



**We believe the global pollution crisis can be solved.**

In a world where pollution doesn't stop at borders, we can all be part of the solution.

**JOIN US.**

**PURE EARTH**

**We believe the global pollution crisis can be solved.**

In a world where pollution doesn't stop at borders, we can all be part of the solution.

**JOIN US.**

**PURE EARTH**

**We believe the global pollution crisis can be solved.**

In a world where pollution doesn't stop at borders, we can all be part of the solution.

**JOIN US.**

**PURE EARTH**

**We believe the global pollution crisis can be solved.**

In a world where pollution doesn't stop at borders, we can all be part of the solution.

**JOIN US.**

**PURE EARTH**

321-05 2.5 Turbocharged Diesel Engine (100 PS)|Description and Operation >

< Oil Pump â€” Disassemble and Assemble (Pump Assembly Removed) (21 714 8)

## Transit 1995 (08.1994-07.2000)

[Mechanical Repairs](#) / [3 Powertrain](#) / [321 Basic Engine](#) / [321-05 2.5 Turbocharged Diesel Engine \(100 PS\)](#) / [SpecificationsGeneral Specifications](#)

| General Specifications                                     |                      | Transit 1995 (08/1994-07/2000) |
|------------------------------------------------------------|----------------------|--------------------------------|
| <b>Specifications</b>                                      |                      | <a href="#">Print</a>          |
| <b>Engine Data</b>                                         |                      |                                |
| <b>General</b>                                             |                      |                                |
| Identification code                                        | '95 model year       | 4EB                            |
| Identification code                                        | '97 model year       | 4EC                            |
| Emission standard: 4EB                                     |                      | 95 EEC                         |
| Emission standard: 4EC                                     |                      | 97 EEC                         |
| Injection sequence (cylinders numbered from front to rear) |                      | 1-2-4-3                        |
| Bore                                                       | mm                   | 90,54                          |
| Stroke                                                     | mm                   | 93,67                          |
| Cubic capacity                                             | cm3                  | 2496                           |
| Compression ratio                                          |                      | 18,3 : 1                       |
| Power output (EEC)                                         | kW                   | 74                             |
| Power output (EEC)                                         | (PS)                 | 100                            |
|                                                            | at rev/min           | 4000                           |
| Torque (EEC)                                               | Nm                   | 224                            |
|                                                            | at rev/min           | 2100                           |
| Idle speed                                                 |                      | 850 ± 50                       |
| Max. permissible engine speed                              | Continuous rev/min   | 4000                           |
|                                                            | Intermittent rev/min | 4400                           |

Donate and help keep workshop manuals  
freely available.

Donate



[Other Ford Workshop Service and  
Repair Manuals](#)  
[Other Makes](#)

- [Transit 1995 \(08.1994-07.2000\)  
Workshop Manual](#)
- [Mechanical Repairs](#)
- [1 General Information](#)
- [2 Chassis](#)
- [3 Powertrain](#)
- [316 Manual Transmission and  
Clutch](#)
- [317 Automatic Transmission](#)
- [321 Basic Engine](#)
- [321-01 2.0 DOHC 8V Engine](#)
- [321-02 2.5 Diesel Engine \(70 PS\)](#)
- [321-03 2.5 Diesel Engine \(76 PS\)](#)
- [321-04 2.5 Turbocharged-TCI  
Diesel Engine \(85 PS\)](#)
- [321-05 2.5 Turbocharged Diesel  
Engine \(100 PS\)](#)
- [Specifications General  
Specifications](#)
- [Description and Operation](#)
- [321-06 2.5 TCI Diesel Engine  
\(115 PS\)](#)
- [323 Fuel System](#)
- [324 Cooling System](#)
- [325 Exhaust System](#)
- [326 Starting System](#)
- [329 Engine Management](#)
- [4 Electrical](#)
- [5 Body and Paint](#)

## Dimensions

| Note                                                                         |  |
|------------------------------------------------------------------------------|--|
| Dimensions: See Technical Data on the 2.5 turbocharged diesel engine (85 PS) |  |

## Lubricants, Adhesives, Coolants and Sealers

| Description                                                                                                       | Ford Specification |
|-------------------------------------------------------------------------------------------------------------------|--------------------|
| High-temperature grease for input shaft splines and for sliding surface of clutch release bearing on guide sleeve | ESDM-1C220-A       |
| Grease for mounting face of timing belt tensioner                                                                 | SM1C-4515-A        |
| Thread-locking compound - Loctite 270                                                                             | SDM-4G-9107-A      |
| Sealer, non-hardening - Hylomar PL32M                                                                             | SPM-4G-9112-F      |
| High-temperature grease                                                                                           | ESD-M1C-220-A      |
| Coolant concentrate Super-Plus 4                                                                                  | ESD-M97B-49-A      |

## Capacity

| Description                                | Litres |
|--------------------------------------------|--------|
| Engine oil - initial fill incl. filter     | 7      |
| Engine oil - oil change with filter change | 6      |
| Coolant                                    | 11,5   |

## Engine oil

| Viscosity/Ambient temperature | Designation                                         | Specification                                   |
|-------------------------------|-----------------------------------------------------|-------------------------------------------------|
| Recommended engine oil:       |                                                     |                                                 |
| SAE 10W30 / -20 to over 40°C  | Ford Super Multigrade Engine Oil                    | ACEA A2-96/B2-96 or A3-96/B3-96 or API/SH/CD EC |
| Alternative engine oils:      |                                                     |                                                 |
| SAE 5W40 / -20 to over 40°C   | Ford Formula S Synthetic Engine Oil                 | ACEA A3-96/B3-96 or API/SH/CD EC                |
| SAE 10W40 / -20 to over 40°C  | Ford XR+ High-performance High-lubricity Engine Oil | ACEA A3-96/B3-96 or API/SH/CD EC                |
| SAE 15W40 / -15 to over 40°C  | Ford Super Multigrade Engine Oil                    | ACEA A2-96/B2-96 or A3-96/B3-96 or API/SG/CD    |
| SAE 5W30 / -20 to over 10°C   | Ford Formula E Economy Engine Oil                   | ACEA A1-96/B1-96 and WSS-M2C912-A1              |



### NOTE:

The engine oil to specification SAE 5W30 has only been approved for use in northern European territories.

If engine oils with these specifications are not available, use only engine oils which conform to specifications API SH/CD EC and CCMC PD2 or better.

## Torques

| General                       | Nm | lbf.ft |
|-------------------------------|----|--------|
| Hose clips in general         | 3  | 2      |
| Bracket of front exhaust pipe | 24 | 18     |
| Lock panel to radiator        | 11 | 8      |
| Support brace to crossmember  | 11 | 8      |
| Radiator grille               | 11 | 8      |

## Torques

| Inlet manifold                  | Nm | lbf.ft |
|---------------------------------|----|--------|
| Inlet manifold to cylinder head | 23 | 17     |

## Torques

| Exhaust manifold                       | Nm | lbf.ft |
|----------------------------------------|----|--------|
| Exhaust manifold to cylinder head      | 48 | 36     |
| Exhaust manifold studs                 | 23 | 17     |
| Front exhaust pipe to exhaust manifold | 40 | 30     |
| Front exhaust pipe bracket             | 24 | 18     |

## Torques

| Alternator                    | Nm | lbf.ft |
|-------------------------------|----|--------|
| Drive belt tensioning bracket | 24 | 18     |
| Alternator mounting bolt      | 24 | 18     |
| Alternator bracket            | 19 | 14     |
| Alternator clamp bolt         | 24 | 18     |

## Torques

| Transmission and driveshaft                | Nm | lbf.ft |
|--------------------------------------------|----|--------|
| Driveshaft centre bearing to floor pan     | 33 | 24     |
| Driveshaft to transmission                 | 84 | 62     |
| Gearshift lever to transmission housing    | 25 | 19     |
| Transmission to engine                     | 35 | 26     |
| Fuel lines bracket to transmission flange  | 35 | 26     |
| Clutch housing front cover                 | 25 | 19     |
| Clutch housing adaptor plate               | 10 | 7      |
| Transmission to rear transmission mounting | 84 | 62     |

|                                                                    |           |               |
|--------------------------------------------------------------------|-----------|---------------|
| Bolt/nut of rear transmission mounting to transmission crossmember | 84        | 62            |
| Nut of rear transmission mounting to transmission                  | 50        | 37            |
| Starter motor to transmission flange                               | 35        | 26            |
| Starter motor earth lead to transmission flange                    | 35        | 26            |
| <b>Torques</b>                                                     |           |               |
| <b>Coolant circuit</b>                                             | <b>Nm</b> | <b>lbf.ft</b> |
| Water pump pulley                                                  | 10        | 7             |
| Fan pulley                                                         | 10        | 7             |
| Coolant hose bracket                                               | 23        | 17            |
| Coolant drain plug                                                 | 23        | 17            |
| Temperature gauge sender unit                                      | 15        | 11            |
| Engine coolant temperature sensor (ECT sensor)                     | 13        | 10            |
| <b>Torques</b>                                                     |           |               |
| <b>Steering</b>                                                    | <b>Nm</b> | <b>lbf.ft</b> |
| Clamp bolt of steering intermediate shaft                          | 30        | 22            |
| Steering gear to crossmember                                       | 50        | 37            |
| Power steering pump mounting bolt                                  | 23        | 17            |
| Drive belt clamp bolt                                              | 23        | 17            |
| <b>Torques</b>                                                     |           |               |
| <b>Oil circuit</b>                                                 | <b>Nm</b> | <b>lbf.ft</b> |
| Oil pressure switch                                                | 14        | 10            |
| Oil pressure regulating valve                                      | 56        | 41            |
| Oil intake pipe to cylinder block                                  | 18        | 13            |
| Oil pump to adaptor plate                                          | 19        | 14            |
| Oil pump housing to cylinder block                                 | 19        | 14            |
| Oil pump housing retaining plate                                   | 23        | 17            |
| Oil drain plug                                                     | 24        | 18            |
| Sump to cylinder block                                             | 14        | 10            |
| Oil cooler                                                         | 70        | 52            |
| Vacuum pump oil pressure pipe                                      | 21        | 15            |
| <b>Torques</b>                                                     |           |               |
| <b>Exhaust gas recirculation (EGR)</b>                             | <b>Nm</b> | <b>lbf.ft</b> |
| Plenum chamber halves                                              | 23        | 17            |
| EGR pipe to exhaust manifold                                       | 23        | 17            |
| <b>Torques</b>                                                     |           |               |
| <b>Engine mountings</b>                                            | <b>Nm</b> | <b>lbf.ft</b> |
| Engine mounting bracket to cylinder block                          | 55        | 41            |
| Engine mounting bracket to transmission                            | 62        | 46            |
| Engine mounting nuts                                               | 50        | 37            |
| <b>Torques</b>                                                     |           |               |
| <b>Fuel system</b>                                                 | <b>Nm</b> | <b>lbf.ft</b> |
| Fuel pump to cylinder block                                        | 23        | 17            |
| Fuel pump heat shield                                              | 23        | 17            |
| Fuel injection pump to adaptor plate                               | 23        | 17            |
| Fuel injection pump rear bracket                                   | 23        | 17            |
| Fuel line to fuel injection pump                                   | 18        | 13            |
| Fuel filter                                                        | 17        | 12            |
| Fuel injection pump timing belt pulley                             | 25        | 19            |
| Fuel injection pipes                                               | 19        | 14            |
| <b>Torques</b>                                                     |           |               |
| <b>Turbocharger</b>                                                | <b>Nm</b> | <b>lbf.ft</b> |
| Turbocharger to exhaust manifold                                   | 23        | 17            |
| Air intake pipe to throttle body                                   | 23        | 17            |
| Throttle assembly to exhaust manifold                              | 23        | 17            |
| Intermediate exhaust manifold to turbocharger                      | 23        | 17            |
| Oil drain pipe to connector                                        | 23        | 17            |
| <b>Torques</b>                                                     |           |               |
| <b>Cylinder block</b>                                              | <b>Nm</b> | <b>lbf.ft</b> |
| Camshaft rear cover plate to cylinder block                        | 23        | 17            |
| Front retaining/pressure plate to cylinder block                   | 23        | 17            |
| Cylinder head to cylinder block - stage 1                          | 70        | 52            |
| Cylinder head to cylinder block - stage 2                          | 70        | 52            |
| Cylinder head to cylinder block - stage 3                          | 90°       | 90°           |
| Engine adaptor plate to cylinder block - bolts 1 - 8               | 36        | 27            |
| Engine adaptor plate to cylinder block - bolt 9                    | 23        | 17            |
| Starter motor to cylinder block                                    | 35        | 26            |
| Crankshaft rear oil seal housing to cylinder block                 | 19        | 14            |
| Hexagon socket head bolts of rear oil seal housing                 | 14        | 10            |
| Camshaft timing pulley - stage 1                                   | 10        | 7             |
| Camshaft timing pulley - stage 2                                   | 160       | 118           |
| Big-end bearing caps - stage 1                                     | 56        | 41            |

|                                              |           |               |
|----------------------------------------------|-----------|---------------|
| Big-end bearing caps - stage 2               | 69        | 51            |
| Crankshaft main bearing caps - stage 1       | 84        | 62            |
| Crankshaft main bearing caps - stage 2       | 120       | 89            |
| Bolt of crankshaft pulley/vibration damper   | 163       | 12            |
| Flywheel to crankshaft - stage 1             | 21        | 15            |
| Flywheel to crankshaft - stage 2             | 30°       | 30°           |
| Timing belt cover to intermediate plate      | 7         | 5             |
| Splash shield to timing belt cover           | 1         | 0,7           |
| Clamp bolt of timing belt tensioner          | 24        | 18            |
| Tensioning pulley bolt                       | 58        | 43            |
| Water pump to intermediate plate M8          | 23        | 17            |
| Water pump to intermediate plate M10         | 46        | 34            |
| Timing case cover to intermediate plate      | 23        | 17            |
| Engine adaptor plate bracket (bolts)         | 46        | 34            |
| Engine adaptor plate bracket (bolt and nut)  | 23        | 17            |
| Clutch pressure plate to flywheel            | 30        | 22            |
| Drive belt tensioning bracket                | 24        | 18            |
| Flywheel immobilising tool to cylinder block | 35        | 26            |
| <b>Torques</b>                               |           |               |
| <b>Cylinder head</b>                         | <b>Nm</b> | <b>lbf.ft</b> |
| Cylinder head cover - stage 1                | 7         | 5             |
| Cylinder head cover - stage 2                | 7         | 5             |
| Rocker shaft bearing pedestal bolts, M8      | 29        | 21            |
| Rocker shaft bearing pedestal bolts, M10     | 66        | 49            |
| Rocker arm adjusting bolt, min.              | 12        | 9             |
| Rocker arm adjusting bolt, max.              | 48        | 36            |
| Bolt for injector retaining plate            | 40        | 29            |
| Thermostat housing to cylinder head          | 23        | 17            |
| Thermostat housing bolts                     | 23        | 17            |
| EGR valve to throttle housing                | 18        | 13            |
| Bypass hose to cylinder head                 | 18        | 13            |
| Mounting bracket for engine lifting bracket  | 23        | 17            |
| Engine lifting eye                           | 23        | 17            |

**Mechanical Repairs / 3 Powertrain / 321 Basic Engine / 321-05 2.5 Turbocharged Diesel Engine (100 PS) / SpecificationsGeneral Specifications**

[321-05 2.5 Turbocharged Diesel Engine \(100 PS\)|Description and Operation >](#)

[< Oil Pump – Disassemble and Assemble \(Pump Assembly Removed\) \(21 714 8\)](#)

■ ■ ■

