

Technical data on the vehicle

Make Chrysler Model Voyager 2,5 TDI Year 1998-2000 Engine ENC Variant	Date: 06-01-2013 Owner _____
	Registration No. _____ VIN _____ 1. Reg. Date _____

Technical item	Data
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Engine

Engine ID code	ENC	
Number of cylinders	R4	i
Number of valves	8, OHV	
Capacity/ (bore/ stroke)	2499 cm ³ (92,0/ 94,0)	
Compression ratio	21,0: 1	
Max. output kW (din hp)/ rpm	85 (116)/ 4000	
Max. torque NM/ rpm	280/ 1800	
Engine code location	Engine block front side	
Vehicle Identification Number location	Windscreen left side, right shock absorber tower	
Production year code in VIN	10th digit, model year, X = 1999	i
Valve clearance, inlet (cold/ hot)	(Hydraulic)	
Valve clearance, exhaust (cold/ hot)	(Hydraulic)	
Valve angle/ seat angle	Intake 56°- 56° 20' Exhaust 45° 25'- 45° 35'/	i
Piston height over block, mm	0.53 - 0.62 = head gasket = 1.42 mm	i
Valve height in cylinder head, mm	Intake 1.08 - 1.34 Exhaust 1.99 - 1.25	
Oil pressure/ rpm, bar	3,5 - 5,0/ 4000	i
Radiator cap, bar/ thermostat °C	/ 80 ± 2° C	
Clutch freeplay, mm	Self-adjusting	
Repair time: Clutch renewal	2 hours and 10 minutes	
Timing chain:	Chain 100,000 km	i
Noise measurement, dB(A) at rpm	83/ 3000	

Engine management

Diagnostic connector	Under dashboard left side	
Pump/ pump type	Bosch VP 36 (Rotor pump electronic)	
Injector/ injector type	Bosch	
Crank position °/ engine piston, mm	0° ØD/	
Pump position, mm	0.60	i
Adjustment method	Dial micrometer	i
Feed pump pressure, bar	4,5	
Injector opening pressure, new, bar	150 - 158	i
Injector opening pressure, used, bar	150 - 158	
Injection order	1 - 3 - 4 - 2 (Cylinder 1 at timing gear)	i
Injection timing mark location	Belt pulley	

Electrical system

Battery	12 V - 90 Ah	
Starter motor current (cranking), A	160 A/ 11 V/ min. 4200 rpm	
Voltage relay, Volt at/ amp.	13,5 - 15,0 V/	
Terminal definitions DIN 72 552		
Alternator max, A	120	
Glow plug - power consumption	25	
Glow plug voltage/ drop resistor		i

Wheel alignment

Load	Unloaded (Vehicle height)	
Toe-in, °	0° 06' ± 12'	
Camber°	0° 09' ± 24'	i
Caster°	1° 24' ± 1°	i
Caster, max. difference on R and L side	1°	

Technical item	Data
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Wheel alignment

Rear camber°	0° ± 15'	
Rear toe-in °	0° ± 24'	i
Tyre size	215/ 65 R 15	
Tyre pressure, front/ rear, bar	2.5/ 2.5	
Free play in suspension parts	Factory data	i
Wheel offset, mm	6½J x 15 = 40 mm	

Tightening torques

Tightening, NM	Torque standards	
Cylinder head bolts, stage 1, Nm	Bolt A - L = 30 Nm + 70° + 70°	i
Cylinder head bolts, stage 2, Nm	Bolt M1 = 30 Nm + 85°	
Cylinder head bolts, stage 3, Nm	Bolt M2 = 30 Nm + 85°	
Cylinder head bolts, stage 4, Nm	20 minutes warm up + cool down	
Cylinder head bolts, stage 5, Nm	Bolt A - L = loosen + tighten 30 Nm +	i
Repair time: Cylinder head gasket	4 hours and 40 minutes	
Main bearings, Nm	44	
Connection rod bearings, Nm	30 Nm + 60° oiled	
Flywheel, Nm		i
Crankshaft pulley/ vibration damp. Nm	/ 196	i
Camshaft pulley/ bearings, Nm	20 Nm + 60°/ (Rocker arm assembly 30 Nm)	
Pump pulley/ idle wheel, Nm	88/ 47 (Left-handed thread)	
Nozzle retainer/ Nozzle in cylinder head	/ 70	
Glow plug	23 (Turbo charger 32)	
Wheel nuts/ bolts, Nm	135	
Wheel hub, front/ rear, Nm	244/ (4 flange bolts 129 Nm)	
Repair time: Renew one rear wheel bearing	18 minutes	
Repair time: Renew one front wheel bearing	30 minutes	

Brakes

Front, min. thickness (new)	22,5 mm (24,0 mm)	
Rear, min. thickness (new)	11,25/ 251,5 mm (12,5/ 250,0 mm)	i
Repair time: Front brake disc renewal (2 pc.)	40 minutes	
Repair time: Rear brake drum renewal (2 pc.)	36 minutes	

Capacities

Engine oil/ - incl. filter, litre	/ 6,5 (Api. SG/ CD)	
Manual transmission, litre	1,9 - 2,2 (Api. SG - SG/ CD SAE 5W30)	i
Power steering, litre	0,75	
Cooling system, litre	9,5	
A/C fluid, type/ gram	R134a/ 960 (With A/C in rear 1360)	
A/C oil, type/ cm ³	Dens Oil 8 PAG/ 150 (With A/C in rear 220)	

Environmental parametres

Idle speed, rpm	900 ± 25
Max rpm (exhaust test)	4600 - 4800

Remarks

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Order No.: _____

Mechanic _____