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**SERVICING SCHEDULE
FOR
FERRET MK 1 AND MK 2**

Nomenclature: Scout Car, Liaison, Ferret Mks 1, 1/1, 1/2.
Scout Car Recce Ferret Mks 2, 2/1, 2/2, 2/3, 2/4,
2/5, 2/6.

F.V. No: As Cover Page

AMENDMENT NO 4

Manuscript Amendments

Page No 5	In Lubricant Panel	<i>DELETE "OF-24" SUBSTITUTE "OX-8"</i>
Page No 7	Operation No 26	<i>DELETE "OF-24" SUBSTITUTE "OX-8"</i>
Page No 9	Operation No 57	<i>DELETE "OF-24 or</i>
Page No 10	Operation No 76	<i>DELETE "OF-24" SUBSTITUTE "OX-8"</i>
Page No 13	Table of Oils	<i>DELETE "OF-24"</i>

By Command of the Defence Council

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**SERVICING SCHEDULE
FOR
FERRET MK 1 AND MK 2**

Nomenclature: Scout Car, Liaison, Ferret Mks 1, 1/1, 1/2.
Scout Car, Recce, Ferret Mks 2, 2/1, 2/2, 2/3,
2/4, 2/5, 2/6 Vigilant.

F.V. Nos: FV 701(C), FV 701(J),
FV 701(E), FV 701(F), FV 701(G), FV 701(H),
FV 701(K), FV 701(L), FV 703 Vigilant, FV 704.

The User Handbook referred to in this schedule is W.O. Code No. 12174.

By Command of the Army Council

THE WAR OFFICE
20th March, 1963.

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AMENDMENTS

	Date	Authority	Detail
1	Dec 63	War Office	Cover Page Page 9. 10. 12.
2	Dec 64	MOD	Cover Page
3	Mar 74	14000/3 OMD 75	Page 5. 9. 10.

INTRODUCTION

THE SERVICING SCHEDULE

1. The Servicing Schedule is designed to enable the user to maintain the vehicle in a sound mechanical condition.
2. It shows what servicing operations are required, indicates how frequently they should be carried out, and gives details of the lubricants to be used. **ALTERNATIVE LUBRICANTS MUST NOT BE USED WITHOUT AUTHORITY.**
3. More detailed information, where this is required, is contained in the User Handbook.

TERMS

4. The following terms are used in connection with vehicle servicing:-

(a) **The Daily Check**

This is a check carried out by the driver to ensure that the vehicle is fit for the day's run. It is only carried out on those days when the vehicle is to be used.

(b) **The Unit A Vehicle Check**

This is a check carried out by unit regimental personnel on those months when there is not a technical inspection. Its object is to discover any faults not detected by the driver during the Daily Check. It is not a technical inspection.

(c) **Initial Servicing**

This is the servicing carried out when the vehicle (or a new or overhauled assembly) has completed the first 500 miles.

(d) **Mileage/Time Servicing**

This is the servicing carried out on first receiving the vehicle and thereafter at specified mileage or time intervals.

(e) **Special Servicing**

This is the servicing which is required at intervals other than those specified in the main body of the Schedule, or which is required to be carried out under abnormal conditions.

(f) Static Servicing

This is the servicing carried out when the vehicle is taken out of use for periods in excess of two weeks. It is not applicable to vehicles in preservation (either in unit lines or depots), for which separate instructions are issued.

INSPECTIONS

5. Inspections are carried out on all vehicles on unit charge as follows:-

(a) By Unit Personnel

On receipt, and thereafter every month for Regular Army units and every two months for Reserve Army units in accordance with current ACIs.

(b) By REME

Annually in accordance with EMER GEN H 152.

RESPONSIBILITIES

6. The unit commander is responsible for the proper application of the instructions contained in the Servicing Schedule. He may, however order any operation, or group of operations, to be carried out more frequently than is specified if the conditions under which his vehicles are operating render it necessary. Since over-lubrication can often be as damaging as under-lubrication he should, before making such changes, seek REME advice.

7. The unit commander may adjust the days on which Servicing is done in order to fit this in with his operating conditions. Variations of up to plus or minus 10% are normally acceptable.

8. The driver is responsible for ensuring that the vehicle is safe to drive, and must not drive it if he has ANY doubts as to the proper operation of the steering, brakes or lights.

9. The crew commander is responsible that the servicing as detailed in the Servicing Schedule is correctly carried out.

AUTHORITY

10. This Servicing Schedule is authoritative. If the instructions contained in it differ from those contained in other publications the instructions in the Servicing Schedule will be followed.

VEHICLE DATA SHEET

Lubricant Capacities

Assembly	Lubricant	Capacity (Pints)
Engine	OMD-75	24
Engine oil filter	OMD-75	2
Engine air cleaner	OMD-75	2
Steering box	OEP-220	1½
Steering cross-shaft bevel box	OEP-220	1½
Inner Tracta joint housings, including bevel boxes	OEP-220	3 each
Outer Tracta joint housings, including road wheel hubs	OEP-220	1½ each
Fluid coupling	OM-13	9½
Gearbox	OMD-75	10
Transfer box	OEP-220	6
Brake fluid supply tank	OX-8	1½

Tyre Pressures

Mk 2/6 Vigilant

Road	F	R
	30	40

C.C.	F
	18 30

Coolant Capacity

4½ gallons

Fuel Capacity

21 gallons (including 3 gallons reserve)

Tyre Pressures - lb/sq inch (Run Flat only)

	Road	
Front	-	30
Rear	-	36

Cross Country

Front	-	18
Rear	-	25

Adjustments

Cylinder head nuts: torque wrench setting	35 lb ft
Distributor contact breaker gap	
No 1, Mk 2 - FV 141535	.010 to .012 inch
No 1, Mk 2/1 - FV 141540	.019 to .021 inch
Sparking plug gap	.015 to .018 inch
Inlet tappet clearance (cold)	.010 inch
Exhaust tappet clearance (cold)	.015 inch
Gear change pedal free movement (with lowest gear engaged)	½ inch
Fan and generator belts free play	1 inch
Front wheel toe-in	½ inch
Brake Pedal Adjustment - stop is adjusted to give .030" movement between push rod and m/cylinder	

THE CREW'S DAILY CHECK

1. This servicing is to be carried out by the crew only on those days when the vehicle is to be used, except for static servicing.
2. It is to be read in conjunction with "Standing Orders for Crews of AFV's"-WO Code No. 10348.
3. For DATA see page 5.
4. For Armament Servicing refer to RAC Armament Training Vol III Pamphlet No. 12-WO Code No. 9437.
5. **ALL FAULTS MUST BE REPORTED AS SOON AS THEY ARE DISCOVERED.**

VEHICLE CHECK

Before starting the engine

- (a) Check the fire extinguishers.
- (b) Check the fuel level and replenish if necessary.
- (c) Check that there is coolant visible in the radiator header tank pipe. If it is not visible — top up (See Special Servicing Instructions No 3).
- (d) Check the engine oil level and top up if necessary.
- (e) Check tyres and tyre pressures.
- (f) Operate the gear change pedal at least six full strokes in each gear.

After starting the engine

- (g) Run the engine for two minutes and check that the ignition and oil warning lights go out.
- (h) Check the lights and horn.
- (j) Check for any fuel, oil or coolant leaks, or any other irregularities.
- (k) When the engine has attained operating temperature, switch off and check the coolant level. Top up if necessary.

NOTE The cooling system is pressurised. ALWAYS REMOVE THE RADIATOR CAP SLOWLY.

- (m) Carry out opening up and netting drills on radio installation in accordance with "Operators Drills and Tests".
- (n) Check that all stowed equipment is secure.
- (o) Drive the vehicle and check the steering and brakes.

DURING HALTS

- (a) Check the brake drums and hubs for overheating.
- (b) Check for any fuel, oil or coolant leaks.

WHEN PARKING (Last Parade)

- (a) Check the wheel hubs and brake drums for overheating.
- (b) Replenish as necessary with fuel, oil and coolant.
- (c) Examine the vehicle for any fuel, oil or coolant leaks.
- (d) Examine the suspension for damage and oil leaks. Inspect steering linkage for damage.
- (e) Inspect the tyres, remove all stones and oil or grease.
- (f) Check all lights.
- (g) Check the battery electrolyte level and top up if necessary.

NOTE Unless the vehicle is used in high temperatures, or is run for long periods at high charge rates, it is unlikely that the batteries will require topping-up more frequently than once a week (See Special Servicing Instruction No. 1).

- (h) Carry out closing down drills and tests on harness and radio sets.
- (j) Carry out any servicing due on the M.G.
- (k) Check and clean the driver's hatches, flaps, windscreen and periscope when fitted.

INITIAL SERVICING

The following servicing will be carried out when the vehicle has completed the first 500 miles. It will also be used, as applicable, when a new or overhauled assembly is fitted.

Operation Number	Operation	Lubricant
	Tightness checks <i>(To be done by a vehicle mechanic)</i>	
1	Tighten the cylinder head nuts using a torque wrench	
2	Tighten the rocker gear nuts.	
3	Tighten the exhaust manifold and flange nuts.	
4	Check all other mounting bolts and nuts and tighten if necessary.	
5	Check all oil, fuel and hydraulic pipe unions and tighten if necessary.	
	Adjustments <i>(To be done by a vehicle mechanic, except Operation No 13)</i>	
7	Set the sparking plug gaps.	
8	Set the contact breaker gaps <i>(See Page 5)</i> .	
9	Set the inlet and exhaust tappet clearances <i>(cold)</i> .	
10	Adjust the fan and generator belts.	
11	Adjust the gear change pedal free movement.	
12	Set the front wheel toe-in.	
13	Check all the electrical equipment, and carry out any adjustments necessary <i>(electrician)</i> .	
	Oil changes <i>(To be done by the driver except where indicated)</i>	
15	Change the oil in the engine.	OMD-75
16	Change the oil in the engine oil filter and renew the filter element <i>(vehicle mechanic)</i> .	OMD-75

INITIAL SERVICING (Continued)

Operation Number	Operation	Lubricant
	Oil changes (continued)	
17	Change the oil in the engine air cleaner and clean the air cleaner element.	OMD-75
18	Change the oil in the gearbox.	OMD-75
19	Change the oil in the transfer box.	OEP-220
20	Change the oil in the bevel boxes.	OEP-220
	Check the oil levels in the following and top up if necessary <i>(To be done by the driver)</i>	
22	Steering box.	OEP-220
23	Steering cross-shaft bevel box.	OEP-220
24	Hub-reduction gear and outer tracts joint housings.	OEP-220
25	Fluid coupling.	OM-13
26	Brake master cylinder	OX-8
	Other operations <i>(To be done by a vehicle mechanic)</i>	
28	Clean the main fuel filter.	
29	Clean the carburettor banjo union filter.	

1,000 MILE SERVICING

This servicing is to be carried out on receipt of the vehicle and thereafter every 1,000 miles or every three months whichever occurs first.

Operation No.	Operation (To be done by the driver except where indicated)	No of Lubri- cators	Lubri- cant	Lubri- cation Chart No
	Lubricate the following			
35	Suspension link pivot pins and spring fulcrum bushes and pins.) X	48	XG-279	3,4,7,8.
36	Steering rod ball joints.	4	XG-279	1,10.
37	Steering swivel pins.	4	XG-279	2,9.
	Oil the following with an oil can			
39	Locks and hinges on the engine compartment access lids, stowage bins, turret hatches.		OMD-75	
40	Front, side and rear flap vizors.		OMD-75	
41	All seat mechanisms.		OMD-75	
42	Gear change pedal pivot and linkage.		OMD-75	
43	Forward and reverse linkage.		OMD-75	
44	Gear selector linkage.		OMD-75	
45	Handbrake ratchet and linkage.		OMD-75	
46	Brake pedal lever and linkage.		OMD-75	
47	Accelerator control linkage.		OMD-75	
48	All other fittings which require oiling but which have no lubricators fitted.		OMD-75	

1,000 MILE SERVICING (Continued)

Operation No.	Operation (To be done by the driver except where indicated)	No of Lubri- cators	Lubri- cant	Lubri- cation Chart No
	Check the oil level in the following and top up if necessary			
50	Fluid coupling.		OM-13	
51	Gearbox.		OMD-75	
52	Transfer box.		OEP-220	
53	Bevel boxes.		OEP-220	
54	Steering box.		OEP-220	
55	Steering cross shaft bevel box.		OEP-220	
56	Hub reduction gear and outer tracta-joint housing.		OEP-220	
57	Brake master cylinder		OX-8	
	Other operations			
59	Clean the brake master cylinder breather.			
60	Clean the battery terminals and smear them with protective.		PX-7	
61	Clean the main fuel filter. (Dvr. Cl. 1 or Standard 1)			
62	Clean the carburettor banjo union filter. (Dvr. Cl. 1 or Standard 1)			
63	Lubricate the turret ring.		XG-220	
64	Lubricate "Roballo" Turret Ring. (1 Hydraulic Lubricator one stroke with hand gun) Mk 2/6 only.		XG-279	
64A	Missile Hold Back Mechanism. With empty cradles operate the hold back mechanism, clean around the tops of the hold back strut hydraulic cylinders and lubricate the operating plungers and felt seals with Oil OX 8 (Mk 2/6).			

6,000 MILES SERVICING

The following servicing will be carried out, *in addition to the 1,000 miles servicing (excluding Operation Nos 51, 52 and 53)* every 6,000 miles or every twelve months, whichever occurs first.

Operation No.	Operations (To be done by the driver except where indicated)	Lubricant
	Oil changes	
65	Change the oil in the engine	OMD-75
66	Change the oil in the engine oil filter and renew the filter element (Dvr. Cl. 1 or Standard 1).	OMD-75
67	Change the oil in the engine air cleaner and clean the air cleaner element. (See Special Servicing Instruction No 4).	OMD-75
68	Change oil in the gearbox.	OMD-75
69	Change the oil in the transfer box.	OEP-220
70	Change the oil in the bevel boxes.	OEP-220
	Other operations	
72	Lubricate the crankshaft pulley fording seal (1 lubricator - Chart No 5)	XG-279
73	Lubricate the water pump bearing (1 lubricator - Chart No 6)	XG-279
74	Lubricate the distributor mechanism (Dvr Cl. 1 or Standard 1).	OMD-75
75	No 1 Mk 2/1 distributor - Renew and lubricate the the cam lubricator pad (Dvr. Cl. 1 or Standard 1)	OMD-75
76	Top-up Holdback operating cylinder. (See Special Servicing Instruction No 6) Mk 2/8 only.	OX-8
77	Remove Hydra Vac air filter, wash with petrol or paraffin, dry off and re-oil. (When fitted).	OMD-75

STATIC SERVICING

This Static Servicing will be carried out whenever the vehicle is taken out of use for periods in excess of two weeks. It will be carried out by the driver, except where indicated.

Operation Number	Operation
	Before Garaging the Vehicle
80	Ensure that all reported faults have been rectified. (If any faults have not been rectified, report the fact).
81	Check that the batteries are fully charged. If they are not, remove, and bench charge. (Electrician)
82	Ensure that the batteries are clean and dry and that they are correctly topped up. Smear the terminals with PX-7.
83	Clean and thoroughly dry the vehicle.
	Every two weeks
85	Carry out Operations a to q of the Driver's Daily Check.
86	Check for any signs of rust formation and report if any is found.
87	Carry out operation Nos 81 and 82 above.

SPECIAL SERVICING INSTRUCTIONS

1. BATTERIES

Where the temperature is frequently below freezing point (0°C – 32°F) the batteries must be maintained in a fully charged condition, otherwise the electrolyte may freeze.

2. TYRES AND WHEELS

Wheels, including spare wheel, will be changed round in accordance with EMER VEH GEN O 764 to ensure even tyre wear. The change should normally be carried out every 5,000 miles, but the frequency may be varied at the unit commander's discretion.

3. COOLANT CHECK

In Theatres where the use of Ethylene-glycol is ordered, the specific gravity of the coolant must be checked after topping-up and monthly and adjusted as necessary (*Dvr Cl. 1 or Standard 1*).

4. AIR CLEANER

When dusty conditions are encountered, Operation No 67 must be carried out more frequently than is specified. In extremely dusty conditions it may be necessary to carry out this operation daily, but the frequency will, of course, be dictated by circumstances, and if necessary REME advice should be sought.

5. BRAKE ADJUSTERS

In theatres where it is found that brake adjusters are constantly seizing due to the ingress of water, the unit commander may order the dismantling and lubricating of these adjusters with XG-279.

The frequency of this servicing will of course be dictated by circumstances, and, if necessary, REME advice should be sought.

6. VIGILANT

Ensure that rockets if mounted in cradles, are secured by "D" rings and that the crutch operating lever is in the RELEASE position BEFORE removing the operating cylinder filler plug. *Mk 2/6 only.*

LIST OF LUBRICANTS WITH SEVERE WINTER EQUIVALENTS

NOTES

- The lubricants listed below are not necessarily all used on the equipment to which this Servicing Schedule refers.
- Changes of lubricant to the SEVERE WINTER grade should not be made unless the temperature is expected to be consistently below -5°C (23°F). REME advice should be sought before ordering changes.
- OC-600 and OMD-330 may be too viscous at -5°C in particular applications and may have to be changed to OMD-40 if the temperature falls consistently below 0°C (32°F). REME advice should be sought before ordering changes.
- Temperatures below -20°C (-4°F) are classified ARCTIC, and special instructions will be issued for equipment which have to operate in these temperatures.

Temperate/Tropical (Above -5°C)	Severe Winter (-5°C to -20°C)
OILS	
OX-8 OM-13 OM-15 OM-33 OMD-75 OM-58 OMD-75 OEP-220 OMD-330 OC-600	No change No change No change No change No change OM-13 OMD-75 OEP-38 OMD-40 OMD-75
GREASES	
LG-190 XG-220 XG-271 XG-279 XG-280 LG-280 LG-320	No change No change No change No change No change LG-380 LG-380