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#### LAND ROVER 90/110/127 ALL VARIANTS

(excluding APV, SAS, and CRASH RESCUE AMBULANCE)

#### MAINTENANCE SCHEDULE

(JOINT SERVICE)

#### BY COMMAND OF THE DEFENCE COUNCIL

Sponsor: DGEME(A) Tpt Eng (RAF)

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#### **PREFACE**

1 Amendments are identified by marginal side lining.

2 Comments on this publication are to be forwarded in accordance with AESP 0100-P-011-013 to Vehicles and Weapons Branch REME, Chobham Lane, Chertsey, Surrey KT16 OEE.

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#### ARMY EQUIPMENT SUPPORT PUBLICATION

#### MAINTENANCE SCHEDULE

Introduction

1 This Maintenance Schedule is the authority for carrying out all scheduled maintenance tasks on the subject equipment and takes precedence over any other conflicting publication.

2 The Unit Commander/MT Officer is responsible for ensuring that the operations detailed in this Maintenance Schedule are properly carried out. He may order any operation to be carried out more frequently than is specified if the conditions under which the equipment operates render it necessary.

3 Scheduled Maintenance is to be recorded in the appropriate equipment document in accordance with JSP 341, Chap 16, and AP 3260, Book 1, Chap 3 (RAF only).

4 Serials numbers left blank in the tables may be taken up by amendment action at a later date.

## Definitions

5 As far as this document is concerned, the following definitions apply:

5.1 <u>Examine</u>. Carry out a survey of the condition of an item. for example, the condition of an item can be impaired by the following: Note ...

The term Examine does not call for dismantling <u>unless</u> specifically instructed to do so in the relevant Operation.

5.1.1 Insecurity of attachment.

5.1.2 Cracks or fractures.

5.1.3 Corrosion, contamination or deterioration.

5.1.4 Distortion.

5.1.5 Loose or missing fasteners.

5.1.6 Chafing, fraying, scoring or wear.

5.1.7 Faulty or broken locking devices.

5.1.8 Loose clips or packing, obstruction of, or leakage from pipelines.

5.1.9 Discolouration due to overheating or leakage of fluids.

5.1.10 Damage due to external sources.

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5.2 <u>Check</u>. Make a comparison of measurement of time, pressure, temperature, resistance, dimension or other quantity, with a known figure.

5.3 <u>Operate</u>. As far as possible, ascertain that a component or system functions correctly without the use of test equipment or reference to measurement.

5.4 <u>Replenish</u>. Refill a container to a pre-determined level, pressure or quantity. This includes any necessary cleaning of orifices, examination of caps, covers, gaskets and washers, renewal of locking devices and clearing of vents.

5.5 <u>Replace</u>. Remove an item and then fit a new or reconditioned item.

#### Warnings, Cautions and Maintenance Notes

6 Before any maintenance task is carried out, the WARNINGS, CAUTIONS and Maintenance Notes preceding the appropriate Table must be read and understood.

#### Maintenance Intervals and Areas of Responsibility

7 <u>Table 4 - Action on Receipt</u>. The maintenance detailed in Table 4 covers the action taken when the equipment arrives on a unit. These operations will normally be of a once-only nature, eg the recording of lifting equipment with the appropriate test authority, actions that are to be undertaken before the equipment is put into service or actions that are only required during the running in period. The tasks are to be carried out by the Tradesmen annotated against the operation.

8 <u>Table 5 - Out of Phase Maintenance</u>. The maintenance detailed in Table 5 covers tasks that do not fall into line with the manufacturers standard time/usage intervals. The tasks are to be carried out by REME or RAF MT/General Electrical Tradesmen unless annotated otherwise.

#### 9 <u>Table 6 - Driver/Operator Maintenance</u>

9.1 The maintenance detailed in Table 6, Columns A, B and C is to be carried out by the driver/operator or their civilian equivalent at the following intervals:

- 9.1.1 A Daily before use (only on days used).
- 9.1.2 B Daily after use (after the equipment has been operated).
- 9.1.3 C Weekly whether the equipment is used or not.

9.2 The maintenance detailed in Table 6, Column D is to be carried out by an Army Driver Class 1 or RAF NCO Driver or their civilian equivalent at least every 3 months.

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#### 10 <u>Table 7 - Time/Usage Maintenance</u>

10.1 The maintenance detailed in Table 7, Columns 1st, A, B and C is to be carried out at the following intervals:

10.1.1 1st (RAF Initial) - After the first 1,000 miles (1,600 km).

10.1.2 A (RAF Lubrication) - Every 6,000 miles (10,000 km) or 6 months whichever occurs first.

10.1.3 B (RAF Minor) - Every 12,000 miles (20,000 km) or 12 months whichever occurs first.

10.1.4 C (RAF Major) - Every 24,000 miles (40,000 km) or 24 months which ever occurs first. (Not taken up)

10.1.5 Column D contains the Area Maintenance indicator which may be used, at the discretion of the Unit Commander or MT Officer, to carry out Area Maintenance at the appropriate time/usage intervals.

Notes ...

- (1) Vehicles that are on Area maintenance and do less than 6000 miles annually are to have a Lubrication Maintenance at 6 monthly intervals in accordance with AP 3260, Chapter 3.
- (2) The number in the Area Maintenance column indicates which Area is to be carried out.
- (3) The Area Maintenance detailed is to be carried out in conjunction

with its associated prime mover/specialist equipment scheduled maintenance if applicable.

10.2 The maintenance detailed in Table 7 will be carried out by:

10.2.1 REME Vehicle Mechanic (VM) where annotated (VM) in the table.

10.2.2 Unit appointed personnel supervised by Army Driver Class 1. Where it is specifically indicated (VM) the task should be undertaken by a REME Tradesman.

10.2.3 RAF MT Mechanic/Technician or General Mechanic/Technician Electrical as appropriate to the operation.

10.2.4 The civilian equivalent of the above tradesmen.

11 <u>Table 8 - Out of Use Maintenance</u>

11.1 For RAF equipment, Out of Use vehicles or vehicles in Second Echelon are to be maintained in accordance with AP 3260, Book 1, Chap 1, Para 9 and Chap 2, Para 27. Any specific operation appertaining to this equipment will be listed in Table 8.

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11.2 For Army equipment, this maintenance is to be carried out as follows:

11.2.1 When the equipment is taken out of use for periods exceeding one month on the advice of the local REME advisor/MT Officer.

11.2.2 Any equipment taken out of use for periods exceeding four months is to be put into preservation in accordance with EMER Wheeled Vehicles A 019 Miscellaneous Instruction No 9.

11.2.3 The equipment is to be cleaned, dried and stored under cover where possible.

# 11.2.4 Any overdue maintenance is to be carried out when the equipment is brought back into use.

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#### TABLE 1 EQUIPMENT APPLICABILITY

Notes ...

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- (1) This Maintenance Schedule is applicable to all variants of Car/Truck Utility Light Land Rover fitted with the diesel engine, Car/Truck Medium Land Rover fitted with either the diesel or V8 petrol engine, and the Winterised Car/Truck Utility Light Land Rover.
- (2) The following variants, listed with their associated AESP, are NOT

#### covered by this publication.

Ser	Equipment Asset Code	Designation	Contract Numbers
(1)	(2)	(3)	(4)
1	1155-4102	Car Utility Medium, 4x4, 12 Seater, Land Rover 110, V8 Petrol (AESP 2310-J-101 Octad)	
2	i722-4100	Truck Armoured Patrol, 4x4, Land Rover 110, V8 Petrol, Heavy Duty (AESP 2320-D-120 Octad)	
3	1725-3100	Truck Utility SAS, 4x4, Land Rover 110, V8 Petrol (AESP 2320-D-121 Octad)	
4	1046-4101	Ambulance Crash Rescue, 2/3 Str, 4x4, Land Raover 127 (AESP 2310-R-101-Octad)	

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#### TABLE 2 FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS

Notes ...

(1) Oil changes at the -15°C point shall only be made on the advice of the local REME adviser/RAF MT Officer. Changes of grade will normally be recommended when the ambient temperature is expected to fall below -15°C for more than 5 hours per day. Special instructions will apply if the engine has been 'winterised'.

(2) All fluid capacities are to be checked with the vehicle on stable, level ground and in an unladen condition whenever possible. The capacities listed are to be used as a guide only. A physical check is to be carried out to ensure that all fluid levels are correct.

Ser	Assembly/System	Pro	Product		Capacity	
	Assembly/system	Above -15°C	Below -15°C	Litres	Pints	
(1)	(2)	(3)	(4)	(5)	(6)	
	DIESEL ENGINE					
1	Engine and filter	OMD 80	OMD 55	6.85	12.00	
2	Engine and filter with oil cooler	OMD 80	OMD 55	7.95	14.00	
3	Cooling system	1	/Water ture   60/40	10.80	19.00	
4	Gearbox (5 speed LT 77 diesel models)	OMD 80	00740 0MD 80	2.20	3.9	
5	Fuel (diesel models)					
	5.1 Rear tank (110 model) 5.2 Side tank (110 model) 5.3 Side tank (90 model)		eso eso eso	79.50 45.50 54.50	17.5 ga 10.0 ga 12.0 ga	
	V8 PETROL ENGINE					
6	Engine and filter	OMD 80	OMD 55	5.66	10.00	
7	Cooling system	AL39/ mixt	Water Lure	12.80	22.50	
8	Carburettor dash pots	OMD 80	OMD 55			
9	9 Gearbox (5 speed LT 85 lightweight V8 petrol models)		OMD 80	3.0	5.28	
		ŀ		(cont	inued)	

8	Carburettor dash pots	
9	Gearbox (5 speed LT 85 lightweight V8 petrol models)	

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# TABLE 2 FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS (continued)

Ser	Assembly/System	Pr	Product		Capacity	
	nsschory/system	Above -15°C	Below -15°C	Litres	Pints	
(1)	(2)	(3)	(4)	(5)	(6)	
10	Fuel (petrol models)					
	10.1 Rear tank (110 model) 10.2 Side tank (110 model) 10.3 Side tank (90 model)	Civgas or Civgas or Civgas or	unleaded	79.50 45.50 54.50	17.5 gal 10.0 gal 12.0 gal	
	COMMON ITEMS					
11	Transfer gearbox	0EP 220	0EP 38	2.80	4.90	
12	Front axle differential	0EP 220	0EP 38	1.70	3.00	
13	Rear axle differential (90 models)	0EP 220	0EP 38	1.70	3.00	
14	Rear axle differential (110 models)	0EP 220	0EP 38	2.38	4.00	
15	Swivel pin housing (each)	0EP 220	0EP 38	0.30	0.60	
16	Steering box (manual)	0EP 220	0EP 38	0.43	0.75	
17	Power steering system	OMD 80	OMD 80	2.90	5.00	
18	Brake/Clutch reservoir	0X 8	OX 8			
19	Windscreen washers	Windscree AL11/Wat				
20	Batteries	PX 7/Demir	n Water			
21	General greasing	XG 279	XG 279			
22	Oil can lubrication	OMD 80	OMD 80			



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#### TABLE 3 EQUIPMENT DATA (DIESEL MODELS)

Ser	Item	Detail
(1)	(2)	(3)
	ADJUSTMENTS	
1	Alternator belt (12 and 24 volt)	10 mm (0.4 in.)

2	Power	steering	pump	belt
---	-------	----------	------	------

- Tappet clearance (hot or cold): 3 Inlet Exhaust
- 4 |Front wheel alignment (toe out)
- Engine idling speed 5
- 6 Axle hub end float
- Injector break-off pressure 7
- Steering lock stops with tracta 8 joint gaiters and irrespective of tyre fitted

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12 mm
            (0.5 in.)
0.25 mm
            (0.010 in.)
0.25 mm
            (0.010 in.)
1.2 mm - 2.4 mm (3/64-3/32 in.)
700 ± 50 rev/min
0.05 mm - 0.1 mm (0.002-0.004 in.)
135 atmospheres
56 mm
            (2.2 in.)
```

	9	Steering lock stops without tracta joint gaiters and fitted with the following tyres:		
		9.1 Michelin XS and Avon Rangers 9.2 All other types		(2.125 in.) (2 in.)
	10			
		TORQUE WRENCH SETTINGS	۰.	
	11	Cylinder head nuts and bolts	115 - 130 Nm	(85 - 96 lbf ft)
	12	Timing belt tensioner: New belt Used belt	24 - 29 Nm 19 - 24 Nm	(17 - 21 ibf ft) (14 - 18 lbf ft)
	13	Front axle swivel bearing pre-load	5.4 - 6.7 Nm	(4 - 5 lbf ft)
	14	Wheel nuts (front and rear)	108 Nm	(80 lbf ft)
	15			
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#### TABLE 3 EQUIPMENT DATA (DIESEL MODELS) (continued)

Ser	Item	Detail		
(1)	(2)	(3)		
	TYRES			
16	Size	7.50 R 16 Radial tubed		
17	Pressures:			
	17.1 Emergency soft: 90 Models	Unladen Laden Front Rear Front Rear 1.1 bar 1.1 bar 1.1 bar 1.6 bar 16 lbf/ 16 lbf/ 16 lbf/ 23 lbf/ in <sup>2</sup> in <sup>2</sup> in <sup>2</sup> in <sup>2</sup>		
	110 Models	1.1 bar 1.1 bar 1.1 bar 1.8 bar 16 lbf/ 16 lbf/ 16 lbf/ 26 lbf/ in <sup>2</sup> in <sup>2</sup> in <sup>2</sup> in <sup>2</sup>		
	Emergency soft pressures should only where extra flotation is required. Return pressures to normal immediate	MAX speed 40 km/h (25 mile/h).		
	17.2 Normal use: 90 models fitted with 7.50 x 16 radial ply tyres	FrontRear1.9 bar2.75 bar28 lbf/in²40 lbf/in²		
	110 models fitted with 7.50 x 16 radial ply tyres	1.9 bar 3.3 bar 28 lbf/in² 48 lbf/in²		
	90 models fitted with 7.50 x 16 cross ply tyres	1.9 bar 2.4 bar 28 lbf/in² 35 lbf/in²		
	110 models fitted with 7.50 x 16 cross ply tyres	1.9 bar 2.9 bar 18 lbf/in² 42 lbf/in²		
	These tyre pressures are applicable normal use.	for all conditions of load for		
	WEIGHTS			
18	Unladen weights 110 models:			

18.1 Soft top 12 volt
18.2 Hard top 12 volt
18.3 Hard top 12/24 volt
18.4 Hard top 12/24 volt FFR

1740 kg 1760 kg 1745 kg 1900 kg

3837 1b 3880 1b 3848 1b 4189 1b

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#### TABLE 3 EQUIPMENT DATA (DIESEL MODELS) (continued)

Ser	Item	Item Detail	
(1)	(2)	(3)	
19	Unladen weights 90 models:		
	19.1 Soft top 12 volt 19.2 Car Utility 7 Seater	1580 Kg 3483 1b 1630 kg 3594 1b	
20	Gross vehicle weights 110 models:		
	20.1 Front axle 20.2 Rear axle 20.3 Total	1200 kg 2646 1b 1850 kg 4078 1b 3050 kg 6724 1b	
21	Gross vehicle weights 90 models:		
	21.1 Front axle 21.2 Rear axle 21.3 Total	1200 kg 2646 1b 1500 kg 3307 1b 2550 kg 5621 1b	
22			
23			



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#### TABLE 3 EQUIPMENT DATA (V8 PETROL MODELS) (continued)

Ser	Item		Detail
(1)	(2)		(3)
	ADJUSTMENTS		
24	24.1 Power steer	ing belt	4 - 6 mm (0.19-0.25 in.) deflection
	24.2 Alternator	belt: New belt	Tension to 380-420 N (85-90 lbf) Run engine at 1500 rev/min for 3-5 minutes and recheck. If necessary re-adjust to 335-380 N (75-85 lbf)
		Run-in belt	Tension to 335-380 N (75-85 1bf)
	24.3 Fan belt:	New belt	Tension to 400-445 N (90-100 lbf) Run engine at 1500 rev/min for 3-5 minutes and recheck. If necessary re-adjust to 355-400 N (80-90 lbf)
		Run-in belt	Tension to 355-400 N (80-90 1bf)
25	Ignition Timing		TDC dynamic and static

25	TAULTON LINNING	IDE Uynamie and Statie
26	Spark plug gap	RN 12YC 0.72-0.88 mm (0.028-0.035 in.)
27	Distributor air gap	0.2 - 0.35 mm (0.008-0.014 in.)
28	Idling speed	700 - 750 rev/min
29	Exhaust CO at idle	1 - 2% with pulsair connected.
30	Front wheel alignment (toe out)	1.2 - 2.4 mm (3/64 - 3/32 in.)
31	Axle hub end float	0.05 - 0.1 mm (0.002 - 0.004 in.)
32	Steering lock stops with tracta joint gaiters and irrespective of tyre fitted.	56 mm (2.2 in.)



33.1Michelin XS and Avon Rangers5433.2All other types51

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54 mm (2.125 in.)
51 mm (2 in.)
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## TABLE 3 EQUIPMENT DATA (V8 PETROL MODELS) (continued)

Ser	Item	Detail
(1)	(2)	(3)
	TORQUE WRENCH SETTINGS	
35	Cylinder head: Outer row Centre row and Inner row	54 - 61 Nm (40 - 45 1bf ft) 88 - 95 Nm (65 - 70 1bf ft)
36	Wheel nuts (front and rear)	108 Nm (80 1bf ft)
37	Front axle swivel bearing pre-load	5.4 - 6.7 Nm (4 - 5 1bf ft)
38		
	TYRES	
39	Size	7.50 R 16 Radial tubed
40	Pressures:	
	40.1 Emergency soft	Unladen Laden Front Rear Front Rear 1.1 bar 1.1 bar 1.1 bar 1.8 bar 16 lbf/ 16 lbf/ 16 lbf/ 26 lbf/ in <sup>2</sup> in <sup>2</sup> in <sup>2</sup> in <sup>2</sup>
	Emergency soft pressures should only where extra flotation is required. Return pressures to normal immediate	MAX speed 40 km/h (25 mile/h).
		1.9 bar 28 1bf/in² 3.3 bar 48 1bf/in²
	These tyre pressures are applicable normal use.	for all conditions of load for
	WEIGHTS	
41	Unladen weights:	
	41.1 Soft top 41.2 Hard top	1698 kg 3742 1b 1752 kg 3861 1b
42	Gross vehicle weights:	
	42.1 Front axle 42.2 Rear axle 42.3 Total	1200 kg 2646 1b 1850 kg 4078 1b 3050 kg 6724 1b

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#### TABLE 4 ACTION ON RECEIPT

Table 4 Maintenance is to be carried out in accordance with the instructions shown at Page 2, Para 6 and 7.

Action
(2)



#### TABLE 5 OUT OF PHASE MAINTENANCE

Table 5 Maintenance is to be carried out in accordance with the instructions shown at Page 2, Para 6 and 8.

Ser	Action	Interval
(1)	(2)	(3)
1	Drain and replenish oil in the following assemblies: 1.1 Gearbox (Remove and clean filter, LT77 only). 1.2 Transfer box.	24,000 miles (40,000 km) or 2 year whichever occurs first
	<ul> <li>1.3 Front and rear axles.</li> <li>1.4 Front axle swivel pin housings.</li> <li>1.5 Lubricate propeller shaft sealed sliding joints.</li> </ul>	
2		1) 36,000 miles (60,000 km)
3	Replace camshaft timing belt. (Diesel only) (VM	1) 48,000 miles (80,000 km)
4	During summer months the heater should be operated with a cold orginal for 10 minutes with the vehicle	th Monthly

[a cold engine, for 10 minutes, with the vehicle [heating set to "Warm" and in the slowest fan position.

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#### TABLE 6 DRIVER/OPERATOR MAINTENANCE

Table 6 Maintenance is to be carried out by the tradesmen and at the intervals shown at Page 2, Sub-Para 9.1 and 9.2 of this publication.

The following WARNINGS, CAUTIONS and Maintenance Notes must be read and understood before commencing these maintenance tasks.

#### WARNINGS ...

THE HANDBRAKE ACTS ON THE TRANSMISSION, NOT THE REAR WHEELS. WHEN JACKING THE VEHICLE, APPLY (1) HANDBRAKE, ENGAGE FIRST GEAR AND ENSURE THAT THE WHEELS ARE CHOCKED.

#### VEHICLES FITTED WITH ELECTRONIC IGNITION CAN CARRY A DANGEROUSLY HIGH VOLTAGE. DO NOT TOUCH THE (2) IGNITION COIL OR THE DISTRIBUTOR CONNECTIONS WITH THE ENGINE RUNNING OR THE IGNITION SWITCHED ON.

Maintenance Note ...

Tyres are not directional, but for optimum performance, fit tyres with the leading centre block facing the direction of rotation.

Ser	Task	Ma		enano erval	
		Α	<b>B</b>	C	D
(1)	(2)	(3)	(4)	(5)	(6)
1	Examine the vehicle for obvious signs of damage.	X	X		X

2	Ensure that the vehicle has sufficient fuel, oil and coolant for the journey or task.	X
3	Doors, locks, safety catches and bonnet catches: Examine and operate.	X
4	Windscreen and windows: Examine for clarity and damage.	X
5	Rear view mirrors: Examine for any cracks and deterioration of reflective surfaces.	X
6	Seat belts and attachments: Examine and operate.	X
7	Fire extinguisher(s): Ensure vehicle is fitted with serviceable extinguisher(s) (if fitted).	X
8	Lamps, horn, windscreen wipers and washers, direction indicators, hazard warning lamps, heaters and demisters, instruments and gauges: Ensure correct operation.	X
9	Obligatory front and rear lights and headlamps: Examine for damage and operate.	X
10	Work lights where fitted: Examine and operate.	X
11	Windscreen washer reservoir: Check level and replenish as necessary.	X
12	Spare wheel carrier/stowage: Examine for security of attachment and damage.	X



X X (continued)

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#### TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

Ser			Task			enan erva C	
(1)	(2)	(3)	(4)	(5)	((		
13	Tyres (including spare wheel): Examine for cuts and other damage, check tread depth. Check tyre pressures. (See Maintenance Note)	X					
14	Wheels: Visually examine for security.	۰X					
15	Registration, marker and legal plates: Examine.	X					
16	Reflectors: Examine for damage and security of attachment.	X					
17	Towing pintle: Examine and ensure that locking latch is free, locking pins are in place and attached by securing chains.	X					
18	Special to role type fittings: Examine. (If applicable)	X					
19	Brakes and steering: Ensure correct operation.	X					
20	Alternators 12/24 volt drive belts: Examine for fraying and correct tension.			X	-		
21	Power steering reservoir where fitted: Check level and replenish as necessary.			x			
22	Power steering drive belt where fitted: Examine for fraying and correct tension.			x			
23	Brake and clutch reservoirs: Check level and replenish as necessary. (OX 8)			X			
24	Batteries: Examine, check electrolyte level and replenish as necessary.			x			
25	Chassis mounted fuel sediment trap: Drain, then prime sediment trap by operating the lever on fuel lift pump. (Diesel only)						
26	CES equipment carried on the vehicle: Examine.						
27	Vehicle: Visually examine for obvious damage, oil leaks, fluid leaks and defects.						
28	Wheel nuts: Check torque loading.						
29	Carry out a static functional test of the vehicle in order to confirm the serviceability of all functions such as door locks, window winders, seat adjusters, seat belts, lights and accessories.						

- 30 Carry out a short mobile functional test in order to confirm the serviceability of all functions of starting, driving through the gears and stopping.
- 31 Coolant check: Check specific gravity of coolant (RAF in accordance with AP 4545, Vol 2, Lflt A9).
- 32 Air filter restriction indicator: Renew filter element when indicator shows red.
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#### TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

Ser			ainte Inte	enanc erval	
		A	В	С	D
(1)	(2)	(3)	(4)	(5)	(6)
34	F 658A (MT on Detachment) or 814 (Vehicle Running Record) as appropriate: Sign (RAF only).	X			

35 Record Action in AB562 (Army only).

36 AF G1084A (Worksheet) or STAMA 3 monthly worksheet: Sign (RAF only).



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#### TABLE 7 TIME/USAGE MAINTENANCE

Table 7 Maintenance is to be carried out by the Tradesmen and at the intervals shown at Page 2, Sub-Para 10.1 and 10.2 of this publication.

The following WARNINGS, CAUTIONS and Maintenance Notes must be read and understood before commencing these maintenance tasks.

WARNINGS ...

(1) THE HANDBRAKE ACTS ON THE TRANSMISSION, NOT THE REAR WHEELS. WHEN JACKING THE VEHICLE, APPLY THE HANDBRAKE, ENGAGE FIRST GEAR AND ENSURE WHEELS ARE CHOCKED.

(2) DO NOT USE AN AIRLINE TO CLEAR BRAKE DUST. BRAKE LININGS CONTAIN ASBESTOS.

- (3) WHEN TWO WHEEL ROLLER BRAKE TESTS ARE CARRIED OUT, THE CENTRE DIFFERENTIAL MUST BE DISENGAGED AND THE TRANSFER BOX MUST BE IN NEUTRAL. WITH ONE AXLE STATIONARY, THE AXLE BEING TESTED MUST NOT BE REVOLVED IN EXCESS OF 5 Km/H (3 mile/h).
- (4) <u>VEHICLES FITTED WITH ELECTRONIC IGNITION CAN CARRY A DANGEROUSLY HIGH VOLTAGE. DO NOT TOUCH THE</u> IGNITION COIL OR THE DISTRIBUTOR CONNECTIONS WITH THE ENGINE RUNNING OR THE IGNITION SWITCHED ON.

CAUTION ...

Diesel engined vehicles must not be operated with the brake servo hose disconnected.

Maintenance Notes ...

- (1) The relative position of the front propeller slip joint is indicated by arrows. The arrows must be in line to position the trunnions correctly.
- (2) Tyres are not directional, but for optimum performance fit tyres with the leading centre block facing the direction of rotation.
- (3) Electronic distributor: When checking the reluctor air gap, a non-ferrous feeler gauge must be used.

# (4) Winterised Versions only:

- (4.1) When changing to low temperature fuels, ensure that the fuel pump and fuel lines are filled with low temperature fuel.
- (4.2) When replenishing the engine coolant, warm up the vehicle to normal operating temperature after bleeding the cooling system, then switch on the heater for a short time with the vehicle heating system set to 'Warm' and the slowest fan position.



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(continued)

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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	,. Task	Fig		Maintenance Period						
				No	Product	1st	A	8	С	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
	COMMON ENGINE ACTIVITIES									
1	Engine: Drain engine oil, replace filter and replenish.	13	OMD 80	X	x	X		1		

- Engine: Drain engine oil, replace filter and replenish.
   Engine mountings: Examine.
   Air cleaner: Clean and examine dump valve.
   Air cleaner: Clean and examine dump valve, replace filter element.
   Fuel system: Examine fuel tank(s), fuel lines, taps and connections for leaks, corrosion and chaffing.
   Coolant system: Examine radiator, mountings and hoses for leaks and security.
- 7 Viscous fan drive: Examine.
- 8 Alternator and power steering (where fitted) drive belts: Examine for fraying and check tension. (VM)

	UMD 80	X	X	X	1	
		X		X	1	
			X		1	
				Х	1	
		X		X	1	
		X		X	1	- -
		X		X	1	
		X	X	X	1	
		X		X	1	
•	0MD 80	X	X	X	1	2
		X	X	X	1	
		X	X	X	1	
		X	X	X	1	
		X		X		
•						
•						

	9	Exhaust system: Examine.
	10	Engine controls: Examine, operate and lubricate.
	11	Flywheel housing: Drain (only if wading plug fitted).
	12	Exhaust emission: Visually check the density of the exhaust emission.
	13	Engine idling speed: Check and adjust as necessary. (VM)
	14	Tappets: Check and adjust as necessary. (VM)
1	15	
		DIESEL ENGINE ACTIVITIES
	16	Engine timing cover filter: Remove filter, clean with kerosine

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10 clighte change cover filter: Remove filter, clean with kerosine and
refit. (VM)
17 Fuel filter(s): Replace.
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18 Fuel sediment bowl: Drain, clean and refit.
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19 Fuel lift pump: Examine.
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[20 |Fuel injection pump: Examine.
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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig		Mair	Maintenance,Period						
					No Product	lst A		A	В	С	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
21	Fuel injectors: Examine.			X	X			1			
22	Fuel injectors: Remove, clean, test and refit. (VM)					X		4			

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23 Heater plugs: Remove, clean, and examine. Refit or replace as required. (VM)
```

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24 Valve clearances: Check adjustment. (VM)
```

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Mk 6(b) DIESEL ENGINE
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25 Engine breather system: Remove oil cyclone and depression valve, clean and refit. (VM)
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26 Heater plugs: Remove, clean and examine. Refit or replace as required. (VM)

V8 ENGINE ACTIVITIES

27 Coil and amplifier: Examine.



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28	Distributor cap, ignition wiring and HT leads: Examine.		X		X
29	Carburettors: Examine and replenish piston dampers as required.	OMD 80	Х	X	X
30	Fuel filter: Replace.				X
31 •	Electric fuel pumps: Remove, clean, examine, clean filters and refit. (VM)				X
32	Flame traps: Replace flame traps. (VM)				X
33	Crankcase breathing and pulsair systems: Examine and replace check valves as required. Replace engine breather filter. (VM)				X
34	Spark plugs: Remove, clean, examine and check adjustment. Refit or replace as required. (VM)				X
35	Air intake system: Check operation of air intake temperature				



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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

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Ser	' Task	Fig No	Product			ance Period		
			riouucu	1st	A	В	С	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	STEERING AND SUSPENSION							
39	Steering wheel, column, linkages and ball joints: Examine.			Х		X		2
40	Steering box: Examine, check oil level and replenish as necessary.	_1	0EP 220	X	x	X		2
	Steering swivel pin housing: Examine, check oil level and replenish as necessary. (See Table 5)	_	0EP 220	X	X	X		2
42	Coil springs, pins, rebound pads and brackets: Examine.			х		X		2
43	Panard rod, radius arms, link rods, bushes and pins: Examine.			X		X		2
44	Anti-roll bar, bushes, ball joints and link assembly: Examine.			X		X		2
45	Fulcrum bracket ball joint: Examine and lubricate.	10	XG 279	×X	X	X		2
46	Shock absorbers, mountings and bushes: Examine.			Х		Х		2
47	Wheel nuts: Check tightness to recommended torque setting.			Х	X	X		2
48	Front wheels and tyres: Examine, particularly for correct type of tyre. (See Maintenance Note 2). Check tyre pressures.			X	X	X		2
	Power steering system (where fitted)							
49	Power steering pump: Examine.			X		X		2
50	Power steering box: Examine.			Х		X		2
51	Power steering reservoir: Check oil level and replenish as necessary.		0MD 80	X	X	X		2
52	Steering damper: Examine.			X		X		2
53	Front wheel hub bearings: Check and adjust as necessary. (VM)			X		X		2
54								
55								
56	Front wheel alignment: Check and adjust as necessary. (VM)			X		X		2
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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

C		Fig		Mair	ntena	ance	nce Peri			
Ser	Task	No	Product	1st	A	В	C	D		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
	TRANSMISSION									
57	Gearbox: Examine, drain and replenish.	12	OMD 80	x				3		
58	Transfer box: Examine, drain and replenish.	11	0EP 220	X				3		
5 <b>9</b>	Gearbox: Examine, check oil level and replenish as necessary. (See Table 5)	12	OMD 80		X	X		3		
60	Transfer box: Examine, check oil level and replenish as necessary. (See Table 5)	11	0EP 220		X	X		3		
61	Gear/transfer box, control levers and linkage: Examine and lubricate.		OMD 80	X	X	X		3		
62	Clutch pedal and operating mechanism: Examine, operate and check free play.			X		X		3		
63	Clutch master cylinder: Examine.			X		X		(7)		
	Clutch hydraulic reservoir: Check fluid level and replenish as necessary.	6	0X 8	X	X	X		3		
	Propeller shafts: Examine and lubricate. Check security of flange bolts. (See Maintenance Note 1 and Table 5)	7	XG 279	X	X	X		3		
	Front and rear axles: Examine, check breather pipes for damage. Check oil level and replenish as necessary. (See Table 5)	4,8	0EP 220	X	X	X		3		
67	Rear wheels and tyres: Examine, particularly for correct type of tyre. (See Maintenance Note 2) Check tyre pressures.			X	X	X		3		
68	Wheel nuts: Check tightness to recommended torque setting.			x	X	x		3		
69	Rear axle hub bearings: Check and adjust as necessary. (VM)			X	X	X		3		
70										





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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

		Fig			tena	ince	Peri	Period		
Ser	Task	No	Product			В	С	D		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
74	Brake master cylinder: Examine.			X		X		4		
75	Brake vacuum pump (diesel engine): Examine.			X		X		4		
76	Brake servo: Examine. (See Table 5)			X		X		4		
77	Brake hydraulic reservoir: Check level and replenish as necessary.	5	0X 8	X	X	X		4		
78	Handbrake and linkage: Examine and lubricate.		0MD 80	X	X	X		4		
79	Front brake callipers, friction pads and discs: Examine. (VM)			X	X	X		4		
80	Rear brakes: Remove drums, clean and examine, check brake linings, examine wheel cylinders, refit drums and adjust brakes as necessary. (VM)				X	X		4		
81	Transmission brake: Examine and adjust as necessary. (VM)			X	x	X		4		
82										
83										
84	Brake system: Operate. (VM)			X	X	X		4		
85	Brake system: Carry out roller brake test or decelerometer test (RAF in accordance with AP 4545, Vol 2, Lft A64). (VM)				X	X		4		
	ELECTRICS									
86	Batteries: Examine, check electrolyte level and replenish as necessary. Smear terminals with protective.		De-min water/ PX7	X	X	X		5		
87	Starter motor: Examine for security.			X		X		5		
88	Lamps: Examine, ensure correct operation.			X	X	X		5		
89	Warning lamps: Examine, ensure correct operation.			X		X		5		

	X	X	X	4	
De-min water/ PX7	X	X	X	5	
	X		X	5	
	X	X	Х	5	
	X		X	5	

Instruments, gauges and switches: Examine, ensure correct 90 operation.

Windscreen wipers/washers, horn, cab heaters and 24 volt battery 91 charging system: Examine and ensure correct operation.



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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig		Mair	ntenance Period						
Jei	Ιαδκ	No	Product	1st	A	В	C	D			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
92	Fuses: Ensure fuses of correct rating are fitted.			X		X		5			

93 Wiring and terminals: Examine.

94 Reflectors: Examine.

95 Alternator 12 volt: Examine for security, check output. (VM)

96 Alternator 24 volt: Examine for security, check output. (VM)

97 Headlamp alignment: Check adjustment (RAF in accordance with AP 4545, Vol 2, Lft Al3). (VM)

BODY AND CHASSIS

98

99

100 Body, interior and exterior: Examine.



101 Chassis and cross member bolts: Examine.

102 Doors, locks, hinges and stay: Examine and lubricate.

103 Bonnet, lock, hinges and stay: Examine and lubricate.

104 Tailboard, hinges, chains and lockpins: Examine and lubricate.

105 Mudguards and bumper bars: Examine.

106 Tilt frame and canvas cover: Examine.

107 Seat belt mountings, seat belts and buckles: Examine.

108 Seats and seat adjusters: Examine.

	X		X	Ð	
	X		X	6	
0MD 80	X	X	X	6	
OMD 80	X	X	X	6	
0MD 80	X	X	X	6	
	X		X	6	
	X		X	6	
	X	X	X	6	
	X		X	6	
	v	v	v	6	

```
109 Wiper arms and blades: Examine.
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110 Rear view mirror(s): Examine.

111 Windscreen and windows: Examine.

112 Gaiters and protective covers: Examine.



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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

		Fig	Product	Maintenance Period							
Ser	Task	No		1st	Α	В	C	D			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
113	Fire extinguisher(s): Ensure fire extinguisher(s) is/are serviceable (if fitted).			X		X		6			

```
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114 Special-to-role type fittings: Examine.
115 Equipment lockers: Examine.
116 Rear towing attachment: Examine. Ensure locking latch is free,
                                                                           XG 279
    locking pins in place and attached by securing chains. Lubricate.
117 Legal/warning plates: Examine, check security of attachment.
118 Oil can lubrication: General lubrication of all catches, controls,
   pivot pins, locks, linkages and pins.
```

6 X X 6 X Х OMD 80 6 Χ X Χ 6 X X X 6 X 0MD 80

#### WINTERISED VERSION ONLY

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121 [Cooling system: Drain, flush and replenish.
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122 Heater water radiators: Examine for leaks, corrosion, damage and
   security of attachment.
```

123 Webasto heater: Examine for leaks, damage and security of attachment.

124 Webasto heater: Clean the combustion air and exhaust pipes. Check CO2 value and adjust as necessary. (VM)

125 Intervehicle start socket and cable: Test insulation. (VM)

126 Vehicle body interior: Examine for condition of insulating panels



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and matting, and security of attachment.
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127 Vehicle body exterior: Examine for condition and security of
   attachment of all screen blinds.
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128 Observation hatch: Examine for condition of rubber seal and function of locking mechanism.

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X

X

X

A11

A11

A11

X

Χ

X

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#### TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product		aintenance Period					
261	IASK	NU	Froduct	1st	Α	B	С	D		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
129	Front and rear screen heaters: Examine, ensure correct operation.			X		X		1		

```
129 Front and rear screen heaters:
                                   Examine, ensure correct operation.
                                                                                     X
130
131
132 Road test: Check steering, brakes and performance (NCO MT
    Technician only). (VM)
                                                                                     X
133 Record action in AB 562 (Army only).
                                                                                     X
134 Sign AF G1084A or STAMA Worksheet (RAF only).
                                                                                     X
```



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Ser



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#### TABLE 8 OUT OF USE MAINTENANCE

Table 8 Maintenance is to be carried out in accordance with the instructions shown at Page 3, Sub-Para 11.1 and 11.2.

WARNINGS, CAUTIONS and Maintenance Notes preceding Tables 6 and 7 must be read and understood before commencing these maintenance tasks.

(1)	(2)
	Prior to vehicle entering storage:
1	Carry out Table 6, Columns A, B and C maintenance, check coolant specific gravity and patch paint.
2	Carry out next maintenance due if it falls during out of use period.
3	Rectify all faults affecting road/task worthiness.
4	Fill fuel tanks.
5	Isolate batteries by master switch or disconnecting earth lead.
	Monthly whilst vehicle in storage:

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6 Carry out Table 6, Columns A and B maintenance.
7 Operate equipment and all systems.
8 Carry out road test over 8 km (5 miles) if possible.

9 Update AB 562.



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## Fig 1 Lubrication diagram

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