

05 - ENGINE TUNING DATA

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200Tdi ENGINE

ENGINE

Firing order	1-3-4-2	
Injection timing	1,54 mm lift at T.D.C.	
Timing marks:		
Valve timing	Slot for peg in flywheel and TDC mark on front pulley	
Injection timing	Special tool inserted in D.P.S. pump hub	
Tappet clearances inlet and exhaust	0,20 mm (0.008 in) cold	
Valve timing:	Inlet	Exhaust
- Opens	16° B.T.D.C.	51° B.B.D.C.
- Closes	42° A.B.D.C.	13° A.T.D.C.
- Peak	103° A.T.D.C.	109° B.T.D.C.
- Lift	9,93 mm (0.401 in)	10,26 mm (0.404 in)
Maximum governed speeds:		
- Full load (speed cut-off starts)	4000 rev/min	
- No load (flight speed)	4600 + 40 - 120 rev/min	
- Idle speed	720 ± 20 rev/min	
- Die-down time	4 seconds	

INJECTION PUMP

Make/type	Bosch rotary VE 4/11F type with boost control and two speed mechanical governor with auto advance and solenoid electrical shut-off. Tamper proof sealing on flight speed and fuel adjustment screws	
Direction of rotation	Clockwise, viewed from drive end	
Advance box (two stage)	7° advance with 3° start retard	
Back leakage rate 150-100 Atm:		
- New nozzle	7 seconds	
- Original nozzle	5 seconds	
- Despatch nozzle	8520A290A	

INJECTORS

Make/type	Bosch KBEL 98 P52 200 bar
Nozzle size	BDNO/SPC 6209
Opening pressure (working pressure)	Initial pressure 200 atmospheres
Secondary 280 atmospheres	
Injector pipe type	High pressure multi-bundy
Injector pipe size	1,94 - 2,06 mm

HEATER PLUGS

Make/type	Probe type, Beru 11 volts
Time to reach operating temperature of 850°C	8 seconds

TURBOCHARGER

Make/type	Garrett T25
Maximum boost pressure	0.78 bar (11.3 P.S.I.G.) measured at wastegate actuator 'T' piece
Fuel specification	Diesel BS2869 (certain levels down to 45 with adjustment)