# CHARACTERISTICS

## ENGINE

| Type | | |
|---|---|---|
| | ***MLT 526 COMPACT +*** *MONO-ULTRA Série A* | **PERKINS 1004.42 AR 81189** |
| | ***MLT 526*** *Série A* | **PERKINS 1004.42 AR 81189** |
| | ***MLT 526 Turbo*** *(24") Série A +* *MONO-ULTRA* | **PERKINS 1004.40T AK 81229** |
| | ***MLT 526 Turbo*** *Série A +* *MONO-ULTRA* | **PERKINS 1004.40T AK 81229** |
| | ***MLT 526 Turbo COMPACT*** *Série A +* *MONO-ULTRA* | **PERKINS 1004.40T AK 81229** |

| | 1004.42 AR 81189 | 1004.40T AK 81229 |
|---|---|---|
| - Number of cylinders | 4 in line | 4 in line |
| - Number of strokes | 4 | 4 |
| - Suction | Natural | Compressed turbo |
| - Injection system | Direct | Direct |
| - Ignition sequence | 1.3.4.2. | 1.3.4.2. |
| - Clearance of rocker valve (Cold) | | |
| . Inlet | 0,20 mm | 0,20 mm |
| . Exhaust | 0,45 mm | 0,45 mm |
| - Capacity | 4233 $cm^3$ | 3990 $cm^3$ |
| - Bore | 103 mm | 100 mm |
| - Stroke | 127 mm | 127 mm |
| - Compression ratio | 18,5 / 1 | 17,25 / 1 |
| - Nominal rating loaded | 2300 rpm | 2200 rpm |
| - Rating slow unladen | 930 rpm $^{+20}_{-0}$ | 930 rpm $^{+20}_{-0}$ |
| - Max. rating unladen | 2350 rpm | 2400 rpm |
| - Power ISO/TR 14396 | 86 cv / 63 kw | 101 cv / 74,6 kw |
| - Maximum torque ISO/TR 14396 | 300 Nm to 1400 rpm | 402,5 Nm to 1400 rpm |
| - Air cleaner | Dry 3 microns | Dry 3 microns |

## COOLING CIRCUIT

| | |
|---|---|
| - Type | By water |
| - Fan | Puller |
| . Number of blades | 10 |
| . Diameter | 480 mm |
| - Thermostat | |
| . Start opening | 77 °C to 85 °C |
| . Full opening | 92 °C to 98 °C |

## TRANSMISSION

| | |
|---|---|
| - Type | **TURNER POWERTRAIN SYSTEMS** |
| - Torque converter | **SACHS** |
| - Gear box | |
| . Number of forward speeds | 4 |
| . Number of reverse speeds | 4 |
| - Gear reverser | Electro-hydraulic |

## FRONT AXLE

| | |
|---|---|
| - Type | **HURTH** |
| - Hub reducers | Epicyclic |

## REAR AXLE

| | |
|---|---|
| - Type | **HURTH** |
| - Hub reducers | Epicyclic |

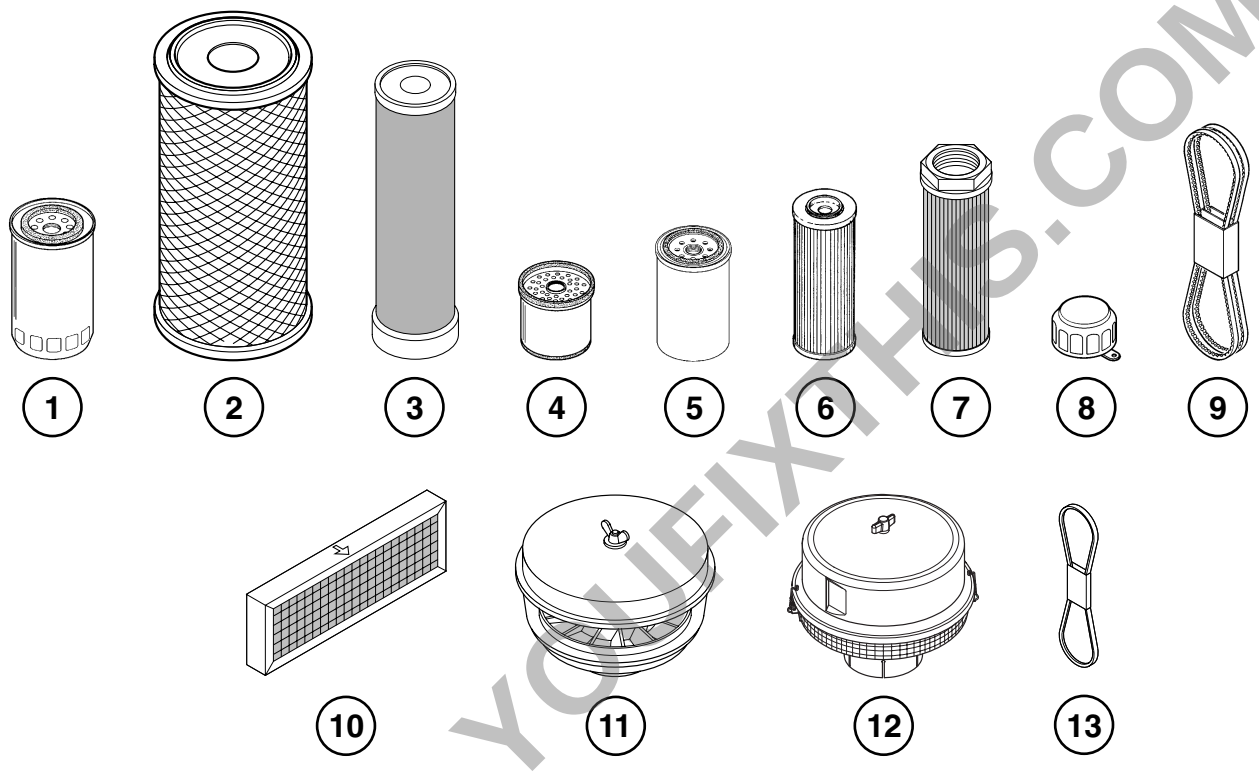
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# FILTERS CARTRIDGES AND BELTS

***MLT 526 COMPACT** Série A*
***MLT 526 COMPACT** MONO-ULTRA Série A*
***MLT 526** Série A*




| DESIGNATION | PART NUMBER | CLEAN | CHANGE |
|---|---|---|---|
| 1 - Engine oil filter | 133755 | | 500 H |
| 2 - Dry air filter cartridge | 563416 | 50 H * | 500 H * |
| 3 - Safety dry air filter cartridge | 563415 | | 1000 H * |
| 4 - Fuel filter cartridge | 49660 | | 500 H |
| 5 - Transmission oil filter cartridge | 561749 | | 500 H |
| 6 - Hydraulic return oil filter cartridge | 221174 | | 500 H |
| 7 - Suction strainer for hydraulic oil tank | 224726 | 1000 H | |
| 8 - Filter cap for hydraulic oil tank | 62415 | | 1000 H |
| 9 - Alternator belt | 563270 | | |
| 10 - Cab ventilation filter (Without air conditioning) | 601645 | 500 H | |
| 10 - Cab ventilation filter (With air conditioning) | 601645 | 50 H | 250 H |
| 11 - Cyclonic pre-filter | 224713 | 10 H | |
| 12 - Automatic vacuum-cleaning pre-filter (OPTION) | 235797 | | |
| 13 - Compressor belt (OPTION AIR CONDITIONING) | 231803 | | |

* : This periodicity is given for information only (See chapter : SERVICING SCHEDULE in paragraph : 3 - MAINTENANCE) for cleaning and changing.



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## Standard torque tensions

Most of the torque tensions on the engine are standard. Special torque tensions are listed in the separate special torque tables. The standard torque tensions listed in the tables below can be used when a special torque is not necessary.

The torque tensions below apply to components lubricated lightly with clean engine oil before they are fitted.

**Standard torques for setscrews and nuts**

| Thread Size | Torque | | |
|---|---|---|---|
| | Nm | lbf ft | kgf m |
| M6 x 1,00 | 9 | 7 | 0,9 |
| M8 x 1,25 | 22 | 16 | 2,2 |
| M10 x 1,50 | 44 | 33 | 4,5 |
| M12 x 1,75 | 78 | 58 | 8.0 |
| M14 x 2,00 | 124 | 91 | 12,6 |
| M16 x 2,00 | 190 | 140 | 19,3 |

**Standard torques for studs (metal end)**

| Thread Size | Torque | | |
|---|---|---|---|
| | Nm | lbf ft | kgf m |
| M6 x 1,00 | 5 | 4 | 0,5 |
| M8 x 1,25 | 11 | 9 | 1,1 |
| M10 x 1,50 | 18 | 14 | 1,8 |
| M12 x 1,75 | 25 | 19 | 2,5 |

**Standard torques for pipe unions, plugs, and adaptors**

| Thread Size (Inches) | Torque | | |
|---|---|---|---|
| | Nm | lbf ft | kgf m |
| 1/8 PTF | 9 | 7 | 0.9 |
| 1/4 PTF | 17 | 13 | 1,7 |
| 3/8 PTF | 30 | 23 | 3,0 |
| 3/4 PTF | 45 | 35 | 4,5 |

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## Rocker cover

### To remove and to fit 12-1

Engines are supplied with rocker covers (A) made of a plastic material or aluminum.

**To remove**

**1** Disconnect the breather pipe.

**2** Remove the cap nuts and rubber seal (A1) from the top of the rocker cover and remove the heat shield, if one is fitted.

**3** Lift off the rocker cover and the joint.

***Caution:*** *When the rocker cover is fitted, the cap nuts are tightened onto the nuts of the rocker brackets. During removal of the cap nuts, it is possible to loosen the nuts of the rocker brackets. The nuts of the rocker brackets should be tightened to the correct torque every time the cover is removed.*

**To fit**

**1** Check the seal of the oil filler cap (B1) and the sealing washers (B3) for the cap nuts (B2).

***Warning!*** *The rocker cover joint may be made from viton, read the safety precautions in section 10 for viton seals.*

**2** Check the condition of the rocker cover joint (B4). If necessary, the joint can be removed and renewed.

**3** Clean the joint face of the cylinder head and fit the rocker cover.

**4** Fit the sealing washers, the heat shield, if one is fitted, and the cap nuts.

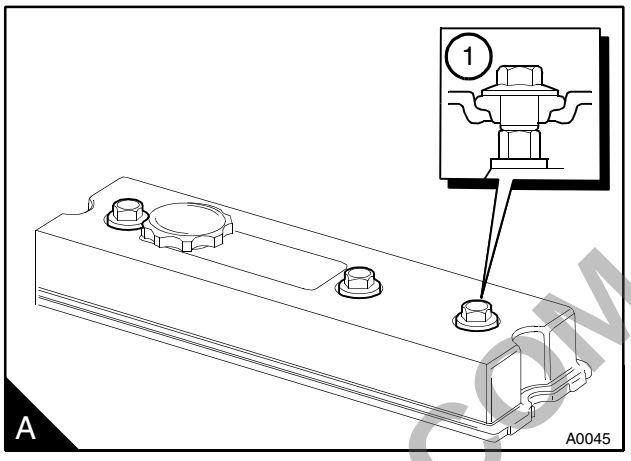
***Caution:*** *Damage to the sealing washer can occur if the cap nut is not tightened centrally through the sealing washer and the rocker cover. If the sealing washer is damaged, it must be renewed.*

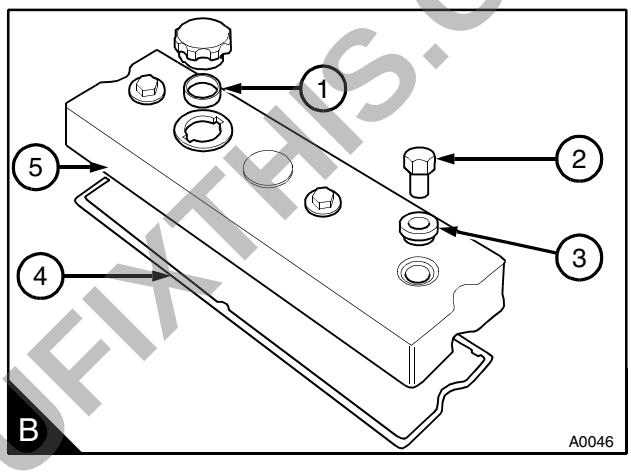
**5** Tighten the rocker cover cap nuts to:

20 Nm (15 lbf ft) 2,1 kgf m for plastic covers.

30 Nm (22 lbf ft) 3,0 kgf m for aluminium covers.

**6** Fit the breather pipe.



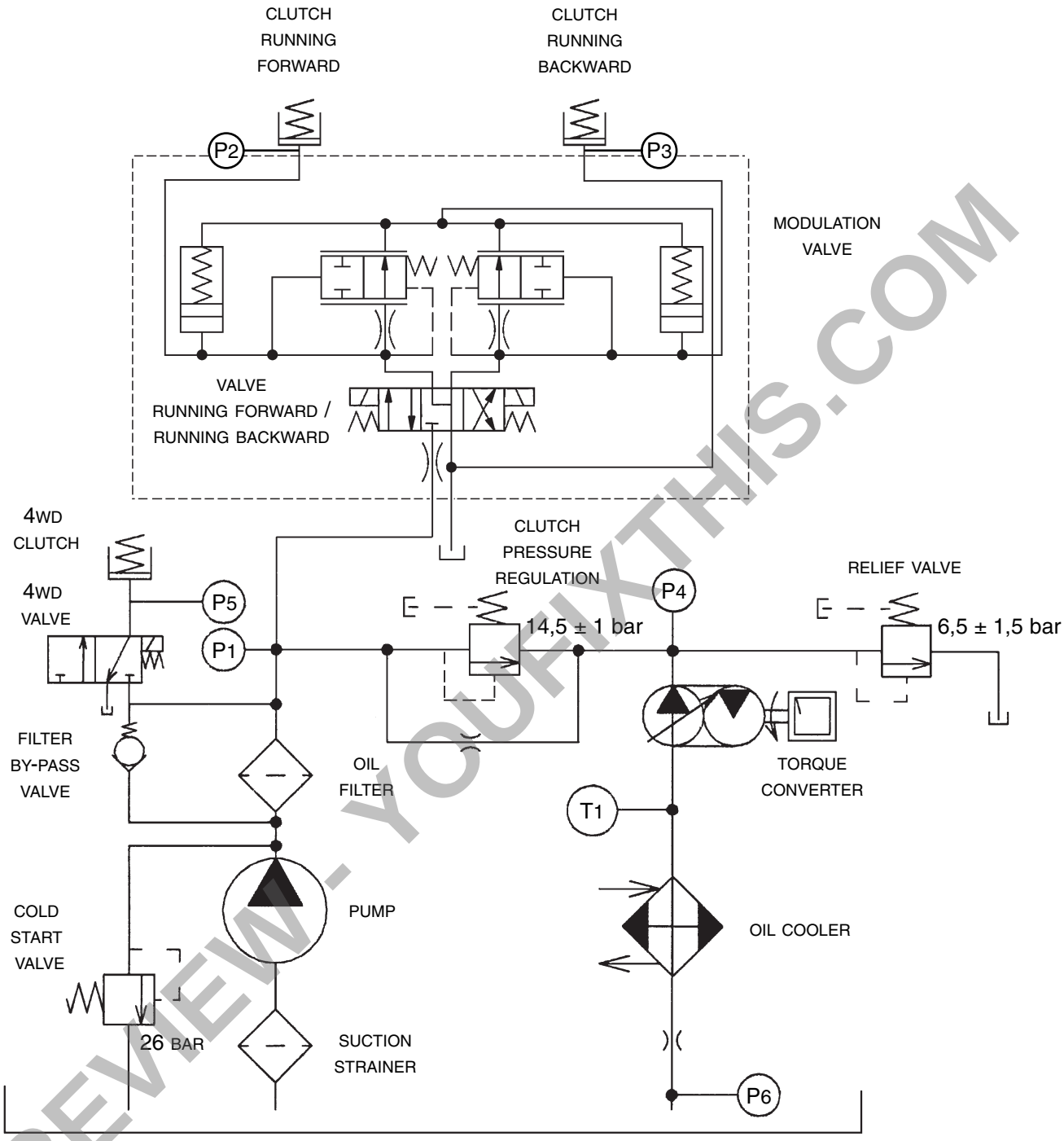




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# TRANSMISSION HYDRAULIC PRINCIPLE CIRCUIT

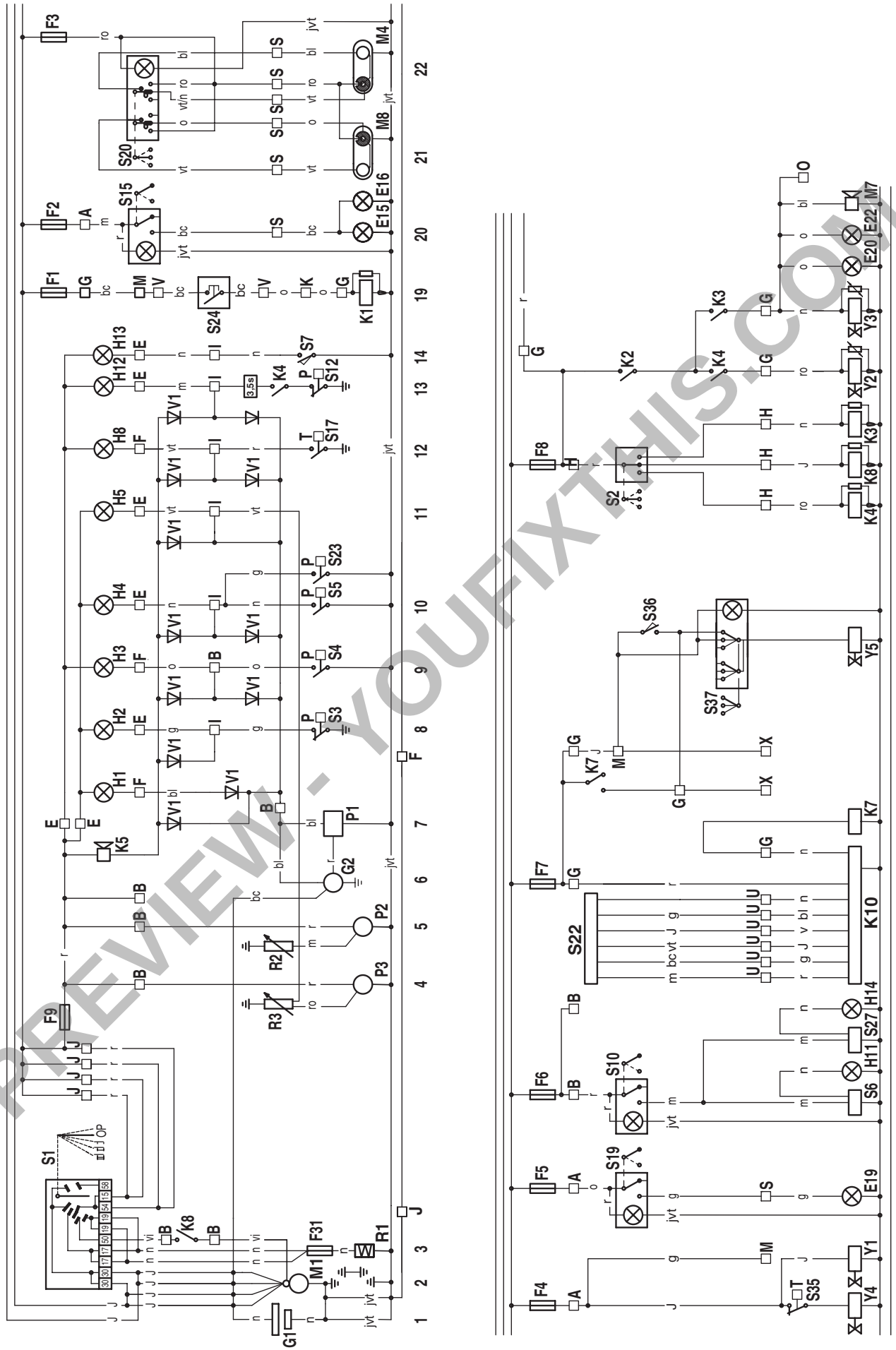



P1 = Oil pump pressure test point(14,5 ± 1 bar).
P2 = Forward clutch pressure test point (14,5 ± 1,5 bar).
P3 = Reverse clutch pressure test point (14,5 ± 1,5 bar).
P4 = Converter relief pressure test point (6,5 ± 1,5 bar).
P5 = Four wheel drive pressure test point (14,5 ± 1,5 bar).
P6 = Lubrification pressure test point (1,5 ± 1 bar).
T1 = Temperature test.

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## *ELECTRIC DIAGRAM* *MLT 526 Turbo SA*



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## MLT 526 COMPACT Série A + MONO-ULTRA

### FRONT AND REAR TYRES

| | DIMENSIONS | PRESSURE | TYRE LOAD | | PRESSURE ON THE CONTACT SURFACE HARD GROUND | PRESSURE ON THE CONTACT SURFACE LIGHT GROUND | AREA OF THE CONTACT SURFACE HARD GROUND | AREA OF THE CONTACT SURFACE LIGHT GROUND |
|---|---|---|---|---|---|---|---|---|
| STANDARD | **400/70-20 T37 140B TL 10PR DUNLOP** | **2,75 Bar** | Front unladen | 1350 kg | 6,6 kg/cm2 | 2,2 kg/cm2 | 205 cm2 | 602 cm2 |
| | | | Front laden | 3600 kg | 8,8 kg/cm2 | 2,9 kg/cm2 | 408 cm2 | 1223 cm2 |
| | | | Rear unladen | 1550 kg | 6,8 kg/cm2 | 2,3 kg/cm2 | 228 cm2 | 669 cm2 |
| | | | Rear laden | 600 kg | 5,4 kg/cm2 | 1,8 kg/cm2 | 112 cm2 | 330 cm2 |
| OPTION | **16/70x20 EM E58 10PR CONTINENTAL** | **2,6 Bar** | Front unladen | 1350 kg | 2,2 kg/cm2 | kg/cm2 | 605 cm2 | cm2 |
| | | | Front laden | 3600 kg | 3,4 kg/cm2 | kg/cm2 | 1073 cm2 | cm2 |
| | | | Rear unladen | 1550 kg | 2,3 kg/cm2 | kg/cm2 | 665 cm2 | cm2 |
| | | | Rear laden | 600 kg | 1,6 kg/cm2 | kg/cm2 | 370 cm2 | cm2 |
| OPTION | **16,0/70-20 SGI TL 10PR GOODYEAR** | **3,4 Bar** | Front unladen | 1350 kg | 8,5 kg/cm2 | 3,3 kg/cm2 | 158 cm2 | 415 cm2 |
| | | | Front laden | 3600 kg | 8,5 kg/cm2 | 3,3 kg/cm2 | 422 cm2 | 1107 cm2 |
| | | | Rear unladen | 1550 kg | 8,5 kg/cm2 | 3,3 kg/cm2 | 182 cm2 | 477 cm2 |
| | | | Rear laden | 600 kg | 8,5 kg/cm2 | 3,3 kg/cm2 | 70 cm2 | 185 cm2 |
| OPTION | **425/75R20 XM27 MPT 155B MICHELIN** | **2,4 Bar** | Front unladen | 1350 kg | 1,9 kg/cm2 | kg/cm2 | 700 cm2 | cm2 |
| | | | Front laden | 3600 kg | 2,3 kg/cm2 | kg/cm2 | 1600 cm2 | cm2 |
| | | | Rear unladen | 1550 kg | 1,9 kg/cm2 | kg/cm2 | 800 cm2 | cm2 |
| | | | Rear laden | 600 kg | 1,3 kg/cm2 | kg/cm2 | 480 cm2 | cm2 |
| | **405/70R20 XM27 155A2/143B MICHELIN** | **3,5 Bar** | Front unladen | 1350 kg | 2,3 kg/cm2 | kg/cm2 | 600 cm2 | cm2 |
| | | | Front laden | 3600 kg | 2,8 kg/cm2 | kg/cm2 | 1280 cm2 | cm2 |
| | | | Rear unladen | 1550 kg | 2,3 kg/cm2 | kg/cm2 | 660 cm2 | cm2 |
| | | | Rear laden | 600 kg | 2 kg/cm2 | kg/cm2 | 300 cm2 | cm2 |
| | **15R22,5 XF TUB MICHELIN** | **4,5 Bar** | Front unladen | 1350 kg | 1,69 kg/cm2 | 0,85 kg/cm2 | 800 cm2 | 1592 cm2 |
| | | | Front laden | 3600 kg | 3 kg/cm2 | 1,51 kg/cm2 | 1200 cm2 | 2388 cm2 |
| | | | Rear unladen | 1550 kg | 1,87 kg/cm2 | 0,94 kg/cm2 | 830 cm2 | 1652 cm2 |
| | | | Rear laden | 600 kg | 0,92 kg/cm2 | 0,46 kg/cm2 | 650 cm2 | 1294 cm2 |

### HYDRAULIC CIRCUIT

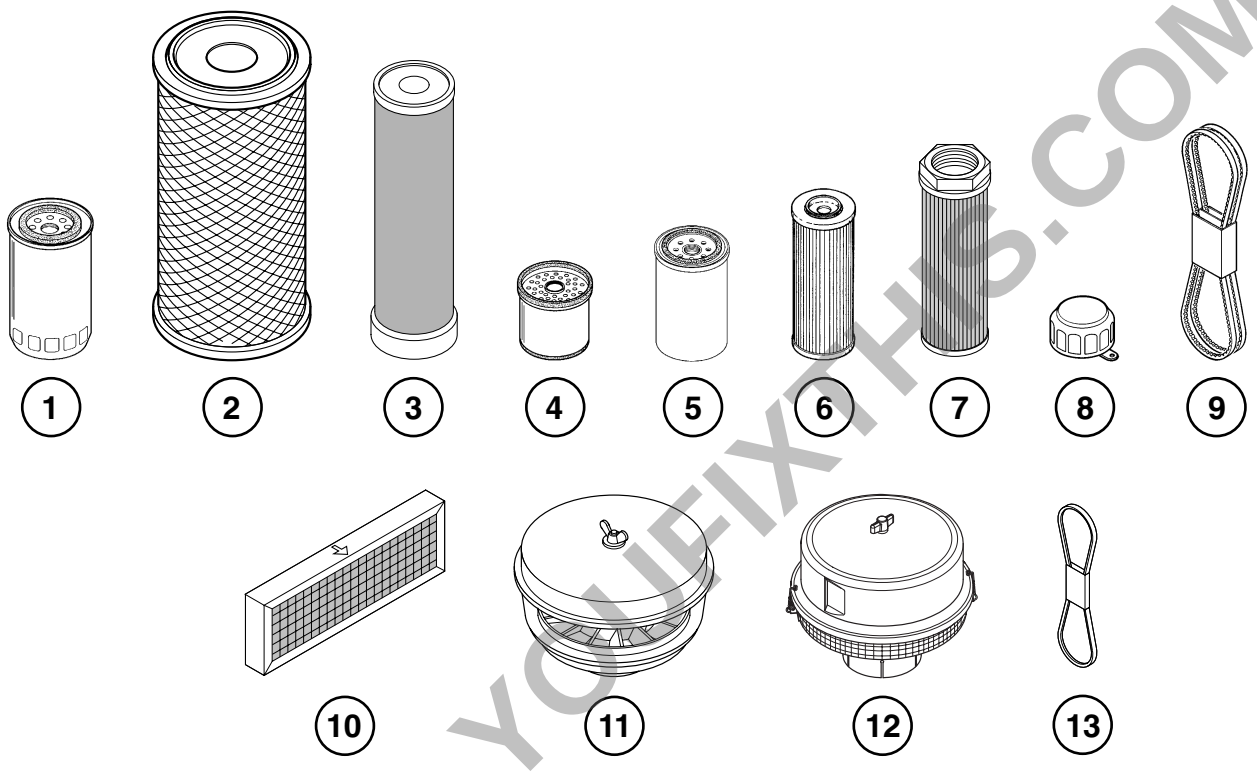
| | |
|---|---|
| - Type of pump | Gear pump with flow divider |
| . Capacity | 37 $cm^3$ |
| - Lifting, tilting, telescoping, attachment circuit | |
| . Max. rating capacity unladen | 85 L/min |
| . Pressure | 250 Bar |
| - Steering circuit | |
| . Max. rating capacity unladen | 85 L/min |
| . Pressure | 140 Bar |
| - Filtration | |
| . Return | 10 Microns |
| . Suction | 125 Microns |

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***MLT 526 Turbo** (24") Série A*
***MLT 526 Turbo** MONO-ULTRA (24") Série A*
***MLT 526 Turbo** Série A*
***MLT 526 Turbo** MONO-ULTRA Série A*
***MLT 526 Turbo COMPACT** Série A*
***MLT 526 Turbo COMPACT** MONO-ULTRA Série A*




| DESIGNATION | PART NUMBER | CLEAN | CHANGE |
|---|---|---|---|
| 1 - Engine oil filter | 476954 | | 500 H |
| 2 - Dry air filter cartridge | 563416 | 50 H * | 500 H * |
| 3 - Safety dry air filter cartridge | 563415 | | 1000 H * |
| 4 - Fuel filter cartridge | 49660 | | 500 H |
| 5 - Transmission oil filter cartridge | 561749 | | 500 H |
| 6 - Hydraulic return oil filter cartridge | 221174 | | 500 H |
| 7 - Suction strainer for hydraulic oil tank | 224726 | 1000 H | |
| 8 - Filter cap for hydraulic oil tank | 62415 | | 1000 H |
| 9 - Alternator belt | 563270 | | |
| 10 - Cab ventilation filter (Without air conditioning) | 601645 | 500 H | |
| 10 - Cab ventilation filter (With air conditioning) | 601645 | 50 H | 250 H |
| 11 - Cyclonic pre-filter | 224713 | 10 H | |
| 12 - Automatic vacuum-cleaning pre-filter (OPTION) | 235797 | | |
| 13 - Compressor belt (OPTION AIR CONDITIONING) | 231803 | | |

* : This periodicity is given for information only (See chapter : SERVICING SCHEDULE in paragraph : 3 - MAINTENANCE) for cleaning and changing.



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## Specific torque tensions

The torque tensions below apply to components lubricated lightly with clean engine oil before they are fitted.

**Special torques for setscrews and nuts**

| Description | Thread size | Torque | | |
|---|---|---|---|---|
| | | Nm | lbf ft | kgf m |
| **Cylinder head assembly** | | | | |
| Setscrews, cylinder head | 1/2 UNF | see operation 12-7 | | |
| Setscrews, cylinder head (Engine types AR and AS) | M10<br>1/2 UNF | see operation 12-7 | | |
| Fasteners, rocker shaft brackets: | | | | |
| - Aluminium brackets | M12 | 40 | 30 | 4,1 |
| - Cast iron and sintered steel brackets | M12 | 75 | 55 | 7,6 |
| Cap nuts, composite plastic rocker cover | M12 | 20 | 15 | 2,1 |
| Cap nuts, aluminium rocker cover | M12 | 30 | 22 | 3,0 |
| Setscrews, inlet manifold to cylinder head | M10 | 44 | 33 | 4,5 |
| Fasteners, exhaust manifold to cylinder head | M10 | 44 | 33 | 4,5 |
| Setscrews, engine lift bracket | M10 | 44 | 33 | 4,5 |
| **Piston and connecting rod assemblies** | | | | |
| Nuts, connecting rods | 1/2 UNF | 125 | 92 | 12,7 |
| Setscrews, connecting rods | 1/2UNF | 152 | 114 | 15,8 |
| Banjo bolts, piston cooling jets | 3/8 UNF | 27 | 21 | 2,7 |
| **Crankshaft assembly** | | | | |
| Setscrews, main bearings | 5/8 UNF | 265 | 196 | 27,0 |
| Setscrews, crankshaft pulley | 7/16 UNF | 115 | 85 | 11,8 |
| Setscrews, viscous damper to crankshaft pulley | M12 | 75 | 55 | 7,6 |
| Cap screws, viscous damper to crankshaft pulley | M8 | 35 | 26 | 3,6 |
| Cap screws, crankshaft bonded damper to crankshaft pulley | M8 | 35 | 26 | 3,6 |
| Setscrews, rear oil seal housing to cylinder block | M8 | 22 | 16 | 2,2 |
| Cap screws, bridge piece to cylinder block | M6 | 16 | 12 | 1,6 |
| Cap screws, rear oil seal housing to bridge piece | M6 | 13 | 10 | 1,3 |
| Torxscrew, rear oil seal housing to bridge piece | M8 | 18 | 13 | 1,9 |
| Setscrew, idler gear hub of balancer unit | M12 | 93 | 68 | 9,5 |
| Nut, drive gear of balance weight | 1/2 UNF | 82 | 60 | 8,4 |
| Setscrews, rear cover of balancer frame | M10 | 54 | 40 | 5,5 |
| Setscrews, oil transfer plate (balancer unit) | M10 | 30 | 22 | 3,1 |
| Setscrews, oil pump to balancer frame | M8 | 27 | 20 | 2,8 |
| Setscrews, balancer to cylinder block | M10 | 54 | 40 | 5,5 |

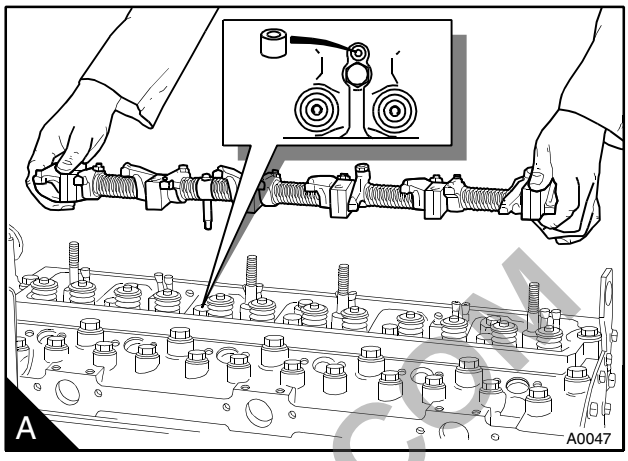
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## Rocker assembly

To remove and to fit 12-2




### To remove

**1** Remove the rocker cover, see operation 12-1.

**2** Release evenly and gradually the fasteners of the rocker shaft brackets; begin with the end brackets and move toward the centre. Remove the fasteners and lift off the rocker assembly.

**3** Remove the rubber oil seal (A) from the oil supply connection or from the oil supply hole in the cylinder head.

### To fit

**1** Fit a new rubber oil seal in the oil supply hole in the cylinder head.

**2** Check that the push rods fit correctly in the sockets of the tappets. Fit the rocker assembly; ensure that the oil supply connection is fitted correctly into the oil seal. Check that the ends of the adjustment screws fit correctly in the sockets of the push rods.

**3** Fit the fasteners of the rocker shaft brackets and tighten the fasteners evenly and gradually; begin with the inner fasteners and work towards the end fasteners. Tighten the fasteners evenly to the correct torque according to the material of the rocker shaft brackets:

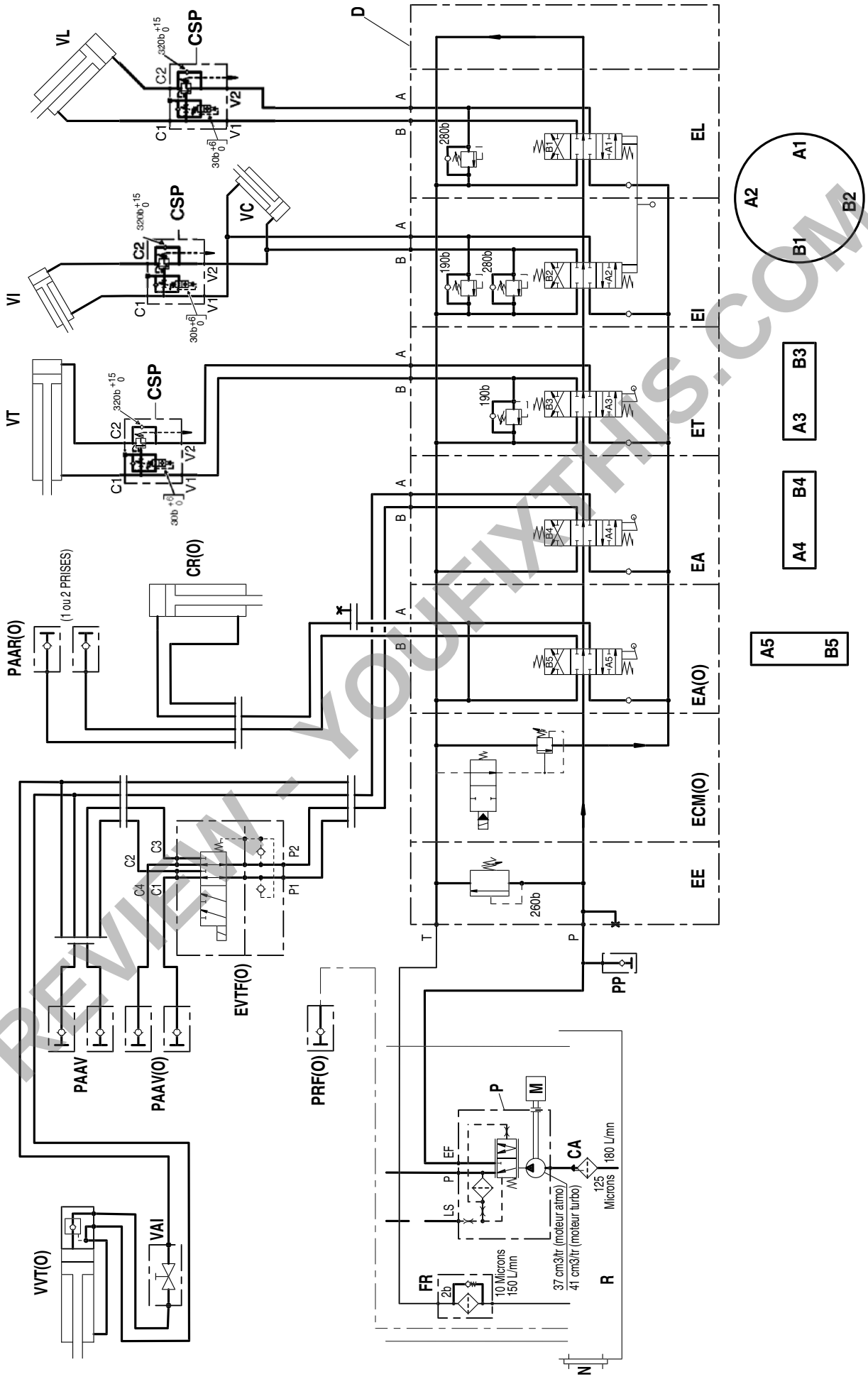
| | |
|---|---|
| Aluminium | 40 Nm (30 lbf ft ) 4,1 kgf m. |
| Cast iron | 75 Nm (55 lbf ft) 7,6 kgf m. |
| Sintered steel | 75 Nm (55 lbf ft) 7,6 kgf m. |

**4** Check and adjust the valve tip clearances, see operation 12-5.

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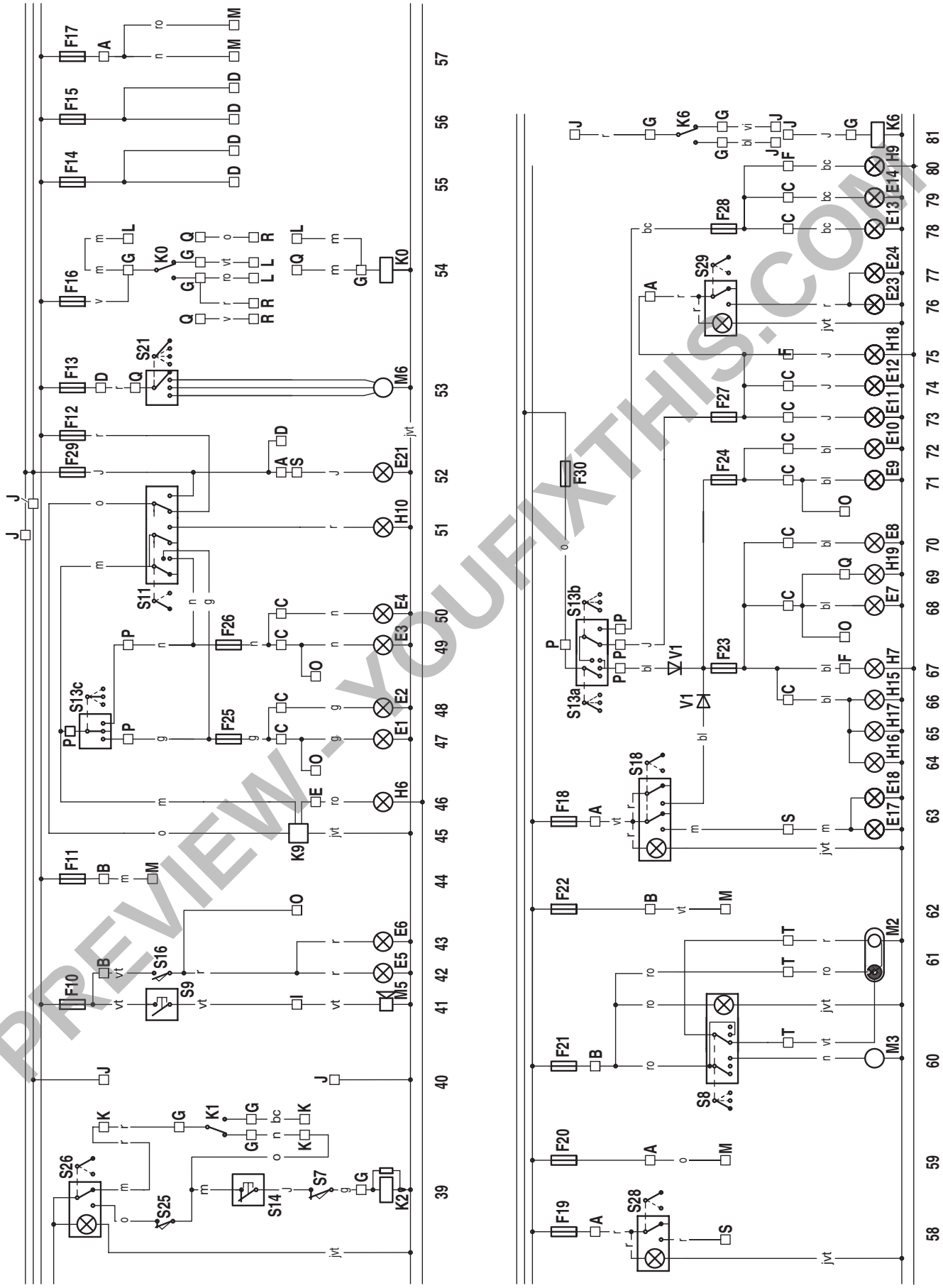
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**Special torques for setscrews and nuts**

| Description | Thread size | Torque | | |
|---|---|---|---|---|
| | | Nm | lbf ft | kgf m |
| **Timing case and drive assembly** | | | | |
| Setscrews, timing case to cylinder block | M8 | 22 | 16 | 2,2 |
| Setscrews, timing case to cylinder block | M10 | 44 | 33 | 4,5 |
| Setscrews, hub of idler gear | M10 | 44 | 33 | 4,5 |
| Setscrew, camshaft gear | M12 | 95 | 74 | 9,5 |
| Setscrews, timing case cover to timing case | M8 | 22 | 16 | 2,2 |
| Nuts, timing case cover to timing case | M8 | 22 | 16 | 2,2 |
| **Cylinder block** | | | | |
| Setscrews, fitted instead of piston cooling jet(s) | 3/8 UNF | 27 | 21 | 2,7 |
| **Fuel system** | | | | |
| Nuts, high-pressure fuel pipes | M12 | 22 | 16 | 2,2 |
| Bolt banjo, leak-off connection | M8 | 9 | 7 | 0,9 |
| Gland nut, atomiser body | - | 40 | 30 | 4,1 |
| Setscrews, for the gear of the fuel injection pump | M10 | 28 | 20 | 2,8 |
| Torxscrew, for the gear of the fuel injection pump | M10 | 22 | 16 | 2,2 |
| Setscrews, fuel lift pump | M8 | 22 | 16 | 2,2 |
| Nuts for flange of fuel injection pump | M8 | 22 | 16 | 2,2 |
| Locking screw of Bosch VE fuel injection pump | M10 | 27 | 20 | 2,8 |
| Locking screw of DP 200 fuel injection pump | 10 A/F | 10 | 7 | 1 |
| **Lubrication system** | | | | |
| Plug, lubricating oil sump | 3/4 UNF | 34 | 25 | 3,5 |
| Setscrews, oil pump to front bearing cap | M8 | 22 | 16 | 2,2 |
| Setscrews, cover for oil pump | M8 | 28 | 21 | 2,9 |
| Fasteners, lubricating oil sump | M8 | 22 | 16 | 2,2 |
| **Cooling system** | | | | |
| Nut, drive pulley for coolant pump (Engine types AP, AQ, AS) | M8 | 22 | 16 | 2,2 |
| Setscrews, fan drive housing to timing case | M10 | 44 | 33 | 4,5 |
| Setscrews, fan drive pulley to hub | M8 | 22 | 16 | 2,2 |
| Setscrews, fan drive pulley to hub | M10 | 44 | 33 | 4,5 |
| Setscrews, fan | M8 | 22 | 16 | 2,2 |
| Connector, oil cooler to oil filter head | 3/4 UNF | 58 | 42 | 5,8 |
| Setscrews, coolant pump to body of pump (Engine type AS) | M8 | 29 | 21 | 2,9 |
| Screw, cassette type cooler to oil filter head | 3/4 UNF | 37 | 29 | 3,7 |

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## To dismantle and to assemble 12-3

### To dismantle

**1** Remove the clips from both ends of the rocker shaft. Ensure that the ends of the rocker shaft are not damaged. Release the location screw (A1) for the oil supply connection.

**2** Dismantle the assembly and make a note of the position of each component to ensure that they can be assembled more easily.

### To assemble

**1** Ensure that the oil holes in the rocker shaft and in the rocker levers are not restricted.

**2** Lubricate the components with clean engine lubricating oil before assembly. Assemble the components in the correct order (A) with the arrows (A2) on the pedestals in the position shown. Ensure that the location screw (A1) for the oil supply connection is fitted correctly in the rocker shaft. Fit the clips to the ends of the rocker shaft.

## To inspect and to correct 12-4

### To inspect

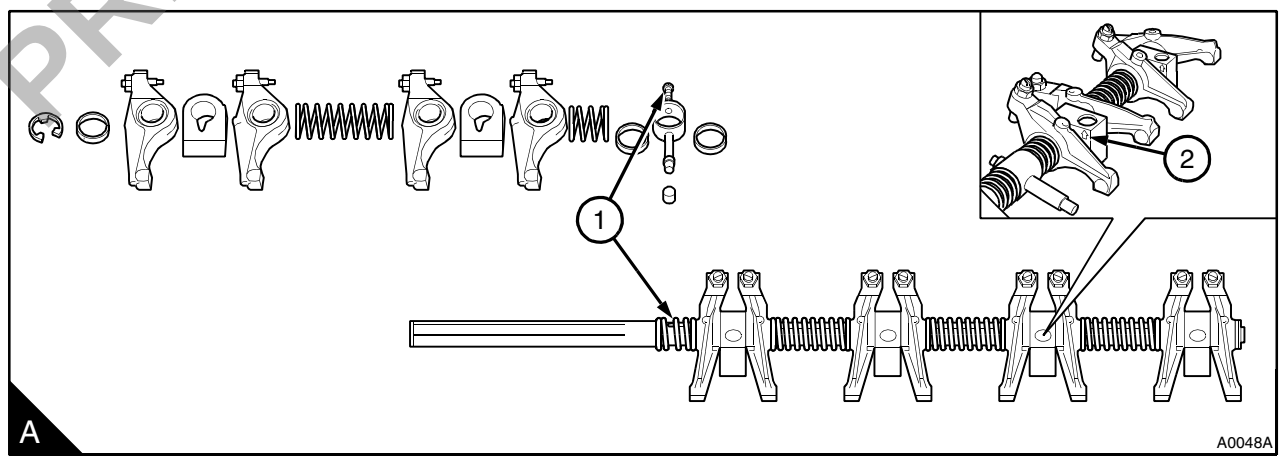
**1** Clean and inspect all the components for wear and any other damage. Check the clearance of the rocker levers on the rocker shaft. If the clearance is larger than 0,13 mm (0.005 in), renew the rocker lever bush and/or the rocker shaft.

### To correct

**1** To renew the rocker lever bush, press out the old bush with a suitable mandrel.

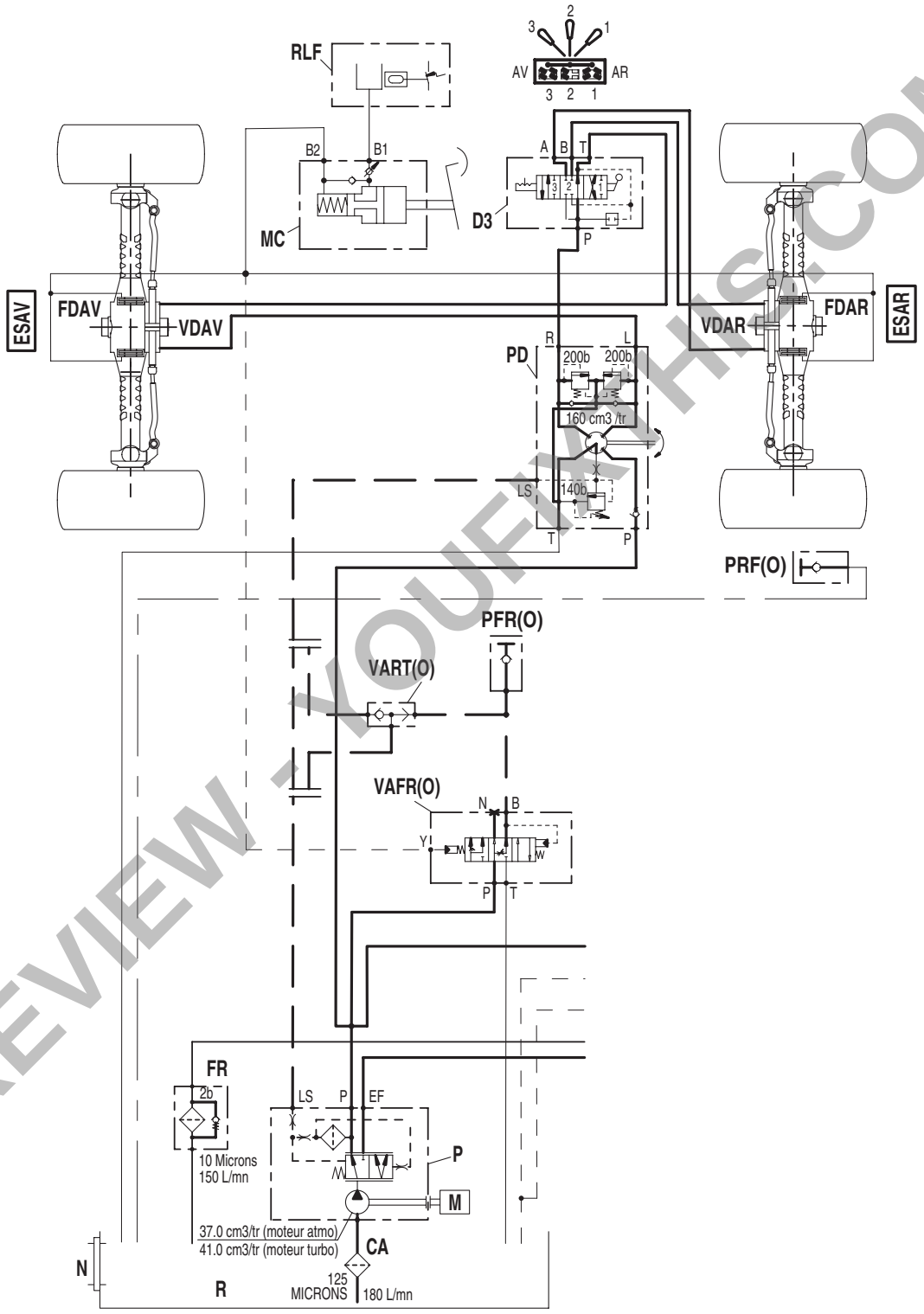
**2** Align the lubrication hole of the new bush on the same side as the rocker lever lubrication hole and press the bush into position.

**3** Ream the bush in the rocker lever to give a clearance on the rocker shaft of 0,03/0,09 mm (0.001/0.004 in). Clean thoroughly the bush and check that the oil hole is free from debris.





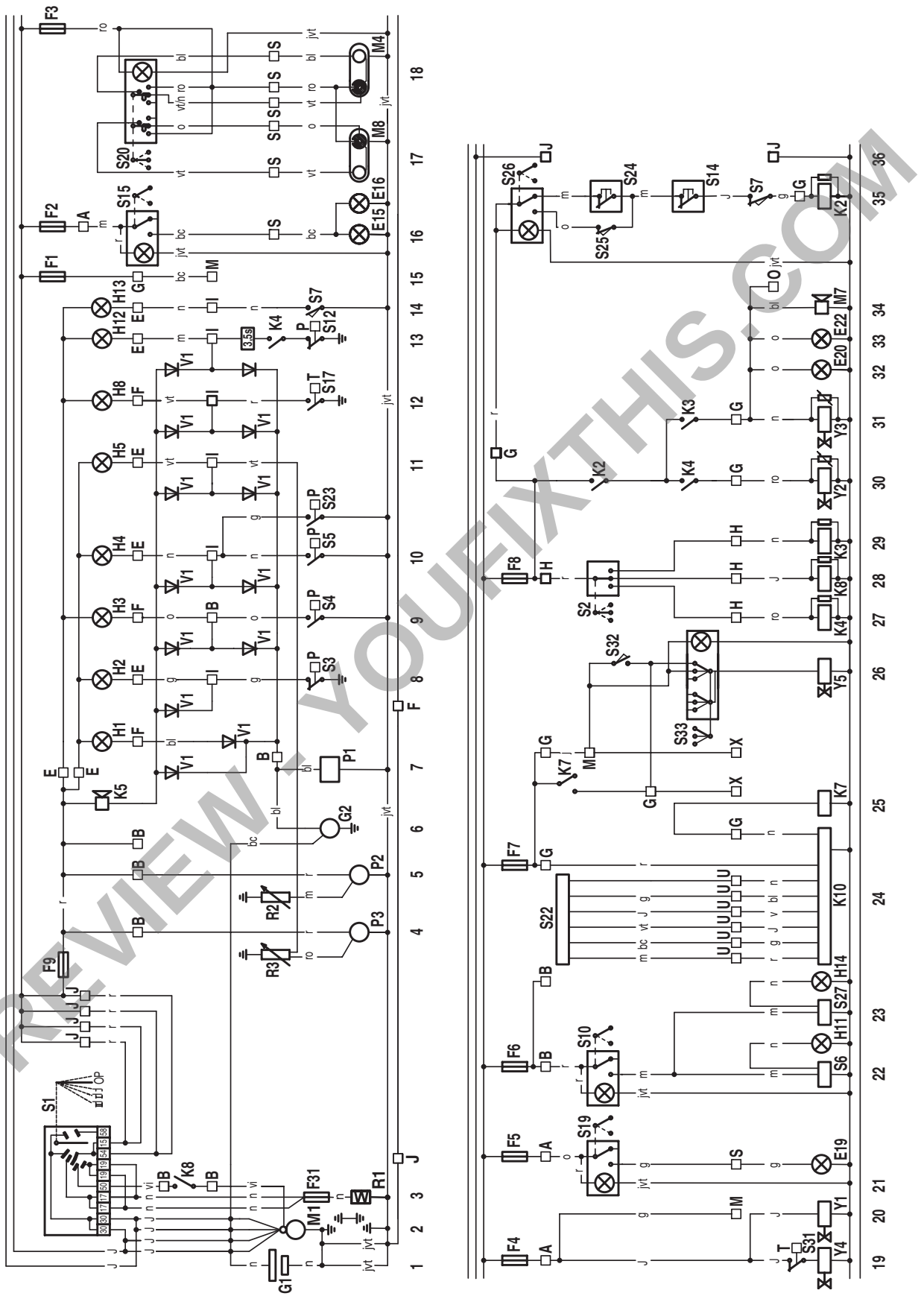

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## *SPECIFICATIONS*

| | | |
|---|---|---|
| - Level of sound pressure in the driver's cab LpA<br>*(According to standard prEN 12053 : 1995)* | 82,6 dB | |
| - Level of sound power in the LwA environment<br>*(According to directive 2000 / 14 CE guaranteed)* | dB | |
| - Travel speed of the lift truck | | |
| . Forward | 25 km/h | |
| . Reverse | 25 km/h | |
| - Standard lift height | 5150 mm | |
| - Rated capacity with standard attachment | 2600 kg | |
| - Load center | 500 mm | |
| - Weight of forks (Each) | 62 kg | |
| - Lifting motions (Jib retracted) | | |
| . Unladen lifting | 7,2 s | 30,6 m/mn |
| . Laden lifting | 7,4 s | 29,6 m/mn |
| . Unladen lowering | 5,1 s | 43,2 m/mn |
| . Laden lowering | 5 s | 40 m/mn |
| - Telescoping motions (Lifting jib) | | |
| . Unladen extending | 4,2 s | 22,8 m/mn |
| . Laden extending | 4,3 s | 22,3 m/mn |
| . Unladen retracting | 2,2 s | 43,6 m/mn |
| . Laden retracting | 2,2 s | 43,6 m/mn |
| - Reverse tilt time unladen | 3,5 s | 44 °/s |
| - Forward tilt time unladen | 2,8 s | 55 °/s |
| - Lift truck weight with standard attachment | | |
| . Unladen | 5785 kg | |
| . Rated load | 8385 kg | |
| - Axle weight with attached equipment (Transport position) | | |
| . Front unladen | 2675 kg | |
| Rated load | 7230 kg | |
| . Rear unladen | 3110 kg | |
| Rated load | 1155 kg | |
| - Tensible strain at coupling hook | | |
| . Unladen | 3840 daN | |
| . Rated load | 5500 daN | |
| - Break out force with bucket<br>*(According to standard ISO 8313)* | 4550 daN | |

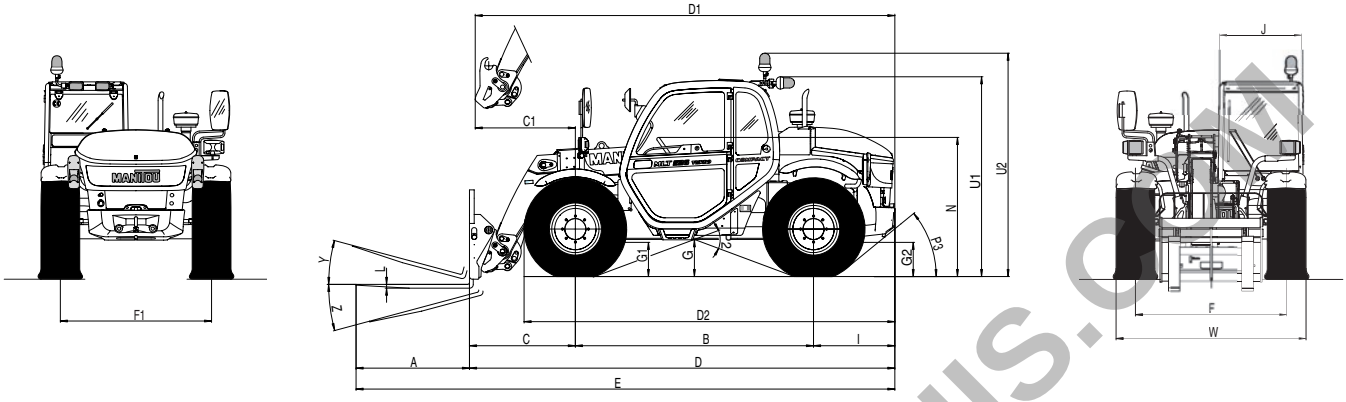
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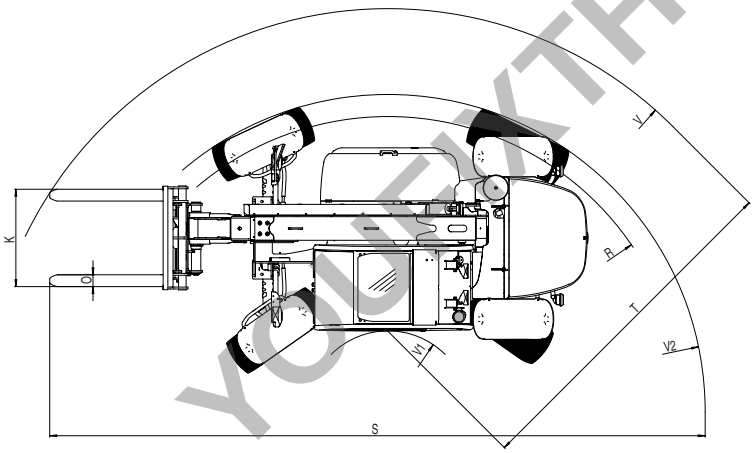


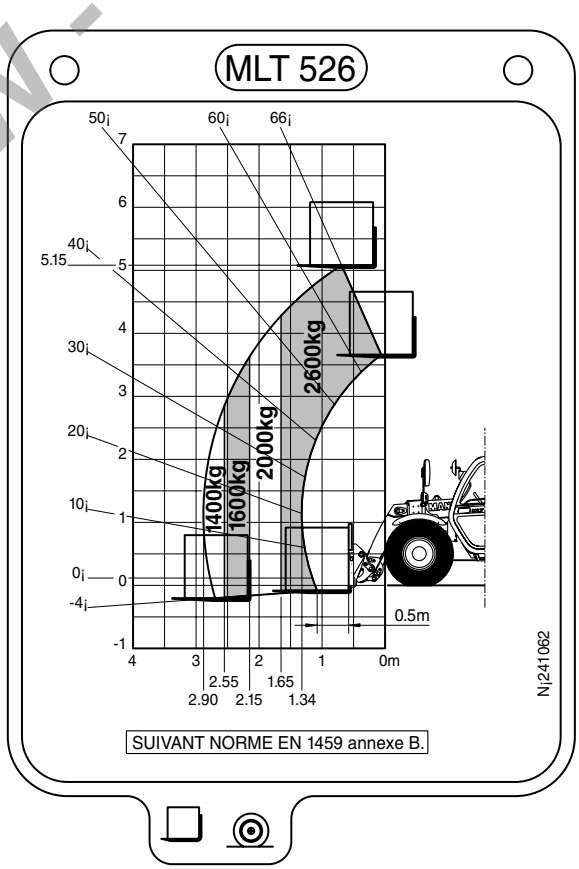
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# DIMENSIONS AND LOAD CHART

## *MLT 526 COMPACT Série A + MONO-ULTRA*




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**To fit**

**(Engine types AJ to AQ and YG to YK)**

*See page 45 for AR and AS engine types*

**Special tools:**

Angle gauge, to tighten cylinder head setscrews, MS.1531

**1** Clean the bottom face of the cylinder head and the top face of the cylinder block. Ensure that there is no debris in the cylinder bores.

**Note:** The engines have two location pins (A3), one at each end of the cylinder head, pressed into the cylinder block to hold the cylinder head and cylinder head gasket in the correct position when the cylinder head is fitted.

***Cautions*:**

- *To prevent damage to the cylinder head gasket, ensure that the location pins are pressed in the cylinder block before the cylinder head is fitted.*
- *The cylinder head gasket must be fitted without jointing compound.*

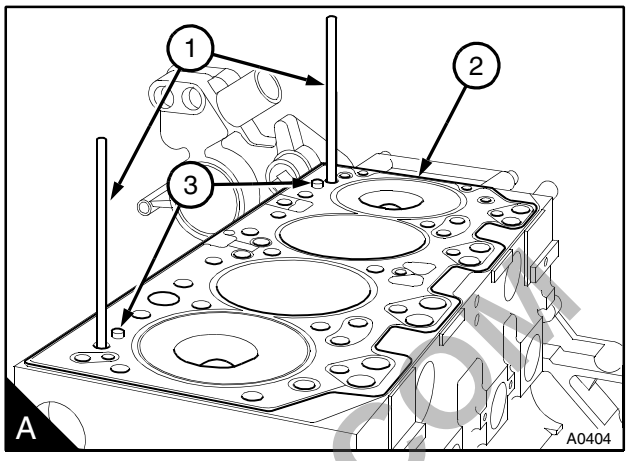
**2** Put the cylinder head gasket in position; It is stamped "FRONT TOP" (A2) for correct assembly.

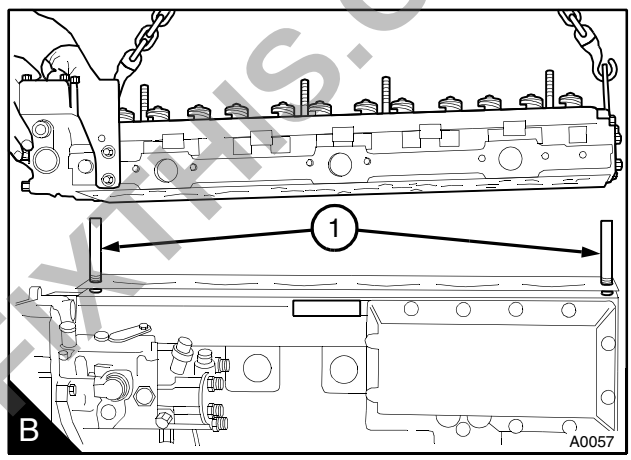
**3** To ensure the cylinder head is fitted into the correct position, fit two suitable 1/2 UNF guide studs (A1) or (B1) in positions 16 and 21 (page 40/B) or positions 25 and 30 (page 40/A). Put the cylinder head in position. Ensure that the two location pins are fully engaged in the cylinder head.

**4** Lightly lubricate the threads of the cylinder head setscrews and the thrust faces of the setscrew heads. Engage some of the setscrews in their correct positions and remove the guide studs. Engage the remainder of the setscrews in their correct positions.

**5** Gradually and evenly tighten the setscrews to 110 Nm (80 lbf ft) 11,1 kgf m in the sequence shown in (page 40/A or B).

**6** Repeat paragraph 5 to ensure that all the setscrews are tightened to the correct torque.




*Continued*

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**To fit**

**1** Renew the "O" ring (A1). Lightly lubricate the components with clean lubricating oil before they are assembled onto the hub.

Check that the four cap screws (B4) which secure the idler hub bracket (B2) to the timing case are tightened to the correct torque 35 Nm (26 lbf ft) 3,5 kgf m.

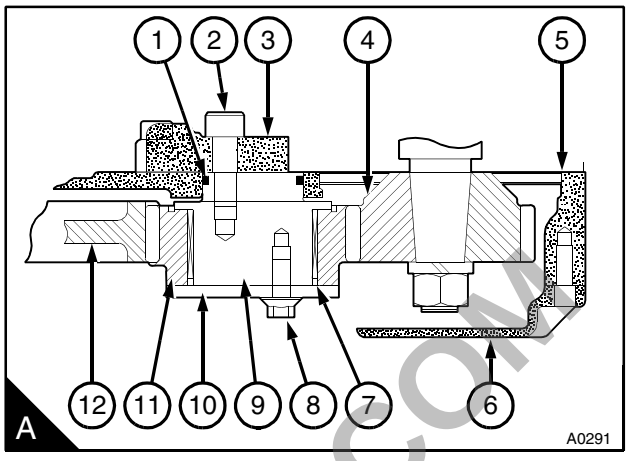
Fit the hub (A9) with the "O" ring towards timing case. Fit the three M10 cap screws (B3) and tighten them to 60 Nm (44 lbf ft) 6 kgf m). Put the needle roller bearing (A7) into position on the hub.

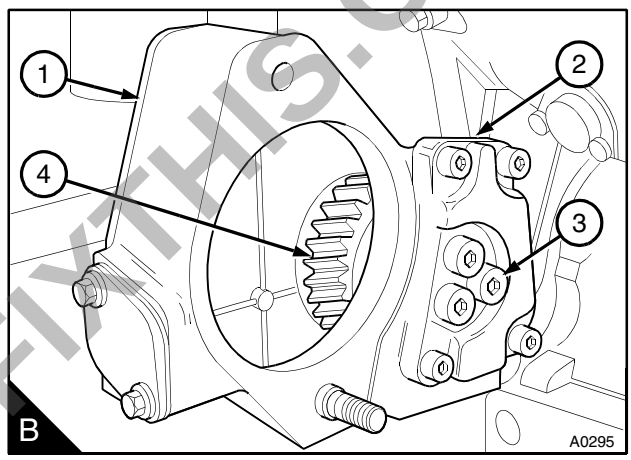
***Caution:*** *Do not rotate the engine crankshaft or the compressor crankshaft if the idler gear (B5) is removed. If either of the crankshafts are moved, the compressor must be timed to the engine.*

**2** Lightly lubricate the bore of the gear (A11) with clean lubricating oil and put the gear in position on the bearing. Put the plate (A10) in position. Fit the setscrews (A8) and tighten them to 22 Nm (16 lbf ft) 2,2 kgf m.

**3** Use the method shown on page 114/A to check the compressor idler gear end-float and on page 114/B for the timing gear backlash. See the data and dimensions at the end of this section for the compressor idler gear end-float and backlash dimensions.

**4** Fit the timing case cover, see operation 15-1.




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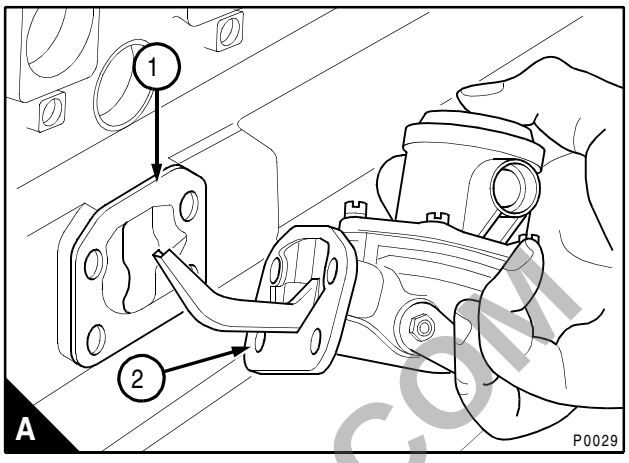
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## Fuel lift pump

To remove and to fit 20-4

**Consumable products:**

POWERPART nutlock




**1** If a heat shield is fitted, remove it. Disconnect the fuel pipes from the fuel lift pump.

**2** Release the setscrews, remove the fuel lift pump (A). The lift pump may be difficult to remove from the engine. If this occurs, the crankshaft must be rotated until the camshaft eccentric, which operates the lift pump, is in a position that will free the rocker lever of the lift pump.

**3** Ensure that the camshaft eccentric is in the minimum lift position before the lift pump is fitted. Clean the joint face of the lift pump (A2) and the cylinder block and fit the lift pump together with a new joint (A1). Apply POWERPART Nutlock to the first three threads of the setscrews and tighten them gradually and evenly to 22 Nm (16 lbf ft) 2,2 kgf m.

**4** Connect the fuel pipes and, if necessary, fit the heat shield.

**5** Release the vent screw on the fuel filter head and operate the priming lever of the fuel lift pump to eliminate any air between the lift pump and the fuel filter. Operate the lift pump until fuel, free of air, comes from the vent screw. Tighten the vent screw.

**6** Operate the engine and check for any fuel or air leakage.

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## Data and dimensions

**Note:** This information is given as a guide for personnel engaged on engine overhauls. The dimensions which are shown are those which are mainly used in the factory. The information applies to all engines, unless an engine type code is shown.

### Electrical equipment

The information which follows is general and can change with specific applications.

**Starter motors**

Make and type . . . . . Lucas S115 or Magneti Marelli M127 or Bosch JF

Voltage:

Lucas S115 . . . . . 12V or 24V

Magneti Marelli M127. . . . . 12V

Bosch JF . . . . . 12V or 24V

Number of teeth on pinion . . . . . 10

Maximum starter cable resistance at 200 °C (680 °F):

- 12V . . . . . 0.0017 ohms

- 24V . . . . . 0.0034 ohms

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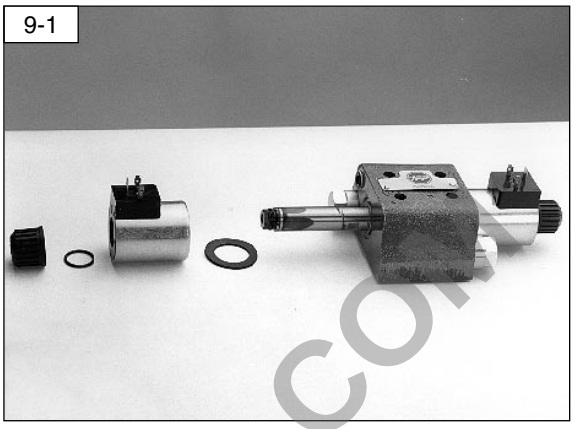


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# 9 - DIS-ASSEMBLY AND RE-ASSEMBLY OF THE VALVE

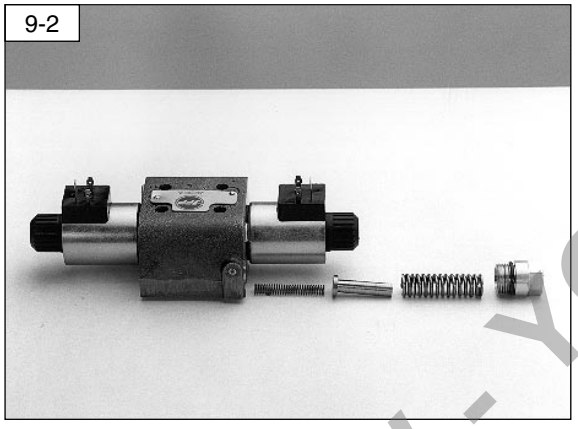
**Nota** : Dis-assembly of the control valve is not generally recommended as, with the exception of the solenoids, individual parts are non serviceable. It may however be dismantled for cleaning and examination.

9-1



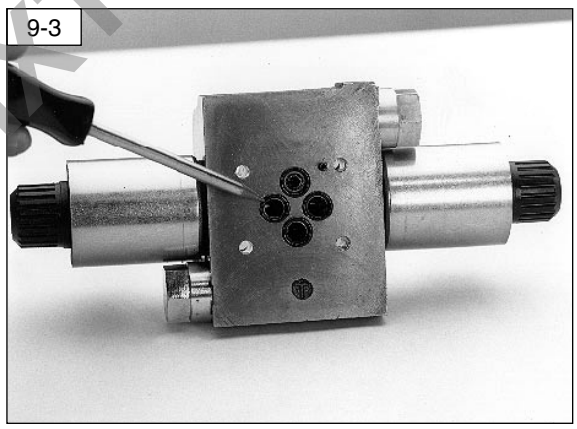
The retaining nut, coil and washers removed.

9-2



The modulation components removed.

9-3

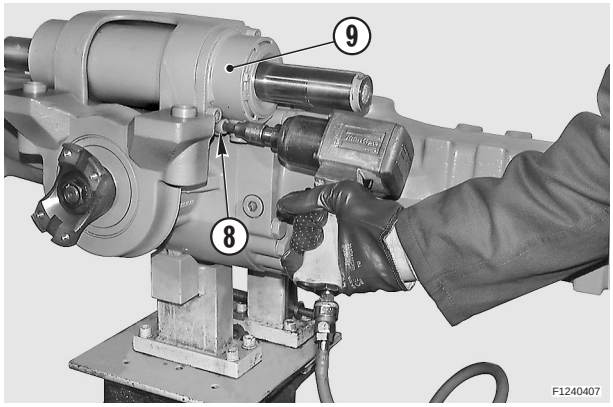


There are 4 "O"rings fitted to the underside of the valve which may be re-newed if necessary.

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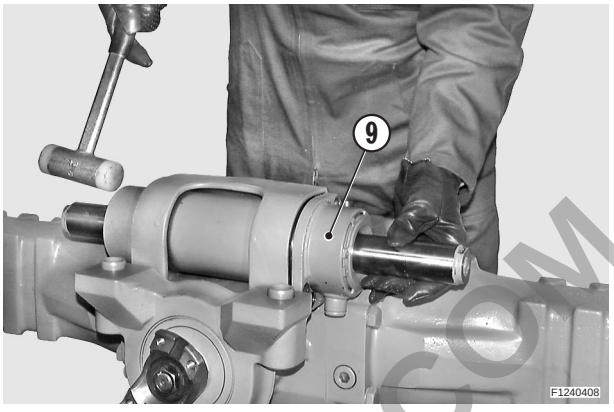


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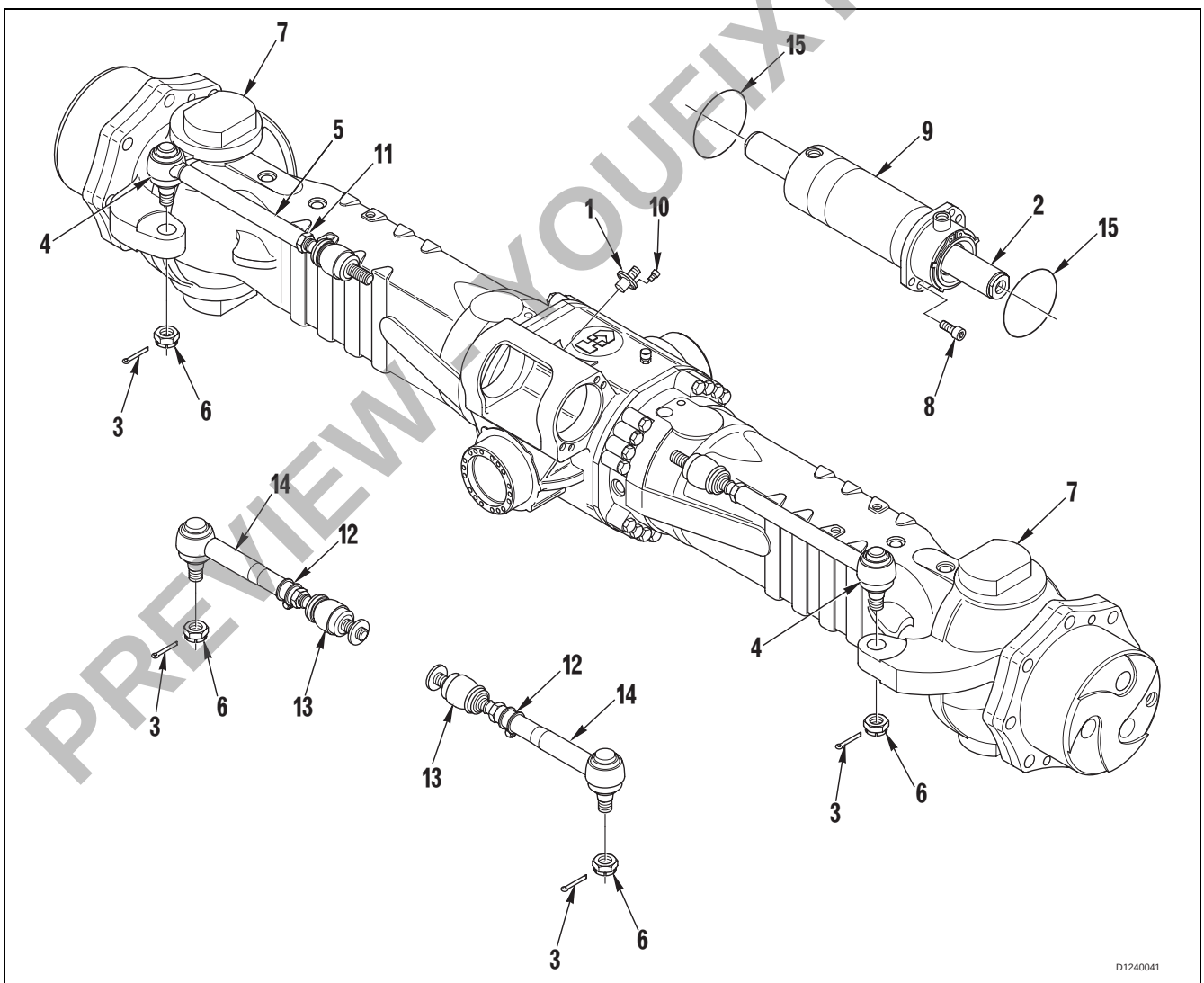

GB a

Remove the securing screws (8) from the steering cylinder (9).




GB b

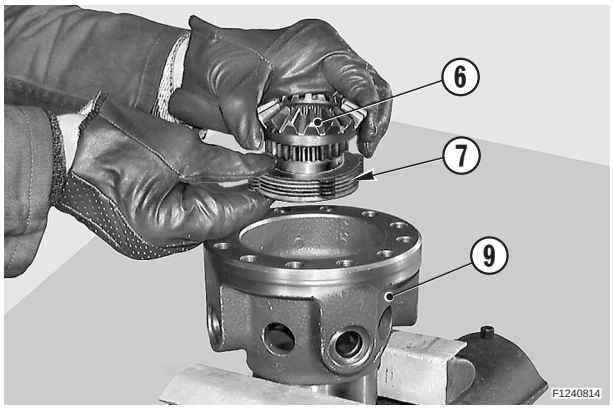
Extract the cylinder (9) using a plastic hammer.
**NOTE**. For cylinder disassembly, refer to «HOW TO DISASSEMBLE THE STEERING CYLINDER».




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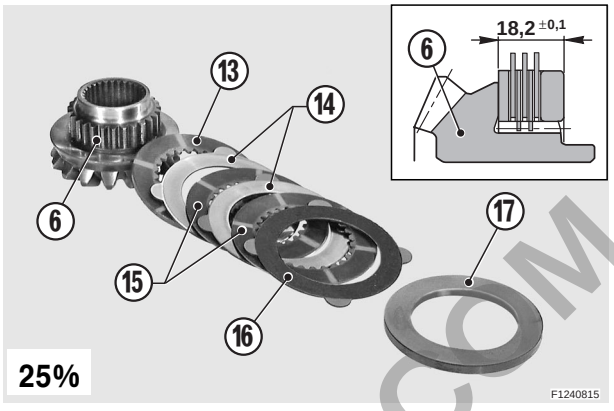


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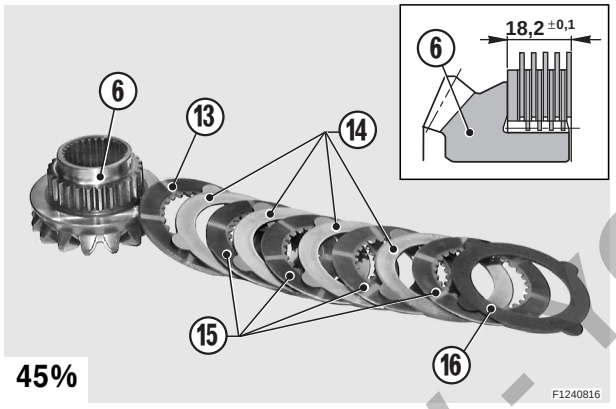

GB — a

Place a friction unit (7) - suitable for the specific type of slipping - and planetary gear (6) into the differential unit (9).
The composition of the unit is illustrated in the points below.



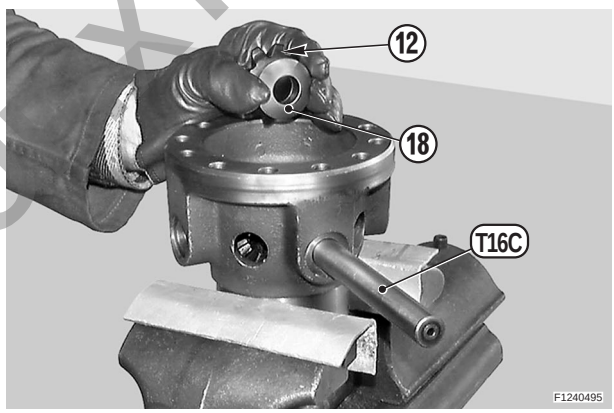

GB — b

**25% FRICTION UNIT COMPOSITION**
Friction ring with increased shim (13), steel rings (14) and friction rings (15) alternated, end ring (16) and distance piece (17).
**CAUTION!** As to rings (13) and (16), the side without notches must face outwards.



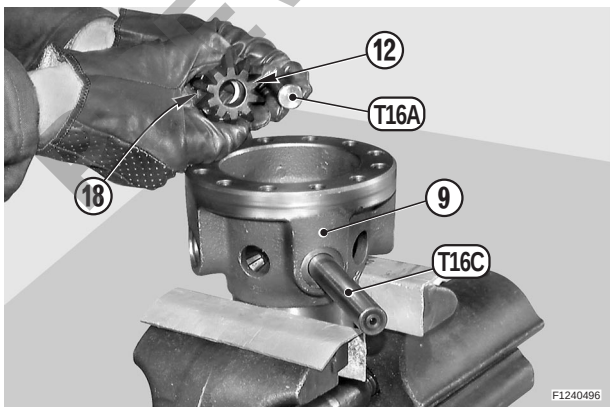

GB — c

**45% FRICTION UNIT COMPOSITION**
Friction ring with increased shim (13), steel rings (14) and friction rings (15) alternated, end ring (16) and distance piece (17).
**CAUTION!** As to rings (13) and (16), the side without notches must face outwards.



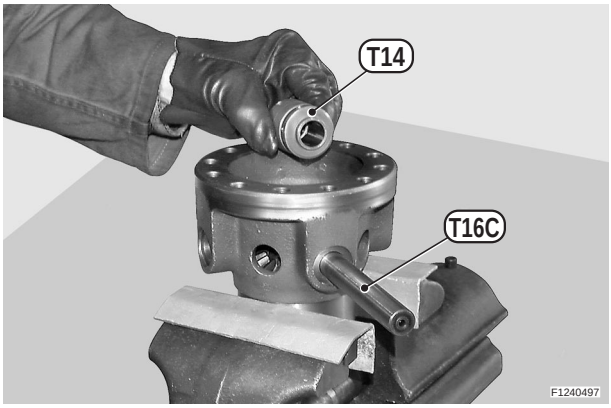

GB — d

Position shim washer (18) and the first planet gear (12).
Hold them in position with bar **T16C**.




GB — e

Using gudgeon **T16A**, position the second planet gear (12) and relative shim washer (18).




GB — f

Insert tool **T14** in-between the two planet gears (12). Align the whole unit, pushing bar **T16C** in as far as it will go, until gudgeon **T16A** is expelled.

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