

Bravo 1.4 12v

Technical Specification

Engine

Main features

No. of cylinders	4 in line
Position	front transverse
Cycle-stroke	Otto-4
Bore x stroke	82 x 64.87 mm
Displacement	1370 cc
Compression ratio	9.85 : 1
Max. power output - EC at rpm	80 bhp (59 kW) 6000
Peak torque - EC at rpm	11.4 kgm (112 Nm) 2750
Fuel required	unleaded petrol min.95 octane (RON)

Structure

Model	182A3.000
Cylinder spacing	90 mm
Main bearings	5
Cylinder block	cast iron
Cylinder head	light alloy

Timing gear

Number of valves and position	in line, with 3 valves per cylinder
Timing	SOHC with rocker arms and hydraulic tappets
Timing control	toothed belt
Valve gear timing	with tappet play 0.45 mm
- Inlet	{ opens 3° BTDC closes 30° ABDC
- Exhaust	{ opens 34° BBDC closes 2° ATDC

Ignition

Fire order	electronic static advance, combined with injection
Idling advance	1-3-4-2
Spark plugs	7° NGK BKR 6EKC Golden Lodge 2HLDR

Fuel feed

Type	SPI Bosch Monomotronic electronic
Petrol pump	electric
Air filter	dry-type, with paper cartridge and thermostatic adjustment
Injection pressure	1 bar

Emission control

three-way catalytic converter and lambda probe

Lubrication

Type	forced-feed with geared pump and pressure relief valve
Oil filter	cartridge type, total flow

Cooling

Type	liquid cooling, with centrifugal pump, radiator and expansion tank
Control	with "controlled by-pass" thermostat
Fan	electric with engagement governed by thermostat on radiator

Transmission

Drive	to front wheels
Clutch	dry, single plate, with disc engagement spring, mechanical control and contact bearing
Diameter of driven plate	190 mm
Clutch lining dimensions (OD x ID)	190 x 134 mm
Gearbox	5 speeds
Transmission ratios	1st 3.909 : 1
	2nd 2.158 : 1
	3rd 1.480 : 1
	4th 1.121 : 1
	5th 0.902 : 1
	Reverse 3.818 : 1
Differential assembly	in gearbox
Final drive	cylindrical, helical
	3.867 : 1 (15/58)

Chassis

Braking system	front discs with floating calipers; rear drums, with self-centring shoes and automatic wear adjustment. Pedal control, with vacuum servo, split-line diagonally linked hydraulic circuits, and brake regulator on rear brake hydraulic circuit. 4-channel, 4-sensor ABS on request
Front discs	
– diameter	257 mm
– total lining area	156.8 cm ²
Rear drums	
– diameter	180 mm (203 mm with ABS)
– linings: width x length	30 x 146 (38 x 165 with ABS)
– total lining area	176 cm ² (248 cm ² with ABS)
Parking brake	acting on rear wheels with manual control and mechanical transmission
Front suspension	independent wheel MacPherson struts with transverse lower wishbones anchored to an auxiliary cross member, offset coil springs and anti-roll bar
Flexibility at the wheel	0.54 mm/kg
Wheel wobble	70 mm
	85 mm
Dampers	hydraulic, telescoping, dual action
Front wheel geometry unladen:	
– camber	-7' ± 30'
– caster	3°30' ± 30' (2°50' ± 30' with power steering)
– toe-in	+1 to -1 mm
Rear suspension	independent wheel, with trailing arms anchored to an auxiliary cross member, coil springs and anti-roll bar
Flexibility at the wheel	0.56 mm/kg
Wheel wobble	80 mm
	110 mm
Dampers	gas with vulcanised bushes
Rear wheel geometry unladen:	
– camber	-1° ± 30'
– toe-in	-2,5 to +1,5 mm
Steering	rack and pinion with power steering (SX)
Steering column	collapsible, energy absorbing with angular adjustment
Turning circle	10.4 m
Steering wheel turns (lock to lock)	3.5 (3 with power steering)

Wheels

Rims (in pressed steel)
Tyres

5 1/2 J x 14"-32 (5 1/2 J x 14"-37 with power steering)
165/65 R 14 82T (175/65 R 14 82T with power steering)

Inflation pressure

– front

2.2 bar

2.3* bar

– rear

2.1 bar

2.5* bar

(*) at constant high speed fully laden

Mini spare wheel

Rim

4 B x 14"-43

Tyre

105/70 R 14 84M

Inflation pressure

4.2 bar

Max. speed permissible

80 km/h

Electrical equipment

Voltage

12 V

Alternator: DC supply

65 A (85 A with climate control)

Starter motor

0.9 kW

Battery: capacity

40 Ah

Weights

Kerb weight (DIN) (*)

1010 kg

Distribution { front
rear

60.4%

39.6%

Weight fully laden

Distribution { front
rear
total

850 kg

850 kg

1510 kg

Max. payload (including driver)

500 kg

Max. load towable

1000 kg

No. of seats

5

(*) Car ready for the road (full fuel tank, liquids, spare wheel and accessories)

Performance

Top speed

170 km/h

Speed with engine at 1,000 rpm

24.4 km/h (in 4th)

Weight/power ratio { kg/bhp-EC
kg/kW-EC

12.6

17.1

Max. gradient negotiable (fully laden)

37%

Acceleration (2 adults + 20 kg) (secs.)

– 0 to 100 km/h

13.8

– 0 to 1000 m

35

Pick-up from 40 km/h (2 adults + 20 kg) (secs.)

– over 1000 m

37.1 (in 4th)

Conventional fuel consumption (l/100 km)

– at 90 km/h

5.2

– at 120 km/h

7.0

– urban cycle

9.0

– ECE average

7.1

Supplies

Fuel tank

dm³ (litres)

kg

50

–

including a reserve of:

7

–

Radiator, engine, expansion tank

and heating system fluid

6.0 (5.6 with clim.contr.)

–

Engine sump and filter oil

4.1

3.7

Total engine sump, filter and circuit oil

4.3

3.8

Gearbox and differential oil

–

1.5

Steering and power steering oil

–

0.08 (0.8 with power steering)

Braking circuit oil

0.40 (0.45 with ABS)

–

Screenwasher bottle (front and rear)

2.5 to 5 (6.8 with headlight washers)

* unladen



The graph displays the engine's performance characteristics. The x-axis represents engine speed in r.p.m., ranging from 1000 to 7000. The left y-axis shows power in bhp (15 to 95) and kW (5 to 75). The right y-axis shows torque in N·m (75 to 115) and mkg (9.5 to 11.5). The power curve (solid line) starts at approximately 15 bhp at 1500 r.p.m., rises to a peak of about 80 bhp at 6000 r.p.m., and then slightly declines. The torque curve (dashed line) starts at approximately 25 N·m at 1500 r.p.m., peaks at about 38 N·m around 2500 r.p.m., and then gradually decreases to about 28 N·m at 6500 r.p.m.

r.p.m.	Power (bhp)	Power (kW)	Torque (N·m)	Torque (mkg)
1500	15	11	25	2.7
2000	25	18	35	3.7
2500	35	26	38	4.0
3000	45	33	37	3.9
4000	60	44	35	3.7
5000	75	55	34	3.6
6000	80	59	30	3.2
6500	78	57	28	3.0