

DEFENDER



2.8i SUPPLEMENTARY HAND BOOK

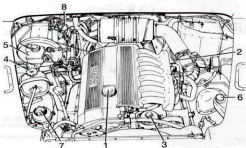
LAND-
ROVER

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ENGINE COMPARTMENT LAYOUT

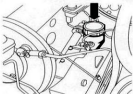
1. Engine oil filler cap
2. Engine oil dipstick
3. Engine oil filter housing
4. Coolant level equalising tank
5. Brake fluid reservoir
6. Windscreen washer fluid reservoir
7. Oil reservoir for steering hydraulics
8. Clutch fluid reservoir

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CHECKING ENGINE OIL

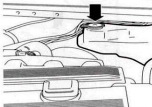
Like fuel consumption, engine oil consumption depends on driving style and operating conditions. You should therefore check oil level regularly, every 1 000 km or more often if loads are severe. The oil level should be checked when the engine is cold (before it is started), while the vehicle is standing on a level surface. Examine the oil level; it must be between the two marks on the dipstick.



CLUTCH FLUID RESERVOIR

Fill to the upper (max) mark (the level can be checked from the outside). Only use brake fluid approved by the manufacturer.

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WINDSCREEN WASHER RESERVOIR



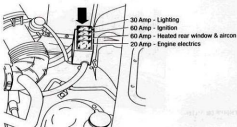
ENGINE OIL FILTER
Tighten torque 25 Nm.

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INERTIA SWITCH

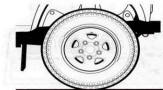
The switch will be triggered by excessive body roll in order to switch off the fuel pump (fuel supply) to prevent fire hazard in the event of a roll over. To reset, press the switch on the rubber cap.



MAIN FUSES

If an electrical consumer fails, switch it off and check its fuse. Only replace a blown fuse with the same amperes rating.

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TYRE SIZE AND PRESSURES

90 models
Normal - all load conditions
235/85 R16

Front	Rear
1,9 bar	2,4 bar
2,0 kgf/cm ²	2,5 kgf/cm ²
28 lb/in ²	35 lb/in ²

110 models
Normal - all load conditions
235/85 R16

Front	Rear
1,9 bar	3,3 bar
2,0 kgf/cm ²	3,4 kgf/cm ²
28 lb/in ²	48 lb/in ²

265/85 R16 Goodrich (Optional)



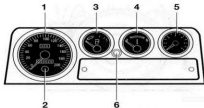
FUEL FILLER

Unlock - Turn key $\frac{1}{4}$ turn clockwise, then back and remove key.

Warning: After hissing stops, remove cap.

Lock - Turn cap clockwise three times

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1. SPEEDOMETER

The speedometer (1) incorporates a total and trip distance indicators (2).

2. SPEEDOMETER TRIP INDICATOR

Reset the trip indicator by pressing the black knob (2).

3. FUEL LEVEL INDICATOR

The fuel indicator (3) shows the appropriate contents of the fuel tank.

4. COOLANT TEMPERATURE INDICATOR

Under normal running conditions the temperature indicator needle (4) should register in the white band. If the needle moves to the red band during normal running, the vehicle should be stopped and the cause investigated. The design of the fuel level and water temperature indicators ensures that the needle does not fluctuate, but there is a time delay of a few seconds before they register after the ignition or electrical services are switched on.

5. REVOLUTION COUNTER

Never allow the engine to run into the red zone of the revolution counter. To protect the engine, the fuel supply is interrupted in this zone, and will cause the engine to run irregularly.

6. ALARM PILOT LIGHT

The alarm pilot light will show when the alarm is activated.

2.8i General Data

Lubricants and fluids

Recommendations for all climates and conditions.

COMPONENTS Specification	SAE	AMBIENT TEMPERATURE ° C						
		-30	-20	-10	0	20	30	40
Petrol engine sump Oils must meet RES.22.OL.G4 or CCMC G4 or API service levels SG or SH	5W/40,5W/50 10W/30 10W/40 10W/40, 10W/50 20W/50							
Main gearbox TEXACO	MTF94							
Transfer gearbox ML-L-2105 or ML-L-2105B, C & D	90W EP 80W EP							
Final drive units, swivel pin housings ML-L-2105 or ML-L-2105B, C & D	90W EP 80W EP							
Power steering ATF M2C 33 (F or G) or L ATF Dexron II D								

2.8i General Data

Lubrication nipples (hubs, ball joints, prop. shafts, etc.)
NLGI-2 Multipurpose Lithium based grease

Brake and clutch reservoirs

Universal brake fluids or any fluid having a minimum boiling point of 260° C (500° F) and complying with FMVSS 116 DOT4

Windscreen washers

Screen washer fluid

Engine cooling system

Ethylene glycol based anti-freeze (containing no methanol) with non-phosphate corrosion inhibitors suitable for use in aluminium engines. Use one part anti-freeze to one part water for protection down to -33° F (-36° C)

Air conditioning compressor

Nippondenso ND-8

Door locks (anti-burst) and inertia reels

DO NOT LUBRICATE. These components are lubricated for life during manufacture

2.8i General Data

The following capacities are approximate and provide as a guide only. All oil levels must be set using the dipstick or level plugs as applicable.

Fuel tank - usable capacity

Rear (90 2.8i)	59.1 Litre
Rear (110 2.8i)	80 Litre

Engine sump

2.8i	5.85 Litre
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Additional capacity after fitting new oil filter

2.8i	0.65 Litre
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Gearbox

FC980	2.4 Litre (4.70 pt)
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Transfer box

Front differential

Rear differential

Cooling system

6-cylinder models	7.5 Litre (13.20 pt)
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2.8i General Data

Bore.....	84
Stroke.....	84
Number of cylinders.....	6
Cylinder capacity.....	2793
Compression ratio.....	10.2:1
Maximum power output.....	143 kW (193 BHP) @ 5,300 RPM
Maximum torque.....	280 Nm @ 3950 RPM
Mixture control.....	Digital Motor Electronics

2.8i General Data

Steering (lock to lock)

Manual	4.3 turns
Power assisted	3.38 turns
Comber angle	Zero
Caster Angle	3°
Swivel pin inclination	7°
Front wheel toe-out	0 to 2 mm

Turning circle between kerbs :

90 models :	
Tyres 235/85 16	13.24
110 models :	
Tyres 235/85 16	14.36

Electrical System

Type	Negative earth
Voltage	12
Battery	12v 85 amp / h
Charging circuit	Alternator
Ignition system	
petrol models	Siemens electronic

Replacement Bulbs

Headlights	60/55 W Halogen bulb
Front side lights	12 V 5 W
Side repeater lights	12 V 5 W
Stop lights	12 V 21 W
Tail lights	12 V 5 W
Direction indicator lights	12 V 21 W
Number plate lights	12 V 4 W
Reversing Lights	12 V 21 W
Rear fog guard lights	12 V 21 W
Interior lights	12 V 10 W

2.8i General Data

Dimensions

90 models

Overall length: Station Wagon	3883 mm (152.9 in)
Overall width	1790 mm (70.50 in)
Overall height: Station Wagon	1963 mm (77.3 in)
Wheelbase	2360 mm (92.9 in)
Track front/rear	1486 mm (58.5 in)
Width between wheel bases	825 mm (32.4 in)

110 models

Overall length: Pick-up	4438 mm (175 in)
High capacity pick-up	4631 mm (182 in)
Hard top/Station wagon & County	4589 mm (181 in)
Overall width	1790 mm (70.5 in)
Overall height	2035 mm (80.1 in)
Wheelbase	2794 mm (110 in)
Track front/rear	1486 mm (58.5 in)

2.8i General Data

Off-road performance

90 models

Max. gradient (EEC kerb weight)	45°
Approach angle :	
Soft top & Pick-up (EEC kerb weight)	48°
Hard top & Station wagon (EEC kerb weight)	51.5°
Departure angle :	
Soft top & Pick-up (EEC kerb weight)	49°
Hard top & Station wagon (EEC kerb weight)	53°
Wading depth	500 mm (20 in)
Min. ground clearance (unladen) :	
Soft top & Pick-up	191 mm (7.5 in)
Hard top & Station wagon	229 mm (9.0 in)

110 models

Max. gradient (EEC kerb weight)	45°
Approach angle (EEC kerb weight)	50°
Departure angle (EEC kerb weight)	
110 models	38°
Wading depth	500 mm (20 in)
Min. ground clearance	215 mm (8.5 in)

NOTE : Departure angles do not account for the addition of a tow hitch.

2.8i General Data

Towing weights

Defender 2.8i axle & towing weights

		Vehicle weights		Towing	
	Front axle	Rear axle	GVW	Unbraked	Braked
90	1200	1500	2550	750	3250
110	1200	1650	3050	750	2750

Fuel Consumption

MPG (L/100 km)

	Urban	Extra Urban	Combined
90	13.6 (20.7)	23.2 (12.18)	18.4 (15.3)
110	13.3 (21.3)	21.8 (12.9)	17.6 (16.0)

2.8i General Data

Tyre size and pressures

90 models :

Normal - all load conditions
235/85 radial

Front

1.9 bar
2.0 kg/cm²
28 lbf/in²

Rear

2.4 bar
2.5 kg/cm²
35 lbf/in²

110 models :

Normal - all load conditions
235/85 R16

Front

1.9 bar
2.0 kg/cm²
28 lbf/in²

Rear

3.3 bar
3.4 kg/cm²
48 lbf/in²

WARNING

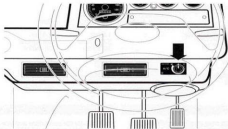
Tyre pressures must be checked with the tyres cold, as the pressure is about 0.21 bar (3 lbf/in²) 0.2 kg/cm² higher at running temperature. If the vehicle has been parked in the sun or high ambient temperatures, DO NOT reduce the tyre pressures, move the vehicle into the shade and wait for the tyres to cool before checking the pressures.

WARNING

ALWAYS use the same make and type of radial-ply tyres, front and rear. DO NOT use cross-ply tyres, or interchange tyres from front to rear.

- *if the wheel is marked 'TUBED', an inner tube Must be fitted, even with a tubeless tyre.*
- *if the wheel is marked 'TUBELESS', an inner tube must NOT be fitted.*

2.8i General Data



Air-conditioner



Air direction vents



Left Right



Up Down



(Inner) 3 Position Fan Speed

(Outer) Rotary Control for Temperature



Note: The vehicle is fitted with an electronic auxiliary fan that will only operate when the A/C pressure is high or low.



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