

## **TECHNICAL DATA**

### **ENGINE TYPE**

### **T4.155 / 4.380 / 4.390 TDI**

#### **CHARACTERISTICS**

Number of cylinders: 4  
 Displacement : 2982 Cm<sup>3</sup>  
 Bore - Stroke : 96 X 103 mm  
 Compression ratio : 19.7 / 1  
 Compression pressure : 3 MPa mini  
 Max. pressure diff . between cyl. : 0.5 MPa  
 Maximum rpm in load : 3600 tr/min  
 Maximum speed without load : 4200 tr/mn  
 Idle speed : 800 tr/mn  
 Max. torque : 558 Nm @ 2000 tr/mn  
 Firing order : 1-3-4-2  
 Rotation : anti-horaire (vu volant)  
 Cylinder n°1 Timing side

#### **INJECTION**

Injectors : Denso  
 Injection pump : Denso rotative  
 Injection pressure : 15.2 MPa  
 Injection timing : 0,42 +/- 0,02 mm

#### **TURBO COMPRESSOR**

Delivery pressure :  
T4.155 / 4.380 TDI: 0.85 ~ 0.95 kPa  
4.390 TDI: 1.05 ~ 1.15 kPa  
 Exhaust gas temperature :  
T4.155 / 4.380 TDI: 580 °C  
4.390 TDI: 580 °C  
 Jeu axial : 0.173 mm

#### **TIGHTENING TORQUE**

Arm head cover : 9 Nm  
 Cylinder head bolts : 39 Nm +90°+90°  
 Flywheel bolts : 145 Nm  
 Connecting rods bolts : 29 Nm + 90°  
 Main bearing bolts : 49 Nm + 90°  
 Camshaft pulley: 98 Nm  
 Cranckshaft pulley: 363 Nm  
 Injectors nozzles/injector holder: 37 Nm  
 Injectors holders/cylinder head: 64 Nm  
 Glow plugs: 13 Nm  
 Injection pumps nut: 64 Nm  
 Nut B+ starter : 4 Nm



#### **LUBRIFICATION**

Oil pressure at idle : 0.03 MPa mini  
 Oil pressure at max. load : 0.25-0.61 MPa  
 Recommended oil : API CD15W40  
 (MOTUL TEKMA MEGA OU  
 MOTUL MARINE 4T)  
 Oil pan Capacity : 6,4 - 7,7 litres  
 inclinaison depending  
 Gearbox : see type  
 Capacity : see type  
 Oil : see type

#### **COOLING CIRCUIT**

Capacity : 15.5litres  
 Thermostat opening température: 71 °C

#### **DIAGRAMS**

JTappet clearance (engine cold):  
 Intake: 0.20~0.30 Exhaust: 0.25~0.35  
 Adjusting plate 0.05 mm  
 Excess high of piston: 0.08~0.33 mm

#### **SEGMENTATION**

Cut value clearance:  
 - Firing piston ring: 0.350-0.570 mm  
 . limit: 1.03 mm -  
 compression Ring : 0.40-0.60 mm  
 limit : 1.10 mm  
 Oil ring : 0.20-0.50 mm  
 limit: 0.87 mm

#### **CYLINDER HEAD**

Surface flatness: < 0.15 mm

#### **SEA WATER PUMP**

Flow: 125 litres/mn @ 3600 tr/mn

#### **ELECTRICITY**

Glow plug resistance: 0.65 Ω  
 Recommended Battery: 12V 100/110Ah  
 Alternator ND 14V 80A  
 Rpm sensor: 650~970 Ω  
 Starter: 12V 2,2 Kw