining and pad/shoe backing plate.

Autodata Note 353

High-pressure service connector is fitted to the low-pressure circuit and an adaptor to convert to low-pressure service connector is recommended.
Fig. 111454

111786



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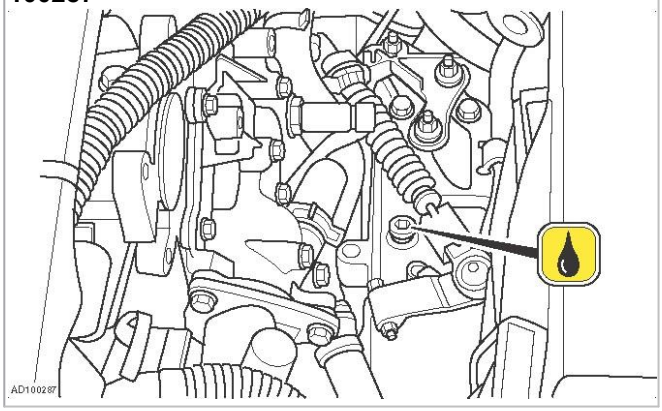

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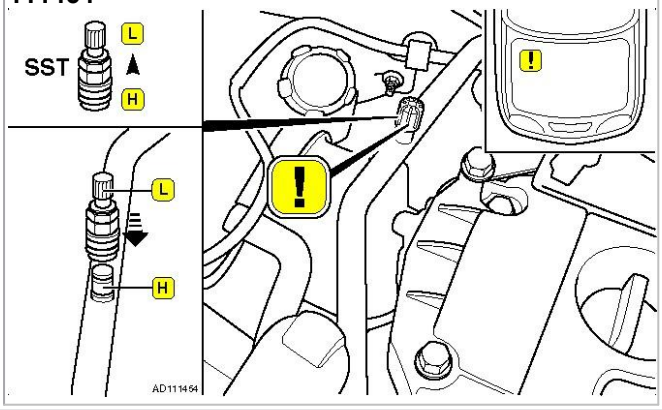
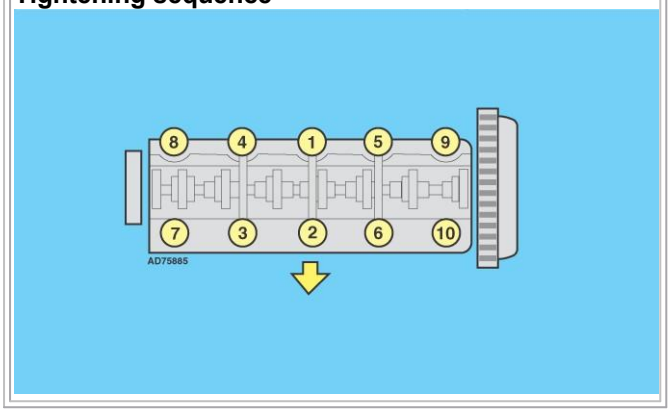


Tightening sequence



02

Wheel alignment

Dimensions				
Notes			**Specified value**	**Measured value**
	Wheelbase	mm	**2685**	
	Track - front/rear	mm	**1514/1514**	
Tightening torques				
Notes			**Specified value**	**Measured value**
736	Tightening torque - steel wheels		**130 Nm**	
	Trackrod locknut/clamp		**53 Nm**	
Checking range - Front wheels				
Notes			**Specified value**	**Measured value**
	Load positioning		**Unladen**	
	Toe-in (N = negative, toe-out)	mm	**0 - 2,36N**	
	Toe-in	deg	**0° - 0°20'N**	
	Toe-in	deg-1/100	**0 - 0,33N**	
541	Camber	deg		
542	Camber	deg-1/100		
543	Castor	deg		
544	Castor	deg-1/100		
Setting data - All wheels				
Notes			**Specified value**	**Measured value**
	Load positioning		**Unladen**	
	Toe-in (N = negative, toe-out)	mm	**1,18N±1,18**	
	Toe-in	deg	**0°10'N±10'**	
	Toe-in	deg-1/100	**0,17N±0,17**	
545	Camber	deg		
546	Camber	deg-1/100		
	Tolerance left/right	deg	**0°30'**	
	Tolerance left/right	deg-1/100	**0,50**	
	Camber adjustment		**Not adjustable**	
547	Castor	deg		
548	Castor	deg-1/100		
	Tolerance left/right	deg	**0°30'**	
	Tolerance left/right	deg-1/100	**0,50**	
	Castor adjustment		**Not adjustable**	
549	KPI (SAI)	deg		
550	KPI (SAI)	deg-1/100		
	Rear toe-in	mm	**4,14±2,96**	
	Rear toe-in	deg	**0°35'±25'**	
	Rear toe-in	deg-1/100	**0,58±0,42**	
	Rear toe-in adjustment		**Not adjustable**	
	Rear camber	deg	**1°25'N±20'**	
	Rear camber	deg-1/100	**1,42N±0,33**	
	Rear camber adjustment		**Not adjustable**	

Autodata Note 736

Autodata Note 541

H1-H2=124 mm	0°30'N-0°30'P
H1-H2=130 mm	0°32'N-0°28'P
H1-H2=149 mm	0°40'N-0°20'P
H1-H2=155 mm	0°43'N-0°17'P

- Fig.29248

Autodata Note 542

H1-H2=124 mm	0,50N-0,50P
H1-H2=130 mm	0,53N-0,47P
H1-H2=149 mm	0,67N-0,33P
H1-H2=155 mm	0,72N-0,28P

- Fig.29248

Autodata Note 543

H3-H2=84 mm	4°24'-5°24'
H3-H2=74 mm	4°42'-5°42'
H3-H2=50 mm	5°30'-6°30'
H3-H2=47 mm	5°42'-6°42'

- Fig.29248

Autodata Note 544

H3-H2=84 mm	4,40-5,40
H3-H2=74 mm	4,70-5,70
H3-H2=50 mm	5,50-6,50
H3-H2=47 mm	5,70-6,70

- Fig.29248

Autodata Note 545

H1-H2=124 mm	0°±30'
H1-H2=130 mm	0°2'N±30'
H1-H2=149 mm	0°10'N±30'
H1-H2=155 mm	0°13'N±30'

- Fig.29248

Autodata Note 546

H1-H2=124 mm	0±0,50
H1-H2=130 mm	0,03N±0,50
H1-H2=149 mm	0,17N±0,50
H1-H2=155 mm	0,22±0,50

- Fig.29248

Autodata Note 547

H3-H2=84 mm	4°54'±30'
H3-H2=74 mm	5°12'±30'
H3-H2=50 mm	6°±30'
H3-H2=47 mm	6°12'±30'

- Fig.29248

Autodata Note 548

H3-H2=84 mm	4,90±0,50
H3-H2=74 mm	5,20±0,50
H3-H2=50 mm	6±0,50
H3-H2=47 mm	6,20±0,50

- Fig.29248

Autodata Note 549

H1-H2=124 mm	10°52'±30'
H1-H2=130 mm	11°±30'
H1-H2=149 mm	11°18'±30'
H1-H2=155 mm	11°28'±30'

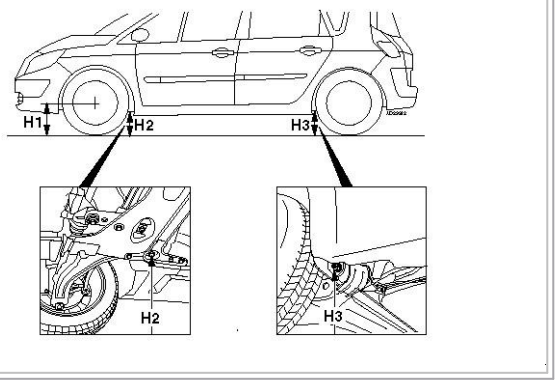
- Fig.29248

Autodata Note 550

H1-H2=124 mm	10,87±0,50
H1-H2=130 mm	11±0,50
H1-H2=149 mm	11,30±0,50
H1-H2=155 mm	11,47±0,50

- Fig.29248

29248

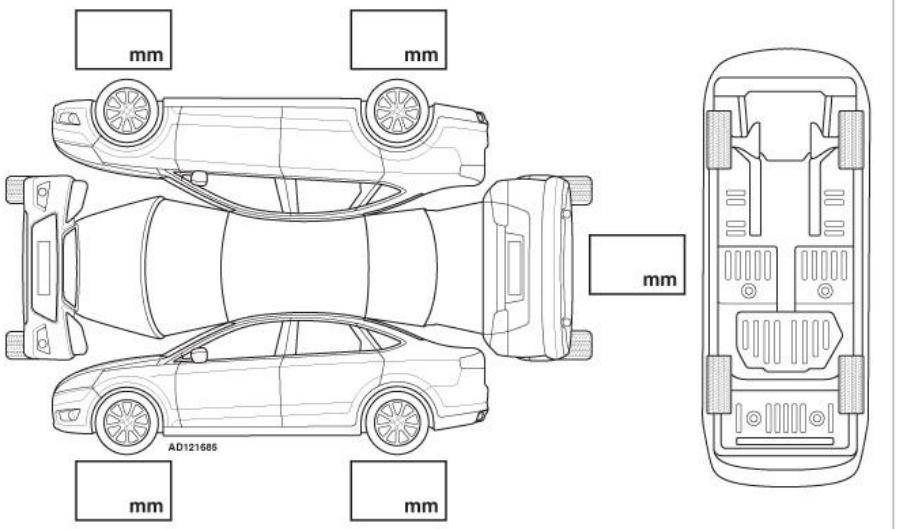


03

Tyre sizes and pressures

			Unladen		Laden	
Rim size	**Tyre size**	**Model**	**Front bar(psi)**	**Rear bar(psi)**	**Front bar(psi)**	**Rear bar(psi)**
6,5x15	195/65 R 15 T		2,4 (35)	2,2 (32)	2,4 (35)	2,2 (32)
6,5x16	205/60 R 16 H/V		2,3 (33)	2,1 (30)	2,5 (36)	2,3 (33)
		2,0 dCi	2,5 (36)	2,2 (32)	2,7 (39)	2,2 (32)
6,5x16	205/55 R 16 H/V		2,2 (32)	2,0 (29)	2,4 (35)	2,1 (30)
		2,0 Turbo	2,4 (35)	2,2 (32)	2,6 (38)	2,4 (35)
195x440	205-650 R440		2,3 (33)	2,1 (30)	2,3 (33)	2,1 (30)
		2,0 Turbo	2,4 (35)	2,2 (31)	2,4 (35)	2,2 (31)
6,5x17	205/55 R 17 V		2,4 (35)	2,2 (32)	2,5 (36)	2,3 (33)
		2,0 Turbo	2,4 (35)	2,2 (32)	2,6 (38)	2,4 (35)
		2,0 dCi	2,6 (38)	2,2 (32)	2,7 (39)	2,2 (32)
6,5x17	205/65 R 17 V		2,4 (35)	2,2 (31)	2,5 (36)	2,3 (33)

Tyre tread depth



04

Timing belts

Important note

NOTE: Timing belt check and replacement intervals are subject to change at any time. To ensure that you are using the most up-to-date and accurate information available connect to Autodata Online. Contact your distributor about connecting to Autodata Online.

Important Note

All service items are vital to the smooth running and reliability of a vehicle, none more so than the timing belt and its associated components. For this reason we have highlighted important information from the manufacturers' service schedules covering the intervals for checks and replacements. Be sure that you make the vehicle owner aware of this information. Industry best practice is to ensure that the vehicle owner is made aware of the importance of replacing the timing belt and its associated components according to the manufacturers' specification. The service history and the use of the vehicle must be considered when deciding the correct course of action. If there is any doubt to the serviceability of the belt and its components, they should be replaced.

Timing belt replacement intervals

- Where possible the recommended intervals have been compiled from vehicle manufacturers' information. In a few instances no recommendation has been made by the manufacturer and the decision to replace the belt must be made from the evidence of a thorough examination of the condition of the existing belt.
- Apart from the visible condition of the belt, which is explained fully in the General Instructions/Toothed Timing Belts section, there are several other factors which must be considered when checking a timing belt:

1. Is the belt an original or a replacement?
2. When was the belt last replaced and was it at the correct mileage?
3. Is the service history of the vehicle known?
4. Has the vehicle been operated under arduous conditions which might warrant a shorter replacement interval?
5. Is the general condition of other components in the camshaft drive, such as the tensioner, pulleys, and other ancillary components driven by the timing belt, typically the water pump, sound enough to ensure that the life of the replacement belt will not be affected?
6. If the condition of the existing belt appears good, can you be satisfied that the belt will not fail before the next check or service is due?
7. If the belt does fail, have you considered the consequences? If the engine is an INTERFERENCE type then considerable expensive damage may well be the result.
8. The cost of replacing a belt as part of a routine service could be as little as 5 to 10% of the repair cost following a belt failure. Make sure your customer is aware of the consequences.
9. If in doubt about the condition of the belt - RENEW it.
10. Refer to the Toothed Timing Belts/Service Replacement section for further information relating to arduous or adverse operating conditions, inspection and service replacement.

Replacement Interval Guide

Replacement Interval Guide

Renault recommend replacement every 72,000 miles or 5 years (tensioner pulley must also be replaced).

The previous use and service history of the vehicle must always be taken into account.

Check For Engine Damage

Check For Engine Damage

CAUTION: This engine has been identified as an INTERFERENCE engine in which the possibility of valve-to-piston damage in the event of a timing belt failure is MOST LIKELY to occur. A compression check of all cylinders should be performed before removing the cylinder head(s).

Repair Times - hrs

Repair Times - hrs

With electric parking brake (EPB)	
Remove and install	3,20
Without electric parking brake (EPB)	
Remove and install	3,20

Special Tools

Special Tools

- Crankshaft timing pin - Renault No.Mot.1054.
- Engine support tool - Renault Nos.Mot.1453/01.
- Tension gauge - Renault Nos.Mot.1505/1715.
- Tensioning tool - Renault No.Mot.1543.
- Tensioning tool socket - Renault No.Mot.1705.
- Scénic/Grand Scénic II: Wiper arm extractor - Renault No.Mot.1552.

Special Precautions

Special Precautions

- Disconnect battery earth lead.
- DO NOT turn crankshaft or camshaft when timing belt removed.
- Remove glow plugs to ease turning engine.
- Turn engine in normal direction of rotation (unless otherwise stated).
- DO NOT turn engine via camshaft or other sprockets.
- Observe all tightening torques.

Removal

Removal

NOTE: If timing belt has failed, it is possible that the camshaft sprocket key has been damaged which would cause incorrect valve timing.

1. Raise and support front of vehicle.
2. Scénic/Grand Scénic II - remove:
   - Plenum chamber cover.

- Wiper arms. Use tool No.Mot.1552.
- Plenum chamber front panel.
- Air filter access panel.

3. All models - remove:
   - Engine top cover.
   - Engine undershield.
   - RH front wheel.
   - RH inner wing panel.
   - Auxiliary drive belt.

NOTE: DO NOT refit used belt.

4. Support engine. Use tool Nos.Mot.1453/01.
5. Remove:
   - Engine lower tie-bar.
   - Scénic/Grand Scénic II: Engine upper tie-bar.

NOTE: Scénic/Grand Scénic II - mark position of RH engine mounting before removal.

   - RH engine mounting.
   - Blanking plug from cylinder block [1] .
   - Flywheel cover.
   - Timing belt cover [2] .

6. The following procedure must be followed to prevent timing pin entering crankshaft web balance hole:
   - Turn crankshaft clockwise until camshaft sprocket timing marks almost aligned [3] .
   - Insert timing pin in crankshaft [4] . Tool No.Mot.1054.
   - Turn crankshaft slightly clockwise until timing pin locates in crankshaft web [4] .
   - Ensure camshaft sprocket timing marks aligned [5] .

7. Lock flywheel with large screwdriver. Slacken crankshaft pulley bolt [6] .
8. Remove:
   - Crankshaft pulley bolt [6] .
   - Crankshaft pulley [7] .

9. Ensure crankshaft sprocket timing mark located one tooth to left of centre [8] .
10. Slacken tensioner pulley nut [9] . Move tensioner away from belt. Lightly tighten nut.
11. Remove:
    - Timing belt.
    - F9Q 664/674/758: Tensioner pulley [10] .
    - F9Q 803/804/812: Tensioner pulley bracket bolts [11] .
    - F9Q 803/804/812: Tensioner pulley and bracket [12] .

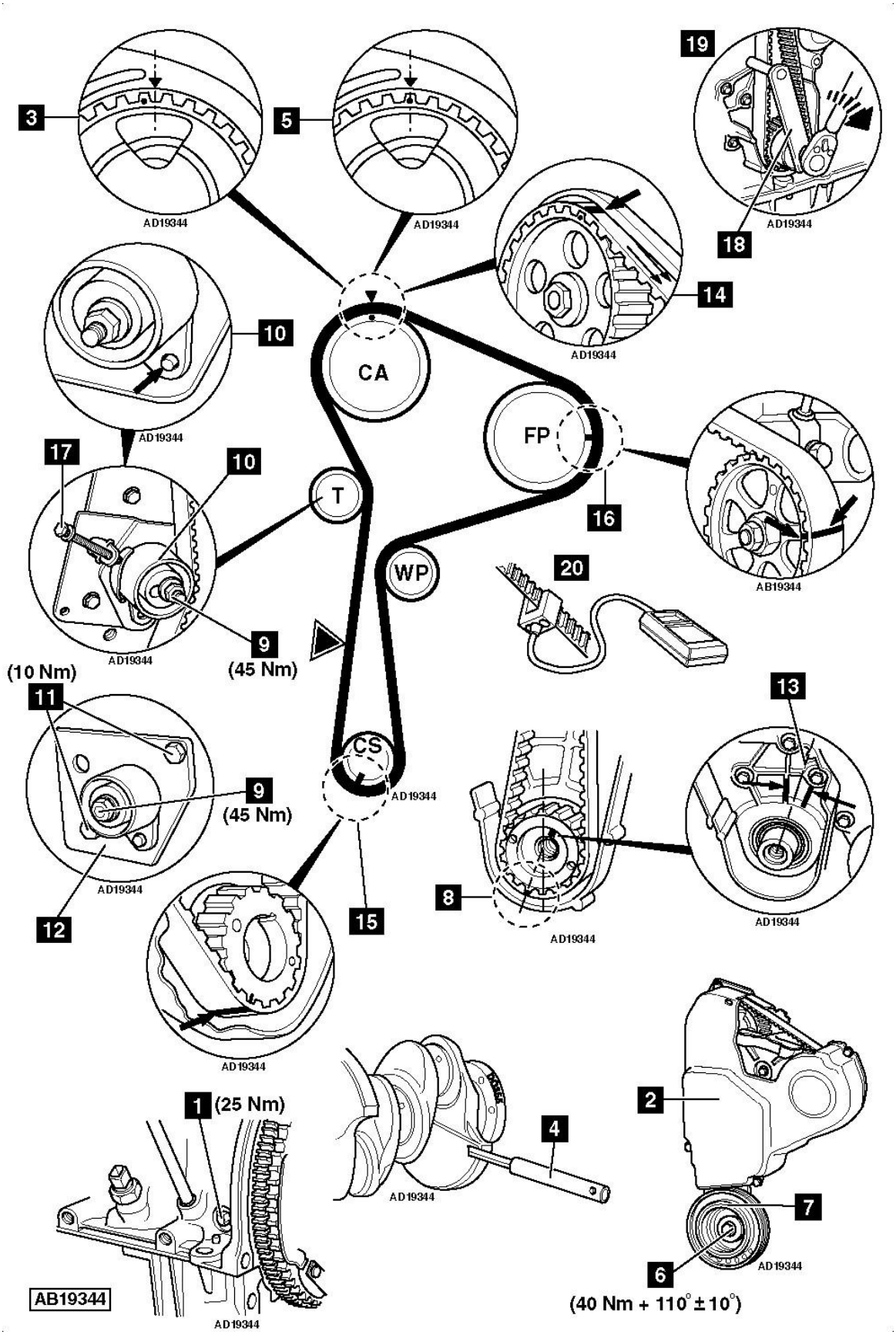
Installation

Installation

NOTE: DO NOT fit used belt.

1. F9Q 664/674/758: Fit new tensioner pulley [10] . Finger tighten nut [9].
2. F9Q 803/804/812: Fit new tensioner pulley and bracket [12] . Finger tighten nut [9] .
3. F9Q 803/804/812: Tighten tensioner pulley bracket bolts [11] . Tightening torque: 10 Nm.
4. Ensure tensioner retaining lug is properly engaged [10] .
5. Ensure timing pin inserted [4] .
6. Ensure crankshaft keyway located centrally between lugs on engine front housing [13] .
7. Ensure crankshaft sprocket timing mark located one tooth to left of centre [8] .
8. Ensure camshaft sprocket timing marks aligned [5] .
9. Fit timing belt. Ensure marks on belt aligned with marks on sprockets [14], [15] & [16] . Ensure belt is taut on non-tensioned side.
   NOTE: F9Q 664/674/758: There should be 28 troughs between camshaft sprocket and high-pressure fuel pump sprocket timing marks [14] & [16] .
10. Slacken tensioner pulley nut [9] .
11. Screw in M6 bolt until tensioner pulley contacts belt [17] .
12. Remove timing pin [4] .
13. Temporarily fit crankshaft pulley bolt [6] .
14. Fit tensioning tool [18] . Tool No.Mot.1543.
15. Apply clockwise torque of 11 Nm [19] . Tool No.Mot.1705.
16. Remove tensioning tool [18] .
17. Attach tension gauge to belt at ▽ [20] . Tool Nos.Mot.1505/1715.
18. Screw in M6 bolt until tension gauge indicates 90±3 Hz [17] .
19. Temporarily tighten tensioner pulley nut [9] . Tightening torque: 10 Nm.
20. Remove tension gauge [20] .
21. The following procedure must be followed to prevent timing pin entering crankshaft web balance hole:
    - F9Q 664/674/758: Turn crankshaft two turns clockwise until camshaft sprocket timing marks almost aligned [3] .
    - F9Q 803/804/812: Turn crankshaft four turns clockwise until camshaft sprocket timing marks almost aligned [3] .
    - Insert timing pin in crankshaft [4] .
    - Turn crankshaft slightly clockwise until timing pin locates in crankshaft web [4] .
    - Ensure camshaft sprocket timing marks aligned [5] .
22. Remove timing pin [4] .
23. Fit tensioning tool [18] .
24. Apply clockwise torque of 11 Nm [19] .
25. Remove tensioning tool [18] .
26. Attach tension gauge to belt at ▽ [20] .
27. Tension gauge should indicate 80±5 Hz.
28. If not:
    - Slacken tensioner pulley nut [9] .
    - Adjust tension using M6 bolt until tension gauge indicates 80±5 Hz [17] .
29. Tighten tensioner pulley nut [9] . Tightening torque: 45 Nm.
30. Remove tension gauge [20] .
31. Refit blanking plug [1] . Tightening torque: 25 Nm.
32. Remove crankshaft pulley bolt [6] .
33. Refit timing belt cover [2] .
34. Refit crankshaft pulley [7] .
    NOTE: DO NOT separate crankshaft pulley parts.
35. Fit new crankshaft pulley bolt [6] . Tightening torque: 40 Nm + 110±10°.

36. Install components in reverse order of removal.

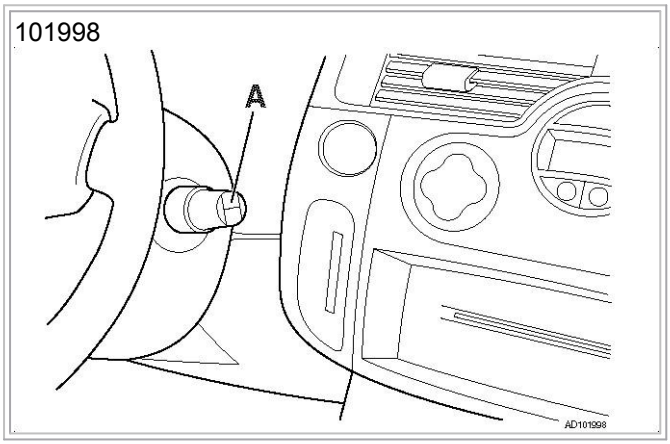


05

Service indicator

With keyless entry system

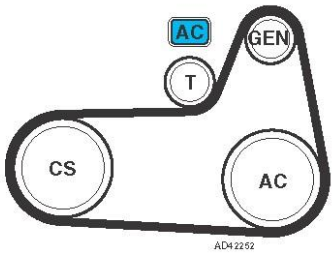
Insert remote control in ignition slot.
DO NOT depress any pedals.
Press and hold start/stop button for approximately 10 seconds to switch ignition ON.
Wait for service interval indicator to extinguish.
Repeatedly press button [A] **101998** until the 'spanner' symbol flashes and the distance remaining to the next service appears in the odometer display.
Press and hold button [A] for approximately 10 seconds until the new service interval is displayed.
Release button [A].
Press start/stop button to switch ignition OFF.



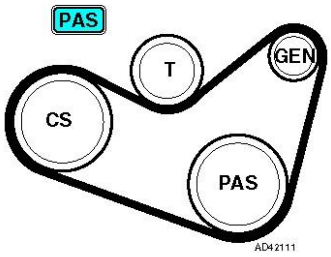
06

Service illustrations

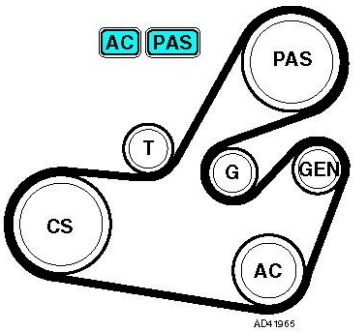
Serpentine belt routing



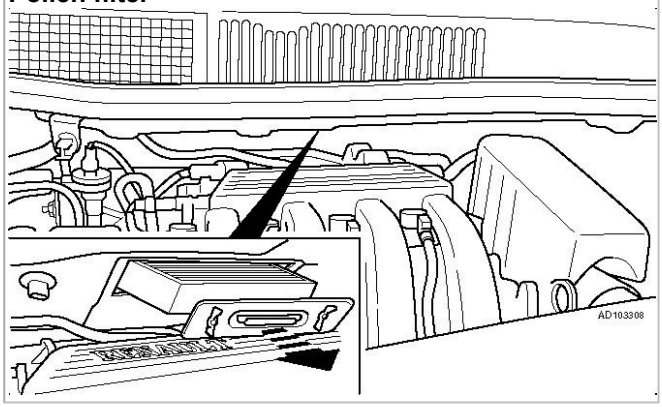
Serpentine belt routing



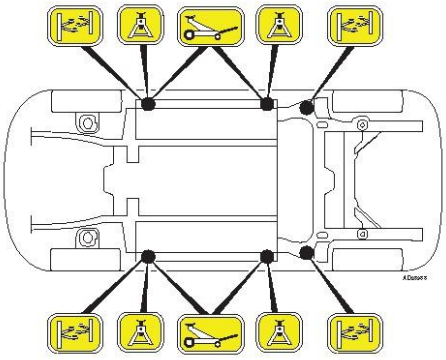
Serpentine belt routing



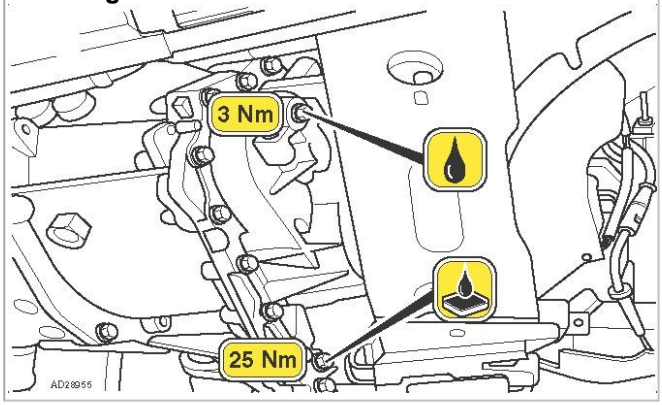
Pollen filter



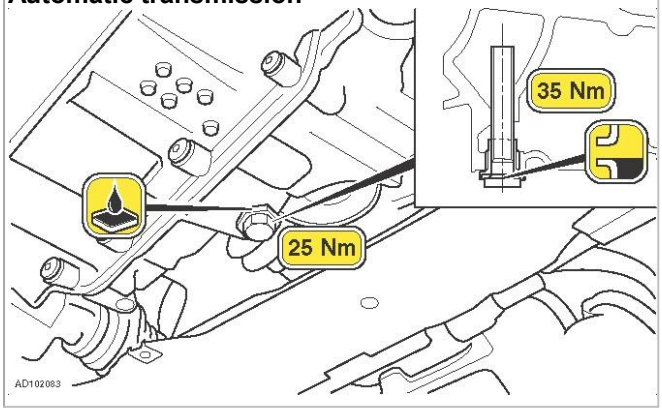
Jacking points



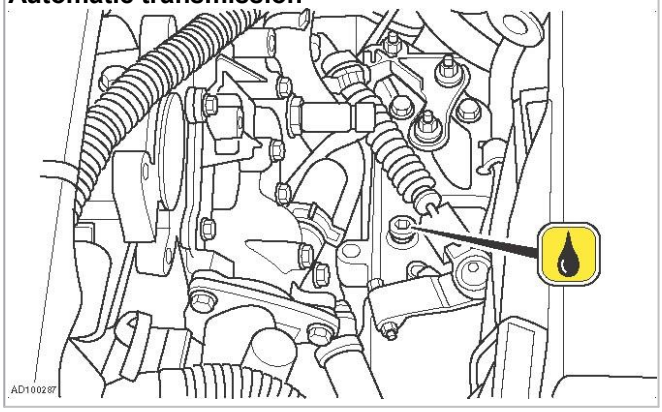
Manual gearbox



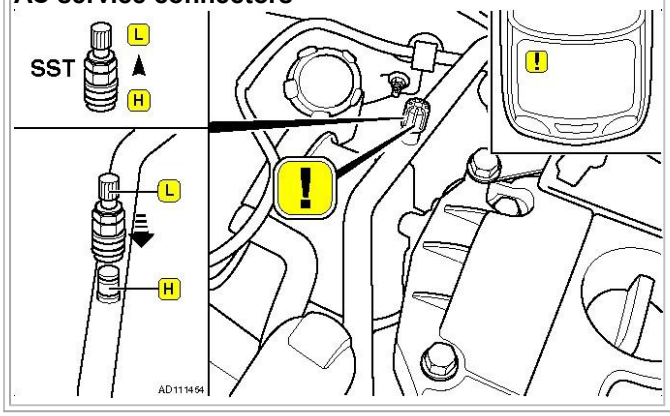
Automatic transmission



Automatic transmission



AC service connectors



07

Electric Parking Brake (EPB)

General information

- The EPB switch is located on the driver's side fascia.
- The EPB uses an electromechanical actuator acting on the rear brake calipers via cables.
- The EPB actuator is located under the RH rear wheel arch liner.
- The EPB control module is integral with the EPB actuator and cannot be replaced separately.
- New EPB actuator can only be programmed using diagnostic equipment.

Special tools

- Brake caliper piston resetting tool - Renault No.Fre. 1190-01 (brake pad replacement).
- Manufacturer's or equivalent diagnostic equipment (EPB actuator replacement).

System operation

- The EPB malfunction warning lamp and "SERVICE" warning lamp will illuminate to indicate a system fault.
- The EPB malfunction warning lamp, brake system warning lamp and "STOP" warning lamp will illuminate together with an audible signal to indicate a system fault.
- Some models: The warning message "Parking brake fault" will also be displayed in the multifunction display.

To apply the EPB

- Pull and release EPB switch. The brake system warning lamp in the instrument panel and EPB switch warning lamp will illuminate.
- Some models: The warning message "Parking brake applied" will also be displayed in the multifunction display.

To release the EPB

- Pull EPB switch, push release button and release EPB switch. The brake system warning lamp in the instrument panel and EPB switch warning lamp will extinguish.
- Some models: The warning message "Parking brake released" will also be displayed in the multifunction display.

Emergency release

Vehicles →14/05/2007

- The emergency release handle is located in the luggage compartment Fig.1.1.
- To release the EPB:
    - Ensure manual transmission in 1st gear.
    - Ensure automatic transmission in 'P'.
    - Chock rear wheels.
    - Remove emergency release handle cover.

- Firmly pull emergency release handle until EPB is deactivated Fig.1.1.

- The EPB actuator will automatically be reset when the EPB switch is next operated.

Fig.1

Vehicles 15/05/2007→

- The emergency release cable is located on the EPB actuator.
- To release the EPB:
  - Ensure manual transmission in 1st gear.
  - Ensure automatic transmission in 'P'.
  - Chock front wheels.
  - Remove RH rear wheel.
  - Remove RH rear wheel arch liner.
  - Remove protective cap from emergency release cable Fig.2.1.
  - Use a suitable tool (trim removal tool) to firmly pull the emergency release cable until the EPB is deactivated Fig.2.2.
  - Refit protective cap.
- The EPB actuator will automatically be reset when the EPB switch is next operated.

Fig.2

Maintenance

Preparatory operations

- Release EPB:
  - Start engine.
  - Press the start/stop button to stop engine.
  - Ensure manual transmission in 1st gear.
  - Ensure automatic transmission in 'P'.
  - Pull EPB switch, push release button and release EPB switch.
  - Remove remote control from ignition slot.
- Draw off sufficient brake fluid from brake fluid reservoir to enable rear brake caliper pistons to be reset.

Brake pad removal and fitting

NOTE: Refer to Technical Data module for brake disc and drum dimensions.

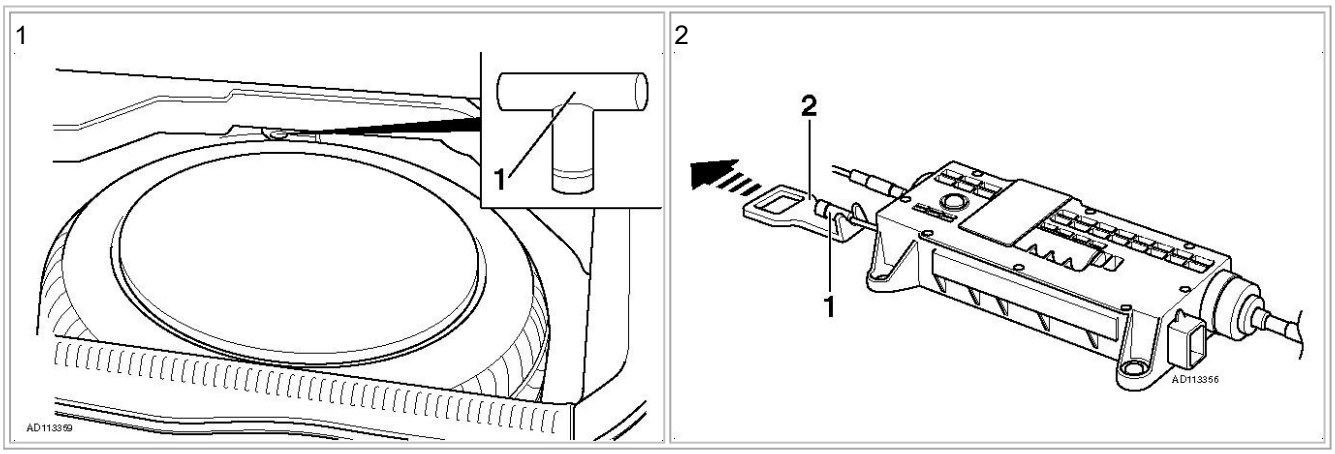
- Remove rear wheels.
- Detach parking brake cable from rear brake caliper.
- Remove rear brake caliper lower bolt.
- Detach rear brake caliper from caliper carrier. Support brake caliper.
- Press rear brake caliper piston fully in. Tool No.Fre. 1190-01.
- Remove rear brake pads. If brake pads are to be re-used ensure they are marked to enable them to be re-fitted to their original positions.
- Fit brake pads.
- Fit rear brake caliper to caliper carrier. Use new bolts. Tightening torque: Refer to Technical Data module.
- Fit parking brake cable to rear brake caliper.
- Fit rear wheels. Tightening torque: Refer to Technical Data module.
- Operate brake pedal until resistance is felt.
- Top up brake fluid. Refer to Technical Data module.

Adjustment

- Not applicable to this model range.

Resetting

- Start engine.
- Manually engage and disengage parking brake until EPB is reset.



08

Battery Disconnection and Reset

Battery location

- Scenic/Grand Scenic Fig.1

Fig.1

General information

- Disconnecting battery may erase memory from electronic units (e.g. radio, clock).
- Disconnecting battery may erase memory from engine control module (ECM) and/or transmission control module (TCM) necessitating at least one drive cycle to be completed to restore driveability.
- To avoid risk of explosion, allow recently charged batteries sufficient time to fully vent before connecting.
- Unless otherwise stated:
    - Ensure all electrical equipment switched OFF before disconnecting and reconnecting battery/batteries.
    - Ensure ignition switched OFF and vehicle keys removed from vehicle interior before disconnecting and reconnecting battery/batteries.
    - Where multiple batteries are fitted, ensure all are disconnected prior to commencing work.
    - Disconnect battery earth lead(s) first.
    - Connect battery earth lead(s) last.

Before battery disconnection

- Ensure sunroof is fully closed.
- Switch ignition OFF.
- Ensure cooling fans have stopped rotating.
- Wait 1 minute.

Before battery connection

- No procedures are specified for this model range.

After battery connection

Electric windows and sunroof

Electric windows

- Switch ignition ON.
- Repeatedly lift window close switch to fully close window. Continue to hold switch for 2 seconds.
- Release switch.

- Repeat procedure for remaining windows with one touch automatic function.
- Switch ignition OFF.

Sunroof

- Start engine.
- Turn sunroof switch fully anti-clockwise.
- Wait at least 10 seconds.
- Press and hold sunroof switch. Sunroof motor will emit a clicking noise.
- Release sunroof switch and immediately press and hold sunroof switch again.

NOTE: There may be a 5 second delay before the sunroof moves.

- Sunroof opens fully, then immediately closes fully.
- Release switch.
- Wait 5 seconds.
- Check sunroof operates correctly.
- If not: Wait at least 5 seconds before repeating procedure.

Remote alarm/central locking

- No procedures are specified for this model range.

Driving position memory functions

- No procedures are specified for this model range.

Electrical power management

- No procedures are specified for this model range.

Telematics

- No procedures are specified for this model range.

Additional systems

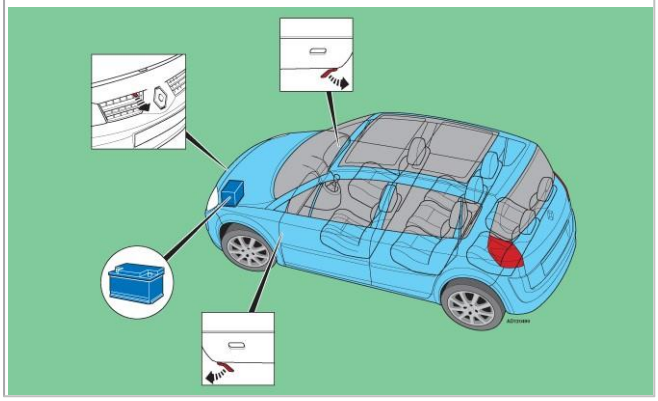
Electric power steering

- Start engine.
- Ensure steering in straight-ahead position.
- Turn steering 90° anti-clockwise.
- Return steering to straight-ahead position.
- Turn steering 90° clockwise.
- Return steering to straight-ahead position.

Tyre pressure monitoring system (TPMS)

- Drive vehicle for at least 1 minute at a speed exceeding 18 mph (30 kph).

1



09

Key programming

System operation

- Alarm/central locking can be activated in hands-free mode:
  - Ensure all doors are shut, press any door handle or release button on tailgate once to lock the vehicle.
  - Indicators will flash twice.
- Alarm/central locking can be deactivated in hands-free mode.
  - Approach vehicle with remote control, grip door handle or press release button on tailgate: Unlocks vehicle and deactivates alarm.
  - Indicators will flash once to indicate vehicle unlocked.
- Pressing remote control lock button Fig. 1 [1] once locks the vehicle and activates the alarm (if fitted).
- Indicators flash twice to indicate vehicle locked.
- To double lock vehicle and activate alarm (if fitted):
  - To double lock vehicle in hands-free mode, press any door handle or release button on tailgate twice briefly.
  - Press remote control lock button Fig. 1 [1] twice briefly.
  - Indicators will flash 5 times to indicate vehicle double locked.

NOTE: Hands-free or remote double locking not possible on models with manual rear windows.

- Pressing remote control unlock button Fig. 1 [2] unlocks the vehicle and deactivates the alarm (if fitted).
- Indicators will flash once to indicate vehicle unlocked.

NOTE: Some models: Pressing remote control unlock button once deactivates the alarm and unlocks driver's door only. Pressing remote control unlock button twice deactivates the alarm and unlocks all the doors.

- There is an emergency key inserted in the remote control Fig. 1 [4].
- Some models: Additional functions can be set to respond to the remote control.

Fig. 1

Programming

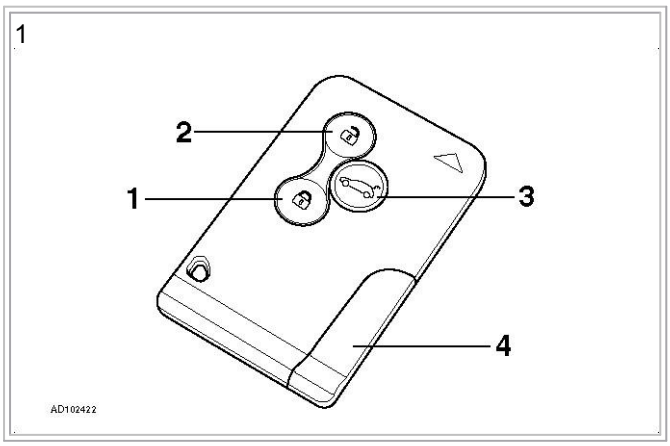
When

- Remote control added or replaced.
- System malfunction.

How

- Replacement remote controls can only be programmed using diagnostic equipment.

NOTE: A maximum of 4 remote controls can be programmed.



10

Diagnostic trouble codes

Accessing and erasing

- The engine control module (ECM) fault memory can only be accessed using diagnostic equipment connected to the data link connector (DLC).

Trouble code identification

EOBD type	Fault location	Probable cause
P0, P2, P34xx, U0, U3, Failure type	Refer to EOBD trouble code tables	-
P100A	Accelerator pedal position (APP) sensor 1 - circuit malfunction	Connector(s), wiring, APP sensor
P100B	Accelerator pedal position (APP) sensor 2 - circuit malfunction	Connector(s), wiring, APP sensor
P100C	Exhaust gas recirculation (EGR) valve position sensor - circuit malfunction	Connector(s), wiring, EGR valve
P100F	MAP sensor/APP sensor/AC refrigerant pressure sensor/MAF sensor - signal voltage malfunction	Connector(s), wiring, MAP sensor/APP sensor/AC refrigerant pressure sensor/MAF sensor
P1001	Engine coolant temperature (ECT) sensor - circuit malfunction	Wiring, ECT sensor
P1002	Intake air temperature (IAT) sensor - circuit malfunction	Wiring, IAT sensor
P1003	Barometric pressure (BARO) sensor - circuit malfunction	Connector(s), wiring, BARO sensor
P1004	Manifold absolute pressure (MAP) sensor - signal fault	Circuit malfunction, intake leak, connector(s), wiring, MAP sensor
P1005	Fuel temperature sensor - circuit malfunction	Connector(s), wiring, fuel temperature sensor
P1006	Mass air flow (MAF) sensor - circuit malfunction	Connector(s), wiring, supply voltage, intake system, MAF sensor
P1007	Crankshaft position (CKP) sensor - signal over 3500 rpm	Connector(s), wiring, supply voltage, CKP sensor
P1008	Camshaft position (CMP) sensor, intake, bank 1 - signal fault	Connector(s), wiring, CMP sensor
P1009	Fuel pressure - signal fault	Connector(s), wiring, fuel filter, fuel lines, fuel leak, fuel rail pressure (FRP) sensor, fuel pressure regulator, injectors, fuel pump (FP), high pressure fuel pump
P101D	Engine malfunction indicator lamp (MIL) - circuit malfunction	Connector(s), wiring, MIL
P101E	Engine coolant 'hot' warning lamp - circuit malfunction	Connector(s), wiring, engine coolant 'hot' warning lamp
P101F	Stop engine warning lamp - circuit malfunction	Wiring, stop engine warning lamp
P1010	Throttle position (TP) sensor/accelerator pedal position (APP) sensor - signal voltage malfunction	Connector(s), wiring, TP sensor, APP sensor

P1011	Vehicle speed sensor (VSS) - circuit malfunction	Connector(s), wiring
P1012	Knock sensor (KS), bank 1 - circuit malfunction	Wiring, KS
P1013	Engine control (EC) relay - circuit malfunction	Connector(s), wiring, EC relay
P1014	Exhaust gas recirculation (EGR) valve - system malfunction	Connector(s), wiring, EGR valve
P1015	Turbocharger (TC) system - circuit malfunction	Connector(s), wiring, TC control solenoid, turbocharger (TC) vane position sensor
P1016	Glow plug circuit - circuit malfunction	Connector(s), wiring, glow plug control module
P1017	Engine coolant blower motor relay, low speed - circuit malfunction	Wiring, engine coolant blower motor relay
P1018	Engine coolant blower motor relay, high speed - circuit malfunction	Wiring, engine coolant blower motor relay
P102A	Battery - voltage supply	Connector(s), wiring, battery
P102B	Starter signal - circuit malfunction	Connector(s), wiring
P102C	Cruise control system - circuit malfunction	Connector(s), wiring, brake pedal position (BPP) switch, steering wheel multifunction switch
P102D	Cruise control system - circuit malfunction	Connector(s), wiring, brake pedal position (BPP) switch, steering wheel multifunction switch
P102E	Injector 1 - circuit malfunction	Connector(s), wiring, EC relay, injector
P102F	Injector 2 - circuit malfunction	Connector(s), wiring, EC relay, injector
P1022	Fuel pressure regulator control solenoid 1/2 - circuit malfunction	Connector(s), wiring, fuel pressure regulator control solenoid 1/2
P1026	Glow plugs, cylinders 4/5/6 - circuit malfunction	Connector(s), wiring, glow plugs, glow plug control module
P1027	Glow plugs, cylinders 1/2/3 - circuit malfunction	Connector(s), wiring, glow plugs, glow plug control module
P1028	Brake pedal position (BPP) switch - circuit malfunction	Connector(s), wiring, BPP switch
P103B	Misfire detection - misfire detected	Cylinder compression, ignition/fuel system
P103D	ECM/AC control module - no communication	Connector(s), wiring
P103F	ECM - internal fault	Connector(s), wiring, ECM
P1030	Injector 3 - circuit malfunction	Connector(s), wiring, EC relay, injector
P1031	Injector 4 - circuit malfunction	Connector(s), wiring, EC relay, injector
P1032	Injector 5 - circuit malfunction	Connector(s), wiring, EC relay, injector
P1033	Injector 6 - circuit malfunction	Connector(s), wiring, EC relay, injector
P104A	Knock sensor (KS), regulation - signal fault	Connector(s), wiring, KS
P104B	Cylinder 1 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened
P104C	Cylinder 2 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened
P104D	Cylinder 3 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened
P104E	Cylinder 4 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened

P104F	Cylinder 5 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened
P1041	Throttle position (TP) sensor - circuit malfunction	Connector(s), wiring
P1042	Intake manifold air control solenoid - circuit malfunction	Connector(s), wiring, intake manifold air control solenoid
P1044	Heated oxygen sensor (HO2S) 1, bank 1 - circuit/signal malfunction	Connector(s), wiring, HO2S
P1045	Heated oxygen sensor (HO2S) 1, bank 2 - circuit/signal malfunction	Connector(s), wiring, HO2S
P1046	Heated oxygen sensor (HO2S) 2, bank 1 - circuit/signal malfunction	Connector(s), wiring, HO2S
P1047	Heated oxygen sensor (HO2S) 2, bank 2 - circuit/signal malfunction	Connector(s), wiring, HO2S
P1048	System too rich off idle, bank 1	Fuel pressure, injectors, HO2S
P1049	Idle speed control - basic setting - circuit malfunction	Basic setting, connector(s), wiring
P105A	Fuel system, bank 1 - malfunction	Fuel pressure, fuel filter, fuel lines, injectors, fuel leak
P105B	Heated oxygen sensor (HO2S), bank 1 - malfunction	HO2S
P105C	Catalytic converter, bank 1 - malfunction	Catalytic converter
P105D	Fuel pump (FP) relay - circuit malfunction	Wiring, FP relay
P105E	Cylinder 1 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P105F	Cylinder 2 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P1050	Cylinder 6 - ignition coil(s) - circuit malfunction	Connector(s), wiring, spark plug(s), KS incorrectly tightened
P1051	Power steering pressure (PSP) sensor - circuit malfunction	Connector(s), wiring
P1053	Evaporative emission (EVAP) canister purge valve - circuit malfunction	Connector(s), wiring, EVAP valve
P1054	Heated oxygen sensor (HO2S) 1, bank 1 - heater circuit malfunction	Connector(s), wiring, HO2S
P1055	Heated oxygen sensor (HO2S) 1, bank 2 - heater circuit malfunction	Connector(s), wiring, HO2S
P1056	Heated oxygen sensor (HO2S) 2, bank 1 - heater circuit malfunction	Connector(s), wiring, HO2S
P1057	Heated oxygen sensor (HO2S) 2, bank 2 - heater circuit malfunction	Connector(s), wiring, HO2S
P106A	Engine oil temperature sensor - circuit malfunction	Connector(s), wiring, engine oil temperature sensor
P106B	AC refrigerant pressure sensor - circuit malfunction	Connector(s), wiring, AC refrigerant pressure sensor
P106C	Throttle motor - malfunction	Connector(s), wiring, throttle motor
P106F	Malfunction indicator lamp (MIL) - circuit malfunction	Connector(s), wiring, instrument panel

P1060	Cylinder 3 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P1061	Cylinder 4 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P1062	Cylinder 5 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P1063	Cylinder 6 - misfire detected	Wiring, ignition/fuel system, injector, engine mechanical fault
P1065	Camshaft position (CMP) actuator, intake/left/front, bank 1 - circuit malfunction	Wiring, CMP actuator
P1066	Engine control (EC) relay - circuit malfunction	Connector(s), wiring, EC relay
P1067	Crankshaft position (CKP) sensor - signal fault	Basic setting, CKP sensor, flywheel ring gear damaged
P1068	Camshaft position (CMP) actuator, intake/left/front, bank 2 - circuit malfunction	Wiring, CMP actuator
P107A	Cruise control master switch	Connector(s), wiring, cruise control master switch
P107B	Electronic stability program (ESP), CAN data bus - no signal	Connector(s), wiring
P107E	Throttle motor - basic setting not completed	Basic setting, connector(s), wiring
P1070	CAN data bus - signal fault	Connector(s), wiring
P1071	Camshaft position (CMP) sensor, intake, bank 2 - signal fault	Connector(s), wiring, CMP sensor
P1073	Catalytic converter, bank 2 - malfunction	Catalytic converter
P1074	ECM - internal fault	Battery voltage low, ECM
P1075	ECM - internal fault	Battery voltage low, ECM
P1077	Cruise control brake pedal switch/brake pedal position (BPP) switch - circuit malfunction	Connector(s), wiring, BPP switch, cruise control brake pedal switch
P1078	Cruise control brake pedal switch/brake pedal position (BPP) switch - circuit malfunction	Connector(s), wiring, BPP switch, cruise control brake pedal switch
P1079	Cruise control switch - circuit malfunction	Connector(s), wiring, steering wheel multifunction switch
P108A	Heated oxygen sensor (HO2S), bank 2 - malfunction	HO2S
P108B	Knock sensor (KS), bank 2 - circuit malfunction	Wiring, KS
P108C	Fuel system, bank 2 - malfunction	Fuel pressure, fuel filter, fuel lines, injectors, fuel leak
P1082	Engine control module (ECM)/transmission control module (TCM), CAN data bus - no signal	Connector(s), wiring
P1083	Injector control module - circuit malfunction	Connector(s), wiring, injector control module
P1084	Injector control module - circuit malfunction	Connector(s), wiring, injector control module

P1085	Injector control module - circuit malfunction	Connector(s), wiring, injector control module
P1089	Fuel rail pressure (FRP) control valve - mechanical fault	Connector(s), wiring, high-pressure fuel system, fuel flow control valve, fuel pressure regulator control solenoid, fuel transfer pump, injectors, fuel high pressure pump
P1090	Throttle motor - basic setting not completed	Basic setting, connector(s), wiring
P1091	Engine overheated - engine overheat protection activated	Connector(s), wiring, ECT sensor
P1092	System too rich off idle, bank 2	Fuel pressure, injectors, HO2S
P1201	Injector 1 - circuit malfunction	Connector(s), wiring, injector
P1202	Injector 2 - circuit malfunction	Connector(s), wiring, injector
P1203	Injector 3 - circuit malfunction	Connector(s), wiring, injector
P1204	Injector 4 - circuit malfunction	Connector(s), wiring, injector
P1205	Fuel additive injector, DPF - circuit malfunction	Wiring, fuel additive injector
P1335	Crankshaft position (CKP) sensor - signal fault	Connector(s), wiring, CKP sensor air gap, CKP sensor
P1431	Diesel particulate filter (DPF) - particulate filter blocked	Carry out regeneration process, DPF
P1435	Diesel particulate filter (DPF) - regeneration process failed	Carry out regeneration process
P1436	Diesel particulate filter (DPF) - particulate filter blocked	Carry out regeneration process
P148A	Exhaust gas recirculation (EGR) valve - basic setting - circuit malfunction	Basic setting, connector(s), wiring, EGR valve
P148B	Exhaust gas recirculation (EGR) valve - valve malfunction	Connector(s), wiring, valve stuck, EGR valve
P1480	Diesel particulate filter (DPF) - signal fault	Diesel particulate filter (DPF) pressure sensor, vacuum hose blocked/split
P1525	Cruise control system - CAN data bus malfunction	Connector(s), wiring
P1544	Diesel particulate filter (DPF) temperature sensor 2 - circuit malfunction	Connector(s), wiring, DPF temperature sensor
P1555	Brake servo vacuum pump relay - circuit malfunction	Connector(s), wiring, brake servo vacuum pump relay
P1602	Engine coolant heater relay - circuit malfunction	Connector(s), wiring
P1604	Passenger compartment electric heating element - CAN data bus malfunction	Connector(s), wiring, CAN data bus
P1605	Crankcase breather heater - circuit malfunction	Connector(s), wiring, crankcase breather heater
P1607	Heated oxygen sensor (HO2S) 1, bank 1 - circuit/signal malfunction	Connector(s), wiring, HO2S
P1620	Crash switch-off triggered	Reset ECM
P1640	Engine coolant heater 1/2/3 - signal fault	Connector(s), wiring

P1641	Engine coolant heater relay 1 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P1642	Engine coolant heater relay 2 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P1643	Engine coolant heater relay 3 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P1644	Engine coolant heater control module - circuit malfunction	Connector(s), wiring, engine coolant heater control module
P1670	Engine coolant heater 1/2/3 - basic setting malfunction	Basic setting not completed
P1705	Transmission control module (TCM), throttle position (TP) signal - CAN data bus malfunction	Trouble code(s) stored in other system, wiring
P1722	Transmission control module (TCM), vehicle speed signal - CAN data bus malfunction	Trouble code(s) stored in other system, connector(s), wiring
P1730	Transmission - gear engagement error	Transmission fluid level, hydraulic/mechanical malfunction
P1731	Transmission - engine brake malfunction	Wiring, brake pressure switch, shift solenoid (SS) 1, transmission mechanical fault
P1732	Transmission - slip detected	Transmission fluid level, hydraulic/mechanical malfunction
P1743	Transmission lock-up solenoid - circuit malfunction	Connector(s), wiring, transmission lock-up solenoid
P1746	Clutch solenoid 1 - circuit malfunction	Connector(s), wiring, clutch solenoid
P1747	Transmission brake timing solenoid 2 - circuit malfunction	Connector(s), wiring, transmission brake timing solenoid
P1748	Clutch solenoid 2 - circuit malfunction	Connector(s), wiring, clutch solenoid
P1749	Clutch solenoid 3 - circuit malfunction	Connector(s), wiring, clutch solenoid
P1750	Shift solenoid (SS) 1 - circuit malfunction	Connector(s), wiring, shift solenoid (SS)
P1755	Shift solenoid (SS) 2 - circuit malfunction	Connector(s), wiring, shift solenoid (SS)
P1787	Transmission control module (TCM), torque monitoring - CAN data bus malfunction	Trouble code(s) stored in other system, connector(s), wiring
P1788	Transmission control module (TCM), engine torque signal - CAN data bus malfunction	Trouble code(s) stored in other system, connector(s), wiring
P1789	Transmission control module (TCM) - earth circuit malfunction	Connector(s), wiring
P1790	Transmission fluid pressure (TFP) switch 1 - circuit malfunction	Connector(s), wiring, clutch pressure switch
P1792	Brake pressure switch 2 - circuit malfunction	Connector(s), wiring, brake pressure switch
P1793	Transmission fluid pressure (TFP) switch 2 - circuit malfunction	Connector(s), wiring, clutch pressure switch
P1794	Transmission fluid pressure (TFP) switch 3 - circuit malfunction	Connector(s), wiring, clutch pressure switch
P1795	Brake pressure switch 1 - circuit malfunction	Connector(s), wiring, brake pressure switch

P180A	Accelerator pedal position (APP) sensor 1 - circuit malfunction	Connector(s), wiring, APP sensor
P180B	Accelerator pedal position (APP) sensor 2 - circuit malfunction	Connector(s), wiring, APP sensor
P180C	Exhaust gas recirculation (EGR) valve position sensor - circuit malfunction	Connector(s), wiring, EGR valve position sensor, EGR valve
P180F	Sensor power supply 1 - circuit malfunction	Connector(s), wiring, APP sensor, fuel system pressure sensor, MAF sensor, EGR valve, TC boost pressure sensor
P1801	Engine coolant temperature (ECT) sensor - circuit malfunction	Connector(s), wiring, ECT sensor
P1802	Intake air temperature (IAT) sensor - circuit malfunction	Connector(s), wiring, IAT sensor
P1803	Barometric pressure (BARO) sensor - circuit malfunction	ECM
P1804	Turbocharger (TC) boost pressure sensor - air leak, circuit malfunction	Connector(s), wiring, TC boost pressure sensor
P1805	Fuel temperature sensor - circuit malfunction	Connector(s), wiring, fuel temperature sensor
P1806	Mass air flow (MAF) sensor - circuit malfunction	Connector(s), wiring, supply voltage, intake system, MAF sensor
P1807	Crankshaft position (CKP) sensor - signal over 3500 rpm	Connector(s), wiring, supply voltage, CKP sensor
P1808	Crankshaft position (CKP) sensor/camshaft position (CMP) sensor - signal conflict	Connector(s), wiring, supply voltage, CMP sensor, CKP sensor, mechanical fault, flywheel ring gear damaged
P1809	Fuel pressure sensor - circuit malfunction	Connector(s), wiring, supply voltage, fuel system pressure sensor
P181A	AC refrigerant pressure sensor - circuit malfunction	Connector(s), wiring, AC refrigerant pressure sensor
P181C	Glow plug warning lamp - circuit malfunction	Connector(s), wiring, supply voltage, warning lamp
P181D	Engine malfunction indicator lamp (MIL) - circuit malfunction	Connector(s), wiring, MIL
P181E	Engine coolant 'hot' warning lamp - circuit malfunction	Connector(s), wiring, engine coolant 'hot' warning lamp
P181E	Stop engine warning lamp - circuit malfunction	Wiring, stop engine warning lamp
P1810	Sensor power supply 2 - supply voltage high/low	Connector(s), wiring, APP sensor, AC refrigerant pressure sensor
P1811	Vehicle speed sensor (VSS) - signal fault	Connector(s), wiring
P1813	Engine control (EC) relay - circuit malfunction	Connector(s), wiring, EC relay
P1814	Exhaust gas recirculation (EGR) valve	Connector(s), wiring, EGR valve
P1815	Turbocharger (TC) boost pressure control - malfunction	Connector(s), wiring, hoses blocked/disconnected/split, turbocharger (TC) wastegate regulating valve
P1816	Glow plug relay - circuit malfunction	Connector(s), wiring
P1817	Engine coolant blower motor relay (low speed) - circuit malfunction	Connector(s), wiring, engine coolant blower motor relay

P1818	Engine coolant blower motor relay (high speed) - circuit malfunction	Wiring, engine coolant blower motor relay
P1819	Power steering system relay - circuit malfunction	Connector(s), wiring, power steering system relay
P182A	Supply voltage low/high	Connector(s), wiring, earth wire, alternator, battery
P182B	ECM - internal fault	ECM
P182C	Cruise control system - circuit malfunction	Connector(s), wiring, steering wheel multifunction switch, APP sensor
P182E	Injector 1 - circuit malfunction	Connector(s), wiring, injector
P182F	Injector 2 - circuit malfunction	Connector(s), wiring, injector
P1820	Fuel pump (FP) relay - circuit malfunction	Connector(s), wiring, FP relay
P1822	Fuel pressure regulator control solenoid - circuit malfunction	Connector(s), wiring, fuel pressure regulator control solenoid
P1824	Intake manifold air control solenoid - malfunction	Connector(s), wiring, intake manifold air control solenoid
P1826	Glow plugs - circuit malfunction	Connector(s), wiring, glow plugs
P1828	Brake pedal position (BPP) switch - circuit malfunction	Connector(s), wiring, BPP switch
P1829	Clutch pedal position (CPP) switch - signal fault	Connector(s), wiring, CPP switch
P183A	Engine shut-off control - malfunction	Connector(s), wiring, injectors, fuel pressure regulator control solenoid
P183B	Misfire detection - misfire detected	Mechanical fault, fuel/intake system, injector(s)
P183E	Immobilizer - signal fault	Connector(s), wiring, incorrectly coded, immobilizer defective
P183F	ECM - internal fault	ECM
P1830	Injector 3 - circuit malfunction	Connector(s), wiring, injector
P1831	Injector 4 - circuit malfunction	Connector(s), wiring, injector
P1834	Engine coolant heater relay 1 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P1835	Engine coolant heater relay 2 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P1836	Engine coolant heater relay 3 - circuit malfunction	Connector(s), wiring, engine coolant heater relay
P188B	Injector programming error - code error	Carry out programming
P188C	Fuel/water separator sensor - malfunction	Connector(s), wiring, water in fuel, fuel/water separator sensor
P188D	Fuel heater relay - circuit malfunction	Connector(s), wiring, fuel heater relay
P1880	ECM - internal fault	ECM
P1882	Fuel pressure - signal too low/high	Connector(s), wiring, fuel leak, fuel filter, fuel system pressure sensor, fuel pressure regulator control solenoid, injector(s), fuel high pressure pump
P1885	ECM - internal fault	ECM
P1886	ECM - output driver malfunction	ECM
P1887	Reverse gear position switch - circuit malfunction	Connector(s), wiring, reverse gear position switch
P1888	ECM - internal fault	ECM

P3031	Diesel particulate filter (DPF) - temperature limit exceeded	Diesel particulate filter (DPF), basic setting not carried out
P3264	Water in fuel warning lamp - circuit malfunction	Connector(s), wiring, instrument panel

Main Text

EOBD codes

- All EOBD codes starting with P0 have standard meanings irrespective of vehicle make or model.
- The following list covers all P0 codes allocated at the time of publication.

EOBD codes

- All EOBD codes starting with P2 have standard meanings irrespective of vehicle make or model.
- The following list covers all P2 codes allocated at the time of publication.

EOBD codes

- All EOBD codes from P3400 to P3497 have standard meanings irrespective of vehicle make or model.
- The following list covers all codes allocated at the time of publication.

EOBD codes

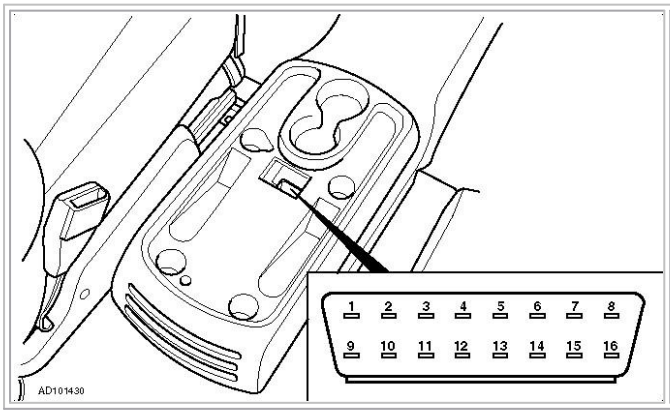
- All EOBD codes starting with U0 have standard meanings irrespective of vehicle make or model.
- The following list covers all U0 codes allocated at the time of publication.

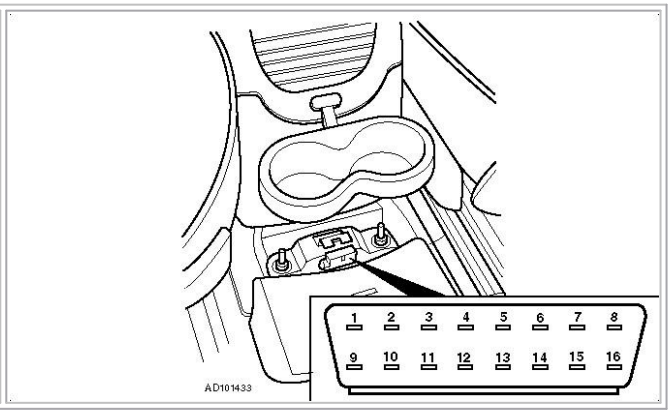
EOBD codes

- All EOBD codes from U3000 to U3011 have standard meanings irrespective of vehicle make or model.
- The following list covers all U3 codes allocated at the time of publication.

EOBD codes

- All EOBD codes may have an additional 2 characters following the main trouble code which indicates the type of failure, e.g. P0058-XX, where 'XX' equals the failure type code.
- Failure type codes are more commonly displayed using manufacturers' diagnostic equipment and can be used in conjunction with all EOBD code types, 'B', 'C', 'P' & 'U'.
- The following list covers all failure type codes allocated at the time of publication.





EOBD code	Failure type

00	No failure type information
01	General electrical failure
02	General signal failure
03	Frequency modulated (FM)/pulse width modulated (PWM) signal failure
04	System internal failure
05	System programming failure
06	Algorithm based failure
07	Mechanical failure
08	Data bus signal/message failure
09	Component failure
11	Short circuit to earth
12	Short circuit to positive
13	Circuit open
14	Open circuit/short to earth
15	Open circuit/short to positive
16	Circuit voltage below threshold
17	Circuit voltage above threshold
18	Circuit current below threshold
19	Circuit current above threshold
1A	Circuit resistance below threshold
1B	Circuit resistance above threshold
1C	Circuit voltage out of range
1D	Circuit current out of range
1E	Circuit resistance out of range
1F	Circuit intermittent
21	Signal amplitude below minimum
22	Signal amplitude above maximum
23	Signal stuck low
24	Signal stuck high
25	Signal shape/waveform failure
26	Signal rate of change below threshold
27	Signal rate of change above threshold
28	Signal bias level out of range/zero adjustment failure
29	Signal invalid
2A	Signal stuck in range
2B	Signal cross-coupled
2F	Signal erratic
31	No signal
32	Signal low time below minimum
33	Signal low time above maximum
34	Signal high time below minimum
35	Signal high time above maximum
36	Signal frequency too low
37	Signal frequency too high

38	Signal frequency incorrect
39	Signal has too few pulses
3A	Signal has too many pulses
41	General checksum failure
42	General memory failure
43	Special memory failure
44	Data memory failure
45	Program memory failure
46	Calibration/parameter memory failure
47	Watchdog/safety micro-controller failure
48	Supervision software failure
49	Internal electronic failure
4A	Incorrect component installed
4B	Over-temperature condition
51	Component not programmed
52	Component program not activated
53	Component program disabled
54	Missing calibration
55	System not configured
56	Invalid/incompatible configuration
57	Invalid/incompatible software component
61	Signal calculation failure
62	Signal comparison failure
63	Circuit/component protection time-out
64	Signal plausibility failure
65	Signal has too few transitions/events
66	Signal has too many transitions/events
67	Signal incorrect after event
68	Event information
71	Actuator stuck
72	Actuator stuck open
73	Actuator stuck closed
74	Actuator slipping
75	Emergency position not reachable
76	Incorrect mounting position
77	Commanded position not reachable
78	Alignment or adjustment incorrect
79	Mechanical linkage failure
7A	Fluid leak or seal failure
7B	Low fluid level
81	Invalid serial data received
82	Alive/sequence counter incorrect/not updated
83	Value of signal protection calculation incorrect
84	Signal below allowable range

85	Signal above allowable range
86	Signal invalid
87	Missing message
88	Data bus off
8F	Signal erratic
91	Component parameter out of range
92	Performance problem/malfunction
93	No operation
94	Unexpected component operation
95	Incorrect assembly
96	Component internal failure
97	Component or system operation obstructed or blocked
98	Component or system over-temperature condition
9A	Component or system operating conditions

EOBD code	Fault location
U3000	Control module
U3001	Control module - improper shut down
U3002	Vehicle identification number (VIN)
U3003	Battery voltage
U3004	Accessory power relay
U3005	Retained accessory power
U3006	Control module - supply voltage input A
U3007	Control module - supply voltage input B
U3008	Control module - earth connection A
U3009	Control module - earth connection B
U300A	Ignition switch
U300B	Ignition input signal, accessory/ON/start position - malfunction
U300C	Ignition input signal, OFF/ON/start position - malfunction
U300D	Ignition input signal, ON/start position - malfunction
U300E	Ignition input signal, ON position - malfunction
U300F	Ignition input signal, accessory position - malfunction
U3010	Ignition input signal, start position - malfunction
U3011	Ignition input signal, OFF position - malfunction

EOBD code	Fault location
U0001	Controller area network (CAN) data bus, high speed bus
U0002	Controller area network (CAN) data bus, high speed bus - performance problem
U0003	Controller area network (CAN) data bus, high speed bus (+) - open circuit
U0004	Controller area network (CAN) data bus, high speed bus (+) - voltage low
U0005	Controller area network (CAN) data bus, high speed bus (+) - voltage high
U0006	Controller area network (CAN) data bus, high speed bus (-) - open circuit
U0007	Controller area network (CAN) data bus, high speed bus (-) - voltage low
U0008	Controller area network (CAN) data bus, high speed bus (-) - voltage high

U0009	Controller area network (CAN) data bus, high speed bus (-) - shorted to data bus (+)
U0010	Controller area network (CAN) data bus, medium speed bus
U0011	Controller area network (CAN) data bus, medium speed bus - performance problem
U0012	Controller area network (CAN) data bus, medium speed bus (+) - open circuit
U0013	Controller area network (CAN) data bus, medium speed bus (+) - voltage low
U0014	Controller area network (CAN) data bus, medium speed bus (+) - voltage high
U0015	Controller area network (CAN) data bus, medium speed bus (-) - open circuit
U0016	Controller area network (CAN) data bus, medium speed bus (-) - voltage low
U0017	Controller area network (CAN) data bus, medium speed bus (-) - voltage high
U0018	Controller area network (CAN) data bus, medium speed bus (-) - shorted to data bus (+)
U0019	Controller area network (CAN) data bus, low speed bus
U0020	Controller area network (CAN) data bus, low speed bus - performance problem
U0021	Controller area network (CAN) data bus, low speed bus (+) - open circuit
U0022	Controller area network (CAN) data bus, low speed bus (+) - voltage low
U0023	Controller area network (CAN) data bus, low speed bus (+) - voltage high
U0024	Controller area network (CAN) data bus, low speed bus (-) - open circuit
U0025	Controller area network (CAN) data bus, low speed bus (-) - voltage low
U0026	Controller area network (CAN) data bus, low speed bus (-) - voltage high
U0027	Controller area network (CAN) data bus, low speed bus (-) - shorted to data bus (+)
U0028	Vehicle area network (VAN) data bus A
U0029	Vehicle area network (VAN) data bus A - performance problem
U0030	Vehicle area network (VAN) data bus A (+) - open circuit
U0031	Vehicle area network (VAN) data bus A (+) - voltage low
U0032	Vehicle area network (VAN) data bus A (+) - voltage high
U0033	Vehicle area network (VAN) data bus A (-) - open circuit
U0034	Vehicle area network (VAN) data bus A (-) - voltage low
U0035	Vehicle area network (VAN) data bus A (-) - voltage high
U0036	Vehicle area network (VAN) data bus A (-) - shorted to data bus A (+)
U0037	Vehicle area network (VAN) data bus B
U0038	Vehicle area network (VAN) data bus B - performance problem
U0039	Vehicle area network (VAN) data bus B (+) - open circuit
U0040	Vehicle area network (VAN) data bus B (+) - voltage low
U0041	Vehicle area network (VAN) data bus B (+) - voltage high
U0042	Vehicle area network (VAN) data bus B (-) - open circuit
U0043	Vehicle area network (VAN) data bus B (-) - voltage low
U0044	Vehicle area network (VAN) data bus B (-) - voltage high
U0045	Vehicle area network (VAN) data bus B (-) - shorted to data bus B (+)
U0046	Vehicle area network (VAN) data bus C
U0047	Vehicle area network (VAN) data bus C - performance problem
U0048	Vehicle area network (VAN) data bus C (+) - open circuit
U0049	Vehicle area network (VAN) data bus C (+) - voltage low
U0050	Vehicle area network (VAN) data bus C (+) - voltage high
U0051	Vehicle area network (VAN) data bus C (-) - open circuit
U0052	Vehicle area network (VAN) data bus C (-) - voltage low

U0053	Vehicle area network (VAN) data bus C (-) - voltage high
U0054	Vehicle area network (VAN) data bus C (-) - shorted to data bus C (+)
U0055	Vehicle area network (VAN) data bus D
U0056	Vehicle area network (VAN) data bus D - performance problem
U0057	Vehicle area network (VAN) data bus D (+) - open circuit
U0058	Vehicle area network (VAN) data bus D (+) - voltage low
U0059	Vehicle area network (VAN) data bus D (+) - voltage high
U0060	Vehicle area network (VAN) data bus D (-) - open circuit
U0061	Vehicle area network (VAN) data bus D (-) - voltage low
U0062	Vehicle area network (VAN) data bus D (-) - voltage high
U0063	Vehicle area network (VAN) data bus D (-) - shorted to data bus D (+)
U0064	Vehicle area network (VAN) data bus E
U0065	Vehicle area network (VAN) data bus E - performance problem
U0066	Vehicle area network (VAN) data bus E (+) - open circuit
U0067	Vehicle area network (VAN) data bus E (+) - voltage low
U0068	Vehicle area network (VAN) data bus E (+) - voltage high
U0069	Vehicle area network (VAN) data bus E (-) - open circuit
U0070	Vehicle area network (VAN) data bus E (-) - voltage low
U0071	Vehicle area network (VAN) data bus E (-) - voltage high
U0072	Vehicle area network (VAN) data bus E (-) - shorted to data bus E (+)
U0073	Control module - data bus Off
U0074	Control module communication bus B - data bus OFF
U0080	Vehicle area network (VAN) data bus F
U0081	Vehicle area network (VAN) data bus F - performance problem
U0082	Vehicle area network (VAN) data bus F (+) - open circuit
U0083	Vehicle area network (VAN) data bus F (+) - voltage low
U0084	Vehicle area network (VAN) data bus F (+) - voltage high
U0085	Vehicle area network (VAN) data bus F (-) - open circuit
U0086	Vehicle area network (VAN) data bus F (-) - voltage low
U0087	Vehicle area network (VAN) data bus F (-) - voltage high
U0088	Vehicle area network (VAN) data bus F (-) - shorted to data bus F (+)
U0100	Data bus, engine control module (ECM) A - no communication
U0101	Data bus, transmission control module (TCM) - no communication
U0102	Data bus, transfer box control module - no communication
U0103	Data bus, gear shift module - no communication
U0104	Data bus, cruise control module - no communication
U0105	Data bus, injector control module - no communication
U0106	Data bus, glow plug control module - no communication
U0107	Data bus, throttle actuator control (TAC) module - no communication
U0108	Data bus, alternative fuel control module - no communication
U0109	Data bus, fuel pump (FP) control module - no communication
U010A	Exhaust gas recirculation (EGR) control module A - communication signal lost
U010B	Lost communication with exhaust gas recirculation (EGR) control module B
U010C	Turbocharger (TC)/supercharger (SC) control module A - communication signal lost

U010D	Turbocharger (TC)/supercharger (SC) control module B - communication signal lost
U010E	Reductant control module - communication signal lost
U010F	AC control module - communication signal lost
U0110	Data bus, drive motor control module - no communication
U0111	Data bus, battery energy control module A - no communication
U0112	Data bus, battery energy control module B - no communication
U0113	Data bus, emissions critical control information - no communication
U0114	Data bus, four wheel drive clutch control module - no communication
U0115	Data bus, engine control module (ECM) B - no communication
U0116	Lost communication with coolant temperature control module
U0117	Lost communication with power take-off (PTO) control module
U0118	Lost communication with fuel additive control module
U0119	Lost communication with fuel cell control module
U011A	Exhaust gas sensor control module - communication signal lost
U011B	Rocker arm control module A - communication signal lost
U011C	Rocker arm control module B - communication signal lost
U011D	Lost communication with four wheel drive control module
U011E	Lost communication with electronic throttle system (ETS) control module B
U0120	Lost communication with starter/generator control module
U0121	Data bus, anti-lock brake system (ABS) control module - no communication
U0122	Data bus, vehicle dynamics control module - no communication
U0123	Data bus, yaw rate sensor module - no communication
U0124	Data bus, lateral acceleration sensor module - no communication
U0125	Data bus, multi-axis acceleration sensor module - no communication
U0126	Data bus, steering position sensor control module - no communication
U0127	Data bus, tyre pressure monitor module - no communication
U0128	Data bus, parking brake control module - no communication
U0129	Data bus, brake system control module - no communication
U012A	Lost communication with chassis control module A
U012B	Lost communication with chassis control module B
U012C	Lost communication with active vibration control module
U0130	Data bus, steering effort control module - no communication
U0131	Data bus, power steering control module - no communication
U0132	Data bus, suspension ride height control module - no communication
U0133	Lost communication with active roll control module
U0134	Lost communication with power steering control module, rear
U0135	Lost communication with differential control module, front
U0136	Lost communication with differential control module, rear
U0137	Lost communication with trailer brake control module
U0138	Lost communication with all-terrain control module
U0139	Lost communication with suspension control module B
U0140	Data bus, body control module (BCM) - no communication
U0141	Data bus, body control module (BCM) A - no communication
U0142	Data bus, body control module (BCM) B - no communication

U0143	Data bus, body control module (BCM) C - no communication
U0144	Data bus, body control module (BCM) D - no communication
U0145	Data bus, body control module (BCM) E - no communication
U0146	Data bus, gateway A - no communication
U0147	Data bus, gateway B - no communication
U0148	Data bus, gateway C - no communication
U0149	Data bus, gateway D - no communication
U0150	Data bus, gateway E - no communication
U0151	Data bus, supplementary restraint system (SRS) control module - no communication
U0152	Data bus, supplementary restraint system (SRS) control module, left - no communication
U0153	Data bus, supplementary restraint system (SRS) control module, right - no communication
U0154	Data bus, supplementary restraint system (SRS) occupant sensing control module - no communication
U0155	Data bus, instrumentation control module - no communication
U0156	Data bus, information centre A - no communication
U0157	Data bus, information centre B - no communication
U0158	Data bus, head up display - no communication
U0159	Data bus, parking aid control module A - no communication
U0160	Data bus, audible alert control module - no communication
U0161	Data bus, compass module - no communication
U0162	Data bus, navigation display module - no communication
U0163	Data bus, navigation control module - no communication
U0164	Data bus, AC control module - no communication
U0165	Data bus, AC control module, rear
U0166	Data bus, auxiliary heater control module - no communication
U0167	Data bus, immobilizer control module - no communication
U0168	Data bus, alarm system control module - no communication
U0169	Data bus, sunroof control module - no communication
U016A	Lost communication with navigation control module
U016B	Lost communication with electric AC compressor control module
U016C	Lost communication with fuel pump control module B
U0170	Data bus, supplementary restraint system (SRS) sensor A - no communication
U0171	Data bus, supplementary restraint system (SRS) sensor B - no communication
U0172	Data bus, supplementary restraint system (SRS) sensor C - no communication
U0173	Data bus, supplementary restraint system (SRS) sensor D - no communication
U0174	Data bus, supplementary restraint system (SRS) sensor E - no communication
U0175	Data bus, supplementary restraint system (SRS) sensor F - no communication
U0176	Data bus, supplementary restraint system (SRS) sensor G - no communication
U0177	Data bus, supplementary restraint system (SRS) sensor H - no communication
U0178	Data bus, supplementary restraint system (SRS) sensor I - no communication
U0179	Data bus, supplementary restraint system (SRS) sensor J - no communication
U017A	Supplementary restraint system (SRS) system sensor K - communication signal lost
U017B	Supplementary restraint system (SRS) system sensor L - communication signal lost
U017C	Supplementary restraint system (SRS) system sensor M - communication signal lost

U017D	Supplementary restraint system (SRS) system sensor N - communication signal lost
U017E	Lost communication with seat belt pretensioner control module A
U017F	Lost communication with seat belt pretensioner control module B
U0180	Data bus, automatic lighting control module - no communication
U0181	Data bus, headlamp level control module - no communication
U0182	Data bus, lamps control module, front - no communication
U0183	Data bus, lamps control module, rear - no communication
U0184	Data bus, radio - no communication
U0185	Data bus, aerial module - no communication
U0186	Data bus, audio unit output amplifier - no communication
U0187	Data bus, digital disc player/changer module A - no communication
U0188	Data bus, digital disc player/changer module B - no communication
U0189	Data bus, digital disc player/changer module C - no communication
U0190	Data bus, digital disc player/changer module D - no communication
U0191	Data bus, television - no communication
U0192	Data bus, personal computer - no communication
U0193	Data bus, digital audio control module A - no communication
U0194	Data bus, digital audio control module B - no communication
U0195	Data bus, subscription entertainment receiver module - no communication
U0196	Data bus, entertainment control module, rear - no communication
U0197	Data bus, telephone control module - no communication
U0198	Data bus, telematics control module - no communication
U0199	Data bus, door function control module A - no communication
U0200	Data bus, door function control module B - no communication
U0201	Data bus, door function control module C - no communication
U0202	Data bus, door function control module D - no communication
U0203	Data bus, door function control module E - no communication
U0204	Data bus, door function control module F - no communication
U0205	Data bus, door function control module G - no communication
U0206	Data bus, convertible top control module - no communication
U0207	Data bus, moveable roof control module - no communication
U0208	Data bus, seat adjustment control module A - no communication
U0209	Data bus, seat adjustment control module B - no communication
U0210	Data bus, seat adjustment control module C - no communication
U0211	Data bus, seat adjustment control module D - no communication
U0212	Data bus, steering column control module - no communication
U0213	Data bus, mirror control module A - no communication
U0214	Data bus, remote function actuation - no communication
U0215	Data bus, door contact switch A - no communication
U0216	Data bus, door contact switch B - no communication
U0217	Data bus, door contact switch C - no communication
U0218	Data bus, door contact switch D - no communication
U0219	Data bus, door contact switch E - no communication
U0220	Data bus, door contact switch F - no communication

U0221	Data bus, door contact switch G - no communication
U0222	Data bus, electric window motor A - no communication
U0223	Data bus, electric window motor B - no communication
U0224	Data bus, electric window motor C - no communication
U0225	Data bus, electric window motor D - no communication
U0226	Data bus, electric window motor E - no communication
U0227	Data bus, electric window motor F - no communication
U0228	Data bus, electric window motor G - no communication
U0229	Data bus, heated steering wheel module - no communication
U0230	Data bus, tailgate control module - no communication
U0231	Data bus, rain sensor control module - no communication
U0232	Data bus, side obstacle detection control module, left - no communication
U0233	Data bus, side obstacle detection control module, right - no communication
U0234	Data bus, convenience recall module - no communication
U0235	Data bus, cruise control front distance range sensor - no communication
U0236	Lost communication with steering column lock control module
U0237	Lost communication with digital audio broadcast (DAB) control module C
U0238	Lost communication with digital audio broadcast (DAB) control module D
U0239	Lost communication with entrapment control module A
U023A	Image processing module A - communication signal lost
U023B	Image processing module B - communication signal lost
U023C	Image processing module C - communication signal lost
U023D	Lost communication with cruise control distance range sensor, front left
U023E	Lost communication with cruise control distance range sensor, front right
U0240	Lost communication with entrapment control module B
U0241	Lost communication with headlamp control module A
U0242	Lost communication with headlamp control module B
U0243	Lost communication with parking aid control module B
U0244	Lost communication with running board control module A
U0245	Lost communication with entertainment control module, front
U0246	Lost communication with seat control module E
U0247	Lost communication with seat control module F
U0248	Lost communication with remote accessory module
U0249	Lost communication with entertainment control module, rear B
U024A	Lost communication with interior lighting control module
U024B	Lost communication with seat control module G
U024C	Lost communication with seat control module H
U0250	Lost communication with impact classification system module
U0251	Lost communication with running board control module B
U0252	Lost communication with rear lamps control module B
U0253	Lost communication with accessory protocol interface module
U0254	Lost communication with remote start module
U0255	Lost communication with front display interface module
U0256	Lost communication with front controls interface module A

U0257	Lost communication with front controls/display interface module
U0258	Lost communication with radio transceiver
U0259	Lost communication with special purpose vehicle control module A
U025A	Special purpose vehicle control module B - communication signal lost
U025B	Special purpose vehicle control module C - communication signal lost
U025C	Special purpose vehicle control module D - communication signal lost
U025D	Lost communication with front controls interface module B
U0260	Lost communication with seat adjustment control module A
U0261	Lost communication with seat adjustment control module B
U0262	Lost communication with audio unit output amplifier B
U0263	Lost communication with voice activation control module
U0264	Lost communication with camera module
U0286	Lost communication with radiator anti-tamper device
U0287	Lost communication with transmission fluid pump module
U0288	Lost communication with DC to AC converter control module A
U0289	Lost communication with DC to AC converter control module B
U0291	Lost communication with gear shift module B
U0292	Lost communication with drive motor control module B
U0293	Lost communication with hybrid powertrain control module
U0294	Lost communication with powertrain control monitor module
U0295	Lost communication with AC to AC converter control module
U0296	Lost communication with AC to DC converter control module A
U0297	Lost communication with AC to DC converter control module B
U0298	Lost communication with DC to DC converter control module A
U0299	Lost communication with DC to DC converter control module B
U029A	Lost communication with hybrid battery pack sensor module
U029B	Lost communication with drive motor control module C
U029C	Lost communication with drive motor control module D
U029D	Lost communication with nitrogen oxides (NOx) sensor A
U029E	Lost communication with nitrogen oxides (NOx) sensor B
U029F	Lost communication with evaporative emission (EVAP) leak detection system control module
U0300	Control module - internal software incompatibility
U0301	Software incompatibility - engine control module (ECM)
U0302	Software incompatibility - transmission control module (TCM)
U0303	Software incompatibility - transfer box control module
U0304	Software incompatibility - gear shift module
U0305	Software incompatibility - cruise control module
U0306	Software incompatibility - injector control module
U0307	Software incompatibility - glow plug control module
U0308	Software incompatibility - throttle actuator control (TAC) module
U0309	Software incompatibility - alternative fuel control module
U030A	Software incompatibility with evaporative emission (EVAP) leak detection system control module
U0310	Software incompatibility - fuel pump (FP) control module
U0311	Software incompatibility - drive motor control module

U0312	Software incompatibility - battery energy control module A
U0313	Software incompatibility - battery energy control module B
U0314	Software incompatibility - four wheel drive clutch control module
U0315	Software incompatibility - anti-lock brake system (ABS) control module
U0316	Software incompatibility - vehicle dynamics control module
U0317	Software incompatibility - parking brake control module
U0318	Software incompatibility - brake system control module
U0319	Software incompatibility - steering effort control module
U0320	Software incompatibility - power steering control module
U0321	Software incompatibility - suspension ride height control module
U0322	Software incompatibility - body control module
U0323	Software incompatibility - instrumentation control module
U0324	Software incompatibility - AC control module
U0325	Software incompatibility - auxiliary heater control module
U0326	Software incompatibility - immobilizer control module
U0327	Software incompatibility - alarm system control module
U0328	Software incompatibility - steering position sensor control module
U0329	Software incompatibility - steering column control module
U0330	Software incompatibility - tyre pressure monitor module
U0331	Software incompatibility - body control module A
U0332	Software incompatibility - multi-axis acceleration sensor module
U0333	Software incompatibility with gear shift control module B
U0334	Software incompatibility with audio system
U0335	Software incompatibility with hybrid battery pack sensor module
U0336	Software incompatibility with supplementary restraint system (SRS) control module
U0400	Invalid data received
U0401	Invalid data received - engine control module (ECM)
U0402	Invalid data received - transmission control module (TCM)
U0403	Invalid data received - transfer box control module
U0404	Invalid data received - gear shift module
U0405	Invalid data received - cruise control module
U0406	Invalid data received - injector control module
U0407	Invalid data received - glow plug control module
U0408	Invalid data received - throttle actuator control (TAC) module
U0409	Invalid data received - alternative fuel control module
U040A	Invalid data received from AC control module
U040B	Invalid data received from exhaust gas recirculation (EGR) control module A
U040C	Invalid data received from exhaust gas recirculation (EGR) control module B
U040D	Invalid data received from turbocharger (TC)/supercharger (SC) control module A
U040E	Invalid data received from turbocharger (TC)/supercharger (SC) control module B
U040F	Invalid data received from reductant control module
U0410	Invalid data received - fuel pump (FP) control module
U0411	Invalid data received - drive motor control module
U0412	Invalid data received - battery energy control module A

U0413	Invalid data received - battery energy control module B
U0414	Invalid data received - four wheel drive clutch control module
U0415	Invalid data received - anti-lock brake system (ABS) control module
U0416	Invalid data received - vehicle dynamics control module
U0417	Invalid data received - parking brake control module
U0418	Invalid data received - brake system control module
U0419	Invalid data received - steering effort control module
U041B	Invalid data received from exhaust gas sensor control module
U041C	Invalid data received from rocker arm control module A
U041D	Invalid data received from rocker arm control module B
U041E	Invalid data received from four wheel drive control module
U041F	Invalid data received from electronic throttle system (ETS) control module B
U0420	Invalid data received - power steering control module
U0421	Invalid data received - suspension ride height control module
U0422	Invalid data received - body control module
U0423	Invalid data received - instrumentation control module
U0424	Invalid data received - AC control module
U0425	Invalid data received - auxiliary heater control module
U0426	Invalid data received - immobilizer control module
U0427	Invalid data received - alarm system control module
U0428	Invalid data received - steering position sensor control module
U0429	Invalid data received - steering column control module
U042B	Invalid data received from chassis control module A
U042C	Invalid data received from chassis control module B
U042D	Invalid data received from active vibration control module
U0430	Invalid data received - tyre pressure monitor module
U0431	Invalid data received - body control module A
U0432	Invalid data received from multi-axis acceleration sensor module
U0433	Invalid data received from cruise control distance range sensor, front
U0434	Invalid data received from active roll control module
U0435	Invalid data received from power steering control module, rear
U0436	Invalid data received from differential control module, front
U0437	Invalid data received from differential control module, rear
U0438	Invalid data received from trailer brake control module
U0439	Invalid data received from all-terrain control module
U043A	Invalid data received from suspension control module B
U043B	Invalid data received from cruise control distance range sensor, front left
U043C	Invalid data received from cruise control distance range sensor, front right
U0441	Invalid data received from emissions critical control information
U0442	Invalid data received from ECM/PCM B
U0443	Invalid data received from body control module (BCM) B
U0444	Invalid data received from body control module (BCM) C
U0445	Invalid data received from body control module (BCM) D
U0446	Invalid data received from body control module (BCM) E

U0447	Invalid data received from gateway A
U0448	Invalid data received from gateway B
U0449	Invalid data received from gateway C
U044A	Invalid data received from gateway D
U0450	Invalid data received from gateway D
U0451	Invalid data received from gateway E
U0452	Invalid data received from supplementary restraint system (SRS) control module
U0453	Invalid data received from side supplementary restraint system (SRS) control module, left
U0454	Invalid data received from side supplementary restraint system (SRS) control module, right
U0455	Invalid data received from restraints occupant classification system module
U0456	Invalid data received from coolant temperature control module
U0457	Invalid data received from information centre A
U0458	Invalid data received from information centre B
U0459	Invalid data received from head up display
U045A	Invalid data received from parking aid control module A
U0461	Invalid data received from audible alert control module
U0462	Invalid data received from compass module
U0463	Invalid data received from navigation display module
U0464	Invalid data received from navigation control module
U0465	Invalid data received from power take-off (PTO) control module
U0466	Invalid data received from AC control module, rear
U0467	Invalid data received from fuel additive control module
U0468	Invalid data received from fuel cell control module
U0469	Invalid data received from starter/generator control module
U046A	Invalid data received from sunroof control module
U046B	Invalid data received from navigation control module
U046C	Invalid data received from electric AC compressor control module
U046D	Invalid data received from fuel pump control module B
U0471	Invalid data received from supplementary restraint system (SRS) sensor A
U0472	Invalid data received from supplementary restraint system (SRS) sensor B
U0473	Invalid data received from supplementary restraint system (SRS) sensor C
U0474	Invalid data received from supplementary restraint system (SRS) sensor D
U0475	Invalid data received from supplementary restraint system (SRS) sensor E
U0476	Invalid data received from supplementary restraint system (SRS) sensor F
U0477	Invalid data received from supplementary restraint system (SRS) sensor G
U0478	Invalid data received from supplementary restraint system (SRS) sensor H
U0479	Invalid data received from supplementary restraint system (SRS) sensor I
U047A	Invalid data received from supplementary restraint system (SRS) system sensor J
U047B	Invalid data received from supplementary restraint system (SRS) system sensor K
U047C	Invalid data received from supplementary restraint system (SRS) system sensor L
U047D	Invalid data received from supplementary restraint system (SRS) system sensor M
U047E	Invalid data received from supplementary restraint system (SRS) system sensor N
U047F	Invalid data received from seat belt pretensioner control module A
U0480	Invalid data received from seat belt pretensioner control module B

U0481	Invalid data received from automatic lighting control module
U0482	Invalid data received from headlamp level control module
U0483	Invalid data received from lighting control module, front
U0484	Invalid data received from lighting control module, rear A
U0485	Invalid data received from audio system
U0486	Invalid data received from aerial module
U0487	Invalid data received from audio unit output amplifier A
U0488	Invalid data received from digital disc player/changer module A
U0489	Invalid data received from digital disc player/changer module B
U048A	Invalid data received from digital disc player/digital disc changer C
U0491	Invalid data received from digital disc player/changer module D
U0492	Invalid data received from television
U0493	Invalid data received from personal computer
U0494	Invalid data received from digital audio control module A
U0495	Invalid data received from digital audio control module B
U0496	Invalid data received from subscription entertainment receiver module
U0497	Invalid data received from entertainment control module, rear A
U0498	Invalid data received from telephone control module
U0499	Invalid data received from telematics control module
U049A	Invalid data received from door function control module A
U0501	Invalid data received from door function control module B
U0502	Invalid data received from door function control module C
U0503	Invalid data received from door function control module D
U0504	Invalid data received from door function control module E
U0505	Invalid data received from door function control module F
U0506	Invalid data received from door function control module G
U0507	Invalid data received from convertible top control module
U0508	Invalid data received from moveable roof control module
U0509	Invalid data received from seat control module A
U050A	Invalid data received from seat adjustment control module B
U0511	Invalid data received from seat control module C
U0512	Invalid data received from seat control module D
U0513	Invalid data received from yaw rate sensor
U0514	Invalid data received from mirror control module A
U0515	Invalid data received from remote function actuation
U0516	Invalid data received from door switch A
U0517	Invalid data received from door switch B
U0518	Invalid data received from door switch C
U0519	Invalid data received from door switch D
U051A	Invalid data received from door switch E
U0521	Invalid data received from door switch F
U0522	Invalid data received from door switch G
U0523	Invalid data received from door window motor A
U0524	Invalid data received from door window motor B

U0525	Invalid data received from door window motor C
U0526	Invalid data received from door window motor D
U0527	Invalid data received from door window motor E
U0528	Invalid data received from door window motor F
U0529	Invalid data received from door window motor G
U052A	Invalid data received from heated steering wheel function control module
U0531	Invalid data received from rear gate module
U0532	Invalid data received from rain sensing module
U0533	Invalid data received from side obstacle detection control module, left
U0534	Invalid data received from side obstacle detection control module, right
U0535	Invalid data received from convenience recall module
U0536	Invalid data received from lateral acceleration sensor module
U0537	Invalid data received from steering column lock control module
U0538	Invalid data received from digital audio control module C
U0539	Invalid data received from digital audio control module D
U053A	Invalid data received from entrapment control module A
U053B	Invalid data received from image processing module A
U053C	Invalid data received from image processing module B
U053D	Invalid data received from image processing module C
U0541	Invalid data received from entrapment control module B
U0542	Invalid data received from headlamp control module A
U0543	Invalid data received from headlamp control module B
U0544	Invalid data received from parking aid control module B
U0545	Invalid data received from running board control module
U0546	Invalid data received from entertainment control module, front
U0547	Invalid data received from seat control module E
U0548	Invalid data received from seat control module F
U0549	Invalid data received from remote accessory module
U054A	Invalid data received from rear entertainment control module B
U054B	Invalid data received from interior lighting control module
U054C	Invalid data received from seat control module G
U054D	Invalid data received from seat control module H
U0551	Invalid data received from impact classification system module
U0552	Invalid data received from running board control module B
U0553	Invalid data received from lighting control module, rear B
U0554	Invalid data received from accessory protocol interface module
U0555	Invalid data received from remote start module
U0556	Invalid data received from front display interface module
U0557	Invalid data received from front controls interface module
U0558	Invalid data received from front controls/display interface module
U0559	Invalid data received from radio transceiver
U055A	Invalid data received from special purpose vehicle control module A
U055B	Invalid data received from special purpose vehicle control module B
U055C	Invalid data received from special purpose vehicle control module C

U055D	Invalid data received from special purpose vehicle control module D
U055E	Invalid data received from front controls interface module B
U0561	Invalid data received from seat control switch module A
U0562	Invalid data received from seat control switch module B
U0563	Invalid data received from audio amplifier B
U0564	Invalid data received from speech recognition module
U0565	Invalid data received from camera module, rear
U0587	Invalid data received from radiator anti-tamper device
U0588	Invalid data received from transmission fluid pump module
U0589	Invalid data received from DC to AC converter control module A
U058A	Invalid data received from DC/AC converter control module B
U0592	Invalid data received from gear shift module B
U0593	Invalid data received from drive motor control module B
U0594	Invalid data received from hybrid powertrain control module
U0595	Invalid data received from powertrain control monitor module
U0596	Invalid data received from AC to AC converter control module
U0597	Invalid data received from AC to DC converter control module A
U0598	Invalid data received from AC to DC converter control module B
U0599	Invalid data received from DC to DC converter control module A
U059A	Invalid data received from DC to DC converter control module B
U059B	Invalid data received from hybrid battery pack sensor control module
U059C	Invalid data received from drive motor control module C
U059D	Invalid data received from drive motor control module D
U059E	Invalid data received from nitrogen oxides (NOx) sensor A
U059F	Invalid data received from nitrogen oxides (NOx) sensor B
U05A0	Invalid data received from evaporative emission (EVAP) leak detection system control module

EOBD code	Fault location	Probable cause
P3400	Cylinder deactivation system, bank 1	-
P3401	Deactivation/intake valve control, cylinder 1 - open circuit	-
P3402	Deactivation/intake valve control, cylinder 1 - circuit performance	-
P3403	Deactivation/intake valve control, cylinder 1 - circuit low	-
P3404	Deactivation/intake valve control, cylinder 1 - circuit high	-
P3405	Exhaust valve control, cylinder 1 - open circuit	-
P3406	Exhaust valve control, cylinder 1 - circuit performance	-
P3407	Exhaust valve control, cylinder 1 - circuit low	-
P3408	Exhaust valve control, cylinder 1 - circuit high	-
P3409	Deactivation/intake valve control, cylinder 2 - open circuit	-
P340A	Deactivation/intake valve control, bank 1 - circuit malfunction	-
P340B	Deactivation/intake valve control, bank 2 - circuit malfunction	-
P340C	Deactivation/exhaust valve control, bank 1 - circuit malfunction	-
P340D	Deactivation/exhaust valve control, bank 2 - circuit malfunction	-
P3410	Deactivation/intake valve control, cylinder 2 - circuit performance	-
P3411	Deactivation/intake valve control, cylinder 2 - circuit low	-

P3412	Deactivation/intake valve control, cylinder 2 - circuit high	-
P3413	Exhaust valve control, cylinder 2 - open circuit	-
P3414	Exhaust valve control, cylinder 2 - circuit performance	-
P3415	Exhaust valve control, cylinder 2 - circuit low	-
P3416	Exhaust valve control, cylinder 2 - circuit high	-
P3417	Deactivation/intake valve control, cylinder 3 - open circuit	-
P3418	Deactivation/intake valve control, cylinder 3 - circuit performance	-
P3419	Deactivation/intake valve control, cylinder 3 - circuit low	-
P341A	Deactivation/intake valve control, bank 1 - circuit performance problem	-
P341B	Deactivation/intake valve control, bank 2 - circuit performance problem	-
P341C	Deactivation/exhaust valve control, bank 1 - circuit performance problem	-
P341D	Deactivation/exhaust valve control, bank 2 - circuit performance problem	-
P3420	Deactivation/intake valve control, cylinder 3 - circuit high	-
P3421	Exhaust valve control, cylinder 3 - open circuit	-
P3422	Exhaust valve control, cylinder 3 - circuit performance	-
P3423	Exhaust valve control, cylinder 3 - circuit low	-
P3424	Exhaust valve control, cylinder 3 - circuit high	-
P3425	Deactivation/intake valve control, cylinder 4 - open circuit	-
P3426	Deactivation/intake valve control, cylinder 4 - circuit performance	-
P3427	Deactivation/intake valve control, cylinder 4 - circuit low	-
P3428	Deactivation/intake valve control, cylinder 4 - circuit high	-
P3429	Exhaust valve control, cylinder 4 - open circuit	-
P3430	Exhaust valve control, cylinder 4 - circuit performance	-
P3431	Exhaust valve control, cylinder 4 - circuit low	-
P3432	Exhaust valve control, cylinder 4 - circuit high	-
P3433	Deactivation/intake valve control, cylinder 5 - open circuit	-
P3434	Deactivation/intake valve control, cylinder 5 - circuit performance	-
P3435	Deactivation/intake valve control, cylinder 5 - circuit low	-
P3436	Deactivation/intake valve control, cylinder 5 - circuit high	-
P3437	Exhaust valve control, cylinder 5 - open circuit	-
P3438	Exhaust valve control, cylinder 5 - circuit performance	-
P3439	Exhaust valve control, cylinder 5 - circuit low	-
P3440	Exhaust valve control, cylinder 5 - circuit high	-
P3441	Deactivation/intake valve control, - open circuit	-
P3442	Deactivation/intake valve control, cylinder 6 - circuit performance	-
P3443	Deactivation/intake valve control, cylinder 6 - circuit low	-
P3444	Deactivation/intake valve control, cylinder 6 - circuit high	-
P3445	Exhaust valve control, cylinder 6 - open circuit	-
P3446	Exhaust valve control, cylinder 6 - circuit performance	-
P3447	Exhaust valve control, cylinder 6 - circuit low	-
P3448	Exhaust valve control, cylinder 6 - circuit high	-
P3449	Deactivation/intake valve control, cylinder 7 - open circuit	-
P3450	Deactivation/intake valve control, cylinder 7 - circuit performance	-
P3451	Deactivation/intake valve control, cylinder 7 - circuit low	-

P3452	Deactivation/intake valve control, cylinder 7 - circuit high	-
P3453	Exhaust valve control, cylinder 7 - open circuit	-
P3454	Exhaust valve control, cylinder 7 - circuit performance	-
P3455	Exhaust valve control, cylinder 7 - circuit low	-
P3456	Exhaust valve control, cylinder 7 - circuit high	-
P3457	Deactivation/intake valve control, cylinder 8 - open circuit	-
P3458	Deactivation/intake valve control, cylinder 8 - circuit performance	-
P3459	Deactivation/intake valve control, cylinder 8 - circuit low	-
P3460	Deactivation/intake valve control, cylinder 8 - circuit high	-
P3461	Exhaust valve control, cylinder 8 - open circuit	-
P3462	Exhaust valve control, cylinder 8 - circuit performance	-
P3463	Exhaust valve control, cylinder 8 - circuit low	-
P3464	Exhaust valve control, cylinder 8 - circuit high	-
P3465	Deactivation/intake valve control, cylinder 9 - open circuit	-
P3466	Deactivation/intake valve control, cylinder 9 - circuit performance	-
P3467	Deactivation/intake valve control, cylinder 9 - circuit low	-
P3468	Deactivation/intake valve control, cylinder 9 - circuit high	-
P3469	Exhaust valve control, cylinder 9 - open circuit	-
P3470	Exhaust valve control, cylinder 9 - circuit performance	-
P3471	Exhaust valve control, cylinder 9 - circuit low	-
P3472	Exhaust valve control, cylinder 9 - circuit high	-
P3473	Deactivation/intake valve control, cylinder 10 - open circuit	-
P3474	Deactivation/intake valve control, cylinder 10 - circuit performance	-
P3475	Deactivation/intake valve control, cylinder 10 - circuit low	-
P3476	Deactivation/intake valve control, cylinder 10 - circuit high	-
P3477	Exhaust valve control, cylinder 10 - open circuit	-
P3478	Exhaust valve control, cylinder 10 - circuit performance	-
P3479	Exhaust valve control, cylinder 10 - circuit low	-
P3480	Exhaust valve control, cylinder 10 - circuit high	-
P3481	Deactivation/intake valve control, cylinder 11 - open circuit	-
P3482	Deactivation/intake valve control, cylinder 11 - circuit performance	-
P3483	Deactivation/intake valve control, cylinder 11 - circuit low	-
P3484	Deactivation/intake valve control, cylinder 11 - circuit high	-
P3485	Exhaust valve control, cylinder 11 - open circuit	-
P3486	Exhaust valve control, cylinder 11 - circuit performance	-
P3487	Exhaust valve control, cylinder 11 - circuit low	-
P3488	Exhaust valve control, cylinder 11 - circuit high	-
P3489	Deactivation/intake valve control, cylinder 12 - open circuit	-
P3490	Deactivation/intake valve control, cylinder 12 - circuit performance	-
P3491	Deactivation/intake valve control, cylinder 12 - circuit low	-
P3492	Deactivation/intake valve control, cylinder 12 - circuit high	-
P3493	Exhaust valve control, cylinder 12 - open circuit	-
P3494	Exhaust valve control, cylinder 12 - circuit performance	-
P3495	Exhaust valve control, cylinder 12 - circuit low	-

P3496	Exhaust valve control, cylinder 12 - circuit high	-
P3497	Cylinder deactivation system, bank 2	-

EOBD code	Fault location	Probable cause
P2000	Nitrogen oxides (NOx) trap, bank 1 - efficiency below threshold	NOx trap
P2001	Nitrogen oxides (NOx) trap, bank 2 - efficiency below threshold	NOx trap
P2002	Particulate trap, bank 1 - efficiency below threshold	Particulate trap
P2003	Particulate trap, bank 2 - efficiency below threshold	Particulate trap
P2004	Intake manifold air control actuator, bank 1 - actuator stuck open	Wiring, intake manifold air control actuator, mechanical fault
P2004	Intake manifold air control solenoid, bank 1 - solenoid stuck open	Wiring, intake manifold air control solenoid, mechanical fault
P2005	Intake manifold air control actuator, bank 2 - actuator stuck open	Wiring, intake manifold air control actuator, mechanical fault
P2005	Intake manifold air control solenoid, bank 2 - solenoid stuck open	Wiring, intake manifold air control solenoid, mechanical fault
P2006	Intake manifold air control actuator, bank 1 - actuator stuck closed	Wiring, intake manifold air control actuator, mechanical fault
P2006	Intake manifold air control solenoid, bank 1 - solenoid stuck closed	Wiring, intake manifold air control solenoid, mechanical fault
P2007	Intake manifold air control actuator, bank 2 - actuator stuck closed	Wiring, intake manifold air control actuator, mechanical fault
P2007	Intake manifold air control solenoid, bank 2 - solenoid stuck closed	Wiring, intake manifold air control solenoid, mechanical fault
P2008	Intake manifold air control actuator, bank 1 - open circuit	Wiring open circuit, intake manifold air control actuator
P2008	Intake manifold air control solenoid, bank 1 - open circuit	Wiring open circuit, intake manifold air control solenoid
P2009	Intake manifold air control actuator, bank 1 - circuit low	Wiring short to earth, intake manifold air control actuator
P2009	Intake manifold air control solenoid, bank 1 - circuit low	Wiring short to earth, intake manifold air control solenoid
P200A	Intake manifold air control actuator, bank 1 - performance problem	Wiring, intake manifold air control actuator, ECM
P200B	Intake manifold air control actuator, bank 2 - performance problem	Wiring, intake manifold air control actuator, ECM
P200C	Diesel particulate filter (DPF), bank 1 - over-temperature condition	-
P200D	Diesel particulate filter (DPF), bank 2 - over-temperature condition	-
P200E	Catalytic converter, bank 1 - over-temperature condition	-
P200F	Catalytic converter, bank 2 - over-temperature condition	-
P2010	Intake manifold air control actuator, bank 1 - circuit high	Wiring short to positive, intake manifold air control actuator

P2010	Intake manifold air control solenoid, bank 1 - circuit high	Wiring short to positive, intake manifold air control solenoid
P2011	Intake manifold air control actuator, bank 2 - open circuit	Wiring open circuit, intake manifold air control actuator
P2011	Intake manifold air control solenoid, bank 2 - open circuit	Wiring open circuit, intake manifold air control solenoid
P2012	Intake manifold air control actuator, bank 2 - circuit low	Wiring short to earth, intake manifold air control actuator
P2012	Intake manifold air control solenoid, bank 2 - circuit low	Wiring short to earth, intake manifold air control solenoid
P2013	Intake manifold air control actuator, bank 2 - circuit high	Wiring short to positive, intake manifold air control actuator
P2013	Intake manifold air control solenoid, bank 2 - circuit high	Wiring short to positive, intake manifold air control solenoid
P2014	Intake manifold air control actuator position sensor/switch, bank 1 - circuit malfunction	Wiring, intake manifold air control actuator position sensor/switch
P2015	Intake manifold air control actuator position sensor/switch, bank 1 - range/performance problem	Wiring, mechanical fault, intake manifold air control actuator position sensor/switch
P2016	Intake manifold air control actuator position sensor/switch, bank 1 - circuit low	Wiring short to earth, intake manifold air control actuator position sensor/switch
P2017	Intake manifold air control actuator position sensor/switch, bank 1 - circuit high	Wiring short to positive, intake manifold air control actuator position sensor/switch
P2018	Intake manifold air control actuator position sensor/switch, bank 1 - circuit intermittent	Wiring, poor connection, intake manifold air control actuator position sensor/switch
P2019	Intake manifold air control actuator position sensor/switch, bank 2 - circuit malfunction	Wiring, intake manifold air control actuator position sensor/switch
P201A	Reductant injector, unit 1, bank 2 - circuit range/performance	-
P201B	Intake manifold air control actuator, bank 1 - supply voltage low	Wiring, intake manifold air control actuator, ECM
P201C	Intake manifold air control actuator, bank 2 - supply voltage low	Wiring, intake manifold air control actuator, ECM
P201D	Intake manifold air control actuator, bank 1 - internal malfunction	Wiring, intake manifold air control actuator
P201E	Intake manifold air control actuator, bank 2 - internal malfunction	Wiring, intake manifold air control actuator
P2020	Intake manifold air control actuator position sensor/switch, bank 2 - range/performance problem	Wiring, mechanical fault, intake manifold air control actuator position sensor/switch
P2021	Intake manifold air control actuator position sensor/switch, bank 2 - circuit low	Wiring short to earth, intake manifold air control actuator position sensor/switch
P2022	Intake manifold air control actuator position sensor/switch, bank 2 - circuit high	Wiring short to positive, intake manifold air control actuator position sensor/switch
P2023	Intake manifold air control actuator position sensor/switch, bank 2 - circuit intermittent	Wiring, poor connection, intake manifold air control actuator position sensor/switch
P2024	Evaporative emission (EVAP) fuel vapour temperature sensor - circuit malfunction	Wiring, EVAP fuel vapour temperature sensor
P2025	Evaporative emission (EVAP) fuel vapour temperature sensor - range/performance problem	Wiring, EVAP fuel vapour temperature sensor
P2026	Evaporative emission (EVAP) fuel vapour temperature sensor - low voltage	Wiring short to earth, EVAP fuel vapour temperature sensor

P2027	Evaporative emission (EVAP) fuel vapour temperature sensor - high voltage	Wiring short to positive, EVAP fuel vapour temperature sensor
P2028	Evaporative emission (EVAP) fuel vapour temperature sensor - circuit intermittent	Wiring, poor connection, EVAP fuel vapour temperature sensor
P2029	Auxiliary heater (fuel fired) - system disabled	Auxiliary heater system
P202A	Reductant tank heater control - open circuit	Wiring, reductant tank heater, ECM
P202B	Reductant tank heater control - circuit low	Wiring, reductant tank heater, ECM
P202C	Reductant tank heater control - circuit high	Wiring, reductant tank heater, ECM
P202D	Reductant leakage	-
P202E	Reductant injector - circuit range/performance	Wiring, reductant injector, ECM
P202F	Reductant supply control - circuit range/performance	-
P2030	Auxiliary heater (fuel fired) - performance problem	Auxiliary heater system
P2031	Exhaust gas temperature (EGT) sensor 2, bank 1 - circuit malfunction	Wiring, EGT sensor
P2032	Exhaust gas temperature (EGT) sensor 2, bank 1 - circuit low	Wiring short to earth, EGT sensor
P2033	Exhaust gas temperature (EGT) sensor 2, bank 1 - circuit high	Wiring short to positive, EGT sensor
P2034	Exhaust gas temperature (EGT) sensor 2, bank 2 - circuit malfunction	Wiring, EGT sensor
P2035	Exhaust gas temperature (EGT) sensor 2, bank 2 - circuit low	Wiring short to earth, EGT sensor
P2036	Exhaust gas temperature (EGT) sensor 2, bank 2 - circuit high	Wiring short to positive, EGT sensor
P2037	Reductant injection air pressure sensor - circuit malfunction	Wiring, reductant injection air pressure sensor
P2038	Reductant injection air pressure sensor - range/performance problem	Wiring, reductant injection air pressure sensor
P2039	Reductant injection air pressure sensor - low input	Wiring short to earth, reductant injection air pressure sensor
P203A	Reductant level sensor - circuit malfunction	Wiring, reductant level sensor, ECM
P203B	Reductant level sensor - circuit range/performance	Wiring, reductant level sensor, ECM
P203C	Reductant level sensor - circuit low	Wiring, reductant level sensor, ECM
P203D	Reductant level sensor - circuit high	Wiring, reductant level sensor, ECM
P203E	Reductant level sensor - circuit intermittent/erratic	Wiring, reductant level sensor, ECM
P203F	Reductant level - low	-
P2040	Reductant injection air pressure sensor - high input	Wiring short to positive, reductant injection air pressure sensor
P2041	Reductant injection air pressure sensor - circuit intermittent	Wiring, reductant injection air pressure sensor
P2042	Reductant temperature sensor - circuit malfunction	Wiring, reductant temperature sensor
P2043	Reductant temperature sensor - range/performance problem	Wiring, reductant temperature sensor
P2044	Reductant temperature sensor - low input	Wiring, reductant temperature sensor
P2045	Reductant temperature sensor - high input	Wiring, reductant temperature sensor
P2046	Reductant temperature sensor - circuit intermittent	Wiring, reductant temperature sensor
P2047	Reductant injector 1, bank 1 - open circuit	Wiring, reductant injector
P2048	Reductant injector 1, bank 1 - circuit low	Wiring short to earth, reductant injector

P2049	Reductant injector 1, bank 1 - circuit high	Wiring short to positive, reductant injector
P204A	Reductant pressure sensor - circuit malfunction	Wiring, reductant pressure sensor, ECM
P204B	Reductant pressure sensor - circuit range/performance	Wiring, reductant pressure sensor, ECM
P204C	Reductant pressure sensor - circuit low	Wiring, reductant pressure sensor, ECM
P204D	Reductant pressure sensor - circuit high	Wiring, reductant pressure sensor, ECM
P204E	Reductant pressure sensor - circuit intermittent/erratic	Wiring, reductant pressure sensor, ECM
P204F	Reductant system, bank 1 - performance problem	-
P2050	Reductant injector 1, bank 2 - open circuit	Wiring, reductant injector
P2051	Reductant injector 1, bank 2 - circuit low	Wiring short to earth, reductant injector
P2052	Reductant injector 1, bank 2 - circuit high	Wiring short to positive, reductant injector
P2053	Reductant injector 2, bank 1 - open circuit	Wiring, reductant injector
P2054	Reductant injector 2, bank 1 - circuit low	Wiring short to earth, reductant injector
P2055	Reductant injector 2, bank 1 - circuit high	Wiring short to positive, reductant injector
P2056	Reductant injector 2, bank 2 - open circuit	Wiring, reductant injector
P2057	Reductant injector 2, bank 2 - circuit low	Wiring short to earth, reductant injector
P2058	Reductant injector 2, bank 2 - circuit high	Wiring short to positive, reductant injector
P2059	Reductant injection air pump - open circuit	Wiring, reductant injection air pump
P205A	Reductant temperature sensor - circuit malfunction	Wiring, reductant tank temperature sensor, ECM
P205B	Reductant temperature sensor - circuit range/performance	Wiring, reductant tank temperature sensor, ECM
P205C	Reductant temperature sensor - circuit low	Wiring, reductant tank temperature sensor, ECM
P205D	Reductant temperature sensor - circuit high	Wiring, reductant tank temperature sensor, ECM
P205E	Reductant temperature sensor - circuit intermittent/erratic	Wiring, reductant tank temperature sensor, ECM
P205F	Reductant system, bank 2 - performance problem	-
P2060	Reductant injection air pump - circuit low	Wiring short to earth, reductant injection air pump
P2061	Reductant injection air pump - circuit high	Wiring short to positive, reductant injection air pump
P2062	Reductant supply control - open circuit	Wiring
P2063	Reductant supply control - circuit low	Wiring
P2064	Reductant supply control - circuit high	Wiring
P2065	Fuel gauge tank sensor B - circuit malfunction	Wiring, fuel gauge tank sensor
P2066	Fuel gauge tank sensor B - performance problem	Wiring, fuel gauge tank sensor
P2067	Fuel gauge tank sensor B - circuit low	Wiring short to earth, fuel gauge tank sensor
P2068	Fuel gauge tank sensor B - circuit high	Wiring short to positive, fuel gauge tank sensor
P2069	Fuel gauge tank sensor B - circuit intermittent	Wiring, poor connection, fuel gauge tank sensor
P206A	Reductant quality sensor - malfunction	Wiring, reductant quality sensor, ECM
P206B	Reductant quality sensor - range/performance problem	Wiring, reductant quality sensor, ECM
P206C	Reductant quality sensor - circuit low	Wiring, reductant quality sensor, ECM
P206D	Reductant quality sensor - circuit high	Wiring, reductant quality sensor, ECM

P206E	Intake manifold air control actuator, bank 2 - actuator stuck open	Wiring, intake manifold air control actuator, ECM
P206F	Intake manifold air control actuator, bank 2 - actuator stuck closed	Wiring, intake manifold air control actuator, ECM
P2070	Intake manifold air control actuator - actuator stuck open	Wiring, intake manifold air control actuator, mechanical fault
P2070	Intake manifold air control solenoid - solenoid stuck open	Wiring, intake manifold air control solenoid, mechanical fault
P2071	Intake manifold air control actuator - actuator stuck closed	Wiring, intake manifold air control actuator, mechanical fault
P2071	Intake manifold air control solenoid - solenoid stuck closed	Wiring, intake manifold air control solenoid, mechanical fault
P2072	Throttle actuator control (TAC) system - actuator frozen	-
P2073	Manifold absolute pressure (MAP) sensor/mass air flow (MAF) sensor - throttle position	Wiring, MAP sensor, MAF sensor
P2074	Manifold absolute pressure (MAP) sensor/mass air flow (MAF) sensor - throttle position	Wiring, MAP sensor, MAF sensor
P2075	Intake manifold air control actuator position sensor/switch - circuit malfunction	Wiring, intake manifold air control actuator position sensor/switch
P2076	Intake manifold air control actuator position sensor/switch - range/performance problem	Wiring, intake manifold air control actuator position sensor/switch
P2077	Intake manifold air control actuator position sensor/switch - circuit low	Wiring short to earth, intake manifold air control actuator position sensor/switch
P2078	Intake manifold air control actuator position sensor/switch - circuit high	Wiring short to positive, intake manifold air control actuator position sensor/switch
P2079	Intake manifold air control actuator position sensor/switch - circuit intermittent	Wiring, poor connection, intake manifold air control actuator position sensor/switch
P207A	Intake manifold air control actuator position sensor/switch, bank 2 - circuit malfunction	Wiring, intake manifold air control actuator position sensor, ECM
P207B	Intake manifold air control actuator position sensor/switch, bank 2 - circuit range/performance	Wiring, intake manifold air control actuator position sensor, ECM
P207C	Intake manifold air control actuator position sensor/switch, bank 2 - circuit low	Wiring, intake manifold air control actuator position sensor, ECM
P207D	Intake manifold air control actuator position sensor/switch, bank 2 - circuit high	Wiring, intake manifold air control actuator position sensor, ECM
P207E	Intake manifold air control actuator position sensor/switch, bank 2 - circuit intermittent	Wiring, intake manifold air control actuator position sensor, ECM
P207F	Reductant quality - performance problem	-
P2080	Exhaust gas temperature (EGT) sensor 1, bank 1 - range/performance problem	Wiring, EGT sensor
P2081	Exhaust gas temperature (EGT) sensor 1, bank 1 - circuit intermittent	Wiring, poor connection, EGT sensor
P2082	Exhaust gas temperature (EGT) sensor 1, bank 2 - range/performance problem	Wiring, EGT sensor
P2083	Exhaust gas temperature (EGT) sensor 1, bank 2 - circuit intermittent	Wiring, poor connection, EGT sensor
P2084	Exhaust gas temperature (EGT) sensor 2, bank 1 - range/performance problem	Wiring, EGT sensor
P2085	Exhaust gas temperature (EGT) sensor 2, bank 1 - circuit intermittent	Wiring, poor connection, EGT sensor

P2086	Exhaust gas temperature (EGT) sensor 2, bank 2 - range/performance problem	Wiring, EGT sensor
P2087	Exhaust gas temperature (EGT) sensor 2, bank 2 - circuit intermittent	Wiring, poor connection, EGT sensor
P2088	Camshaft position (CMP) actuator A, bank 1 - circuit low	Wiring short to earth, CMP actuator
P2089	Camshaft position (CMP) actuator A, bank 1 - circuit high	Wiring short to positive, CMP actuator
P208A	Reductant pump control - open circuit	Wiring, reductant pump, ECM
P208B	Reductant pump control - range/performance problem	Wiring, reductant pump, ECM
P208C	Reductant pump control - circuit low	Wiring, reductant pump, ECM
P208D	Reductant pump control - circuit high	Wiring, reductant pump, ECM
P208E	Reductant injector 1, bank 1 - injector stuck closed	Reductant injector
P208F	Reductant injector 1, bank 2 - injector stuck closed	Wiring, reductant injector, ECM
P2090	Camshaft position (CMP) actuator B, bank 1 - circuit low	Wiring short to earth, CMP actuator
P2091	Camshaft position (CMP) actuator B, bank 1 - circuit high	Wiring short to positive, CMP actuator
P2092	Camshaft position (CMP) actuator A, bank 2 - circuit low	Wiring short to earth, CMP actuator
P2093	Camshaft position (CMP) actuator A, bank 2 - circuit high	Wiring short to positive, CMP actuator
P2094	Camshaft position (CMP) actuator B, bank 2 - circuit low	Wiring short to earth, CMP actuator
P2095	Camshaft position (CMP) actuator B, bank 2 - circuit high	Wiring short to positive, CMP actuator
P2096	Post catalytic converter fuel trim (FT), bank 1 - too lean	Catalytic converter, exhaust leak
P2097	Post catalytic converter fuel trim (FT), bank 1 - too rich	Catalytic converter
P2098	Post catalytic converter fuel trim (FT), bank 2 - too lean	Catalytic converter, exhaust leak
P2099	Post catalytic converter fuel trim (FT), bank 2 - too rich	Catalytic converter
P209A	Reductant injection air pressure sensor B - circuit malfunction	Wiring, reductant injection air pressure sensor, ECM
P209B	Reductant injection air pressure sensor B - circuit range/performance	Wiring, reductant injection air pressure sensor, ECM
P209C	Reductant injection air pressure sensor B - circuit low	Wiring, reductant injection air pressure sensor, ECM
P209D	Reductant injection air pressure sensor B - circuit high	Wiring, reductant injection air pressure sensor, ECM
P209E	Reductant injection air pressure sensor A/B - correlation	Wiring, reductant injection air pressure sensor, ECM
P209F	Reductant tank heater control - performance problem	Wiring, reductant tank heater, ECM
P20A0	Reductant purge control valve - open circuit	Wiring, reductant purge control valve, ECM
P20A1	Reductant purge control valve - performance problem	Wiring, reductant purge control valve, ECM
P20A2	Reductant purge control valve - circuit low	Wiring, reductant purge control valve, ECM
P20A3	Reductant purge control valve - circuit high	Wiring, reductant purge control valve, ECM
P20A4	Reductant purge control valve - valve stuck open	Wiring, reductant purge control valve, ECM
P20A5	Reductant purge control valve - valve stuck closed	Wiring, reductant purge control valve, ECM

P20A6	Reductant injection air pressure control valve - open circuit	Wiring, reductant injection air pressure control valve, ECM
P20A7	Reductant injection air pressure control valve - performance problem	Wiring, reductant injection air pressure control valve, ECM
P20A8	Reductant injection air pressure control valve - circuit low	Wiring, reductant injection air pressure control valve, ECM
P20A9	Reductant injection air pressure control valve - circuit high	Wiring, reductant injection air pressure control valve, ECM
P20AA	Reductant injection air pressure control valve - valve stuck open	Wiring, reductant injection air pressure control valve, ECM
P20AB	Reductant injection air pressure control valve - valve stuck closed	Wiring, reductant injection air pressure control valve, ECM
P20AC	Reductant metering unit temperature sensor - circuit malfunction	Wiring, reductant metering unit temperature sensor, ECM
P20AD	Reductant metering unit temperature sensor - circuit range/performance	Wiring, reductant metering unit temperature sensor, ECM
P20AE	Reductant metering unit temperature sensor - circuit low	Wiring, reductant metering unit temperature sensor, ECM
P20AF	Reductant metering unit temperature sensor - circuit high	Wiring, reductant metering unit temperature sensor, ECM
P20B0	Reductant metering unit temperature sensor - circuit intermittent/erratic	Wiring, reductant metering unit temperature sensor, ECM
P20B1	Reductant heater coolant control valve - open circuit	Wiring, reductant heater coolant control valve, ECM
P20B2	Reductant heater coolant control valve - performance problem	Wiring, reductant heater coolant control valve, ECM
P20B3	Reductant heater coolant control valve - circuit low	Wiring, reductant heater coolant control valve, ECM
P20B4	Reductant heater coolant control valve - circuit high	Wiring, reductant heater coolant control valve, ECM
P20B5	Reductant metering unit heater control - open circuit	Wiring, reductant heater, ECM
P20B6	Reductant metering unit heater - control performance problem	Wiring, reductant metering unit heater, ECM
P20B7	Reductant metering unit heater - control circuit low	Wiring, reductant metering unit heater, ECM
P20B8	Reductant metering unit heater control - circuit high	Wiring, reductant metering unit heater, ECM
P20B9	Reductant heater control A - open circuit	Wiring, reductant heater, ECM
P20BA	Reductant heater control A - circuit performance problem	Wiring, reductant heater, ECM
P20BB	Reductant heater control A - circuit low	Wiring, reductant heater, ECM
P20BC	Reductant heater control A - circuit high	Wiring, reductant heater, ECM
P20BD	Reductant heater control B - circuit open	Wiring, reductant heater, ECM
P20BE	Reductant heater control B - performance problem	Wiring, reductant heater, ECM
P20BF	Reductant heater control B - circuit low	Wiring, reductant heater, ECM
P20C0	Reductant heater control B - circuit high	Wiring, reductant heater, ECM
P20C1	Reductant heater control C - open circuit	Wiring, reductant heater, ECM
P20C2	Reductant heater control C - performance problem	Wiring, reductant heater, ECM
P20C3	Reductant heater control C - circuit low	Wiring, reductant heater, ECM
P20C4	Reductant heater control C - circuit high	Wiring, reductant heater, ECM
P20C5	Reductant heater control D - open circuit	Wiring, reductant heater, ECM

P20C6	Reductant heater control D - performance problem	Wiring, reductant heater, ECM
P20C7	Reductant heater control D - circuit low	Wiring, reductant heater, ECM
P20C8	Reductant heater control D - circuit high	Wiring, reductant heater, ECM
P20C9	Reductant control module - MIL activation requested	-
P20CA	Reductant injection air pressure - leak	-
P20CB	Exhaust after treatment fuel injector A - control circuit open	Wiring, exhaust after treatment fuel injector, ECM
P20CC	Exhaust after treatment fuel injector A - performance problem	Wiring, exhaust after treatment fuel injector, ECM
P20CD	Exhaust after treatment fuel injector A - control circuit low	Wiring, fuel injector, ECM
P20CE	Exhaust after treatment fuel injector A - control circuit high	Wiring, fuel injector, ECM
P20CF	Exhaust after treatment fuel injector A - injector stuck open	Wiring, exhaust after treatment fuel injector, ECM
P20D0	Exhaust after treatment fuel injector A - injector stuck closed	Wiring, exhaust after treatment fuel injector, ECM
P20D1	Exhaust after treatment fuel injector B - control circuit open	Wiring, exhaust after treatment fuel injector, ECM
P20D2	Exhaust after treatment fuel injector B - performance problem	Wiring, exhaust after treatment fuel injector, ECM
P20D3	Exhaust after treatment fuel injector B - control circuit low	Wiring, exhaust after treatment fuel injector, ECM
P20D4	Exhaust after treatment fuel injector B - control circuit high	Wiring, exhaust after treatment fuel injector, ECM
P20D5	Exhaust after treatment fuel injector B - injector stuck open	Wiring, exhaust after treatment fuel injector, ECM
P20D6	Exhaust after treatment fuel injector B - injector stuck closed	Wiring, exhaust after treatment fuel injector, ECM
P20D7	Exhaust after treatment fuel supply control - open circuit	-
P20D8	Exhaust after treatment fuel supply control - performance problem	-
P20D9	Exhaust after treatment fuel supply - control circuit low	-
P20DA	Exhaust after treatment fuel supply - control circuit high	-
P20DB	Exhaust after treatment fuel supply - control stuck open	-
P20DC	Exhaust after treatment fuel supply control - valve stuck closed	-
P20DD	Exhaust after treatment fuel pressure sensor - circuit malfunction	Wiring, exhaust after treatment fuel pressure sensor, ECM
P20DE	Exhaust after treatment fuel pressure sensor - circuit range/performance	Wiring, exhaust after treatment fuel pressure sensor, ECM
P20DF	Exhaust after treatment fuel pressure sensor - circuit low	Wiring, exhaust after treatment fuel pressure sensor, ECM
P20E0	Exhaust after treatment fuel pressure sensor - circuit high	Wiring, exhaust after treatment fuel pressure sensor, ECM
P20E1	Exhaust after treatment fuel pressure sensor - circuit intermittent/erratic	Wiring, exhaust after treatment fuel pressure sensor, ECM

P20E2	Exhaust gas temperature sensor 1/2, bank 1 - correlation	Wiring, exhaust gas temperature sensor, ECM
P20E3	Exhaust gas temperature sensor 1/3, bank 1 - correlation	Wiring, exhaust gas temperature sensor, ECM
P20E4	Exhaust gas temperature sensor 2/3, bank 1 - correlation	Wiring, exhaust gas temperature sensor, ECM
P20E5	Exhaust gas temperature sensor 1/2, bank 2 - correlation	Wiring, exhaust gas temperature sensor, ECM
P20E6	Reductant injection air pressure - pressure too low	-
P20E7	Reductant injection air pressure - pressure too high	-
P20E8	Reductant pressure - pressure too low	-
P20E9	Reductant pressure - pressure too high	-
P20EA	Reductant control module power relay - performance malfunction	-
P20EB	Reductant control module power relay - performance malfunction	-
P20EC	Nitrogen oxide (NOx) sensor, catalyst, bank 1 - over-temperature condition	Wiring, NOx sensor, ECM
P20ED	Nitrogen oxide (NOx) sensor, pre-catalyst, bank 1 - over-temperature condition	Wiring, NOx sensor, ECM
P20EE	Nitrogen oxide (NOx) sensor, catalyst, bank 1 - efficiency below threshold	Wiring, NOx sensor, ECM
P20EF	Nitrogen oxide (NOx) sensor, pre-catalyst, bank 1 - efficiency below threshold	Wiring, NOx sensor, ECM
P20F0	Nitrogen oxide (NOx) sensor, catalyst, bank 2 - over-temperature condition	Wiring, NOx sensor, ECM
P20F1	Nitrogen oxide (NOx) sensor, pre-catalyst, bank 2 - over-temperature condition	Wiring, NOx sensor, ECM
P20F2	Nitrogen oxide (NOx) sensor, catalyst, bank 2 - efficiency below threshold	Wiring, NOx sensor, ECM
P20F3	Nitrogen oxide (NOx) sensor, pre-catalyst, bank 2 - efficiency below threshold	Wiring, NOx sensor, ECM
P20F4	Reductant consumption - consumption low	-
P20F5	Reductant consumption - consumption high	-
P20F6	Reductant injector, unit 1, bank 1 - valve stuck open	-
P20F7	Reductant injector, unit 1, bank 2 - valve stuck open	-
P20F8	Intake manifold air control actuator, bank 1 - circuit performance	Wiring, intake manifold air control actuator, ECM
P20F9	Intake manifold air control actuator, bank 2 - circuit performance	Wiring, intake manifold air control actuator, ECM
P20FA	Reductant pump B - open circuit	Wiring, reductant pump, ECM
P20FB	Reductant pump B - range/performance problem	Wiring, reductant pump, ECM
P20FC	Reductant pump B - control circuit low	Wiring, reductant pump, ECM
P20FD	Reductant pump B - control circuit high	Wiring, reductant pump, ECM
P2100	Throttle actuator control (TAC) motor - open circuit	Wiring, TAC motor
P2101	Throttle actuator control (TAC) motor - range/performance problem	Wiring, TAC motor
P2102	Throttle actuator control (TAC) motor - circuit low	Wiring short to earth, TAC motor
P2103	Throttle actuator control (TAC) motor - circuit high	Wiring short to positive, TAC motor

P2104	Throttle actuator control (TAC) system - forced idle mode	Wiring, TAC motor, APP sensor, ECM
P2105	Throttle actuator control (TAC) system - forced engine shut down mode	Wiring, TAC motor, APP sensor, ECM
P2106	Throttle actuator control (TAC) system - forced limited power mode	Wiring, TAC motor, APP sensor, ECM
P2107	Throttle actuator control (TAC) control module - processor fault	TAC control module
P2108	Throttle actuator control (TAC) control module - performance problem	TAC control module
P2109	Accelerator pedal position (APP) sensor A - minimum stop performance	APP sensor
P2109	Throttle position (TP) sensor A - minimum stop performance	TP sensor, throttle valve tight/sticking
P210A	Throttle control unit B, control motor - open circuit	Wiring, throttle control unit, ECM
P210B	Throttle control unit B, control motor - circuit range/performance	Wiring, throttle control unit, ECM
P210C	Throttle control unit B, control motor - circuit low	Wiring, throttle control unit, ECM
P210D	Throttle control unit B, control motor - circuit high	Wiring, throttle control unit, ECM
P210E	Throttle position sensor (TPS)/accelerator pedal position (APP) sensor/switch, C/F voltage - correlation	Wiring, TPS, APP sensor/switch, ECM
P210F	Electronic throttle system (ETS) - forced limited rpm mode	Wiring, throttle motor, APP sensor, ECM
P2110	Throttle actuator control (TAC) system - forced limited rpm mode	Wiring, TAC motor, APP sensor, ECM
P2111	Throttle actuator control (TAC) system - actuator stuck open	Throttle body, throttle valve tight/sticking
P2112	Throttle actuator control (TAC) system - actuator stuck closed	Throttle body, throttle valve tight/sticking
P2113	Accelerator pedal position (APP) sensor B - minimum stop performance	APP sensor
P2113	Throttle position (TP) sensor B - minimum stop performance	TP sensor, throttle valve tight/sticking
P2114	Accelerator pedal position (APP) sensor C - minimum stop performance	APP sensor
P2114	Throttle position (TP) sensor C - minimum stop performance	TP sensor, throttle valve tight/sticking
P2115	Accelerator pedal position (APP) sensor D - minimum stop performance	APP sensor
P2115	Throttle position (TP) sensor D - minimum stop performance	TP sensor, throttle valve tight/sticking
P2116	Accelerator pedal position (APP) sensor E - minimum stop performance	Wiring, APP sensor
P2116	Throttle position (TP) sensor E - minimum stop performance	Wiring, TP sensor
P2117	Accelerator pedal position (APP) sensor F - minimum stop performance	Wiring, APP sensor
P2117	Throttle position (TP) sensor F - minimum stop performance	Wiring, TP sensor

P2118	Throttle actuator control (TAC), throttle motor current - range/performance problem	Wiring, throttle motor
P2119	Throttle actuator control (TAC), throttle valve - range/performance problem	Throttle valve tight/sticking, throttle motor
P211A	Electronic throttle system (ETS) B - actuator stuck open	Throttle body, throttle valve tight/sticking
P211B	Electronic throttle system (ETS) B - actuator stuck closed	Throttle body, throttle valve tight/sticking
P211C	Electronic throttle system (ETS) B, throttle motor current - range/performance problem	Wiring, throttle motor
P211D	Electronic throttle system (ETS) B, throttle body - range/performance problem	Throttle valve tight/sticking, throttle motor
P211E	Electronic throttle system (ETS) B - processor fault	Wiring, throttle control unit, ECM
P211F	Electronic throttle system (ETS) B - performance problem	Wiring, throttle control unit, ECM
P2120	Accelerator pedal position (APP) sensor/switch D - circuit malfunction	Wiring, APP sensor/switch
P2120	Throttle position (TP) sensor/switch D - circuit malfunction	Wiring, TP sensor/switch
P2121	Accelerator pedal position (APP) sensor/switch D - range/performance problem	Wiring, APP sensor/switch
P2121	Throttle position (TP) sensor/switch D - range/performance problem	Wiring, TP sensor/switch
P2122	Accelerator pedal position (APP) sensor/switch D - low input	Wiring short to earth, APP sensor/switch
P2122	Throttle position (TP) sensor/switch D - low input	Wiring short to earth, TP sensor/switch
P2123	Accelerator pedal position (APP) sensor/switch D - high input	Wiring short to positive, APP sensor/switch
P2123	Throttle position (TP) sensor/switch D - high input	Wiring short to positive, TP sensor/switch
P2124	Accelerator pedal position (APP) sensor/switch D - circuit intermittent	Wiring, poor connection, APP sensor/switch
P2124	Throttle position (TP) sensor/switch D - circuit intermittent	Wiring, poor connection, TP sensor/switch
P2125	Accelerator pedal position (APP) sensor/switch E - circuit malfunction	Wiring, APP sensor/switch
P2125	Throttle position (TP) sensor/switch E - circuit malfunction	Wiring, TP sensor/switch
P2126	Accelerator pedal position (APP) sensor/switch E - range/performance problem	Wiring, APP sensor/switch
P2126	Throttle position (TP) sensor/switch E - range/performance problem	Wiring, TP sensor/switch
P2127	Accelerator pedal position (APP) sensor/switch E - low input	Wiring short to earth, APP sensor/switch
P2127	Throttle position (TP) sensor/switch E - low input	Wiring short to earth, TP sensor/switch
P2128	Accelerator pedal position (APP) sensor/switch E - high input	Wiring short to positive, APP sensor/switch
P2128	Throttle position (TP) sensor/switch E - high input	Wiring short to positive, TP sensor/switch
P2129	Accelerator pedal position (APP) sensor/switch E - circuit intermittent	Wiring, poor connection, APP sensor/switch

P2129	Throttle position (TP) sensor/switch E - circuit intermittent	Wiring, poor connection, TP sensor/switch
P212A	Throttle position (TP) sensor/switch G - circuit malfunction	Wiring, TP sensor/switch
P212B	Throttle position (TP) sensor/switch G - range/performance problem	Wiring, TP sensor/switch
P212C	Throttle position (TP) sensor/switch G - low input	Wiring, TP sensor/switch
P212D	Throttle position (TP) sensor/switch G - high input	Wiring, TP sensor/switch
P212E	Throttle position (TP) sensor/switch G - circuit intermittent	Wiring, TP sensor/switch
P212F	Throttle position (TP) sensor/switch F/G - voltage correlation	Wiring, TP sensor/switch
P2130	Accelerator pedal position (APP) sensor/switch F - circuit malfunction	Wiring, APP sensor/switch
P2130	Throttle position (TP) sensor/switch F - circuit malfunction	Wiring, TP sensor/switch
P2131	Accelerator pedal position (APP) sensor/switch F - circuit range/performance	Wiring, APP sensor/switch
P2131	Throttle position (TP) sensor/switch F - circuit range/performance	Wiring, TP sensor/switch
P2132	Accelerator pedal position (APP) sensor/switch F - low input	Wiring short to earth, APP sensor/switch
P2132	Throttle position (TP) sensor/switch F - low input	Wiring short to earth, TP sensor/switch
P2133	Accelerator pedal position (APP) sensor/switch F - high input	Wiring short to positive, APP sensor/switch
P2133	Throttle position (TP) sensor/switch F - high input	Wiring short to positive, TP sensor/switch
P2134	Accelerator pedal position (APP) sensor/switch F - circuit intermittent	Wiring, poor connection, APP sensor/switch
P2134	Throttle position (TP) sensor/switch F - circuit intermittent	Wiring, poor connection, TP sensor/switch
P2135	Accelerator pedal position (APP) sensor/switch A/B - voltage correlation	Wiring, APP sensor/switch
P2135	Throttle position (TP) sensor/switch A/B - voltage correlation	Wiring, TP sensor/switch
P2136	Accelerator pedal position (APP) sensor/switch A/C - voltage correlation	Wiring, APP sensor/switch
P2136	Throttle position (TP) sensor/switch A/C - voltage correlation	Wiring, TP sensor/switch
P2137	Accelerator pedal position (APP) sensor/switch B/C - voltage correlation	Wiring, APP sensor/switch
P2137	Throttle position (TP) sensor/switch B/C - voltage correlation	Wiring, TP sensor/switch
P2138	Accelerator pedal position (APP) sensor/switch D/E - voltage correlation	Wiring, APP sensor/switch
P2138	Throttle position (TP) sensor/switch D/E - voltage correlation	Wiring, TP sensor/switch
P2139	Accelerator pedal position (APP) sensor/switch D/F - voltage correlation	Wiring, APP sensor/switch
P2139	Throttle position (TP) sensor/switch D/F - voltage correlation	Wiring, TP sensor/switch

P213A	Exhaust gas recirculation (EGR) throttle B - open circuit	Wiring, EGR throttle, ECM
P213B	Exhaust gas recirculation (EGR) throttle B - control circuit range/performance	Wiring, EGR throttle, ECM
P213C	Exhaust gas recirculation (EGR) throttle B - control circuit low	Wiring, EGR throttle, ECM
P213D	Exhaust gas recirculation (EGR) throttle B - control circuit high	Wiring, EGR throttle, ECM
P213E	Fuel injection system fault - forced engine shut-down mode	-
P213F	Fuel pump (FP) system fault - forced engine shut-down mode	Wiring, FP, FP relay, ECM
P2140	Accelerator pedal position (APP) sensor/switch E/F - voltage correlation	Wiring, APP sensor/switch
P2140	Throttle position (TP) sensor/switch E/F - voltage correlation	Wiring, TP sensor/switch
P2141	Exhaust gas recirculation (EGR) throttle control valve - circuit low	Wiring short to earth, EGR throttle control valve
P2142	Exhaust gas recirculation (EGR) throttle control valve - circuit high	Wiring short to positive, EGR throttle control valve
P2143	Exhaust gas recirculation (EGR) vent control - open circuit	Wiring, EGR vent control
P2144	Exhaust gas recirculation (EGR) vent control - circuit low	Wiring short to earth, EGR vent control
P2145	Exhaust gas recirculation (EGR) vent control - circuit high	Wiring short to positive, EGR vent control
P2146	Injector - group A, supply voltage - open circuit	Wiring, engine control (EC) relay, injector
P2147	Injector - group A, supply voltage - circuit low	Wiring short to earth, engine control (EC) relay, injector
P2148	Injector - group A, supply voltage - circuit high	Wiring short to positive, engine control (EC) relay, injector
P2149	Injector - group B, supply voltage - open circuit	Wiring, engine control (EC) relay, injector
P2150	Injector - group B, supply voltage - circuit low	Wiring short to earth, engine control (EC) relay, injector
P2151	Injector - group B, supply voltage - circuit high	Wiring short to positive, engine control (EC) relay, injector
P2152	Injector - group C, supply voltage - open circuit	Wiring, engine control (EC) relay, injector
P2153	Injector - group C, supply voltage - circuit low	Wiring short to earth, engine control (EC) relay, injector
P2154	Injector - group C, supply voltage - circuit high	Wiring short to positive, engine control (EC) relay, injector
P2155	Injector - group D, supply voltage - open circuit	Wiring, engine control (EC) relay, injector
P2156	Injector - group D, supply voltage - circuit low	Wiring short to earth, engine control (EC) relay, injector
P2157	Injector - group D, supply voltage - circuit high	Wiring short to positive, engine control (EC) relay, injector
P2158	Vehicle speed sensor (VSS) B - circuit malfunction	Wiring, VSS
P2159	Vehicle speed sensor (VSS) B - range/performance problem	Wiring, VSS

P215A	Vehicle speed sensor (VSS)/wheel speed - correlation	Wiring, VSS, wheel speed sensor, incorrect tyre size, ECM
P215B	Vehicle speed sensor (VSS)/transmission output shaft speed (OSS) sensor - correlation	Wiring, VSS, OSS sensor, transmission mechanical fault, incorrect tyre size, ECM
P215C	Vehicle speed sensor (VSS)/output shaft speed (OSS) sensor - correlation	Wiring, VSS, OSS sensor, transmission mechanical fault, incorrect tyre size, ECM
P2160	Vehicle speed sensor (VSS) B - circuit low	Wiring short to earth, VSS
P2161	Vehicle speed sensor (VSS) B - circuit intermittent/erratic	Wiring, poor connection, VSS
P2162	Vehicle speed sensor (VSS) A/B - correlation	Wiring, VSS, incorrect tyre size
P2163	Accelerator pedal position (APP) sensor A - maximum stop performance	Wiring, APP sensor
P2163	Throttle position (TP) sensor A - maximum stop performance	Wiring, TP sensor
P2164	Accelerator pedal position (APP) sensor B - maximum stop performance	Wiring, APP sensor
P2164	Throttle position (TP) sensor B - maximum stop performance	Wiring, TP sensor
P2165	Accelerator pedal position (APP) sensor C - maximum stop performance	Wiring, APP sensor
P2165	Throttle position (TP) sensor C - maximum stop performance	Wiring, TP sensor
P2166	Accelerator pedal position (APP) sensor D - maximum stop performance	Wiring, APP sensor
P2166	Throttle position (TP) sensor D - maximum stop performance	Wiring, TP sensor
P2167	Accelerator pedal position (APP) sensor E - maximum stop performance	Wiring, APP sensor
P2167	Throttle position (TP) sensor E - maximum stop performance	Wiring, TP sensor
P2168	Accelerator pedal position (APP) sensor F - maximum stop performance	Wiring, APP sensor
P2168	Throttle position (TP) sensor F - maximum stop performance	Wiring, TP sensor
P2169	Exhaust gas pressure regulator vent solenoid - circuit open	Wiring, exhaust gas pressure regulator vent solenoid
P216A	Fuel injector group E, supply voltage - open circuit	Wiring, engine control (EC) relay, injectors, ECM
P216B	Fuel injector group E, supply voltage - circuit low	Wiring, engine control (EC) relay, injectors, ECM
P216C	Fuel injector group E, supply voltage - circuit high	Wiring, engine control (EC) relay, injectors, ECM
P216D	Fuel injector group F, supply voltage - open circuit	Wiring, engine control (EC) relay, injectors, ECM
P216E	Fuel injector group F, supply voltage - circuit low	Wiring, engine control (EC) relay, injectors, ECM
P216F	Fuel injector group F, supply voltage - circuit high	Wiring, engine control (EC) relay, injectors, ECM
P2170	Exhaust gas pressure regulator vent solenoid - circuit low	Wiring short to earth, exhaust gas pressure regulator vent solenoid

P2171	Exhaust gas pressure regulator vent solenoid - circuit high	Wiring short to positive, exhaust gas pressure regulator vent solenoid
P2172	Throttle actuator control (TAC) system - sudden high airflow detected	Intake system, throttle body
P2173	Throttle actuator control (TAC) system - high airflow detected	Intake system, throttle body
P2174	Throttle actuator control (TAC) system - sudden low airflow detected	Intake system, throttle body
P2175	Throttle actuator control (TAC) system - low airflow detected	Intake system, throttle body
P2176	Throttle actuator control (TAC) system - idle position not learned	Basic setting not carried out
P2177	System too lean off idle, bank 1	Fuel pressure, injectors, intake leak
P2178	System too rich off idle, bank 1	Fuel pressure, injectors, air intake restricted
P2179	System too lean off idle, bank 2	Fuel pressure, injectors, intake leak
P217A	Fuel injector group G, supply voltage - open circuit	Wiring, engine control (EC) relay, injectors, ECM
P217B	Fuel injector group G, supply voltage - circuit low	Wiring, engine control (EC) relay, injectors, ECM
P217C	Fuel injector group G, supply voltage - circuit high	Wiring, engine control (EC) relay, injectors, ECM
P217D	Fuel injector group H, supply voltage - open circuit	Wiring, engine control (EC) relay, injectors, ECM
P217E	Fuel injector group H, supply voltage - circuit low	Wiring, engine control (EC) relay, injectors, ECM
P217F	Fuel injector group H, supply voltage - circuit high	Wiring, engine control (EC) relay, injectors, ECM
P2180	System too rich off idle, bank 2	Fuel pressure, injectors, air intake restricted
P2181	Cooling system performance	Radiator, coolant thermostat, engine coolant blower motor
P2182	Engine coolant temperature (ECT) sensor 2 - circuit malfunction	Wiring, ECT sensor
P2183	Engine coolant temperature (ECT) sensor 2 - range/performance problem	Wiring, ECT sensor
P2184	Engine coolant temperature (ECT) sensor 2 - circuit low	Wiring short to earth, ECT sensor
P2185	Engine coolant temperature (ECT) sensor 2 - circuit high	Wiring short to positive, ECT sensor
P2186	Engine coolant temperature (ECT) sensor 2 - circuit intermittent/erratic	Wiring, poor connection, ECT sensor
P2187	System too lean at idle, bank 1	Fuel pressure, injectors, intake leak
P2188	System too rich at idle, bank 1	Fuel pressure, injectors, air intake restricted
P2189	System too lean at idle, bank 2	Fuel pressure, injectors, intake leak
P218A	Electronic throttle system (ETS) B - idle position not learned	Basic setting not carried out
P218B	Throttle/fuel inhibit B - circuit malfunction	Wiring
P218C	Throttle/fuel inhibit B - circuit range/performance	Wiring
P218D	Throttle/fuel inhibit B - circuit low	Wiring
P218E	Throttle/fuel inhibit B - circuit high	Wiring

P2190	System too rich at idle, bank 2	Fuel pressure, injectors, air intake restricted
P2191	System too lean at higher load, bank 1	Fuel pressure, injectors, intake leak
P2192	System too rich at higher load, bank 1	Fuel pressure, injectors, air intake restricted
P2193	System too lean at higher load, bank 2	Fuel pressure, injectors, intake leak
P2194	System too rich at higher load, bank 2	Fuel pressure, injectors, air intake restricted
P2195	Heated oxygen sensor (HO2S) 1, bank 1 - signal stuck lean	HO2S, fuel pressure, injectors, intake leak
P2195	Oxygen sensor (O2S) 1, bank 1 - signal stuck lean	O2S, fuel pressure, injectors, intake leak
P2196	Heated oxygen sensor (HO2S) 1, bank 1 - signal stuck rich	HO2S, fuel pressure, injectors, air intake restricted
P2196	Oxygen sensor (O2S) 1, bank 1 - signal stuck rich	O2S, fuel pressure, injectors, air intake restricted
P2197	Heated oxygen sensor (HO2S) 1, bank 2 - signal stuck lean	HO2S, fuel pressure, injectors, intake leak
P2197	Oxygen sensor (O2S) 1, bank 2 - signal stuck lean	O2S, fuel pressure, injectors, intake leak
P2198	Heated oxygen sensor (HO2S) 1, bank 2 - signal stuck rich	HO2S, fuel pressure, injectors, air intake restricted
P2198	Oxygen sensor (O2S) 1, bank 2 - signal stuck rich	O2S, fuel pressure, injectors, air intake restricted
P2199	Intake air temperature (IAT) sensor 1/2 - correlation	Wiring, IAT sensor
P219A	Mixture control, bank 1 - value out of range	-
P219B	Mixture control, bank 2 - value out of range	-
P219C	Mixture control, cylinder 1 - value out of range	-
P219D	Mixture control, cylinder 2 - value out of range	-
P219E	Mixture control, cylinder 3 - value out of range	-
P219F	Mixture control, cylinder 4 - value out of range	-
P21A0	Mixture control, cylinder 5 - value out of range	-
P21A1	Mixture control, cylinder 6 - value out of range	-
P21A2	Mixture control, cylinder 7 - value out of range	-
P21A3	Mixture control, cylinder 8 - value out of range	-
P21A4	Mixture control, cylinder 9 - value out of range	-
P21A5	Mixture control, cylinder 10 - value out of range	-
P21A6	Mixture control, cylinder 11 - value out of range	-
P21A7	Mixture control, cylinder 12 - value out of range	-
P2200	Nitrogen oxides (NOx) sensor, bank 1 - circuit malfunction	Wiring, NOx sensor
P2201	Nitrogen oxides (NOx) sensor, bank 1 - range/performance problem	Wiring, NOx sensor
P2202	Nitrogen oxides (NOx) sensor, bank 1 - low input	Wiring short to earth, NOx sensor
P2203	Nitrogen oxides (NOx) sensor, bank 1 - high input	Wiring short to positive, NOx sensor
P2204	Nitrogen oxides (NOx) sensor, bank 1 - intermittent input	Wiring, poor connection, NOx sensor
P2205	Nitrogen oxides (NOx) sensor, bank 1, heater control - open circuit	Wiring, NOx sensor
P2206	Nitrogen oxides (NOx) sensor, bank 1, heater control - circuit low	Wiring short to earth, NOx sensor

P2207	Nitrogen oxides (NOx) sensor, bank 1, heater control - circuit high	Wiring short to positive, NOx sensor
P2208	Nitrogen oxides (NOx) sensor, bank 1, heater sense circuit - malfunction	Wiring, NOx sensor
P2209	Nitrogen oxides (NOx) sensor, bank 1, heater sense circuit - range/performance problem	Wiring, NOx sensor
P220A	Nitrogen oxides (NOx) sensor 1, bank 1 - supply voltage circuit malfunction	Wiring, NOx sensor
P220B	Nitrogen oxides (NOx) sensor 2, bank 1 - supply voltage circuit malfunction	Wiring, NOx sensor
P220C	Nitrogen oxides (NOx) sensor 1, bank 2 - supply voltage circuit malfunction	Wiring, NOx sensor
P220D	Nitrogen oxides (NOx) sensor 2, bank 2 - supply voltage circuit malfunction	Wiring, NOx sensor
P2210	Nitrogen oxides (NOx) sensor, bank 1, heater sense circuit - low input	Wiring short to earth, NOx sensor
P2211	Nitrogen oxides (NOx) sensor, bank 1, heater sense circuit - high input	Wiring short to positive, NOx sensor
P2212	Nitrogen oxides (NOx) sensor, bank 1, heater sense circuit - circuit intermittent	Wiring, poor connection, NOx sensor
P2213	Nitrogen oxides (NOx) sensor, bank 2 - circuit malfunction	Wiring, NOx sensor
P2214	Nitrogen oxides (NOx) sensor, bank 2 - range/performance problem	Wiring, NOx sensor
P2215	Nitrogen oxides (NOx) sensor, bank 2 - low input	Wiring short to earth, NOx sensor
P2216	Nitrogen oxides (NOx) sensor, bank 2 - high input	Wiring short to positive, NOx sensor
P2217	Nitrogen oxides (NOx) sensor, bank 2 - intermittent input	Wiring, poor connection, NOx sensor
P2218	Nitrogen oxides (NOx) sensor, bank 2, heater control - open circuit	Wiring, NOx sensor
P2219	Nitrogen oxides (NOx) sensor, bank 2, heater control - circuit low	Wiring short to earth, NOx sensor
P2220	Nitrogen oxides (NOx) sensor, bank 2, heater control - circuit high	Wiring short to positive, NOx sensor
P2221	Nitrogen oxides (NOx) sensor, bank 2, heater sense circuit - circuit malfunction	Wiring, NOx sensor
P2222	Nitrogen oxides (NOx) sensor, bank 2, heater sense circuit - range/performance problem	Wiring, NOx sensor
P2223	Nitrogen oxides (NOx) sensor, bank 2, heater sense circuit - circuit low	Wiring short to earth, NOx sensor
P2224	Nitrogen oxides (NOx) sensor, bank 2, heater sense circuit - circuit high	Wiring short to positive, NOx sensor
P2225	Nitrogen oxides (NOx) sensor, bank 2, heater sense circuit - circuit intermittent	Wiring, poor connection, NOx sensor
P2226	Barometric pressure (BARO) sensor - circuit malfunction	Wiring, BARO sensor
P2227	Barometric pressure (BARO) sensor - range/performance problem	Wiring, BARO sensor
P2228	Barometric pressure (BARO) sensor - circuit low	Wiring short to earth, BARO sensor
P2229	Barometric pressure (BARO) sensor - circuit high	Wiring short to positive, BARO sensor

P222A	Barometric pressure (BARO) sensor B - circuit malfunction	Wiring, BARO sensor
P222B	Barometric pressure (BARO) sensor B - circuit range/performance	Wiring, BARO sensor
P222C	Barometric pressure (BARO) sensor B - circuit low	Wiring, BARO sensor
P222D	Barometric pressure (BARO) sensor B - circuit high	Wiring, BARO sensor
P222E	Barometric pressure (BARO) sensor B - circuit intermittent	Wiring, BARO sensor
P222F	Barometric pressure (BARO) sensor A/B - correlation	Wiring, BARO sensor
P2230	Barometric pressure (BARO) sensor - circuit intermittent	Wiring, poor connection, BARO sensor
P2231	Heated oxygen sensor (HO2S) 1, bank 1 - signal circuit shorted to heater circuit	Wiring, HO2S
P2232	Heated oxygen sensor (HO2S) 2, bank 1 - signal circuit shorted to heater circuit	Wiring, HO2S
P2233	Heated oxygen sensor (HO2S) 3, bank 1 - signal circuit shorted to heater circuit	Wiring, HO2S
P2234	Heated oxygen sensor (HO2S) 1, bank 2 - signal circuit shorted to heater circuit	Wiring, HO2S
P2235	Heated oxygen sensor (HO2S) 2, bank 2 - signal circuit shorted to heater circuit	Wiring, HO2S
P2236	Heated oxygen sensor (HO2S) 3, bank 2 - signal circuit shorted to heater circuit	Wiring, HO2S
P2237	Heated oxygen sensor (HO2S) 1, bank 1, positive current control - open circuit	Wiring, HO2S
P2237	Oxygen sensor (O2S) 1, bank 1, positive current control - open circuit	Wiring, O2S
P2238	Heated oxygen sensor (HO2S) 1, bank 1, positive current control - circuit low	Wiring short to earth, HO2S
P2238	Oxygen sensor (O2S) 1, bank 1, positive current control - circuit low	Wiring short to earth, O2S
P2239	Heated oxygen sensor (HO2S) 1, bank 1, positive current control - circuit high	Wiring short to positive, HO2S
P2239	Oxygen sensor (O2S) 1, bank 1, positive current control - circuit high	Wiring short to positive, O2S
P2240	Heated oxygen sensor (HO2S) 1, bank 2, positive current control - open circuit	Wiring, HO2S
P2240	Oxygen sensor (O2S) 1, bank 2, positive current control - open circuit	Wiring, O2S
P2241	Heated oxygen sensor (HO2S) 1, bank 2, positive current control - circuit low	Wiring short to earth, HO2S
P2241	Oxygen sensor (O2S) 1, bank 2, positive current control - circuit low	Wiring short to earth, O2S
P2242	Heated oxygen sensor (HO2S) 1, bank 2, positive current control - circuit high	Wiring short to positive, HO2S
P2242	Oxygen sensor (O2S) 1, bank 2, positive current control - circuit high	Wiring short to positive, O2S
P2243	Heated oxygen sensor (HO2S) 1, bank 1, reference voltage - open circuit	Wiring, HO2S

P2243	Oxygen sensor (O2S) 1, bank 1, reference voltage - open circuit	Wiring, O2S
P2244	Heated oxygen sensor (HO2S) 1, bank 1, reference voltage - performance problem	Wiring, HO2S
P2244	Oxygen sensor (O2S) 1, bank 1, reference voltage - performance problem	Wiring, O2S
P2245	Heated oxygen sensor (HO2S) 1, bank 1, reference voltage - circuit low	Wiring short to earth, HO2S
P2245	Oxygen sensor (O2S) 1, bank 1, reference voltage - circuit low	Wiring short to earth, O2S
P2246	Heated oxygen sensor (HO2S) 1, bank 1, reference voltage - circuit high	Wiring short to positive, HO2S
P2246	Oxygen sensor (O2S) 1, bank 1, reference voltage - circuit high	Wiring short to positive, O2S
P2247	Heated oxygen sensor (HO2S) 1, bank 2, reference voltage - open circuit	Wiring, HO2S
P2247	Oxygen sensor (O2S) 1, bank 2, reference voltage - open circuit	Wiring, O2S
P2248	Heated oxygen sensor (HO2S) 1, bank 2, reference voltage - performance problem	Wiring, HO2S
P2248	Oxygen sensor (O2S) 1, bank 2, reference voltage - performance problem	Wiring, O2S
P2249	Heated oxygen sensor (HO2S) 1, bank 2, reference voltage - circuit low	Wiring short to earth, HO2S
P2249	Oxygen sensor (O2S) 1, bank 2, reference voltage - circuit low	Wiring short to earth, O2S
P2250	Heated oxygen sensor (HO2S) 1, bank 2, reference voltage - circuit high	Wiring short to positive, HO2S
P2250	Oxygen sensor (O2S) 1, bank 2, reference voltage - circuit high	Wiring short to positive, O2S
P2251	Heated oxygen sensor (HO2S) 1, bank 1, negative current control - open circuit	Wiring, HO2S
P2251	Oxygen sensor (O2S) 1, bank 1, negative current control - open circuit	Wiring, O2S
P2252	Heated oxygen sensor (HO2S) 1, bank 1, negative current control - circuit low	Wiring short to earth, HO2S
P2252	Oxygen sensor (O2S) 1, bank 1, negative current control - circuit low	Wiring short to earth, O2S
P2253	Heated oxygen sensor (HO2S) 1, bank 1, negative current control - circuit high	Wiring short to positive, HO2S
P2253	Oxygen sensor (O2S) 1, bank 1, negative current control - circuit high	Wiring short to positive, O2S
P2254	Heated oxygen sensor (HO2S) 1, bank 2, negative current control - open circuit	Wiring, HO2S
P2254	Oxygen sensor (O2S) 1, bank 2, negative current control - open circuit	Wiring, O2S
P2255	Heated oxygen sensor (HO2S) 1, bank 2, negative current control - circuit low	Wiring short to earth, HO2S
P2255	Oxygen sensor (O2S) 1, bank 2, negative current control - circuit low	Wiring short to earth, O2S

P2256	Heated oxygen sensor (HO2S) 1, bank 2, negative current control - circuit high	Wiring short to positive, HO2S
P2256	Oxygen sensor (O2S) 1, bank 2, negative current control - circuit high	Wiring short to positive, O2S
P2257	Secondary air injection (AIR) system, control A - circuit low	Wiring short to earth, AIR pump relay, AIR pump, AIR solenoid
P2258	Secondary air injection (AIR) system, control A - circuit high	Wiring short to positive, AIR pump relay, AIR pump, AIR solenoid
P2259	Secondary air injection (AIR) system, control B - circuit low	Wiring short to earth, AIR pump relay, AIR pump, AIR solenoid
P2260	Secondary air injection (AIR) system, control B - circuit high	Wiring short to positive, AIR pump relay, AIR pump, AIR solenoid
P2261	Turbocharger (TC) bypass valve/supercharger (SC) bypass valve	Mechanical fault
P2262	Turbocharger (TC) boost pressure not detected	Mechanical fault
P2263	Turbocharger (TC) boost pressure/supercharger (SC) boost pressure - performance problem	Mechanical fault
P2264	Fuel/water separator sensor - circuit malfunction	Wiring, fuel/water separator sensor
P2265	Fuel/water separator sensor - range/performance problem	Wiring, fuel/water separator sensor
P2266	Fuel/water separator sensor - circuit low	Wiring short to earth, fuel/water separator sensor
P2267	Fuel/water separator sensor - circuit high	Wiring short to positive, fuel/water separator sensor
P2268	Fuel/water separator sensor - circuit intermittent	Wiring, poor connection, fuel/water separator sensor
P2269	Water in fuel	Water in fuel
P226A	Water-in-fuel warning lamp - circuit malfunction	Wiring, warning lamp, ECM
P226B	Turbocharger (TC)/supercharger (SC) boost pressure - pressure too high	Mechanical
P226C	Turbocharger (TC) boost pressure control A - slow response	-
P226F	Turbocharger (TC) boost pressure control B - slow response	-
P2270	Heated oxygen sensor (HO2S) 2, bank 1 - signal stuck lean	Wiring, HO2S, fuel pressure, injectors, intake leak
P2270	Oxygen sensor (O2S) 2, bank 1 - signal stuck lean	Wiring, O2S, fuel pressure, injectors, intake leak
P2271	Heated oxygen sensor (HO2S) 2, bank 1 - signal stuck rich	Wiring, HO2S, fuel pressure, injectors, air intake restricted
P2271	Oxygen sensor (O2S) 2, bank 1 - signal stuck rich	Wiring, O2S, fuel pressure, injectors, air intake restricted
P2272	Heated oxygen sensor (HO2S) 2, bank 2 - signal stuck lean	Wiring, HO2S, fuel pressure, injectors, intake leak
P2272	Oxygen sensor (O2S) 2, bank 2 - signal stuck lean	Wiring, O2S, fuel pressure, injectors, intake leak
P2273	Heated oxygen sensor (HO2S) 2, bank 2 - signal stuck rich	Wiring, HO2S, fuel pressure, injectors, air intake restricted
P2273	Oxygen sensor (O2S) 2, bank 2 - signal stuck rich	Wiring, O2S, fuel pressure, injectors, air intake restricted

P2274	Heated oxygen sensor (HO2S) 3, bank 1 - signal stuck lean	Wiring, HO2S, fuel pressure, injectors, intake leak
P2274	Oxygen sensor (O2S) 3, bank 1 - signal stuck lean	Wiring, O2S, fuel pressure, injectors, intake leak
P2275	Heated oxygen sensor (HO2S) 3, bank 1 - signal stuck rich	Wiring, HO2S, fuel pressure, injectors, air intake restricted
P2275	Oxygen sensor (O2S) 3, bank 1 - signal stuck rich	Wiring, O2S, fuel pressure, injectors, air intake restricted
P2276	Heated oxygen sensor (HO2S) 3, bank 2 - signal stuck lean	Wiring, HO2S, fuel pressure, injectors, intake leak
P2276	Oxygen sensor (O2S) 3, bank 2 - signal stuck lean	Wiring, O2S, fuel pressure, injectors, intake leak
P2277	Heated oxygen sensor (HO2S) 3, bank 2 - signal stuck rich	Wiring, HO2S, fuel pressure, injectors, air intake restricted
P2277	Oxygen sensor (O2S) 3, bank 2 - signal stuck rich	Wiring, O2S, fuel pressure, injectors, air intake restricted
P2278	Heated oxygen sensor (HO2S) 3, bank 1/heated oxygen sensor (HO2S) 3, bank 2 - signals transposed	Wiring
P2278	Oxygen sensor (O2S) 3, bank 1/oxygen sensor (O2S) 3, bank 2 - signals transposed	Wiring
P2279	Intake air leak	Mechanical fault
P2280	Air leak/blockage between air filter and MAF sensor	Mechanical fault
P2281	Air leak between MAF sensor and throttle body	Mechanical fault
P2282	Air leak between throttle body and intake valves	Mechanical fault
P2283	Injector control pressure sensor - circuit malfunction	Wiring, injector control pressure sensor
P2284	Injector control pressure sensor - range/performance problem	Wiring, injector control pressure sensor
P2285	Injector control pressure sensor - circuit low	Wiring short to earth, injector control pressure sensor
P2286	Injector control pressure sensor - circuit high	Wiring short to positive, injector control pressure sensor
P2287	Injector control pressure sensor - circuit intermittent	Wiring, poor connection, injector control pressure sensor
P2288	Injector control pressure - pressure too high	Fuel pressure regulator, injector control pressure sensor
P2289	Injector control pressure, engine off - pressure too high	Fuel pressure regulator
P228A	Fuel pressure regulator 1 - limp-home mode activated	-
P228B	Fuel pressure regulator 2 - limp-home mode activated	-
P228C	Fuel pressure regulator 1, control limit exceeded - fuel pressure low	Fuel pressure regulator, ECM
P228D	Fuel pressure regulator 1, control limit exceeded - fuel pressure high	Fuel pressure regulator, ECM
P228E	Fuel pressure regulator 1, learning limit exceeded - signal too low	Wiring, fuel pressure regulator
P228F	Fuel pressure regulator 1, learning limit exceeded - signal too high	Wiring, fuel pressure regulator
P2290	Injector control pressure - pressure too low	Fuel pressure regulator, injector control pressure sensor

P2291	Injector control pressure, engine cranking - pressure too low	Fuel pressure regulator, injector control pressure sensor
P2292	Injector control pressure - erratic	Fuel pressure regulator, injector control pressure sensor
P2293	Fuel pressure regulator 2 - performance problem	Wiring, fuel pressure regulator
P2294	Fuel pressure regulator 2 - circuit malfunction	Wiring, fuel pressure regulator
P2295	Fuel pressure regulator 2 - circuit low	Wiring short to earth, fuel pressure regulator
P2296	Fuel pressure regulator 2 - circuit high	Wiring short to positive, fuel pressure regulator
P2297	Heated oxygen sensor (HO2S) 1, bank 1 - signal out of range during deceleration	HO2S, intake leak, exhaust leak, injectors
P2297	Oxygen sensor (O2S) 1, bank 1 - signal out of range during deceleration	O2S, intake leak, exhaust leak, injectors
P2298	Heated oxygen sensor (HO2S) 1, bank 2 - signal out of range during deceleration	HO2S, intake leak, exhaust leak, injectors
P2298	Oxygen sensor (O2S) 1, bank 2 - signal out of range during deceleration	O2S, intake leak, exhaust leak, injectors
P2299	Brake pedal position (BPP) switch/accelerator pedal position (APP) sensor - signals incompatible	Wiring, BPP switch, APP sensor
P229A	Fuel pressure regulator 2, control limit exceeded - fuel pressure low	Fuel pressure regulator, ECM
P229B	Fuel pressure regulator 2, control limit exceeded - fuel pressure high	Fuel pressure regulator, ECM
P229C	Fuel pressure regulator 2, learning limit exceeded - signal too low	Wiring, fuel pressure regulator
P229D	Fuel pressure regulator 2, learning limit exceeded - signal too high	Wiring, fuel pressure regulator
P229E	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit malfunction	Wiring, NOx sensor
P229F	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit range/performance	Wiring, NOx sensor
P22A0	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit low	Wiring, NOx sensor
P22A1	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit high	Wiring, NOx sensor
P22A2	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit intermittent/erratic	Wiring, NOx sensor
P22A2	Nitrogen oxides (NOx) sensor 2, bank 1 - circuit intermittent/erratic	Wiring, NOx sensor
P22A3	Nitrogen oxides (NOx) sensor 2, bank 1, heater control - open circuit	Wiring, NOx sensor
P22A4	Nitrogen oxides (NOx) sensor 2, bank 1, heater control - circuit low	Wiring, NOx sensor
P22A5	Nitrogen oxides (NOx) sensor 2, bank 1, heater control - circuit high	Wiring, NOx sensor
P22A6	Nitrogen oxides (NOx) sensor 2, bank 1, heater sense circuit - malfunction	Wiring, NOx sensor
P22A7	Nitrogen oxides (NOx) sensor 2, bank 1, heater sense circuit - range/performance problem	Wiring, NOx sensor
P22A8	Nitrogen oxides (NOx) sensor 2, bank 1, heater sense circuit - circuit low	Wiring, NOx sensor
P22A9	Nitrogen oxides (NOx) sensor 2, bank 1, heater sense circuit - circuit high	Wiring, NOx sensor

P22AA	Nitrogen oxides (NOx) sensor 2, bank 1, heater sense circuit - circuit intermittent	Wiring, NOx sensor
P22AB	Heated oxygen sensor (HO2S) 2, bank 1, positive current control - open circuit	Wiring, HO2S
P22AC	Heated oxygen sensor (HO2S) 2, bank 1, positive current control - circuit low	Wiring, HO2S
P22AD	Heated oxygen sensor (HO2S) 2, bank 1, positive current control - circuit high	Wiring, HO2S
P22AE	Heated oxygen sensor (HO2S) 2, bank 1, reference voltage - open circuit	Wiring, HO2S
P22AF	Heated oxygen sensor (HO2S) 2, bank 1, reference voltage - performance problem	Wiring, HO2S
P22B0	Heated oxygen sensor (HO2S) 2, bank 1, reference voltage - circuit low	Wiring, HO2S
P22B1	Heated oxygen sensor (HO2S) 2, bank 1, reference voltage - circuit high	Wiring, HO2S
P22B2	Heated oxygen sensor (HO2S) 2, bank 1, negative current control - open circuit	Wiring, HO2S
P22B3	Heated oxygen sensor (HO2S) 2, bank 1, negative current control - circuit low	Wiring, HO2S
P22B4	Heated oxygen sensor (HO2S) 2, bank 1, negative current control - circuit high	Wiring, HO2S
P22B5	Heated oxygen sensor (HO2S) 2, bank 1, pumping current trim - open circuit	Wiring, HO2S
P22B6	Heated oxygen sensor (HO2S) 2, bank 1, pumping current trim - circuit low	Wiring, HO2S
P22B7	Heated oxygen sensor (HO2S) 2, bank 1, pumping current trim - circuit high	Wiring, HO2S
P22B8	Heated oxygen sensor (HO2S) 2, bank 2, positive current control - open circuit	Wiring, HO2S
P22B9	Heated oxygen sensor (HO2S) 2, bank 2, positive current control - circuit low	Wiring, HO2S
P22BA	Heated oxygen sensor (HO2S) 2, bank 2, positive current control - circuit high	Wiring, HO2S
P22BB	Heated oxygen sensor (HO2S) 2, bank 2, reference voltage - open circuit	Wiring, HO2S
P22BC	Heated oxygen sensor (HO2S) 2, bank 2, reference voltage - performance problem	Wiring, HO2S
P22BD	Heated oxygen sensor (HO2S) 2, bank 2, reference voltage - circuit low	Wiring, HO2S
P22BE	Heated oxygen sensor (HO2S) 2, bank 2, reference voltage - circuit high	Wiring, HO2S
P22BF	Heated oxygen sensor (HO2S) 2, bank 2, negative current control - open circuit	Wiring, HO2S
P22C0	Heated oxygen sensor (HO2S) 2, bank 2, negative current control - circuit low	Wiring, HO2S
P22C1	Heated oxygen sensor (HO2S) 2, bank 2, negative current control - circuit high	Wiring, HO2S
P22C2	Heated oxygen sensor (HO2S) 2, bank 2, pumping current trim - open circuit	Wiring, HO2S

P22C3	Heated oxygen sensor (HO2S) 2, bank 2, pumping current trim - circuit low	Wiring, HO2S
P22C4	Heated oxygen sensor (HO2S) 2, bank 2, pumping current trim - circuit high	Wiring, HO2S
P22C5	Turbocharger (TC) outlet valve - control circuit open	Wiring, TC outlet valve
P22C6	Turbocharger (TC) outlet valve - control circuit low	Wiring, TC outlet valve
P22C7	Turbocharger (TC) outlet valve - control circuit high	Wiring, TC outlet valve
P22C8	Turbocharger (TC) outlet valve - valve stuck open	Wiring, TC outlet valve
P22C9	Turbocharger (TC) outlet valve - valve stuck closed	Wiring, TC outlet valve
P22CA	Turbocharger (TC) outlet switching valve - control circuit open	Wiring, TC outlet switching valve
P22CB	Turbocharger (TC) outlet switching valve - control circuit low	Wiring, TC outlet switching valve
P22CC	Turbocharger (TC) outlet switching valve - control circuit high	Wiring, TC outlet switching valve
P22CD	Turbocharger (TC) outlet switching valve - valve stuck open	Wiring, TC outlet switching valve
P22CE	Turbocharger (TC) outlet switching valve - valve stuck closed	Wiring, TC outlet switching valve
P22CF	Turbocharger (TC) inlet valve - control circuit open	Wiring, TC inlet valve
P22D0	Turbocharger (TC) inlet valve - control circuit low	Wiring, TC inlet valve
P22D1	Turbocharger (TC) inlet valve - control circuit high	Wiring, TC inlet valve
P22D2	Turbocharger (TC) inlet valve - valve stuck open	Wiring, TC inlet valve
P22D3	Turbocharger (TC) inlet valve - valve stuck closed	Wiring, TC inlet valve
P22D4	Turbocharger (TC) inlet valve position sensor - circuit malfunction	Wiring, TC inlet valve position sensor
P22D5	Turbocharger (TC) inlet valve position sensor - circuit range/performance	Wiring, TC inlet valve position sensor
P22D6	Turbocharger (TC) inlet valve position sensor - circuit low	Wiring, TC inlet valve position sensor
P22D7	Turbocharger (TC) inlet valve position sensor - circuit high	Wiring, TC inlet valve position sensor
P22D8	Turbocharger (TC) inlet valve position sensor - circuit intermittent/erratic	Wiring, TC inlet valve position sensor
P2300	Ignition coil A, primary circuit - circuit low	Wiring short to earth, ignition coil
P2301	Ignition coil A, primary circuit - circuit high	Wiring short to positive, ignition coil
P2302	Ignition coil A, secondary circuit - malfunction	Wiring, ignition coil
P2303	Ignition coil B, primary circuit - circuit low	Wiring short to earth, ignition coil
P2304	Ignition coil B, primary circuit - circuit high	Wiring short to positive, ignition coil
P2305	Ignition coil B, secondary circuit - malfunction	Wiring, ignition coil
P2306	Ignition coil C, primary circuit - circuit low	Wiring short to earth, ignition coil
P2307	Ignition coil C, primary circuit - circuit high	Wiring short to positive, ignition coil
P2308	Ignition coil C, secondary circuit - malfunction	Wiring, ignition coil
P2309	Ignition coil D, primary circuit - circuit low	Wiring short to earth, ignition coil
P2310	Ignition coil D, primary circuit - circuit high	Wiring short to positive, ignition coil
P2311	Ignition coil D, secondary circuit - malfunction	Wiring, ignition coil
P2312	Ignition coil E, primary circuit - circuit low	Wiring short to earth, ignition coil

P2313	Ignition coil E, primary circuit - circuit high	Wiring short to positive, ignition coil
P2314	Ignition coil E, secondary circuit - malfunction	Wiring, ignition coil
P2315	Ignition coil F, primary circuit - circuit low	Wiring short to earth, ignition coil
P2316	Ignition coil F, primary circuit - circuit high	Wiring short to positive, ignition coil
P2317	Ignition coil F, secondary circuit - malfunction	Wiring, ignition coil
P2318	Ignition coil G, primary circuit - circuit low	Wiring short to earth, ignition coil
P2319	Ignition coil G, primary circuit - circuit high	Wiring short to positive, ignition coil
P2320	Ignition coil G, secondary circuit - malfunction	Wiring, ignition coil
P2321	Ignition coil H, primary circuit - circuit low	Wiring short to earth, ignition coil
P2322	Ignition coil H, primary circuit - circuit high	Wiring short to positive, ignition coil
P2323	Ignition coil H, secondary circuit - malfunction	Wiring, ignition coil
P2324	Ignition coil I, primary circuit - circuit low	Wiring short to earth, ignition coil
P2325	Ignition coil I, primary circuit - circuit high	Wiring short to positive, ignition coil
P2326	Ignition coil I, secondary circuit - malfunction	Wiring, ignition coil
P2327	Ignition coil J, primary circuit - circuit low	Wiring short to earth, ignition coil
P2328	Ignition coil J, primary circuit - circuit high	Wiring short to positive, ignition coil
P2329	Ignition coil J, secondary circuit - malfunction	Wiring, ignition coil
P2330	Ignition coil K, primary circuit - circuit low	Wiring short to earth, ignition coil
P2331	Ignition coil K, primary circuit - circuit high	Wiring short to positive, ignition coil
P2332	Ignition coil K, secondary circuit - malfunction	Wiring, ignition coil
P2333	Ignition coil L, primary circuit - circuit low	Wiring short to earth, ignition coil
P2334	Ignition coil L, primary circuit - circuit high	Wiring short to positive, ignition coil
P2335	Ignition coil L, secondary circuit - malfunction	Wiring, ignition coil
P2336	Cylinder 1 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2337	Cylinder 2 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2338	Cylinder 3 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2339	Cylinder 4 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2340	Cylinder 5 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2341	Cylinder 6 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2342	Cylinder 7 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2343	Cylinder 8 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2344	Cylinder 9 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2345	Cylinder 10 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2346	Cylinder 11 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault
P2347	Cylinder 12 - above knock threshold	Ignition timing, knock sensor (KS), fuel quality, mechanical fault

P2348	Cylinder pressure sensor, cylinder 9 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P2349	Cylinder pressure sensor, cylinder 9 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P234A	Cylinder pressure sensor, cylinder 9 - circuit low	Wiring, cylinder pressure sensor, ECM
P234B	Cylinder pressure sensor, cylinder 9 - circuit high	Wiring, cylinder pressure sensor, ECM
P234C	Cylinder pressure sensor, cylinder 9 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P234D	Cylinder 9 - pressure too low	-
P234E	Cylinder 9 - pressure too high	-
P234F	Cylinder 9 - pressure variation low	-
P2350	Cylinder 9 - pressure variation high	-
P2351	Cylinder 9 - combustion performance	-
P2352	Cylinder pressure sensor, cylinder 10 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P2353	Cylinder pressure sensor, cylinder 10 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P2354	Cylinder pressure sensor, cylinder 10 - circuit low	Wiring, cylinder pressure sensor, ECM
P2355	Cylinder pressure sensor, cylinder 10 - circuit high	Wiring, cylinder pressure sensor, ECM
P2356	Cylinder pressure sensor, cylinder 10 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P2357	Cylinder 10 - pressure too low	-
P2358	Cylinder 10 - pressure too high	-
P2359	Cylinder 10 - pressure variation low	-
P235A	Cylinder 10 - pressure variation high	-
P235B	Cylinder 10 - combustion performance	-
P235C	Cylinder pressure sensor, cylinder 11 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P235D	Cylinder pressure sensor, cylinder 11 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P235E	Cylinder pressure sensor, cylinder 11 - circuit low	Wiring, cylinder pressure sensor, ECM
P235F	Cylinder pressure sensor, cylinder 11 - circuit high	Wiring, cylinder pressure sensor, ECM
P2360	Cylinder pressure sensor, cylinder 11 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P2361	Cylinder 11 - pressure too low	-
P2362	Cylinder 11 - pressure too high	-
P2363	Cylinder 11 - pressure variation low	-
P2364	Cylinder 11 - pressure variation high	-
P2365	Cylinder 11 - combustion performance	-
P2366	Cylinder pressure sensor, cylinder 12 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P2367	Cylinder pressure sensor, cylinder 12 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P2368	Cylinder pressure sensor, cylinder 12 - circuit low	Wiring, cylinder pressure sensor, ECM
P2369	Cylinder pressure sensor, cylinder 12 - circuit high	Wiring, cylinder pressure sensor, ECM
P236A	Cylinder pressure sensor, cylinder 12 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM

P236B	Cylinder 12 - pressure too low	-
P236C	Cylinder 12 - pressure too high	-
P236D	Cylinder 12 - pressure variation low	-
P236E	Cylinder 12 - pressure variation high	-
P236F	Cylinder 12 - combustion performance	-
P2400	Evaporative emission (EVAP) leak detection pump, control - open circuit	Wiring, EVAP leak detection pump
P2401	Evaporative emission (EVAP) leak detection pump, control - circuit low	Wiring short to earth, EVAP leak detection pump
P2402	Evaporative emission (EVAP) leak detection pump, control - circuit high	Wiring short to positive, EVAP leak detection pump
P2403	Evaporative emission (EVAP) leak detection pump, sense circuit - open circuit	Wiring, EVAP leak detection pump
P2404	Evaporative emission (EVAP) leak detection pump, sense circuit - range/performance problem	Wiring, EVAP leak detection pump
P2405	Evaporative emission (EVAP) leak detection pump, sense circuit - circuit low	Wiring short to earth, EVAP leak detection pump
P2406	Evaporative emission (EVAP) leak detection pump, sense circuit - circuit high	Wiring short to positive, EVAP leak detection pump
P2407	Evaporative emission (EVAP) leak detection pump, sense circuit - circuit intermittent/erratic	Wiring, poor connection, EVAP leak detection pump
P2408	Fuel filler cap warning sensor/switch - circuit malfunction	Wiring, fuel filler cap warning sensor/switch
P2409	Fuel filler cap warning sensor/switch - range/performance problem	Wiring, fuel filler cap warning sensor/switch
P240A	Evaporative emission (EVAP) leak detection pump heater - open circuit	Wiring, EVAP leak detection pump heater, ECM
P240B	Evaporative emission (EVAP) leak detection pump heater - circuit low	Wiring, EVAP leak detection pump heater, ECM
P240C	Evaporative emission (EVAP) leak detection pump heater - circuit high	Wiring, EVAP leak detection pump heater, ECM
P240F	Exhaust gas recirculation (EGR) system - slow response	-
P2410	Fuel filler cap warning sensor/switch - circuit low	Wiring short to earth, fuel filler cap warning sensor/switch
P2411	Fuel filler cap warning sensor/switch - circuit high	Wiring short to positive, fuel filler cap warning sensor/switch
P2412	Fuel filler cap warning sensor/switch - circuit intermittent/erratic	Wiring, poor connection, fuel filler cap warning sensor/switch
P2413	Exhaust gas recirculation (EGR) system - performance problem	Hoses blocked/leaking, EGR solenoid, EGR valve
P2414	Heated oxygen sensor (HO2S) 1, bank 1 - exhaust sample error	Exhaust leak, HO2S
P2414	Oxygen sensor (O2S) 1, bank 1 - exhaust sample error	Exhaust leak, O2S
P2415	Heated oxygen sensor (HO2S) 1, bank 2 - exhaust sample error	Exhaust leak, HO2S
P2415	Oxygen sensor (O2S) 1, bank 2 - exhaust sample error	Exhaust leak, O2S

P2416	Heated oxygen sensor (HO2S) 2, bank 1/heated oxygen sensor (HO2S) 3, bank 1 - signals transposed	Wiring
P2416	Oxygen sensor (O2S) 2, bank 1/oxygen sensor (O2S) 3, bank 1 - signals transposed	Wiring
P2417	Heated oxygen sensor (HO2S) 2, bank 2/heated oxygen sensor (HO2S) 3, bank 2 - signals transposed	Wiring
P2417	Oxygen sensor (O2S) 2, bank 2/oxygen sensor (O2S) 3, bank 2 - signals transposed	Wiring
P2418	Evaporative emission (EVAP) switching valve - open circuit	Wiring, EVAP switching valve
P2419	Evaporative emission (EVAP) switching valve - circuit low	Wiring short to earth, EVAP switching valve
P2420	Evaporative emission (EVAP) switching valve - circuit high	Wiring short to positive, EVAP switching valve
P2421	Evaporative emission (EVAP) vent valve - valve stuck open	EVAP vent valve
P2422	Evaporative emission (EVAP) vent valve - valve stuck closed	EVAP vent valve
P2423	Hydrocarbon (HC) catalytic converter, bank 1 - efficiency below threshold	HC catalytic converter
P2424	Hydrocarbon (HC) catalytic converter, bank 2 - efficiency below threshold	HC catalytic converter
P2425	Exhaust gas recirculation (EGR) cooling valve - open circuit	Wiring, EGR cooling valve
P2426	Exhaust gas recirculation (EGR) cooling valve - circuit low	Wiring short to earth, EGR cooling valve
P2427	Exhaust gas recirculation (EGR) cooling valve - circuit high	Wiring short to positive, EGR cooling valve
P2428	Exhaust gas temperature (EGT), bank 1 - temperature too high	-
P2429	Exhaust gas temperature (EGT), bank 2 - temperature too high	-
P242A	Exhaust gas temperature sensor 3, bank 1 - circuit malfunction	Wiring, exhaust gas temperature sensor, ECM
P242B	Exhaust gas temperature sensor 3, bank 1 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM
P242C	Exhaust gas temperature sensor 3, bank 1 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P242D	Exhaust gas temperature sensor 3, bank 1 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P242E	Exhaust gas temperature sensor 3, bank 1 - circuit intermittent/erratic	Wiring, exhaust gas temperature sensor, ECM
P242F	Diesel particulate filter (DPF) - blockage/ash accumulation	DPF
P2430	Secondary air injection (AIR) system, air flow/pressure sensor, bank 1 - circuit malfunction	Wiring, air flow/pressure sensor
P2431	Secondary air injection (AIR) system, air flow/pressure sensor, bank 1 - range/performance problem	Wiring, air flow/pressure sensor
P2432	Secondary air injection (AIR) system, air flow/pressure sensor, bank 1 - circuit low	Wiring short to earth, air flow/pressure sensor
P2433	Secondary air injection (AIR) system, air flow/pressure sensor, bank 1 - circuit high	Wiring short to positive, air flow/pressure sensor

P2434	Secondary air injection (AIR) system, air flow/pressure sensor, bank 1 - circuit intermittent/erratic	Wiring, poor connection, air flow/pressure sensor
P2435	Secondary air injection (AIR) system, air flow/pressure sensor, bank 2 - circuit malfunction	Wiring, air flow/pressure sensor
P2436	Secondary air injection (AIR) system, air flow/pressure sensor, bank 2 - range/performance problem	Wiring, air flow/pressure sensor
P2437	Secondary air injection (AIR) system, air flow/pressure sensor, bank 2 - circuit low	Wiring short to earth, air flow/pressure sensor
P2438	Secondary air injection (AIR) system, air flow/pressure sensor, bank 2 - circuit high	Wiring short to positive, air flow/pressure sensor
P2439	Secondary air injection (AIR) system, air flow/pressure sensor, bank 2 - circuit intermittent/erratic	Wiring, poor connection, air flow/pressure sensor
P2440	Secondary air injection (AIR) switching valve, bank 1 - valve stuck open	AIR switching valve
P2441	Secondary air injection (AIR) switching valve, bank 1 - valve stuck closed	AIR switching valve
P2442	Secondary air injection (AIR) switching valve, bank 2 - valve stuck open	AIR switching valve
P2443	Secondary air injection (AIR) switching valve, bank 2 - valve stuck closed	AIR switching valve
P2444	Secondary air injection (AIR) pump, bank 1 - pump stuck on	AIR pump
P2445	Secondary air injection (AIR) pump, bank 1 - pump stuck off	AIR pump
P2446	Secondary air injection (AIR) pump, bank 2 - pump stuck on	AIR pump
P2447	Secondary air injection (AIR) pump, bank 2 - pump stuck off	AIR pump
P2448	Secondary air injection (AIR), bank 1 - air flow high	Wiring, AIR switching valve, AIR pump
P2449	Secondary air injection (AIR), bank 2 - air flow high	Wiring, AIR switching valve, AIR pump
P244A	Diesel particulate filter (DPF) - differential pressure too low	-
P244B	Diesel particulate filter (DPF) - differential pressure too high	-
P244C	Diesel particulate filter (DPF), bank 1 - exhaust temperature too low for regeneration	-
P244D	Diesel particulate filter (DPF), bank 1 - exhaust temperature too high for regeneration	-
P244E	Diesel particulate filter (DPF), bank 2 - exhaust temperature too low for regeneration	-
P244F	Diesel particulate filter (DPF), bank 2 - exhaust temperature too high for regeneration	-
P2450	Evaporative emission (EVAP) switching valve - performance problem or valve stuck open	-
P2451	Evaporative emission (EVAP) switching valve - valve stuck closed	-
P2452	Diesel particulate filter (DPF) pressure sensor A - circuit malfunction	Wiring, DPF pressure sensor, ECM
P2453	Diesel particulate filter (DPF) pressure sensor A - circuit malfunction	Wiring, DPF pressure sensor, ECM

P2454	Diesel particulate filter (DPF) pressure sensor A - circuit low	Wiring, DPF pressure sensor, ECM
P2455	Diesel particulate filter (DPF) pressure sensor A - circuit high	Wiring, DPF pressure sensor, ECM
P2456	Diesel particulate filter (DPF) pressure sensor A - circuit malfunction	Wiring, DPF pressure sensor, ECM
P2457	Exhaust gas recirculation (EGR) cooling system - performance problem	-
P2458	Diesel particulate filter (DPF), regeneration process - duration malfunction	-
P2459	Diesel particulate filter (DPF), regeneration process - number of DPF regeneration cycles too high	-
P245A	Exhaust gas recirculation (EGR) cooler bypass valve - control circuit malfunction	Wiring, EGR cooler bypass valve, ECM
P245B	Exhaust gas recirculation (EGR) cooler bypass valve - control circuit range/performance	Wiring, EGR cooler bypass valve, ECM
P245C	Exhaust gas recirculation (EGR) cooler bypass valve - control circuit low	Wiring, EGR cooler bypass valve, ECM
P245D	Exhaust gas recirculation (EGR) cooler bypass valve - control circuit high	Wiring, EGR cooler bypass valve, ECM
P245E	Diesel particulate filter (DPF) pressure sensor B - circuit malfunction	Wiring, DPF pressure sensor, ECM
P245F	Diesel particulate filter (DPF) pressure differential sensor B - circuit range/performance	Wiring, DPF pressure differential sensor, ECM
P2460	Diesel particulate filter (DPF) pressure sensor B - circuit low	Wiring, DPF pressure sensor, ECM
P2461	Diesel particulate filter (DPF) pressure sensor B - circuit high	Wiring, DPF pressure sensor, ECM
P2462	Diesel particulate filter (DPF) pressure sensor B - circuit malfunction	Wiring, DPF pressure sensor, ECM
P2463	Diesel particulate filter (DPF) - DPF restricted	soot accumulation
P2464	Diesel particulate filter (DPF), bank 2 - differential pressure too low	-
P2465	Diesel particulate filter (DPF), bank 2 - differential pressure too high	-
P2466	Exhaust gas temperature sensor 3, bank 2 - circuit malfunction	Wiring, exhaust gas temperature sensor, ECM
P2467	Exhaust gas temperature sensor 3, bank 2 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM
P2468	Exhaust gas temperature sensor 3, bank 2 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P2469	Exhaust gas temperature sensor 3, bank 2 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P246A	Exhaust gas temperature sensor 3, bank 2 - circuit intermittent	Wiring, exhaust gas temperature sensor, ECM
P246B	Diesel particulate filter (DPF) - vehicle conditions incorrect	-
P246C	Diesel particulate filter (DPF) - DPF restricted, limp-home mode activated	Wiring, DPF pressure sensor, ECM
P246D	Diesel particulate filter (DPF) pressure sensor - A/B correlation	Wiring, DPF pressure sensor, ECM

P246E	Exhaust gas temperature sensor 4, bank 1 - circuit malfunction	Wiring, exhaust gas temperature sensor, ECM
P246F	Exhaust gas temperature sensor 4, bank 1 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM
P2470	Exhaust gas temperature sensor 4, bank 1 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P2471	Exhaust gas temperature sensor 4, bank 1 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P2472	Exhaust gas temperature sensor 4, bank 1 - circuit intermittent	Wiring, exhaust gas temperature sensor, ECM
P2473	Exhaust gas temperature sensor 4, bank 2 - circuit malfunction	Wiring, exhaust gas temperature sensor, ECM
P2474	Exhaust gas temperature sensor 4, bank 2 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM
P2475	Exhaust gas temperature sensor 4, bank 2 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P2476	Exhaust gas temperature sensor 4, bank 2 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P2477	Exhaust gas temperature sensor 4, bank 2 - circuit intermittent	Wiring, exhaust gas temperature sensor, ECM
P2478	Exhaust gas temperature sensor 1, bank 1 - out of range	Wiring, exhaust gas temperature sensor, ECM
P2479	Exhaust gas temperature sensor 2, bank 1 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247A	Exhaust gas temperature sensor 3, bank 1 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247B	Exhaust gas temperature sensor 4, bank 1 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247C	Exhaust gas temperature sensor 1, bank 2 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247D	Exhaust gas temperature sensor 2, bank 2 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247E	Exhaust gas temperature sensor 3, bank 2 - out of range	Wiring, exhaust gas temperature sensor, ECM
P247F	Exhaust gas temperature sensor 4, bank 2 - out of range	Wiring, exhaust gas temperature sensor, ECM
P2480	Exhaust gas temperature sensor 5, bank 1 - open circuit	Wiring, exhaust gas temperature sensor, ECM
P2481	Exhaust gas temperature sensor 5, bank 1 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P2482	Exhaust gas temperature sensor 5, bank 1 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P2483	Exhaust gas temperature sensor 5, bank 1 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM
P2484	Exhaust gas temperature sensor 5, bank 1 - circuit intermittent	Wiring, exhaust gas temperature sensor, ECM
P2485	Exhaust gas temperature sensor 5, bank 2 - open circuit	Wiring, exhaust gas temperature sensor, ECM
P2486	Exhaust gas temperature sensor 5, bank 2 - circuit low	Wiring, exhaust gas temperature sensor, ECM
P2487	Exhaust gas temperature sensor 5, bank 2 - circuit high	Wiring, exhaust gas temperature sensor, ECM
P2488	Exhaust gas temperature sensor 5, bank 2 - circuit range/performance	Wiring, exhaust gas temperature sensor, ECM

P2489	Exhaust gas temperature sensor 5, bank 2 - circuit intermittent	Wiring, exhaust gas temperature sensor, ECM
P248A	Reductant heater A, sense circuit - circuit low	Wiring, reductant heater, ECM
P248B	Reductant heater A, sense circuit - circuit high	Wiring, reductant heater, ECM
P248C	Reductant heater B, sense circuit - circuit low	Wiring, reductant heater, ECM
P248D	Reductant heater B, sense circuit - circuit high	Wiring, reductant heater, ECM
P248E	Exhaust gas recirculation (EGR) cooler bypass valve, bank 2 - control circuit open	Wiring, EGR cooler bypass valve, ECM
P248F	Exhaust gas recirculation (EGR) cooler bypass valve, bank 2 - control circuit range/performance	Wiring, EGR cooler bypass valve, ECM
P2490	Exhaust gas recirculation (EGR) cooler bypass valve, bank 2 - control circuit low	Wiring, EGR cooler bypass valve, ECM
P2491	Exhaust gas recirculation (EGR) cooler bypass valve, bank 2 - control circuit high	Wiring, EGR cooler bypass valve, ECM
P2492	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 1 - circuit malfunction	Wiring, EGR cooler bypass flap position sensor, ECM
P2493	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 1 - range/performance problem	Wiring, EGR cooler bypass flap position sensor, ECM
P2494	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 1 - circuit low	Wiring, EGR cooler bypass flap position sensor, ECM
P2495	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 1 - circuit high	Wiring, EGR cooler bypass flap position sensor, ECM
P2496	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 1 - circuit intermittent/erratic	Wiring, EGR cooler bypass flap position sensor, ECM
P2497	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 2 - circuit malfunction	Wiring, EGR cooler bypass flap position sensor, ECM
P2498	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 2 - range/performance problem	Wiring, EGR cooler bypass flap position sensor, ECM
P2499	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 2 - circuit low	Wiring, EGR cooler bypass flap position sensor, ECM
P249A	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 2 - circuit high	Wiring, EGR cooler bypass flap position sensor, ECM
P249B	Exhaust gas recirculation (EGR) cooler bypass flap position sensor, bank 2 - circuit intermittent/erratic	Wiring, EGR cooler bypass flap position sensor, ECM
P249C	Excessive time to enter closed loop reductant injection control	-
P249D	Closed loop reductant injection control, control limit reached - low flow detected	-
P249E	Closed loop reductant injection control, control limit reached - high flow detected	-
P249F	Excessive time to enter closed loop Diesel particulate filter (DPF) regeneration control	-
P24A0	Closed loop Diesel particulate filter (DPF) regeneration control, control limit reached - temperature too low	-
P24A1	Closed loop Diesel particulate filter (DPF) regeneration control, control limit reached - temperature too high	-
P24A2	Diesel particulate filter (DPF) regeneration - regeneration not completed	-
P2500	Alternator warning lamp, L-terminal - circuit low	Wiring short to earth, alternator, instrument panel

P2501	Alternator warning lamp, L-terminal - circuit high	Wiring short to positive, alternator, instrument panel
P2502	Charging system voltage	Wiring, alternator, battery
P2503	Charging system - voltage low	Wiring, alternator, battery
P2504	Charging system - voltage high	Wiring, alternator, battery
P2505	Engine control module (ECM) - supply voltage	Wiring, fuses, engine control (EC) relay
P2506	Engine control module (ECM) - supply voltage, range/performance problem	Wiring, fuses, engine control (EC) relay
P2507	Engine control module (ECM) - supply voltage low	Wiring short to earth, fuses, engine control (EC) relay
P2508	Engine control module (ECM) - supply voltage high	Charging system
P2509	Engine control module (ECM) - supply voltage, intermittent	Wiring, fuses, engine control (EC) relay
P250A	Engine oil level sensor - circuit malfunction	Wiring, engine oil level sensor, ECM
P250B	Engine oil level sensor - circuit range/performance	Wiring, engine oil level sensor, ECM
P250C	Engine oil level sensor - circuit low	Wiring, engine oil level sensor, ECM
P250D	Engine oil level sensor - circuit high	Wiring, engine oil level sensor, ECM
P250E	Engine oil level sensor - circuit intermittent/erratic	Wiring, engine oil level sensor, ECM
P250F	Engine oil level too low	Wiring, engine oil level, ECM
P2510	Engine control (EC) relay, sense circuit - range/performance problem	Wiring, fuses, EC relay
P2511	Engine control (EC) relay, sense circuit - circuit intermittent	Wiring, poor connection, EC relay
P2512	Event data recorder request - open circuit	Wiring
P2513	Event data recorder request - circuit low	Wiring short to earth
P2514	Event data recorder request - circuit high	Wiring short to positive
P2515	AC refrigerant pressure sensor B - circuit malfunction	Wiring, AC refrigerant pressure sensor
P2516	AC refrigerant pressure sensor B - range/performance problem	Wiring, AC refrigerant pressure sensor
P2517	AC refrigerant pressure sensor B - circuit low	Wiring short to earth, AC refrigerant pressure sensor
P2518	AC refrigerant pressure sensor B - circuit high	Wiring short to positive, AC refrigerant pressure sensor
P2519	AC request A - circuit malfunction	Wiring, AC control module, AC master switch, AC refrigerant pressure switch/sensor
P251A	Power take-off (PTO) enable switch - open circuit	Wiring, PTO enable switch, ECM
P251B	Power take-off (PTO) enable switch - circuit low	Wiring, PTO enable switch, ECM
P251C	Power take-off (PTO) enable switch - circuit high	Wiring, PTO enable switch, ECM
P251D	Power take-off (PTO), engine shut-down - open circuit	Wiring, ECM
P251E	Power take-off (PTO), engine shut-down - circuit low	Wiring, ECM
P251F	Power take-off (PTO) monitoring, engine shut-off control - circuit high	Wiring, ECM
P2520	AC request A - circuit low	Wiring short to earth, AC control module, AC master switch, AC refrigerant pressure switch/sensor
P2521	AC request A - circuit high	Wiring short to positive, AC control module
P2522	AC request B - circuit malfunction	Wiring, AC control module, AC master switch, AC refrigerant pressure switch/sensor

P2523	AC request B - circuit low	Wiring short to earth, AC control module, AC master switch, AC refrigerant pressure switch/sensor
P2524	AC request B - circuit high	Wiring short to positive, AC control module
P2525	Vacuum reservoir pressure sensor - circuit malfunction	Wiring, vacuum reservoir pressure sensor
P2526	Vacuum reservoir pressure sensor - range/performance problem	Wiring, vacuum reservoir pressure sensor, hoses blocked/leaking
P2527	Vacuum reservoir pressure sensor - circuit low	Wiring short to earth, vacuum reservoir pressure sensor
P2528	Vacuum reservoir pressure sensor - circuit high	Wiring short to positive, vacuum reservoir pressure sensor
P2529	Vacuum reservoir pressure sensor - circuit intermittent	Wiring, poor connection, vacuum reservoir pressure sensor
P252A	Engine oil quality sensor - circuit malfunction	Wiring, engine oil quality sensor, ECM
P252B	Engine oil quality sensor - circuit range/performance	Wiring, engine oil quality sensor, ECM
P252C	Engine oil quality sensor - circuit low	Wiring, engine oil quality sensor, ECM
P252D	Engine oil quality sensor - circuit high	Wiring, engine oil quality sensor, ECM
P252E	Engine oil quality sensor - circuit intermittent/erratic	Wiring, engine oil quality sensor, ECM
P252F	Engine oil level too high	Engine oil level
P2530	Ignition switch, ON position - circuit malfunction	Wiring, fuse, ignition switch
P2531	Ignition switch, ON position - circuit low	Wiring short to earth, fuse, ignition switch
P2532	Ignition switch, ON position - circuit high	Wiring short to positive, fuse, ignition switch
P2533	Ignition switch, ON/start position - circuit malfunction	Wiring, fuse, ignition switch
P2534	Ignition switch, ON/start position - circuit low	Wiring short to earth, fuse, ignition switch
P2535	Ignition switch, ON/start position - circuit high	Wiring short to positive, fuse, ignition switch
P2536	Ignition switch, accessory position - circuit malfunction	Wiring, fuse, ignition switch
P2537	Ignition switch, accessory position - circuit low	Wiring short to earth, fuse, ignition switch
P2538	Ignition switch, accessory position - circuit high	Wiring short to positive, fuse, ignition switch
P2539	Fuel low pressure sensor - circuit malfunction	Wiring, fuel low pressure sensor
P253A	Power take-off (PTO) monitoring - circuit open	Wiring, ECM
P253B	Power take-off (PTO) monitoring - circuit range/performance	Wiring, ECM
P253C	Power take-off (PTO) monitoring - circuit low	Wiring, ECM
P253D	Power take-off (PTO) monitoring - circuit high	Wiring, ECM
P253E	Power take-off (PTO) - sense circuit intermittent malfunction	-
P253F	Engine oil deteriorated	Engine oil
P2540	Fuel low pressure sensor - range/performance problem	Wiring, fuel low pressure sensor
P2541	Fuel low pressure sensor - circuit low	Wiring short to earth, fuel low pressure sensor
P2542	Fuel low pressure sensor - circuit high	Wiring short to positive, fuel low pressure sensor
P2543	Fuel low pressure sensor - circuit intermittent	Wiring, poor connection, fuel low pressure sensor
P2544	Torque management request, input signal A - malfunction	Wiring, ECM, TCM

P2545	Torque management request, input signal A - range/performance problem	Wiring, ECM, TCM
P2546	Torque management request, input signal A - signal low	Wiring short to earth, ECM, TCM
P2547	Torque management request, input signal A - signal high	Wiring short to positive, ECM, TCM
P2548	Torque management request, input signal B - malfunction	Wiring, ECM, TCM
P2549	Torque management request, input signal B - range/performance problem	Wiring, ECM, TCM
P254A	Power take-off (PTO) speed selector sensor/switch 1 - open circuit	Wiring, PTO speed selector sensor/switch, ECM
P254B	Power take-off (PTO) speed selector sensor/switch 1 - circuit range/performance	Wiring, PTO speed selector sensor/switch, ECM
P254C	Power take-off (PTO) speed selector sensor/switch 1 - circuit low	Wiring, PTO speed selector sensor/switch, ECM
P254D	Power take-off (PTO) speed selector sensor/switch 1 - circuit high	Wiring, PTO speed selector sensor/switch, ECM
P254E	Power take-off (PTO) speed selector sensor/switch 1 - circuit intermittent/erratic	Wiring, PTO speed selector sensor/switch, ECM
P254F	Bonnet switch - open circuit	Wiring, bonnet switch, ECM
P2550	Torque management request, input signal B - signal low	Wiring short to earth, ECM, TCM
P2551	Torque management request, input signal B - signal high	Wiring short to positive, ECM, TCM
P2552	Throttle/fuel inhibit - circuit malfunction	Wiring
P2553	Throttle/fuel inhibit - range/performance problem	Wiring
P2554	Throttle/fuel inhibit - circuit low	Wiring short to earth
P2555	Throttle/fuel inhibit - circuit high	Wiring short to positive
P2556	Engine coolant 'low' sensor/switch - circuit malfunction	Wiring, engine coolant 'low' sensor/switch
P2557	Engine coolant 'low' sensor/switch - range/performance problem	Wiring, engine coolant 'low' sensor/switch
P2558	Engine coolant 'low' sensor/switch - circuit low	Wiring short to earth, engine coolant 'low' sensor/switch
P2559	Engine coolant 'low' sensor/switch - circuit high	Wiring short to positive, engine coolant 'low' sensor/switch
P255A	Power take-off (PTO) speed selector sensor/switch 2 - open circuit	Wiring, PTO speed selector sensor/switch, ECM
P255B	Power take-off (PTO) speed selector sensor/switch 2 - circuit range/performance	Wiring, PTO speed selector sensor/switch, ECM
P255C	Power take-off (PTO) speed selector sensor/switch 2 - circuit low	Wiring, PTO speed selector sensor/switch, ECM
P255D	Power take-off (PTO) speed selector sensor/switch 2 - circuit high	Wiring, PTO speed selector sensor/switch, ECM
P255E	Power take-off (PTO) speed selector sensor/switch 2 - circuit intermittent/erratic	Wiring, PTO speed selector sensor/switch, ECM
P255F	AC request A - circuit range/performance	Wiring, AC control module, ECM
P2560	Engine coolant level low	Engine coolant level low
P2561	AC control module - MIL activation requested	AC control module trouble codes stored

P2562	Turbocharger (TC) boost control position sensor - circuit malfunction	Wiring, TC boost control position sensor
P2563	Turbocharger (TC) boost control position sensor - range/performance problem	Wiring, TC boost control position sensor
P2564	Turbocharger (TC) boost control position sensor - circuit low	Wiring short to earth, TC boost control position sensor
P2565	Turbocharger (TC) boost control position sensor - circuit high	Wiring short to positive, TC boost control position sensor
P2566	Turbocharger (TC) boost control position sensor - circuit intermittent	Wiring, poor connection, TC boost control position sensor
P2567	Direct ozone reduction catalytic converter temperature sensor - circuit malfunction	Wiring, direct ozone reduction catalytic converter temperature sensor
P2568	Direct ozone reduction catalytic converter temperature sensor - range/performance problem	Wiring, direct ozone reduction catalytic converter temperature sensor
P2569	Direct ozone reduction catalytic converter temperature sensor - circuit low	Wiring short to earth, direct ozone reduction catalytic converter temperature sensor
P256A	Engine idle speed selector sensor/switch - open circuit	Wiring, engine idle speed selector sensor/switch, ECM
P256B	Engine idle speed selector sensor/switch - circuit range/performance	Wiring, engine idle speed selector sensor/switch, ECM
P256C	Engine idle speed selector sensor/switch - circuit low	Wiring, engine idle speed selector sensor/switch, ECM
P256D	Engine idle speed selector sensor/switch - circuit high	Wiring, engine idle speed selector sensor/switch, ECM
P256E	Engine idle speed selector sensor/switch - circuit intermittent/erratic	Wiring, engine idle speed selector sensor/switch, ECM
P256F	AC request B - circuit range/performance	Wiring, AC control module, ECM
P2570	Direct ozone reduction catalytic converter temperature sensor - circuit high	Wiring short to positive, direct ozone reduction catalytic converter temperature sensor
P2571	Direct ozone reduction catalytic converter temperature sensor - circuit intermittent/erratic	Wiring, poor connection, direct ozone reduction catalytic converter temperature sensor
P2572	Direct ozone reduction catalytic converter deterioration sensor	Wiring, direct ozone reduction catalytic converter deterioration sensor
P2573	Direct ozone reduction catalytic converter deterioration sensor - range/performance problem	Wiring, direct ozone reduction catalytic converter deterioration sensor
P2574	Direct ozone reduction catalytic converter deterioration sensor - circuit low	Wiring short to earth, direct ozone reduction catalytic converter deterioration sensor
P2575	Direct ozone reduction catalytic converter deterioration sensor - circuit high	Wiring short to positive, direct ozone reduction catalytic converter deterioration sensor
P2576	Direct ozone reduction catalytic converter deterioration sensor - circuit intermittent/erratic	Wiring, poor connection, direct ozone reduction catalytic converter deterioration sensor
P2577	Direct ozone reduction catalytic converter - efficiency below threshold	Direct ozone reduction catalytic converter
P2578	Turbocharger (TC) speed sensor - circuit malfunction	Wiring, TC speed sensor, ECM
P2579	Turbocharger (TC) speed sensor - circuit range/performance	Wiring, TC speed sensor, ECM
P257A	Vacuum reservoir control - open circuit	-
P257B	Vacuum reservoir control - circuit low	-
P257C	Vacuum reservoir control - circuit high	-
P257D	Bonnet switch - circuit range/performance	Wiring, bonnet switch, ECM

P257E	Bonnet switch - circuit low	Wiring, bonnet switch, ECM
P257F	Bonnet switch - circuit high	Wiring, bonnet switch, ECM
P2580	Turbocharger (TC) speed sensor - circuit low	Wiring, TC speed sensor, ECM
P2581	Turbocharger (TC) speed sensor - circuit high	Wiring, TC speed sensor, ECM
P2582	Turbocharger (TC) speed sensor - circuit intermittent	Wiring, TC speed sensor, ECM
P2583	Cruise control distance range sensor, front centre - malfunction	-
P2584	Fuel additive control module - MIL activation requested	-
P2585	Fuel additive control module - MIL activation requested	-
P2586	Turbocharger (TC) boost control position sensor B - circuit malfunction	Wiring, TC boost control position sensor, ECM
P2587	Turbocharger (TC) boost control position sensor B - circuit malfunction	Wiring, TC boost control position sensor, ECM
P2588	Turbocharger (TC) boost control position sensor B - circuit low	Wiring, TC boost control position sensor, ECM
P2589	Turbocharger (TC) boost control position sensor B - circuit high	Wiring, TC boost control position sensor, ECM
P258A	Vacuum pump - control circuit open	Wiring, vacuum pump, ECM
P258B	Vacuum pump control - range/performance problem	Wiring, vacuum pump, ECM
P258C	Vacuum pump control - circuit low	Wiring, vacuum pump, ECM
P258D	Vacuum pump - control circuit high	Wiring, vacuum pump, ECM
P258E	Power take-off (PTO) enable switch - performance problem	Wiring, PTO enable switch, ECM
P258F	Torque management request - output signal malfunction	Wiring, TCM, ECM
P2590	Turbocharger (TC) boost control position sensor B - circuit malfunction	Wiring, TC boost control position sensor, ECM
P2591	Cruise control distance range sensor, front left - malfunction	-
P2592	Cruise control distance range sensor, front right - malfunction	-
P2593	Turbocharger (TC) speed sensor B - circuit malfunction	Wiring, TC speed sensor, ECM
P2594	Turbocharger (TC) speed sensor B - circuit range/performance	Wiring, TC speed sensor, ECM
P2595	Turbocharger (TC) speed sensor B - circuit low	Wiring, TC speed sensor, ECM
P2596	Turbocharger (TC) speed sensor B - circuit high	Wiring, TC speed sensor, ECM
P2597	Turbocharger (TC) speed sensor B - circuit intermittent/erratic	Wiring, TC speed sensor, ECM
P2598	Turbocharger (TC) boost control position sensor A, performance problem - signal low	Wiring, TC boost control position sensor, ECM
P2599	Turbocharger (TC) boost control position sensor A, performance problem - signal high	Wiring, TC boost control position sensor, ECM
P259A	Turbocharger (TC) boost control position sensor B, performance problem - signal low	Wiring, TC boost control position sensor, ECM
P259B	Turbocharger (TC) boost control position sensor B, performance problem - signal high	Wiring, TC boost control position sensor, ECM

P259C	Excessive time to enter closed loop turbocharger A boost control	-
P259D	Excessive time to enter closed loop turbocharger B boost control	-
P259E	Turbocharger (TC) A, boost pressure control - lower limit reached	-
P259F	Turbocharger (TC) A, boost pressure control - higher limit reached	-
P25A0	Turbocharger (TC) B, boost pressure control - lower limit reached	-
P25A1	Turbocharger (TC) B, boost pressure control - higher limit reached	-
P2600	Engine coolant pump motor - open circuit	Wiring, engine coolant pump relay
P2601	Engine coolant pump motor - range/performance problem	Wiring, engine coolant pump relay
P2602	Engine coolant pump motor - circuit low	Wiring short to earth, engine coolant pump relay
P2603	Engine coolant pump motor - circuit high	Wiring short to positive, engine coolant pump relay
P2604	Intake air heater A - range/performance problem	Wiring, intake air heater relay, intake air heater
P2605	Intake air heater A - open circuit	Wiring, intake air heater relay, intake air heater
P2606	Intake air heater B - range/performance problem	Wiring, intake air heater relay, intake air heater
P2607	Intake air heater B - circuit low	Wiring short to earth, intake air heater relay, intake air heater
P2608	Intake air heater B - circuit high	Wiring short to positive, intake air heater relay, intake air heater
P2609	Intake air heater system - performance problem	Wiring, intake air heater relay, intake air heater
P260A	Power take-off (PTO), control - open circuit	Wiring
P260B	Power take-off (PTO), control - circuit low	Wiring, ECM
P260C	Power take-off (PTO) control - circuit high	-
P260D	Power take-off (PTO) engaged warning lamp - control circuit	Wiring, warning lamp, ECM
P260E	Diesel particulate filter (DPF) warning lamp - control circuit malfunction	Wiring, DPF warning lamp
P260F	Evaporative emission (EVAP) system - monitoring processor performance problem	ECM
P2610	Engine control module (ECM) - internal engine off timer performance	ECM
P2611	AC refrigerant distribution valve - open circuit	Wiring, AC refrigerant distribution valve
P2612	AC refrigerant distribution valve - circuit low	Wiring short to earth, AC refrigerant distribution valve
P2613	AC refrigerant distribution valve - circuit high	Wiring short to positive, AC refrigerant distribution valve
P2614	Camshaft position (CMP), output signal - open circuit	Wiring, ECM
P2615	Camshaft position (CMP), output signal - circuit low	Wiring short to earth, ECM
P2616	Camshaft position (CMP), output signal - circuit high	Wiring short to positive, ECM
P2617	Crankshaft position (CKP), output signal - open circuit	Wiring, ECM
P2618	Crankshaft position (CKP), output signal - circuit low	Wiring short to earth, ECM
P2619	Crankshaft position (CKP), output signal - circuit high	Wiring short to positive, ECM

P261A	Engine coolant pump motor B - control circuit open	Wiring, engine coolant pump motor, ECM
P261B	Engine coolant pump motor B - control circuit range/performance	Wiring, engine coolant pump motor, ECM
P261C	Engine coolant pump motor B - control circuit low	Wiring, engine coolant pump motor, ECM
P261D	Engine coolant pump motor B - control circuit high	Wiring, engine coolant pump motor, ECM
P2620	Throttle position (TP), output signal - open circuit	Wiring, ECM
P2621	Throttle position (TP), output signal - circuit low	Wiring short to earth, ECM
P2622	Throttle position (TP), output signal - circuit high	Wiring short to positive, ECM
P2623	Injector control pressure regulator - open circuit	Wiring, injector control pressure regulator
P2624	Injector control pressure regulator - circuit low	Wiring short to earth, injector control pressure regulator
P2625	Injector control pressure regulator - circuit high	Wiring short to positive, injector control pressure regulator
P2626	Heated oxygen sensor (HO2S) 1, bank 1, pumping current trim - open circuit	Wiring, HO2S, ECM
P2626	Oxygen sensor (O2S) 1, bank 1, pumping current trim - open circuit	Wiring, O2S, ECM
P2627	Heated oxygen sensor (HO2S) 1, bank 1, pumping current trim - circuit low	Wiring short to earth, HO2S, ECM
P2627	Oxygen sensor (O2S) 1, bank 1, pumping current trim - circuit low	Wiring short to earth, O2S, ECM
P2628	Heated oxygen sensor (HO2S) 1, bank 1, pumping current trim - circuit high	Wiring short to positive, HO2S, ECM
P2628	Oxygen sensor (O2S) 1, bank 1, pumping current trim - circuit high	Wiring short to positive, O2S, ECM
P2629	Heated oxygen sensor (HO2S) 1, bank 2, pumping current trim - open circuit	Wiring, HO2S, ECM
P2629	Oxygen sensor (O2S) 1, bank 2, pumping current trim - open circuit	Wiring, O2S, ECM
P2630	Heated oxygen sensor (HO2S) 1, bank 2, pumping current trim - circuit low	Wiring short to earth, HO2S, ECM
P2630	Oxygen sensor (O2S) 1, bank 2, pumping current trim - circuit low	Wiring short to earth, O2S, ECM
P2631	Heated oxygen sensor (HO2S) 1, bank 2, pumping current trim - circuit high	Wiring short to positive, HO2S, ECM
P2631	Oxygen sensor (O2S) 1, bank 2, pumping current trim - circuit high	Wiring short to positive, O2S, ECM
P2632	Fuel pump (FP) B, control - open circuit	Wiring, FP relay, ECM
P2633	Fuel pump (FP) B, control - circuit low	Wiring short to earth, FP relay, ECM
P2634	Fuel pump (FP) B, control - circuit high	Wiring short to positive, FP relay, ECM
P2635	Fuel pump (FP) A - low flow/performance problem	Fuel filter blocked, fuel pump (FP)
P2636	Fuel pump (FP) B - low flow/performance problem	Fuel filter blocked, fuel pump (FP)
P2637	Torque management, feedback signal A - malfunction	Wiring, ECM, TCM
P2638	Torque management, feedback signal A - range/performance problem	Wiring, ECM, TCM
P2639	Torque management, feedback signal A - signal low	Wiring short to earth, ECM, TCM
P2640	Torque management, feedback signal A - signal high	Wiring short to positive, ECM, TCM
P2641	Torque management, feedback signal B - malfunction	Wiring, ECM, TCM

P2642	Torque management, feedback signal B - range/performance problem	Wiring, ECM, TCM
P2643	Torque management, feedback signal B - signal low	Wiring short to earth, ECM, TCM
P2644	Torque management, feedback signal B - signal high	Wiring short to positive, ECM, TCM
P2645	Rocker arm actuator A, bank 1 - open circuit	Wiring, rocker arm actuator
P2646	Rocker arm actuator A, bank 1 - performance problem or actuator stuck off	Wiring, rocker arm actuator
P2647	Rocker arm actuator A, bank 1 - actuator stuck on	Rocker arm actuator
P2648	Rocker arm actuator A, bank 1 - circuit low	Wiring short to earth, rocker arm actuator
P2649	Rocker arm actuator A, bank 1 - circuit high	Wiring short to positive, rocker arm actuator
P264A	Rocker arm actuator position sensor A, bank 1 - circuit malfunction	Wiring, rocker arm actuator position sensor, ECM
P264B	Rocker arm actuator position sensor A, bank 1 - circuit range/performance	Wiring, rocker arm actuator position sensor, ECM
P264C	Rocker arm actuator position sensor A, bank 1 - circuit low	Wiring, rocker arm actuator position sensor, ECM
P264D	Rocker arm actuator position sensor A, bank 1 - circuit high	Wiring, rocker arm actuator position sensor, ECM
P264E	Rocker arm actuator position sensor A, bank 1 - circuit intermittent/erratic	Wiring, rocker arm actuator position sensor, ECM
P2650	Rocker arm actuator B, bank 1 - open circuit	Wiring, rocker arm actuator
P2651	Rocker arm actuator B, bank 1 - performance problem or actuator stuck off	Rocker arm actuator
P2652	Rocker arm actuator B, bank 1 - actuator stuck on	Rocker arm actuator
P2653	Rocker arm actuator B, bank 1 - circuit low	Wiring short to earth, rocker arm actuator
P2654	Rocker arm actuator B, bank 1 - circuit high	Wiring short to positive, rocker arm actuator
P2655	Rocker arm actuator A, bank 2 - open circuit	Wiring, rocker arm actuator
P2656	Rocker arm actuator A, bank 2 - performance problem or actuator stuck off	Rocker arm actuator
P2657	Rocker arm actuator A, bank 2 - actuator stuck on	Rocker arm actuator
P2658	Rocker arm actuator A, bank 2 - circuit low	Wiring short to earth, rocker arm actuator
P2659	Rocker arm actuator A, bank 2 - circuit high	Wiring short to positive, rocker arm actuator
P265A	Rocker arm actuator position sensor B, bank 1 - circuit malfunction	Wiring, rocker arm actuator position sensor, ECM
P265B	Rocker arm actuator position sensor B, bank 1 - circuit range/performance	Wiring, rocker arm actuator position sensor, ECM
P265C	Rocker arm actuator position sensor B, bank 1 - circuit low	Wiring, rocker arm actuator position sensor, ECM
P265D	Rocker arm actuator position sensor B, bank 1 - circuit high	Wiring, rocker arm actuator position sensor, ECM
P265E	Rocker arm actuator position sensor B, bank 1 - circuit intermittent/erratic	Wiring, rocker arm actuator position sensor, ECM
P2660	Rocker arm actuator B, bank 2 - open circuit	Wiring, rocker arm actuator
P2661	Rocker arm actuator B, bank 2 - performance problem or actuator stuck off	Rocker arm actuator
P2662	Rocker arm actuator B, bank 2 - actuator stuck on	Rocker arm actuator
P2663	Rocker arm actuator B, bank 2 - circuit low	Wiring short to earth, rocker arm actuator
P2664	Rocker arm actuator B, bank 2 - circuit high	Wiring short to positive, rocker arm actuator

P2665	Fuel shut-off solenoid B - open circuit	Wiring, fuel shut-off solenoid
P2666	Fuel shut-off solenoid B - circuit low	Wiring short to earth, fuel shut-off solenoid
P2667	Fuel shut-off solenoid B - circuit high	Wiring short to positive, fuel shut-off solenoid
P2668	Fuel mode indicator lamp - circuit malfunction	Wiring, fuel mode indicator lamp
P2669	Actuator supply voltage B - open circuit	Wiring, ECM
P266A	Rocker arm actuator position sensor A, bank 2 - circuit malfunction	Wiring, rocker arm actuator position sensor, ECM
P266B	Rocker arm actuator position sensor A, bank 2 - circuit range/performance	Wiring, rocker arm actuator position sensor, ECM
P266C	Rocker arm actuator position sensor A, bank 2 - circuit low	Wiring, rocker arm actuator position sensor, ECM
P266D	Rocker arm actuator position sensor A, bank 2 - circuit high	Wiring, rocker arm actuator position sensor, ECM
P266E	Rocker arm actuator position sensor A, bank 2 - circuit intermittent/erratic	Wiring, rocker arm actuator position sensor, ECM
P2670	Actuator supply voltage B - circuit low	Wiring short to earth, ECM
P2671	Actuator supply voltage B - circuit high	Wiring short to positive, ECM
P2672	Injection pump timing offset - Offset malfunction	-
P2673	Injection pump timing calibration - calibration not learned	-
P2674	Injection pump fuel calibration - calibration not learned	-
P2675	Air filter inlet control - open circuit	
P2676	Air filter inlet control - circuit low	
P2677	Air filter inlet control - circuit high	
P2678	Engine coolant expansion tank valve control - open circuit	
P2679	Engine coolant expansion tank valve control - circuit low	
P267A	Rocker arm actuator position sensor B, bank 2 - circuit malfunction	Wiring, rocker arm actuator position sensor, ECM
P267B	Rocker arm actuator position sensor B, bank 2 - circuit range/performance	Wiring, rocker arm actuator position sensor, ECM
P267C	Rocker arm actuator position sensor B, bank 2 - circuit low	Wiring, rocker arm actuator position sensor, ECM
P267D	Rocker arm actuator position sensor B, bank 2 - circuit high	Wiring, rocker arm actuator position sensor, ECM
P267E	Rocker arm actuator position sensor B, bank 2 - circuit intermittent/erratic	Wiring, rocker arm actuator position sensor, ECM
P2680	Engine coolant expansion tank valve control - circuit high	
P2681	Engine coolant bypass valve control - open circuit	
P2682	Engine coolant bypass valve control - circuit low	
P2683	Engine coolant bypass valve control - circuit high	
P2684	Actuator supply voltage C - open circuit	
P2685	Actuator supply voltage C - circuit low	
P2686	Actuator supply voltage C - circuit high	
P2687	Fuel heater - open circuit	Wiring, fuel heater, ECM
P2688	Fuel heater - circuit low	Wiring, fuel heater, ECM

P2689	Fuel heater - circuit high	Wiring, fuel heater, ECM
P268A	Injector - calibration not learned/programmed	Calibration not learned
P268B	Fuel high pressure pump - calibration not learned/programmed	Calibration not learned
P268C	Injector 1 - data incompatible	Wiring, injector, ECM
P268D	Injector 2 - data incompatible	Wiring, injector, ECM
P268E	Injector 3 - data incompatible	Wiring, injector, ECM
P268F	Injector 4 - data incompatible	Wiring, injector, ECM
P2690	Injector 5 - data incompatible	Wiring, injector, ECM
P2691	Injector 6 - data incompatible	Wiring, injector, ECM
P2692	Injector 7 - data incompatible	Wiring, injector, ECM
P2693	Injector 8 - data incompatible	Wiring, injector, ECM
P2694	Injector 9 - data incompatible	Wiring, injector, ECM
P2695	Injector 10 - data incompatible	Wiring, injector, ECM
P2696	Injector - data incompatible	Wiring, injector, ECM
P2697	Exhaust after treatment fuel injector A - open circuit	Wiring, exhaust after treatment fuel injector, ECM
P2698	Exhaust after treatment fuel injector A - performance problem	Wiring, exhaust after treatment fuel injector, ECM
P2699	Exhaust after treatment fuel injector A - circuit low	Wiring, exhaust after treatment fuel injector, ECM
P269A	Exhaust after treatment fuel injector A - circuit high	Wiring, exhaust after treatment fuel injector, ECM
P269B	Exhaust after treatment glow plug control - open circuit	Wiring, glow plug control, ECM
P269C	Exhaust after treatment glow plug control - performance problem	Wiring, glow plug control, ECM
P269D	Exhaust after treatment glow plug control - circuit low	Wiring, glow plug control, ECM
P269E	Exhaust after treatment glow plug control - circuit high	Wiring, glow plug control, ECM
P269F	Exhaust after treatment glow plug - open circuit	Wiring, glow plug, ECM
P26A0	Exhaust after treatment glow plug - performance problem	Wiring, glow plug, ECM
P26A1	Exhaust after treatment glow plug - circuit low	Wiring, glow plug, ECM
P26A2	Exhaust after treatment glow plug - circuit high	Wiring, glow plug, ECM
P2700	Transmission friction element A, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2701	Transmission friction element B, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2702	Transmission friction element C, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2703	Transmission friction element D, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2704	Transmission friction element E, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2705	Transmission friction element F, apply time - range/performance problem	Transmission mechanical fault, shift solenoid (SS)
P2706	Shift solenoid (SS) F - circuit malfunction	Transmission mechanical fault, shift solenoid (SS)

P2707	Shift solenoid (SS) F - performance problem or solenoid stuck off	Transmission mechanical fault, shift solenoid (SS)
P2708	Shift solenoid (SS) F - solenoid stuck on	Transmission mechanical fault, shift solenoid (SS)
P2709	Shift solenoid (SS) F - electrical	Wiring, shift solenoid (SS)
P2710	Shift solenoid (SS) F - intermittent	Wiring, poor connection, shift solenoid (SS)
P2711	Unexpected mechanical gear disengagement	Operator error, transmission mechanical fault
P2712	Hydraulic power unit leakage	-
P2713	Transmission fluid pressure (TFP) solenoid D - circuit malfunction	Wiring, TFP solenoid, TCM
P2714	Transmission fluid pressure (TFP) solenoid D - performance problem or solenoid stuck off	Wiring, TFP solenoid, transmission mechanical fault
P2715	Transmission fluid pressure (TFP) solenoid D - solenoid stuck on	TFP solenoid, transmission mechanical fault
P2716	Transmission fluid pressure (TFP) solenoid D - electrical	Wiring, TFP solenoid
P2717	Transmission fluid pressure (TFP) solenoid D - circuit intermittent	Wiring, poor connection, TFP solenoid, TCM
P2718	Transmission fluid pressure (TFP) solenoid D - open circuit	Wiring, TFP solenoid, TCM
P2719	Transmission fluid pressure (TFP) solenoid D - range/performance problem	TFP solenoid, transmission mechanical fault
P2720	Transmission fluid pressure (TFP) solenoid D - circuit low	Wiring short to earth, TFP solenoid, TCM
P2721	Transmission fluid pressure (TFP) solenoid D - circuit high	Wiring short to positive, TFP solenoid, TCM
P2722	Transmission fluid pressure (TFP) solenoid E - circuit malfunction	Wiring, TFP solenoid, TCM
P2723	Transmission fluid pressure (TFP) solenoid E - performance problem or solenoid stuck off	Wiring, TFP solenoid, transmission mechanical fault
P2724	Transmission fluid pressure (TFP) solenoid E - solenoid stuck on	TFP solenoid, transmission mechanical fault
P2725	Transmission fluid pressure (TFP) solenoid E - electrical	Wiring, TFP solenoid
P2726	Transmission fluid pressure (TFP) solenoid E - circuit intermittent	Wiring, poor connection, TFP solenoid, TCM
P2727	Transmission fluid pressure (TFP) solenoid E - open circuit	Wiring, TFP solenoid, TCM
P2728	Transmission fluid pressure (TFP) solenoid E - range/performance problem	TFP solenoid, transmission mechanical fault
P2729	Transmission fluid pressure (TFP) solenoid E - circuit low	Wiring short to earth, TFP solenoid, TCM
P2730	Transmission fluid pressure (TFP) solenoid E - circuit high	Wiring short to positive, TFP solenoid, TCM
P2731	Transmission fluid pressure (TFP) solenoid F - circuit malfunction	Wiring, TFP solenoid, TCM
P2732	Transmission fluid pressure (TFP) solenoid F - performance problem or solenoid stuck off	Wiring, TFP solenoid, transmission mechanical fault
P2733	Transmission fluid pressure (TFP) solenoid F - solenoid stuck on	TFP solenoid, transmission mechanical fault

P2734	Transmission fluid pressure (TFP) solenoid F - electrical	Wiring, TFP solenoid
P2735	Transmission fluid pressure (TFP) solenoid F - circuit intermittent	Wiring, poor connection, TFP solenoid, TCM
P2736	Transmission fluid pressure (TFP) solenoid F - open circuit	Wiring, TFP solenoid, TCM
P2737	Transmission fluid pressure (TFP) solenoid F - range/performance problem	TFP solenoid, transmission mechanical fault
P2738	Transmission fluid pressure (TFP) solenoid F - circuit low	Wiring short to earth, TFP solenoid, TCM
P2739	Transmission fluid pressure (TFP) solenoid F - circuit high	Wiring short to positive, TFP solenoid, TCM
P273A	Transmission friction element G, apply time - range/performance problem	Shift solenoid (SS), transmission mechanical fault, TCM, ECM
P273B	Transmission friction element H, apply time - range/performance problem	Shift solenoid (SS), transmission mechanical fault, TCM, ECM
P2740	Transmission fluid temperature (TFT) sensor B - circuit malfunction	Wiring, TFT sensor
P2741	Transmission fluid temperature (TFT) sensor B - circuit range/performance	Wiring, TFT sensor
P2742	Transmission fluid temperature (TFT) sensor B - circuit low	Wiring short to earth, TFT sensor
P2743	Transmission fluid temperature (TFT) sensor B - circuit high	Wiring short to positive, TFT sensor
P2744	Transmission fluid temperature (TFT) sensor B - circuit intermittent	Wiring, poor connection, TFT sensor
P2745	Transmission intermediate shaft speed sensor B - circuit malfunction	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2746	Transmission intermediate shaft speed sensor B - range/performance problem	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2747	Transmission intermediate shaft speed sensor B - no signal	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2748	Transmission intermediate shaft speed sensor B - circuit intermittent	Wiring, poor connection, transmission intermediate shaft speed sensor, ECM, TCM
P2749	Transmission intermediate shaft speed sensor C - circuit malfunction	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2750	Transmission intermediate shaft speed sensor C - range/performance problem	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2751	Transmission intermediate shaft speed sensor C - no signal	Wiring, transmission intermediate shaft speed sensor, ECM, TCM
P2752	Transmission intermediate shaft speed sensor C - circuit intermittent	Wiring, poor connection, transmission intermediate shaft speed sensor, ECM, TCM
P2753	Transmission fluid cooler - open circuit	Wiring, transmission fluid cooler
P2754	Transmission fluid cooler - circuit low	Wiring short to earth, transmission fluid cooler
P2755	Transmission fluid cooler - circuit high	Wiring short to positive, transmission fluid cooler
P2756	Torque converter clutch (TCC) pressure control solenoid - circuit malfunction	Wiring, TCC pressure control solenoid
P2757	Torque converter clutch (TCC) pressure control solenoid - performance problem or solenoid stuck off	TCC pressure control solenoid

P2758	Torque converter clutch (TCC) pressure control solenoid - solenoid stuck on	TCC pressure control solenoid
P2759	Torque converter clutch (TCC) pressure control solenoid - electrical fault	Wiring, TCC pressure control solenoid
P2760	Torque converter clutch (TCC) pressure control solenoid - circuit intermittent	Wiring, poor connection, TCC pressure control solenoid
P2761	Torque converter clutch (TCC) pressure control solenoid - open circuit	Wiring, TCC pressure control solenoid
P2762	Torque converter clutch (TCC) pressure control solenoid - range/performance problem	Wiring, TCC pressure control solenoid
P2763	Torque converter clutch (TCC) pressure control solenoid - circuit high	Wiring short to positive, TCC pressure control solenoid
P2764	Torque converter clutch (TCC) pressure control solenoid - circuit low	Wiring short to earth, TCC pressure control solenoid
P2765	Transmission input shaft speed sensor/turbine shaft speed (TSS) sensor B - circuit malfunction	Wiring, transmission input shaft speed sensor/TSS sensor
P2766	Transmission input shaft speed sensor/turbine shaft speed (TSS) sensor B - range/performance problem	Wiring, transmission input shaft speed sensor/TSS sensor
P2767	Transmission input shaft speed sensor/turbine shaft speed (TSS) sensor B - no signal	Wiring, transmission input shaft speed sensor/TSS sensor
P2768	Transmission input shaft speed sensor/turbine shaft speed (TSS) sensor B - circuit intermittent	Wiring, poor connection, transmission input shaft speed sensor/TSS sensor
P2769	Torque converter clutch (TCC) - circuit low	Wiring short to earth, TCC
P2770	Torque converter clutch (TCC) - circuit high	Wiring short to positive, TCC
P2771	Four wheel drive, low gear ratio switch - circuit malfunction	Wiring, low gear ratio switch
P2772	Four wheel drive, low gear ratio switch - range/performance problem	Wiring, low gear ratio switch
P2773	Four wheel drive, low gear ratio switch - circuit low	Wiring short to earth, low gear ratio switch
P2774	Four wheel drive, low gear ratio switch - circuit high	Wiring short to positive, low gear ratio switch
P2775	Transmission gear selection switch, upshift - range/performance problem	Wiring, transmission gear selection switch
P2776	Transmission gear selection switch, upshift - circuit low	Wiring short to earth, transmission gear selection switch
P2777	Transmission gear selection switch, upshift - circuit high	Wiring short to positive, transmission gear selection switch
P2778	Transmission gear selection switch, upshift - circuit intermittent/erratic	Wiring, poor connection, transmission gear selection switch
P2779	Transmission gear selection switch, downshift - range/performance problem	Wiring, transmission gear selection switch
P2780	Transmission gear selection switch, downshift - circuit low	Wiring short to earth, transmission gear selection switch
P2781	Transmission gear selection switch, downshift - circuit high	Wiring short to positive, transmission gear selection switch
P2782	Transmission gear selection switch, downshift - circuit intermittent/erratic	Wiring, poor connection, transmission gear selection switch
P2783	Torque converter - temperature too high	Transmission fluid level low, transmission mechanical fault, TCC slipping
P2784	Transmission input shaft speed sensor/turbine shaft speed (TSS) sensor A/B - correlation	Wiring, transmission input shaft speed sensor/TSS sensor

P2785	Clutch actuator - temperature too high	-
P2786	Gear shift actuator - temperature too high	-
P2787	Clutch - temperature too high	Clutch slipping
P2788	Auto shift manual (ASM) transmission, adaptive learning - at limit	-
P2789	Clutch, adaptive learning - at limit	-
P278A	Transmission kick-down switch - circuit malfunction	Wiring, transmission kick-down switch, TCM, ECM
P278B	Transmission kick-down switch - circuit range/performance	Wiring, transmission kick-down switch, TCM, ECM
P278C	Transmission kick-down switch - circuit low	Wiring, transmission kick-down switch, TCM, ECM
P278D	Transmission kick-down switch - circuit high	Wiring, transmission kick-down switch, TCM, ECM
P278E	Transmission kick-down switch - circuit intermittent/erratic	Wiring, transmission kick-down switch, TCM, ECM
P278F	Clutch B - adaptive learning at limit	-
P2790	Gate select direction - circuit malfunction	Wiring
P2791	Gate select direction - circuit low	Wiring short to earth
P2792	Gate select direction - circuit high	Wiring short to positive
P2793	Gear shift direction - circuit malfunction	Wiring
P2794	Gear shift direction - circuit low	Wiring short to earth
P2795	Gear shift direction - circuit high	Wiring short to positive
P2796	Auxiliary transmission fluid pump control - open circuit	Wiring, auxiliary transmission fluid pump control, TCM, ECM
P2797	Auxiliary transmission fluid pump - performance problem	Wiring, auxiliary transmission fluid pump
P2798	Auxiliary transmission fluid pump control - circuit low	Wiring, auxiliary transmission fluid pump control, TCM, ECM
P2799	Auxiliary transmission fluid pump control - circuit high	Wiring, auxiliary transmission fluid pump control, TCM, ECM
P279A	Transfer box high gear - incorrect ratio	-
P279B	Transfer box low gear - incorrect ratio	-
P279C	Transfer box neutral gear - incorrect ratio	-
P279D	Four wheel drive control - signal malfunction	-
P279E	Four wheel drive control - control circuit range/performance	-
P279F	Four wheel drive control - signal low	-
P27A0	Four wheel drive control - signal high	-
P2800	Transmission range (TR) sensor B - PRNDL input	Wiring, TR sensor, TCM
P2801	Transmission range (TR) sensor B - circuit range/performance	Wiring, TR sensor, TCM
P2802	Transmission range (TR) sensor B - circuit low	Wiring, TR sensor, TCM
P2803	Transmission range (TR) sensor B - circuit high	Wiring, TR sensor, TCM
P2804	Transmission range (TR) sensor B - circuit intermittent	Wiring, TR sensor, TCM
P2805	Transmission range (TR) sensor A/B - correlation	Wiring, TR sensor, TCM

P2806	Transmission range (TR) sensor - TR sensor misaligned	Wiring, TR sensor, TCM
P2807	Transmission fluid pressure (TFP) solenoid G	-
P2808	Transmission fluid pressure (TFP) solenoid G - performance problem or solenoid stuck off	Wiring, TFP solenoid, transmission mechanical fault, ECM
P2809	Transmission fluid pressure (TFP) solenoid G - solenoid stuck on	Wiring, TFP solenoid, transmission mechanical fault, ECM
P280A	Transmission range (TR) sensor A - calibration not learned	-
P280B	Transmission range (TR) sensor B - calibration not learned	-
P2810	Transmission fluid pressure (TFP) solenoid G - electrical	Wiring, TFP solenoid, ECM
P2811	Transmission fluid pressure (TFP) solenoid G - intermittent	Wiring, TFP solenoid, ECM
P2812	Transmission fluid pressure (TFP) solenoid G - control circuit open	Wiring, TFP solenoid, ECM
P2813	Transmission fluid pressure (TFP) solenoid G - control circuit range/performance	Wiring, TFP solenoid, ECM
P2814	Transmission fluid pressure (TFP) solenoid G - control circuit low	Wiring, TFP solenoid, ECM
P2815	Transmission fluid pressure (TFP) solenoid G - control circuit high	Wiring, TFP solenoid, ECM
P2816	Transmission fluid pressure (TFP) solenoid H	-
P2817	Transmission fluid pressure (TFP) solenoid H - performance or stuck off	Wiring, TFP solenoid, transmission mechanical fault, ECM
P2818	Transmission fluid pressure (TFP) solenoid H - solenoid stuck on	Wiring, TFP solenoid, transmission mechanical fault, ECM
P2819	Transmission fluid pressure (TFP) solenoid H - electrical	Wiring, TFP solenoid, ECM
P281A	Transmission fluid pressure (TFP) solenoid H - intermittent	Wiring, TFP solenoid, ECM
P281B	Transmission fluid pressure (TFP) solenoid H - control circuit open	Wiring, TFP solenoid, ECM
P281C	Transmission fluid pressure (TFP) solenoid H - control circuit range/performance	Wiring, TFP solenoid, ECM
P281D	Transmission fluid pressure (TFP) solenoid H - control circuit low	Wiring, TFP solenoid, ECM
P281E	Transmission fluid pressure (TFP) solenoid H - control circuit high	Wiring, TFP solenoid, ECM
P281F	Transmission fluid pressure (TFP) solenoid J - malfunction	Wiring, TFP solenoid, ECM
P2820	Transmission fluid pressure (TFP) solenoid J - performance or stuck off	Wiring, TFP solenoid, transmission mechanical fault, ECM
P2821	Transmission fluid pressure (TFP) solenoid J - solenoid stuck on	Wiring, TFP solenoid, transmission mechanical fault, ECM
P2822	Transmission fluid pressure (TFP) solenoid J - electrical	Wiring, TFP solenoid, ECM
P2823	Transmission fluid pressure (TFP) solenoid J - intermittent	Wiring, TFP solenoid, ECM

P2824	Transmission fluid pressure (TFP) solenoid J - control circuit open	Wiring, TFP solenoid, ECM
P2825	Transmission fluid pressure (TFP) solenoid J - control circuit range/performance	Wiring, TFP solenoid, ECM
P2826	Transmission fluid pressure (TFP) solenoid J - control circuit low	Wiring, TFP solenoid, ECM
P2827	Transmission fluid pressure (TFP) solenoid J - control circuit high	Wiring, TFP solenoid, ECM
P2828	Transmission fluid pressure (TFP) solenoid K	-
P2829	Transmission fluid pressure (TFP) solenoid K - performance or stuck off	Wiring, TFP solenoid, transmission mechanical fault, ECM
P282A	Transmission fluid pressure (TFP) solenoid K - solenoid stuck on	Wiring, TFP solenoid, transmission mechanical fault, ECM
P282B	Transmission fluid pressure (TFP) solenoid K - electrical	Wiring, TFP solenoid, ECM
P282C	Transmission fluid pressure (TFP) solenoid K - intermittent	Wiring, TFP solenoid, ECM
P282D	Transmission fluid pressure (TFP) solenoid K - control circuit open	Wiring, TFP solenoid, ECM
P282E	Transmission fluid pressure (TFP) solenoid K - control circuit range/performance	Wiring, TFP solenoid, ECM
P282F	Transmission fluid pressure (TFP) solenoid K - control circuit low	Wiring, TFP solenoid, ECM
P2830	Transmission fluid pressure (TFP) solenoid K - control circuit high	Wiring, TFP solenoid, ECM
P2831	Transmission shift fork A position - circuit malfunction	-
P2832	Transmission shift fork A position - circuit range/performance	-
P2833	Transmission shift fork A position - signal low	-
P2834	Transmission shift fork A position - signal high	-
P2835	Transmission shift fork A position - intermittent signal	-
P2836	Transmission shift fork B position - circuit malfunction	-
P2837	Transmission shift fork B position - circuit range/performance	-
P2838	Transmission shift fork B position - signal low	-
P2839	Transmission shift fork B position - signal high	-
P283A	Transmission shift fork B position - intermittent signal	-
P283B	Transmission shift fork C position - circuit malfunction	-
P283C	Transmission shift fork C position - circuit range/performance	-
P283D	Transmission shift fork C position - signal low	-
P283E	Transmission shift fork C position - signal high	-
P283F	Transmission shift fork C position - intermittent signal	-
P2840	Transmission shift fork D position - circuit malfunction	-
P2841	Transmission shift fork D position - circuit range/performance	-
P2842	Transmission shift fork D position - signal low	-
P2843	Transmission shift fork D position - signal high	-

P2844	Transmission shift fork D position - intermittent signal	-
P2845	Transmission shift fork A position sensor - incorrect neutral position indicated	-
P2846	Transmission shift fork B position sensor - incorrect neutral position indicated	-
P2847	Transmission shift fork C position sensor - incorrect neutral position indicated	-
P2848	Transmission shift fork D position sensor - incorrect neutral position indicated	-
P2849	Transmission shift fork A - shift fork stuck	-
P284A	Transmission shift fork B - shift fork stuck	-
P284B	Transmission shift fork C - shift fork stuck	-
P284C	Transmission shift fork D - shift fork stuck	-
P284D	Transmission shift fork A - unrequested movement	-
P284E	Transmission shift fork B - unrequested movement	-
P284F	Transmission shift fork C - unrequested movement	-
P2850	Transmission shift fork D - unrequested movement	-
P2851	Transmission shift fork position sensor - A/B correlation	-
P2852	Transmission shift fork position sensor - C/D correlation	-
P2853	Clutch A - pressure discharge performance	-
P2854	Clutch B - pressure discharge performance	-
P2855	Clutch A - pressure charge performance	-
P2856	Clutch B - pressure charge performance	-
P2857	Clutch A - pressure engagement performance	-
P2858	Clutch B - pressure engagement performance	-
P2859	Clutch A - pressure disengagement performance	-
P285A	Clutch B - pressure disengagement performance	-
P285B	Transmission shift fork actuator A - open circuit	Wiring, transmission shift fork actuator
P285C	Transmission shift fork actuator A - circuit performance	Wiring, transmission shift fork actuator
P285D	Transmission shift fork actuator A - circuit low	Wiring, transmission shift fork actuator
P285E	Transmission shift fork actuator A - circuit high	Wiring, transmission shift fork actuator
P285F	Transmission shift fork actuator B - open circuit	Wiring, transmission shift fork actuator
P2860	Transmission shift fork actuator B - circuit performance	Wiring, transmission shift fork actuator
P2861	Transmission shift fork actuator B - circuit low	Wiring, transmission shift fork actuator
P2862	Transmission shift fork actuator B - circuit high	Wiring, transmission shift fork actuator
P2A00	Heated oxygen sensor (HO2S) 1, bank 1 - circuit range/performance	Wiring, HO2S, ECM
P2A01	Heated oxygen sensor (HO2S) 2, bank 1 - circuit range/performance	Wiring, HO2S, ECM
P2A02	Heated oxygen sensor (HO2S) 3, bank 1 - circuit range/performance	Wiring, HO2S, ECM
P2A03	Heated oxygen sensor (HO2S) 1, bank 2 - circuit range/performance	Wiring, HO2S, ECM

P2A04	Heated oxygen sensor (HO2S) 2, bank 2 - circuit range/performance	Wiring, HO2S, ECM
P2A05	Heated oxygen sensor (HO2S) 3, bank 2 - circuit range/performance	Wiring, HO2S, ECM
P2A06	Heated oxygen sensor (HO2S) 1, bank 1 - circuit negative voltage	Wiring, HO2S, ECM
P2A07	Heated oxygen sensor (HO2S) 2, bank 1 - circuit negative voltage	Wiring, HO2S, ECM
P2A08	Heated oxygen sensor (HO2S) 3, bank 1 - circuit negative voltage	Wiring, HO2S, ECM
P2A09	Heated oxygen sensor (HO2S) 1, bank 2 - circuit negative voltage	Wiring, HO2S, ECM
P2A10	Heated oxygen sensor (HO2S) 2, bank 2 - circuit negative voltage	Wiring, HO2S, ECM
P2A11	Heated oxygen sensor (HO2S) 3, bank 2 - circuit negative voltage	Wiring, HO2S, ECM
P2BA7	Nitrogen oxides (NOx), limit exceeded - reductant tank empty	Wiring, NOx sensor, ECM
P2BA8	Nitrogen oxides (NOx), limit exceeded - interruption of reductant metering	Wiring, NOx sensor, ECM
P2BA9	Nitrogen oxides (NOx), limit exceeded - insufficient reductant quality	Wiring, NOx sensor, ECM
P2BAA	Nitrogen oxides (NOx), limit exceeded - low reductant consumption	Wiring, NOx sensor, ECM
P2BAB	Nitrogen oxides (NOx), limit exceeded - incorrect EGR flow	Wiring, NOx sensor, EGR valve/EGR valve actuator, ECM
P2BAC	Nitrogen oxides (NOx), limit exceeded - EGR deactivated	Wiring, NOx sensor, EGR valve/EGR valve actuator, ECM
P2BAD	Nitrogen oxides (NOx), limit exceeded - cause unknown	-
P2BAE	Nitrogen oxides (NOx), limit exceeded - NOx control monitoring	Wiring, NOx sensor, ECM

EOBD code	Fault location	Probable cause
P0000	No fault found	-
P0001	Fuel volume regulator control - open circuit	Wiring, regulator control solenoid
P0002	Fuel volume regulator control - circuit range/performance	Wiring, regulator control solenoid
P0003	Fuel volume regulator control - circuit low	Wiring short to earth, regulator control solenoid
P0004	Fuel volume regulator control - circuit high	Wiring open circuit/short to positive, regulator control solenoid
P0005	Fuel shut-off valve - open circuit	Wiring open circuit, fuel shut-off valve
P0006	Fuel shut-off valve - circuit low	Wiring short to earth, fuel shut-off valve
P0007	Fuel shut-off valve - circuit high	Wiring short to positive, fuel shut-off valve
P0008	Engine position system, bank 1 - engine performance	Mechanical fault
P0009	Engine position system, bank 2 - engine performance	Mechanical fault
P000A	Intake camshaft position A, bank 1 - slow response	Wiring, mechanical fault, ECM
P000B	Exhaust camshaft position B, bank 1 - slow response	Wiring, mechanical fault, ECM

P000C	Intake camshaft position A, bank 2 - slow response	Wiring, mechanical fault, ECM
P000D	Exhaust camshaft position B, bank 2 - slow response	Wiring, mechanical fault, ECM
P000E	Fuel quantity adjuster control - learning limit exceeded	Wiring, fuel quantity adjuster, injectors, ECM
P000F	Fuel system over pressure relief valve activated	Wiring, mechanical fault, ECM
P0010	Camshaft position (CMP) actuator, intake/left/front, bank 1 - circuit malfunction	Wiring, CMP actuator, ECM
P0011	Camshaft position (CMP), intake/left/front, bank 1 - timing over-advanced/system performance	Valve timing, engine mechanical fault, CMP actuator
P0012	Camshaft position (CMP), intake/left/front, bank 1 - timing over-retarded	Valve timing, engine mechanical fault, CMP actuator
P0013	Camshaft position (CMP) actuator, intake/left/front, bank 1 - circuit malfunction	Wiring, CMP actuator, ECM
P0014	Camshaft position (CMP) actuator, exhaust/right/rear, bank 1 - timing over-advanced/system performance	Valve timing, engine mechanical fault, CMP actuator
P0015	Camshaft position (CMP) actuator, exhaust/right/rear, bank 1 - timing over-retarded	Valve timing, engine mechanical fault, CMP actuator
P0016	Crankshaft position/camshaft position, bank 1 sensor A - correlation	Wiring, CKP sensor, CMP sensor, mechanical fault
P0017	Crankshaft position/camshaft position, bank 1 sensor B - correlation	Wiring, CKP sensor, CMP sensor, mechanical fault
P0018	Crankshaft position/camshaft position, bank 2 sensor A - correlation	Wiring, CKP sensor, CMP sensor, mechanical fault
P0019	Crankshaft position/camshaft position, bank 2 sensor B - correlation	Wiring, CKP sensor, CMP sensor, mechanical fault
P001A	Intake camshaft profile control A, bank 1 - open circuit	Wiring, mechanical fault, ECM
P001B	Intake camshaft profile control A, bank 1 - circuit low	Wiring, ECM
P001C	Intake camshaft profile control A - bank 1 - circuit high	Wiring, mechanical fault, ECM
P001D	Intake camshaft profile control A, bank 2 - open circuit	Wiring, mechanical fault, ECM
P001E	Intake camshaft profile control A, bank 2 - circuit low	Wiring, mechanical fault, ECM
P001F	Intake camshaft profile control A, bank 2 - circuit high	Wiring, ECM
P0020	Camshaft position (CMP) actuator, intake/left/front, bank 2 - circuit malfunction	Wiring, CMP actuator, ECM
P0021	Camshaft position (CMP), intake/left/front, bank 2 - timing over-advanced/system performance	Valve timing, engine mechanical fault, CMP actuator
P0022	Camshaft position (CMP), intake/left/front, bank 2 - timing over-retarded	Valve timing, engine mechanical fault, CMP actuator
P0023	Camshaft position (CMP) actuator, exhaust/right/rear, bank 2 - circuit malfunction	Wiring, CMP actuator, ECM
P0024	Camshaft position (CMP), exhaust/right/rear, bank 2 - timing over-advanced/system performance	Valve timing, engine mechanical fault, CMP actuator
P0025	Camshaft position (CMP), exhaust/right/rear, bank 2 - timing over-retarded	Valve timing, engine mechanical fault, CMP actuator
P0026	Intake valve control solenoid, bank 1 - range/performance problem	Wiring, intake valve control solenoid
P0027	Exhaust valve control solenoid, bank 1 - range/performance problem	Wiring, exhaust valve control solenoid

P0028	Intake valve control solenoid, bank 2 - range/performance problem	Wiring, intake valve control solenoid
P0029	Exhaust valve control solenoid, bank 2 - range/performance problem	Wiring, exhaust valve control solenoid
P002A	Exhaust camshaft profile control B, bank 1 - open circuit	Wiring, ECM
P002B	Exhaust camshaft profile control B, bank 1 - circuit low	Wiring, ECM
P002C	Exhaust camshaft profile control B, bank 1 - circuit high	Wiring, mechanical fault, ECM
P002D	Exhaust camshaft profile control B, bank 2 - open circuit	Wiring, mechanical fault, ECM
P002E	Exhaust camshaft profile control B, bank 2 - circuit low	Wiring, mechanical fault, ECM
P002F	Exhaust camshaft profile control B, bank 2 - circuit high	Wiring, mechanical fault, ECM
P0030	Heated oxygen sensor (HO2S) 1, bank 1, heater control - circuit malfunction	Wiring, HO2S, ECM
P0031	Heated oxygen sensor (HO2S) 1, bank 1, heater control - circuit low	Wiring short to earth, HO2S, ECM
P0032	Heated oxygen sensor (HO2S) 1, bank 1, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0033	Turbocharger (TC) bypass valve - circuit malfunction	Wiring, TC wastegate regulating valve, ECM
P0034	Turbocharger (TC) bypass valve - circuit low	Wiring short to earth, TC wastegate regulating valve, ECM
P0035	Turbocharger (TC) bypass valve - circuit high	Wiring short to positive, TC wastegate regulating valve, ECM
P0036	Heated oxygen sensor (HO2S) 2, bank 1, heater control - circuit malfunction	Wiring, HO2S, ECM
P0037	Heated oxygen sensor (HO2S) 2, bank 1, heater control - circuit low	Wiring short to earth, HO2S, ECM
P0038	Heated oxygen sensor (HO2S) 2, bank 1, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0039	Turbocharger (TC) bypass valve/supercharger (SC) bypass valve, control - range/performance problem	Wiring, bypass valve
P003A	Turbocharger (TC)/supercharger (SC) boost pressure control A - learning limit exceeded	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P003B	Turbocharger (TC)/supercharger (SC) boost pressure control B - learning limit exceeded	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P003C	Intake camshaft profile control A, bank 1 - performance or stuck off	Wiring, mechanical fault, ECM
P003D	Intake camshaft profile control A, bank 1 - stuck on	Wiring, mechanical fault, ECM
P003E	Intake camshaft profile control A, bank 2 - performance problem or stuck off	Wiring, mechanical fault, ECM
P003F	Intake camshaft profile control A, bank 2 - stuck on	Wiring, mechanical fault, ECM
P0040	Oxygen sensor signals swapped, bank 1 sensor 1/bank 2 sensor 1	Wiring
P0041	Oxygen sensor signals swapped, bank 1 sensor 2/bank 2 sensor 2	Wiring

P0042	Heated oxygen sensor (HO2S) 3, bank 1, heater control - circuit malfunction	Wiring, HO2S, ECM
P0043	Heated oxygen sensor (HO2S) 3, bank 1, heater control - circuit low	Wiring short to earth, HO2S, ECM
P0044	Heated oxygen sensor (HO2S) 3, bank 1, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0045	Turbocharger (TC) boost control solenoid/supercharger (SC) boost control solenoid - open circuit	Wiring, TC/SC boost control solenoid
P0046	Turbocharger (TC) boost control solenoid/supercharger (SC) boost control solenoid - circuit range/performance	Wiring, TC/SC boost control solenoid, mechanical fault
P0047	Turbocharger (TC) boost control solenoid/supercharger (SC) boost control solenoid - circuit low	Wiring short to earth, TC/SC boost control solenoid
P0048	Turbocharger (TC) boost control solenoid/supercharger (SC) boost control solenoid - circuit high	Wiring short to positive, TC/SC boost control solenoid
P0049	Turbocharger (TC)/supercharger (SC) turbine - over-speed	Mechanical fault
P004A	Turbocharger (TC)/supercharger (SC) boost pressure control B - open circuit	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P004B	Turbocharger (TC)/supercharger (SC) boost pressure control B - circuit range/performance	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P004C	Turbocharger (TC)/supercharger (SC) boost pressure control B - circuit low	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P004D	Turbocharger (TC)/supercharger (SC) boost pressure control B - circuit high	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P004E	Turbocharger (TC)/supercharger (SC) boost pressure control A - circuit intermittent/erratic	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P004F	Turbocharger (TC)/supercharger (SC) boost pressure control B - circuit intermittent/erratic	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P0050	Heated oxygen sensor (HO2S) 1, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0051	Heated oxygen sensor (HO2S) 1, bank 2, heater control - circuit low	Wiring short to earth, HO2S, ECM
P0052	Heated oxygen sensor (HO2S) 1, bank 2, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0053	Heated oxygen sensor (HO2S), bank 1, sensor 1 - heater resistance	Wiring, HO2S
P0054	Heated oxygen sensor (HO2S), bank 1, sensor 2 - heater resistance	Wiring, HO2S
P0055	Heated oxygen sensor (HO2S), bank 1, sensor 3 - heater resistance	Wiring, HO2S
P0056	Heated oxygen sensor (HO2S) 2, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0057	Heated oxygen sensor (HO2S) 2, bank 2, heater control - heater circuit low	Wiring short to earth, HO2S, ECM
P0058	Heated oxygen sensor (HO2S) 2, bank 2, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0059	Heated oxygen sensor (HO2S), bank 2, sensor 1 - heater resistance	Wiring, HO2S

P005A	Exhaust camshaft profile control B, bank 1 - performance or stuck off	Wiring, mechanical fault, ECM
P005B	Exhaust camshaft profile control B, bank 1 - stuck on	Wiring, mechanical fault, ECM
P005C	Exhaust camshaft profile control B, bank 2 - performance or stuck off	Wiring, mechanical fault, ECM
P005D	Exhaust camshaft profile control B, bank 2 - stuck on	Wiring, mechanical fault, ECM
P005E	Turbocharger (TC)/supercharger (SC) boost pressure control B - supply voltage low	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P005F	Turbocharger (TC)/supercharger (SC) boost pressure control B - supply voltage high	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P0060	Heated oxygen sensor (HO2S), bank 2, sensor 2 - heater resistance	Wiring, HO2S
P0061	Heated oxygen sensor (HO2S), bank 2, sensor 3 - heater resistance	Wiring, HO2S
P0062	Heated oxygen sensor (HO2S) 3, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0063	Heated oxygen sensor (HO2S) 3, bank 2, heater control - circuit low	Wiring short to earth, HO2S, ECM
P0064	Heated oxygen sensor (HO2S) 3, bank 2, heater control - circuit high	Wiring short to positive, HO2S, ECM
P0065	Air assisted injector - range/performance problem	Air assisted injector
P0066	Air assisted injector - circuit malfunction/circuit low	Wiring short to earth, air assisted injector, ECM
P0067	Air assisted injector - circuit high	Wiring short to positive, air assisted injector, ECM
P0068	Manifold absolute pressure (MAP) sensor/mass air flow (MAF) sensor - throttle position correlation	Wiring, MAP sensor, MAF sensor, mechanical fault
P0069	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - correlation	MAP sensor, mechanical fault
P006A	MAP sensor/MAF or VAF sensor bank 1 - correlation	Wiring, MAP sensor, MAF sensor, VAF sensor, ECM
P006B	Manifold absolute pressure (MAP) sensor/exhaust pressure - correlation	Wiring, MAP sensor, exhaust gas pressure sensor, ECM
P006C	MAP sensor/turbocharger (TC)/supercharger (SC) boost pressure sensor - correlation	Wiring, TC/SC boost pressure sensor, ECM
P006D	Barometric pressure (BARO)/turbocharger (TC)/supercharger (SC) intake pressure - correlation	Wiring, BARO sensor, TC/SC intake pressure sensor, mechanical fault, ECM
P006E	Turbocharger (TC)/supercharger (SC) boost pressure control A - supply voltage low	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P006F	Turbocharger (TC)/supercharger (SC) boost pressure control A - supply voltage high	Wiring, TC/SC boost control solenoid, TC/SC boost pressure actuator, ECM
P0070	Outside air temperature sensor - circuit malfunction	Wiring, outside air temperature sensor, ECM
P0071	Outside air temperature sensor - range/performance problem	Outside air temperature sensor
P0072	Outside air temperature sensor - low input	Wiring short to earth, outside air temperature sensor, ECM
P0073	Outside air temperature sensor - high input	Wiring short to positive, outside air temperature sensor, ECM
P0074	Outside air temperature sensor - circuit intermittent	Wiring, poor connection, outside air temperature sensor, ECM

P0075	Intake valve control solenoid, bank 1 - circuit malfunction	Wiring, intake valve control solenoid, ECM
P0076	Intake valve control solenoid, bank 1 - circuit low	Wiring short to earth, intake valve control solenoid, ECM
P0077	Intake valve control solenoid, bank 1 - circuit high	Wiring short to positive, intake valve control solenoid, ECM
P0078	Exhaust valve control solenoid, bank 1 - circuit malfunction	Wiring, exhaust valve control solenoid, ECM
P0079	Exhaust valve control solenoid, bank 1 - circuit low	Wiring short to earth, exhaust valve control solenoid, ECM
P007A	Turbocharger (TC) intercooler temperature sensor, bank 1 - circuit malfunction	Wiring, TC intercooler temperature sensor, ECM
P007B	Turbocharger (TC) intercooler temperature sensor, bank 1 - circuit range/performance	Wiring, TC intercooler temperature sensor, ECM
P007C	Turbocharger (TC) intercooler temperature sensor, bank 1 - circuit low	Wiring, TC intercooler temperature sensor, ECM
P007D	Turbocharger (TC) intercooler temperature sensor, bank 1 - circuit high	Wiring, TC intercooler temperature sensor, ECM
P007E	Turbocharger (TC) intercooler temperature sensor, bank 1 - circuit intermittent/erratic	Wiring, TC intercooler temperature sensor, ECM
P007F	Turbocharger (TC) intercooler temperature sensor, bank 1/2 - correlation	Wiring, TC intercooler temperature sensor, ECM
P0080	Exhaust valve control solenoid, bank 1 - circuit high	Wiring short to positive, exhaust valve control solenoid, ECM
P0081	Intake valve control solenoid, bank 2 - circuit malfunction	Wiring, intake valve control solenoid, ECM
P0082	Intake valve control solenoid, bank 2 - circuit low	Wiring short to earth, intake valve control solenoid, ECM
P0083	Intake valve control solenoid, bank 2 - circuit high	Wiring short to positive, intake valve control solenoid, ECM
P0084	Exhaust valve control solenoid, bank 2 - circuit malfunction	Wiring, exhaust valve control solenoid, ECM
P0085	Exhaust valve control solenoid, bank 2 - circuit low	Wiring short to earth, exhaust valve control solenoid, ECM
P0086	Exhaust valve control solenoid, bank 2 - circuit high	Wiring short to positive, exhaust valve control solenoid, ECM
P0087	Fuel rail/system pressure too low	Fuel pump, fuel pressure regulator, fuel supply pipe blockage, mechanical fault
P0088	Fuel rail/system pressure too high	Fuel pump, fuel pressure regulator, fuel return pipe blockage, mechanical fault
P0089	Fuel pressure regulator 1 - performance problem	Fuel pressure regulator, mechanical fault
P008A	Low pressure fuel system - pressure too low	Wiring, fuel pump (FP), restricted fuel supply, fuel pressure control valve
P008B	Low pressure fuel system - pressure too high	Fuel pressure relief valve
P008C	Fuel cooling pump motor control - open circuit	Wiring, fuel cooling pump motor, ECM
P008D	Fuel cooling pump motor - circuit low	Wiring, fuel cooling pump motor, ECM
P008E	Fuel cooling pump motor - control circuit high	Wiring, fuel cooling pump motor, ECM
P008F	Engine coolant temperature (ECT)/fuel temperature - correlation	Wiring, ECT sensor, fuel temperature sensor, ECM
P0090	Fuel pressure regulator 1 - open circuit	Wiring open circuit, fuel metering solenoid, ECM

P0091	Fuel pressure regulator 1 - short to earth	Wiring short to earth, fuel metering solenoid, ECM
P0092	Fuel pressure regulator 1 - short to positive	Wiring short to positive, fuel metering solenoid, ECM
P0093	Fuel system leak - large leak detected	Wiring, fuel pressure sensor, mechanical fault
P0094	Fuel system leak - small leak detected	Wiring, fuel pressure sensor, mechanical fault
P0095	Intake air temperature (IAT) sensor 2 - circuit malfunction	Wiring, poor connection, IAT sensor, ECM
P0096	Intake air temperature (IAT) sensor 2 - circuit range/performance	Wiring, poor connection, IAT sensor, ECM
P0097	Intake air temperature (IAT) sensor 2 - circuit low input	Wiring short to earth, IAT sensor, ECM
P0098	Intake air temperature (IAT) sensor 2 - circuit high input	Wiring short to positive, IAT sensor, ECM
P0099	Intake air temperature (IAT) sensor 2 - circuit intermittent/erratic	Wiring, poor connection, IAT sensor, ECM
P009A	Intake air temperature (IAT)/outside air temperature - correlation	Wiring, IAT sensor, outside air temperature sensor, ECM
P009B	Fuel pressure relief system - control circuit open	Wiring, fuel pressure relief valve, ECM
P009C	Fuel pressure relief system - control circuit low	Wiring, fuel pressure relief valve, ECM
P009D	Fuel pressure relief system - control circuit high	Wiring, fuel pressure regulator control solenoid, ECM
P009E	Fuel pressure relief system - performance problem or stuck off	Wiring, fuel pressure relief valve, mechanical fault, ECM
P009F	Fuel pressure relief system - valve stuck	Wiring, fuel pressure relief valve, ECM
P00A0	Turbocharger (TC) intercooler temperature sensor, bank 2 - circuit malfunction	Wiring, TC intercooler temperature sensor, ECM
P00A1	Turbocharger (TC) intercooler temperature sensor, bank 2 - circuit range/performance	Wiring, TC intercooler temperature sensor, ECM
P00A2	Turbocharger (TC) intercooler temperature sensor bank 2 - circuit low	Wiring, TC intercooler temperature sensor, ECM
P00A3	Turbocharger (TC) intercooler temperature sensor, bank 2 - circuit high	Wiring, TC intercooler temperature sensor, ECM
P00A4	Turbocharger (TC) intercooler temperature sensor - circuit intermittent/erratic, bank 2	Wiring, TC intercooler temperature sensor, ECM
P00A5	Intake air temperature (IAT) sensor 2, bank 2 - circuit malfunction	Wiring, IAT sensor, ECM
P00A6	Intake air temperature (IAT) sensor 2, bank 2 - circuit range/performance	Wiring, IAT sensor, ECM
P00A7	Intake air temperature (IAT) sensor 2, bank 2 - circuit low	Wiring, IAT sensor, ECM
P00A8	Intake air temperature (IAT) sensor 2, bank 2 - circuit high	Wiring, IAT sensor, ECM
P00A9	Intake air temperature (IAT) sensor 2, bank 2 - circuit intermittent/erratic	Wiring, IAT sensor, ECM
P00AA	Intake air temperature (IAT) sensor 1, bank 2 - circuit malfunction	Wiring, IAT sensor, ECM
P00AB	Intake air temperature (IAT) sensor 1, bank 2 - circuit range/performance	Wiring, IAT sensor, ECM

P00AC	Intake air temperature (IAT) sensor 1, bank 2 - circuit low	Wiring, IAT sensor, ECM
P00AD	Intake air temperature (IAT) sensor 1, bank 2 - circuit high	Wiring, IAT sensor, ECM
P00AE	Intake air temperature (IAT) sensor 1, bank 2 - circuit intermittent/erratic	Wiring, IAT sensor, ECM
P00AF	Turbocharger (TC)/supercharger (SC) boost pressure control A - module performance	Wiring, ECM
P00B0	Turbocharger (TC)/supercharger (SC) boost pressure control B - module performance	ECM
P00B1	Radiator coolant temperature sensor - circuit malfunction	Wiring, radiator coolant temperature sensor, ECM
P00B2	Radiator coolant temperature sensor - circuit range/performance	Wiring, radiator coolant temperature sensor, ECM
P00B3	Radiator coolant temperature sensor - circuit low	Wiring, radiator coolant temperature sensor, ECM
P00B4	Radiator coolant temperature sensor - circuit high	Wiring, radiator coolant temperature sensor, ECM
P00B5	Radiator coolant temperature sensor - circuit intermittent/erratic	Wiring, radiator coolant temperature sensor, ECM
P00B6	Radiator coolant temperature/engine coolant temperature (ECT) - correlation	Wiring, radiator coolant temperature sensor, ECT sensor, ECM
P00B7	Engine coolant flow low - performance problem	Thermostat, radiator, engine coolant pump
P00B8	MAP sensor/MAF sensor or VAF sensor, bank 2 - correlation	Wiring, MAP sensor, MAF sensor, VAF sensor, hose blocked/leaking - ECM
P00B9	Fuel system pressure sensor - pressure too low	Wiring, low ambient temperature, fuel system pressure sensor
P00BA	Fuel pressure low - forced limited power mode	-
P00BB	Injector, insufficient flow detected - forced limited power mode	-
P00BC	Mass air flow (MAF) sensor A - circuit range/performance	Wiring, MAF sensor
P00BD	Mass air flow (MAF) sensor A - circuit range/performance	Wiring, MAF sensor
P00BE	Mass air flow (MAF) sensor B - circuit range/performance	Wiring, MAF sensor
P00BF	Mass air flow (MAF) sensor B - circuit range/performance	Wiring, MAF sensor
P00C0	Turbocharger (TC)/supercharger (SC) bypass valve B - control circuit	Wiring, TC/SC bypass valve
P00C1	Turbocharger (TC)/supercharger (SC) bypass valve B - circuit low	Wiring, TC/SC bypass valve
P00C2	Turbocharger (TC)/supercharger (SC) B - circuit high	Wiring, TC/SC bypass valve
P00C3	Turbocharger (TC)/supercharger (SC) B - circuit range/performance	Wiring, TC/SC bypass valve
P00C4	Turbocharger (TC)/supercharger (SC) bypass valve B - mechanical fault	-
P00C5	Turbocharger (TC)/supercharger (SC) B - turbine shaft over speed condition	-

P00C6	Fuel rail pressure (FRP) - engine cranking - pressure too low	Fuel level low, fuel leak/blockage, fuel pump (FP), injector(s)
P00C7	Intake air pressure measurement system - multiple sensor correlation	Wiring, ECM
P00C8	Fuel pressure regulator control solenoid - open circuit	Wiring, fuel pressure regulator control solenoid, ECM
P00C9	Fuel pressure regulator control solenoid - circuit low	Wiring, fuel pressure regulator control solenoid, ECM
P00CA	Fuel pressure regulator control solenoid - circuit high	Wiring, fuel pressure regulator control solenoid, ECM
P00CB	Fuel quantity adjuster - open circuit	Wiring, fuel quantity adjuster, ECM
P00CC	Fuel quantity adjuster - circuit low	Wiring, fuel quantity adjuster, ECM
P00CD	Fuel quantity adjuster - circuit high	Wiring, fuel quantity adjuster, ECM
P00CE	Intake air temperature (IAT) measurement system - multiple sensor correlation	Wiring, IAT sensor(s), ECM
P00CF	Barometric pressure (BARO) sensor/turbocharger (TC)/supercharger (SC) boost pressure sensor A - correlation	Wiring, BARO sensor, TC/SC boost pressure sensor, ECM
P00D0	Barometric pressure (BARO) sensor/turbocharger (TC)/supercharger (SC) boost pressure sensor B - correlation	Wiring, BARO sensor, TC/SC boost pressure sensor, ECM
P0100	Mass air flow (MAF) sensor/volume air flow (VAF) sensor - circuit malfunction	Wiring, MAF/VAF sensor, ECM
P0101	Mass air flow (MAF) sensor/volume air flow (VAF) sensor - range/performance problem	Intake leak/blockage, MAF/VAF sensor
P0102	Mass air flow (MAF) sensor/volume air flow (VAF) sensor - low input	Wiring short to earth, MAF/VAF sensor, ECM
P0103	Mass air flow (MAF) sensor/volume air flow (VAF) sensor - high input	Wiring short to positive, MAF/VAF sensor, ECM
P0104	Mass air flow (MAF) sensor/volume air flow (VAF) sensor - circuit intermittent	Wiring, poor connection, MAF/VAF sensor, ECM
P0105	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - circuit malfunction	Wiring, MAP sensor, BARO sensor, ECM
P0106	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - range/performance problem	Intake/exhaust leak, wiring, MAP sensor, BARO sensor
P0107	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - low input	Wiring short to earth, MAP sensor, BARO sensor, ECM
P0108	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - high input	Wiring short to positive, MAP sensor, BARO sensor, ECM
P0109	Manifold absolute pressure (MAP) sensor/barometric pressure (BARO) sensor - circuit intermittent	Wiring, poor connection, MAP sensor, BARO sensor, ECM
P010A	MAF sensor or VAF sensor B - circuit malfunction	Wiring, MAF sensor, VAF sensor, ECM
P010B	Exhaust gas recirculation (EGR) control module B - communication malfunction	Wiring, EGR control module, ECM
P010B	MAF sensor or VAF sensor B - circuit range/performance	Wiring, MAF sensor, VAF sensor, ECM
P010C	MAF sensor or VAF sensor B - circuit low	Wiring, MAF sensor, VAF sensor, ECM
P010D	MAF sensor or VAF sensor B - circuit high	Wiring, MAF sensor, VAF sensor, ECM

P010E	MAF sensor or VAF sensor B - circuit intermittent/erratic	Wiring, MAF sensor, VAF sensor, ECM
P010F	MAF sensor or VAF sensor A/B - correlation	Wiring, MAF sensor, VAF sensor, ECM
P0110	Intake air temperature (IAT) sensor - circuit malfunction	Wiring, IAT sensor, ECM
P0111	Intake air temperature (IAT) sensor - range/performance problem	IAT sensor
P0112	Intake air temperature (IAT) sensor - low input	Wiring short to earth, IAT sensor, ECM
P0113	Intake air temperature (IAT) sensor - high input	Wiring open circuit/short to positive, earth wire defective, IAT sensor, ECM
P0114	Intake air temperature (IAT) sensor - circuit intermittent	Wiring, poor connection, IAT sensor, ECM
P0115	Engine coolant temperature (ECT) sensor - circuit malfunction	Wiring, ECT sensor, ECM
P0116	Engine coolant temperature (ECT) sensor - range/performance problem	Coolant thermostat, poor connection, wiring, ECT sensor
P0117	Engine coolant temperature (ECT) sensor - low input	Coolant thermostat, wiring short to earth, ECT sensor
P0118	Engine coolant temperature (ECT) sensor - high input	Coolant thermostat, wiring open circuit/short to positive, earth wire defective, ECT sensor
P0119	Engine coolant temperature (ECT) sensor - circuit intermittent	Wiring, poor connection, ECT sensor, ECM
P011A	Engine coolant temperature (ECT) sensor 1/2 - correlation	Wiring, ECT sensor, ECM
P011B	Engine coolant temperature (ECT)/intake air temperature (IAT) - correlation	Wiring, ECT sensor, IAT sensor, ECM
P011C	Charge air temperature/intake air temperature (IAT), bank 1 - correlation	Wiring, IAT sensor, TC/SC boost air temperature sensor, ECM
P011D	Charge air temperature/intake air temperature (IAT), bank 2 - correlation	Wiring, IAT sensor, TC/SC boost air temperature sensor, ECM
P011E	Engine coolant temperature (ECT) sensor 1/outside air temperature sensor - correlation	Wiring, ECT sensor, outside air temperature sensor, ECM
P011F	Engine coolant temperature (ECT) sensor 2/outside air temperature sensor - correlation	Wiring, ECT sensor, outside air temperature sensor, ECM
P0120	Throttle position (TP) sensor A/accelerator pedal position (APP) sensor A - circuit malfunction	Wiring, TP/APP sensor, ECM
P0120	Throttle position (TP) switch A/accelerator pedal position (APP) switch A - circuit malfunction	Wiring, TP switch, APP switch, ECM
P0121	Throttle position (TP) sensor A/accelerator pedal position (APP) sensor A - range/performance problem	Accelerator cable adjustment, TP/APP sensor
P0121	Throttle position (TP) switch A/accelerator pedal position (APP) switch A - range/performance problem	Accelerator cable adjustment, TP switch, APP switch
P0122	Throttle position (TP) sensor A/accelerator pedal position (APP) sensor A - low input	Wiring short to earth, TP/APP sensor, ECM
P0122	Throttle position (TP) switch A/accelerator pedal position (APP) switch A - low input	Wiring short to earth, TP switch, APP switch, ECM
P0123	Throttle position (TP) sensor A/accelerator pedal position (APP) sensor A - high input	Wiring short to positive, TP/APP sensor, ECM
P0123	Throttle position (TP) switch A/accelerator pedal position (APP) switch A - high input	Wiring short to positive, TP switch, APP switch, ECM

P0124	Throttle position (TP) sensor A/accelerator pedal position (APP) sensor A - circuit intermittent	Wiring, poor connection, TP/APP sensor, ECM
P0124	Throttle position (TP) switch A/accelerator pedal position (APP) switch A - circuit intermittent	Wiring, poor connection, TP switch, APP switch, ECM
P0125	Insufficient coolant temperature for closed loop fuel control	Wiring, engine cooling system, coolant thermostat, ECT sensor
P0126	Insufficient coolant temperature for stable operation	Wiring, engine cooling system, coolant thermostat, ECT sensor
P0127	Intake air temperature too high	Wiring short to earth, IAT sensor 2, mechanical fault, ECM
P0128	Coolant thermostat - coolant temperature below thermostat regulating temperature	Mechanical fault
P0129	Barometric pressure too low	Wiring, BARO sensor, mechanical fault
P012A	Turbocharger (TC)/supercharger (SC) intake pressure sensor - circuit malfunction	Wiring, TC/SC intake pressure sensor, ECM
P012B	Turbocharger (TC)/supercharger (SC) intake pressure sensor - circuit range/performance	Wiring, TC/SC intake pressure sensor, ECM
P012C	Turbocharger (TC)/supercharger (SC) intake pressure sensor - circuit low	Wiring, TC/SC intake pressure sensor, ECM
P012D	Turbocharger (TC)/supercharger (SC) intake pressure sensor - circuit high	Wiring, TC/SC intake pressure sensor, ECM
P012E	Turbocharger (TC)/supercharger (SC) intake pressure sensor - circuit intermittent/erratic	Wiring, TC/SC intake pressure sensor, ECM
P0130	Heated oxygen sensor (HO2S) 1, bank 1 - circuit malfunction	Heating inoperative, poor connection, wiring, HO2S
P0130	Oxygen sensor (O2S) 1, bank 1 - circuit malfunction	Wiring, O2S, ECM
P0131	Heated oxygen sensor (HO2S) 1, bank 1 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P0131	Oxygen sensor (O2S) 1, bank 1 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM
P0132	Heated oxygen sensor (HO2S) 1, bank 1 - high voltage	Wiring short to positive, HO2S, ECM
P0132	Oxygen sensor (O2S) 1, bank 1 - high voltage	Wiring short to positive, O2S, ECM
P0133	Heated oxygen sensor (HO2S) 1, bank 1 - slow response	Heating inoperative, wiring, HO2S
P0133	Oxygen sensor (O2S) 1, bank 1 - slow response	Wiring, O2S
P0134	Heated oxygen sensor (HO2S) 1, bank 1 - no activity detected	Wiring open circuit, heating inoperative, HO2S
P0134	Oxygen sensor (O2S) 1, bank 1 - no activity detected	Wiring, O2S
P0135	Heated oxygen sensor (HO2S) 1, bank 1, heater control - circuit malfunction	Fuse, wiring, HO2S, ECM
P0136	Heated oxygen sensor (HO2S) 2, bank 1 - circuit malfunction	Heating inoperative, wiring, HO2S, ECM
P0136	Oxygen sensor (O2S) 2, bank 1 - circuit malfunction	Wiring, O2S, ECM
P0137	Heated oxygen sensor (HO2S) 2, bank 1 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P0137	Oxygen sensor (O2S) 2, bank 1 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM
P0138	Heated oxygen sensor (HO2S) 2, bank 1 - high voltage	Wiring short to positive, HO2S, ECM
P0138	Oxygen sensor (O2S) 2, bank 1 - high voltage	Wiring short to positive, O2S, ECM

P0139	Heated oxygen sensor (HO2S) 2, bank 1 - slow response	Heating inoperative, wiring, HO2S
P0139	Oxygen sensor (O2S) 2, bank 1 - slow response	Wiring, O2S
P013A	Heated oxygen sensor (HO2S) 2, bank 1 - slow response rich to lean	Wiring, HO2S, ECM
P013B	Heated oxygen sensor (HO2S) 2, bank 1 - slow response lean to rich	Wiring, HO2S, ECM
P013C	Heated oxygen sensor (HO2S) 2, bank 2 - slow response rich to lean	Wiring, HO2S, ECM
P013D	Heated oxygen sensor (HO2S) 2, bank 2 - slow response lean to rich	Wiring, HO2S, ECM
P013E	Heated oxygen sensor (HO2S) 2, bank 1 - delayed response rich to lean	Wiring, HO2S, ECM
P013F	Heated oxygen sensor (HO2S) 2, bank 1 - delayed response lean to rich	Wiring, HO2S, ECM
P0140	Heated oxygen sensor (HO2S) 2, bank 1 - no activity detected	Wiring, heating inoperative, HO2S, ECM
P0140	Oxygen sensor (O2S) 2, bank 1 - no activity detected	Wiring, O2S, ECM
P0141	Heated oxygen sensor (HO2S) 2, bank 1, heater control - circuit malfunction	Wiring, HO2S, ECM
P0142	Heated oxygen sensor (HO2S) 3, bank 1 - circuit malfunction	Wiring, HO2S, ECM
P0143	Heated oxygen sensor (HO2S) 3, bank 1 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P0143	Oxygen sensor (O2S) 3, bank 1 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM
P0144	Heated oxygen sensor (HO2S) 3, bank 1 - high voltage	Wiring short to positive, HO2S, ECM
P0144	Oxygen sensor (O2S) 3, bank 1 - high voltage	Wiring short to positive, O2S, ECM
P0145	Heated oxygen sensor (HO2S) 3, bank 1 - slow response	Heating inoperative, wiring, HO2S
P0145	Oxygen sensor (O2S) 3, bank 1 - slow response	Wiring, O2S
P0146	Heated oxygen sensor (HO2S) 3, bank 1 - no activity detected	Wiring, HO2S, ECM
P0146	Oxygen sensor (O2S) 3, bank 1 - no activity detected	Wiring, O2S, ECM
P0147	Heated oxygen sensor (HO2S) 3, bank 1, heater control - circuit malfunction	Wiring, HO2S, ECM
P0148	Fuel delivery error	Fuel pump/fuel injection pump
P0149	Fuel timing error	Fuel pump/fuel injection pump
P014A	Heated oxygen sensor (HO2S) 2, bank 2 - delayed response rich to lean	Wiring, HO2S, ECM
P014B	Heated oxygen sensor (HO2S) 2, bank 2 - delayed response lean to rich	Wiring, HO2S, ECM
P014C	Heated oxygen sensor (HO2S) 1, bank 1 - slow response rich to lean	Wiring, HO2S
P014D	Heated oxygen sensor (HO2S) 1, bank 1 - slow response lean to rich	Wiring, HO2S
P014E	Heated oxygen sensor (HO2S) 1, bank 2 - slow response rich to lean	Wiring, HO2S
P014F	Heated oxygen sensor (HO2S) 1, bank 2 - slow response lean to rich	Wiring, HO2S

P0150	Heated oxygen sensor (HO2S) 1, bank 2 - circuit malfunction	Wiring, HO2S, ECM
P0150	Oxygen sensor (O2S) 1, bank 2 - circuit malfunction	Wiring, O2S, ECM
P0151	Heated oxygen sensor (HO2S) 1, bank 2 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P015A	Heated oxygen sensor (HO2S) 1, bank 1 - delayed response rich to lean	Wiring, HO2S
P015B	Heated oxygen sensor (HO2S) 1, bank 1 - delayed response lean to rich	Wiring, HO2S
P015C	Heated oxygen sensor (HO2S) 1, bank 2 - delayed response rich to lean	Wiring, HO2S
P015D	Heated oxygen sensor (HO2S) 1, bank 2 - delayed response lean to rich	Wiring, HO2S
P015D	Oxygen sensor (O2S) 1, bank 2 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM
P0152	Heated oxygen sensor (HO2S) 1, bank 2 - high voltage	Wiring short to positive, HO2S, ECM
P0152	Oxygen sensor (O2S) 1, bank 2 - high voltage	Wiring short to positive, O2S, ECM
P0153	Heated oxygen sensor (HO2S) 1, bank 2 - slow response	Heating inoperative, wiring, HO2S
P0153	Oxygen sensor (O2S) 1, bank 2 - slow response	Wiring, O2S
P0154	Heated oxygen sensor (HO2S) 1, bank 2 - no activity detected	Wiring, HO2S, ECM
P0154	Oxygen sensor (O2S) 1, bank 2 - no activity detected	Wiring, O2S, ECM
P0155	Heated oxygen sensor (HO2S) 1, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0156	Heated oxygen sensor (HO2S) 2, bank 2 - circuit malfunction	Heating inoperative, wiring, HO2S, ECM
P0156	Oxygen sensor (O2S) 2, bank 2 - circuit malfunction	Wiring, O2S, ECM
P0157	Heated oxygen sensor (HO2S) 2, bank 2 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P0157	Oxygen sensor (O2S) 2, bank 2 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM
P0158	Heated oxygen sensor (HO2S) 2, bank 2 - high voltage	Wiring short to positive, HO2S, ECM
P0158	Oxygen sensor (O2S) 2, bank 2 - high voltage	Wiring short to positive, O2S, ECM
P0159	Heated oxygen sensor (HO2S) 2, bank 2 - slow response	Heating inoperative, wiring, HO2S
P0159	Oxygen sensor (O2S) 2, bank 2 - slow response	Wiring, O2S
P0160	Heated oxygen sensor (HO2S) 2, bank 2 - no activity detected	Wiring, HO2S, ECM
P0160	Oxygen sensor (O2S) 2, bank 2 - no activity detected	Wiring, O2S, ECM
P0161	Heated oxygen sensor (HO2S) 2, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0162	Heated oxygen sensor (HO2S) 3, bank 2 - circuit malfunction	Wiring, HO2S, ECM
P0162	Oxygen sensor (O2S) 3, bank 2 - circuit malfunction	Wiring, O2S, ECM
P0163	Heated oxygen sensor (HO2S) 3, bank 2 - low voltage	Exhaust leak, wiring short to earth, HO2S, ECM
P0163	Oxygen sensor (O2S) 3, bank 2 - low voltage	Exhaust leak, wiring short to earth, O2S, ECM

P0164	Heated oxygen sensor (HO2S) 3, bank 2 - high voltage	Wiring short to positive, HO2S, ECM
P0164	Oxygen sensor (O2S) 3, bank 2 - high voltage	Wiring short to positive, O2S, ECM
P0165	Heated oxygen sensor (HO2S) 3, bank 2 - slow response	Heating inoperative, wiring, HO2S
P0165	Oxygen sensor (O2S) 3, bank 2 - slow response	Wiring, O2S
P0166	Heated oxygen sensor (HO2S) 3, bank 2 - no activity detected	Wiring, HO2S, ECM
P0166	Oxygen sensor (O2S) 3, bank 2 - no activity detected	Wiring, O2S, ECM
P0167	Heated oxygen sensor (HO2S) 3, bank 2, heater control - circuit malfunction	Wiring, HO2S, ECM
P0168	Fuel temperature too high	Wiring, fuel temperature sensor, mechanical fault
P0169	Incorrect fuel composition	Wiring, fuel composition sensor, mechanical fault
P016A	Excessive time to enter closed loop mixture control	-
P016B	Closed loop mixture control, limit reached - system too rich	-
P016C	Closed loop mixture control, limit reached - system too lean	-
P016D	Excessive time to enter closed loop fuel pressure control	-
P016E	Closed loop fuel pressure control, limit reached - pressure too high	-
P016F	Closed loop fuel pressure control, limit reached - pressure too low	-
P0170	Fuel trim (FT), bank 1 - malfunction	Intake leak, AIR system, fuel pressure/pump, injector(s), EVAP canister purge valve, HO2S
P0171	System too lean, bank 1	Intake/exhaust leak, AIR system, MAF/VAF sensor, fuel pressure/pump, injector(s), HO2S
P0172	System too rich, bank 1	Intake blocked, EVAP canister purge valve, fuel pressure, EGR system, injector(s), HO2S
P0173	Fuel trim (FT), bank 2 - malfunction	Intake leak, AIR system, fuel pressure/pump, injector(s), EVAP canister purge valve, HO2S
P0174	System too lean, bank 2	Intake/exhaust leak, fuel pressure/pump, injector(s), AIR system, hose connection(s)
P0175	System too rich, bank 2	Intake blocked, EVAP canister purge valve, fuel pressure, EGR system, injector(s), HO2S
P0176	Fuel composition sensor - circuit malfunction	Wiring, fuel composition sensor, ECM
P0177	Fuel composition sensor - range/performance problem	Fuel composition sensor
P0178	Fuel composition sensor - low input	Wiring short to earth, fuel composition sensor, ECM
P0179	Fuel composition sensor - high input	Wiring short to positive, fuel composition sensor, ECM
P017A	Cylinder head temperature (CHT) sensor - circuit malfunction	Wiring, CHT sensor, ECM
P017B	Cylinder head temperature (CHT) sensor - circuit range/performance	Wiring, CHT sensor, ECM
P017C	Cylinder head temperature (CHT) sensor - circuit low	Wiring, CHT sensor, ECM

P017D	Cylinder head temperature (CHT) sensor - circuit high	Wiring, CHT sensor, ECM
P017E	Cylinder head temperature (CHT) sensor - circuit intermittent/erratic	Wiring, CHT sensor, ECM
P0180	Fuel temperature sensor A - circuit malfunction	Wiring, fuel temperature sensor, ECM
P0181	Fuel temperature sensor A - range/performance problem	Fuel temperature sensor
P0182	Fuel temperature sensor A - low input	Wiring short to earth, fuel temperature sensor, ECM
P0183	Fuel temperature sensor A - high input	Wiring short to positive, fuel temperature sensor, ECM
P0184	Fuel temperature sensor A - circuit intermittent	Wiring, poor connection, fuel temperature sensor, ECM
P0185	Fuel temperature sensor B - circuit malfunction	Wiring, fuel temperature sensor, ECM
P0186	Fuel temperature sensor B - range/performance problem	Fuel temperature sensor
P0187	Fuel temperature sensor B - low input	Wiring short to earth, fuel temperature sensor, ECM
P0188	Fuel temperature sensor B - high input	Wiring short to positive, fuel temperature sensor, ECM
P0189	Fuel temperature sensor B - circuit intermittent	Wiring, poor connection, fuel temperature sensor, ECM
P018A	Fuel pressure sensor B - circuit malfunction	Wiring, fuel pressure sensor, ECM
P018B	Fuel pressure sensor B - circuit range/performance	Wiring, fuel pressure sensor, ECM
P018C	Fuel pressure sensor B - circuit low	Wiring, fuel pressure sensor, ECM
P018D	Fuel pressure sensor B - circuit high	Wiring, fuel pressure sensor, ECM
P018E	Fuel pressure sensor B - circuit intermittent/erratic	Wiring, fuel pressure sensor, ECM
P018F	Fuel pressure relief system - frequent activation	-
P0190	Fuel rail pressure (FRP) sensor - circuit malfunction	Wiring, FRP sensor, ECM
P0191	Fuel rail pressure (FRP) sensor - range/performance problem	Wiring, FRP sensor
P0192	Fuel rail pressure (FRP) sensor - low input	Wiring short to earth, FRP sensor
P0193	Fuel rail pressure (FRP) sensor - high input	Wiring short to positive, FRP sensor
P0194	Fuel rail pressure (FRP) sensor - circuit intermittent	Wiring, poor connection, FRP sensor
P0195	Engine oil temperature (EOT) sensor - circuit malfunction	Wiring, EOT sensor, ECM
P0196	Engine oil temperature (EOT) sensor - range/performance problem	EOT sensor
P0197	Engine oil temperature (EOT) sensor - low input	Wiring short to earth, EOT sensor
P0198	Engine oil temperature (EOT) sensor - high input	Wiring short to positive, EOT sensor
P0199	Engine oil temperature (EOT) sensor - circuit intermittent	Wiring, poor connection, EOT sensor, ECM
P0200	Injector - circuit malfunction	Wiring, injector, ECM
P0201	Injector 1 - circuit malfunction	Wiring, injector, ECM
P0202	Injector 2 - circuit malfunction	Wiring, injector, ECM
P0203	Injector 3 - circuit malfunction	Wiring, injector, ECM
P0204	Injector 4 - circuit malfunction	Wiring, injector, ECM
P0205	Injector 5 - circuit malfunction	Wiring, injector, ECM

P0206	Injector 6 - circuit malfunction	Wiring, injector, ECM
P0207	Injector 7 - circuit malfunction	Wiring, injector, ECM
P0208	Injector 8 - circuit malfunction	Wiring, injector, ECM
P0209	Injector 9 - circuit malfunction	Wiring, injector, ECM
P020A	Injection timing, cylinder 1	CKP sensor, CMP sensor, mechanical fault
P020B	Injection timing, cylinder 2	CKP sensor, CMP sensor, mechanical fault
P020C	Injection timing, cylinder 3	CKP sensor, CMP sensor, mechanical fault
P020D	Injection timing, cylinder 4	CKP sensor, CMP sensor, mechanical fault
P020E	Injection timing, cylinder 5	CKP sensor, CMP sensor, mechanical fault
P020F	Injection timing, cylinder 6	CKP sensor, CMP sensor, mechanical fault
P0210	Injector 10 - circuit malfunction	Wiring, injector, ECM
P0211	Injector 11 - circuit malfunction	Wiring, injector, ECM
P0212	Injector 12 - circuit malfunction	Wiring, injector, ECM
P0213	Cold start injector 1 - circuit malfunction	Wiring, cold start injector, ECM
P0214	Cold start injector 2 - circuit malfunction	Wiring, cold start injector, ECM
P0215	Fuel shut-off solenoid - circuit malfunction	Wiring, fuel shut-off solenoid, ECM
P0216	Fuel injection timing control - circuit malfunction	Wiring, fuel injection timing control solenoid, ECM
P0217	Engine over temperature condition	Wiring, engine cooling system, coolant thermostat, ECT sensor
P0218	Transmission over temperature condition	Wiring, TFT sensor, ECM
P0219	Engine over speed condition	Incorrect gear change
P021A	Injection timing, cylinder 7	CKP sensor, CMP sensor, mechanical fault
P021B	Injection timing, cylinder 8	CKP sensor, CMP sensor, mechanical fault
P021C	Injection timing, cylinder 9	CKP sensor, CMP sensor, mechanical fault
P021D	Injection timing, cylinder 10	CKP sensor, CMP sensor, mechanical fault
P021E	Injection timing, cylinder 11	CKP sensor, CMP sensor, mechanical fault
P021F	Injection timing, cylinder 12	CKP sensor, CMP sensor, mechanical fault
P0220	Throttle position (TP) sensor B/accelerator pedal position (APP) sensor B - circuit malfunction	Wiring, TP/APP sensor, ECM
P0220	Throttle position (TP) switch B/accelerator pedal position (APP) switch B - circuit malfunction	Wiring, TP switch, APP switch, ECM
P0221	Throttle position (TP) sensor B/accelerator pedal position (APP) sensor B - range/performance problem	Accelerator cable adjustment, TP/APP sensor
P0221	Throttle position (TP) switch B/accelerator pedal position (APP) switch B - range/performance problem	Accelerator cable adjustment, TP switch, APP switch
P0222	Throttle position (TP) sensor B/accelerator pedal position (APP) sensor B - low input	Wiring short to earth, TP/APP sensor, ECM
P0222	Throttle position (TP) switch B/accelerator pedal position (APP) switch B - low input	Wiring short to earth, TP switch, APP switch, ECM
P0223	Throttle position (TP) sensor B/accelerator pedal position (APP) sensor B - high input	Wiring short to positive, TP/APP sensor, ECM
P0223	Throttle position (TP) switch B/accelerator pedal position (APP) switch B - high input	Wiring short to positive, TP switch, APP switch, ECM
P0224	Throttle position (TP) sensor B/accelerator pedal position (APP) sensor B - circuit intermittent	Wiring, poor connection, TP/APP sensor, ECM

P0224	Throttle position (TP) switch B/accelerator pedal position (APP) switch B - circuit intermittent	Wiring, poor connection, TP switch, APP switch, ECM
P0225	Throttle position (TP) sensor C/accelerator pedal position (APP) sensor C - circuit malfunction	Wiring, TP/APP sensor, ECM
P0225	Throttle position (TP) switch C/accelerator pedal position (APP) switch C - circuit malfunction	Wiring, TP switch, APP switch, ECM
P0226	Throttle position (TP) sensor C/accelerator pedal position (APP) sensor C - range/performance problem	Accelerator cable adjustment, TP/APP sensor
P0226	Throttle position (TP) switch C/accelerator pedal position (APP) switch C - range/performance problem	Accelerator cable adjustment, TP switch, APP switch
P0227	Throttle position (TP) sensor C/accelerator pedal position (APP) sensor C - low input	Wiring short to earth, TP/APP sensor, ECM
P0227	Throttle position (TP) switch C/accelerator pedal position (APP) switch C - low input	Wiring short to earth, TP switch, APP switch, ECM
P0228	Throttle position (TP) sensor C/accelerator pedal position (APP) sensor C - high input	Wiring short to positive, TP/APP sensor, ECM
P0228	Throttle position (TP) switch C/accelerator pedal position (APP) switch C - high input	Wiring short to positive, TP switch, APP switch, ECM
P0229	Throttle position (TP) sensor C/accelerator pedal position (APP) sensor C - circuit intermittent	Wiring, poor connection, TP/APP sensor, ECM
P0229	Throttle position (TP) switch C/accelerator pedal position (APP) switch C - circuit intermittent	Wiring, poor connection, TP switch, APP switch, ECM
P022A	Turbocharger (TC) intercooler bypass actuator A - open circuit	Wiring, TC intercooler bypass actuator, ECM
P022B	Turbocharger (TC) intercooler bypass actuator control A - circuit low	Wiring, TC intercooler bypass actuator, ECM
P022C	Turbocharger (TC) intercooler bypass actuator A - circuit high	Wiring, TC intercooler bypass actuator, ECM
P022D	Turbocharger (TC) intercooler bypass actuator control B - open circuit	Wiring, TC intercooler bypass actuator, ECM
P022E	Turbocharger (TC) intercooler bypass actuator control B - circuit low	Wiring, TC intercooler bypass actuator, ECM
P022F	Turbocharger (TC) intercooler bypass actuator control B - circuit high	Wiring, TC intercooler bypass actuator, ECM
P0230	Fuel pump relay - circuit malfunction	Wiring, fuel pump relay, ECM
P0231	Fuel pump relay - circuit low	Wiring short to earth, fuel pump relay, ECM
P0232	Fuel pump relay - circuit high	Wiring short to positive, fuel pump relay, ECM
P0233	Fuel pump relay - circuit intermittent	Wiring, poor connection, fuel pump relay, ECM
P0234	Turbocharger (TC), engine boost condition - limit exceeded	Hose connection(s), wiring, TC wastegate regulating valve, TC wastegate
P0234	Supercharger (SC), engine boost condition - limit exceeded	Wiring, SC bypass valve/motor, SC
P0235	Manifold absolute pressure (MAP) sensor A, TC system - circuit malfunction	Wiring, MAP sensor
P0235	Turbocharger (TC) boost pressure sensor A/supercharger (SC) boost pressure sensor A - circuit malfunction	Wiring, TC/SC boost pressure sensor
P0236	Manifold absolute pressure (MAP) sensor A, TC system - range/performance problem	Intake/exhaust leak, hose connection(s), MAP sensor

P0236	Turbocharger (TC) boost pressure sensor A/supercharger (SC) boost pressure sensor A - range/performance problem	Intake/exhaust leak, hose connection(s), TC/SC boost pressure sensor
P0237	Manifold absolute pressure (MAP) sensor A, TC system - low input	Wiring short to earth, MAP sensor, ECM
P0237	Turbocharger (TC) boost pressure sensor/supercharger (SC) boost pressure sensor A - low input	Wiring short to earth, TC/SC boost pressure sensor, ECM
P0238	Manifold absolute pressure (MAP) sensor A, TC system - high input	Wiring short to positive, MAP sensor, ECM
P0238	Turbocharger (TC) boost pressure sensor A/supercharger (SC) boost pressure sensor A - high input	Wiring short to positive, TC/SC boost pressure sensor, ECM
P0239	Manifold absolute pressure (MAP) sensor B, TC system - circuit malfunction	Wiring, MAP sensor, ECM
P0239	Turbocharger (TC) boost pressure sensor B/supercharger (SC) boost pressure sensor - circuit malfunction	Wiring, TC/SC boost pressure sensor, ECM
P023A	Turbocharger (TC) intercooler coolant pump - open circuit	Wiring, TC intercooler coolant pump, ECM
P023B	Turbocharger (TC) intercooler coolant pump - circuit low	Wiring, TC intercooler coolant pump, ECM
P023C	Turbocharger (TC) intercooler coolant pump - control circuit high	Wiring, TC intercooler coolant pump, ECM
P023D	Manifold absolute pressure (MAP) sensor/turbocharger (TC)/supercharger (SC) boost pressure sensor A - correlation	Wiring, MAP sensor, TC/SC boost pressure sensor, ECM
P023E	Manifold absolute pressure (MAP) sensor/turbocharger (TC)/supercharger (SC) boost pressure sensor B - correlation	Wiring, MAP sensor, TC/SC boost pressure sensor, ECM
P023F	Fuel pump (FP), secondary - open circuit	Wiring, fuel pump (FP), fuel pump relay, ECM
P0240	Manifold absolute pressure (MAP) sensor B, TC system - range/performance problem	Intake/exhaust leak, hose connection(s), MAP sensor
P0240	Turbocharger (TC) boost pressure sensor B/supercharger (SC) boost pressure sensor B - range/performance problem	Intake/exhaust leak, hose connection(s), TC/SC boost pressure sensor
P0241	Manifold absolute pressure (MAP) sensor B, TC system - low input	Wiring short to earth, MAP sensor, ECM
P0241	Turbocharger (TC) boost pressure sensor B/supercharger (SC) boost pressure sensor B - low input	Wiring short to earth, TC/SC boost pressure sensor, ECM
P0242	Manifold absolute pressure (MAP) sensor B, TC system - high input	Wiring short to positive, MAP sensor, ECM
P0242	Turbocharger (TC) boost pressure sensor B/supercharger (SC) boost pressure sensor B - high input	Wiring short to positive, TC/SC boost pressure sensor, ECM
P0243	Supercharger (SC) bypass valve A - circuit malfunction	Wiring, SC bypass valve, ECM
P0243	Turbocharger (TC) wastegate regulating valve A - circuit malfunction	Wiring, TC wastegate regulating valve, ECM
P0244	Supercharger (SC) bypass valve A - range/performance problem	SC bypass valve

P0244	Turbocharger (TC) wastegate regulating valve A - range/performance problem	TC wastegate regulating valve
P0245	Supercharger (SC) bypass valve A - circuit low	Wiring short to earth, SC bypass valve, ECM
P0245	Turbocharger (TC) wastegate regulating valve A - circuit low	Wiring short to earth, TC wastegate regulating valve, ECM
P0246	Supercharger (SC) bypass valve A - circuit high	Wiring short to positive, SC bypass valve, ECM
P0246	Turbocharger (TC) wastegate regulating valve A - circuit high	Wiring short to positive, TC wastegate regulating valve, ECM
P0247	Supercharger (SC) bypass valve B - circuit malfunction	Wiring, SC bypass valve, ECM
P0247	Turbocharger (TC) wastegate regulating valve B - circuit malfunction	Wiring, TC wastegate regulating valve, ECM
P0248	Supercharger (SC) bypass valve B - range/performance problem	SC bypass valve
P0248	Turbocharger (TC) wastegate regulating valve B - range/performance problem	TC wastegate regulating valve
P0249	Supercharger (SC) bypass valve B - circuit low	Wiring short to earth, SC bypass valve, ECM
P0249	Turbocharger (TC) wastegate regulating valve B - circuit low	Wiring short to earth, TC wastegate regulating valve, ECM
P024A	Turbocharger (TC) intercooler bypass actuator A - range/performance problem	Wiring, TC intercooler bypass actuator, ECM
P024B	Turbocharger (TC) intercooler bypass actuator A - actuator stuck	Wiring, TC intercooler bypass actuator, mechanical fault, ECM
P024C	Turbocharger (TC) intercooler bypass actuator position sensor A - circuit malfunction	Wiring, TC intercooler bypass actuator position sensor, ECM
P024D	Charge air cooler bypass position sensor A - circuit range/performance	Wiring, charge air cooler bypass position sensor, ECM
P024E	Turbocharger (TC) intercooler bypass actuator position sensor A - circuit low	Wiring, TC intercooler bypass actuator position sensor, ECM
P024F	Turbocharger (TC) intercooler bypass actuator position sensor A - circuit high	Wiring, TC intercooler bypass actuator position sensor, ECM
P0250	Supercharger (SC) bypass valve B - circuit high	Wiring short to positive, SC bypass valve, ECM
P0250	Turbocharger (TC) wastegate regulating valve B - circuit high	Wiring short to positive, TC wastegate regulating valve, ECM
P0251	Injection pump fuel metering control A, cam/rotor/injector - circuit malfunction	Wiring, injection pump, ECM
P0252	Injection pump fuel metering control A, cam/rotor/injector - range/performance problem	Injection pump
P0253	Injection pump fuel metering control A, cam/rotor/injector - circuit low	Wiring short to earth, injection pump, ECM
P0254	Injection pump fuel metering control A, cam/rotor/injector - circuit high	Wiring short to positive, injection pump, ECM
P0255	Injection pump fuel metering control A, cam/rotor/injector - circuit intermittent	Wiring, poor connection, injection pump, ECM
P0256	Injection pump fuel metering control B, cam/rotor/injector - circuit malfunction	Wiring, injection pump, ECM
P0257	Injection pump fuel metering control B, cam/rotor/injector - range/performance problem	Injection pump
P0258	Injection pump fuel metering control B, cam/rotor/injector - circuit low	Wiring short to earth, injection pump, ECM

P0259	Injection pump fuel metering control B, cam/rotor/injector - circuit high	Wiring short to positive, injection pump, ECM
P025A	Fuel pump (FP) control module - open circuit	Wiring, FP control module, ECM
P025B	Fuel pump (FP) control module - circuit range/performance	Wiring, FP control module, ECM
P025C	Fuel pump (FP) control module - circuit low	Wiring, FP control module, ECM
P025D	Fuel pump (FP) control module - circuit high	Wiring, FP control module, ECM
P025E	Turbocharger (TC)/supercharger (SC) boost pressure sensor A - intermittent/erratic signal	Wiring, TC/SC boost pressure sensor, ECM
P025F	Turbocharger (TC)/supercharger (SC) boost pressure sensor B - intermittent/erratic signal	Wiring, TC/SC boost pressure sensor, ECM
P0260	Injection pump fuel metering control B, cam/rotor/injector - circuit intermittent	Wiring, poor connection, injection pump, ECM
P0261	Injector 1 - circuit low	Wiring short to earth, injector, ECM
P0262	Injector 1 - circuit high	Wiring short to positive, injector, ECM
P0263	Cylinder 1 - contribution/balance fault	Wiring, fuel system, ECM
P0264	Injector 2 - circuit low	Wiring short to earth, injector, ECM
P0265	Injector 2 - circuit high	Wiring short to positive, injector, ECM
P0266	Cylinder 2 - contribution/balance fault	Wiring, fuel system, ECM
P0267	Injector 3 - circuit low	Wiring short to earth, injector, ECM
P0268	Injector 3 - circuit high	Wiring short to positive, injector, ECM
P0269	Cylinder 3 - contribution/balance fault	Wiring, fuel system, ECM
P026A	Intercooler - efficiency below threshold	-
P026B	Injection timing - performance problem	-
P026C	Fuel injection quantity - quantity lower than expected	Fuel level low, fuel leak/blockage, fuel pressure regulator, fuel pump (FP), injector(s)
P026D	Fuel injection quantity - quantity higher than expected	fuel pipe blockage, fuel pressure relief valve, fuel pressure regulator, fuel pump (FP), injector(s)
P0270	Injector 4 - circuit low	Wiring short to earth, injector, ECM
P0271	Injector 4 - circuit high	Wiring short to positive, injector, ECM
P0272	Cylinder 4 - contribution/balance fault	Wiring, fuel system, ECM
P0273	Injector 5 - circuit low	Wiring short to earth, injector, ECM
P0274	Injector 5 - circuit high	Wiring short to positive, injector, ECM
P0275	Cylinder 5 - contribution/balance fault	Wiring, fuel system, ECM
P0276	Injector 6 - circuit low	Wiring short to earth, injector, ECM
P0277	Injector 6 - circuit high	Wiring short to positive, injector, ECM
P0278	Cylinder 6 - contribution/balance fault	Wiring, fuel system, ECM
P0279	Injector 7 - circuit low	Wiring short to earth, injector, ECM
P027A	Fuel pump control module B - open circuit	Wiring, FP control module, ECM
P027B	Fuel pump control module B - circuit range/performance	Wiring, FP control module, ECM
P027C	Fuel pump control module B - circuit low	Wiring, FP control module, ECM
P027D	Fuel pump control module B - circuit high	Wiring, FP control module, ECM
P0280	Injector 7 - circuit high	Wiring short to positive, injector, ECM
P0281	Cylinder 7 - contribution/balance fault	Wiring, fuel system, ECM
P0282	Injector 8 - circuit low	Wiring short to earth, injector, ECM

P0283	Injector 8 - circuit high	Wiring short to positive, injector, ECM
P0284	Cylinder 8 - contribution/balance fault	Wiring, fuel system, ECM
P0285	Injector 9 - circuit low	Wiring short to earth, injector, ECM
P0286	Injector 9 - circuit high	Wiring short to positive, injector, ECM
P0287	Cylinder 9 - contribution/balance fault	Wiring, fuel system, ECM
P0288	Injector 10 - circuit low	Wiring short to earth, injector, ECM
P0289	Injector 10 - circuit high	Wiring short to positive, injector, ECM
P0290	Cylinder 10 - contribution/balance fault	Wiring, fuel system, ECM
P0291	Injector 11 - circuit low	Wiring short to earth, injector, ECM
P0292	Injector 11 - circuit high	Wiring short to positive, injector, ECM
P0293	Cylinder 11 - contribution/balance fault	Wiring, fuel system, ECM
P0294	Injector 12 - circuit low	Wiring short to earth, injector, ECM
P0295	Injector 12 - circuit high	Wiring short to positive, injector, ECM
P0296	Cylinder 12 - contribution/balance fault	Wiring, fuel system, ECM
P0297	Vehicle over-speed condition	Wiring, VSS, mechanical fault
P0298	Engine oil temperature too high	Wiring, EOT sensor, mechanical fault
P0299	Turbocharger (TC)/supercharger (SC) - low boost	Mechanical fault
P029A	Fuel trim (FT), cylinder 1 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P029B	Fuel trim (FT), cylinder 1 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P029C	Injector 1 - blockage	Injector
P029D	Injector 1 - leak	Injector
P029E	Fuel trim (FT), cylinder 2 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P029F	Fuel trim (FT), cylinder 2 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02A0	Injector 2 - leak	Injector
P02A1	Injector 2 - leak	Injector
P02A2	Fuel trim (FT), cylinder 3 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02A3	Fuel trim (FT), cylinder 3 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02A4	Injector 3 - leak	Injector
P02A5	Injector 3 - leak	Injector
P02A6	Fuel trim (FT), cylinder 4 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02A7	Fuel trim (FT), cylinder 4 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02A8	Injector 4 - leak	Injector
P02A9	Injector 4 - leak	Injector
P02AA	Fuel trim (FT), cylinder 5 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02AB	Fuel trim (FT), cylinder 5 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02AC	Cylinder 5 - injector leaking	Injector
P02AD	Injector 5 - leak	Injector

P02AE	Fuel trim (FT), cylinder 6 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02AF	Fuel trim (FT), cylinder 6 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02B0	Injector 6 - leak	Injector
P02B1	Injector 6 - leak	Injector
P02B2	Fuel trim (FT), cylinder 7 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02B3	Fuel trim (FT), cylinder 7 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02B4	Injector 7 - leak	Injector
P02B5	Injector 7 - leak	Injector
P02B6	Fuel trim (FT), cylinder 8 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02B7	Fuel trim (FT), cylinder 8 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02B8	Injector 8 - leak	Injector
P02B9	Injector 8 - leak	Injector
P02BA	Fuel trim (FT), cylinder 9 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02BB	Injector 9 - offset learning at minimum limit	Wiring, injector, ECM
P02BC	Injector 9 - leak	Injector
P02BD	Injector 9 - leak	Injector
P02BE	Fuel trim (FT), cylinder 10 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02BF	Fuel trim (FT), cylinder 10 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02C0	Injector 10 - leak	Injector
P02C1	Injector 10 - leak	Injector
P02C2	Fuel trim (FT), cylinder 11 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02C3	Fuel trim (FT), cylinder 11 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02C4	Injector 11 - leak	Injector
P02C5	Injector 11 - leak	Injector
P02C6	Fuel trim (FT), cylinder 12 - maximum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02C7	Fuel trim (FT), cylinder 12 - minimum control limit reached	Injector, fuel pressure, MAF sensor, VAF sensor, MAP sensor, ECM
P02C8	Injector 12 - blockage	Injector
P02C9	Injector 12 - leak	Injector
P02CA	Turbocharger (TC)/supercharger (SC) B - overboost condition	Wiring, TC wastegate actuator, SC control valve, ECM
P02CB	Turbocharger (TC)/supercharger (SC) B - underboost condition	Wiring, MAP sensor, TC/SC boost pressure sensor, turbocharger (TC) wastegate actuator, TC, SC, mechanical fault, ECM
P02CC	Injector 1 - offset learning at minimum limit	Wiring, injector, ECM
P02CD	Injector 1 - offset learning at maximum limit	Wiring, injector, ECM

P02CE	Injector 2 - offset learning at minimum limit	Wiring, injector, ECM
P02CF	Injector 2 - offset learning at maximum limit	Wiring, injector, ECM
P02D0	Injector 3 - offset learning at minimum limit	Wiring, injector, ECM
P02D1	Injector 3 - offset learning at maximum limit	Wiring, injector, ECM
P02D2	Injector 4 - offset learning at minimum limit	Wiring, injector, ECM
P02D3	Injector 4 - offset learning at maximum limit	Wiring, injector, ECM
P02D4	Injector 5 - offset learning at minimum limit	Wiring, injector, ECM
P02D5	Injector 5 - offset learning at maximum limit	Wiring, injector, ECM
P02D6	Injector 6 - offset learning at minimum limit	Wiring, injector, ECM
P02D7	Injector 6 - offset learning at maximum limit	Wiring, injector, ECM
P02D8	Injector 7 - offset learning at minimum limit	Wiring, injector, ECM
P02D9	Injector 7 - offset learning at maximum limit	Wiring, injector, ECM
P02DA	Injector 8 - offset learning at minimum limit	Wiring, injector, ECM
P02DB	Injector 8 - offset learning at maximum limit	Wiring, injector, ECM
P02DC	Injector 9 - offset learning at minimum limit	Wiring, injector, ECM
P02DD	Injector 9 - offset learning at maximum limit	Wiring, injector, ECM
P02DE	Injector 10 - offset learning at minimum limit	Wiring, injector, ECM
P02DF	Injector 10 - offset learning at maximum limit	Wiring, injector, ECM
P02E0	Intake air flap control actuator - open circuit	Wiring, intake air flap control actuator, ECM
P02E1	Intake air flap control actuator - performance problem	Wiring, intake air flap control actuator, intake air flap control actuator position sensor, mechanical fault, ECM
P02E2	Intake air flap control actuator - circuit low	Wiring, intake air flap control actuator, ECM
P02E3	Intake air flap control actuator - circuit high	Wiring, intake air flap control actuator, ECM
P02E4	Intake air flap control actuator - actuator stuck open	Wiring, intake air flap control actuator, intake air flap control actuator position sensor, mechanical fault, ECM
P02E5	Intake air flap control actuator - actuator stuck closed	Intake air flap control actuator, mechanical fault
P02E6	Intake air flap control actuator position sensor - circuit malfunction	Wiring, intake air flap control actuator position sensor, ECM
P02E7	Intake air flap control actuator position sensor - range/performance	Wiring, intake air flap control actuator position sensor, ECM
P02E8	Intake air flap control actuator position sensor - circuit low	Wiring, intake air flap control actuator position sensor, ECM
P02E9	Intake air flap control actuator position sensor - circuit high	Wiring, intake air flap control actuator position sensor, ECM
P02EA	Intake air flap control actuator position sensor - circuit intermittent/erratic	Wiring, intake air flap control actuator position sensor, ECM
P02EB	Diesel intake air flow control motor - current range/performance	Wiring, Diesel intake air flow control motor
P02EC	Diesel intake air flow control system - high air flow detected	Wiring, Diesel intake air flow control motor
P02ED	Diesel intake air flow control system - low air flow detected	Wiring, Diesel intake air flow control motor
P02EE	Injector 1 - circuit range/performance	Wiring, injector, ECM
P02EF	Injector 2 - circuit range/performance	Wiring, injector, ECM
P02F0	Injector 3 - circuit range/performance	Wiring, injector, ECM

P02F1	Injector 4 - circuit range/performance	Wiring, injector, ECM
P02F2	Injector 5 - circuit range/performance	Wiring, injector, ECM
P02F3	Injector 6 - circuit range/performance	Wiring, injector, ECM
P02F4	Injector 7 - circuit range/performance	Wiring, injector, ECM
P02F5	Injector 8 - circuit range/performance	Wiring, injector, ECM
P02F6	Injector 9 - circuit range/performance	Wiring, injector, ECM
P02F7	Injector 10 - circuit range/performance	Wiring, injector, ECM
P02F8	Injector 11 - circuit range/performance	Wiring, injector, ECM
P02F9	Injector 12 - circuit range/performance	Wiring, injector, ECM
P02FA	Diesel intake air flow position sensor - minimum/maximum stop performance	Wiring, Diesel intake air flow position sensor
P0300	Random/multiple cylinder(s) - misfire detected	Spark plug(s), HT lead(s), injector(s), ignition coil(s), low compression, wiring
P0301	Cylinder 1 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0302	Cylinder 2 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0303	Cylinder 3 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0304	Cylinder 4 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0305	Cylinder 5 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0306	Cylinder 6 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0307	Cylinder 7 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0308	Cylinder 8 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0309	Cylinder 9 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0310	Cylinder 10 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0311	Cylinder 11 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0312	Cylinder 12 - misfire detected	Engine mechanical fault, wiring, ignition/fuel system, injector, ECT/MAF sensor, ECM
P0313	Misfire detected - low fuel level	Fuel system, mechanical fault
P0314	Single cylinder misfire - cylinder not specified	Engine mechanical fault, wiring, ignition/fuel system, injector
P0315	Crankshaft position system - variation not learned	Engine mechanical fault, wiring
P0316	Misfire detected during start-up - first 1000 revolutions	Engine mechanical fault, wiring, ignition/fuel system, injector
P0317	Rough road hardware not present	Wiring, ECM
P0318	Rough road sensor A - circuit malfunction	Wiring, rough road sensor A, mechanical fault
P0319	Rough road sensor B - circuit malfunction	Wiring, rough road sensor B, mechanical fault
P0320	Crankshaft position (CKP) sensor/engine speed (RPM) sensor - circuit malfunction	Wiring, CKP/RPM sensor, ECM

P0321	Crankshaft position (CKP) sensor/engine speed (RPM) sensor - range/performance problem	Air gap, metal particle contamination, insecure sensor/rotor, wiring, CKP/RPM sensor
P0322	Crankshaft position (CKP) sensor/engine speed (RPM) sensor - no signal	Wiring, CKP/RPM sensor, ECM
P0323	Crankshaft position (CKP) sensor/engine speed (RPM) sensor - circuit intermittent	Wiring, poor connection, CKP/RPM sensor, ECM
P0324	Knock control system error	Wiring, poor connection, KS, ECM
P0325	Knock sensor (KS) 1, bank 1 - circuit malfunction	Wiring, poor connection, KS
P0326	Knock sensor (KS) 1, bank 1 - range/performance problem	Wiring, KS incorrectly tightened, KS
P0327	Knock sensor (KS) 1, bank 1 - low input	Insecure KS, poor connection, wiring short to earth, incorrectly tightened, KS, ECM
P0328	Knock sensor (KS) 1, bank 1 - high input	Wiring short to positive, KS incorrectly tightened, KS, ECM
P0329	Knock sensor (KS) 1, bank 1 - circuit intermittent	Wiring, poor connection, KS, ECM
P032A	Knock sensor (KS) 3, bank 1 - circuit malfunction	Wiring, KS, ECM
P032B	Knock sensor (KS) 3, bank 1 - circuit range/performance	Wiring, KS, ECM
P032C	Knock sensor (KS) 3, bank 1 - circuit low	Wiring, KS, ECM
P032D	Knock sensor (KS) 3, bank 1 - circuit high	Wiring, KS, ECM
P032E	Knock sensor (KS) 3, bank 1 - circuit intermittent	Wiring, KS, ECM
P0330	Knock sensor (KS) 2, bank 2 - circuit malfunction	Wiring, KS, ECM
P0331	Knock sensor (KS) 2, bank 2 - range/performance problem	Wiring, KS incorrectly tightened, KS
P0332	Knock sensor (KS) 2, bank 2 - low input	Insecure KS, poor connection, wiring short to earth, KS incorrectly tightened, KS, ECM
P0333	Knock sensor (KS) 2, bank 2 - high input	Wiring short to positive, KS incorrectly tightened, KS, ECM
P0334	Knock sensor (KS) 2, bank 2 - circuit intermittent	Wiring, poor connection, KS, ECM
P0335	Crankshaft position (CKP) sensor - circuit malfunction	Wiring, CKP sensor, ECM
P0336	Crankshaft position (CKP) sensor - range/performance problem	Insecure sensor/rotor, air gap, wiring, CKP sensor
P0337	Crankshaft position (CKP) sensor - low input	Wiring short to earth, CKP sensor, ECM
P0338	Crankshaft position (CKP) sensor - high input	Wiring short to positive, CKP sensor, ECM
P0339	Crankshaft position (CKP) sensor - circuit intermittent	Wiring, poor connection, CKP sensor, ECM
P033A	Knock sensor (KS) 4, bank 2 - circuit malfunction	Wiring, KS, ECM
P033B	Knock sensor (KS) 4, bank 2 - circuit range/performance	Wiring, KS, ECM
P033C	Knock sensor (KS) 4, bank 2 - circuit low	Wiring, KS, ECM
P033D	Knock sensor (KS) 4, bank 2 - circuit high	Wiring, KS, ECM
P033E	Knock sensor (KS) 4, bank 2 - circuit intermittent	Wiring, KS, ECM
P0340	Camshaft position (CMP) sensor A, bank 1 - circuit malfunction	Wiring, CMP sensor, ECM
P0341	Camshaft position (CMP) sensor A, bank 1 - range/performance problem	Insecure sensor/rotor, air gap, wiring, CMP sensor
P0342	Camshaft position (CMP) sensor A, bank 1 - low input	Wiring short to earth, CMP sensor, ECM
P0343	Camshaft position (CMP) sensor A, bank 1 - high input	Wiring short to positive, CMP sensor, ECM

P0344	Camshaft position (CMP) sensor A, bank 1 - circuit intermittent	Wiring, poor connection, CMP sensor, ECM
P0345	Camshaft position (CMP) sensor A, bank 2 - circuit malfunction	Wiring, CMP sensor, ECM
P0346	Camshaft position (CMP) sensor A, bank 2 - range/performance problem	Insecure sensor/rotor, air gap, wiring, CMP sensor
P0347	Camshaft position (CMP) sensor A, bank 2 - low input	Wiring short to earth, CMP sensor, ECM
P0348	Camshaft position (CMP) sensor A, bank 2 - high input	Wiring short to positive, CMP sensor, ECM
P0349	Camshaft position (CMP) sensor A, bank 2 - circuit intermittent	Wiring, poor connection, CMP sensor, ECM
P0350	Ignition coil, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0351	Ignition coil A, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0352	Ignition coil B, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0353	Ignition coil C, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0354	Ignition coil D, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0355	Ignition coil E, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0356	Ignition coil F, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0357	Ignition coil G, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0358	Ignition coil H, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0359	Ignition coil I, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0360	Ignition coil J, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0361	Ignition coil K, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0362	Ignition coil L, primary/secondary - circuit malfunction	Wiring, ignition coil, ECM
P0363	Misfire detected - fuelling disabled	Fuel system, mechanical fault
P0365	Camshaft position (CMP) sensor B, bank 1 - circuit malfunction	Wiring, poor connection, CMP sensor, ECM
P0366	Camshaft position (CMP) sensor B, bank 1 - circuit range/performance	Wiring, poor connection, CMP sensor
P0367	Camshaft position (CMP) sensor B, bank 1 - circuit low input	Wiring short to earth, CMP sensor, ECM
P0368	Camshaft position (CMP) sensor B, bank 1 - circuit high input	Wiring short to positive, CMP sensor, ECM
P0369	Camshaft position (CMP) sensor B, bank 1 - circuit intermittent	Wiring, poor connection, ECM
P0370	Timing reference, high resolution signal A - malfunction	Wiring, CKP/RPM/CMP sensor, ECM
P0371	Timing reference, high resolution signal A - too many pulses	Wiring, CKP/RPM/CMP sensor, ECM
P0372	Timing reference, high resolution signal A - too few pulses	Wiring, CKP/RPM/CMP sensor, ECM
P0373	Timing reference, high resolution signal A - intermittent/erratic pulses	Wiring, poor connection, CKP/RPM/CMP sensor, ECM
P0374	Timing reference, high resolution signal A - no pulses	Wiring, CKP/RPM/CMP sensor, ECM
P0375	Timing reference, high resolution signal B - malfunction	Wiring, CKP/RPM/CMP sensor, ECM
P0376	Timing reference, high resolution signal B - too many pulses	Wiring, CKP/RPM/CMP sensor, ECM

P0377	Timing reference, high resolution signal B - too few pulses	Wiring, CKP/RPM/CMP sensor, ECM
P0378	Timing reference, high resolution signal B - intermittent/erratic pulses	Wiring, poor connection, CKP/RPM/CMP sensor, ECM
P0379	Timing reference, high resolution signal B - no pulses	Wiring, CKP/RPM/CMP sensor, ECM
P037D	Glow plug monitoring - circuit malfunction	Wiring, glow plug control module, ECM
P037E	Glow plug monitoring - circuit low	Wiring, glow plug control module, ECM
P037F	Glow plug monitoring - circuit high	Wiring, glow plug control module, ECM
P0380	Glow plugs, circuit A - malfunction	Wiring, glow plug relay, fuse, glow plugs, ECM
P0381	Glow plug warning lamp - circuit malfunction	Wiring, glow plug warning lamp, ECM
P0382	Glow plugs, circuit B - malfunction	Wiring, glow plug relay, fuse, glow plugs, ECM
P0383	Glow plug control module - circuit low	Wiring short to earth, glow plug control module
P0384	Glow plug control module - circuit high	Wiring short to positive, glow plug control module
P0385	Crankshaft position (CKP) sensor B - circuit malfunction	Wiring, CKP sensor, ECM
P0386	Crankshaft position (CKP) sensor B - range/performance problem	Insecure sensor/rotor, air gap, wiring, CKP sensor
P0387	Crankshaft position (CKP) sensor B - low input	Wiring short to earth, CKP sensor, ECM
P0388	Crankshaft position (CKP) sensor B - high input	Wiring short to positive, CKP sensor, ECM
P0389	Crankshaft position (CKP) sensor B - circuit intermittent	Wiring, poor connection, CKP sensor, ECM
P0390	Camshaft position (CMP) sensor B, bank 2 - circuit malfunction	Wiring, poor connection, CMP sensor, ECM
P0391	Camshaft position (CMP) sensor B, bank 2 - circuit range/performance	Wiring, poor connection, CMP sensor
P0392	Camshaft position (CMP) sensor B, bank 2 - circuit low input	Wiring short to earth, CMP sensor, ECM
P0393	Camshaft position (CMP) sensor B, bank 2 - circuit high input	Wiring short to positive, CMP sensor, ECM
P0394	Camshaft position (CMP) sensor B, bank 2 - circuit intermittent	Wiring, poor connection, ECM
P0395	Cylinder pressure sensor, cylinder 1 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P0396	Cylinder pressure sensor, cylinder 1 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P0397	Cylinder pressure sensor, cylinder 1 - circuit low	Wiring, cylinder pressure sensor, ECM
P0398	Cylinder pressure sensor, cylinder 1 - circuit high	Wiring, cylinder pressure sensor, ECM
P0399	Cylinder pressure sensor, cylinder 1 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P039A	Cylinder 1 - pressure too low	-
P039B	Cylinder 1 - pressure too high	-
P039C	Cylinder 1 - pressure variation low	-
P039D	Cylinder 1 - pressure variation high	-
P039E	Cylinder 1 - combustion performance	-
P039F	Cylinder pressure sensor, cylinder 2 - circuit malfunction	Wiring, cylinder pressure sensor, ECM

P03A0	Cylinder pressure sensor, cylinder 2 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03A1	Cylinder pressure sensor, cylinder 2 - circuit low	Wiring, cylinder pressure sensor, ECM
P03A2	Cylinder pressure sensor, cylinder 2 - circuit high	Wiring, cylinder pressure sensor, ECM
P03A3	Cylinder pressure sensor, cylinder 2 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03A4	Cylinder 2 - pressure too low	-
P03A5	Cylinder 2 - pressure too high	-
P03A6	Cylinder 2 - pressure variation low	-
P03A7	Cylinder 2 - pressure variation high	-
P03A8	Cylinder 2 - combustion performance	-
P03A9	Cylinder pressure sensor, cylinder 3 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03AA	Cylinder pressure sensor, cylinder 3 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03AB	Cylinder pressure sensor, cylinder 3 - circuit low	Wiring, cylinder pressure sensor, ECM
P03AC	Cylinder pressure sensor, cylinder 3 - circuit high	Wiring, cylinder pressure sensor, ECM
P03AD	Cylinder pressure sensor, cylinder 3 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03AE	Cylinder 3 - pressure too low	-
P03AF	Cylinder 3 - pressure too high	-
P03B0	Cylinder 3 - pressure variation low	-
P03B1	Cylinder 3 - pressure variation high	-
P03B2	Cylinder 3 - combustion performance	-
P03B3	Cylinder pressure sensor, cylinder 4 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03B4	Cylinder pressure sensor, cylinder 4 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03B5	Cylinder pressure sensor, cylinder 4 - circuit low	Wiring, cylinder pressure sensor, ECM
P03B6	Cylinder pressure sensor, cylinder 4 - circuit high	Wiring, cylinder pressure sensor, ECM
P03B7	Cylinder pressure sensor, cylinder 4 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03B8	Cylinder 4 - pressure too low	-
P03B9	Cylinder 4 - pressure too high	-
P03BA	Cylinder 4 - pressure variation low	-
P03BB	Cylinder 4 - pressure variation high	-
P03BC	Cylinder 4 - combustion performance	-
P03BD	Cylinder pressure sensor, cylinder 5 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03BE	Cylinder pressure sensor, cylinder 5 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03BF	Cylinder pressure sensor, cylinder 5 - circuit low	Wiring, cylinder pressure sensor, ECM
P03C0	Cylinder pressure sensor, cylinder 5 - circuit high	Wiring, cylinder pressure sensor, ECM
P03C1	Cylinder pressure sensor, cylinder 5 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03C2	Cylinder 5 - pressure too low	-
P03C3	Cylinder 5 - pressure too high	-

P03C4	Cylinder 5 - pressure variation low	-
P03C5	Cylinder 5 - pressure variation high	-
P03C6	Cylinder 5 - combustion performance	-
P03C7	Cylinder pressure sensor, cylinder 6 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03C8	Cylinder pressure sensor, cylinder 6 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03C9	Cylinder pressure sensor, cylinder 6 - circuit low	Wiring, cylinder pressure sensor, ECM
P03CA	Cylinder pressure sensor, cylinder 6 - circuit high	Wiring, cylinder pressure sensor, ECM
P03CB	Cylinder pressure sensor, cylinder 6 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03CC	Cylinder 6 - pressure too low	-
P03CD	Cylinder 6 - pressure too high	-
P03CE	Cylinder 6 - pressure variation low	-
P03CF	Cylinder 6 - pressure variation high	-
P03D0	Cylinder 6 - combustion performance	-
P03D1	Cylinder pressure sensor, cylinder 7 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03D2	Cylinder pressure sensor, cylinder 7 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03D3	Cylinder pressure sensor, cylinder 7 - circuit low	Wiring, cylinder pressure sensor, ECM
P03D4	Cylinder pressure sensor, cylinder 7 - circuit high	Wiring, cylinder pressure sensor, ECM
P03D5	Cylinder pressure sensor, cylinder 7 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03D6	Cylinder 7 - pressure too low	-
P03D7	Cylinder 7 - pressure too high	-
P03D8	Cylinder 7 - pressure variation low	-
P03D9	Cylinder 7 - pressure variation high	-
P03DA	Cylinder 7 - combustion performance	-
P03DB	Cylinder pressure sensor, cylinder 8 - circuit malfunction	Wiring, cylinder pressure sensor, ECM
P03DC	Cylinder pressure sensor, cylinder 8 - circuit range/performance	Wiring, cylinder pressure sensor, ECM
P03DD	Cylinder pressure sensor, cylinder 8 - circuit low	Wiring, cylinder pressure sensor, ECM
P03DE	Cylinder pressure sensor, cylinder 8 - circuit high	Wiring, cylinder pressure sensor, ECM
P03DF	Cylinder pressure sensor, cylinder 8 - circuit intermittent/erratic	Wiring, cylinder pressure sensor, ECM
P03E0	Cylinder 8 - pressure too low	-
P03E1	Cylinder 8 - pressure too high	-
P03E2	Cylinder 8 - pressure variation low	-
P03E3	Cylinder 8 - pressure variation high	-
P03E4	Cylinder 8 - combustion performance	-
P0400	Exhaust gas recirculation (EGR) system - flow malfunction	Hose leak/blockage, basic setting not carried out (if applicable), wiring, EGR valve, EGR solenoid, ECM

P0401	Exhaust gas recirculation (EGR) system - insufficient flow detected	Hose leak/blockage, basic setting not carried out (if applicable), wiring, EGR valve, EGR solenoid, ECM
P0402	Exhaust gas recirculation (EGR) system - excessive flow detected	Hose leak/blockage, basic setting not carried out (if applicable), wiring, EGR valve, EGR solenoid, ECM
P0403	Exhaust gas recirculation (EGR) - circuit malfunction	Wiring, EGR solenoid, ECM
P0404	Exhaust gas recirculation (EGR) system - range/performance problem	Hose leak/blockage, wiring, EGR valve/solenoid
P0405	Exhaust gas recirculation (EGR) valve position sensor A - low input	Wiring short to earth, EGR valve position sensor, ECM
P0406	Exhaust gas recirculation (EGR) valve position sensor A - high input	Wiring short to positive, EGR valve position sensor, ECM
P0407	Exhaust gas recirculation (EGR) valve position sensor B - low input	Wiring short to earth, EGR valve position sensor, ECM
P0408	Exhaust gas recirculation (EGR) valve position sensor B - high input	Wiring short to positive, EGR valve position sensor, ECM
P0409	Exhaust gas recirculation (EGR) sensor A - circuit malfunction	Wiring, poor connection, EGR sensor, ECM
P040A	Exhaust gas recirculation (EGR) temperature sensor A - circuit malfunction	Wiring, EGR temperature sensor, ECM
P040B	Exhaust gas recirculation (EGR) temperature sensor A - circuit range/performance	Wiring, EGR temperature sensor, ECM
P040C	Exhaust gas recirculation (EGR) temperature sensor A - circuit low	Wiring, EGR temperature sensor, ECM
P040D	Exhaust gas recirculation (EGR) temperature sensor A - circuit high	Wiring, EGR temperature sensor, ECM
P040E	Exhaust gas recirculation (EGR) temperature sensor A - circuit intermittent/erratic	Wiring, EGR temperature sensor, ECM
P040F	Exhaust gas recirculation (EGR) temperature sensor A/B - correlation	Wiring, EGR temperature sensor, ECM
P0410	Secondary air injection (AIR) system - malfunction	Wiring, AIR valve, AIR solenoid, ECM
P0411	Secondary air injection (AIR) system - incorrect flow detected	AIR pump, AIR valve, AIR hose(s)
P0412	Secondary air injection (AIR) solenoid A - circuit malfunction	Wiring, AIR solenoid, ECM
P0413	Secondary air injection (AIR) solenoid A - open circuit	Wiring open circuit, AIR solenoid, ECM
P0414	Secondary air injection (AIR) solenoid A - short circuit	Wiring short circuit, AIR solenoid, ECM
P0415	Secondary air injection (AIR) solenoid B - circuit malfunction	Wiring, AIR solenoid, ECM
P0416	Secondary air injection (AIR) solenoid B - open circuit	Wiring open circuit, AIR solenoid, ECM
P0417	Secondary air injection (AIR) solenoid B - short circuit	Wiring short circuit, AIR solenoid, ECM
P0418	Secondary air injection (AIR) pump relay A - circuit malfunction	Wiring, AIR pump relay, ECM
P0419	Secondary air injection (AIR) pump relay B - circuit malfunction	Wiring, AIR pump relay, ECM
P041A	Exhaust gas recirculation (EGR) temperature sensor B - circuit malfunction	Wiring, EGR temperature sensor, ECM
P041B	Exhaust gas recirculation (EGR) temperature sensor B - circuit range/performance	Wiring, EGR temperature sensor, ECM

P041C	Exhaust gas recirculation (EGR) temperature sensor B - circuit low	Wiring, EGR temperature sensor, ECM
P041D	Exhaust gas recirculation (EGR) temperature sensor B - circuit high	Wiring, EGR temperature sensor, ECM
P041E	Exhaust gas recirculation (EGR) temperature sensor B - circuit intermittent/erratic	Wiring, EGR temperature sensor, ECM
P041F	Secondary air injection (AIR) switching valve A - circuit low	Wiring, AIR switching valve, ECM
P0420	Catalytic converter system, bank 1 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0421	Warm up catalytic converter, bank 1 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0422	Main catalytic converter, bank 1 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0423	Heated catalytic converter, bank 1 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0424	Heated catalytic converter, bank 1 - temperature below threshold	Catalytic converter, wiring, HO2S 2
P0425	Catalytic converter temperature sensor, bank 1	Wiring, poor connection, catalytic converter temperature sensor, ECM
P0426	Catalytic converter temperature sensor, bank 1 - range/performance problem	Wiring, poor connection, catalytic converter temperature sensor
P0427	Catalytic converter temperature sensor, bank 1 - low input	Wiring short to earth, catalytic converter temperature sensor, ECM
P0428	Catalytic converter temperature sensor, bank 1 - high input	Wiring short to positive, catalytic converter temperature sensor, ECM
P0429	Catalytic converter heater, bank 1 - circuit malfunction	Wiring, relay, ECM
P042A	Catalytic converter temperature sensor 2, bank 1 - circuit malfunction	Wiring, catalytic converter temperature sensor, ECM
P042B	Catalytic converter temperature sensor 2, bank 1 - circuit range/performance	Wiring, catalytic converter temperature sensor, ECM
P042C	Catalytic converter temperature sensor 2, bank 1 - circuit low	Wiring, catalytic converter temperature sensor, ECM
P042D	Catalytic converter temperature sensor 2, bank 1 - circuit high	Wiring, catalytic converter temperature sensor, ECM
P042E	Exhaust gas recirculation (EGR) valve actuator A - actuator stuck open	Wiring, EGR valve actuator, mechanical fault, ECM
P042F	Exhaust gas recirculation (EGR) valve actuator A - actuator stuck closed	Wiring, EGR valve actuator, mechanical fault, ECM
P0430	Catalytic converter system, bank 2 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0431	Warm up catalytic converter, bank 2 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0432	Main catalytic converter, bank 2 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0433	Heated catalytic converter, bank 2 - efficiency below threshold	Catalytic converter, wiring, HO2S 2
P0434	Heated catalytic converter, bank 2 - temperature below threshold	Catalytic converter, wiring, HO2S 2

P0435	Catalytic converter temperature sensor, bank 2	Wiring, poor connection, catalytic converter temperature sensor, ECM
P0436	Catalytic converter temperature sensor, bank 2 - range/performance problem	Wiring, poor connection, catalytic converter temperature sensor
P0437	Catalytic converter temperature sensor, bank 2 - low input	Wiring short to earth, catalytic converter temperature sensor, ECM
P0438	Catalytic converter temperature sensor, bank 2 - high input	Wiring short to positive, catalytic converter temperature sensor, ECM
P0439	Catalytic converter heater, bank 2 - circuit malfunction	Wiring, relay, ECM
P043A	Catalytic converter temperature sensor 2, bank 2 - circuit malfunction	Wiring, catalytic converter temperature sensor, ECM
P043B	Catalytic converter temperature sensor 2, bank 2 - circuit range/performance	Wiring, catalytic converter temperature sensor, ECM
P043C	Catalytic converter temperature sensor 2, bank 2 - circuit low	Wiring, catalytic converter temperature sensor, ECM
P043D	Catalytic converter temperature sensor 2, bank 2 - circuit high	Wiring, catalytic converter temperature sensor, ECM
P043E	Evaporative emission (EVAP) leak detection reference orifice - low flow	Wiring, EVAP leak detection control module, hose connections, ECM
P043F	Evaporative emission (EVAP) leak detection system reference orifice - excessive flow detected	Wiring, EVAP leak detection control module, hose connections, ECM
P0440	Evaporative emission (EVAP) system - malfunction	Hose connection(s), intake leak, EVAP canister purge valve
P0441	Evaporative emission (EVAP) system - incorrect flow detected	Hose connection(s), intake leak, EVAP canister purge valve
P0442	Evaporative emission (EVAP) system - small leak detected	Hose connection(s), intake leak, EVAP canister, EVAP canister purge valve
P0443	Evaporative emission (EVAP) canister purge valve - circuit malfunction	Wiring, EVAP canister purge valve, ECM
P0444	Evaporative emission (EVAP) canister purge valve - open circuit	Wiring open circuit, EVAP canister purge valve, ECM
P0445	Evaporative emission (EVAP) canister purge valve - short circuit	Wiring short circuit, EVAP canister purge valve, ECM
P0446	Evaporative emission (EVAP) system, vent control - circuit malfunction	Wiring, EVAP canister purge valve, ECM
P0447	Evaporative emission (EVAP) system, vent control - open circuit	Wiring open circuit, EVAP canister purge valve, ECM
P0448	Evaporative emission (EVAP) system, vent control - short circuit	Wiring short circuit, EVAP canister purge valve, ECM
P0449	Evaporative emission (EVAP) system, vent valve - circuit malfunction	Wiring, EVAP canister purge valve, ECM
P044A	Exhaust gas recirculation (EGR) sensor C - circuit malfunction	Wiring, EGR sensor, ECM
P044B	Exhaust gas recirculation (EGR) sensor C - range/performance problem	Wiring, EGR sensor, ECM
P044C	Exhaust gas recirculation (EGR) valve position sensor C - circuit low	Wiring, EGR valve position sensor, ECM
P044D	Exhaust gas recirculation (EGR) sensor C - circuit high	Wiring, EGR sensor, ECM

P044E	Exhaust gas recirculation (EGR) sensor C - circuit intermittent/erratic	Wiring, EGR sensor, ECM
P044F	Secondary air injection (AIR) switching valve A - circuit high	Wiring, AIR switching valve, ECM
P0450	Evaporative emission (EVAP) pressure sensor - circuit malfunction	Wiring, EVAP pressure sensor, ECM
P0451	Evaporative emission (EVAP) pressure sensor - range/performance problem	EVAP pressure sensor
P0452	Evaporative emission (EVAP) pressure sensor - low input	Wiring short to earth, EVAP pressure sensor, ECM
P0453	Evaporative emission (EVAP) pressure sensor - high input	Wiring short to positive, EVAP pressure sensor, ECM
P0454	Evaporative emission (EVAP) pressure sensor - circuit intermittent	Wiring, poor connection, EVAP pressure sensor, ECM
P0455	Evaporative emission (EVAP) system - large leak detected	Hose connection(s), intake leak, EVAP canister, EVAP canister purge valve
P0456	Evaporative emission (EVAP) system - very small leak detected	Mechanical fault, hose connection(s), EVAP pressure sensor
P0457	Evaporative emission (EVAP) system - leak detected (filler cap loose/off)	Mechanical fault, hose connection(s), EVAP pressure sensor
P0458	Evaporative emission (EVAP) system, EVAP valve - circuit low	Wiring short to earth, EVAP valve
P0459	Evaporative emission (EVAP) system, EVAP valve - circuit high	Wiring short to positive, EVAP valve
P045A	Exhaust gas recirculation (EGR) valve actuator B - circuit malfunction	Wiring, EGR valve actuator, ECM
P045B	Exhaust gas recirculation (EGR) valve B - circuit range/performance	Wiring, EGR valve, ECM
P045C	Exhaust gas recirculation (EGR) valve actuator B - circuit low	Wiring, EGR valve actuator, ECM
P045D	Exhaust gas recirculation (EGR) valve actuator B - circuit high	Wiring, EGR valve actuator, ECM
P045E	Exhaust gas recirculation (EGR) valve actuator B - actuator stuck open	Wiring, EGR valve actuator, mechanical fault, ECM
P045F	Exhaust gas recirculation (EGR) valve B - valve stuck closed	Wiring, EGR valve, mechanical fault, ECM
P0460	Fuel tank level sensor - circuit malfunction	Wiring, fuel tank level sensor, ECM
P0461	Fuel tank level sensor - range/performance problem	Wiring, fuel tank level sensor
P0462	Fuel tank level sensor - low input	Wiring short to earth, fuel tank level sensor, ECM
P0463	Fuel tank level sensor - high input	Wiring short to positive, fuel tank level sensor, ECM
P0464	Fuel tank level sensor - circuit intermittent	Wiring, poor connection, fuel tank level sensor, ECM
P0465	Evaporative emission (EVAP) canister purge flow sensor - circuit malfunction	Wiring, EVAP canister purge flow sensor, ECM
P0466	Evaporative emission (EVAP) canister purge flow sensor - range/performance problem	EVAP canister purge flow sensor
P0467	Evaporative emission (EVAP) canister purge flow sensor - low input	Wiring short to earth, EVAP canister purge flow sensor, ECM

P0468	Evaporative emission (EVAP) canister purge flow sensor - high input	Wiring short to positive, EVAP canister purge flow sensor, ECM
P0469	Evaporative emission (EVAP) canister purge flow sensor - circuit intermittent	Wiring, poor connection, EVAP canister purge flow sensor, ECM
P046A	Catalytic converter temperature sensor 1/2, bank 1 - correlation	Wiring, catalytic converter temperature sensor, ECM
P046B	Catalytic converter temperature sensor 1/2, bank 2 - correlation	Wiring, catalytic converter temperature sensor, ECM
P046C	Exhaust gas recirculation (EGR) valve position sensor A - range/performance problem	Wiring, EGR valve position sensor, ECM
P046D	Exhaust gas recirculation (EGR) sensor A - intermittent/erratic	Wiring, EGR sensor, ECM
P046E	Exhaust gas recirculation (EGR) sensor B - range/performance problem	Wiring, EGR sensor, ECM
P046F	Exhaust gas recirculation (EGR) sensor B - intermittent/erratic	Wiring, EGR sensor, ECM
P0470	Exhaust gas pressure sensor - circuit malfunction	Wiring, exhaust gas pressure sensor, ECM
P0471	Exhaust gas pressure sensor - range/performance problem	Exhaust gas pressure sensor
P0472	Exhaust gas pressure sensor - low input	Wiring short to earth, exhaust gas pressure sensor, ECM
P0473	Exhaust gas pressure sensor - high input	Wiring short to positive, exhaust gas pressure sensor, ECM
P0474	Exhaust gas pressure sensor - circuit intermittent	Wiring, poor connection, exhaust gas pressure sensor, ECM
P0475	Exhaust gas pressure control valve - circuit malfunction	Wiring, exhaust gas pressure control valve, ECM
P0476	Exhaust gas pressure control valve - range/performance problem	Exhaust gas pressure control valve
P0477	Exhaust gas pressure control valve - low input	Wiring short to earth, exhaust gas pressure control valve, ECM
P0478	Exhaust gas pressure control valve - high input	Wiring short to positive, exhaust gas pressure control valve, ECM
P0479	Exhaust gas pressure control valve - circuit intermittent	Wiring, poor connection, exhaust gas pressure control valve, ECM
P047A	Exhaust gas pressure sensor B - circuit	Wiring, exhaust gas pressure sensor, ECM
P047B	Exhaust gas pressure sensor B - circuit range/performance	Wiring, exhaust gas pressure sensor, ECM
P047C	Exhaust gas pressure sensor B - circuit low	Wiring, exhaust gas pressure sensor, ECM
P047D	Exhaust gas pressure sensor B - circuit high	Wiring, exhaust gas pressure sensor, ECM
P047E	Exhaust gas pressure sensor B - circuit intermittent/erratic	Wiring, exhaust gas pressure sensor, ECM
P047F	Exhaust gas pressure control valve - valve stuck open	Wiring, exhaust gas pressure control valve, mechanical fault, ECM
P0480	Engine coolant blower motor 1 - circuit malfunction	Wiring, engine coolant blower motor, ECM
P0481	Engine coolant blower motor 2 - circuit malfunction	Wiring, engine coolant blower motor, ECM
P0482	Engine coolant blower motor 3 - circuit malfunction	Wiring, engine coolant blower motor, ECM
P0483	Engine coolant blower motor, rationality check - malfunction	Wiring, engine coolant blower motor, ECM
P0484	Engine coolant blower motor - circuit over current	Wiring, engine coolant blower motor, ECM

P0485	Engine coolant blower motor, power/earth - circuit malfunction	Wiring, engine coolant blower motor, ECM
P0486	Exhaust gas recirculation (EGR) valve position sensor B - circuit malfunction	Wiring, poor connection, EGR valve position sensor, ECM
P0487	Exhaust gas recirculation (EGR) system, throttle position control - circuit malfunction	Wiring, poor connection, ECM
P0488	Exhaust gas recirculation (EGR) system, throttle position control - range/performance problem	Wiring, poor connection, ECM
P0489	Exhaust gas recirculation (EGR) system - circuit low	Wiring short to earth, EGR valve
P048A	Exhaust gas control actuator - actuator stuck closed	Wiring, exhaust gas control actuator, mechanical fault, ECM
P048B	Exhaust gas control actuator position sensor/switch - circuit malfunction	Wiring, exhaust gas control actuator position sensor, ECM
P048C	Exhaust gas control actuator position sensor/switch - circuit range/performance	Wiring, exhaust gas control actuator position sensor, ECM
P048D	Exhaust gas pressure control valve position sensor/switch - circuit low	Wiring, exhaust gas pressure control valve position sensor/switch, ECM
P048E	Exhaust gas pressure control valve position sensor/switch - circuit high	Wiring, exhaust gas pressure control valve position sensor, ECM
P048F	Exhaust gas control actuator position sensor/switch - circuit intermittent/erratic	Wiring, exhaust gas control actuator position sensor/switch, ECM
P0490	Exhaust gas recirculation (EGR) system - circuit high	Wiring short to positive, EGR valve
P0491	Secondary air injection (AIR) system, bank 1 - malfunction	Wiring, AIR solenoid, hose connections, mechanical fault
P0492	Secondary air injection (AIR) system, bank 2 - malfunction	Wiring, AIR solenoid, hose connections, mechanical fault
P0493	Engine coolant blower motor over-speed (clutch locked)	Blower motor clutch, mechanical fault
P0494	Engine coolant blower motor speed - low	Wiring, relay, blower motor, mechanical fault
P0495	Engine coolant blower motor speed - high	Wiring, relay, blower motor, mechanical fault
P0496	Evaporative emission (EVAP) system - high purge flow	Wiring, EVAP valve, mechanical fault
P0497	Evaporative emission (EVAP) system - low purge flow	Wiring, EVAP valve, hoses blocked, mechanical fault
P0498	Evaporative emission (EVAP) system, vent control - circuit low	Wiring short to earth, EVAP valve
P0499	Evaporative emission (EVAP) system, vent control - circuit high	Wiring short to positive, EVAP valve
P049A	Exhaust gas recirculation (EGR) valve actuator B - flow malfunction	Wiring, EGR valve actuator, ECM
P049B	Exhaust gas recirculation (EGR) B - insufficient flow detected	Wiring, EGR valve actuator, exhaust blockage, MAF sensor, MAP sensor, VAF sensor, ECM
P049C	Exhaust gas recirculation (EGR) valve actuator B - excessive flow detected	Wiring, EGR valve actuator, ECM
P049D	Exhaust gas recirculation (EGR) valve actuator A - learning limit exceeded	Wiring, EGR valve actuator, ECM
P049E	Exhaust gas recirculation (EGR) valve B - learning limit exceeded	Wiring, EGR valve, ECM
P049F	Exhaust gas pressure control valve B	-

P04A0	Exhaust gas pressure control valve B - circuit range/performance	-
P04A1	Exhaust gas pressure control valve B - circuit low	-
P04A2	Exhaust gas pressure control valve B - circuit high	-
P04A3	Exhaust gas pressure control valve B - circuit intermittent	-
P04A4	Exhaust gas pressure control valve B - valve stuck open	-
P04A5	Exhaust gas pressure control valve B - valve stuck closed	-
P04A6	Exhaust gas pressure control valve position sensor/switch B - circuit malfunction	-
P04A7	Exhaust gas pressure control valve position sensor/switch B - circuit range/performance	-
P04A8	Exhaust gas pressure control valve position sensor/switch B - circuit low	-
P04A9	Exhaust gas pressure control valve position sensor/switch B - circuit high	-
P04AA	Exhaust gas pressure control valve position sensor/switch B - circuit intermittent/erratic	-
P04AB	Evaporative emission (EVAP) canister purge valve B - open circuit	Wiring, EVAP canister purge valve, ECM
P04AC	Evaporative emission (EVAP) canister purge valve B - circuit low	Wiring, EVAP canister purge valve, ECM
P04AD	Evaporative emission (EVAP) canister purge valve B - circuit high	Wiring, EVAP canister purge valve, ECM
P04AE	Evaporative emission (EVAP) canister purge valve B - performance problem or valve stuck open	Wiring, EVAP canister purge valve, ECM
P04AF	Evaporative emission (EVAP) canister purge valve B - EVAP valve stuck closed	Wiring, EVAP canister purge valve, ECM
P04B0	Refuelling vapour control valve - open circuit	Wiring, refuelling vapour control valve
P04B1	Refuelling vapour control valve - circuit low	Wiring, refuelling vapour control valve
P04B2	Refuelling vapour control valve - circuit high	Wiring, refuelling vapour control valve
P04B3	Refuelling vapour control valve - performance problem or valve stuck open	Wiring, refuelling vapour control valve
P04B4	Refuelling vapour control valve - valve stuck closed	Wiring, refuelling vapour control valve
P04B5	Fuel filler flap - flap stuck open	-
P04B6	Fuel filler flap - flap stuck closed	-
P04B7	Fuel filler flap sensor/switch - circuit intermittent/erratic	Wiring, fuel filler flap sensor/switch
P04B8	Fuel filler flap sensor/switch - circuit malfunction	Wiring, fuel filler flap sensor/switch
P04B9	Fuel filler flap sensor/switch - circuit low	Wiring, fuel filler flap sensor/switch
P04BA	Fuel filler flap sensor/switch - circuit high	Wiring, fuel filler flap sensor/switch
P04BB	Fuel filler flap lock control - circuit open	Wiring, fuel filler flap actuator
P04BC	Fuel filler flap lock control - circuit range/performance	Wiring, fuel filler flap actuator
P04BD	Fuel filler flap lock control - circuit low	Wiring, fuel filler flap actuator
P04BE	Fuel filler flap lock control - circuit high	Wiring, fuel filler flap actuator
P04BF	Fuel filler flap unlock control - circuit open	Wiring, fuel filler flap actuator

P04C0	Fuel filler flap unlock control - circuit range/performance	Wiring, fuel filler flap actuator
P04C1	Fuel filler flap unlock control - circuit low	Wiring, fuel filler flap actuator
P04C2	Fuel filler flap unlock control - circuit high	Wiring, fuel filler flap actuator
P04C3	Fuel filler flap lock position sensor/switch - circuit malfunction	Wiring, fuel filler flap lock position sensor/switch
P04C4	Fuel filler flap lock position sensor/switch - circuit range/performance	Wiring, fuel filler flap lock position sensor/switch
P04C5	Fuel filler flap lock position sensor/switch - circuit low	Wiring, fuel filler flap lock position sensor/switch
P04C6	Fuel filler flap lock position sensor/switch - circuit high	Wiring, fuel filler flap lock position sensor/switch
P04C7	Fuel filler flap lock position sensor/switch - circuit intermittent/erratic	Wiring, fuel filler flap lock position sensor/switch
P04C8	Fuel filler flap open request sensor/switch - circuit malfunction	Wiring, fuel filler flap open request sensor/switch
P04C9	Fuel filler flap open request sensor/switch - performance or stuck off	Wiring, fuel filler flap open request sensor/switch
P04CA	Fuel filler flap open request sensor/switch - signal stuck low	Wiring, fuel filler flap open request sensor/switch
P04CB	Fuel filler flap open request sensor/switch - signal stuck high	Wiring, fuel filler flap open request sensor/switch
P04CC	Fuel filler flap open request sensor/switch - intermittent/erratic signal	Wiring, fuel filler flap open request sensor/switch
P04CD	Fuel filler flap open request sensor/switch - stuck on	Wiring, fuel filler flap open request sensor/switch
P04CE	Exhaust gas recirculation (EGR) temperature sensor C - circuit malfunction	Wiring, EGR temperature sensor, ECM
P04CF	Exhaust gas recirculation (EGR) temperature sensor C - circuit malfunction	Wiring, EGR temperature sensor, ECM
P04D0	Exhaust gas recirculation (EGR) temperature sensor C - circuit low	Wiring, EGR temperature sensor, ECM
P04D1	Exhaust gas recirculation (EGR) temperature sensor C - circuit high	Wiring, EGR temperature sensor, ECM
P04D2	Exhaust gas recirculation (EGR) temperature sensor C - circuit intermittent/erratic	Wiring, EGR temperature sensor, ECM
P04D3	Exhaust brake - input circuit malfunction	Wiring
P04D4	Exhaust brake - input circuit range/performance	Wiring
P04D5	Exhaust brake - input circuit low	Wiring
P04D6	Exhaust brake - input circuit high	Wiring
P04D7	Exhaust brake - circuit intermittent/erratic	Wiring
P04D8	Excessive time to enter closed loop EGR control	-
P04D9	Closed loop EGR control, limit reached - low flow detected	-
P04DA	Closed loop EGR control, limit reached - high flow detected	-
P04DB	Crankcase breather system disconnected	-
P0500	Vehicle speed sensor (VSS) - circuit malfunction	Wiring, VSS, ECM
P0501	Vehicle speed sensor (VSS) - range/performance problem	Wiring, speedometer, VSS, CAN data bus
P0502	Vehicle speed sensor (VSS) - low input	Wiring short to earth, VSS, ECM

P0503	Vehicle speed sensor (VSS) - intermittent/erratic/high input	Wiring, poor connection, other connected system, instrument panel, VSS
P0504	Brake pedal position (BPP) switch A/B - correlation	Wiring, mechanical fault
P0505	Idle speed control (ISC) system - malfunction	Wiring, ISC actuator/IAC valve, throttle motor, throttle valve tight/sticking, ECM
P0506	Idle speed control (ISC) system - rpm lower than expected	Wiring, ISC actuator/IAC valve, throttle motor, throttle valve tight/sticking, ECM
P0507	Idle speed control (ISC) system - rpm higher than expected	Wiring, ISC actuator/IAC valve, throttle motor, throttle valve tight/sticking, ECM
P0508	Idle air control (IAC) - circuit low	Wiring short to earth, IAC valve, ECM
P0509	Idle air control (IAC) - circuit high	Wiring short to positive, IAC valve, ECM
P050A	Idle air control (IAC) valve, cold start - performance problem	Wiring, IAC valve, ECM
P050B	Ignition timing, cold start - performance problem	Wiring, CKP sensor, CMP sensor, mechanical fault, ECM
P050C	Engine coolant temperature (ECT) sensor, cold start - performance problem	Wiring, ECT sensor, ECM
P050D	Cold start rough idle	Wiring, IAC valve, intake manifold air leak, ECM
P050E	Exhaust temperature, cold start - out of range	Wiring, exhaust gas temperature sensor, ECM
P050F	Brake booster pressure sensor - low	Wiring, brake booster pressure sensor
P0510	Closed throttle position (CTP) switch - circuit malfunction	Wiring, CTP switch, ECM
P0511	Idle air control (IAC) - circuit malfunction	Wiring, poor connection, IAC valve, ECM
P0512	Starter request circuit - malfunction	Wiring, immobilizer system, relay
P0513	Incorrect immobilizer key	Immobilizer system
P0514	Battery temperature sensor - circuit range/performance	Wiring, poor connection, battery temperature sensor
P0515	Battery temperature sensor - circuit malfunction	Wiring, poor connection, battery temperature sensor
P0516	Battery temperature sensor - circuit low	Wiring short to earth, battery temperature sensor, ECM
P0517	Battery temperature sensor - circuit high	Wiring short to positive, battery temperature sensor, ECM
P0518	Idle air control (IAC) - circuit intermittent	Wiring, poor connection, IAC valve, ECM
P0519	Idle air control (IAC) - circuit performance	Wiring, poor connection, IAC valve, ECM
P051A	Crankcase pressure sensor - circuit malfunction	Wiring, crankcase pressure sensor, ECM
P051B	Crankcase pressure sensor - circuit range/performance	Wiring, crankcase pressure sensor, ECM
P051C	Crankcase pressure sensor - circuit low	Wiring, crankcase pressure sensor, ECM
P051D	Crankcase pressure sensor - circuit high	Wiring, crankcase pressure sensor, ECM
P051E	Crankcase pressure sensor - circuit intermittent	Wiring, crankcase pressure sensor, ECM
P051F	Positive crankcase ventilation (PCV) filter - PCV filter restricted	-
P0520	Engine oil pressure sensor/switch - circuit malfunction	Wiring, engine oil pressure sensor/switch, ECM
P0521	Engine oil pressure sensor/switch - range/performance problem	Engine oil pressure sensor/switch
P0522	Engine oil pressure sensor/switch - low voltage	Wiring short to earth, engine oil pressure sensor/switch, ECM

P0523	Engine oil pressure sensor/switch - high voltage	Wiring short to positive, engine oil pressure sensor/switch, ECM
P0524	Engine oil pressure too low	Mechanical fault
P0525	Cruise control system, actuator control - circuit range/performance	Wiring, poor connection, cruise control actuator
P0526	Engine coolant blower motor speed sensor - circuit malfunction	Wiring, poor connection, blower motor speed sensor, ECM
P0527	Engine coolant blower motor speed sensor - circuit range/performance	Wiring, poor connection, blower motor speed sensor
P0528	Engine coolant blower motor speed sensor - no signal	Wiring, poor connection, blower motor speed sensor, ECM
P0529	Engine coolant blower motor speed sensor - circuit intermittent	Wiring, poor connection, ECM
P052A	Camshaft timing - cold start, bank 1 - timing over-advanced	Wiring, CKP sensor, CMP sensor, camshaft position (CMP) actuator, mechanical fault, ECM
P052B	Camshaft timing - cold start, bank 1 - timing over-retarded	Wiring, CKP sensor, CMP sensor, camshaft position (CMP) actuator, mechanical fault, ECM
P052C	Camshaft timing - cold start, bank 2 - timing over-advanced	Wiring, CKP sensor, CMP sensor, camshaft position (CMP) actuator, mechanical fault, ECM
P052D	Camshaft timing - cold start, bank 2 - timing over-retarded	Wiring, CKP sensor, CMP sensor, camshaft position (CMP) actuator, mechanical fault, ECM
P052E	Positive crankcase ventilation (PCV) regulator valve - performance malfunction	-
P052F	Glow plug control module - system voltage malfunction	Wiring, glow plug control module
P0530	AC refrigerant pressure sensor - circuit malfunction	Wiring, AC refrigerant pressure sensor, ECM
P0531	AC refrigerant pressure sensor - range/performance problem	AC refrigerant pressure sensor
P0532	AC refrigerant pressure sensor - low input	AC refrigerant pressure too low (incorrectly charged), wiring, AC refrigerant pressure sensor, ECM
P0533	AC refrigerant pressure sensor - high input	AC refrigerant pressure too high (cooling fault/incorrectly charged), wiring, AC refrigerant pressure sensor, ECM
P0534	AC refrigerant charge loss	AC leak, wiring, AC refrigerant pressure sensor
P0535	AC evaporator temperature sensor - circuit malfunction	Wiring, poor connection, AC evaporator temperature sensor, ECM
P0536	AC evaporator temperature sensor - circuit range/performance	Wiring, poor connection, AC evaporator temperature sensor, ECM
P0537	AC evaporator temperature sensor - circuit low	Wiring short to earth, AC evaporator temperature sensor, ECM
P0538	AC evaporator temperature sensor - circuit high	Wiring short to positive, AC evaporator temperature sensor, ECM
P0539	AC evaporator temperature sensor - circuit intermittent	Wiring, poor connection, AC evaporator temperature sensor, ECM
P053A	Crankcase breather heater - open circuit	Wiring, crankcase breather heater, ECM
P053B	Crankcase breather heater - circuit low	Wiring, crankcase breather heater, ECM
P053C	Crankcase breather heater - circuit high	Wiring, crankcase breather heater, ECM
P053D	Crankcase breather heater - performance problem	Wiring, crankcase breather heater, ECM
P053F	Cold start fuel pressure - performance problem	-

P0540	Intake air heater A - circuit malfunction	Wiring, relay, intake air heater
P0541	Intake air heater A - circuit low	Wiring short to earth, intake air heater
P0542	Intake air heater A - circuit high	Wiring short to positive, intake air heater
P0543	Intake air heater A - open circuit	Wiring, intake air heater
P0544	Exhaust gas temperature (EGT) sensor 1, bank 1 - circuit malfunction	Wiring, EGT sensor, ECM
P0545	Exhaust gas temperature (EGT) sensor 1, bank 1 - low input	Wiring short to earth, EGT sensor, ECM
P0546	Exhaust gas temperature (EGT) sensor 1, bank 1 - high input	Wiring short to positive, EGT sensor, ECM
P0547	Exhaust gas temperature (EGT) sensor 1, bank 2 - circuit malfunction	Wiring, poor connection, EGT sensor, ECM
P0548	Exhaust gas temperature (EGT) sensor 1, bank 2 - circuit low	Wiring short to earth, EGT sensor, ECM
P0549	Exhaust gas temperature (EGT) sensor 1, bank 2 - circuit high	Wiring short to positive, EGT sensor, ECM
P054A	Camshaft position (CMP) sensor B, cold start - timing over-advanced	Wiring, CMP sensor
P054B	Camshaft position (CMP) sensor B, cold start - timing over-retarded	Wiring, CMP sensor
P054C	Camshaft position (CMP) sensor B, cold start - timing over-advanced	Wiring, CMP sensor
P054D	Camshaft position (CMP) sensor B, cold start - timing over-retarded	Wiring, CMP sensor
P054E	Idle control system - fuel quantity lower than expected	-
P054F	Idle control system - fuel quantity higher than expected	-
P0550	Power steering pressure (PSP) sensor/switch - circuit malfunction	Wiring, PSP sensor/switch, ECM
P0551	Power steering pressure (PSP) sensor/switch - range/performance problem	PAS system, PSP sensor/switch
P0552	Power steering pressure (PSP) sensor/switch - low input	Wiring short to earth, PSP sensor/switch, ECM
P0553	Power steering pressure (PSP) sensor/switch - high input	Wiring short to positive, PSP sensor/switch, ECM
P0554	Power steering pressure (PSP) sensor/switch - circuit intermittent	Wiring, poor connection, PSP sensor/switch, ECM
P0555	Brake booster pressure sensor - circuit malfunction	Wiring, poor connection, brake booster pressure sensor, ECM
P0556	Brake booster pressure sensor - circuit range/performance	Wiring, poor connection, brake booster pressure sensor, ECM
P0557	Brake booster pressure sensor - circuit low input	Wiring short to earth, brake booster pressure sensor, ECM
P0558	Brake booster pressure sensor - circuit high input	Wiring short to positive, brake booster pressure sensor, ECM
P0559	Brake booster pressure sensor - circuit intermittent	Wiring, poor connection, brake booster pressure sensor, ECM
P055A	Engine oil pressure sensor/switch B - circuit malfunction	Wiring, engine oil pressure sensor/switch, ECM

P055B	Engine oil pressure sensor/switch B - circuit range/performance	Wiring, engine oil pressure sensor/switch, ECM
P055C	Engine oil pressure sensor/switch B - circuit low	Wiring, engine oil pressure sensor/switch, ECM
P055D	Engine oil pressure sensor/switch B - circuit high	Wiring, engine oil pressure sensor/switch, ECM
P0560	System voltage - malfunction	Wiring, poor connection, battery, alternator
P0561	System voltage - unstable	Wiring, poor connection, battery, alternator
P0562	System voltage - low	Wiring, poor connection, battery, alternator
P0563	System voltage - high	Alternator
P0564	Cruise control system, multi-function switch input A - circuit malfunction	Wiring, poor connection, multi-function switch, mechanical fault
P0565	Cruise control master switch, ON signal - malfunction	Wiring, cruise control master switch, ECM
P0566	Cruise control master switch, OFF signal - malfunction	Wiring, cruise control master switch, ECM
P0567	Cruise control selector switch, RESUME signal - malfunction	Wiring, cruise control selector switch, ECM
P0568	Cruise control master switch, SET signal - malfunction	Wiring, cruise control master switch, ECM
P0569	Cruise control selector switch, COAST signal - malfunction	Wiring, cruise control selector switch, ECM
P056A	Cruise control increase distance signal malfunction	Wiring, cruise control distance range control module, ECM
P056B	Cruise control decrease distance signal malfunction	Wiring, cruise control distance range control module, ECM
P056C	Cruise control, cancel signal	-
P0570	Cruise control system, APP sensor signal - malfunction	Wiring, APP sensor, ECM
P0571	Cruise control/brake switch A - circuit malfunction	Wiring, cruise control/brake switch, ECM
P0572	Cruise control/brake switch A - circuit low	Wiring short to earth, cruise control/brake switch, ECM
P0573	Cruise control/brake switch A - circuit high	Wiring short to positive, cruise control/brake switch, ECM
P0574	Cruise control system - vehicle speed too high	Mechanical fault
P0575	Cruise control system - input circuit malfunction	Wiring, poor connection, mechanical fault, ECM
P0576	Cruise control system - input circuit low	Wiring short to earth
P0577	Cruise control system - input circuit high	Wiring short to positive
P0578	Cruise control system, multi-function switch input A - circuit stuck	Wiring, poor connection, multi-function switch, mechanical fault
P0579	Cruise control system, multi-function switch input A - circuit range/performance	Wiring, poor connection, multi-function switch, mechanical fault
P057A	Brake pedal position (BPP) sensor - circuit open	Wiring, BPP sensor, ECM
P057B	Brake pedal position (BPP) sensor - circuit range/performance	Wiring, BPP sensor, ECM
P057C	Brake pedal position (BPP) sensor - circuit low	Wiring, BPP sensor, ECM
P057D	Brake pedal position (BPP) sensor - circuit high	Wiring, BPP sensor, ECM
P057E	Brake pedal position (BPP) sensor - circuit intermittent/erratic	Wiring, BPP sensor, ECM
P0580	Cruise control system, multi-function switch input A - circuit low	Wiring short to earth, multi-function switch, mechanical fault

P0581	Cruise control system, multi-function switch input A - circuit high	Wiring short to positive, multi-function switch, mechanical fault
P0582	Cruise control system, vacuum control - open circuit	Wiring, vacuum control solenoid
P0583	Cruise control system, vacuum control - circuit low	Wiring short to earth, vacuum control solenoid
P0584	Cruise control system, vacuum control - circuit high	Wiring short to positive, vacuum control solenoid
P0585	Cruise control system, multi-function switch input A/B - correlation	Mechanical fault
P0586	Cruise control system, vent control - open circuit	Wiring, vent control solenoid
P0587	Cruise control system, vent control - circuit low	Wiring short to earth, vent control solenoid
P0588	Cruise control system, vent control - circuit high	Wiring short to positive, vent control solenoid
P0589	Cruise control system, multi-function switch input B - circuit malfunction	Wiring, poor connection, multi-function switch, mechanical fault
P0590	Cruise control system, multi-function switch input B - circuit stuck	Wiring, poor connection, multi-function switch, mechanical fault
P0591	Cruise control system, multi-function switch input B - circuit range/performance	Wiring, poor connection, multi-function switch, mechanical fault
P0592	Cruise control system, multi-function switch input B - circuit low	Wiring short to earth, multi-function switch, mechanical fault
P0593	Cruise control system, multi-function switch input B - circuit high	Wiring short to positive, multi-function switch, mechanical fault
P0594	Cruise control system, actuator control - open circuit	Wiring, actuator
P0595	Cruise control system, actuator control - circuit low	Wiring short to earth, actuator
P0596	Cruise control system, actuator control - circuit high	Wiring short to positive, actuator
P0597	Thermostat heater control system - open circuit	Wiring, relay, thermostat heater
P0598	Thermostat heater control system - circuit low	Wiring short to earth, relay, thermostat heater
P0599	Thermostat heater control system - circuit high	Wiring short to positive, relay, thermostat heater
P0600	CAN data bus - malfunction	Wiring, connected system, ECM
P0601	Engine control module (ECM) - memory check sum error	ECM
P0602	Engine control module (ECM) - programming error	ECM
P0603	Engine control module (ECM) - KAM error	ECM
P0604	Engine control module (ECM) - RAM error	ECM
P0605	Engine control module (ECM) - ROM error	ECM
P0606	Engine control module (ECM)/powertrain control module (PCM) - processor fault	ECM/PCM
P0607	Engine control module (ECM) - performance problem	ECM
P0608	Engine control module (ECM), VSS output A - malfunction	ECM
P0609	Engine control module (ECM), VSS output B - malfunction	ECM
P060A	Engine control module (ECM), monitoring processor performance problem	ECM
P060B	Engine control module (ECM), A/D processing performance	ECM
P060C	Engine control module (ECM), main processor - performance problem	ECM
P060D	Engine control module (ECM), accelerator pedal position - performance problem	ECM

P060E	Engine control module (ECM), throttle position (TP) - performance problem	ECM
P060F	Engine control module (ECM), engine coolant temperature (ECT) - performance problem	ECM
P0610	Engine control module (ECM) - vehicle options error	ECM
P0611	Fuel injector control module - performance problem	Fuel injector control module
P0612	Fuel injector control module - control relay circuit	Wiring, relay, fuel injector control module
P0613	Transmission control module (TCM) - processor error	TCM
P0614	Engine control module (ECM)/transmission control module (TCM) - mismatch	ECM/TCM
P0615	Starter motor relay - circuit malfunction	Wiring, poor connection, starter motor relay, ECM
P0616	Starter motor relay - circuit low	Wiring short to earth, starter motor relay, ECM
P0617	Starter motor relay - circuit high	Wiring short to positive, starter motor relay, ECM
P0618	Alternative fuel control module - KAM error	Alternative fuel control module
P0619	Alternative fuel control module - RAM/ROM error	Alternative fuel control module
P061A	Engine control module (ECM), engine torque - performance problem	ECM
P061B	Engine control module (ECM), torque calculation - performance problem	ECM
P061C	Engine control module (ECM), engine rpm - performance problem	ECM
P061D	Engine control module (ECM), engine air mass - performance problem	ECM
P061E	Engine control module (ECM), brake pedal position (BPP) switch/sensor - performance problem	ECM
P061F	Engine control module (ECM), throttle actuator controller - performance problem	ECM
P0620	Alternator, control - circuit malfunction	Wiring, alternator, battery, ECM
P0621	Alternator warning lamp - circuit malfunction	Wiring, alternator warning lamp, ECM
P0622	Alternator field control - circuit malfunction	Wiring, alternator, battery, ECM
P0623	Alternator warning lamp, control - circuit malfunction	Wiring, poor connection, bulb, ECM
P0624	Filler cap warning lamp, control - circuit malfunction	Wiring, poor connection, bulb, ECM
P0625	Alternator field terminal - circuit low	Wiring short to earth, alternator
P0626	Alternator field terminal - circuit high	Wiring short to positive, alternator
P0627	Fuel pump (FP) control - open circuit	Wiring, relay, fuel pump (FP)
P0628	Fuel pump (FP) control - circuit low	Wiring short to earth, relay, fuel pump (FP)
P0629	Fuel pump (FP) control - circuit high	Wiring short to positive, relay, fuel pump (FP)
P062A	Fuel pump (FP) A - control circuit range/performance	Wiring, FP, ECM
P062B	Engine control module (ECM), fuel injector control - performance problem	ECM
P062C	Engine control module (ECM), vehicle speed - performance problem	ECM
P062D	Injector control module, bank 1 - performance problem	Wiring, injector control module, ECM
P062E	Injector control module, bank 2 - performance problem	Wiring, injector control module, ECM
P062F	Engine control module (ECM), EEPROM error	ECM

P0630	VIN not programmed or mismatch - ECM/PCM	ECM/PCM
P0631	VIN not programmed or mismatch - TCM	TCM
P0632	Odometer not programmed - ECM/PCM	Programming, ECM/PCM
P0633	Immobilizer key not programmed - ECM/PCM	Programming, ECM/PCM
P0634	PCM/ECM/TCM - internal temperature too high	Mechanical fault, PCM/ECM/TCM
P0635	Power steering control - circuit malfunction	Wiring, poor connection, PSP sensor/switch, ECM
P0636	Power steering control - circuit low	Wiring short to earth, PSP sensor/switch, ECM
P0637	Power steering control - circuit high	Wiring short to positive, PSP sensor/switch, ECM
P0638	Throttle actuator control (TAC), bank 1 - range/performance problem	Basic setting not carried out (if applicable), ISC actuator/throttle motor, APP sensor
P0639	Throttle actuator control (TAC), bank 2 - range/performance problem	Wiring, throttle control unit
P063A	Generator voltage monitoring - circuit malfunction	Wiring, generator, ECM
P063B	Generator voltage monitoring - circuit range/performance	Wiring, generator, ECM
P063C	Generator voltage monitoring - circuit low	Wiring, generator, ECM
P063D	Generator voltage monitoring - circuit high	Wiring, generator, ECM
P063E	Throttle control unit, automatic configuration - input not present	Wiring, throttle control unit, ECM
P063F	Engine coolant temperature (ECT) sensor, automatic configuration - input not present	Wiring, ECT sensor, ECM
P0640	Intake air heater control - circuit malfunction	Wiring, relay, intake air heater
P0641	Sensor reference voltage A - open circuit	Wiring
P0642	Sensor reference voltage A - circuit low	Wiring
P0643	Sensor reference voltage A - circuit high	Wiring short to positive
P0644	Driver display, serial communication - circuit malfunction	Wiring, CAN data bus, ECM
P0645	AC compressor clutch relay - circuit malfunction	Wiring, AC compressor clutch relay
P0646	AC compressor clutch relay - circuit low	Wiring short to earth, AC compressor clutch relay
P0647	AC compressor clutch relay - circuit high	Wiring short to positive, AC compressor clutch relay
P0648	Immobilizer warning lamp, control - circuit malfunction	Wiring, poor connection, bulb, ECM
P0649	Cruise control indicator lamp, control - circuit malfunction	Wiring, poor connection, bulb, ECM
P064A	Fuel pump (FP) control module - malfunction	Wiring, FP, ECM
P064B	Power take-off (PTO) control module - malfunction	Wiring, PTO control module, ECM
P064C	Glow plug control module - malfunction	Wiring, glow plug, ECM
P064D	Engine control module (ECM), HO2S processor, bank 1 - performance problem	ECM
P064E	Engine control module (ECM), O2S processor, bank 2 - performance problem	ECM
P064F	Unauthorized software - non original equipment calibration detected	Unauthorized software
P0650	Malfunction indicator lamp (MIL), control - circuit malfunction	Wiring, MIL, ECM

P0651	Sensor reference voltage B - open circuit	Wiring
P0652	Sensor reference voltage B - circuit low	Wiring short to earth
P0653	Sensor reference voltage B - circuit high	Wiring short to positive
P0654	Engine rpm, output - circuit malfunction	Wiring, ECM
P0655	Engine hot lamp output - circuit malfunction	Wiring, engine hot lamp, ECM
P0656	Fuel level output - circuit malfunction	Wiring, ECM
P0657	Actuator supply voltage - open circuit	Wiring
P0658	Actuator supply voltage - circuit low	Wiring short to earth, actuator
P0659	Actuator supply voltage - circuit high	Wiring short to positive, actuator
P065A	Generator - performance problem	Wiring, generator, ECM
P065B	Generator - control circuit range/performance	Wiring, generator, ECM
P065C	Generator - mechanical fault/performance problem	Generator
P065D	Reductant system malfunction lamp - circuit malfunction	Wiring, reductant system malfunction lamp, ECM
P065E	Intake manifold air control actuator, bank 1 - performance problem	Wiring, intake manifold air control actuator, ECM
P065F	Intake manifold air control actuator bank 2 - performance problem	Wiring, intake manifold air control actuator, ECM
P0660	Intake manifold air control solenoid, bank 1 - open circuit	Wiring, intake manifold air control solenoid
P0661	Intake manifold air control solenoid, bank 1 - circuit low	Wiring short to earth, intake manifold air control solenoid
P0662	Intake manifold air control solenoid, bank 1 - circuit high	Wiring short to positive, intake manifold air control solenoid
P0663	Intake manifold air control solenoid, bank 2 - open circuit	Wiring, intake manifold air control solenoid
P0664	Intake manifold air control solenoid, bank 2 - circuit low	Wiring short to earth, intake manifold air control solenoid
P0665	Intake manifold air control solenoid, bank 2 - circuit high	Wiring short to positive, intake manifold
P0666	ECM/PCM/TCM internal temperature sensor - circuit malfunction	Poor connection, internal temperature sensor, ECM/PCM/TCM
P0667	ECM/PCM/TCM internal temperature sensor - range/performance problem	Poor connection, internal temperature sensor, ECM/PCM/TCM
P0668	ECM/PCM/TCM internal temperature sensor - circuit low	Internal short to earth, internal temperature sensor, ECM/PCM/TCM
P0669	ECM/PCM/TCM internal temperature sensor - circuit high	Internal short to positive, internal temperature sensor, ECM/PCM/TCM
P066A	Glow plug, cylinder 1 - circuit low	Wiring, glow plug, ECM
P066B	Glow plug, cylinder 1 - circuit high	Wiring, glow plug, ECM
P066C	Glow plug, cylinder 2 - circuit low	Wiring, glow plug, ECM
P066D	Glow plug, cylinder 2 - circuit high	Wiring, glow plug, ECM
P066E	Glow plug, cylinder 3 - circuit low	Wiring, glow plug, ECM
P066F	Glow plug, cylinder 3 - circuit high	Wiring, glow plug, ECM
P0670	Glow plug control module - circuit malfunction	Wiring, poor connection, glow plug control module, glow plug, ECM
P0671	Glow plug, cylinder 1 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM

P0672	Glow plug, cylinder 2 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0673	Glow plug, cylinder 3 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0674	Glow plug, cylinder 4 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0675	Glow plug, cylinder 5 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0676	Glow plug, cylinder 6 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0677	Glow plug, cylinder 7 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0678	Glow plug, cylinder 8 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0679	Glow plug, cylinder 9 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P067A	Glow plug, cylinder 4 - circuit low	Wiring, glow plug, ECM
P067B	Glow plug, cylinder 4 - circuit high	Wiring, glow plug, ECM
P067C	Glow plug, cylinder 5 - circuit low	Wiring, glow plug, ECM
P067D	Glow plug, cylinder 5 - circuit high	Wiring, glow plug, ECM
P067E	Glow plug, cylinder 6 - circuit low	Wiring, glow plug, ECM
P067F	Glow plug, cylinder 6 - circuit high	Wiring, glow plug, ECM
P0680	Glow plug, cylinder 10 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0681	Glow plug, cylinder 11 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0682	Glow plug, cylinder 12 - circuit malfunction	Wiring, poor connection, relay, glow plug control module, glow plug, ECM
P0683	Glow plug control module to ECM/PCM communication error	Wiring, poor connection, glow plug control module, ECM/PCM
P0684	Glow plug control module to ECM/PCM communication error - range/performance problem	Wiring, poor connection, glow plug control module, ECM/PCM
P0685	Engine control (EC) relay - open circuit	Wiring, EC relay
P0686	Engine control (EC) relay - circuit low	Wiring short to earth, EC relay, ECM
P0687	Engine control (EC) relay - short to earth	Wiring short to earth, EC relay, ECM
P0688	Engine control (EC) relay - short to positive	Wiring short to positive, EC relay, ECM
P0689	Engine control (EC) relay - sense circuit low	Wiring short to earth, EC relay, ECM
P068A	Engine control (EC) relay - shut-off early	Wiring, EC relay, ECM
P068B	Engine control (EC) relay - shut-off delay	Wiring, EC relay, ECM
P068C	Glow plug, cylinder 7 - circuit low	Wiring, glow plug, ECM
P068D	Glow plug, cylinder 7 - circuit high	Wiring, glow plug, ECM
P068E	Glow plug, cylinder 8 - circuit low	Wiring, glow plug, ECM
P068F	Glow plug, cylinder 8 - circuit high	Wiring, glow plug, ECM
P0690	Engine control (EC) relay - sense circuit high	Wiring short to positive, EC relay, ECM
P0691	Engine coolant blower motor 1 - circuit low	Wiring short to earth, engine coolant blower motor, ECM
P0692	Engine coolant blower motor 1 - circuit high	Wiring short to positive, engine coolant blower motor, ECM

P0693	Engine coolant blower motor 2 - circuit low	Wiring short to earth, engine coolant blower motor, ECM
P0694	Engine coolant blower motor 2 - circuit high	Wiring short to positive, engine coolant blower motor, ECM
P0695	Engine coolant blower motor 3 - circuit low	Wiring short to earth, engine coolant blower motor
P0696	Engine coolant blower motor 3 - circuit high	Wiring short to positive, engine coolant blower motor
P0697	Sensor reference voltage C - open circuit	Wiring
P0698	Sensor reference voltage C - circuit low	Wiring short to earth
P0699	Sensor reference voltage C - circuit high	Wiring short to positive
P069A	Glow plug, cylinder 9 - circuit low	Wiring, glow plug, ECM
P069B	Glow plug, cylinder 9 - circuit high	Wiring, glow plug, ECM
P069C	Glow plug, cylinder 10 - circuit low	Wiring, glow plug, ECM
P069D	Glow plug, cylinder 10 - circuit high	Wiring, glow plug, ECM
P069E	Fuel pump (FP) control module - MIL activation requested	Wiring, FP, FP control module, ECM
P069F	Throttle control system warning lamp - circuit malfunction	Wiring, warning lamp, ECM
P06A0	Variable AC compressor control - circuit malfunction	Wiring, AC control module, AC compressor variable displacement solenoid, ECM
P06A1	Variable AC compressor control - circuit low	Wiring, AC control module, AC compressor variable displacement solenoid, ECM
P06A2	Variable AC compressor control - circuit high	Wiring, AC control module, AC compressor variable displacement solenoid, ECM
P06A3	Sensor reference voltage D - open circuit	Wiring, ECM
P06A4	Sensor reference voltage D - circuit low	Wiring, sensor short circuit, ECM
P06A5	Sensor reference voltage D - circuit high	Wiring, ECM
P06A6	Sensor reference voltage A - circuit range/performance	Wiring, ECM
P06A7	Sensor reference voltage B - circuit range/performance	Wiring, ECM
P06A8	Sensor reference voltage C - circuit range/performance	Wiring, ECM
P06A9	Sensor reference voltage D - circuit range/performance	Wiring, ECM
P06AA	Engine control module (ECM)/transmission control module (TCM) B - internal temperature too high	Wiring, ECM, TCM
P06AB	Engine control module (ECM)/transmission control module (TCM), internal temperature sensor B - circuit malfunction	Wiring, ECM, TCM
P06AC	Engine control module (ECM)/transmission control module (TCM), internal temperature sensor B - circuit range/performance	Wiring, ECM, TCM
P06AD	Engine control module (ECM)/transmission control module (TCM), internal temperature sensor B - circuit low	Wiring, ECM, TCM
P06AE	Engine control module (ECM)/transmission control module (TCM), internal temperature sensor B - circuit high	Wiring, ECM, TCM

P06AF	Torque management system - forced engine shut down mode	Wiring, ECM, TCM
P06B0	Sensor power supply A - open circuit	Wiring, ECM, TCM
P06B1	Sensor power supply A - circuit low	Wiring, ECM, TCM
P06B2	Sensor power supply A - circuit high	Wiring, ECM, TCM
P06B3	Sensor power supply B - open circuit	Wiring, ECM, TCM
P06B4	Sensor power supply B - circuit low	Wiring, ECM, TCM
P06B5	Sensor power supply B - circuit high	Wiring, ECM, TCM
P06B6	Internal control module, knock sensor (KS) processor 1 - performance malfunction	Wiring, ECM, TCM
P06B7	Internal control module, knock sensor (KS) processor 2 - performance malfunction	Wiring, ECM, TCM
P06B8	Internal control module, non-volatile memory - error	-
P06B9	Glow plug, cylinder 1 - circuit range/performance	Wiring, glow plug
P06BA	Glow plug, cylinder 2 - circuit range/performance	Wiring, glow plug
P06BB	Glow plug, cylinder 3 - circuit range/performance	Wiring, glow plug
P06BC	Glow plug, cylinder 4 - circuit range/performance	Wiring, glow plug
P06BD	Glow plug, cylinder 5 - circuit range/performance	Wiring, glow plug
P06BE	Glow plug, cylinder 6 - circuit range/performance	Wiring, glow plug
P06BF	Glow plug, cylinder 7 - circuit range/performance	Wiring, glow plug
P06C0	Glow plug, cylinder 8 - circuit range/performance	Wiring, glow plug
P06C1	Glow plug, cylinder 9 - circuit range/performance	Wiring, glow plug
P06C2	Glow plug, cylinder 10 - circuit range/performance	Wiring, glow plug
P06C3	Glow plug, cylinder 11 - circuit range/performance	Wiring, glow plug
P06C4	Glow plug, cylinder 12 - circuit range/performance	Wiring, glow plug
P06C5	Glow plug, cylinder 1 - incorrect	Wiring, glow plug
P06C6	Glow plug, cylinder 2 - incorrect	Wiring, glow plug
P06C7	Glow plug, cylinder 3 - incorrect	Wiring, glow plug
P06C8	Glow plug, cylinder 4 - incorrect	Wiring, glow plug
P06C9	Glow plug, cylinder 5 - incorrect	Wiring, glow plug
P06CA	Glow plug, cylinder 6 - incorrect	Wiring, glow plug
P06CB	Glow plug, cylinder 7 - incorrect	Wiring, glow plug
P06CC	Glow plug, cylinder 8 - incorrect	Wiring, glow plug
P06CD	Glow plug, cylinder 9 - incorrect	Wiring, glow plug
P06CE	Glow plug, cylinder 10 - incorrect	Wiring, glow plug
P06CF	Glow plug, cylinder 11 - incorrect	Wiring, glow plug
P06D0	Glow plug, cylinder 12 - incorrect	Wiring, glow plug
P06D1	Internal control module, ignition coil control - performance malfunction	-
P06D2	Sensor reference voltage E - circuit open	Wiring
P06D3	Sensor reference voltage E - circuit low	Wiring
P06D4	Sensor reference voltage E - circuit high	Wiring
P06D5	Sensor reference voltage E - circuit range/performance	Wiring
P06D6	Sensor reference voltage F - circuit open	Wiring

P06D7	Sensor reference voltage F - circuit low	Wiring
P06D8	Sensor reference voltage F - circuit high	Wiring
P06D9	Sensor reference voltage F - circuit range/performance	Wiring
P06DA	Engine oil pressure control - circuit open	Wiring
P06DB	Engine oil pressure control - circuit low	Wiring
P06DC	Engine oil pressure control - circuit high	Wiring
P06DD	Engine oil pressure control - circuit performance problem	Wiring
P06DE	Engine oil pressure control - control circuit malfunction, ON signal	Wiring
P06DF	Glow plug control module - memory check sum error	-
P06E0	Glow plug, cylinder 11 - control circuit low	Wiring, glow plug, glow plug control module, ECM
P06E1	Glow plug, cylinder 11 - control circuit high	Wiring, glow plug, glow plug control module, ECM
P06E2	Glow plug, cylinder 12 - control circuit low	Wiring, glow plug, glow plug control module, ECM
P06E3	Glow plug, cylinder 12 - control circuit high	Wiring, glow plug, glow plug control module, ECM
P06E4	Control module wake-up signal - signal error	-
P06E5	Glow plug control module - performance problem	Wiring, glow plug control module, ECM
P0700	Transmission control system, MIL request - circuit malfunction	Wiring, ECM/PCM/TCM
P0701	Transmission control system - range/performance problem	Wiring, ECM/PCM/TCM
P0702	Transmission control system - electrical	Wiring, ECM/PCM/TCM
P0703	Brake switch B - circuit malfunction	Wiring, brake switch, ECM/PCM/TCM
P0704	Clutch pedal position (CPP) switch - circuit malfunction	Wiring, CPP switch, ECM/PCM/TCM
P0705	Transmission range (TR) sensor, PRNDL input - circuit malfunction	Wiring, TR sensor, ECM/PCM/TCM
P0706	Transmission range (TR) sensor - range/performance problem	Wiring, TR sensor
P0707	Transmission range (TR) sensor - low input	Wiring short to earth, TR sensor, ECM/PCM/TCM
P0708	Transmission range (TR) sensor - high input	Wiring short to positive, TR sensor, ECM/PCM/TCM
P0709	Transmission range (TR) sensor - circuit intermittent	Wiring, poor connection, TR sensor, ECM/PCM/TCM
P070A	Transmission fluid level sensor - circuit malfunction	Wiring, transmission fluid level sensor, ECM
P070B	Transmission fluid level sensor - circuit range/performance	Wiring, transmission fluid level sensor, ECM
P070C	Transmission fluid level sensor - circuit low	Wiring, transmission fluid level sensor, ECM
P070D	Transmission fluid level sensor - circuit high	Wiring, transmission fluid level sensor, ECM
P070E	Transmission fluid level sensor - circuit intermittent/erratic	Wiring, transmission fluid level sensor, ECM
P070F	Transmission fluid level - low	Transmission fluid level - low

P0710	Transmission fluid temperature (TFT) sensor - circuit malfunction	Wiring, TFT sensor, ECM, ECM/PCM/TCM
P0711	Transmission fluid temperature (TFT) sensor - range/performance problem	Wiring, TFT sensor
P0712	Transmission fluid temperature (TFT) sensor - low input	Wiring short to earth, TFT sensor, ECM/PCM/TCM
P0713	Transmission fluid temperature (TFT) sensor - high input	Wiring short to positive, TFT sensor, ECM/PCM/TCM
P0714	Transmission fluid temperature (TFT) sensor - circuit intermittent	Wiring, poor connection, TFT sensor, ECM/PCM/TCM
P0715	Turbine shaft speed (TSS) sensor - circuit malfunction	Wiring, TSS sensor, ECM/PCM/TCM
P0716	Turbine shaft speed (TSS) sensor - range/performance problem	Wiring, TSS sensor
P0717	Turbine shaft speed (TSS) sensor - no signal	Wiring, TSS sensor, ECM/PCM/TCM
P0718	Turbine shaft speed (TSS) sensor - circuit intermittent	Wiring, poor connection, TSS sensor, ECM/PCM/TCM
P0719	Brake switch B - circuit low	Wiring short to earth, brake switch, ECM/PCM/TCM
P071A	Transmission mode selection switch A - circuit malfunction	Transmission mode selection switch, ECM
P071B	Transmission mode selection switch A - circuit low	Wiring, transmission mode selection switch, ECM
P071C	Transmission mode selection switch A - circuit high	Transmission mode selection switch, ECM
P071D	Transmission mode selection switch B - circuit malfunction	Wiring, transmission mode selection switch, ECM
P071E	Transmission mode selection switch B - circuit low	Wiring, transmission mode selection switch, ECM
P071F	Transmission mode selection switch B - circuit high	Wiring, transmission mode selection switch, ECM
P0720	Output shaft speed (OSS) sensor - circuit malfunction	Wiring, VSS, ECM/PCM/TCM
P0721	Output shaft speed (OSS) sensor - range/performance problem	Wiring, VSS
P0722	Output shaft speed (OSS) sensor - no signal	Wiring, VSS, ECM/PCM/TCM
P0723	Output shaft speed (OSS) sensor - circuit intermittent	Wiring, poor connection, VSS, ECM/PCM/TCM
P0724	Brake switch B - circuit high	Wiring short to positive, brake switch, ECM/PCM/TCM
P0725	Engine RPM input - circuit malfunction	Wiring, CKP/RPM sensor, ECM/PCM/TCM
P0726	Engine RPM input - range/performance problem	Wiring, CKP/RPM sensor
P0727	Engine RPM input - no signal	Wiring, CKP/RPM sensor, ECM/PCM/TCM
P0728	Engine RPM input - circuit intermittent	Wiring, poor connection, CKP/RPM sensor, ECM/PCM/TCM
P0729	Gear 6 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P072A	Transmission system - stuck in neutral	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P072B	Transmission system - stuck in reverse	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P072C	Transmission system - stuck in gear 1	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM

P072D	Transmission system - stuck in gear 2	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P072E	Transmission system - stuck in gear 3	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P072F	Transmission system - stuck in gear 4	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P0730	Incorrect gear ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0731	Gear 1 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0732	Gear 2 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0733	Gear 3 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0734	Gear 4 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0735	Gear 5 - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0736	Reverse gear - incorrect ratio	Wiring, TR sensor/switch, shift solenoids, transmission mechanical fault
P0737	TCM engine speed - output circuit	Wiring, TCM
P0738	TCM engine speed - output circuit low	Wiring, TCM
P0739	TCM engine speed - output circuit high	Wiring, TCM
P073A	Transmission system - stuck in gear 5	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P073B	Transmission system - stuck in gear 6	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P073C	Transmission system - stuck in gear 7	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P073D	Transmission system - unable to engage neutral	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P073E	Transmission system - unable to engage gear reverse	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P073F	Transmission system - unable to engage gear 1	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P0740	Torque converter clutch (TCC) solenoid - circuit malfunction	Wiring, TCC solenoid, ECM/PCM/TCM
P0741	Torque converter clutch (TCC) solenoid - performance or stuck off	Wiring, TCC solenoid
P0742	Torque converter clutch (TCC) solenoid - stuck on	Wiring, TCC solenoid
P0743	Torque converter clutch (TCC) solenoid - electrical	Wiring, TCC solenoid, ECM/PCM/TCM
P0744	Torque converter clutch (TCC) solenoid - circuit intermittent	Wiring, poor connection, TCC solenoid, ECM/PCM/TCM
P0745	Transmission fluid pressure (TFP) solenoid - circuit malfunction	Wiring, TFP solenoid, ECM/PCM/TCM
P0746	Transmission fluid pressure (TFP) solenoid - performance or stuck off	Wiring, TFP solenoid
P0747	Transmission fluid pressure (TFP) solenoid - stuck on	Wiring, TFP solenoid
P0748	Transmission fluid pressure (TFP) solenoid - electrical	Wiring, TFP solenoid, ECM/PCM/TCM

P0749	Transmission fluid pressure (TFP) solenoid - circuit intermittent	Wiring, poor connection, TFP solenoid, ECM/PCM/TCM
P074A	Transmission system - unable to engage gear 2	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P074B	Transmission system - unable to engage gear 3	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P074C	Transmission system - unable to engage gear 4	Wiring, SS, TCM, ECM
P074D	Transmission system - unable to engage gear 5	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P074E	Transmission system - unable to engage gear 6	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P074F	Transmission system - unable to engage gear 7	Wiring, shift solenoid (SS), transmission mechanical fault, TCM, ECM
P0750	Shift solenoid (SS) A - circuit malfunction	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0751	Shift solenoid (SS) A - performance or stuck off	Wiring, shift solenoid
P0752	Shift solenoid (SS) A - stuck on	Wiring, shift solenoid
P0753	Shift solenoid (SS) A - electrical	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0754	Shift solenoid (SS) A - circuit intermittent	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0755	Shift solenoid (SS) B - circuit malfunction	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0756	Shift solenoid (SS) B - performance or stuck off	Wiring, shift solenoid
P0757	Shift solenoid (SS) B - stuck on	Wiring, shift solenoid
P0758	Shift solenoid (SS) B - electrical	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0759	Shift solenoid (SS) B - circuit intermittent	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P075A	Shift solenoid (SS) G - malfunction	Wiring, SS, transmission mechanical fault, ECM
P075B	Shift solenoid (SS) G - performance problem or stuck off	Wiring, SS, TCM, ECM
P075C	Shift solenoid (SS) G - solenoid stuck on	Wiring, SS, transmission mechanical fault, ECM
P075D	Shift solenoid (SS) G - electrical	Wiring, SS, TCM, ECM
P075E	Shift solenoid (SS) G - intermittent	Wiring, SS, TCM, ECM
P075F	Transmission fluid level - high	Transmission fluid level - high
P0760	Shift solenoid (SS) C - circuit malfunction	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0761	Shift solenoid (SS) C - performance or stuck off	Wiring, shift solenoid
P0762	Shift solenoid (SS) C - stuck on	Wiring, shift solenoid
P0763	Shift solenoid (SS) C - electrical	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0764	Shift solenoid (SS) C - circuit intermittent	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0765	Shift solenoid (SS) D - circuit malfunction	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0766	Shift solenoid (SS) D - performance or stuck off	Wiring, shift solenoid
P0767	Shift solenoid (SS) D - stuck on	Wiring, shift solenoid
P0768	Shift solenoid (SS) D - electrical	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0769	Shift solenoid (SS) D - circuit intermittent	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P076A	Shift solenoid (SS) H - malfunction	Wiring, SS, TCM, ECM
P076B	Shift solenoid (SS) H - performance problem or stuck off	Wiring, SS, TCM, ECM

P076C	Shift solenoid (SS) H - solenoid stuck on	Wiring, SS, TCM, ECM
P076D	Shift solenoid (SS) H - electrical	Wiring, SS, TCM, ECM
P076E	Shift solenoid (SS) H - intermittent	Wiring, SS, TCM, ECM
P076F	Transmission system - gear 7 ratio incorrect	Transmission mechanical fault, VSS, incorrect tyre size
P0770	Shift solenoid (SS) E - circuit malfunction	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0771	Shift solenoid (SS) E - performance or stuck off	Wiring, shift solenoid
P0772	Shift solenoid (SS) E - stuck on	Wiring, shift solenoid
P0773	Shift solenoid (SS) E - electrical	Wiring, shift solenoid (SS), ECM/PCM/TCM
P0774	Shift solenoid (SS) E - circuit intermittent	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0775	Pressure control solenoid B - malfunction	Pressure control solenoid
P0776	Pressure control solenoid B - performance or stuck off	Wiring, pressure control solenoid
P0777	Pressure control solenoid B - stuck on	Wiring, pressure control solenoid
P0778	Pressure control solenoid B - electrical malfunction	Wiring, pressure control solenoid
P0779	Pressure control solenoid B - circuit intermittent	Wiring, poor connection, pressure control solenoid
P077A	Output speed sensor - loss of direction signal	-
P077B	Output speed sensor - direction error	-
P077C	Output speed sensor - circuit low	Wiring, output speed sensor, ECM/PCM/TCM
P077D	Output speed sensor - circuit high	Wiring, output speed sensor, ECM/PCM/TCM
P077E	Transmission fluid temperature (TFT) measurement system - multiple sensor correlation	Wiring, TFT sensor, ECM/PCM/TCM
P077F	Reverse gear 2 - incorrect ratio	-
P0780	Gear selection - shift malfunction	Wiring, TR sensor, shift solenoids, transmission mechanical fault
P0781	Gear selection, 1-2 - shift malfunction	Wiring, TR sensor, shift solenoids, transmission mechanical fault
P0782	Gear selection, 2-3 - shift malfunction	Wiring, TR sensor, shift solenoids, transmission mechanical fault
P0783	Gear selection, 3-4 - shift malfunction	Wiring, TR sensor, shift solenoids, transmission mechanical fault
P0784	Gear selection, 4-5 - shift malfunction	Wiring, TR sensor, shift solenoids, transmission mechanical fault
P0785	Shift/timing solenoid - circuit malfunction	Wiring, shift/timing solenoid, ECM/PCM/TCM
P0786	Shift/timing solenoid - range/performance problem	Wiring, shift/timing solenoid
P0787	Shift/timing solenoid - low	Wiring short to earth, shift/timing solenoid, ECM/PCM/TCM
P0788	Shift/timing solenoid - high	Wiring short to positive, shift/timing solenoid, ECM/PCM/TCM
P0789	Shift/timing solenoid - circuit intermittent	Wiring, poor connection, shift/timing solenoid, ECM/PCM/TCM
P078A	Shift solenoid (SS), timing B - malfunction	Wiring, SS, transmission mechanical fault, ECM
P078B	Shift solenoid (SS) B - range/performance problem	Wiring, SS, TCM, ECM
P078C	Shift solenoid (SS) B, shifting-times - circuit low	Wiring, SS, TCM, ECM
P078D	Shift solenoid (SS), timing B - circuit high	Wiring, SS, TCM, ECM

P078E	Shift solenoid (SS) B - intermittent	Wiring, SS, TCM, ECM
P078F	Transmission mode selection switch C - circuit malfunction	Wiring, transmission mode selection switch, ECM/PCM/TCM
P0790	Transmission mode selection switch - circuit malfunction	Wiring, transmission mode selection switch, ECM/PCM/TCM
P0791	Intermediate shaft speed sensor - circuit malfunction	Wiring, poor connection, intermediate shaft speed sensor, ECM/PCM/TCM
P0792	Intermediate shaft speed sensor - range/performance problem	Wiring, poor connection, intermediate shaft speed sensor, ECM/PCM/TCM
P0793	Intermediate shaft speed sensor - no signal	Wiring, poor connection, short to earth, intermediate shaft speed sensor, ECM/PCM/TCM
P0794	Intermediate shaft speed sensor - circuit intermittent	Wiring, poor connection, intermediate shaft speed sensor, ECM/PCM/TCM
P0795	Transmission fluid pressure (TFP) solenoid C - circuit malfunction	Wiring, poor connection, TFP solenoid, ECM/PCM/TCM
P0796	Transmission fluid pressure (TFP) solenoid C - performance or stuck off	Wiring, poor connection, TFP solenoid, ECM/PCM/TCM
P0797	Transmission fluid pressure (TFP) solenoid C - stuck on	Wiring, poor connection, TFP solenoid, ECM/PCM/TCM
P0798	Transmission fluid pressure (TFP) solenoid C - electrical malfunction	Wiring, poor connection, TFP solenoid, ECM/PCM/TCM
P0799	Transmission fluid pressure (TFP) solenoid C - circuit intermittent	Wiring, poor connection, ECM/PCM/TCM
P079A	Transmission friction element A - slip detected	-
P079B	Transmission friction element B - slip detected	-
P079C	Transmission friction element C - slip detected	-
P079D	Transmission friction element D - slip detected	-
P079E	Transmission friction element E - slip detected	-
P079F	Transmission friction element F - slip detected	-
P07A0	Transmission friction element G - slip detected	-
P07A1	Transmission friction element H - slip detected	-
P07A2	Transmission friction element A - performance or stuck off	-
P07A3	Transmission friction element A - stuck on	-
P07A4	Transmission friction element B - performance or stuck off	-
P07A5	Transmission friction element B - stuck on	-
P07A6	Transmission friction element C - performance or stuck off	-
P07A7	Transmission friction element C - stuck on	-
P07A8	Transmission friction element D - performance or stuck off	-
P07A9	Transmission friction element D - stuck on	-
P07AA	Transmission friction element E - performance or stuck off	-
P07AB	Transmission friction element E - stuck on	-
P07AC	Transmission friction element F - performance or stuck off	-

P07AD	Transmission friction element F - stuck on	-
P07AE	Transmission friction element G - performance or stuck off	-
P07AF	Transmission friction element G - stuck on	-
P07B0	Transmission friction element H - performance or stuck off	-
P07B1	Transmission friction element H - stuck on	-
P07B2	Transmission park position sensor/switch A - open circuit	Wiring, transmission park position sensor/switch
P07B3	Transmission park position sensor/switch A - circuit low	Wiring, transmission park position sensor/switch
P07B4	Transmission park position sensor/switch A - circuit high	Wiring, transmission park position sensor/switch
P07B5	Transmission park position sensor/switch A - circuit low/performance	Wiring, transmission gear position switch
P07B6	Transmission park position sensor/switch A - circuit high/performance	Wiring, transmission park position sensor/switch
P07B7	Transmission park position sensor/switch A - circuit intermittent/erratic	Wiring, transmission park position sensor/switch
P07B8	Transmission park position sensor/switch B - open circuit	Wiring, transmission park position sensor/switch
P07B9	Transmission park position sensor/switch B - circuit low	Wiring, transmission park position sensor/switch
P07BA	Transmission park position sensor/switch B - circuit high	Wiring, transmission park position sensor/switch
P07BB	Transmission park position sensor/switch B - circuit low/performance	Wiring, transmission park position sensor/switch
P07BC	Transmission park position sensor/switch B - circuit high/performance	Wiring, transmission park position sensor/switch
P07BD	Transmission park position sensor/switch B - circuit intermittent/erratic	Wiring, transmission park position sensor/switch
P07BE	Transmission park position sensor/switch A/B - correlation	Wiring, transmission park position sensor/switch
P07BF	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor A - circuit low	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C0	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor A - circuit high	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C1	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor B - circuit low	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C2	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor B - circuit high	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C3	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor C - circuit low	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C4	Input shaft speed (ISS) sensor/turbine shaft speed (TSS) sensor C - circuit high	Wiring, input shaft speed (ISS) sensor, TSS sensor, ECM/PCM/TCM
P07C5	Intermediate shaft speed sensor A - circuit low	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM
P07C6	Intermediate shaft speed sensor A - circuit high	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM

P07C7	Intermediate shaft speed sensor B - circuit low	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM
P07C8	Intermediate shaft speed sensor B - circuit high	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM
P07C9	Intermediate shaft speed sensor C - circuit low	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM
P07CA	Intermediate shaft speed sensor C - circuit high	Wiring, intermediate shaft speed sensor, ECM/PCM/TCM
P07CB	Transmission fluid thermostat - performance problem	Wiring, transmission fluid thermostat, ECM/PCM/TCM
P0800	Transfer box control system, MIL request - circuit malfunction	Wiring, mechanical fault
P0801	Reverse inhibit circuit - circuit malfunction	Wiring, poor connection
P0802	Transmission control system, MIL request - open circuit	Wiring, mechanical fault
P0803	1-4 Upshift (Skip shift) solenoid - circuit malfunction	Wiring, poor connection, upshift solenoid
P0804	1-4 Upshift (Skip shift) warning lamp - circuit malfunction	Wiring, poor connection
P0805	Clutch position sensor - circuit malfunction	Wiring, poor connection, clutch position sensor, ECM/PCM/TCM
P0806	Clutch position sensor - range/performance problem	Wiring, poor connection, clutch position sensor, ECM/PCM/TCM
P0807	Clutch position sensor - low input	Wiring short to earth, clutch position sensor, ECM/PCM/TCM
P0808	Clutch position sensor - high input	Wiring short to positive, clutch position sensor, ECM/PCM/TCM
P0809	Clutch position sensor - circuit intermittent	Wiring, poor connection, clutch position sensor, ECM/PCM/TCM
P080A	Clutch position not learned	Wiring, CPP sensor, ECM
P080B	Shift solenoid (SS), upshift/skip shift - circuit range/performance	Wiring, SS, TCM, ECM
P080C	Shift solenoid (SS), upshift/skip shift - circuit low	Wiring, SS, TCM, ECM
P080D	Shift solenoid (SS), upshift/skip shift - circuit high	Wiring, SS, TCM, ECM
P0810	Clutch position control error	Wiring, poor connection, ECM/PCM/TCM
P0811	Excessive clutch slip	Wiring, poor connection, mechanical fault, ECM/PCM/TCM
P0812	Reverse gear - input circuit malfunction	Wiring, poor connection, ECM/PCM/TCM
P0813	Reverse gear - output circuit malfunction	Wiring, poor connection, ECM/PCM/TCM
P0814	Transmission range (TR) display - circuit malfunction	Wiring, poor connection, TR sensor, ECM/PCM/TCM
P0815	Transmission gear selection switch, upshift - circuit malfunction	Wiring, poor connection, transmission gear selection switch, ECM/PCM/TCM
P0816	Transmission gear selection switch, downshift - circuit malfunction	Wiring, poor connection, transmission gear selection switch, ECM/PCM/TCM
P0817	Starter disable circuit - malfunction	Wiring, poor connection, ECM/PCM/TCM
P0818	Driveline disconnect switch - circuit malfunction	Wiring, poor connection, upshift switch, ECM/PCM/TCM
P0819	Transmission gear selection switch, upshift/downshift - correlation to transmission range (TR)	Wiring, poor connection, transmission gear selection switch, transmission mechanical fault, ECM/PCM/TCM

P081A	Starter disable circuit - signal low	Wiring, starter motor relay, ECM
P081B	Starter disable circuit - signal high	Wiring, starter motor relay, ECM
P081C	Park position input signal - circuit malfunction	Wiring, PNP switch, transmission range (TR) sensor, ECM
P081D	Neutral position input signal - circuit malfunction	Wiring, PNP switch, transmission range (TR) sensor, ECM
P081E	Transmission clutch B - excessive clutch slip	Transmission mechanical fault
P0820	Gear lever X-Y position sensor - circuit malfunction	Wiring, poor connection, gear lever position sensor, ECM/PCM/TCM
P0821	Gear lever X position sensor - circuit malfunction	Wiring, poor connection, gear lever position sensor, ECM/PCM/TCM
P0822	Gear lever Y position sensor - circuit malfunction	Wiring, poor connection, gear lever position sensor, ECM/PCM/TCM
P0823	Gear lever X position sensor - circuit intermittent	Wiring, poor connection, gear lever position sensor, ECM/PCM/TCM
P0824	Gear lever Y position sensor - circuit intermittent	Wiring, poor connection, gear lever position sensor, ECM/PCM/TCM
P0825	Gear lever push-pull switch - circuit malfunction	Wiring, poor connection, gear lever push-pull switch, ECM/PCM/TCM
P0826	Transmission gear selection switch, upshift/downshift - circuit malfunction	Wiring, transmission gear selection switch
P0827	Transmission gear selection switch, upshift/downshift - circuit low	Wiring short to earth, transmission gear selection switch
P0828	Transmission gear selection switch, upshift/downshift - circuit high	Wiring short to positive, transmission gear selection switch
P0829	5-6 Upshift	Mechanical fault
P082A	Gear lever X position - circuit range/performance	-
P082B	Gear lever X position - circuit low	-
P082C	Gear lever X position - circuit high	-
P082D	Gear lever Y position - circuit range/performance	-
P082E	Gear lever Y position - circuit low	-
P082F	Gear lever Y position - circuit high	-
P0830	Clutch pedal position (CPP) switch A - circuit malfunction	Wiring, poor connection, CPP switch, ECM/PCM/TCM
P0831	Clutch pedal position (CPP) switch A - low input	Wiring short to earth, CPP switch, ECM/PCM/TCM
P0832	Clutch pedal position (CPP) switch A - high input	Wiring short to positive, CPP switch, ECM/PCM/TCM
P0833	Clutch pedal position (CPP) switch B - circuit malfunction	Wiring, poor connection, CPP switch, ECM/PCM/TCM
P0834	Clutch pedal position (CPP) switch B - low input	Wiring short to earth, CPP switch, ECM/PCM/TCM
P0835	Clutch pedal position (CPP) switch B - high input	Wiring short to positive, CPP switch, ECM/PCM/TCM
P0836	Four wheel drive switch - circuit malfunction	Wiring, poor connection, four wheel drive switch, ECM/PCM/TCM
P0837	Four wheel drive switch - range/performance problem	Wiring, poor connection, four wheel drive switch, ECM/PCM/TCM

P0838	Four wheel drive switch - low input	Wiring short to earth, four wheel drive switch, ECM/PCM/TCM
P0839	Four wheel drive switch - high input	Wiring short to positive, four wheel drive switch, ECM/PCM/TCM
P083A	Transmission fluid pressure (TFP) sensor/switch G - circuit malfunction	Wiring, transmission fluid pressure (TFP) sensor, ECM
P083B	Transmission fluid pressure (TFP) sensor/switch G - circuit range/performance	Wiring, transmission fluid pressure (TFP) sensor, ECM
P083C	Transmission fluid pressure (TFP) sensor/switch G - circuit low	Wiring, transmission fluid pressure (TFP) sensor, ECM
P083D	Transmission fluid pressure (TFP) sensor/switch G - circuit high	Wiring, transmission fluid pressure (TFP) sensor, ECM
P083E	Transmission fluid pressure (TFP) sensor/switch G - circuit intermittent	Wiring, transmission fluid pressure (TFP) sensor, ECM
P083F	Clutch pedal position (CPP) switch A/B - correlation	Wiring, CPP switch, CPP switch incorrectly adjusted, ECM
P0840	Transmission fluid pressure (TFP) sensor A - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0840	Transmission fluid pressure (TFP) switch A - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0841	Transmission fluid pressure (TFP) sensor A - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0841	Transmission fluid pressure (TFP) switch A - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0842	Transmission fluid pressure (TFP) sensor A - low input	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0842	Transmission fluid pressure (TFP) switch A - low input	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0843	Transmission fluid pressure (TFP) sensor A - high input	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P0843	Transmission fluid pressure (TFP) switch A - high input	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0844	Transmission fluid pressure (TFP) sensor A - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0844	Transmission fluid pressure (TFP) switch A - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0845	Transmission fluid pressure (TFP) sensor B - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0845	Transmission fluid pressure (TFP) switch B - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0846	Transmission fluid pressure (TFP) sensor B - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0846	Transmission fluid pressure (TFP) switch B - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0847	Transmission fluid pressure (TFP) sensor B - low input	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0847	Transmission fluid pressure (TFP) switch B - low input	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0848	Transmission fluid pressure (TFP) sensor B - high input	Wiring short to positive, TFP sensor, ECM/PCM/TCM

P0848	Transmission fluid pressure (TFP) switch B - high input	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0849	Transmission fluid pressure (TFP) sensor B - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0849	Transmission fluid pressure (TFP) switch B - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P084A	Transmission fluid pressure (TFP) sensor/switch H - circuit malfunction	Wiring, transmission fluid pressure (TFP) sensor/switch, ECM
P084B	Transmission fluid pressure (TFP) sensor/switch H - circuit range/performance	Wiring, transmission fluid pressure (TFP) sensor, ECM
P084C	Transmission fluid pressure (TFP) sensor/switch H - circuit low	Wiring, transmission fluid pressure (TFP) sensor/switch, ECM
P084D	Transmission fluid pressure (TFP) sensor/switch H - circuit high	Wiring, transmission fluid pressure (TFP) sensor/switch, ECM
P084E	Transmission fluid pressure (TFP) sensor/switch H - circuit intermittent	Wiring, transmission fluid pressure (TFP) sensor, ECM
P084F	Park/neutral position (PNP) switch - output circuit	-
P0850	Park/neutral position (PNP) switch - input circuit malfunction	Wiring, PNP switch, ECM/PCM/TCM
P0851	Park/neutral position (PNP) switch - input circuit low	Wiring short to earth, PNP switch, ECM/PCM/TCM
P0852	Park/neutral position (PNP) switch - input circuit high	Wiring short to positive, PNP switch, ECM/PCM/TCM
P0853	Drive switch - input circuit malfunction	Wiring, drive switch, ECM/PCM/TCM
P0854	Drive switch - input circuit low	Wiring short to earth, drive switch, ECM/PCM/TCM
P0855	Drive switch - input circuit high	Wiring short to positive, drive switch, ECM/PCM/TCM
P0856	Traction control input signal - malfunction	Wiring, poor connection, ECM/PCM/TCM
P0857	Traction control input signal - range/performance problem	Wiring, poor connection, ECM/PCM/TCM
P0858	Traction control input signal - low	Wiring short to earth, ECM/PCM/TCM
P0859	Traction control input signal - high	Wiring short to positive, ECM/PCM/TCM
P085A	Gear shift control module B, communication circuit - malfunction	Wiring, gear shift module, ECM
P085B	Gear shift control module B, communication circuit - signal low	Wiring, gear shift module, ECM
P085C	Gear shift control module B, communication circuit - signal high	Wiring, gear shift module, ECM
P085D	Transmission shift control module A - performance problem	-
P085E	Transmission shift control module B - performance problem	-
P0860	Gear shift module communication circuit - malfunction	Wiring, poor connection, gear shift module, ECM/PCM/TCM
P0861	Gear shift module communication circuit - low input	Wiring short to earth, gear shift module, ECM/PCM/TCM
P0862	Gear shift module communication circuit - high input	Wiring short to positive, gear shift module, ECM/PCM/TCM

P0863	Transmission control module (TCM), communication - circuit malfunction	Wiring, poor connection, TCM
P0864	Transmission control module (TCM), communication - range/performance problem	Wiring, poor connection, TCM
P0865	Transmission control module (TCM), communication - low input	Wiring short to earth, TCM
P0866	Transmission control module (TCM), communication - high input	Wiring short to positive, TCM
P0867	Transmission fluid pressure (TFP) sensor	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0868	Transmission fluid pressure (TFP) sensor - low	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0869	Transmission fluid pressure (TFP) sensor - high	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P086A	Neutral position (NP) sensor - circuit open	Wiring, NP sensor, ECM/PCM/TCM
P086B	Neutral position (NP) sensor - circuit range/performance	Wiring, NP sensor, ECM/PCM/TCM
P086C	Neutral position (NP) sensor - circuit low	Wiring, NP sensor, ECM/PCM/TCM
P086D	Neutral position (NP) sensor - circuit high	Wiring, NP sensor, ECM/PCM/TCM
P086E	Neutral position (NP) sensor - circuit intermittent/erratic	Wiring, NP sensor, ECM/PCM/TCM
P0870	Transmission fluid pressure (TFP) sensor C - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0870	Transmission fluid pressure (TFP) switch C - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0871	Transmission fluid pressure (TFP) sensor C - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0871	Transmission fluid pressure (TFP) switch C - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0872	Transmission fluid pressure (TFP) sensor C - circuit low	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0872	Transmission fluid pressure (TFP) switch C - circuit low	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0873	Transmission fluid pressure (TFP) sensor C - circuit high	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P0873	Transmission fluid pressure (TFP) switch C - circuit high	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0874	Transmission fluid pressure (TFP) sensor C - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0874	Transmission fluid pressure (TFP) switch C - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0875	Transmission fluid pressure (TFP) sensor D - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0875	Transmission fluid pressure (TFP) switch D - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0876	Transmission fluid pressure (TFP) sensor D - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0876	Transmission fluid pressure (TFP) switch D - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM

P0877	Transmission fluid pressure (TFP) sensor D - circuit low	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0877	Transmission fluid pressure (TFP) switch D - circuit low	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0878	Transmission fluid pressure (TFP) sensor D - circuit high	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P0878	Transmission fluid pressure (TFP) switch D - circuit high	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0879	Transmission fluid pressure (TFP) sensor D - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0879	Transmission fluid pressure (TFP) switch D - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P087A	Clutch position sensor B - circuit malfunction	Wiring, clutch position sensor, ECM/PCM/TCM
P087B	Clutch position sensor B - circuit range/performance	Wiring, clutch position sensor, ECM/PCM/TCM
P087C	Clutch position sensor B - circuit low	Wiring, clutch position sensor, ECM/PCM/TCM
P087D	Clutch position sensor B - circuit high	Wiring, clutch position sensor, ECM/PCM/TCM
P087E	Clutch position sensor B - circuit intermittent	Wiring, clutch position sensor, ECM/PCM/TCM
P0880	Transmission control module (TCM) - power input signal malfunction	Wiring, poor connection, TCM
P0881	Transmission control module (TCM) - power input signal range/performance	Wiring, poor connection, TCM
P0882	Transmission control module (TCM) - power input signal low	Wiring short to earth, TCM
P0883	Transmission control module (TCM) - power input signal high	Wiring short to positive, TCM
P0884	Transmission control module (TCM), power input signal - circuit intermittent	Wiring, poor connection, TCM
P0885	Transmission control module (TCM) power relay, control - open circuit	Wiring, poor connection, TCM power relay, TCM
P0886	Transmission control module (TCM) power relay, control - circuit low	Wiring short to earth, TCM power relay, TCM
P0887	Transmission control module (TCM) power relay, control - circuit high	Wiring short to positive, TCM power relay, TCM
P0888	Transmission control module (TCM) power relay, sense circuit malfunction	Wiring, poor connection, TCM power relay, TCM
P0889	Transmission control module (TCM) power relay, sense circuit range/performance	Wiring, poor connection, TCM power relay, TCM
P088A	Transmission fluid filter - filter deteriorated	-
P088B	Transmission fluid filter - filter very deteriorated	-
P0890	Transmission control module (TCM) power relay, sense circuit low	Wiring short to earth, TCM power relay, TCM
P0891	Transmission control module (TCM) power relay, sense circuit high	Wiring short to positive, TCM power relay, TCM
P0892	Transmission control module (TCM) power relay, sense circuit intermittent malfunction	Wiring, poor connection, TCM power relay, TCM
P0893	Multiple gears engaged	Mechanical fault
P0894	Transmission component slipping	Mechanical fault
P0895	Shift time too short	Mechanical fault
P0896	Shift time too long	Mechanical fault

P0897	Transmission fluid deteriorated	Mechanical fault
P0898	Transmission control system - MIL request - circuit low	Wiring short to earth, poor connection
P0899	Transmission control system - MIL request - circuit high	Wiring short to positive, poor connection
P089A	Gear lever X position sensor 2 - circuit malfunction	Wiring, gear lever position sensor, ECM/PCM/TCM
P089B	Gear lever X position sensor 2 - circuit range/performance	Wiring, gear lever position sensor, ECM/PCM/TCM
P089C	Gear lever X position sensor 2 - circuit low	Wiring, gear lever position sensor, ECM/PCM/TCM
P089D	Gear lever X position sensor 2 - circuit high	Wiring, gear lever position sensor, ECM/PCM/TCM
P089E	Gear lever X position sensor 2 - circuit intermittent/erratic	Wiring, gear lever position sensor, ECM/PCM/TCM
P089F	Gear lever Y position sensor 2 - circuit malfunction	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A0	Gear lever Y position sensor 2 - circuit range/performance	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A1	Gear lever Y position sensor 2 - circuit low	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A2	Gear lever Y position sensor 2 - circuit high	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A3	Gear lever Y position sensor 2 - circuit intermittent/erratic	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A4	Gear lever X position sensor 1/2 - correlation	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A5	Gear lever Y position sensor 1/2 - correlation	Wiring, gear lever position sensor, ECM/PCM/TCM
P08A6	Gear lever position measurement system - multiple sensor correlation	Wiring, gear lever position sensor, ECM/PCM/TCM
P0900	Clutch actuator - open circuit	Wiring, clutch actuator, ECM/PCM/TCM
P0901	Clutch actuator - circuit range/performance	Wiring, poor connection, clutch actuator, ECM/PCM/TCM
P0902	Clutch actuator - circuit low	Wiring short to earth, clutch actuator, ECM/PCM/TCM
P0903	Clutch actuator - circuit high	Wiring short to positive, clutch actuator, ECM/PCM/TCM
P0904	Transmission gate select position circuit - malfunction	Wiring, poor connection, ECM/PCM/TCM
P0905	Transmission gate select position circuit - range/performance problem	Wiring, poor connection, ECM/PCM/TCM
P0906	Transmission gate select position circuit - low	Wiring short to earth, ECM/PCM/TCM
P0907	Transmission gate select position circuit - high	Wiring short to positive, ECM/PCM/TCM
P0908	Transmission gate select position circuit - circuit intermittent	Wiring, poor connection, ECM/PCM/TCM
P0909	Transmission gate select control error	Mechanical fault
P090A	Clutch actuator B - open circuit	Wiring, clutch actuator, ECM/PCM/TCM
P090B	Clutch actuator B - circuit range/performance	Wiring, clutch actuator, ECM/PCM/TCM
P090C	Clutch actuator B - circuit low	Wiring, clutch actuator, ECM/PCM/TCM

P090D	Clutch actuator B - circuit high	Wiring, clutch actuator, ECM/PCM/TCM
P0910	Transmission gate select actuator - open circuit	Wiring, transmission gate select actuator, ECM/PCM/TCM
P0911	Transmission gate select actuator - circuit range/performance	Wiring, poor connection, transmission gate select actuator, ECM/PCM/TCM
P0912	Transmission gate select actuator - circuit low	Wiring short to earth, transmission gate select actuator, ECM/PCM/TCM
P0913	Transmission gate select actuator - circuit high	Wiring short to positive, transmission gate select actuator, ECM/PCM/TCM
P0914	Gear shift position circuit - malfunction	Wiring, poor connection, ECM/PCM/TCM
P0915	Gear shift position circuit - range/performance problem	Wiring, poor connection, ECM/PCM/TCM
P0916	Gear shift position circuit - low	Wiring short to earth, ECM/PCM/TCM
P0917	Gear shift position circuit - high	Wiring short to positive, ECM/PCM/TCM
P0918	Gear shift position circuit - circuit intermittent	Wiring, poor connection, ECM/PCM/TCM
P0919	Gear shift position control - error	Wiring, poor connection, ECM/PCM/TCM
P0920	Gear shift forward actuator - open circuit	Wiring, gear shift forward actuator, ECM/PCM/TCM
P0921	Gear shift forward actuator - circuit range/performance	Wiring, poor connection, gear shift forward actuator, ECM/PCM/TCM
P0922	Gear shift forward actuator - circuit low	Wiring short to earth, gear shift forward actuator, ECM/PCM/TCM
P0923	Gear shift forward actuator - circuit high	Wiring short to positive, gear shift forward actuator, ECM/PCM/TCM
P0924	Gear shift reverse actuator - open circuit	Wiring, gear shift reverse actuator, ECM/PCM/TCM
P0925	Gear shift reverse actuator - circuit range/performance	Wiring, poor connection, gear shift reverse actuator, ECM/PCM/TCM
P0926	Gear shift reverse actuator - circuit low	Wiring short to earth, gear shift reverse actuator, ECM/PCM/TCM
P0927	Gear shift reverse actuator - circuit high	Wiring short to positive, gear shift reverse actuator, ECM/PCM/TCM
P0928	Gear shift lock solenoid - open circuit	Wiring, gear shift lock solenoid, ECM/PCM/TCM
P0929	Gear shift lock solenoid - circuit range/performance	Wiring, gear shift lock solenoid, ECM/PCM/TCM
P092A	Gear shift lock solenoid/actuator control circuit B - open circuit	-
P092B	Gear shift lock solenoid/actuator control circuit B - circuit range/performance	-
P092C	Gear shift lock solenoid/actuator control circuit B - circuit low	-
P092D	Gear shift lock solenoid/actuator control circuit B - circuit high	-
P0930	Gear shift lock solenoid - circuit low	Wiring short to earth, gear shift lock solenoid, ECM/PCM/TCM
P0931	Gear shift lock solenoid - circuit high	Wiring short to positive, gear shift lock solenoid, ECM/PCM/TCM
P0932	Hydraulic pressure sensor - circuit malfunction	Wiring, poor connection, hydraulic pressure sensor, ECM/PCM/TCM
P0933	Hydraulic pressure sensor - range/performance problem	Wiring, hydraulic pressure sensor, ECM/PCM/TCM

P0934	Hydraulic pressure sensor - circuit low input	Wiring short to earth, hydraulic pressure sensor, ECM/PCM/TCM
P0935	Hydraulic pressure sensor - circuit high input	Wiring short to positive, hydraulic pressure sensor, ECM/PCM/TCM
P0936	Hydraulic pressure sensor - circuit intermittent	Wiring, poor connection, hydraulic pressure sensor, ECM/PCM/TCM
P0937	Hydraulic oil temperature sensor - circuit malfunction	Wiring, poor connection, hydraulic oil temperature sensor, ECM/PCM/TCM
P0938	Hydraulic oil temperature sensor - range/performance problem	Wiring, hydraulic oil temperature sensor, ECM/PCM/TCM
P0939	Hydraulic oil temperature sensor - circuit low input	Wiring short to earth, hydraulic oil temperature sensor, ECM/PCM/TCM
P0940	Hydraulic oil temperature sensor - circuit high input	Wiring short to positive, hydraulic oil temperature sensor, ECM/PCM/TCM
P0941	Hydraulic oil temperature sensor - circuit intermittent	Wiring, poor connection, hydraulic oil temperature sensor, ECM/PCM/TCM
P0942	Hydraulic pressure unit	Mechanical fault
P0943	Hydraulic pressure unit - cycling period too short	Mechanical fault
P0944	Hydraulic pressure unit - loss of pressure	Mechanical fault
P0945	Hydraulic pump relay - open circuit	Wiring, hydraulic pump relay, ECM/PCM/TCM
P0946	Hydraulic pump relay - circuit range/performance	Wiring, hydraulic pump relay, ECM/PCM/TCM
P0947	Hydraulic pump relay - circuit low	Wiring short to earth, hydraulic pump relay, ECM/PCM/TCM
P0948	Hydraulic pump relay - circuit high	Wiring short to positive, hydraulic pump relay, ECM/PCM/TCM
P0949	Auto shift manual (ASM) transmission - adaptive learning not done	ECM/PCM/TCM
P0950	Auto shift manual (ASM) transmission, control - circuit malfunction	Wiring, poor connection, ECM/PCM/TCM
P0951	Auto shift manual (ASM) transmission, control - range/performance problem	Wiring, poor connection, ECM/PCM/TCM
P0952	Auto shift manual (ASM) transmission, control - circuit low	Wiring, poor connection, short to earth, ECM/PCM/TCM
P0953	Auto shift manual (ASM) transmission, control - circuit high	Wiring, poor connection, short to positive, ECM/PCM/TCM
P0954	Auto shift manual (ASM) transmission, control - circuit intermittent	Wiring, poor connection, ECM/PCM/TCM
P0955	Auto shift manual (ASM) transmission, mode - circuit malfunction	Wiring, poor connection, ECM/PCM/TCM
P0956	Auto shift manual (ASM) transmission, mode - range/performance problem	Wiring, poor connection, ECM/PCM/TCM
P0957	Auto shift manual (ASM) transmission, mode - circuit low	Wiring, poor connection, short to earth, ECM/PCM/TCM
P0958	Auto shift manual (ASM) transmission, mode - circuit high	Wiring, poor connection, short to positive, ECM/PCM/TCM
P0959	Auto shift manual (ASM) transmission, mode - circuit intermittent	Wiring, poor connection, ECM/PCM/TCM
P0960	Pressure control (PC) solenoid A - open circuit	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM

P0961	Pressure control (PC) solenoid A - range/performance problem	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM
P0962	Pressure control (PC) solenoid A - circuit low	Wiring short to earth, pressure control solenoid, ECM/PCM/TCM
P0963	Pressure control (PC) solenoid A - circuit high	Wiring short to positive, pressure control solenoid, ECM/PCM/TCM
P0964	Pressure control (PC) solenoid B - open circuit	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM
P0965	Pressure control (PC) solenoid B - range/performance problem	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM
P0966	Pressure control (PC) solenoid B - circuit low	Wiring short to earth, pressure control solenoid, ECM/PCM/TCM
P0967	Pressure control (PC) solenoid B - circuit high	Wiring short to positive, pressure control solenoid, ECM/PCM/TCM
P0968	Pressure control (PC) solenoid C - open circuit	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM
P0969	Pressure control (PC) solenoid C - range/performance problem	Wiring, poor connection, pressure control solenoid, ECM/PCM/TCM
P0970	Pressure control (PC) solenoid C - circuit low	Wiring short to earth, pressure control solenoid, ECM/PCM/TCM
P0971	Pressure control (PC) solenoid C - circuit high	Wiring short to positive, pressure control solenoid, ECM/PCM/TCM
P0972	Shift solenoid (SS) A - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0973	Shift solenoid (SS) A - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM
P0974	Shift solenoid (SS) A - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P0975	Shift solenoid (SS) B - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0976	Shift solenoid (SS) B - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM
P0977	Shift solenoid (SS) B - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P0978	Shift solenoid (SS) C - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0979	Shift solenoid (SS) C - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM
P0980	Shift solenoid (SS) C - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P0981	Shift solenoid (SS) D - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0982	Shift solenoid (SS) D - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM
P0983	Shift solenoid (SS) D - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P0984	Shift solenoid (SS) E - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0985	Shift solenoid (SS) E - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM

P0986	Shift solenoid (SS) E - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P0987	Transmission fluid pressure (TFP) sensor E - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0987	Transmission fluid pressure (TFP) switch E - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0988	Transmission fluid pressure (TFP) sensor E - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0988	Transmission fluid pressure (TFP) switch E - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0989	Transmission fluid pressure (TFP) sensor E - circuit low	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0989	Transmission fluid pressure (TFP) switch E - circuit low	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0990	Transmission fluid pressure (TFP) sensor E - circuit high	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P0990	Transmission fluid pressure (TFP) switch E - circuit high	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0991	Transmission fluid pressure (TFP) sensor E - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0991	Transmission fluid pressure (TFP) switch E - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0992	Transmission fluid pressure (TFP) sensor F - circuit malfunction	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0992	Transmission fluid pressure (TFP) switch F - circuit malfunction	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0993	Transmission fluid pressure (TFP) sensor F - range/performance problem	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0993	Transmission fluid pressure (TFP) switch F - range/performance problem	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0994	Transmission fluid pressure (TFP) sensor F - circuit low	Wiring short to earth, TFP sensor, ECM/PCM/TCM
P0994	Transmission fluid pressure (TFP) switch F - circuit low	Wiring short to earth, TFP switch, ECM/PCM/TCM
P0995	Transmission fluid pressure (TFP) sensor F - circuit high	Wiring short to positive, TFP sensor, ECM/PCM/TCM
P0995	Transmission fluid pressure (TFP) switch F - circuit high	Wiring short to positive, TFP switch, ECM/PCM/TCM
P0996	Transmission fluid pressure (TFP) sensor F - circuit intermittent	Wiring, poor connection, TFP sensor, ECM/PCM/TCM
P0996	Transmission fluid pressure (TFP) switch F - circuit intermittent	Wiring, poor connection, TFP switch, ECM/PCM/TCM
P0997	Shift solenoid (SS) F - range/performance problem	Wiring, poor connection, shift solenoid (SS), ECM/PCM/TCM
P0998	Shift solenoid (SS) F - circuit low	Wiring short to earth, shift solenoid (SS), ECM/PCM/TCM
P0999	Shift solenoid (SS) F - circuit high	Wiring short to positive, shift solenoid (SS), ECM/PCM/TCM
P099A	Shift solenoid (SS) G - control circuit range/performance	Wiring, SS, TCM, ECM
P099B	Shift solenoid (SS) G - control circuit low	Wiring, SS, TCM, ECM

P099C	Shift solenoid (SS) G - control circuit high	Wiring, SS, TCM, ECM
P099D	Shift solenoid (SS) H - control circuit range/performance	Wiring, SS, TCM, ECM
P099E	Shift solenoid (SS) H - control circuit low	Wiring, SS, TCM, ECM
P099F	Shift solenoid (SS) H - control circuit high	Wiring, SS, TCM, ECM
P0A00	Voltage converter coolant temperature sensor - circuit malfunction	Wiring, voltage converter coolant temperature sensor
P0A01	Voltage converter coolant temperature sensor - circuit range/performance	Wiring, voltage converter coolant temperature sensor
P0A02	Voltage converter coolant temperature sensor - circuit low	Wiring, voltage converter coolant temperature sensor
P0A03	Voltage converter coolant temperature sensor - circuit high	Wiring, voltage converter coolant temperature sensor
P0A04	Voltage converter coolant temperature sensor - circuit intermittent	Wiring, voltage converter coolant temperature sensor
P0A05	Voltage converter coolant pump control A - open circuit	Wiring, voltage converter coolant pump
P0A06	Voltage converter coolant pump control A - circuit low	Wiring, voltage converter coolant pump
P0A07	Voltage converter coolant pump control A - circuit high	Wiring, voltage converter coolant pump
P0A08	DC to DC converter status - circuit malfunction	-
P0A09	DC to DC converter status - circuit low	-
P0A0A	High voltage system - interlock circuit malfunction	-
P0A0B	High voltage system - interlock circuit performance	-
P0A0C	High voltage system - interlock circuit low	-
P0A0D	High voltage system - interlock circuit high	-
P0A0E	High voltage system - interlock circuit intermittent	-
P0A0F	Hybrid drive system - engine failed to start	-
P0A10	DC to DC converter status - circuit high	-
P0A11	DC to DC converter enable - circuit open	-
P0A12	DC to DC converter enable - circuit low	-
P0A13	DC to DC converter enable - circuit high	-
P0A14	Engine mounting control A - open circuit	-
P0A15	Engine mounting control A - circuit low	-
P0A16	Engine mounting control A - circuit high	-
P0A17	Motor torque sensor - circuit malfunction	Wiring, motor torque sensor
P0A18	Motor torque sensor - circuit range/performance	Wiring, motor torque sensor
P0A19	Motor torque sensor - circuit low	Wiring, motor torque sensor
P0A1A	Generator control module	Wiring, Generator control module
P0A1B	Drive motor A control module	Wiring, drive motor control module
P0A1C	Drive motor B control module	Wiring, drive motor control module
P0A1D	Hybrid powertrain control module	Wiring, hybrid powertrain control module
P0A1E	Starter/generator control module	Wiring, starter/generator control module
P0A1F	Battery energy control module	Wiring, battery energy control module
P0A20	Motor torque sensor - circuit high	Wiring, motor torque sensor
P0A21	Motor torque sensor - circuit intermittent	Wiring, motor torque sensor

P0A22	Generator torque sensor - circuit malfunction	Wiring, generator torque sensor
P0A23	Generator torque sensor - circuit range/performance	Wiring, generator torque sensor
P0A24	Generator torque sensor - circuit low	Wiring, generator torque sensor
P0A25	Generator torque sensor - circuit high	Wiring, generator torque sensor
P0A26	Generator torque sensor - circuit intermittent	Wiring, generator torque sensor
P0A27	Hybrid battery power off - circuit malfunction	-
P0A28	Hybrid battery power off - circuit low	-
P0A29	Hybrid battery power off - circuit high	-
P0A2A	Drive motor A temperature sensor - circuit open	-
P0A2B	Drive motor A temperature sensor - circuit range/performance	-
P0A2C	Drive motor A temperature sensor - circuit low	-
P0A2D	Drive motor A temperature sensor - circuit high	-
P0A2E	Drive motor A temperature sensor - circuit intermittent	-
P0A2F	Drive motor A temperature sensor - over-temperature condition	-
P0A30	Drive motor B temperature sensor - circuit open	-
P0A31	Drive motor B temperature sensor - circuit range/performance	-
P0A32	Drive motor B temperature sensor - circuit low	-
P0A33	Drive motor B temperature sensor - circuit high	-
P0A34	Drive motor B temperature sensor - circuit intermittent	-
P0A35	Drive motor B temperature sensor - over-temperature condition	-
P0A36	Generator temperature sensor - circuit malfunction	-
P0A37	Generator temperature sensor - circuit range/performance	-
P0A38	Generator temperature sensor - circuit low	-
P0A39	Generator temperature sensor - circuit high	-
P0A3A	Generator temperature sensor - circuit intermittent	-
P0A3B	Generator - over-temperature condition	-
P0A3C	Drive motor A inverter - over-temperature condition	-
P0A3D	Drive motor B inverter - over-temperature condition	-
P0A3E	Generator inverter - over-temperature condition	-
P0A3F	Drive motor A position sensor - circuit malfunction	Wiring, drive motor position sensor
P0A40	Drive motor A position sensor - circuit range/performance	Wiring, drive motor position sensor
P0A41	Drive motor A position sensor - circuit low	Wiring, drive motor position sensor
P0A42	Drive motor A position sensor - circuit high	Wiring, drive motor position sensor
P0A43	Drive motor A position sensor - circuit intermittent	Wiring, drive motor position sensor
P0A44	Drive motor A position sensor - circuit over-speed	Wiring, drive motor position sensor
P0A45	Drive motor B position sensor - circuit malfunction	Wiring, drive motor position sensor
P0A46	Drive motor B position sensor - circuit range/performance	Wiring, drive motor position sensor
P0A47	Drive motor B position sensor - circuit low	Wiring, drive motor position sensor
P0A48	Drive motor B position sensor - circuit high	Wiring, drive motor position sensor

P0A49	Drive motor B position sensor - circuit intermittent	Wiring, drive motor position sensor
P0A4A	Drive motor B position sensor - circuit over-speed	Wiring, drive motor position sensor
P0A4B	Generator position sensor - circuit malfunction	Wiring, generator position sensor
P0A4C	Generator position sensor - circuit range/performance	Wiring, generator position sensor
P0A4D	Generator position sensor - circuit low	Wiring, generator position sensor
P0A4E	Generator position sensor - circuit high	Wiring, generator position sensor
P0A4F	Generator position sensor - circuit intermittent	Wiring, generator position sensor
P0A50	Generator position sensor - circuit over-speed	Wiring, generator position sensor
P0A51	Drive motor A current sensor - circuit open	-
P0A52	Drive motor A current sensor - circuit range/performance	-
P0A53	Drive motor A current sensor - circuit low	-
P0A54	Drive motor A current sensor - circuit high	-
P0A55	Drive motor B current sensor - circuit malfunction	-
P0A56	Drive motor B current sensor - circuit range/performance	-
P0A57	Drive motor B current sensor - circuit low	-
P0A58	Drive motor B current sensor - circuit high	-
P0A59	Generator current sensor - circuit malfunction	Wiring, generator current sensor
P0A5A	Generator current sensor - circuit range/performance	Wiring, generator current sensor
P0A5B	Generator current sensor - circuit low	Wiring, generator current sensor
P0A5C	Generator current sensor - circuit high	Wiring, generator current sensor
P0A5D	Drive motor A - phase U current malfunction	-
P0A5E	Drive motor A - phase U current low	-
P0A5F	Drive motor A - phase U current high	-
P0A60	Drive motor A - phase V current malfunction	-
P0A61	Drive motor A - phase V current low	-
P0A62	Drive motor A - phase V current high	-
P0A63	Drive motor A - phase W current malfunction	-
P0A64	Drive motor A - phase W current low	-
P0A65	Drive motor A - phase W current high	-
P0A66	Drive motor B - phase U current malfunction	-
P0A67	Drive motor B - phase U current low	-
P0A68	Drive motor B - phase U current high	-
P0A69	Drive motor B - phase V current malfunction	-
P0A6A	Drive motor B - phase V current low	-
P0A6B	Drive motor B - phase V current high	-
P0A6C	Drive motor B - phase W current malfunction	-
P0A6D	Drive motor B - phase W current low	-
P0A6E	Drive motor B - phase W current high	-
P0A6F	Generator - phase U current malfunction	-
P0A70	Generator - phase U current low	-
P0A71	Generator - phase U current high	-
P0A72	Generator - phase V current malfunction	-

P0A73	Generator - phase V current low	-
P0A74	Generator - phase V current high	-
P0A75	Generator - phase W current malfunction	-
P0A76	Generator - phase W current low	-
P0A77	Generator - phase W current high	-
P0A78	Drive motor A inverter - performance problem	-
P0A79	Drive motor B inverter - performance problem	-
P0A7A	Generator inverter - performance problem	-
P0A7B	Battery energy control module - MIL activation requested	-
P0A7C	Voltage converter - over-temperature condition	-
P0A7D	Hybrid battery pack - battery discharged	-
P0A7E	Hybrid battery pack - over-temperature condition	-
P0A7F	Hybrid battery pack - deterioration	-
P0A80	Hybrid battery pack	Replace hybrid battery pack
P0A81	Hybrid battery pack cooling fan 1 - control circuit open	-
P0A82	Hybrid battery pack cooling fan 1 - performance or stuck off	-
P0A83	Hybrid battery pack cooling fan 1 - stuck on	-
P0A84	Hybrid battery pack cooling fan 1 - control circuit low	-
P0A85	Hybrid battery pack cooling fan 1 - control circuit high	-
P0A86	14 volt power module current sensor - circuit malfunction	-
P0A87	14 volt power module current sensor - circuit range/performance	-
P0A88	14 volt power module current sensor - circuit low	-
P0A89	14 volt power module current sensor - circuit high	-
P0A8A	14 volt power module current sensor - circuit intermittent	-
P0A8B	14 volt power module - system voltage	-
P0A8C	14 volt power module - system voltage unstable	-
P0A8D	14 volt power module - system voltage low	-
P0A8E	14 volt power module - system voltage high	-
P0A8F	14 volt power module - system performance	-
P0A90	Drive motor A - performance problem	Wiring, drive motor
P0A91	Drive motor B - performance problem	Wiring, drive motor
P0A92	Hybrid generator - performance problem	-
P0A93	Inverter A - cooling system performance	-
P0A94	DC to DC converter - performance problem	-
P0A95	Hybrid battery pack - high voltage fuse	-
P0A96	Hybrid battery pack cooling fan 2 - control circuit open	-
P0A97	Hybrid battery pack cooling fan 2 - performance or stuck off	-
P0A98	Hybrid battery pack cooling fan 2 - stuck on	-

P0A99	Hybrid battery pack cooling fan 2 - control circuit low	-
P0A9A	Hybrid battery pack cooling fan 2 - control circuit high	-
P0A9B	Hybrid battery temperature sensor A - circuit	-
P0A9C	Hybrid battery temperature sensor A - circuit range/performance	-
P0A9D	Hybrid battery temperature sensor A - circuit low	-
P0A9E	Hybrid battery temperature sensor A - circuit high	-
P0A9F	Hybrid battery temperature sensor A - circuit intermittent/erratic	-
P0AA0	Hybrid battery positive contactor - circuit malfunction	-
P0AA1	Hybrid battery positive contactor - circuit stuck closed	-
P0AA2	Hybrid battery positive contactor - circuit stuck open	-
P0AA3	Hybrid battery positive contactor - circuit malfunction	-
P0AA4	Hybrid battery positive contactor - circuit stuck closed	-
P0AA5	Hybrid battery positive contactor - circuit stuck open	-
P0AA6	Hybrid battery voltage system - isolation fault	-
P0AA7	Hybrid battery voltage isolation sensor - circuit malfunction	-
P0AA8	Hybrid battery voltage isolation sensor - circuit range/performance	-
P0AA9	Hybrid battery voltage isolation sensor - circuit low	-
P0AAA	Hybrid battery voltage isolation sensor - circuit high	-
P0AAB	Hybrid battery voltage isolation sensor - circuit intermittent/erratic	-
P0AAC	Hybrid battery pack air temperature sensor A - circuit malfunction	-
P0AAD	Hybrid battery pack air temperature sensor A - circuit range/performance	-
P0AAE	Hybrid battery pack air temperature sensor A - circuit low	-
P0AAF	Hybrid battery pack air temperature sensor A - circuit malfunction	-
P0AB0	Hybrid battery pack current sensor A - circuit intermittent/erratic	-
P0AB1	Hybrid battery pack air temperature sensor B - circuit malfunction	-
P0AB2	Hybrid battery pack air temperature sensor B - circuit malfunction	-
P0AB3	Hybrid battery pack air temperature sensor B - circuit low	-
P0AB4	Hybrid battery pack air temperature sensor B - circuit high	-
P0AB5	Hybrid battery pack air temperature sensor B - circuit intermittent/erratic	-
P0AB6	Engine mounting control B - circuit open	-
P0AB7	Engine mounting control B - circuit low	-
P0AB8	Engine mounting control B - circuit high	-
P0AB9	Hybrid drive system - performance problem	-

P0ABA	Hybrid battery pack voltage sensor A - circuit malfunction	-
P0ABB	Hybrid battery pack voltage sensor A - circuit range/performance	-
P0ABC	Hybrid battery pack voltage sensor A - circuit low	-
P0ABD	Hybrid battery pack voltage sensor A - circuit high	-
P0ABE	Hybrid battery pack voltage sensor A - circuit intermittent/erratic	-
P0ABF	Hybrid battery pack current sensor A - circuit malfunction	-
P0AC0	Hybrid battery pack current sensor A - circuit range/performance	-
P0AC1	Hybrid battery pack current sensor A - circuit low	-
P0AC2	Hybrid battery pack current sensor A - circuit high	-
P0AC3	Hybrid battery pack current sensor A - circuit intermittent/erratic	-
P0AC4	Hybrid powertrain control module - MIL activation requested	-
P0AC5	Hybrid battery temperature sensor B - circuit malfunction	-
P0AC6	Hybrid battery temperature sensor B - circuit range/performance	-
P0AC7	Hybrid battery temperature sensor B - circuit low	-
P0AC8	Hybrid battery temperature sensor B - circuit high	-
P0AC9	Hybrid battery temperature sensor B - circuit intermittent/erratic	-
P0ACA	Hybrid battery temperature sensor C - circuit malfunction	-
P0ACB	Hybrid battery temperature sensor C - circuit range/performance	-
P0ACC	Hybrid battery temperature sensor C - circuit low	-
P0ACD	Hybrid battery temperature sensor C - circuit high	-
P0ACE	Hybrid battery temperature sensor C - circuit intermittent/erratic	-
P0ACF	Hybrid battery pack cooling fan 3 - control circuit open	-
P0AD0	Hybrid battery pack cooling fan 3 - performance or stuck off	-
P0AD1	Hybrid battery pack cooling fan 3 - stuck on	-
P0AD2	Hybrid battery pack cooling fan 3 - control circuit low	-
P0AD3	Hybrid battery pack cooling fan 3 - control circuit high	-
P0AD4	Hybrid battery pack cooling system - insufficient air flow	-
P0AD5	Hybrid battery pack air flow valve A - control circuit open	-
P0AD6	Hybrid battery pack air flow valve A - circuit range/performance	-
P0AD7	Hybrid battery pack air flow valve A - control circuit low	-

P0AD8	Hybrid battery pack air flow valve A - control circuit high	-
P0AD9	Hybrid battery positive contactor - control circuit open	-
P0ADA	Hybrid battery positive contactor - control circuit range/performance	-
P0ADB	Hybrid battery positive contactor - control circuit low	-
P0ADC	Hybrid battery positive contactor - control circuit high	-
P0ADD	Hybrid battery positive contactor - control circuit open	-
P0ADE	Hybrid battery positive contactor - control circuit range/performance	-
P0ADF	Hybrid battery positive contactor - control circuit low	-
P0AE0	Hybrid battery positive contactor - control circuit high	-
P0AE1	Hybrid battery precharge contactor - circuit malfunction	-
P0AE2	Hybrid battery precharge contactor - circuit stuck closed	-
P0AE3	Hybrid battery precharge contactor - circuit stuck open	-
P0AE4	Hybrid battery precharge contactor - control circuit malfunction	-
P0AE5	Hybrid battery precharge contactor - circuit range/performance	-
P0AE6	Hybrid battery precharge contactor - control circuit low	-
P0AE7	Hybrid battery precharge contactor - control circuit high	-
P0AE8	Hybrid battery temperature sensor D - circuit malfunction	-
P0AE9	Hybrid battery temperature sensor D - circuit range/performance	-
P0AEA	Hybrid battery temperature sensor D - circuit low	-
P0AEB	Hybrid battery temperature sensor D - circuit high	-
P0AEC	Hybrid battery temperature sensor D - circuit intermittent/erratic	-
P0AED	Drive motor inverter temperature sensor A - circuit malfunction	-
P0AEE	Drive motor inverter temperature sensor A - circuit range/performance	-
P0AEF	Drive motor inverter temperature sensor A - circuit low	-
P0AF0	Drive motor inverter temperature sensor A - circuit high	-
P0AF1	Drive motor inverter temperature sensor A - circuit intermittent/erratic	-
P0AF2	Drive motor inverter temperature sensor B - circuit malfunction	-
P0AF3	Drive motor inverter temperature sensor B - circuit range/performance	-
P0AF4	Drive motor inverter temperature sensor B - circuit low	

P0AF5	Drive motor inverter temperature sensor B - circuit high	-
P0AF6	Drive motor inverter temperature sensor B - circuit intermittent/erratic	-
P0AF7	14 volt power module - internal temperature too high	-
P0AF8	Hybrid battery system - voltage malfunction	-
P0AF9	Hybrid battery system - system voltage unstable	-
P0AFA	Hybrid battery system - voltage low	-
P0AFB	Hybrid battery system - voltage high	-
P0AFC	Hybrid battery pack sensor module	-
P0AFD	Hybrid battery pack - battery temperature too low	-
P0AFE	Hybrid battery system - voltage too low for voltage step up conversion	-
P0AFF	Hybrid battery system - voltage too low for voltage step down conversion	-
P0B00	Auxiliary transmission fluid pump motor - phase U current malfunction	-
P0B01	Auxiliary transmission fluid pump motor - phase U current low	-
P0B02	Auxiliary transmission fluid pump motor - phase U current high	-
P0B03	Auxiliary transmission fluid pump motor - phase V current malfunction	-
P0B04	Auxiliary transmission fluid pump motor - phase V current low	-
P0B05	Auxiliary transmission fluid pump motor - phase V current high	-
P0B06	Auxiliary transmission fluid pump motor - phase W current malfunction	-
P0B07	Auxiliary transmission fluid pump motor - phase W current low	-
P0B08	Auxiliary transmission fluid pump motor - phase W current high	-
P0B09	Auxiliary transmission fluid pump motor - supply voltage circuit malfunction	-
P0B0A	Auxiliary transmission fluid pump motor - supply voltage low	-
P0B0B	Auxiliary transmission fluid pump motor - supply voltage high	Wiring, auxiliary transmission fluid pump motor
P0B0C	Auxiliary transmission fluid pump - hydraulic leakage	-
P0B0D	Auxiliary transmission fluid pump control module - malfunction	Wiring, auxiliary transmission fluid pump control module
P0B0E	Hybrid battery pack current sensor B - circuit malfunction	-
P0B0F	Hybrid battery pack current sensor B - circuit range/performance	-
P0B10	Hybrid battery pack current sensor B - circuit low	-
P0B11	Hybrid battery pack current sensor B - circuit high	-

P0B12	Hybrid battery pack current sensor B - circuit intermittent/erratic	-
P0B13	Hybrid battery pack current sensor - A/B correlation	-
P0B14	Hybrid battery pack voltage sensor B - circuit malfunction	-
P0B15	Hybrid battery pack voltage sensor B - circuit range/performance	-
P0B16	Hybrid battery pack voltage sensor B - circuit low	-
P0B17	Hybrid battery pack voltage sensor B - circuit high	-
P0B18	Hybrid battery pack voltage sensor B - circuit intermittent/erratic	-
P0B19	Hybrid battery pack voltage sensor C - circuit malfunction	-
P0B1A	Hybrid battery pack voltage sensor C - circuit range/performance	-
P0B1B	Hybrid battery pack voltage sensor C - circuit low	-
P0B1C	Hybrid battery pack voltage sensor C - circuit high	-
P0B1D	Hybrid battery pack voltage sensor C - circuit intermittent/erratic	-
P0B1E	Hybrid battery pack voltage sensor D - circuit malfunction	-
P0B1F	Hybrid battery pack voltage sensor D - circuit range/performance	-
P0B20	Hybrid battery pack voltage sensor D - circuit low	-
P0B21	Hybrid battery pack voltage sensor D - circuit high	-
P0B22	Hybrid battery pack voltage sensor D - circuit intermittent/erratic	-
P0B23	Hybrid battery A - voltage malfunction	-
P0B24	Hybrid battery A - voltage unstable	-
P0B25	Hybrid battery A - voltage low	-
P0B26	Hybrid battery A - voltage high	-
P0B27	Hybrid battery B - voltage malfunction	-
P0B28	Hybrid battery B - voltage unstable	-
P0B29	Hybrid battery B - voltage low	-
P0B2A	Hybrid battery B - voltage high	-
P0B2B	Hybrid battery C - voltage malfunction	-
P0B2C	Hybrid battery C - voltage unstable	-
P0B2D	Hybrid battery C - voltage low	-
P0B2E	Hybrid battery C - voltage high	-
P0B2F	Hybrid battery D - voltage malfunction	-
P0B30	Hybrid battery D - voltage unstable	-
P0B31	Hybrid battery D - voltage low	-
P0B32	Hybrid battery D - voltage high	-
P0B33	Hybrid battery pack isolator - circuit malfunction	-
P0B34	Hybrid battery pack isolator - circuit performance	-
P0B35	Hybrid battery pack isolator - circuit low	-
P0B36	Hybrid battery pack isolator - circuit high	-

P0B37	Hybrid battery pack isolator - circuit open	-
P0B38	Voltage converter coolant pump motor B - control circuit open	-
P0B39	Voltage converter coolant pump motor B - control circuit low	-
P0B3A	Voltage converter coolant pump motor B - control circuit high	-
P0B3B	Hybrid battery voltage sensor A - circuit malfunction	-
P0B3C	Hybrid battery voltage sensor A - circuit range/performance	-
P0B3D	Hybrid battery voltage sensor A - circuit low	-
P0B3E	Hybrid battery voltage sensor A - circuit high	-
P0B3F	Hybrid battery voltage sensor A - circuit intermittent/erratic	-
P0B40	Hybrid battery voltage sensor B - circuit malfunction	-
P0B41	Hybrid battery voltage sensor B - circuit range/performance	-
P0B42	Hybrid battery voltage sensor B - circuit low	-
P0B43	Hybrid battery voltage sensor B - circuit high	-
P0B44	Hybrid battery voltage sensor B - circuit intermittent/erratic	-
P0B45	Hybrid battery voltage sensor C - circuit malfunction	-
P0B46	Hybrid battery voltage sensor C - circuit range/performance	-
P0B47	Hybrid battery voltage sensor C - circuit low	-
P0B48	Hybrid battery voltage sensor C - circuit high	-
P0B49	Hybrid battery voltage sensor C - circuit intermittent/erratic	-
P0B4A	Hybrid battery voltage sensor D - circuit malfunction	-
P0B4B	Hybrid battery voltage sensor D - circuit range/performance	-
P0B4C	Hybrid battery voltage sensor D - circuit low	-
P0B4D	Hybrid battery voltage sensor D - circuit high	-
P0B4E	Hybrid battery voltage sensor D - circuit intermittent/erratic	-
P0B4F	Hybrid battery voltage sensor E - circuit malfunction	-
P0B50	Hybrid battery voltage sensor E - circuit range/performance	-
P0B51	Hybrid battery voltage sensor E - circuit low	-
P0B52	Hybrid battery voltage sensor E - circuit high	-
P0B53	Hybrid battery voltage sensor E - circuit intermittent/erratic	-
P0B54	Hybrid battery voltage sensor F - circuit malfunction	-
P0B55	Hybrid battery voltage sensor F - circuit range/performance	-
P0B56	Hybrid battery voltage sensor F - circuit low	-
P0B57	Hybrid battery voltage sensor F - circuit high	-

P0B58	Hybrid battery voltage sensor F - circuit intermittent/erratic	-
P0B59	Hybrid battery voltage sensor G - circuit malfunction	-
P0B5A	Hybrid battery voltage sensor G - circuit range/performance	-
P0B5B	Hybrid battery voltage sensor G - circuit low	-
P0B5C	Hybrid battery voltage sensor G - circuit high	-
P0B5D	Hybrid battery voltage sensor G - circuit intermittent/erratic	-
P0B5E	Hybrid battery voltage sensor H - circuit malfunction	-
P0B5F	Hybrid battery voltage sensor H - circuit range/performance	-
P0B60	Hybrid battery voltage sensor H - circuit low	-
P0B61	Hybrid battery voltage sensor H - circuit high	-
P0B62	Hybrid battery voltage sensor H - circuit intermittent/erratic	-
P0B63	Hybrid battery voltage sensor I - circuit malfunction	-
P0B64	Hybrid battery voltage sensor I - circuit range/performance	-
P0B65	Hybrid battery voltage sensor I - circuit low	-
P0B66	Hybrid battery voltage sensor I - circuit high	-
P0B67	Hybrid battery voltage sensor I - circuit intermittent/erratic	-
P0B68	Hybrid battery voltage sensor J - circuit malfunction	-
P0B69	Hybrid battery voltage sensor J - circuit range/performance	-
P0B6A	Hybrid battery voltage sensor J - circuit low	-
P0B6B	Hybrid battery voltage sensor J - circuit high	-
P0B6C	Hybrid battery voltage sensor J - circuit intermittent/erratic	-
P0B6D	Hybrid battery voltage sensor K - circuit malfunction	-
P0B6E	Hybrid battery voltage sensor K - circuit range/performance	-
P0B6F	Hybrid battery voltage sensor K - circuit low	-
P0B70	Hybrid battery voltage sensor K - circuit high	-
P0B71	Hybrid battery voltage sensor K - circuit intermittent/erratic	-
P0B72	Hybrid battery voltage sensor L - circuit malfunction	-
P0B73	Hybrid battery voltage sensor L - circuit range/performance	-
P0B74	Hybrid battery voltage sensor L - circuit low	-
P0B75	Hybrid battery voltage sensor L - circuit high	-
P0B76	Hybrid battery voltage sensor L - circuit intermittent/erratic	-
P0B77	Hybrid battery voltage sensor M - circuit malfunction	-
P0B78	Hybrid battery voltage sensor M - circuit range/performance	-
P0B79	Hybrid battery voltage sensor M - circuit low	-

P0B7A	Hybrid battery voltage sensor M - circuit high	-
P0B7B	Hybrid battery voltage sensor M - circuit intermittent/erratic	-
P0B7C	Hybrid battery voltage sensor N - circuit malfunction	-
P0B7D	Hybrid battery voltage sensor N - circuit range/performance	-
P0B7E	Hybrid battery voltage sensor N - circuit low	-
P0B7F	Hybrid battery voltage sensor N - circuit high	-
P0B80	Hybrid battery voltage sensor N - circuit intermittent/erratic	-
P0B81	Hybrid battery voltage sensor O - circuit malfunction	-
P0B82	Hybrid battery voltage sensor O - circuit range/performance	-
P0B83	Hybrid battery voltage sensor O - circuit low	-
P0B84	Hybrid battery voltage sensor O - circuit high	-
P0B85	Hybrid battery voltage sensor O - circuit intermittent/erratic	-
P0B86	Hybrid battery voltage sensor P - circuit malfunction	-
P0B87	Hybrid battery voltage sensor P - circuit range/performance	-
P0B88	Hybrid battery voltage sensor P - circuit low	-
P0B89	Hybrid battery voltage sensor P - circuit high	-
P0B8A	Hybrid battery voltage sensor P - circuit intermittent/erratic	-
P0B8B	Hybrid battery voltage sensor Q - circuit malfunction	-
P0B8C	Hybrid battery voltage sensor Q - circuit range/performance	-
P0B8D	Hybrid battery voltage sensor Q - circuit low	-
P0B8E	Hybrid battery voltage sensor Q - circuit high	-
P0B8F	Hybrid battery voltage sensor Q - circuit intermittent/erratic	-
P0B90	Hybrid battery voltage sensor R - circuit malfunction	-
P0B91	Hybrid battery voltage sensor R - circuit range/performance	-
P0B92	Hybrid battery voltage sensor R - circuit low	-
P0B93	Hybrid battery voltage sensor R - circuit high	-
P0B94	Hybrid battery voltage sensor R - circuit intermittent/erratic	-
P0B95	Hybrid battery voltage sensor S - circuit malfunction	-
P0B96	Hybrid battery voltage sensor S - circuit range/performance	-
P0B97	Hybrid battery voltage sensor S - circuit low	-
P0B98	Hybrid battery voltage sensor S - circuit high	-
P0B99	Hybrid battery voltage sensor S - circuit intermittent/erratic	-
P0B9A	Hybrid battery voltage sensor T - circuit	-
P0B9B	Hybrid battery voltage sensor T - circuit range/performance	-

P0B9C	Hybrid battery voltage sensor T - circuit low	-
P0B9D	Hybrid battery voltage sensor T - circuit high	-
P0B9E	Hybrid battery voltage sensor T - circuit intermittent/erratic	-
P0B9F	Hybrid battery voltage sensor U - circuit malfunction	-
P0BA0	Hybrid battery voltage sensor U - circuit range/performance	-
P0BA1	Hybrid battery voltage sensor U - circuit low	-
P0BA2	Hybrid battery voltage sensor U - circuit high	-
P0BA3	Hybrid battery voltage sensor U - circuit intermittent/erratic	-
P0BA4	Hybrid battery voltage sensor V - circuit malfunction	-
P0BA5	Hybrid battery voltage sensor V - circuit range/performance	-
P0BA6	Hybrid battery voltage sensor V - circuit low	-
P0BA7	Hybrid battery voltage sensor V - circuit high	-
P0BA8	Hybrid battery voltage sensor V - circuit intermittent/erratic	-
P0BA9	Hybrid battery voltage sensor W - circuit malfunction	-
P0BAA	Hybrid battery voltage sensor W - circuit range/performance	-
P0BAA	Hybrid battery voltage sensor W - circuit range/performance	-
P0BAB	Hybrid battery voltage sensor W - circuit low	-
P0BAB	Hybrid battery voltage sensor W - circuit low	-
P0BAC	Hybrid battery voltage sensor W - circuit high	-
P0BAC	Hybrid battery voltage sensor W - circuit high	-
P0BAD	Hybrid battery voltage sensor W - circuit intermittent/erratic	-
P0BAD	Hybrid battery voltage sensor W - circuit intermittent/erratic	-
P0BAE	Hybrid battery voltage sensor X - circuit malfunction	-
P0BAE	Hybrid battery voltage sensor X - circuit malfunction	-
P0BAF	Hybrid battery voltage sensor X - circuit range/performance	-
P0BAF	Hybrid battery voltage sensor X - circuit range/performance	-
P0BB0	Hybrid battery voltage sensor X - circuit low	-
P0BB0	Hybrid battery voltage sensor X - circuit low	-
P0BB1	Hybrid battery voltage sensor X - circuit high	-
P0BB2	Hybrid battery voltage sensor X - circuit intermittent/erratic	-
P0BB3	Hybrid battery voltage sensor Y - circuit	-
P0BB4	Hybrid battery voltage sensor Y - circuit range/performance	-
P0BB5	Hybrid battery voltage sensor Y - circuit low	-
P0BB6	Hybrid battery voltage sensor Y - circuit high	-

P0BB7	Hybrid battery voltage sensor Y - circuit intermittent/erratic	-
P0BB8	Hybrid battery voltage sensor Z - circuit	-
P0BB9	Hybrid battery voltage sensor Z - circuit range/performance	-
P0BBA	Hybrid battery voltage sensor Z - circuit low	-
P0BBB	Hybrid battery voltage sensor Z - circuit high	-
P0BBC	Hybrid battery voltage sensor Z - circuit intermittent/erratic	-
P0BBD	Hybrid battery pack - voltage variation limit exceeded	-
P0BBE	Hybrid battery pack - voltage variation	-
P0BBF	Hybrid battery pack cooling fan - supply voltage circuit malfunction	-
P0BC0	Hybrid battery pack cooling fan - supply voltage low	-
P0BC1	Hybrid battery pack cooling fan - supply voltage high	-
P0BC2	Hybrid battery temperature sensor E - circuit malfunction	-
P0BC3	Hybrid battery temperature sensor E - circuit range/performance	-
P0BC4	Hybrid battery temperature sensor E - circuit low	-
P0BC5	Hybrid battery temperature sensor E - circuit high	-
P0BC6	Hybrid battery temperature sensor E - circuit intermittent/erratic	-
P0BC7	Hybrid battery pack cooling fan sensor - circuit open	-
P0BC8	Hybrid battery pack cooling fan sensor - circuit range/performance	-
P0BC9	Hybrid battery pack cooling fan sensor - circuit low	-
P0BCA	Hybrid battery pack cooling fan sensor - circuit high	-
P0BCB	Hybrid battery pack cooling fan sensor - circuit intermittent/erratic	-
P0BCC	Generator temperature sensor - circuit malfunction	-
P0BCD	Generator inverter temperature sensor - circuit range/performance	-
P0BCE	Generator inverter temperature sensor - circuit low	-
P0BCF	Generator temperature sensor - circuit high	-
P0BD0	Generator inverter temperature sensor - circuit intermittent/erratic	-
P0BD1	Drive motor inverter temperature sensor C - circuit malfunction	-
P0BD2	Drive motor inverter temperature sensor C - circuit range/performance	-
P0BD3	Drive motor inverter temperature sensor C - circuit low	-
P0BD4	Drive motor inverter temperature sensor C - circuit high	-
P0BD5	Drive motor inverter temperature sensor C - circuit intermittent/erratic	-
P0BD6	Drive motor inverter temperature sensor D - circuit	-

P0BD7	Drive motor inverter temperature sensor D - circuit range/performance	-
P0BD8	Drive motor inverter temperature sensor D - circuit low	-
P0BD9	Drive motor inverter temperature sensor D - circuit high	-
P0BDA	Drive motor inverter temperature sensor D - circuit intermittent/erratic	Wiring, drive motor inverter temperature sensor
P0BDB	Drive motor inverter temperature sensor E - circuit malfunction	Wiring, drive motor inverter temperature sensor
P0BDC	Drive motor inverter temperature sensor E - circuit range/performance	Wiring, drive motor inverter temperature sensor
P0BDD	Drive motor inverter temperature sensor E - circuit low	Wiring, drive motor inverter temperature sensor
P0BDE	Drive motor inverter temperature sensor E - circuit high	Wiring, drive motor inverter temperature sensor
P0BDF	Drive motor inverter temperature sensor E - circuit intermittent/erratic	Wiring, drive motor inverter temperature sensor
P0BE0	Drive motor inverter temperature sensor F - circuit malfunction	Wiring, drive motor inverter temperature sensor
P0BE1	Drive motor inverter temperature sensor F - circuit range/performance	-
P0BE2	Drive motor inverter temperature sensor F - circuit low	-
P0BE3	Drive motor inverter temperature sensor F - circuit high	-
P0BE4	Drive motor inverter temperature sensor F - circuit intermittent/erratic	-
P0BE5	Drive motor A, phase U current sensor - circuit malfunction	-
P0BE6	Drive motor A, phase U current sensor - circuit range/performance	-
P0BE7	Drive motor A, phase U current sensor - circuit low	-
P0BE8	Drive motor A, phase U current sensor - circuit high	-
P0BE9	Drive motor A, phase V current sensor - circuit malfunction	-
P0BEA	Drive motor A, phase V current sensor - circuit range/performance	Wiring, drive motor current sensor
P0BEB	Drive motor A, phase V current sensor - circuit low	Wiring, drive motor current sensor
P0BEC	Drive motor A, phase V current sensor - circuit high	Wiring, drive motor current sensor
P0BED	Drive motor A, phase W current sensor - circuit malfunction	Wiring, drive motor current sensor
P0BEE	Drive motor A, phase W current sensor - circuit range/performance	Wiring, drive motor current sensor
P0BEF	Drive motor A, phase W current sensor - circuit low	Wiring, drive motor current sensor
P0BF0	Drive motor A, phase W current sensor - circuit high	Wiring, drive motor current sensor
P0BF1	Drive motor B, phase U current sensor - circuit malfunction	-
P0BF2	Drive motor B, phase U current sensor - circuit range/performance	-

P0BF3	Drive motor B, phase U current sensor - circuit low	-
P0BF4	Drive motor B, phase U current sensor - circuit high	-
P0BF5	Drive motor B, phase V current sensor - circuit malfunction	-
P0BF6	Drive motor B, phase V current sensor - circuit range/performance	-
P0BF7	Drive motor B, phase V current sensor - circuit low	-
P0BF8	Drive motor B, phase V current sensor - circuit high	-
P0BF9	Drive motor B, phase W current sensor - circuit malfunction	-
P0BFA	Drive motor B, phase W current sensor - circuit range/performance	Wiring, drive motor current sensor
P0BFB	Drive motor B, phase W current sensor - circuit low	Wiring, drive motor current sensor
P0BFC	Drive motor B, phase W current sensor - circuit high	Wiring, drive motor current sensor
P0BFD	Drive motor A, phase U/V/W current sensor - correlation malfunction	Wiring, drive motor current sensor
P0BFE	Drive motor B, phase U/V/W current sensor - correlation malfunction	Wiring, drive motor current sensor
P0BFF	Drive motor A - current malfunction	Wiring, drive motor
P0C00	Drive motor A - current low	-
P0C01	Drive motor A - current high	-
P0C02	Drive motor B - current	-
P0C03	Drive motor B - current low	-
P0C04	Drive motor B - current high	-
P0C05	Drive motor A, phase U/V/W circuit - circuit open	-
P0C06	Drive motor A, phase U/V/W circuit - circuit low	-
P0C07	Drive motor A, phase U/V/W circuit - circuit high	-
P0C08	Drive motor B, phase U/V/W circuit - circuit open	-
P0C09	Drive motor B, phase U/V/W circuit - circuit low	-
P0C0A	Drive motor B, phase U/V/W circuit - circuit high	-
P0C0B	Drive motor A inverter - supply voltage circuit malfunction	-
P0C0C	Drive motor A inverter - power supply low	-
P0C0D	Drive motor A inverter - power supply high	-
P0C0E	Drive motor B inverter - supply voltage circuit malfunction	-
P0C0F	Drive motor B inverter - power supply low	-
P0C10	Drive motor B inverter - power supply high	-
P0C11	Drive motor A inverter, phase U circuit - over-temperature condition	-
P0C12	Drive motor A inverter, phase V circuit - over-temperature condition	-
P0C13	Drive motor A inverter, phase W circuit - over-temperature condition	-
P0C14	Drive motor B inverter, phase U circuit - over-temperature condition	-

P0C15	Drive motor B inverter, phase V circuit - over-temperature condition	-
P0C16	Drive motor B inverter, phase W circuit - over-temperature condition	-
P0C17	Drive motor A position sensor - calibration not learned	-
P0C18	Drive motor B position sensor - calibration not learned	-
P0C19	Drive motor A - torque delivered performance	-
P0C1A	Drive motor B - torque delivered performance	-
P0C1B	Auxiliary transmission fluid pump control module - internal temperature too high	-
P0C1C	Auxiliary transmission fluid pump control module, internal temperature sensor - circuit malfunction	-
P0C1D	Auxiliary transmission fluid pump control module, internal temperature sensor - circuit range/performance	-
P0C1E	Auxiliary transmission fluid pump control module, internal temperature sensor - circuit low	-
P0C1F	Auxiliary transmission fluid pump control module, internal temperature sensor - circuit high	-
P0C20	Auxiliary transmission fluid pump, phase U/V/W circuit - open circuit	-
P0C21	Auxiliary transmission fluid pump, phase U/V/W circuit - circuit low	-
P0C22	Auxiliary transmission fluid pump, phase U/V/W circuit - circuit high	-
P0C23	Auxiliary transmission fluid pump control module - open circuit	-
P0C24	Auxiliary transmission fluid pump control module - circuit low	-
P0C25	Auxiliary transmission fluid pump control module - circuit high	-
P0C26	Auxiliary transmission fluid pump motor - no current	-
P0C27	Auxiliary transmission fluid pump motor - current low	-
P0C28	Auxiliary transmission fluid pump motor - current high	-
P0C29	Auxiliary transmission fluid pump, driver circuit - circuit malfunction	-
P0C2A	Auxiliary transmission fluid pump motor - pump motor stalled	-
P0C2B	Auxiliary transmission fluid pump control module - feedback circuit malfunction	-
P0C2C	Auxiliary transmission fluid pump control module - feedback signal range/performance	-
P0C2D	Auxiliary transmission fluid pump control module - feedback signal low	-
P0C2E	Auxiliary transmission fluid pump control module - feedback signal high	-
P0C2F	Internal control module, drive motor/generator, engine speed (RPM) sensor - performance problem	-

P0C30	Hybrid battery pack - state of charge high	-
P0C31	Inverter B cooling system - performance problem	-
P0C32	Hybrid battery pack cooling system - performance problem	-
P0C33	Hybrid battery temperature sensor F - circuit malfunction	-
P0C34	Hybrid battery temperature sensor F - circuit range/performance	-
P0C35	Hybrid battery temperature sensor F - circuit low	-
P0C36	Hybrid battery temperature sensor F - circuit high	-
P0C37	Hybrid battery temperature sensor F - circuit intermittent/erratic	
P0C38	DC to DC converter temperature sensor A - circuit malfunction	-
P0C39	DC to DC converter temperature sensor A - circuit range/performance	-
P0C3A	DC to DC converter temperature sensor A - circuit low	-
P0C3B	DC to DC converter temperature sensor A - circuit high	-
P0C3C	DC to DC converter temperature sensor A - circuit intermittent/erratic	-
P0C3D	DC to DC converter temperature sensor B - circuit malfunction	-
P0C3E	DC to DC converter temperature sensor B - circuit range/performance	-
P0C3F	DC to DC converter temperature sensor B - circuit low	-
P0C40	DC to DC converter temperature sensor B - circuit high	-
P0C41	DC to DC converter temperature sensor B - circuit intermittent/erratic	-
P0C42	Hybrid battery pack coolant temperature sensor - circuit malfunction	-
P0C43	Hybrid battery pack coolant temperature sensor - circuit range/performance	-
P0C44	Hybrid battery pack coolant temperature sensor - circuit low	-
P0C45	Hybrid battery pack coolant temperature sensor - circuit high	-
P0C46	Hybrid battery pack coolant temperature sensor - circuit intermittent/erratic	-
P0C47	Hybrid battery pack coolant pump control - open circuit	-
P0C48	Hybrid battery pack coolant pump control - circuit low	-
P0C49	Hybrid battery pack coolant pump control - circuit high	-
P0C4A	Hybrid battery pack coolant pump control - performance problem	-
P0C4B	Hybrid battery pack coolant pump - no supply voltage	-

P0C4C	Hybrid battery pack coolant pump - supply voltage low	-
P0C4D	Hybrid battery pack coolant pump - supply voltage high	-
P0C4E	Drive motor A - position learning limit exceeded	-
P0C4F	Drive motor B - position learning limit exceeded	-
P0C50	Drive motor A position sensor, circuit A - circuit malfunction	Wiring, drive motor position sensor
P0C51	Drive motor A position sensor, circuit A - circuit range/performance	Wiring, drive motor position sensor
P0C52	Drive motor A position sensor, circuit A - circuit low	Wiring, drive motor position sensor
P0C53	Drive motor A position sensor, circuit A - circuit high	Wiring, drive motor position sensor
P0C54	Drive motor A position sensor, circuit A - circuit intermittent/erratic	Wiring, drive motor position sensor
P0C55	Drive motor B position sensor, circuit A - circuit malfunction	Wiring, drive motor position sensor
P0C56	Drive motor B position sensor, circuit A - circuit range/performance	Wiring, drive motor position sensor
P0C57	Drive motor B position sensor, circuit A - circuit low	Wiring, drive motor position sensor
P0C58	Drive motor B position sensor, circuit A - circuit high	Wiring, drive motor position sensor
P0C59	Drive motor B position sensor, circuit A - circuit intermittent/erratic	Wiring, drive motor position sensor
P0C5A	Drive motor A position sensor, circuit B - circuit malfunction	Wiring, drive motor position sensor
P0C5B	Drive motor A position sensor, circuit B - circuit range/performance	Wiring, drive motor position sensor
P0C5C	Drive motor A position sensor, circuit B - circuit low	Wiring, drive motor position sensor
P0C5D	Drive motor A position sensor, circuit B - circuit high	Wiring, drive motor position sensor
P0C5E	Drive motor A position sensor, circuit B - circuit intermittent/erratic	Wiring, drive motor position sensor
P0C5F	Drive motor B position sensor, circuit B - circuit malfunction	Wiring, drive motor position sensor
P0C60	Drive motor B position sensor, circuit B - circuit range/performance	Wiring, drive motor position sensor
P0C61	Drive motor B position sensor, circuit B - circuit low	Wiring, drive motor position sensor
P0C62	Drive motor B position sensor, circuit B - circuit high	Wiring, drive motor position sensor
P0C63	Drive motor B position sensor, circuit B - circuit intermittent/erratic	Wiring, drive motor position sensor
P0C64	Generator position sensor, circuit A - circuit malfunction	-
P0C65	Generator position sensor, circuit A - circuit range/performance	-
P0C66	Generator position sensor, circuit A - circuit low	-
P0C67	Generator position sensor, circuit A - circuit high	-
P0C68	Generator position sensor, circuit A - circuit intermittent/erratic	-
P0C69	Generator position sensor, circuit B - circuit malfunction	-

P0C6A	Generator position sensor, circuit B - circuit range/performance	-
P0C6B	Generator position sensor, circuit B - circuit low	-
P0C6C	Generator position sensor, circuit B - circuit high	-
P0C6D	Generator position sensor, circuit B - circuit intermittent/erratic	-
P0C6E	Hybrid battery temperature sensor - A/B correlation	-
P0C6F	Hybrid battery temperature sensor - B/C correlation	-
P0C70	Hybrid battery temperature sensor - C/D correlation	-
P0C71	Hybrid battery temperature sensor - D/E correlation	-
P0C72	Hybrid battery temperature sensor - E/F correlation	-
P0C73	Voltage converter coolant pump motor A control - performance problem	-
P0C74	Voltage converter coolant pump motor B control - performance problem	-
P0C75	Hybrid battery system - discharge time too short	-
P0C76	Hybrid battery system - discharge time too long	-
P0C77	Hybrid battery system - precharge time too short	-
P0C78	Hybrid battery system - precharge time too long	-
P0C79	Drive motor A inverter - voltage too high	-
P0C7A	Drive motor B inverter - voltage too high	-
P0C7B	Generator inverter - voltage too high	-
P0C7C	Hybrid battery temperature sensor G - circuit malfunction	-
P0C7D	Hybrid battery temperature sensor G - circuit range/performance	-
P0C7E	Hybrid battery temperature sensor G - circuit low	-
P0C7F	Hybrid battery temperature sensor G - circuit high	-
P0C80	Hybrid battery temperature sensor G - circuit intermittent/erratic	-
P0C81	Hybrid battery temperature sensor H - circuit malfunction	-
P0C82	Hybrid battery temperature sensor H - circuit range/performance	-
P0C83	Hybrid battery temperature sensor H - circuit low	-
P0C84	Hybrid battery temperature sensor H - circuit high	-
P0C85	Hybrid battery temperature sensor H - circuit intermittent/erratic	-
P0C86	Hybrid battery temperature sensor - F/G correlation	-
P0C87	Hybrid battery temperature sensor - G/H correlation	-
P0C88	Hybrid battery temperature sensor I - circuit malfunction	-
P0C89	Hybrid battery temperature sensor I - circuit range/performance	-
P0C8A	Hybrid battery temperature sensor I - circuit low	-
P0C8B	Hybrid battery temperature sensor I - circuit high	-

P0C8C	Hybrid battery temperature sensor I - circuit intermittent/erratic	-
P0C8D	Hybrid battery temperature sensor J - circuit malfunction	-
P0C8E	Hybrid battery temperature sensor J - circuit range/performance	-
P0C8F	Hybrid battery temperature sensor J - circuit low	-
P0C90	Hybrid battery temperature sensor J - circuit high	-
P0C91	Hybrid battery temperature sensor J - circuit intermittent/erratic	-
P0C92	Hybrid battery temperature sensor K - circuit malfunction	-
P0C93	Hybrid battery temperature sensor K - circuit range/performance	-
P0C94	Hybrid battery temperature sensor K - circuit low	-
P0C95	Hybrid battery temperature sensor K - circuit high	-
P0C96	Hybrid battery temperature sensor K - circuit intermittent/erratic	-
P0C97	Hybrid battery temperature sensor L - circuit malfunction	-
P0C98	Hybrid battery temperature sensor L - circuit range/performance	-
P0C99	Hybrid battery temperature sensor L - circuit low	-
P0C9A	Hybrid battery temperature sensor L - circuit high	-
P0C9B	Hybrid battery temperature sensor L - circuit intermittent/erratic	-
P0C9C	14 volt power module current sensor B - circuit malfunction	-
P0C9D	14 volt power module current sensor B - circuit range/performance	-
P0C9E	14 volt power module current sensor B - circuit low	-
P0C9F	14 volt power module current sensor B - circuit high	-
P0CA0	14 volt power module current sensor B - circuit intermittent	-
P0CA1	Drive motor control module - MIL activation requested	-
P0CA2	DC to DC converter, step down voltage - performance problem	-
P0CA3	DC to DC converter, step up voltage - performance problem	-
P0CA4	Hybrid battery system - charging voltage too high	-
P0CA5	Hybrid battery system - discharging voltage too high	-
P0CA6	Hybrid battery system - charging current too high	-
P0CA7	Hybrid battery system - discharging current too high	-
P0CA8	Hybrid battery temperature sensor M - circuit malfunction	-
P0CA9	Hybrid battery temperature sensor M - circuit range/performance	-
P0CAA	Hybrid battery temperature sensor M - circuit low	-
P0CAB	Hybrid battery temperature sensor M - circuit high	-

P0CAC	Hybrid battery temperature sensor M - circuit intermittent/erratic	-
P0CAD	Hybrid battery temperature sensor N - circuit malfunction	-
P0CAE	Hybrid battery temperature sensor N - circuit range/performance	-
P0CAF	Hybrid battery temperature sensor N - circuit low	-
P0CB0	Hybrid battery temperature sensor N - circuit high	-
P0CB1	Hybrid battery temperature sensor N - circuit intermittent/erratic	-
P0CB2	Hybrid battery temperature sensor O - circuit malfunction	-
P0CB3	Hybrid battery temperature sensor O - circuit range/performance	-
P0CB4	Hybrid battery temperature sensor O - circuit low	-
P0CB5	Hybrid battery temperature sensor O - circuit high	-
P0CB6	Hybrid battery temperature sensor O - circuit intermittent/erratic	-
P0CB7	Hybrid battery temperature sensor P - circuit malfunction	-
P0CB8	Hybrid battery temperature sensor P - circuit range/performance	-
P0CB9	Hybrid battery temperature sensor P - circuit low	-
P0CBA	Hybrid battery temperature sensor P - circuit high	-
P0CBB	Hybrid battery temperature sensor P - circuit intermittent/erratic	-

Technical Data

Technical data on the vehicle

Make	Renault
Model	Scenic II 1,9 dCi
Year	2003-2009
Engine	F9Q 812
Variant	

Date:	28-04-2015
Owner	
Registration No.	
VIN	
1. Reg. Date	

Technical item	Data
Engine	
Engine ID code	F9Q 812
Number of cylinders	R4 i
Number of valves	8, OHC
Capacity/ (bore/ stroke)	1870 cm3 (80,0/ 93,0)
Compression ratio	19,0: 1
Max. output kW (din hp)/ rpm	88 (120)/ 4000
Max. torque NM/ rpm	300/ 2000
Engine code location	At dipstick
Vehicle Identification Number location	Windscreen left side
Vehicle identification plate location	Right B - post
Valve clearance, inlet (cold/ hot)	0.20 cold i
Valve clearance, exhaust (cold/ hot)	0.40 cold i
Valve angle/ seat angle	45°/ 45°
Piston height over block, mm	i
Valve height in cylinder head, mm	Cylinder head height 162.0 mm
Oil pressure/ rpm, bar	3.5/ 3000 (1.2/ 800) running temperature
Basic adjustment turbocharger	265 mbar = 0.5 - 3.5 mm (600 mbar = Against stop) i
Radiator cap, bar/ thermostat °C	1,4/ 89° C
Clutch freeplay, mm	(Hydraulic)
Timing belt: Renewal interval	120,000 km/ 4 years
Noise measurement, dB(A) at rpm	81/ 3000
Drive belt	To be replaced with timing belt i
Engine management	
Engine management system	Bosch EDC 16 Common rail
Diagnostic connector	Under the carpet i
Injector resistance, ohm	0,33 ohm (20° C)/ Max. 2,0 ohm
Coolant temperature sensor 20°/ 80°C	2252 ± 112 ohm (25° C)/ 283 ± 8 ohm
Intake air temperature sensor 20°/ 80°C	2448 ± 90 ohm/ 1671 ± 59 ohm (30° C)
Fuel temperature sensor 10°/ 50°C	3820 ± 282 ohm/ 810 ± 47 ohm
Inductive crankshaft sensor	800 ± 80 ohm
Accelerator pedal sensor track 1, ohm	1700 ± 900 ohm
Accelerator pedal sensor track 2, ohm	3875 ± 1025 ohm
Injection system	Bosch EDC 16
Pump/ pump type	Bosch CP3
Injector/ injector type	Bosch
Adjustment method	(Electronic)
Dynamic injection inspection	(Electronic)
Feed pump pressure, bar	2,5 - 4,0
Injection order	1 - 3 - 4 - 2 (Cylinder 1 at flywheel) i
Injection timing mark location	Electronic
Electrical system	
Battery	12 V 70 Ah
Terminal definitions DIN 72 552	
Alternator max, A	Valeo: 57 A/ 1000 rpm (105 A/ 3000 rpm)
Glow plug - power consumption	(0,6 ohm)
Wheel alignment	
Load	Unloaded

Technical item	Data
Wheel alignment	
Toe-in, °	÷ 0° 10' ± 10'
Camber°	i
Camber, max. difference on R and L side	1°
Caster°	i
Caster, max. difference on R and L side	1°
KPI/SAI°	i
Rear camber°	÷ 1° 30' ± 20' i
Rear toe-in °	0° 40' ± 15' i
Tyre size	205/ 60 R16 (205/ 55 R16) 205/ 50 R17
Tyre pressure, front/ rear, bar	2,5/ 2,1
Free play in suspension parts	Factory data i
Wheel offset, mm	16" + 17" = 49 mm
Top speed	188
Tightening torques	
Tightening, NM	Torque standards
Cylinder head bolts, stage 1, Nm	30 Nm new i
Cylinder head bolts, stage 2, Nm	+ 100°, + 3 min. Pause
Cylinder head bolts, stage 3, Nm	Loosen bolt 1 - 2 tighten 25 Nm + 213° ± 2°
Cylinder head bolts, stage 4, Nm	Loosen bolt 3 - 4 tighten 25 Nm + 213° ± 2° i
Cylinder head bolts, stage 5, Nm	Loosen bolt 5 - 6 tighten 25 Nm + 213° ± 2° i
Main bearings, Nm	60 - 65
Connection rod bearings, Nm	20 Nm + 70°
Flywheel, Nm	50 - 50
Crankshaft pulley/ vibration damp. Nm	40 Nm + 110°
Camshaft pulley/ bearings, Nm	50/ M6 = 10 Nm (M8 = 20 Nm)
Pump pulley/ idle wheel, Nm	15 Nm + 60°/
Timing belt tensioner, Nm	50
Nozzle retainer/ Nozzle in cylinder head	/ 25
Glow plug	15
Wheel nuts/ bolts, Nm	130
Wheel hub, front/ rear, Nm	280/ 220
Brakes	
Front, min. thickness (new)	21,8 mm (24,0 mm)
Rear, min. thickness (new)	6,5 mm (10,0 mm)
Min. brake lining thickness, front, mm	2.0 mm
Min. brake lining thickness, rear, mm	2.0 mm
Capacities	
Engine oil/ - incl. filter, litre	4,65/ 4,8 (Acea B3, B4, SAE 0W40)
Manual transmission, litre	2,1 (Tranself TRJ 75W/ 80W) i
Automatic transmission, litre	6,0 (ELF Renaultmatic D3) i
Cooling system, litre	6,3
Fuel tank, litre	60
A/C fluid, type/ gram	R134a/ 550 ± 35
A/C oil, type/ cm3	PAG SP 10/ 150 ± 10
MOT	
Towing weights kg: w/ w.out brakes	1000/ 650 (JM0GD6: 850/ 650)
Environmental parametres	
Idle speed, rpm	800 ± 50
Max rpm (exhaust test)	4850 ± 150 (Unloaded) i
Smoke gas density (K-value)	1.9

Technical item	Data

Remarks

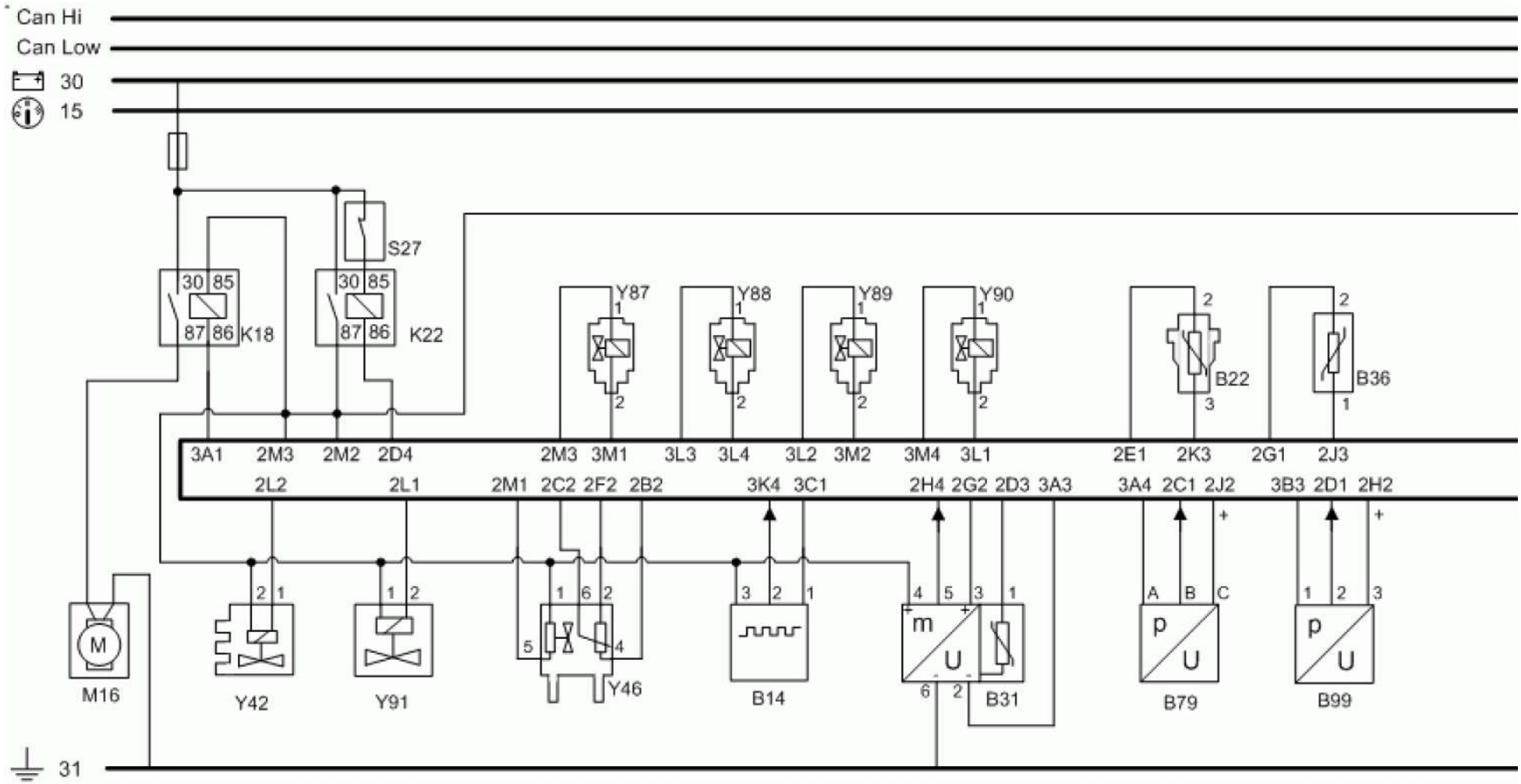
SarMax

-

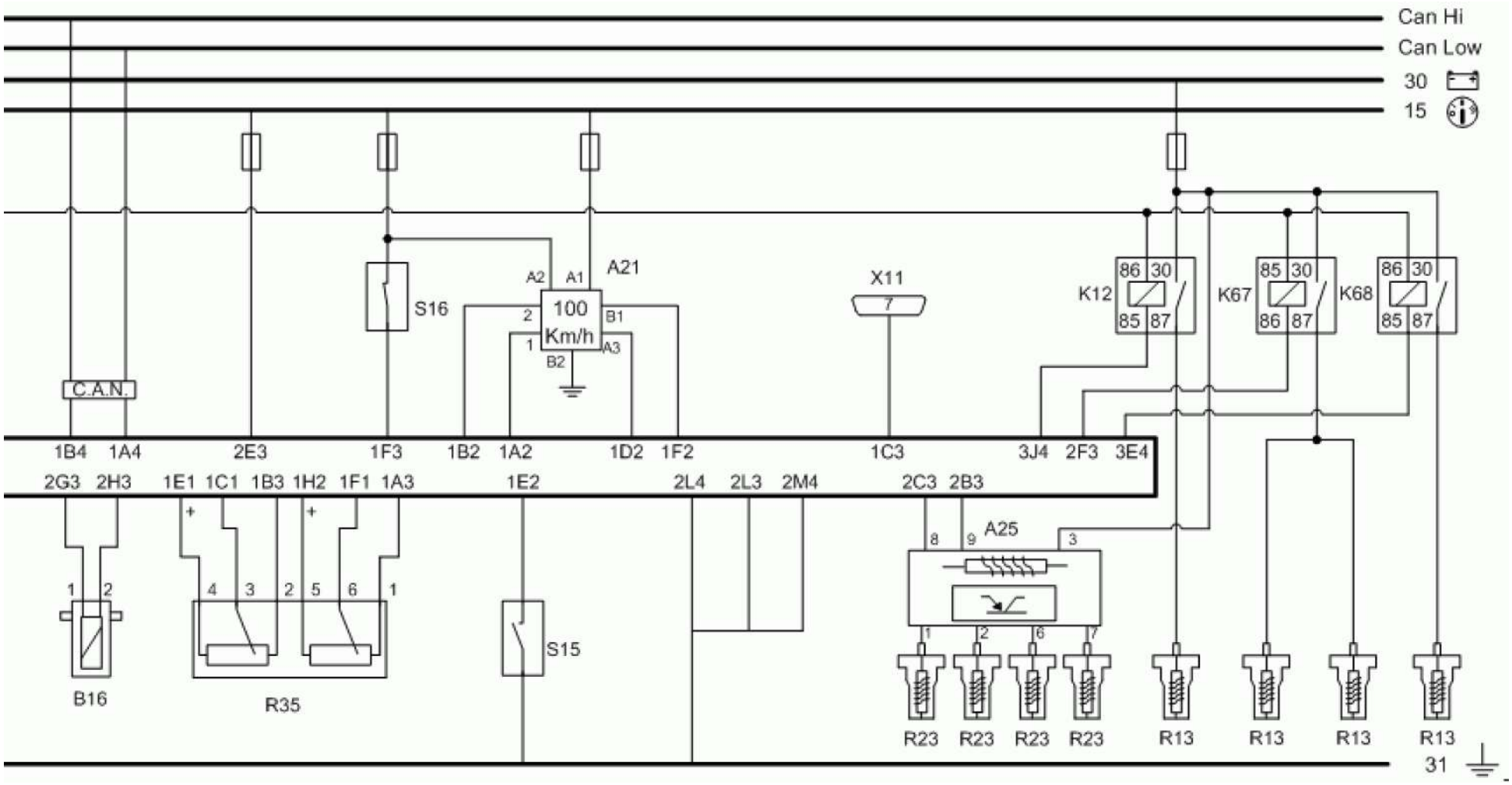
11000 Belgrade

Order No.:

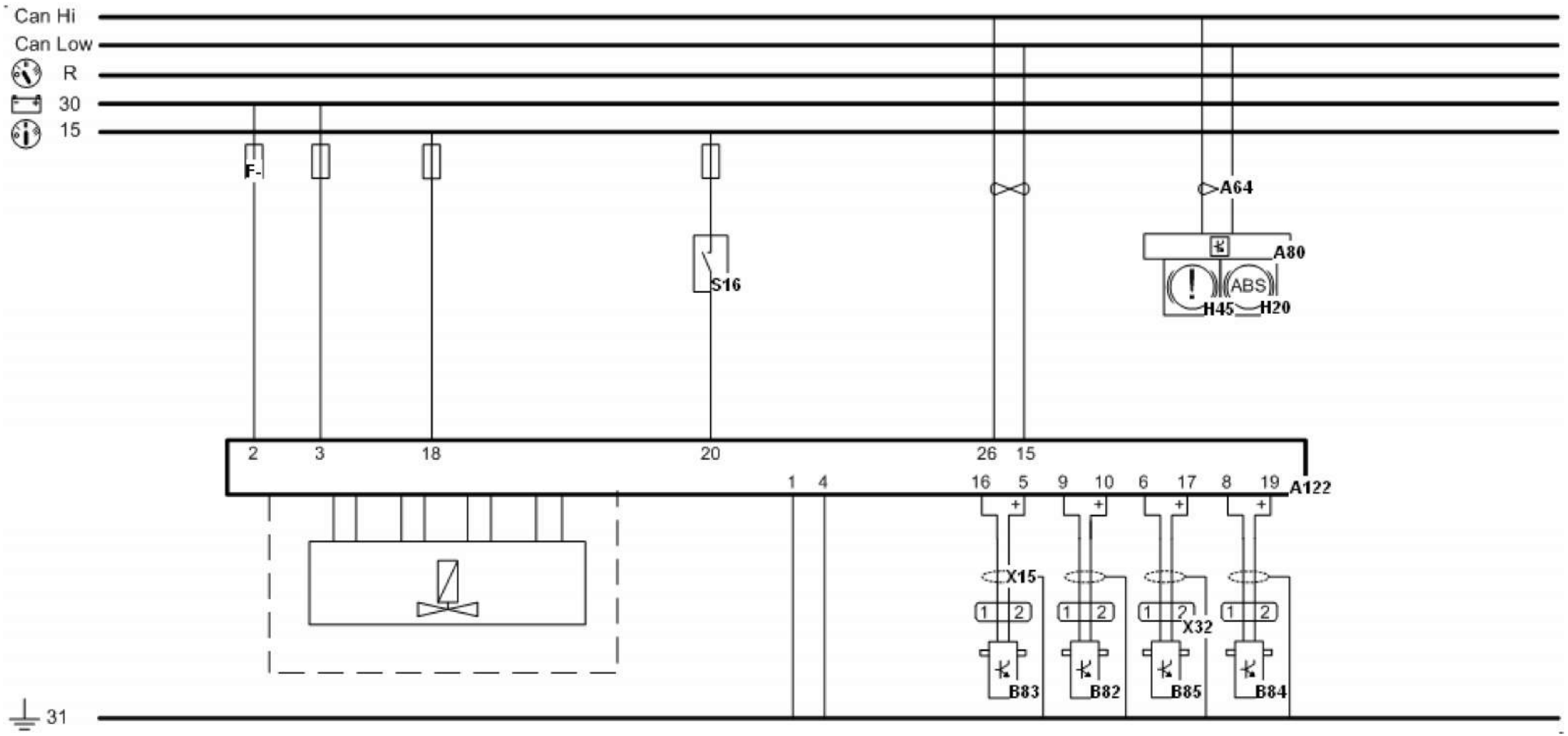
Mechanic



Renault Scenic II 1,9 dCi Scenic II [2003 -]

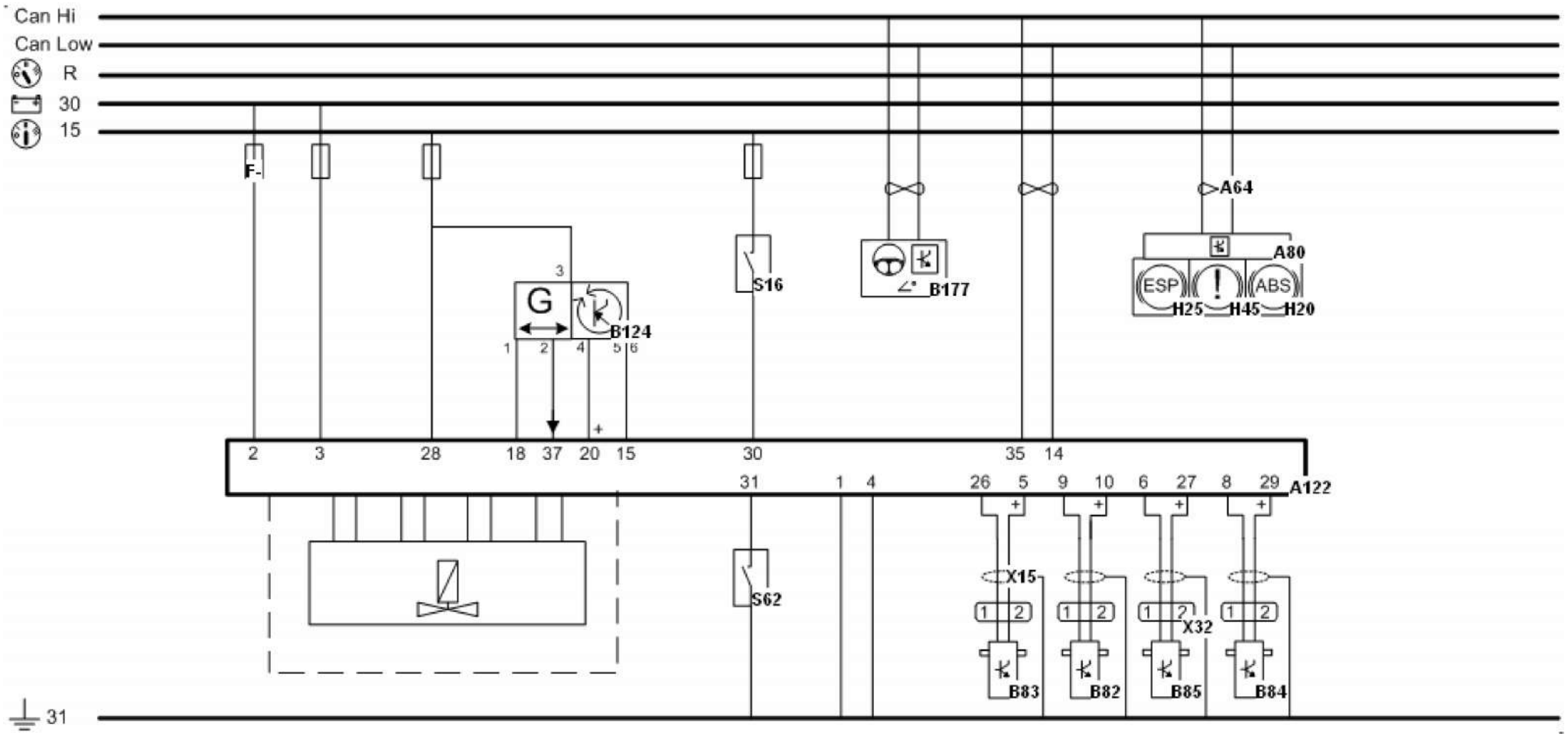

Can Hi
Can Low
30
15
C.A.N.
S16
A21
A2
A1
100
Km/h
2
1
B1
A3
B2
X11
7
K12
K67
K68
86 30
85 87
1B4 1A4 2E3 1F3 1B2 1A2 1D2 1F2 1C3 3J4 2F3 3E4
2G3 2H3 1E1 1C1 1B3 1H2 1F1 1A3 1E2 2L4 2L3 2M4 2C3 2B3
A25
8 9 3
1 2 6 7
B16
R35
S15
R23 R23 R23 R23 R13 R13 R13 R13
31

A21	Speed pilot
A25	Pre heating control unit
A95	ECU
B14	Camshaft hall sensor
B16	Inductive crankshaft position sensor
B22	Coolant temperature sensor
B31	MAF sensor with temperature sensor
B36	Fuel temperature sensor
B79	MAP-sensor
B99	Fuel pressure sensor
F-	Fuse
G16	CAN BUS SAE J1939
K11	Relay
K18	Pump relay
K22	System relay
K67	Relay
K68	Relay
M16	Transfer pump
R13	Coolant pre heater
R23	Glow plug
R35	Accelerator pedal sensor
S15	Clutch switch
S16	Stop light switch
S27	Collision switch
X11	Diagnostic connector
X14	Ground connection
X24	Cable joint
Y42	Boost pressure valve
Y46	EGR valve with position sensor
Y87	Injector 1
Y88	Injector 2
Y89	Injector 3
Y90	Injector 4
Y91	Fuel pressure regulator



Renault Scenic II 1,9 dCi Scenic II [2003 -]

A122	ABS ECU
A64	CAN bus wires
A80	Instrument cluster control module
B82	Wheelspeed sensor F.R.
B83	Wheelspeed sensor F.L.
B84	Wheelspeed sensor R.R.
B85	Wheelspeed sensor R.L.
F-	Fuse
H20	ABS indicator lamp
H45	Parkingbrake/ fluidlevel lamp
S16	Stop light switch
X15	Cable screen
X32	Collector plug



Renault Scenic II 1,9 dCi Scenic II [2003 -]

A122	ABS ECU
A64	CAN bus wires
A80	Instrument cluster control module
B124	Combined sensor
B177	Steering column Control Unit
B82	Wheelspeed sensor F.R.
B83	Wheelspeed sensor F.L.
B84	Wheelspeed sensor R.R.
B85	Wheelspeed sensor R.L.
F-	Fuse
H20	ABS indicator lamp
H25	ESP indicator lamp
H45	Parkingbrake/ fluidlevel lamp
S16	Stop light switch
S62	ESP switch
X15	Cable screen
X32	Collector plug

Renault Scenic II wiring diagrams

Key to circuits

Diagram 1 Information for wiring diagrams.

Diagram 2 Starting and charging, engine multiplex module power, interior multiplex module power and radio.

Diagram 3 Airbag, horn and cigarette lighter.

Diagram 4 Electric windows, sunroof.

Diagram 5 Wash/wipe, ABS, power steering and engine cooling with AC.

Diagram 6 Engine cooling without AC, central locking and heater blower.

Diagram 7 Instrument panel, heated rear window, diesel filter heater, electric and heated mirrors.

Diagram 8 Air conditioning, brake lights and fog lights.

Diagram 9 Headlights, side lights, tail lights, reversing lights, headlight adjustment steering wheel switches, direction indicators and hazard warning lights.

Diagram 10 Interior lights, footwell lights, keyless entry system, card reader, starter button and steering column lock.

Fuse table

Battery fuse box

Fuses	Rating	Circuit protected
F1	30A	Passenger fuse box, interior multiplex module
F2	350A	Engine fuse box, alternator starter motor (Petrol)
	400A	Engine fuse box, alternator starter motor (Diesel)
F3	30A	Engine multiplex module

Engine fuse box

Fuses	Rating	Circuit protected
F1	40A	Engine cooling
F2	70A	Pre-heating
F3	30A	Diesel filter heater
F4	70A	Passenger fuse box
F5	50A	ABS
F6	70A	Power steering
F7	40A	Additional heater 1000W
	60A	Additional heater 1800W
F8	70A	Passenger fuse box
F9	70A	Additional heater

Passenger fuse box

Fuses	Rating	Circuit protected
F2C	40A	Air conditioning, heater blower
F2D	40A	Electric windows
F2E	20A	Sunroof
F1F	10A	ABS
F1G	15A	Radio, wash/wipe, alarm air conditioning, fuel heater, steering wheel switches
F1H	15A	Brake lights
F1L	25A	Electric windows
F1M	25A	Electric windows
F1N	20A	Radio, instrument panel, electric mirrors, alarm
F1O	15A	Diagnostic socket, horn, headlight washer
F1P	15A	Rear wiper
F1R	20A	Interior multiplex module, air conditioning
F2S	3A	Air conditioning, rain sensor, interior mirror
F2T	15A	Cigarette lighter
F2U	20A	Interior multiplex module
F2W	7.5A	Electric mirrors

Engine multiplex module

Fuses	Rating	Circuit protected
F3	25A	Starter motor
F4	10A	Air conditioning
F5A	15A	Steering column lock, interior multiplex module
F5C	10A	Reversing lights
F5D	5A	Steering column lock, engine control
F5E	5A	Power steering, airbag
F5F	7.5A	Passenger fuse box, switch illumination diagnostic socket, additional heater
F5H	5A	Automatic transmission
F6	30A	Passenger fuse box, heated mirrors, heated rear window
F7A	7.5A	RH side light, switch illumination
F7B	7.5A	LH side light, switch illumination, cigarette lighter, interior multiplex module
F8A	10A	RH main beam
F8B	10A	LH main beam
F8C	10A	RH dipped beam, RH headlight adjustment
F8D	10A	LH dipped beam, LH headlight adjustment
F9	25A	Windscreen wiper
F10	20A	Front fog lights
F11	40A	Cooling fan
F13	25A	ABS
F15	20A	Automatic transmission

Key to circuits

Diagram 1	Information for wiring diagrams
Diagram 2	Starting and charging, engine multiplex module power, interior multiplex module power and radio
Diagram 3	Airbag, horn and cigarette lighter
Diagram 4	Electric windows, sunroof
Diagram 5	Wash/wipe, ABS, power steering and engine cooling with AC
Diagram 6	Engine cooling without AC, central locking and heater blower
Diagram 7	Instrument panel, heated rear window, diesel filter heater, electric and heated mirrors
Diagram 8	Air conditioning, brake lights and fog lights
Diagram 9	Headlights, side lights, tail lights, reversing lights, headlight adjustment steering wheel switches, direction indicators and hazard warning lights
Diagram 10	Interior lights, footwell lights, keyless entry system, card reader, starter button and steering column lock

Earth points

E1	Battery earth
E2	Engine earth
E3	LH dashboard earth
E4	LH dashboard earth
E5	Transmission tunnel
E6	RH dashboard earth
E7	RH of tailgate
E8	LH of tailgate
E9	Above RH rear wheel arch
E10	RH engine bulkhead
E11	On power steering pump

Key to symbols

Bulb

Switch

Fuse/fusible link and current rating — F5 10A

Multiple contact switch (ganged)

Resistor

Variable resistor

Heater

Item no. — 2

Pump/motor — M

Earth point and location — E12

Solenoid actuator

Diode

Light emitting diode (LED)

Speaker

Connecting wires

Wire joint

Wire colour (brown with black tracer) — Mr/Nr

Screened cable

Dashed outline denotes part of a larger item, containing in this case an electronic or solid state device.
Pin types:
2 - Unspecified colour connector, pin 2.
2Mr 1 - Brown two pin connector, pin 1. — 2Mr

Please Note

The power supply to the Multiplex units are shown on Diagram 2. Reference should therefore be made to Diagram 2 for power supply details on diagrams including the Multiplex units. These power supply circuits have not been replicated in every circuit due to space considerations.

The prime method of wire identification is by using the terminal pin numbers (moulded into each component or connector and shown in the diagrams) together with the number code printed on each wire. To relate each diagram to the vehicle wiring, locate the relevant component or connector illustrated and find the wire(s) connected to the terminal pin(s) as shown in the diagram.

Caution: Whilst a number (indicating the function of that wire) may be printed on each wire, this is not always the case, and in such instances, this is reflected by the absence of such wire numbering on our diagrams. Similarly, numbering of the connector/component terminal pins is not always available from the manufacturers' source information and may also be missing from our diagrams. In these cases, it may be necessary to refer to your local dealer for further information.

Note that the conventional method of using colour coding does not apply – whilst the wires on the vehicle will be coloured, the wire colour has no relevance.

H33255

Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

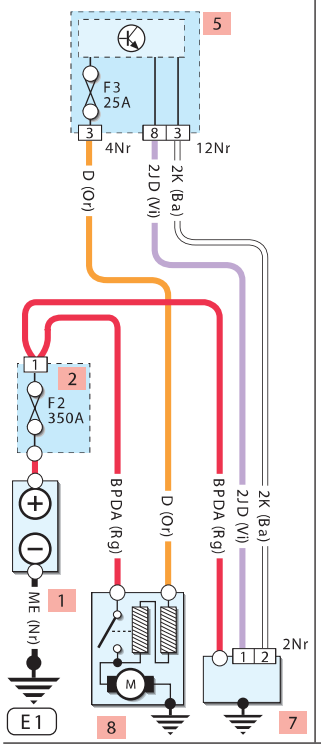
Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
7 Alternator
8 Starter motor
9 Accessory relay 1
10 Radio
11 RH front tweeter
12 RH front speaker
13 RH rear speaker
14 LH rear speaker
15 LH front tweeter
16 LH front speaker
17 Aerial
18 Mobile phone connector
19 CD player

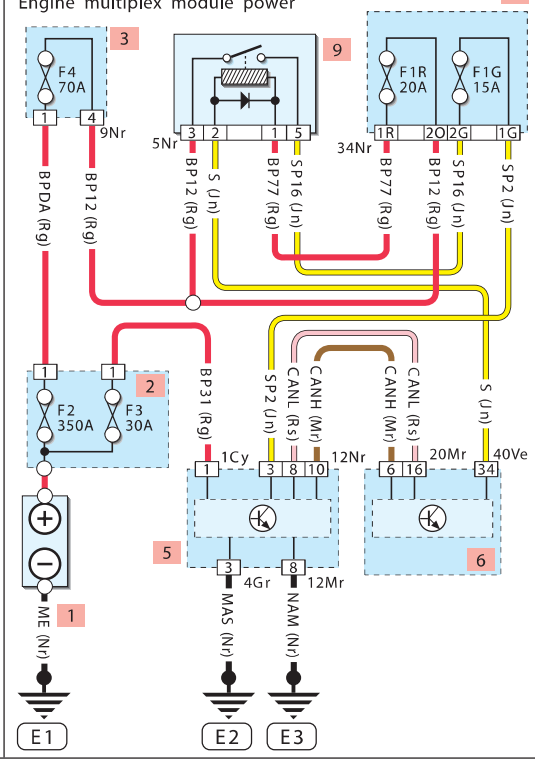
Diagram 2

MTS
H33256

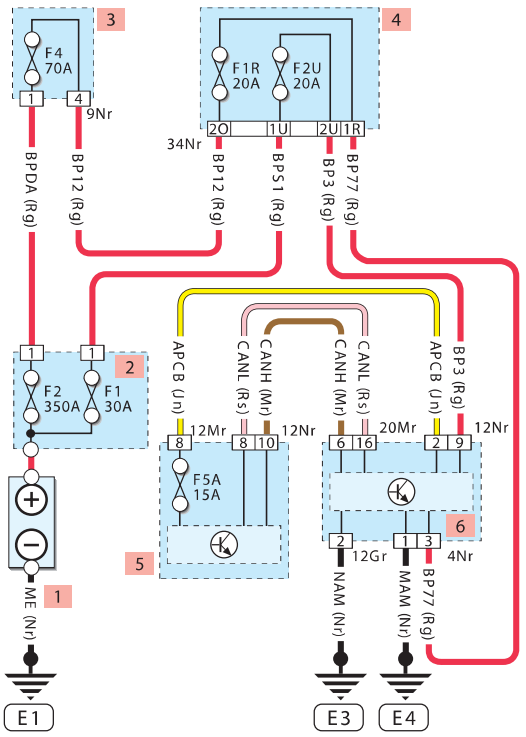
Starting and charging



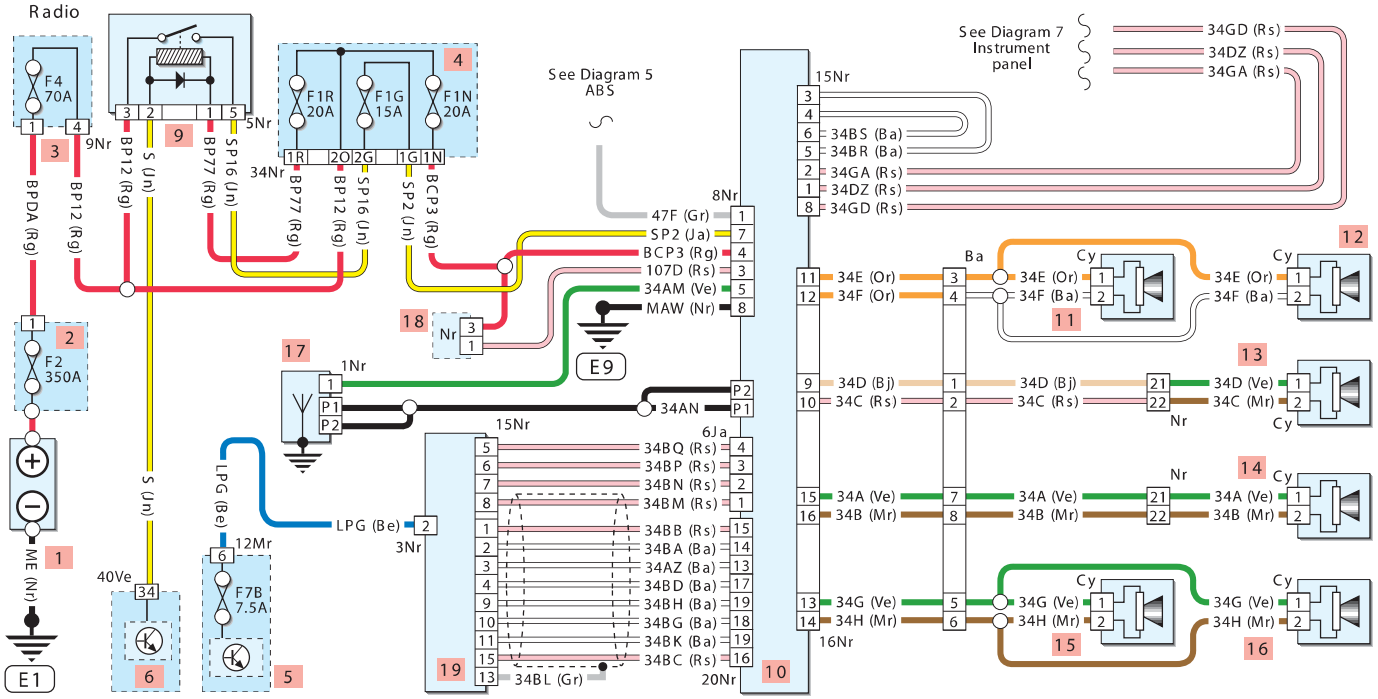
Engine multiplex module power



Interior multiplex module power



Radio



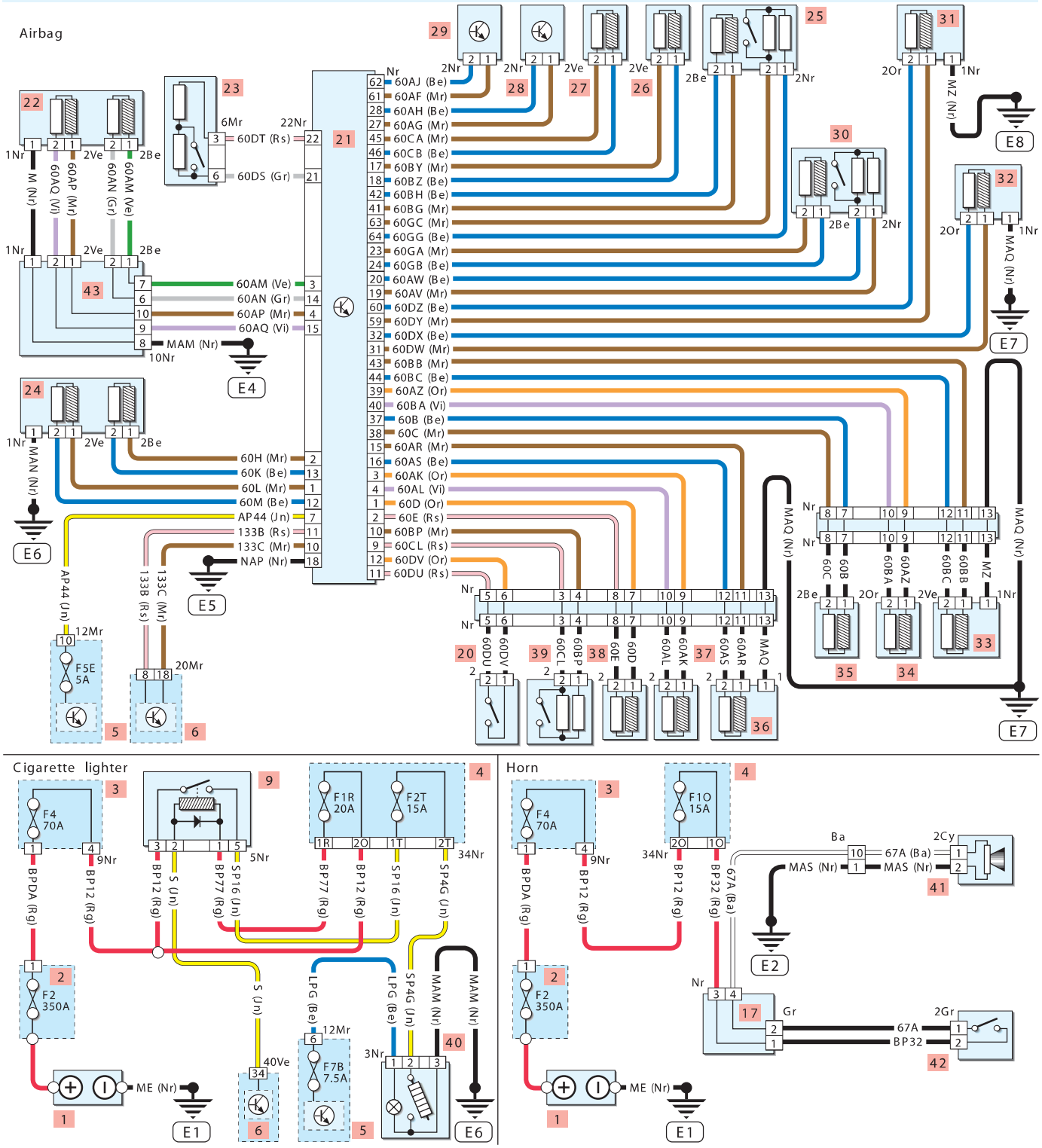
Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
MTS H33257		Cy	Clear

Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
20 Driver's seat belt switch
21 Airbag unit
22 Driver's airbag
23 Airbag inhibitor switch
24 Passenger's airbag
25 RH rear pretensioner
26 Driver's curtain airbag
27 Passenger's curtain airbag
28 RH front impact sensor
29 LH front impact sensor
30 LH rear pretensioner
31 LH rear curtain airbag
32 RH rear curtain airbag
33 Passenger's side airbag
34 Passenger's lap pretensioner
35 Passenger's pretensioner
36 Driver's side airbag
37 Driver's lap pretensioner
38 Driver's pretensioner
39 Driver's seat position switch
40 Cigarette lighter
41 Horn
42 Horn switch
43 Steering wheel switches

Diagram 3



Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
5 Engine multiplex module
6 Interior multiplex module
44 Driver's window switch
45 Driver's window motor
46 Passenger's window switch
47 Passenger's window motor
48 Rear window locking switch
49 RH rear window switch
50 RH rear window motor
51 LH rear window switch
52 LH rear window motor
53 Sunroof switch
54 Sunroof motor
55 ABS unit

Diagram 4

MTS
H33258

Front electric windows

Sunroof

Rear electric windows

Wire colours

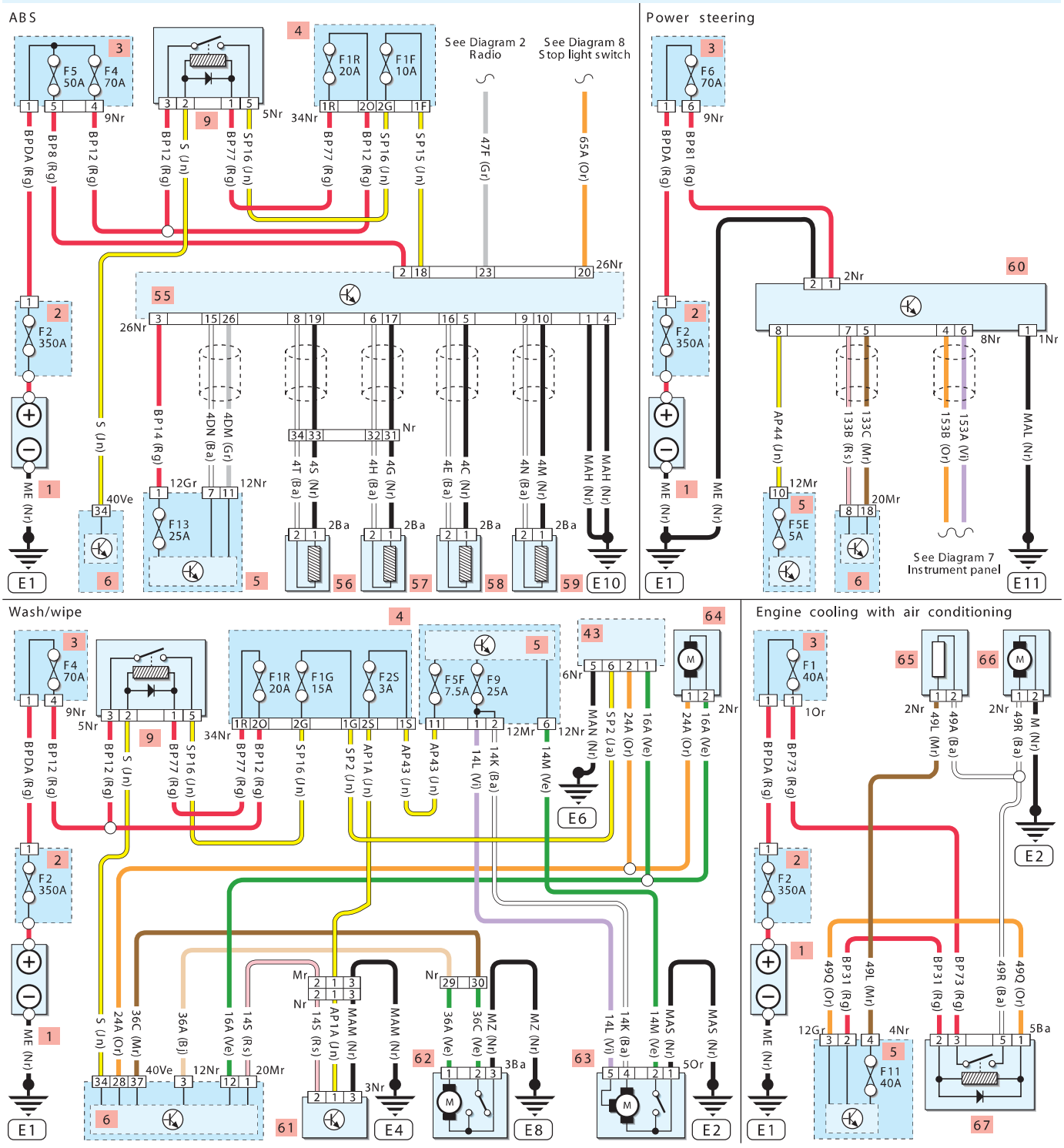
Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

MTS
H33259

Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
43 Steering wheel switches
55 ABS unit
56 RH rear wheel sensor
57 LH rear wheel sensor
58 RH front wheel sensor
59 LH front wheel sensor
60 Power steering unit
61 Rain sensor
62 Rear wiper motor
63 Front wiper motor
64 Washer pump
65 Engine cooling fan resistor
66 Cooling fan
67 Cooling fan relay

Diagram 5



Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

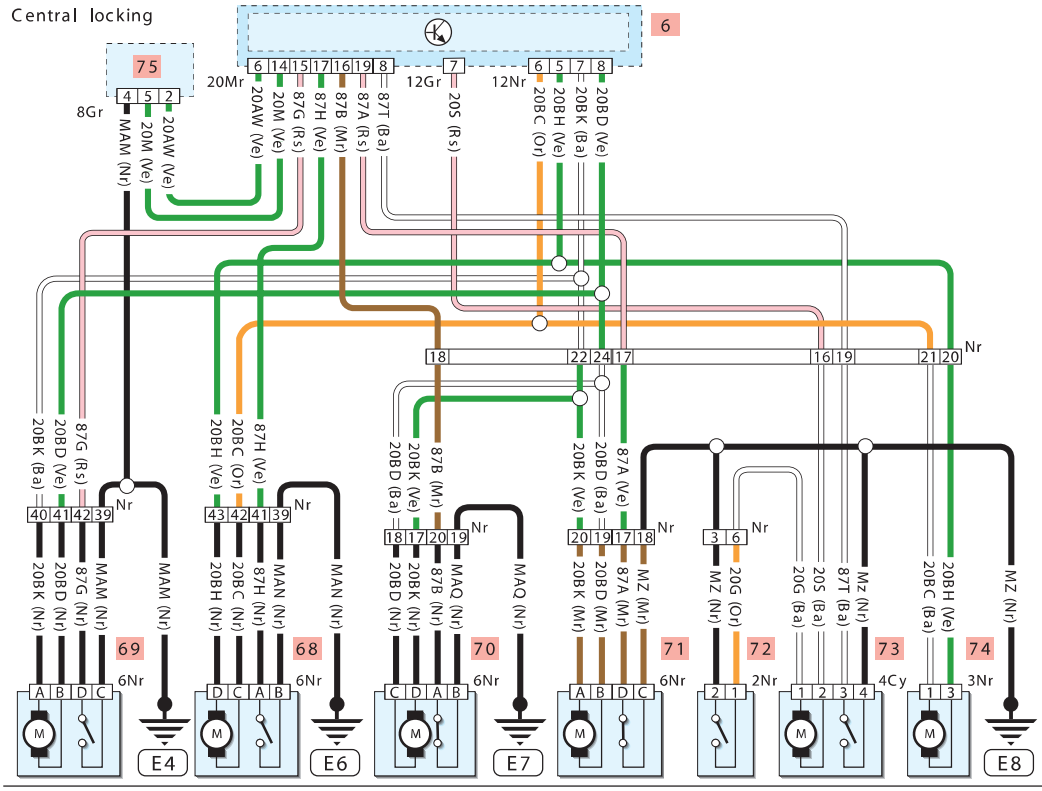
MTS
H33260

Key to items

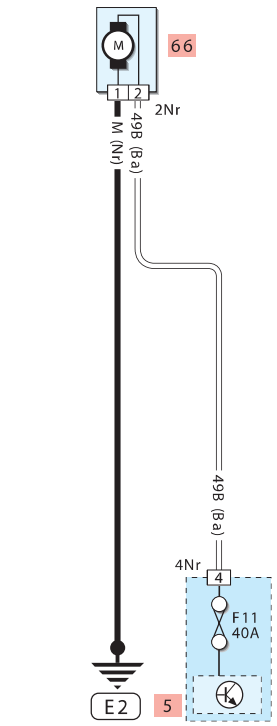
1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
66 Cooling fan
68 Driver's door lock
69 Passenger's door lock
70 RH rear door lock
71 LH rear door lock
72 Tailgate lock switch
73 Tailgate lock
74 Fuel filler flap motor
75 Central locking/ hazard light switch
76 Air conditioning clutch
77 Heater control panel
78 Heater blower resistor pack
79 Heater blower motor

Diagram 6

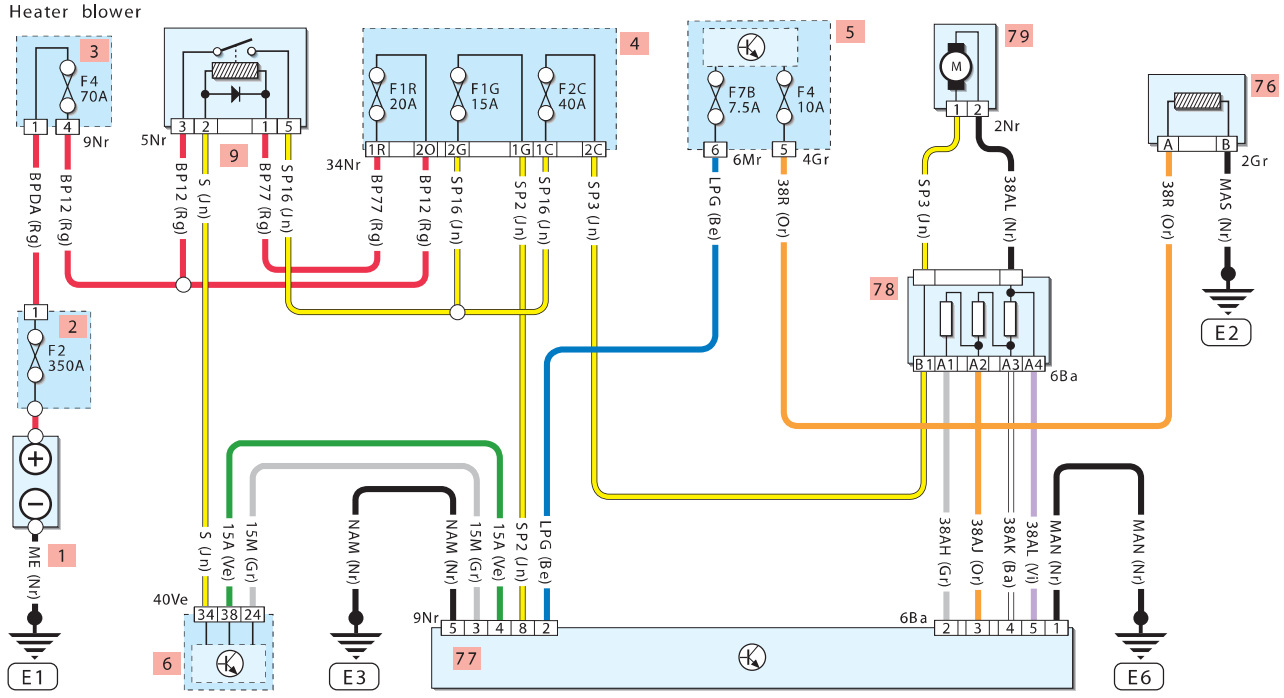
Central locking



Engine cooling without air conditioning



Heater blower



Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

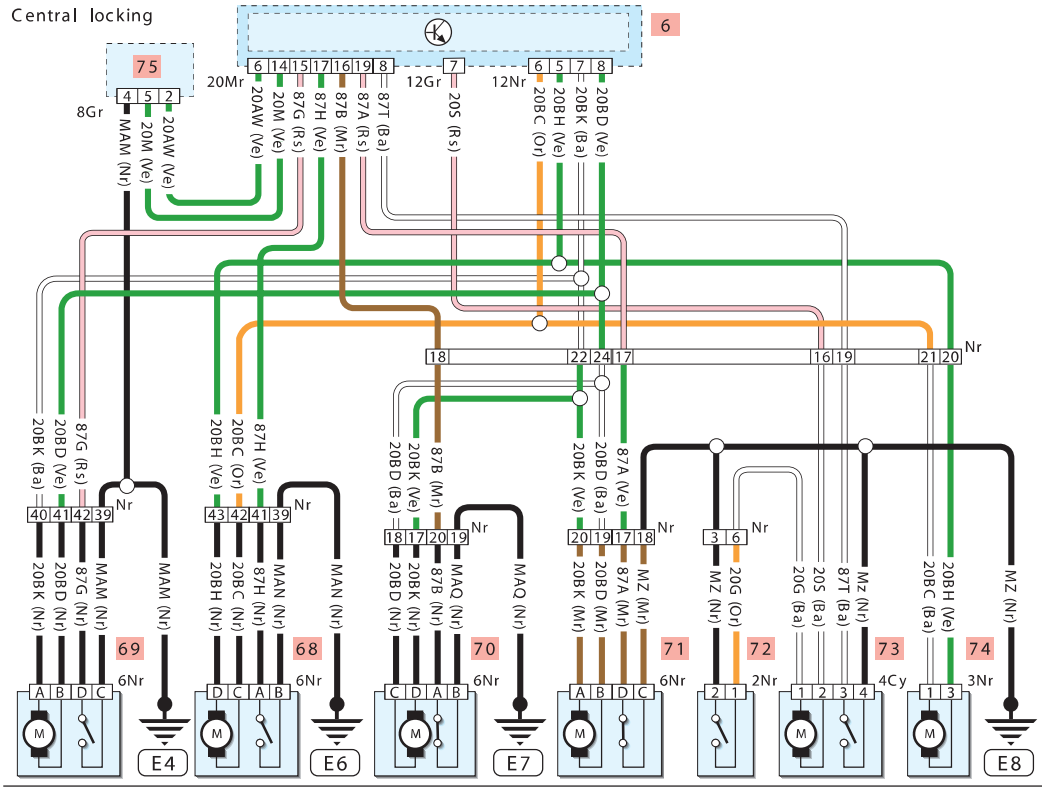
MTS
H33260

Key to items

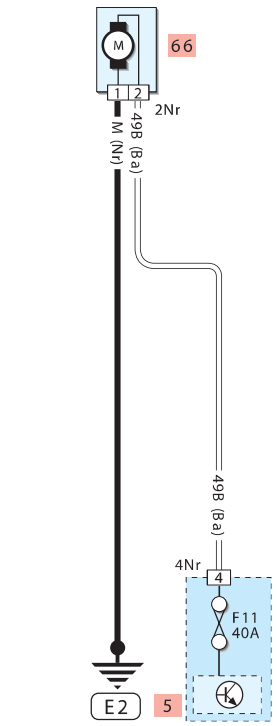
1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
66 Cooling fan
68 Driver's door lock
69 Passenger's door lock
70 RH rear door lock
71 LH rear door lock
72 Tailgate lock switch
73 Tailgate lock
74 Fuel filler flap motor
75 Central locking/ hazard light switch
76 Air conditioning clutch
77 Heater control panel
78 Heater blower resistor pack
79 Heater blower motor

Diagram 6

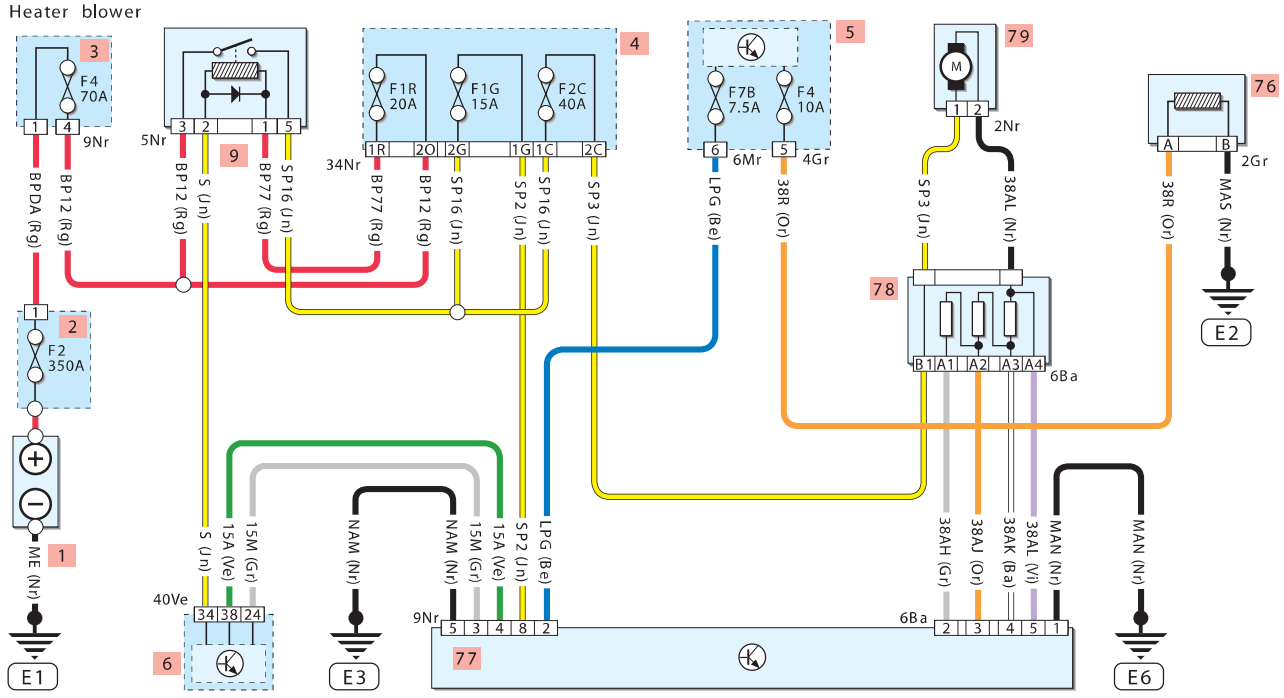
Central locking



Engine cooling without air conditioning



Heater blower



Wire colours

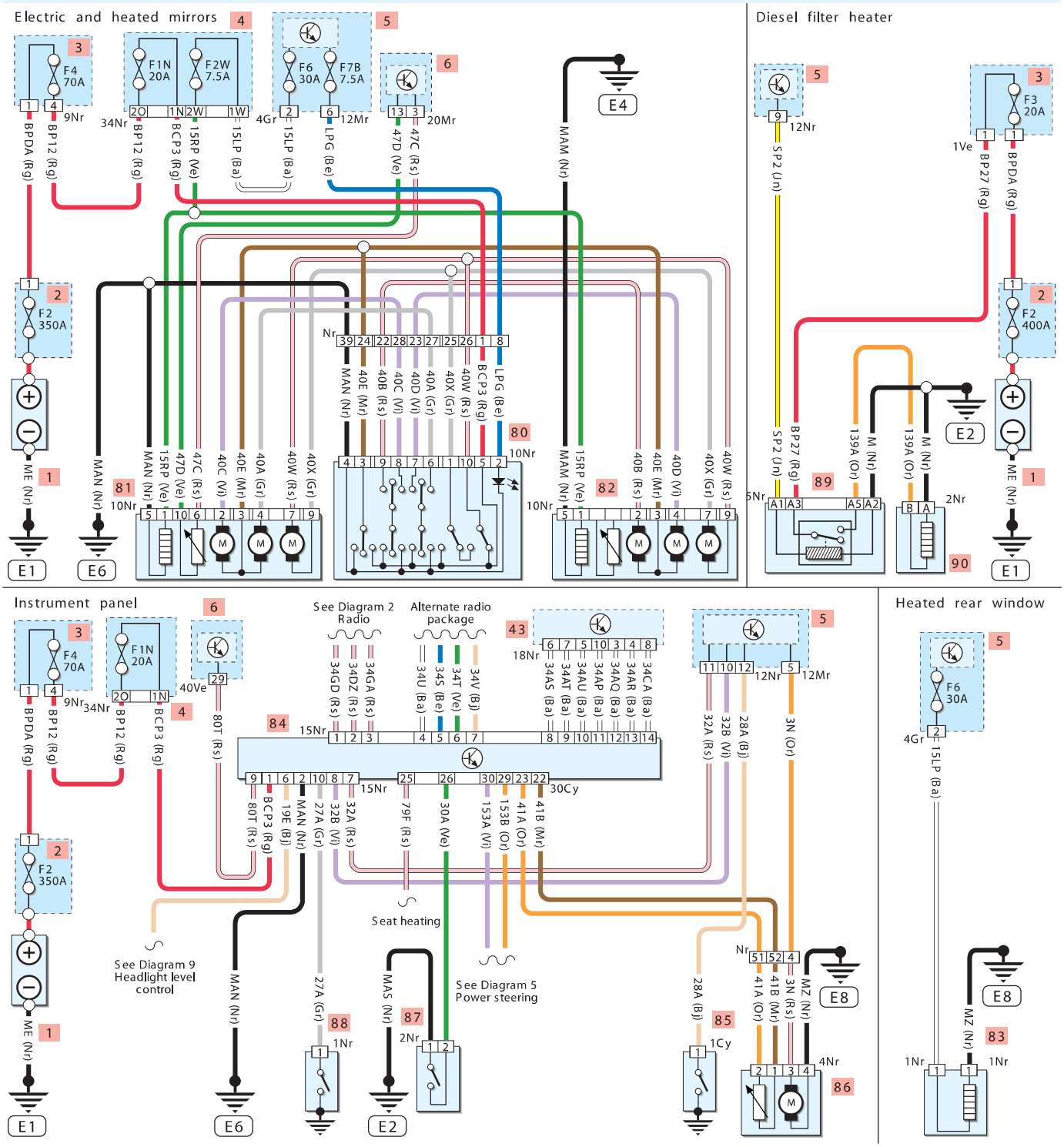
Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

MTS
H33261

Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
43 Steering wheel switches
80 Electric mirror switches
81 Driver's mirror
82 Passenger's mirror
83 Heated rear window
84 Instrument panel
85 Pressure switch
86 Fuel pump and level sensor
87 Brake fluid level sensor
88 Handbrake switch
89 Diesel fuel filter heater relay
90 Diesel fuel filter heater

Diagram 7



Wire colours

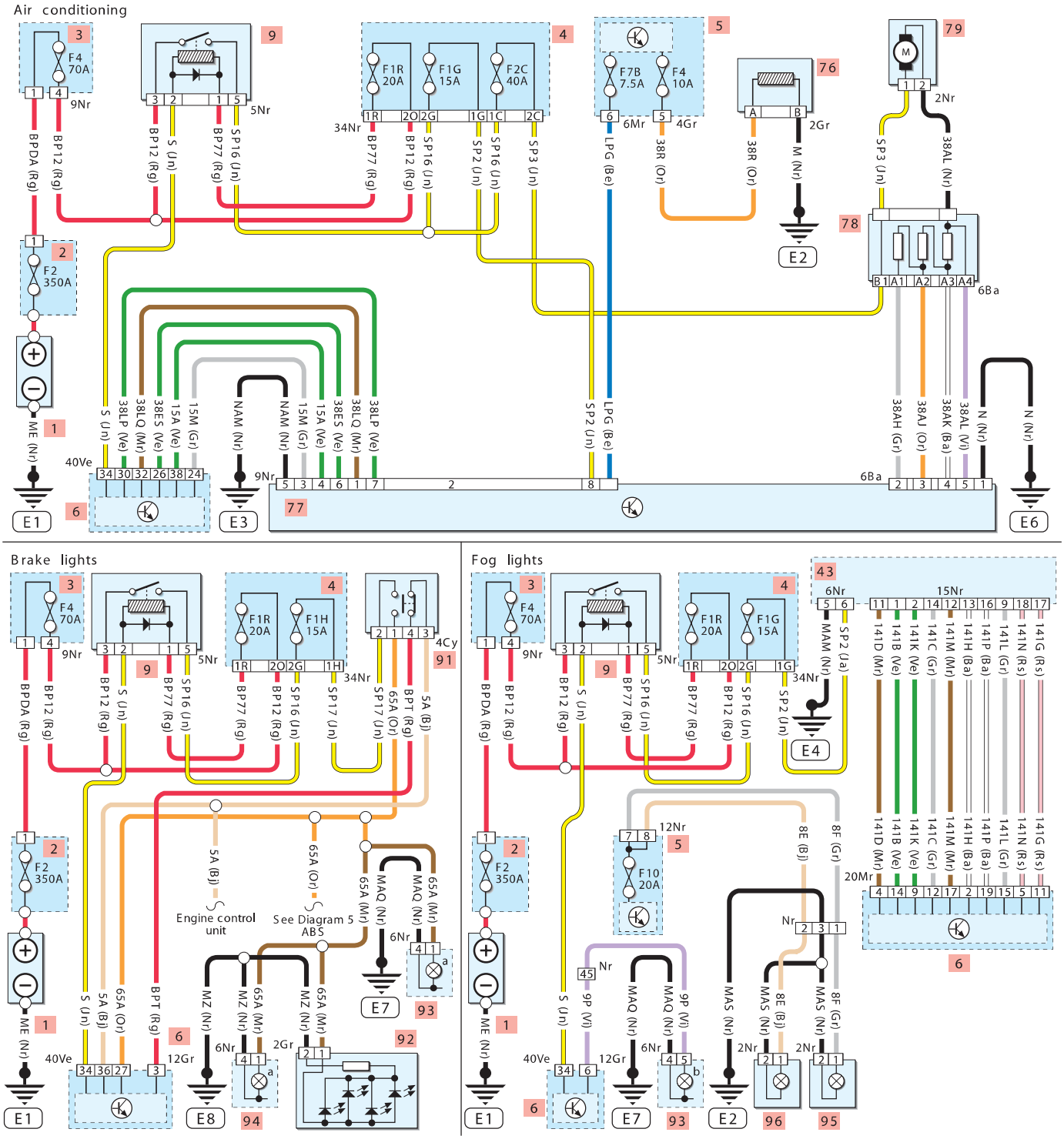
Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

MTS
H33262

Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
43 Steering wheel switches
77 Heater control panel
78 Heater blower resistor pack
79 Heater blower motor
76 Air conditioning clutch
91 Brake light switch
92 High level brake light
93 RH tail light
a) brake light
b) fog light
94 LH tail light
(as 93)
95 RH front foglight
96 LH front foglight

Diagram 8



Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

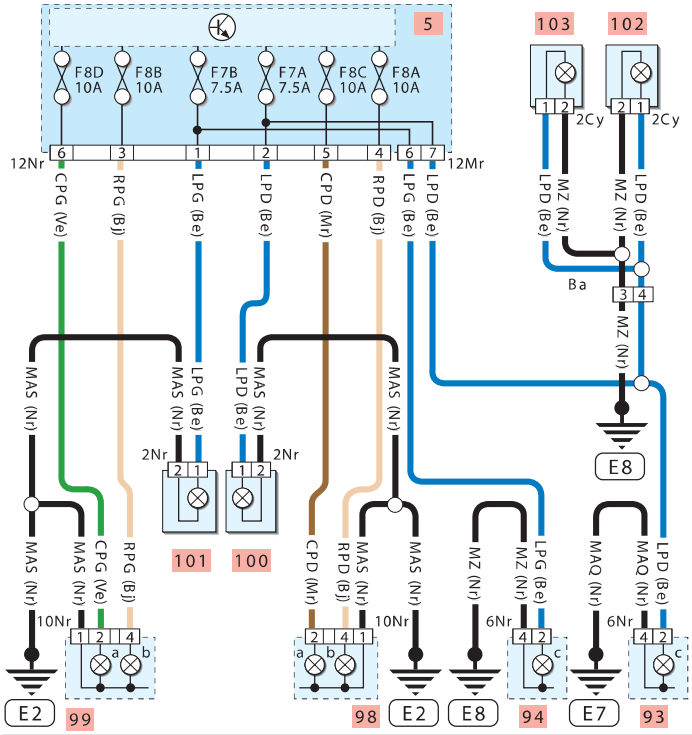
MTS
H33263

Key to items

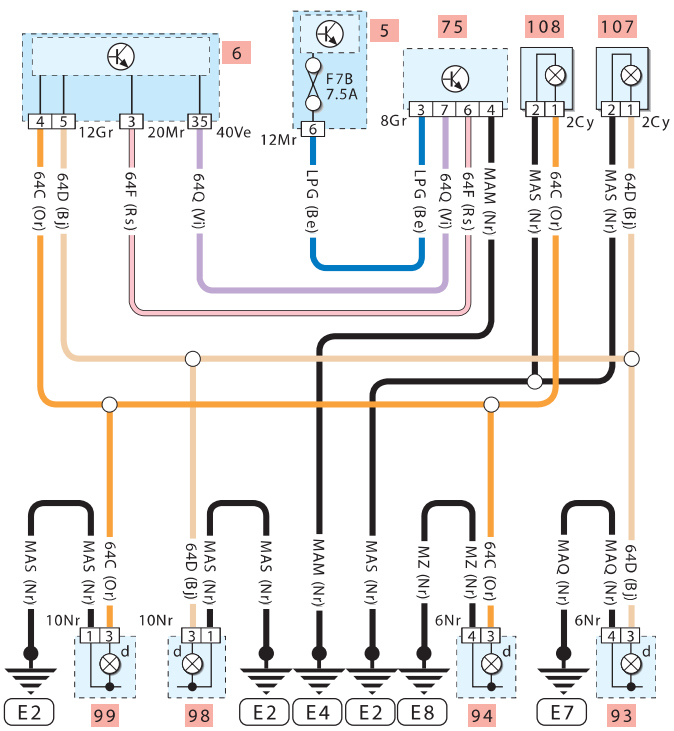
1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
9 Accessory relay 1
43 Steering wheel switches
75 Central locking/ hazard light switch
93 RH tail light
c) tail light
d) reversing light
94 LH tail light
(as 93)
97 Reversing light switch
98 RH headlight
a) dipped beam
b) main beam
99 LH headlight
(as 98)
100 RH sidelight
101 LH sidelight
102 RH number plate light
103 LH number plate light
104 Headlight adjuster switch/ interior lighting rheostat
105 RH headlight motor
106 LH headlight motor
107 RH side indicator
108 LH side indicator

Diagram 9

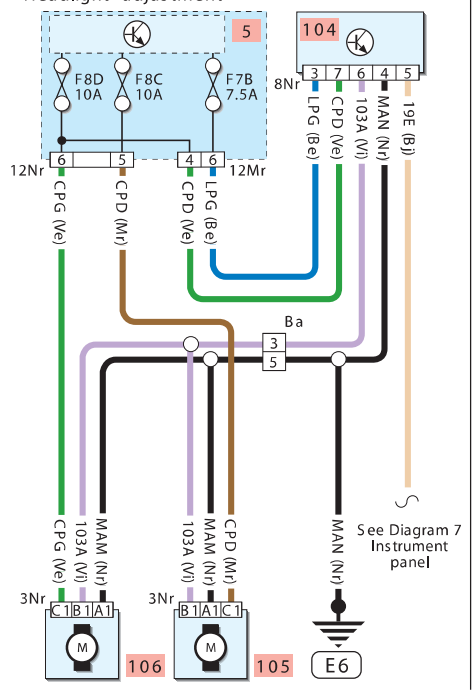
Headlights, sidelights and tail lights



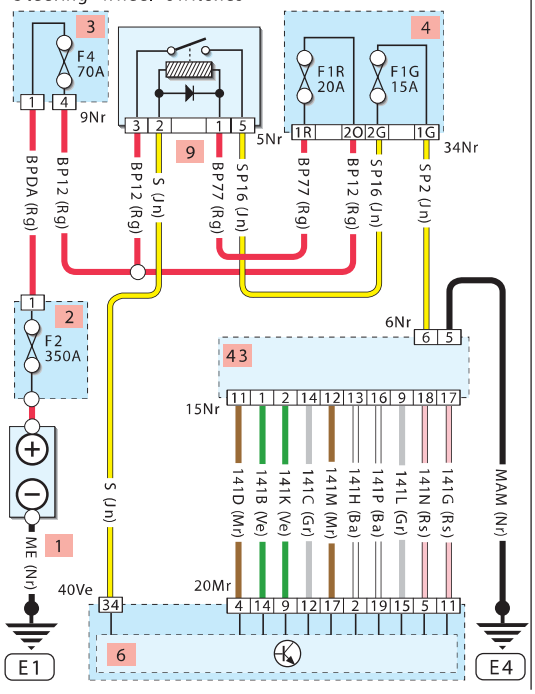
Direction indicators and hazard warning lights



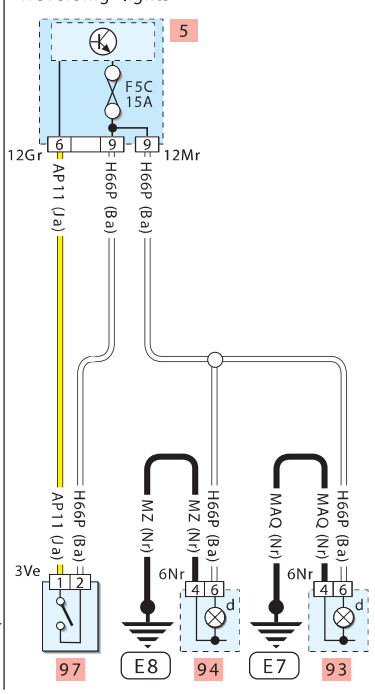
Headlight adjustment



Steering wheel switches



Reversing lights



Wire colours

Nr	Black	Or	Orange
Bj	Beige	Rs	Pink
Be	Blue	Rg	Red
Mr	Brown	Vi	Violet
Gr	Grey	Ba	White
Ve	Green	Jn	Yellow
		Cy	Clear

* Grand scenic

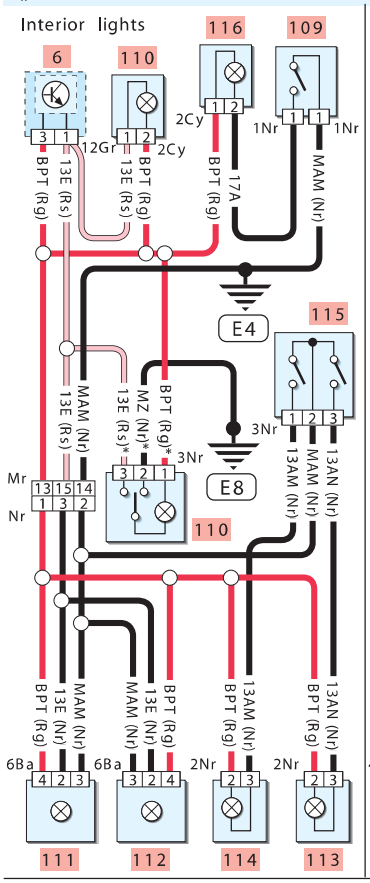
Key to items

1 Battery
2 Battery fuse box
3 Engine fuse box
4 Passenger fuse box
5 Engine multiplex module
6 Interior multiplex module
97 Reversing light switch
109 Glovebox light switch
110 Luggage area light
111 Front interior light
112 Rear interior light
113 Driver's mirror light
114 Passenger's mirror light
115 Mirror light switch
116 Glovebox light
117 LH rear footwell light
118 RH front footwell light switch
119 LH front footwell light switch
120 RH rear footwell light switch
121 LH rear footwell light switch
122 RH front footwell light
123 LH front footwell light
124 RH rear footwell light
125 Steering column lock
126 Card reader
127 Start/stop button
128 Clutch pedal switch
129 Boot lid switch
130 Front RH door aerial
131 Front RH handle sensor
132 Front LH door aerial
133 Front LH handle sensor
134 Rear RH door aerial
135 Rear RH handle sensor
136 Rear LH door aerial
137 Rear LH handle sensor
138 Central interior aerial
139 Rear interior aerial
140 Front interior aerial
141 Tailgate aerial

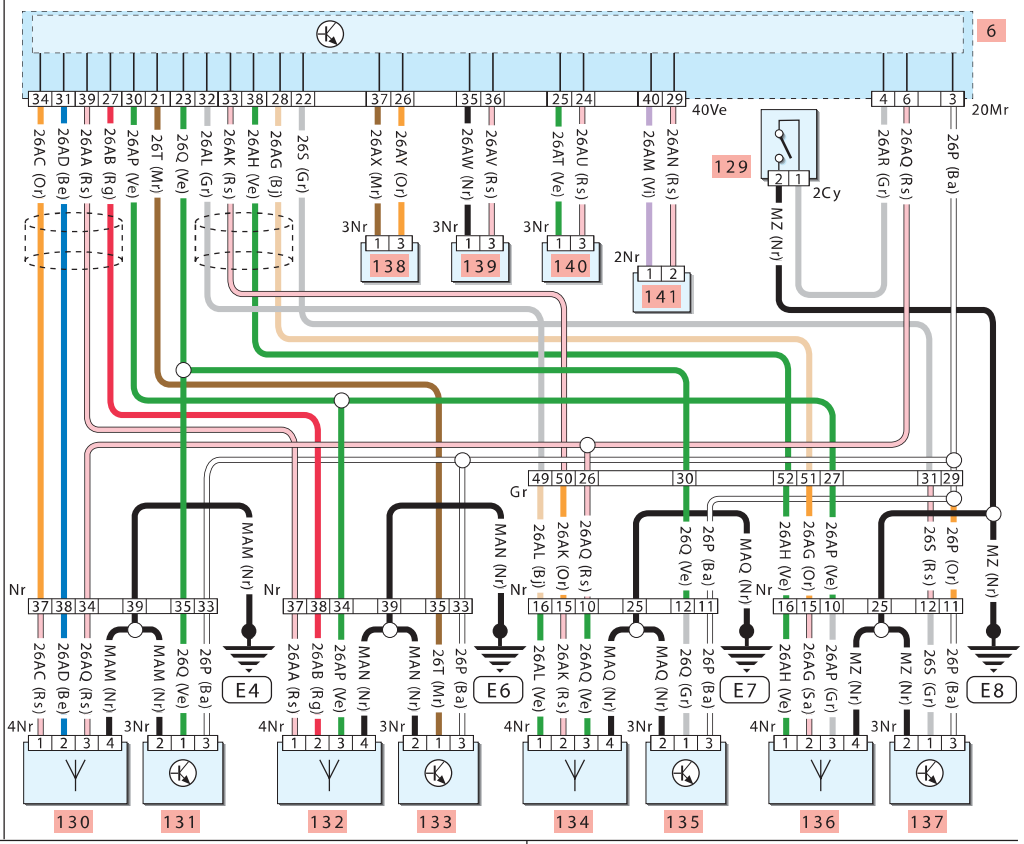
Diagram 10

MTS H33264

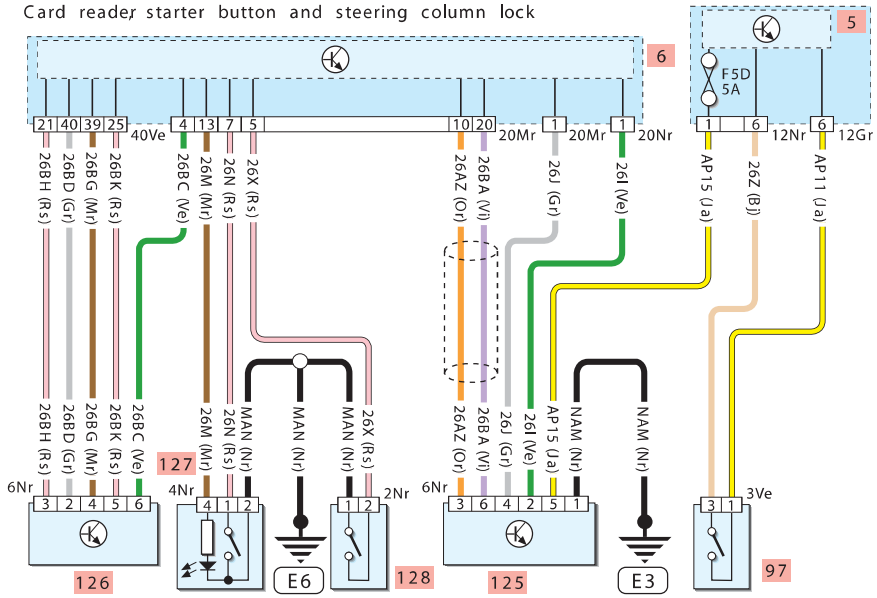
Interior lights



Keyless entry system



Card reader, starter button and steering column lock



Footwell lights