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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

*W. J. G. J. J.*

Ministry of Defence

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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 0EE.

## 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 Examine. 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 unless 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.

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

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

5.4 Replenish. 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 Replace. 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 Table 4 - Action on Receipt. 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 Table 5 - Out of Phase Maintenance. 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.

#### Table 6 - Driver/Operator Maintenance

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.



## 10 Table 7 - Time/Usage Maintenance

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 whichever 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 Table 8 - Out of Use Maintenance

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.

TABLE 1 EQUIPMENT APPLICABILITY

Notes ...

- (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	1722-4100	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)	

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	Product		Capacity	
		Above -15°C	Below -15°C	Litres	Pints
(1)	(2)	(3)	(4)	(5)	(6)
	<u>DIESEL ENGINE</u>				
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	AL39/Water mixture		10.80	19.00
4	Gearbox (5 speed LT 77 diesel models)	50/50 OMD 80	60/40 OMD 80	2.20	3.9
5	Fuel (diesel models)				
	5.1 Rear tank (110 model)		Dieso	79.50	17.5 gal
	5.2 Side tank (110 model)		Dieso	45.50	10.0 gal
	5.3 Side tank (90 model)		Dieso	54.50	12.0 gal
	<u>V8 PETROL ENGINE</u>				
6	Engine and filter	OMD 80	OMD 55	5.66	10.00
7	Cooling system	AL39/Water mixture		12.80	22.50
8	Carburettor dash pots	OMD 80	OMD 55		
9	Gearbox (5 speed LT 85 lightweight V8 petrol models)	OMD 80	OMD 80	3.0	5.28

(continued)



TABLE 2 FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS (continued)

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

TABLE 3 EQUIPMENT DATA (DIESEL MODELS)

Ser	Item	Detail	
(1)	(2)	(3)	
	<u>ADJUSTMENTS</u>		
1	Alternator belt (12 and 24 volt)	10 mm	(0.4 in.)
2	Power steering pump belt	12 mm	(0.5 in.)
3	Tapet clearance (hot or cold):		
	Inlet	0.25 mm	(0.010 in.)
	Exhaust	0.25 mm	(0.010 in.)
4	Front wheel alignment (toe out)	1.2 mm - 2.4 mm (3/64-3/32 in.)	
5	Engine idling speed	700 ± 50 rev/min	
6	Axle hub end float	0.05 mm - 0.1 mm (0.002-0.004 in.)	
7	Injector break-off pressure	135 atmospheres	
8	Steering lock stops with tracta joint gaiters and irrespective of tyre fitted	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	54 mm	(2.125 in.)
	9.2 All other types	51 mm	(2 in.)
10			
	<u>TORQUE WRENCH SETTINGS</u>		
11	Cylinder head nuts and bolts	115 - 130 Nm (85 - 96 lbf ft)	
12	Timing belt tensioner:		
	New belt	24 - 29 Nm	(17 - 21 ibf ft)
	Used belt	19 - 24 Nm	(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			

(continued)

TABLE 3 EQUIPMENT DATA (DIESEL MODELS) (continued)

Ser	Item	Detail
(1)	(2)	(3)
	<u>TYRES</u>	
16	Size	7.50 R 16 Radial tubed
17	Pressures:	
	17.1 Emergency soft:	Unladen                      Laden
		Front      Rear      Front      Rear
	90 Models	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 be used in extreme conditions where extra flotation is required. MAX speed 40 km/h (25 mile/h). Return pressures to normal immediately firm ground is regained.	
	17.2 Normal use:	Front                      Rear
	90 models fitted with	1.9 bar                      2.75 bar
	7.50 x 16 radial ply tyres	28 lbf/in <sup>2</sup> 40 lbf/in <sup>2</sup>
	110 models fitted with	1.9 bar                      3.3 bar
	7.50 x 16 radial ply tyres	28 lbf/in <sup>2</sup> 48 lbf/in <sup>2</sup>
	90 models fitted with	1.9 bar                      2.4 bar
	7.50 x 16 cross ply tyres	28 lbf/in <sup>2</sup> 35 lbf/in <sup>2</sup>
	110 models fitted with	1.9 bar                      2.9 bar
	7.50 x 16 cross ply tyres	18 lbf/in <sup>2</sup> 42 lbf/in <sup>2</sup>
	These tyre pressures are applicable for all conditions of load for normal use.	
	<u>WEIGHTS</u>	
18	Unladen weights 110 models:	
	18.1 Soft top 12 volt	1740 kg                      3837 lb
	18.2 Hard top 12 volt	1760 kg                      3880 lb
	18.3 Hard top 12/24 volt	1745 kg                      3848 lb
	18.4 Hard top 12/24 volt FFR	1900 kg                      4189 lb

(continued)

TABLE 3 EQUIPMENT DATA (DIESEL MODELS) (continued)

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

(continued)



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

Ser	Item	Detail
(1)	(2)	(3)
	<u>ADJUSTMENTS</u>	
24	24.1 Power steering 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 lbf)
	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 lbf)
25	Ignition Timing	TDC dynamic and static
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	Steering lock stops without tracta joint gaiters and fitted with the following tyres:	
	33.1 Michelin XS and Avon Rangers	54 mm (2.125 in.)
	33.2 All other types	51 mm (2 in.)
34		

(continued)

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

Ser	Item	Detail																
(1)	(2)	(3)																
	<u>TORQUE WRENCH SETTINGS</u>																	
35	Cylinder head:																	
	Outer row	54 - 61 Nm (40 - 45 lbf ft)																
	Centre row and Inner row	88 - 95 Nm (65 - 70 lbf ft)																
36	Wheel nuts (front and rear)	108 Nm (80 lbf ft)																
37	Front axle swivel bearing pre-load	5.4 - 6.7 Nm (4 - 5 lbf ft)																
38																		
	<u>TYRES</u>																	
39	Size	7.50 R 16 Radial tubed																
40	Pressures:																	
	40.1 Emergency soft	<table border="0"> <tr> <td colspan="2">Unladen</td> <td colspan="2">Laden</td> </tr> <tr> <td>Front</td> <td>Rear</td> <td>Front</td> <td>Rear</td> </tr> <tr> <td>1.1 bar</td> <td>1.1 bar</td> <td>1.1 bar</td> <td>1.8 bar</td> </tr> <tr> <td>16 lbf/in<sup>2</sup></td> <td>16 lbf/in<sup>2</sup></td> <td>16 lbf/in<sup>2</sup></td> <td>26 lbf/in<sup>2</sup></td> </tr> </table>	Unladen		Laden		Front	Rear	Front	Rear	1.1 bar	1.1 bar	1.1 bar	1.8 bar	16 lbf/in <sup>2</sup>	16 lbf/in <sup>2</sup>	16 lbf/in <sup>2</sup>	26 lbf/in <sup>2</sup>
Unladen		Laden																
Front	Rear	Front	Rear															
1.1 bar	1.1 bar	1.1 bar	1.8 bar															
16 lbf/in <sup>2</sup>	16 lbf/in <sup>2</sup>	16 lbf/in <sup>2</sup>	26 lbf/in <sup>2</sup>															
	Emergency soft pressures should only be used in extreme conditions where extra flotation is required. MAX speed 40 km/h (25 mile/h). Return pressures to normal immediately firm ground is regained.																	
	40.2 Normal Use:																	
		Front	1.9 bar															
		Rear	3.3 bar															
			28 lbf/in <sup>2</sup>															
			48 lbf/in <sup>2</sup>															
	These tyre pressures are applicable for all conditions of load for normal use.																	
	<u>WEIGHTS</u>																	
41	Unladen weights:																	
	41.1 Soft top	1698 kg	3742 lb															
	41.2 Hard top	1752 kg	3861 lb															
42	Gross vehicle weights:																	
	42.1 Front axle	1200 kg	2646 lb															
	42.2 Rear axle	1850 kg	4078 lb															
	42.3 Total	3050 kg	6724 lb															

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.

Ser	Action
(1)	(2)
	NOT TAKEN UP

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. 1.3 Front and rear axles. 1.4 Front axle swivel pin housings. 1.5 Lubricate propeller shaft sealed sliding joints.	24,000 miles (40,000 km) or 2 year whichever occurs first
2	Renew brake servo filter. (VM)	36,000 miles (60,000 km)
3	Replace camshaft timing belt. (Diesel only) (VM)	48,000 miles (80,000 km)
4	During summer months the heater should be operated with a cold engine, for 10 minutes, with the vehicle heating set to "Warm" and in the slowest fan position.	Monthly

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 ...

- (1) THE HANDBRAKE ACTS ON THE TRANSMISSION, NOT THE REAR WHEELS. WHEN JACKING THE VEHICLE, APPLY HANDBRAKE, ENGAGE FIRST GEAR AND ENSURE THAT THE WHEELS ARE CHOCKED.
- (2) VEHICLES FITTED WITH ELECTRONIC IGNITION CAN CARRY A DANGEROUSLY HIGH VOLTAGE. DO NOT TOUCH THE 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	Maintenance Interval			
		A	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			X
3	Doors, locks, safety catches and bonnet catches: Examine and operate.	X			X
4	Windscreen and windows: Examine for clarity and damage.	X			X
5	Rear view mirrors: Examine for any cracks and deterioration of reflective surfaces.	X			X
6	Seat belts and attachments: Examine and operate.	X			X
7	Fire extinguisher(s): Ensure vehicle is fitted with serviceable extinguisher(s) (if fitted).	X			X
8	Lamps, horn, windscreen wipers and washers, direction indicators, hazard warning lamps, heaters and demisters, instruments and gauges: Ensure correct operation.	X			X
9	Obligatory front and rear lights and headlamps: Examine for damage and operate.	X			X
10	Work lights where fitted: Examine and operate.	X			X
11	Windscreen washer reservoir: Check level and replenish as necessary.	X			X
12	Spare wheel carrier/stowage: Examine for security of attachment and damage.	X			X

(continued)



TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

Ser	Task	Maintenance Interval			
		A	B	C	D
(1)	(2)	(3)	(4)	(5)	(6)
13	Tyres (including spare wheel): Examine for cuts and other damage, check tread depth. Check tyre pressures. (See Maintenance Note)	X			X
14	Wheels: Visually examine for security.	X			
15	Registration, marker and legal plates: Examine.	X			X
16	Reflectors: Examine for damage and security of attachment.	X			X
17	Towing pintle: Examine and ensure that locking latch is free, locking pins are in place and attached by securing chains.	X			X
18	Special to role type fittings: Examine. (If applicable)	X			X
19	Brakes and steering: Ensure correct operation.	X			X
20	Alternators 12/24 volt drive belts: Examine for fraying and correct tension.			X	X
21	Power steering reservoir where fitted: Check level and replenish as necessary.			X	X
22	Power steering drive belt where fitted: Examine for fraying and correct tension.			X	X
23	Brake and clutch reservoirs: Check level and replenish as necessary. (OX 8)			X	X
24	Batteries: Examine, check electrolyte level and replenish as necessary.			X	X
25	Chassis mounted fuel sediment trap: Drain, then prime sediment trap by operating the lever on fuel lift pump. (Diesel only)				X
26	CES equipment carried on the vehicle: Examine.				X
27	Vehicle: Visually examine for obvious damage, oil leaks, fluid leaks and defects.				X
28	Wheel nuts: Check torque loading.				X
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.				X
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.				X
31	Coolant check: Check specific gravity of coolant (RAF in accordance with AP 4545, Vol 2, Lflt A9).				X
32	Air filter restriction indicator: Renew filter element when indicator shows red.				X
33					

(continued)

TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

Ser	Task	Maintenance Interval			
		A	B	C	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).				X
36	AF G1084A (Worksheet) or STAMA 3 monthly worksheet: Sign (RAF only).				X

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) VEHICLES FITTED WITH ELECTRONIC IGNITION CAN CARRY A DANGEROUSLY HIGH VOLTAGE. DO NOT TOUCH THE 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.

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	C	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>COMMON ENGINE ACTIVITIES</u>								
1	Engine: Drain engine oil, replace filter and replenish.	13	OMD 80	X	X	X		1
2	Engine mountings: Examine.			X		X		1
3	Air cleaner: Clean and examine dump valve.				X			1
4	Air cleaner: Clean and examine dump valve, replace filter element.					X		1
5	Fuel system: Examine fuel tank(s), fuel lines, taps and connections for leaks, corrosion and chaffing.			X		X		1
6	Coolant system: Examine radiator, mountings and hoses for leaks and security.			X		X		1
7	Viscous fan drive: Examine.			X		X		1
8	Alternator and power steering (where fitted) drive belts: Examine for fraying and check tension. (VM)			X	X	X		1
9	Exhaust system: Examine.			X		X		1
10	Engine controls: Examine, operate and lubricate.		OMD 80	X	X	X		1
11	Flywheel housing: Drain (only if wading plug fitted).			X	X	X		1
12	Exhaust emission: Visually check the density of the exhaust emission.			X	X	X		1
13	Engine idling speed: Check and adjust as necessary. (VM)			X	X	X		1
14	Tappets: Check and adjust as necessary. (VM)			X		X		
15								
<u>DIESEL ENGINE ACTIVITIES</u>								
16	Engine timing cover filter: Remove filter, clean with kerosine and refit. (VM)				X	X		1
17	Fuel filter(s): Replace.			X	X	X		1
18	Fuel sediment bowl: Drain, clean and refit.			X	X	X		1
19	Fuel lift pump: Examine.				X	X		1
20	Fuel injection pump: Examine.			X		X		1

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(continued)



TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	C	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		1
23	Heater plugs: Remove, clean, and examine. Refit or replace as required. (VM)					X		1
24	Valve clearances: Check adjustment. (VM)			X		X		1
	<u>Mk 6(b) DIESEL ENGINE</u>							
25	Engine breather system: Remove oil cyclone and depression valve, clean and refit. (VM)					X		1
26	Heater plugs: Remove, clean and examine. Refit or replace as required. (VM)					X		1
	<u>V8 ENGINE ACTIVITIES</u>							
27	Coil and amplifier: Examine.			X		X		1
28	Distributor cap, ignition wiring and HT leads: Examine.			X		X		1
29	Carburettors: Examine and replenish piston dampers as required.		OMD 80	X	X	X		1
30	Fuel filter: Replace.					X		1
31	Electric fuel pumps: Remove, clean, examine, clean filters and refit. (VM)					X		1
32	Flame traps: Replace flame traps. (VM)					X		1
33	Crankcase breathing and pulsair systems: Examine and replace check valves as required. Replace engine breather filter. (VM)					X		1
34	Spark plugs: Remove, clean, examine and check adjustment. Refit or replace as required. (VM)					X		1
35	Air intake system: Check operation of air intake temperature control. (VM)					X		1
36								
37								
38								

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig. No	Product	Maintenance Period				
				1st	A	B	C	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<u>STEERING AND SUSPENSION</u>							
39	Steering wheel, column, linkages and ball joints: Examine.			X		X		2
40	Steering box: Examine, check oil level and replenish as necessary.	1	OEP 220	X	X	X		2
41	Steering swivel pin housing: Examine, check oil level and replenish as necessary. (See Table 5)	1	OEP 220	X	X	X		2
42	Coil springs, pins, rebound pads and brackets: Examine.			X		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.			X		X		2
47	Wheel nuts: Check tightness to recommended torque setting.			X	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
	<u>Power steering system (where fitted)</u>							
49	Power steering pump: Examine.			X		X		2
50	Power steering box: Examine.			X		X		2
51	Power steering reservoir: Check oil level and replenish as necessary.		OMD 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

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	C	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<u>TRANSMISSION</u>							
57	Gearbox: Examine, drain and replenish.	12	OMD 80	X				3
58	Transfer box: Examine, drain and replenish.	11	OEP 220	X				3
59	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	OEP 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		3
64	Clutch hydraulic reservoir: Check fluid level and replenish as necessary.	6	OX 8	X	X	X		3
65	Propeller shafts: Examine and lubricate. Check security of flange bolts. (See Maintenance Note 1 and Table 5)	7	XG 279	X	X	X		3
66	Front and rear axles: Examine, check breather pipes for damage. Check oil level and replenish as necessary. (See Table 5)	4,8	OEP 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								
71								
	<u>BRAKES</u>							
72	Brake pipes and hoses: Examine.			X		X		4
73	Brake pedal and operating mechanism: Examine, operate and check free play.			X		X		4

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	C	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	OX 8	X	X	X		4
78	Handbrake and linkage: Examine and lubricate.		OMD 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
<u>ELECTRICS</u>								
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
90	Instruments, gauges and switches: Examine, ensure correct operation.			X		X		5
91	Windscreen wipers/washers, horn, cab heaters and 24 volt battery charging system: Examine and ensure correct operation.			X	X	X		5

(continued)



TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	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.			X		X		5
94	Reflectors: Examine.			X		X		5
95	Alternator 12 volt: Examine for security, check output. (VM)			X		X		5
96	Alternator 24 volt: Examine for security, check output. (VM)			X		X		5
97	Headlamp alignment: Check adjustment (RAF in accordance with AP 4545, Vol 2, Lft A13). (VM)			X		X		5
98								
99								
	<u>BODY AND CHASSIS</u>							
100	Body, interior and exterior: Examine.			X		X		6
101	Chassis and cross member bolts: Examine.			X		X		6
102	Doors, locks, hinges and stay: Examine and lubricate.		OMD 80	X	X	X		6
103	Bonnet, lock, hinges and stay: Examine and lubricate.		OMD 80	X	X	X		6
104	Tailboard, hinges, chains and lockpins: Examine and lubricate.		OMD 80	X	X	X		6
105	Mudguards and bumper bars: Examine.			X		X		6
106	Tilt frame and canvas cover: Examine.			X		X		6
107	Seat belt mountings, seat belts and buckles: Examine.			X	X	X		6
108	Seats and seat adjusters: Examine.			X		X		6
109	Wiper arms and blades: Examine.			X	X	X		6
110	Rear view mirror(s): Examine.			X		X		6
111	Windscreen and windows: Examine.			X		X		6
112	Gaiters and protective covers: Examine.			X		X		6

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	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
114	Special-to-role type fittings: Examine.			X		X		6
115	Equipment lockers: Examine.			X		X		6
116	Rear towing attachment: Examine. Ensure locking latch is free, locking pins in place and attached by securing chains. Lubricate.		OMD 80 XG 279	X	X	X		6
117	Legal/warning plates: Examine, check security of attachment.			X		X		6
118	Oil can lubrication: General lubrication of all catches, controls, pivot pins, locks, linkages and pins.		OMD 80	X	X	X		6
119								
120								
	<u>WINTERISED VERSION ONLY</u>							
121	Cooling system: Drain, flush and replenish.			X		X		1
122	Heater water radiators: Examine for leaks, corrosion, damage and security of attachment.			X		X		1
123	Webasto heater: Examine for leaks, damage and security of attachment.			X		X		1
124	Webasto heater: Clean the combustion air and exhaust pipes. Check CO2 value and adjust as necessary. (VM)			X		X		1
125	Intervehicle start socket and cable: Test insulation. (VM)			X		X		1
126	Vehicle body interior: Examine for condition of insulating panels and matting, and security of attachment.			X		X		1
127	Vehicle body exterior: Examine for condition and security of attachment of all screen blinds.			X		X		1
128	Observation hatch: Examine for condition of rubber seal and function of locking mechanism.			X		X		1

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Ser	Task	Fig No	Product	Maintenance Period				
				1st	A	B	C	D
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
129	Front and rear screen heaters: Examine, ensure correct operation.			X		X		1
130								
131								
132	Road test: Check steering, brakes and performance (NCO MT Technician only). (VM)			X	X	X		A11
133	Record action in AB 562 (Army only).			X	X	X		A11
134	Sign AF G1084A or STAMA Worksheet (RAF only).			X	X	X		A11

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.

Ser	Operation
(1)	(2)
1 2 3 4 5 6 7 8 9	<u>Prior to vehicle entering storage:</u>
	Carry out Table 6, Columns A, B and C maintenance, check coolant specific gravity and patch paint.
	Carry out next maintenance due if it falls during out of use period.
	Rectify all faults affecting road/task worthiness.
	Fill fuel tanks.
	Isolate batteries by master switch or disconnecting earth lead.
	<u>Monthly whilst vehicle in storage:</u>
	Carry out Table 6, Columns A and B maintenance.
	Operate equipment and all systems.
Carry out road test over 8 km (5 miles) if possible.	
Update AB 562.	



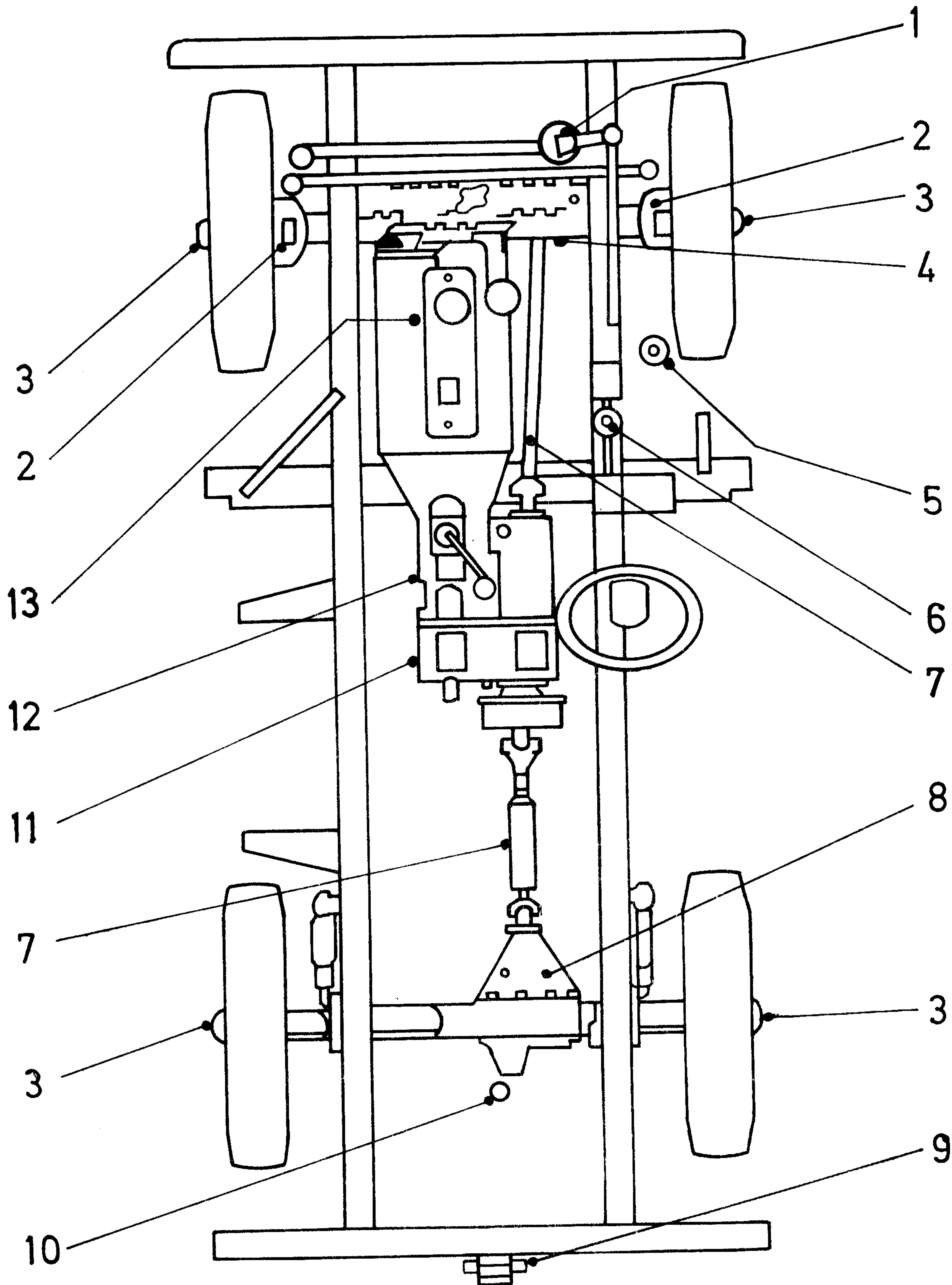


Fig 1 Lubrication diagram

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