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## ASSOCIATED PUBLICATIONS

Army Code No.

Servicing Guide, Ferret, Mk 1 and 2 .....	70423
Servicing Guide, Ferret, All Marks .....	
Servicing Schedule, Ferret Mk 1 and 2 .....	14000
Servicing Schedule, Ferret Mk 4 and 5 .....	60402
Illustrated Spare Parts List for Scout Car Ferret Mk 1 and 2 ...	14992
Illustrated Spare Parts List for Instructor's Driving Pamphlet..	70514
Commander's Functional Test .....	70416
General Purpose Machine Gun 7.62 Tk L8A1 .....	14557
Notes for RAC Signal Instructors 1966 .....	70303
Radio Servicing for AFVs .....	70183
Standing Order for Crews of AFVs (Armour Pt 8) .....	70032

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Unit Repairs for Ferret Mk 1 and 2 .....	Wheeled Vehicles V 623
Field Repairs for Ferret Mk 1 and 2 .....	Wheeled Vehicles V 624
Secondary Batteries, Lead Acid - Unit Care and Maintenance .....	Power J 318
Secondary Batteries, Lead Acid - Field and Base Maintenance and Repair .....	Power J 330

Throughout this handbook any reference to left or right is as seen from the rear of the vehicle looking forward with the turret (if fitted) pointing directly to the front.

For periods of Servicing and Lubricants to be used, reference must be made to the Servicing Guide, Chapter 2, which is based on the Servicing Schedule and is the overriding authority for vehicle servicing.

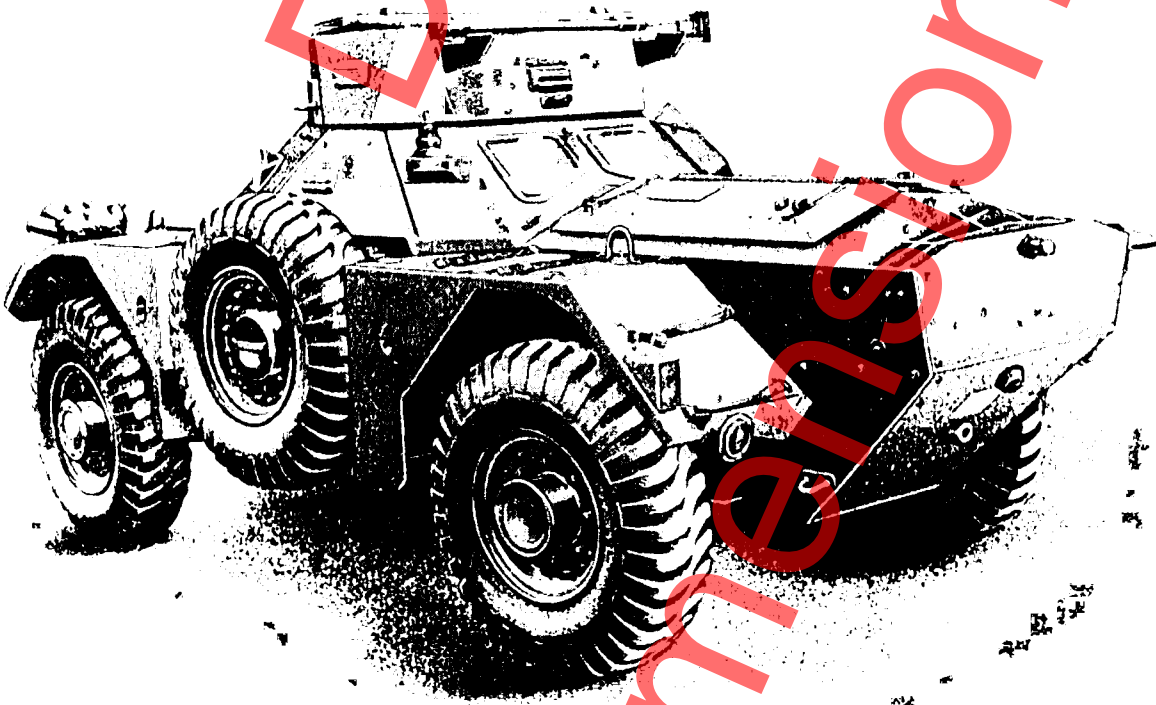
### DON'TS

1. Don't start the engine before understanding "Starting Up Procedure" Section 22.
2. Don't use the gear change pedal as a clutch pedal.
3. Don't move the forward and reverse lever while the vehicle is in motion.
4. Don't block the air intake louvres with equipment, blankets, etc.
5. Don't top up the engine oil tank before running the engine to scavenge the sump.
6. Don't tow the vehicle before reading the warning on Towing, Section 22, after para 2.
7. Don't touch the accelerator while the engine is being started with the starter carburetter in operation.
8. Don't pump the accelerator while the vehicle is standing in gear, with the engine running and the brake applied.
9. Don't use the parking brake other than when parking the vehicle.



U.4201/28.

Fig 1 Mk I/1 liaison vehicle



U4201/29

Fig 2 Mk I/2 light reconnaissance vehicle



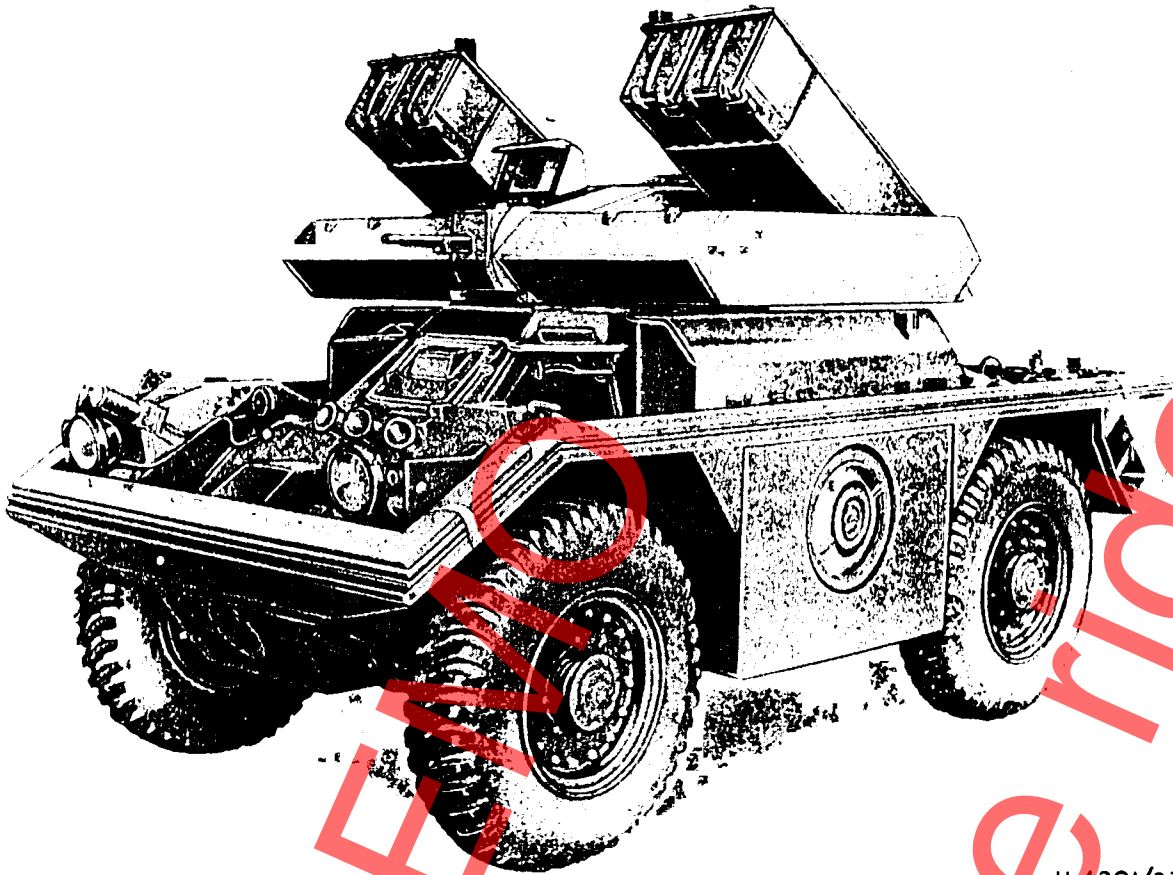
U4201/30

Fig 3 Mk 2 reconnaissance vehicle



U.4201/31

Fig 4 Mk 4 reconnaissance vehicle



U. 4201/27.

Fig 5 Mk 5 guided weapon vehicle

## CHAPTER I - INSTRUCTIONAL NOTES

### SECTION I - METHOD OF INSTRUCTION

1. The aim of Driving and Maintenance Instructions is to teach:-
  - (1) How to operate the vehicle.
  - (2) How to service the vehicle.
  - (3) How to detect and remedy simple faults.

Nothing should be taught in a D & M lesson which does not contribute to the achievement of this aim.

2. This book can be used to form the basis of a training syllabus, each section being the subject of a lesson. To assist instructors, the layout of each section is based upon the sequence of a D & M lesson.
3. The aim of D & M Instruction cannot be achieved unless each lesson takes a practical form, this must be borne in mind the whole time when teaching. The Instructor must keep his students out of the classroom and teach on the real thing - the vehicle itself. The surest way of teaching D & M is to make the whole class perform the task and think about it. This calls for close supervision by the instructor and careful preparation of questions.
4. It follows, therefore, that the number of students in a D & M class will considerably affect the standard reached at the end of the course.
5. Course organizers should, whenever possible, aim at restricting the size of a class to six students under one instructor with one vehicle. Extra students will make the task of the instructor more difficult, and lower the standard of the whole class. Instruction will be most effective if the size of the class is limited to three.
6. Attention is drawn to Successful Instruction (Army Code No.8670). This pamphlet lays down principles and methods of instruction to be followed by all instructors.

## SECTION 2 - GENERAL DESCRIPTION

1. The Ferret is an armoured four-wheel drive road and cross-country vehicle. The vehicle carries a crew of two - Commander/gunner (or controller) and driver, with the exception of the liaison type vehicles, which have a crew of three - Commander, gunner and driver.
2. Generally, the hull construction of the vehicles is the same, the liaison type vehicles have an open top fighting compartment, whereas the remaining Marks of vehicle are either equipped with a fixed or a rotateable turret which may be equipped with a light machine gun (for details see LIST OF MARKS OF VEHICLES). The Mk 3, 4 and 5 vehicles have a hull and suspension designed to carry a greater all up weight. The hull and turret (if fitted) are of welded construction. The hull being waterproofed for fording.
3. The front of the hull is provided with three driver observation ports, which have hinged visors. A laminated glass screen can be fitted in the centre port escape hatch opening to give the driver weather protection. The screen must be removed before the escape hatch can be closed. When the vehicle is closed down, driver observation is by means of a periscope mounted in each of three visors. Vision slits are provided in the hull side plates (Mk 1 and 2 vehicles) and rearward vision is provided for by two ports with top hinged visors.
4. The vehicle is powered by a 6 cylinder overhead valve, water cooled B60 type gasoline engine, which is of unit construction with a fluid coupling, gearbox and transfer gearbox. The ignition system is waterproofed and fully screened to prevent radio interference.
5. A radiator of the gilled tube type is provided, together with a twelve bladed fan for engine cooling purposes. The cooling system is pressurized to 10 lbf/in<sup>2</sup>.
6. The power from the engine is transmitted through the fluid coupling to a five speed pre-selective gearbox. The gearbox drives a transfer gearbox which in turn is connected to each wheel station by propellor shafts and bevel boxes. A reduction gear is located in each wheel hub. Five speeds are also obtainable on the selection of reverse gear.
7. Fully independant suspension is employed and consists of double unequal length wishbone links with a coil spring and hydraulic damper at each wheel station.
8. Hydraulic brakes are fitted to all Marks of vehicle. The Mk 1 and 2 vehicles are equipped with drum internal expanding, two leading shoe type fitted to all wheels, whereas the Mk 3, 4 and 5 vehicles have disc type fitted to all wheels. The Mk 1 and 2 vehicles parking brake operates mechanically on all four wheel drums. The Mk 3, 4 and 5 vehicles have their parking brakes operating on drums located on the input to the front bevel boxes, the brake being of the external contracting type. The hydraulic braking system is operated by a foot pedal, which is assisted by a vacuum servo unit on Mk 3, 4 and 5 vehicles, and also on a number of Mk 1 and 2 re-worked vehicles.



9. Divided disc road wheels with cross-country types are fitted. The tyres are of the run-flat type and enable a limited amount of running to be done after a wheel has been punctured.
10. Steering is by means of steering wheel and recirculating ball system.
11. Fuel is carried in a single tank positioned between the engine and fighting compartment.
12. The negative earth return electrical system is 24 volts. The main earth connection is made at the distribution box. Two 12 volt batteries connected in series are housed in separate containers, one each side of the gearbox.
13. A flotation screen is provided on Mk 1/3, 3, 4 and 5 vehicles, which enables the vehicles to float safely in reasonable conditions; propulsion and steering when afloat is by means of the road wheels.

#### LIST OF MARKS OF VEHICLES

- Mk 1 - Original liaison vehicle - armament .30 Browning MG.
- Mk 1/1 - As Mk 1 but fitted with thicker side and rear hull plates during manufacture - armament .30 Browning MG.
- Mk 1/2 - Light reconnaissance vehicle. As Mk 1/1 but fitted with a fixed turret with hinged roof door - armament Bren LMG.
- Mk 1/3 - As Mk 1/1 but fitted with flotation screen - armament .30 Browning MG.
- Mk 2 - Original reconnaissance vehicle with two-door turret - armament .30 Browning MG.
- Mk 2/1 - Original Mk 1 with 2 door turret armament .30 Browning MG with Bren gun stowage.
- Mk 2/2 - Original Mk 1 fitted with extension collar and three-door turret - armament .30 Browning MG.
- Mk 2/3 - As original Mk 2 but fitted with thicker side and rear hull plates during manufacture - armament .30 Browning MG.
- Mk 2/4 - Original Mk 2 fitted with welded-on applique plates on the side and rear of the hull and turret - armament .30 Browning MG.
- Mk 2/5 - As Mk 1 fitted with applique plates as the Mk 2/4 - armament .30 Browning MG with Bren gun stowage.
- Mk 2/6 - Vigilant - As Mk 2/3 converted as missile launcher - armament .30 Browning MG.
- Mk 2/7 - As Mk 2/6, less missile launching equipment - armament .30 Browning MG.
- Mk 2/8 - As Mk 2/3 but fitted with 7.62 mm GPMG.
- Mk 3 - Liaison vehicle, basic hull for Mk 4 and 5.
- Mk 4 - Reconnaissance vehicle with two door turret or a Mk 2/3 rebuilt to new specification - armament .30 Browning MG.
- Mk 5 - Mk 3 hull with turret for missile launching armament and 7.62 mm GPMG.

## SECTION 3 - DATA

DIMENSIONS, SEE Fig 6 and 7

### WEIGHTS

Liaison vehicle (up armoured  
heaviest versions)

Unladen .....	3 tons 9 cwt 0 qr	(7,728 lb (3,505 kg))
Laden (including crew, armament, fuel, oil, water and all equipment)*		
Front axle .....	1 ton 17 cwt 1 qr	(4,172 lb (1,892 kg))
Rear axle .....	2 tons 5 cwt 3 qr	(5,124 lb (2,324 kg))
Total .....	4 tons 3 cwt 0 qr	(9,296 lb (4,216 kg))

Reconnaissance vehicle (up armoured  
heaviest version)

Unladen .....	3 tons 12 cwt 2 qr	(8,120 lb (3,683 kg))
Laden (as at *) .....	1 ton 19 cwt 2 qr	(4,424 lb (2,006 kg))
Rear axle .....	2 tons 7 cwt 0 qr	(5,264 lb (2,387 kg))
Total .....	4 tons 6 cwt 2 qr	(9,688 lb (4,394 kg))

Mk 3

Laden (as at *)		
Front axle .....	2 tons 12 cwt 0 qr	(5,824 lb (2,643 kg))
Rear axle .....	2 tons 16 cwt 0 qr	(6,272 lb (2,845 kg))
Total .....	5 tons 8 cwt 0 qr	(12,096 lb (5,488 kg))

Mk 4

Unladen .....	4 tons 13 cwt 3 qr	(10,500 lb (4,763 kg))
Laden (as at *)		
Front axle .....	2 tons 12 cwt 0 qr	(5,824 lb (2,643 kg))
Rear axle .....	2 tons 16 cwt 0 qr	(6,272 lb (2,845 kg))
Total .....	5 tons 8 cwt 0 qr	(12,096 lb (5,488 kg))

Mk 5

Unladen .....	5 tons 0 cwt 0 qr	(11,200 lb (5,080 kg))
Laden (as at *)		
Front axle .....	2 tons 12 cwt 0 qr	(5,824 lb (2,643 kg))
Rear axle .....	3 tons 4 cwt 0 qr	(7,168 lb (3,251 kg))
Total .....	5 tons 16 cwt 0 qr	(12,992 lb (5,894 kg))

### BRIDGE CLASSIFICATION

Mk 1 and 2 .....	4
Mk 3, 4 and 5 .....	To be issued later

### FORDING DEPTH

Mk 1 and 2	
Unprepared .....	3 ft 0 inches
Prepared .....	5 ft 0 inches
Mk 3, 4 and 5	
Unprepared .....	3 ft 4 inches
Prepared .....	Full flotation

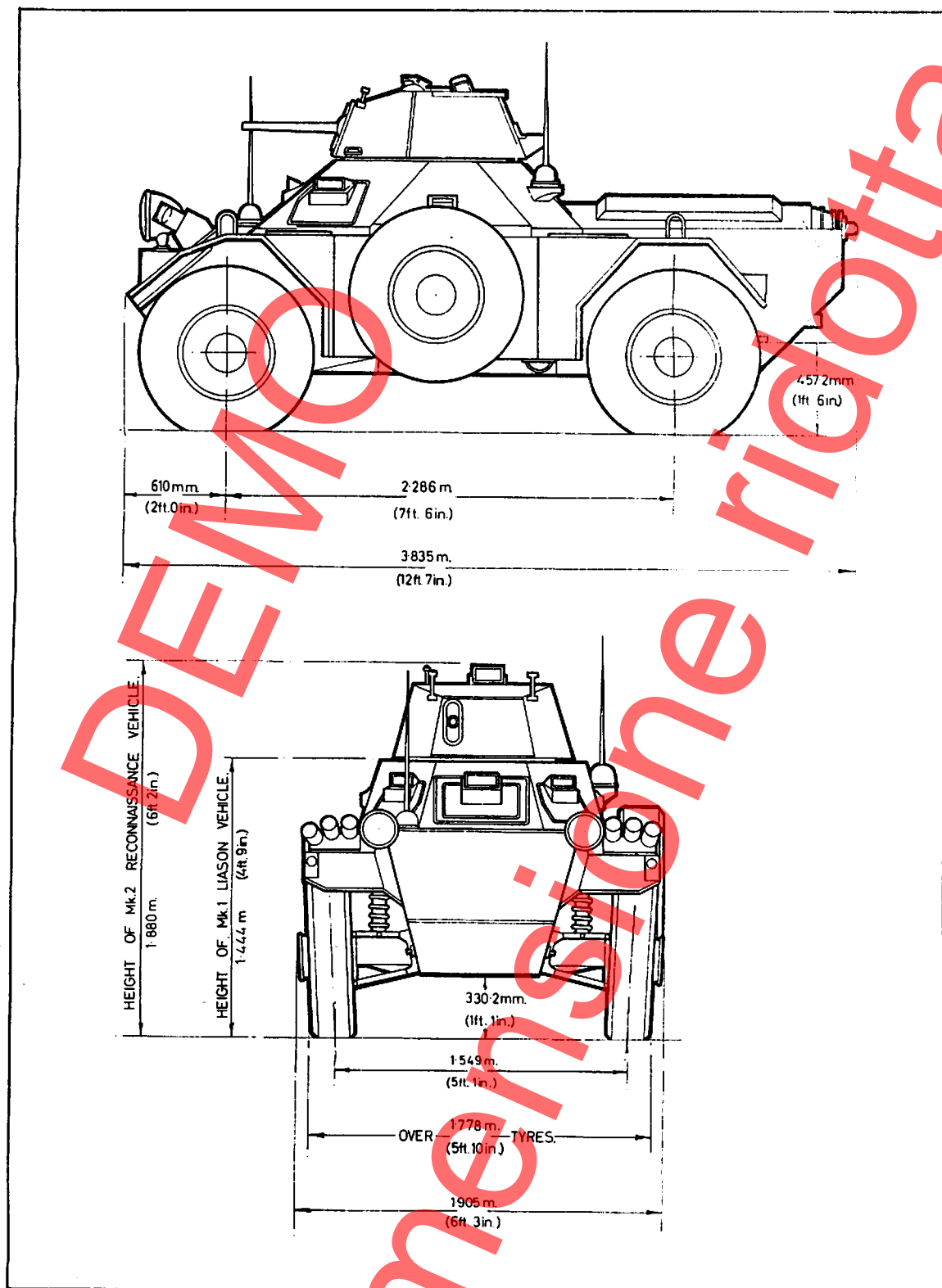


Fig 6 Overall dimensions, Mk 1 and 2 vehicles

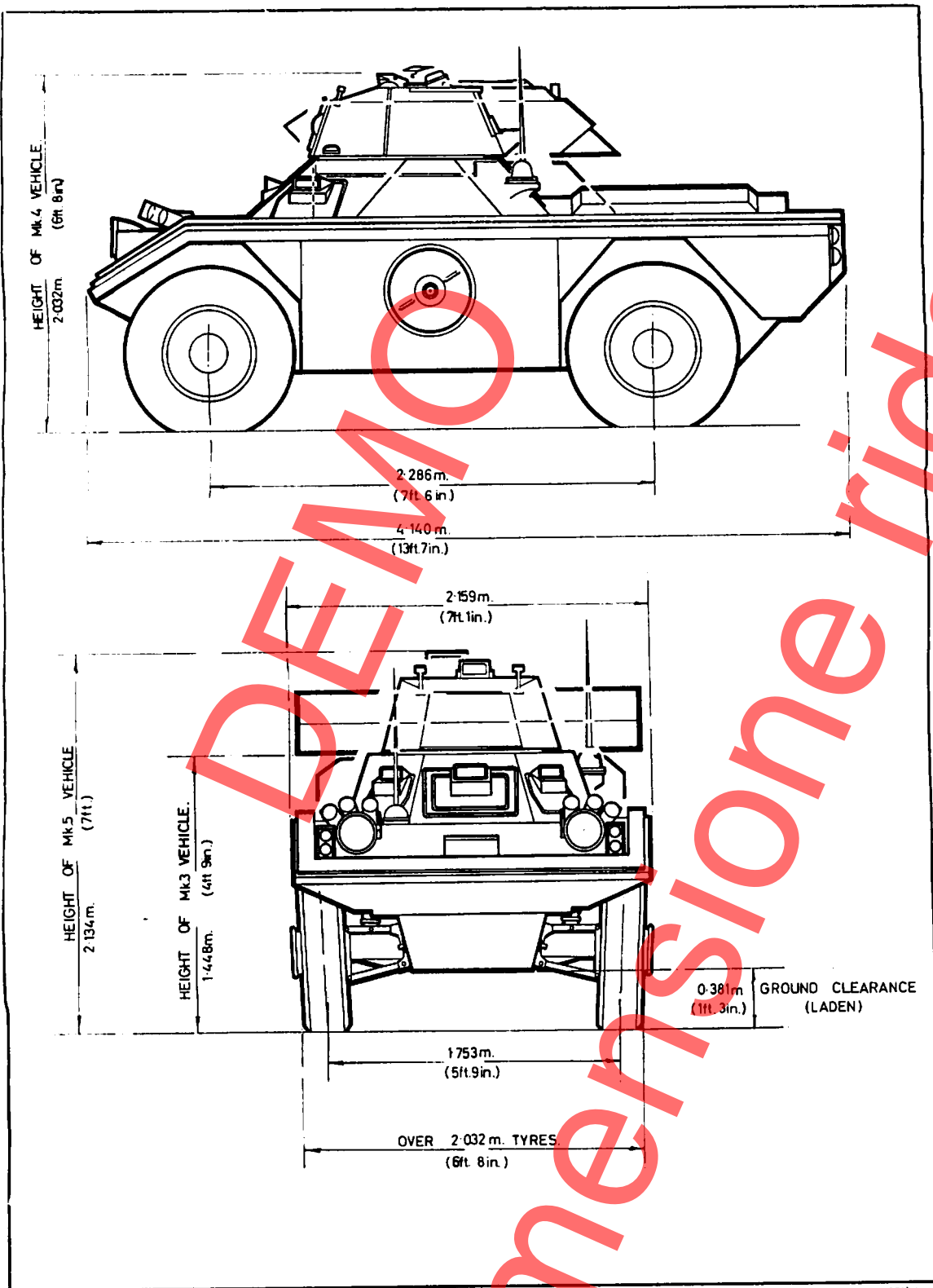
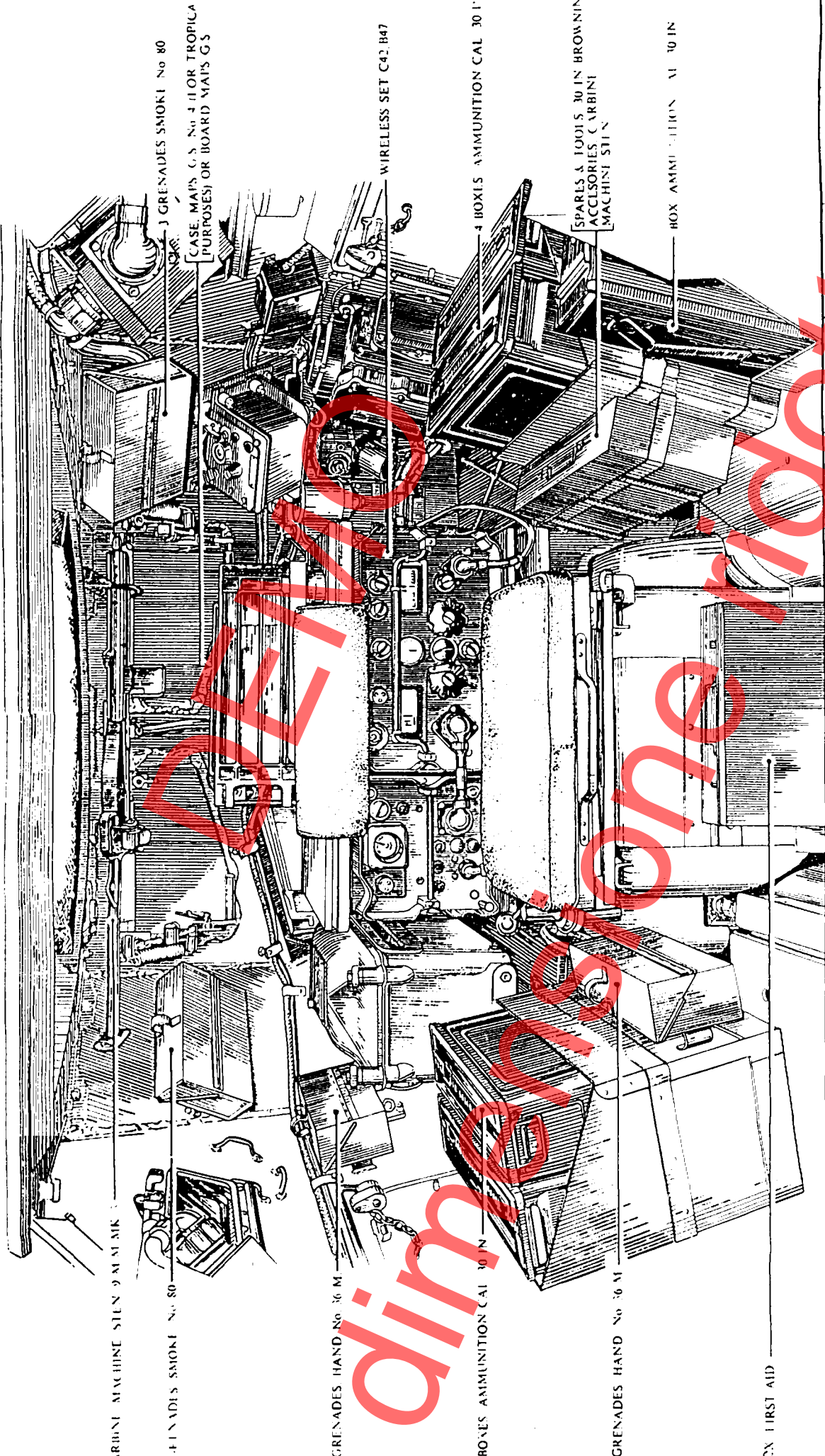


Fig 7 Overall dimensions, Mk 3, 4 and 5 vehicles



BARBETTE MACHINE STEIN 9 M M M K

GRENADES SMOKE No. 80

GRENADES HAND No. 36 M

BOXES AMMUNITION CAL 30 IN

GRENADES HAND No. 36 M

BOX FIRST AID

3 GRENADES SMOKE No. 80

CASE, MAPS G.S. No. 4 (FOR TROPICAL PURPOSES) OR BOARD MAPS G.S.

WIRELESS SET C42, B47

4 BOXES AMMUNITION CAL 30 IN

SPARES & TOOLS 30 IN BROWNING ACCESORIES CARBINE MACHINE STEIN

BOX AMMUNITION M 10 IN

SKETCH BY: R. HASSAN  
 CHECKED BY: SHEET #

F.V. 260845

FERRET MK. 2  
 STOWAGE SKETCH  
 INTERIOR - TURRET & HULL REAR.

6 2 57 8 2 61

FOR CHIEF ENGINEER (RVD)  
*R Hassan*

BOX, AMMUNITION, CAL. 30 IN FEED TRAY  
 EXTRACTOR, RUPTURED CARTRIDGE, MK 4  
 CAN, OIL, MG, MK 1  
 ROD, CLEANING, JOINTED, CAL. 30 IN M. 1.  
 IN CASE

PERISCOPE No. 17 MK 1 (SPARE)

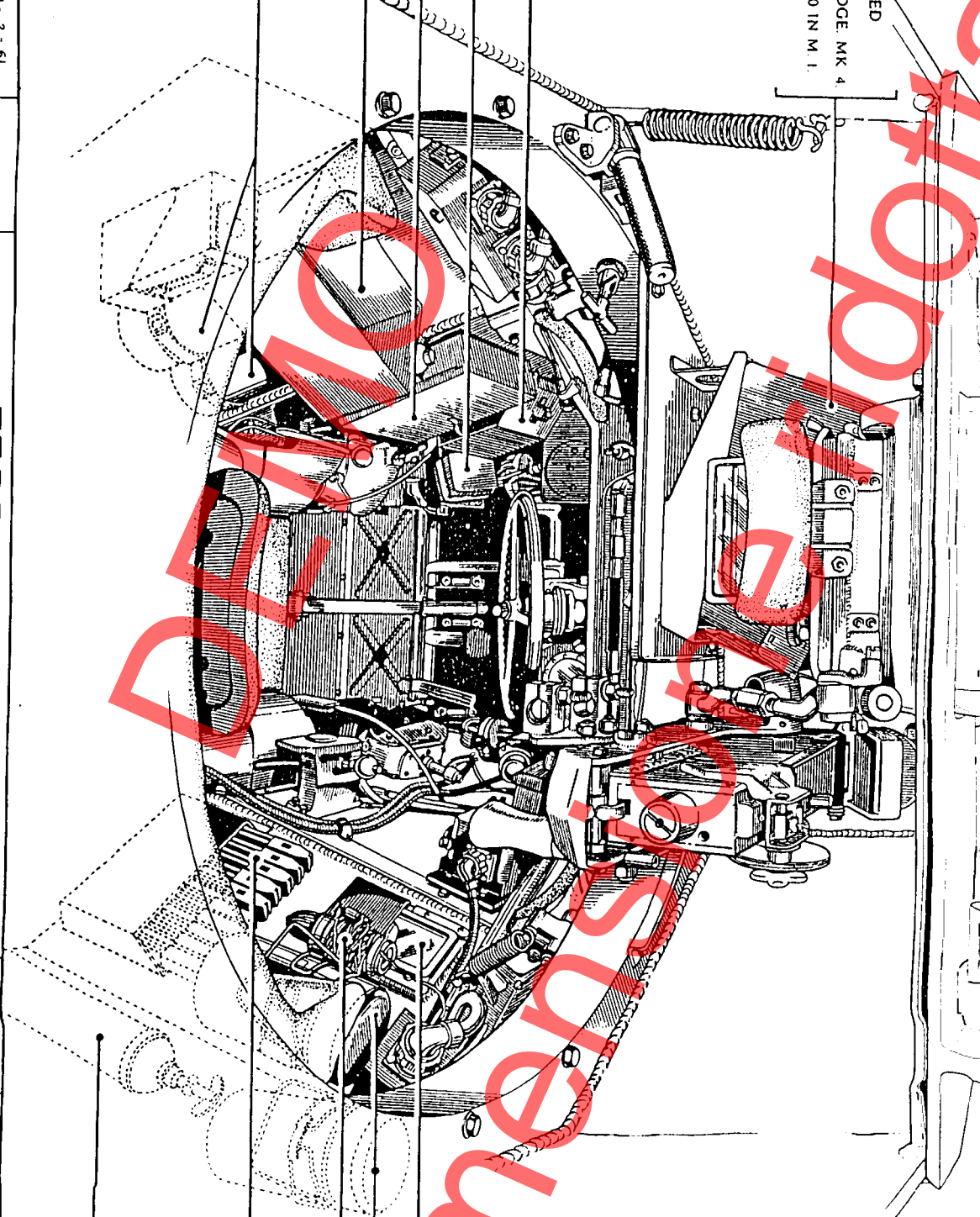
BOX, TIN FOR 3 ELECTRIC LAMP BULBS (SPARE)

LIGHT, PERISCOPE No. 17 MK 1 (SPARE)

WIRELESS SET No. 88 MAN PACK, IF CARRIED

BOTTLES, WATER

3-1-54 3-12-57 8-2-61



10 MAGAZINES MACHINE CARBINE 9 M M 32 RDS MK 2

2 JARS, THERMOS, 1 QT.

LAMP, INSPECTION, ELECTR No. 2 MK 1

SCREEN, TINT, C W, GLASS BLOCK, T.L. 2776 (SPARE)

EXTINGUISHER, FIRE, C.T.C. OR WET WATER

**FERRRET MK. 2.**  
**STOWAGE SKETCH**  
**INTERIOR TURRET & HULL FRONT**

SKETCH BY D. STEVENS

CHIEF ENGINEER I. V. R. D. E.

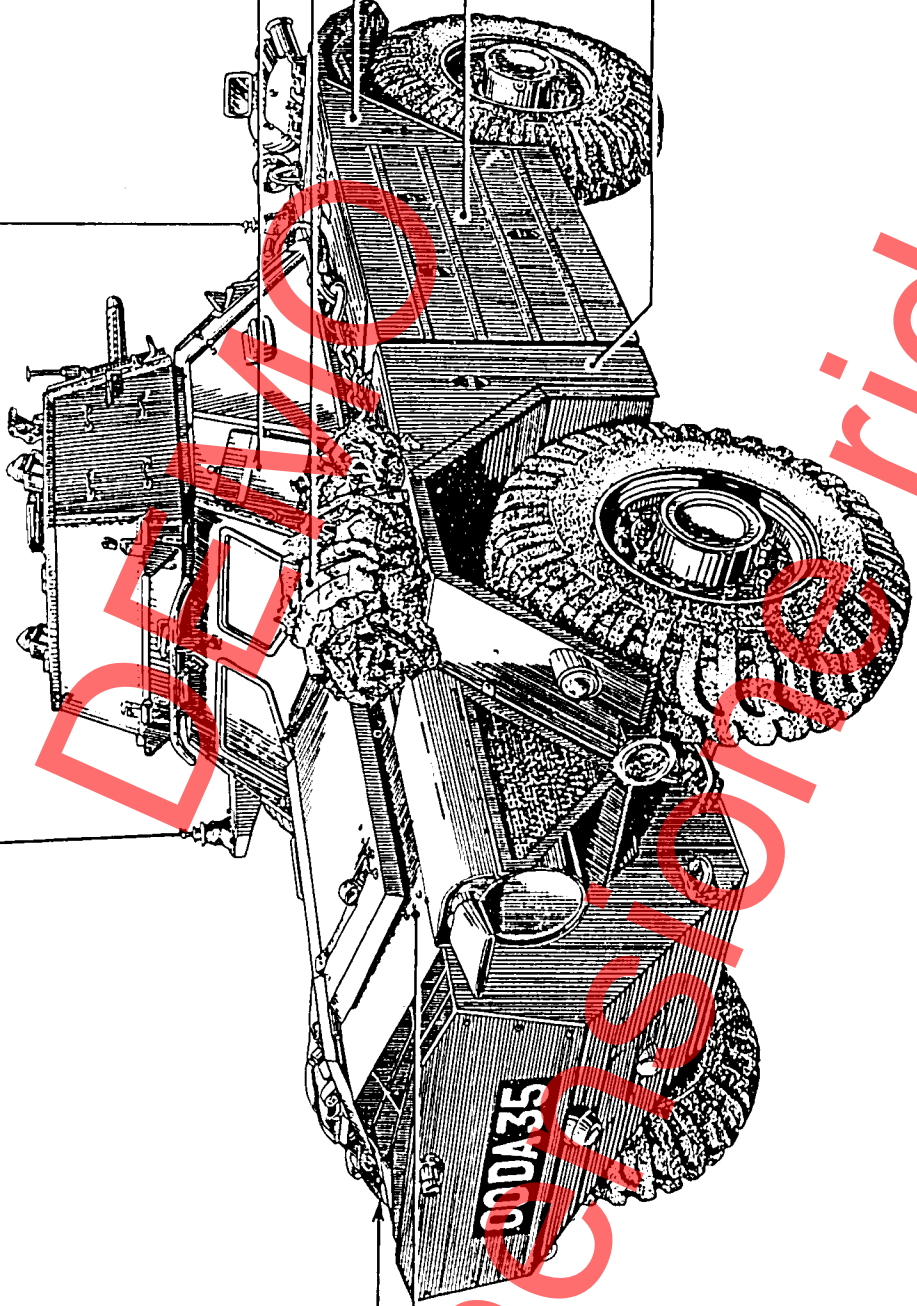
FOR CHIEF ENGINEER I. V. R. D. E.

*D. Stevens*

F.V. 26084

EXTERIOR-REAR & R/H/S.

FOR CHIEF ENGINEER I. V. R. D. E.



**FERRET MK. 2  
STORAGE SKETCH  
EXTERIOR-REAR & R/H/S.**

3-13-57	8-2-61	SKETCH BY R. HASSAN	CHECKED BY	4 SHEETS	SHEET NO.
		<i>Abdullah</i> FOR CHIEF ENGINEER I.V.R.D.E.		<b>F.V. 26084</b>	

- BOX, FIRST AID (SMALL.)
- NET GARNISHED HEATHER 14 FT. x 14
- 2 RATIONS 24 HR. MAN PACKS.
- RATIONS 10 MEN COMPO.
- 2 HAVERSACKS W/E PATT.
- 1944 ALL RANKS
- 2 GREATCOATS
- SPARE 30 IN. BROWNING MG. BARREL
- IN COVER
- MATCHET 15 IN. BLADE IN SHEATH
- WITH LANYARD
- 2 SATCHELS SIGNALS.
- CONTAINING MICROPHONE WITH
- HEADGEAR ASSEMBLIES No. 10 AND
- CONNECTIONS, 5 POINT, No. 34
- HOLDER, VEHICLE LITERATURE
- VESSEL, BOILING ELECTRIC 3 PINT
- 750 WATT OR VESSEL BOILING.
- No 2 MK 1

NOTE  
STOWED AS CONVENIENT  
MOUNTING TRIPOD M.G. CAL 30 M 2  
2 BEDDING ROLLS COMPRISING:  
3 BLANKETS & GROUND SHEET.

- EXTINGUISHER, FIRE, MB OR CB
- IN BRACKET.
- 2 PLUGS SPARKING 14 M.M. (SPARE)
- AN OIL WESCO 1 PT. FLEX SPOUT
- WITH HOLDER
- AN OIL CYLINDRICAL 1 QT.
- STOWED IN ENGINE COMPT

W.O. CODE NO. 13273  
(SUPERSEDES CODE NO. 1082)

SIGHT PERISCOPE A.F.V. No. 3 MK. 1  
GUN MACHINE CAL. 30 IN. BROWNING.

3 PERISCOPES No. 17 MK. 1

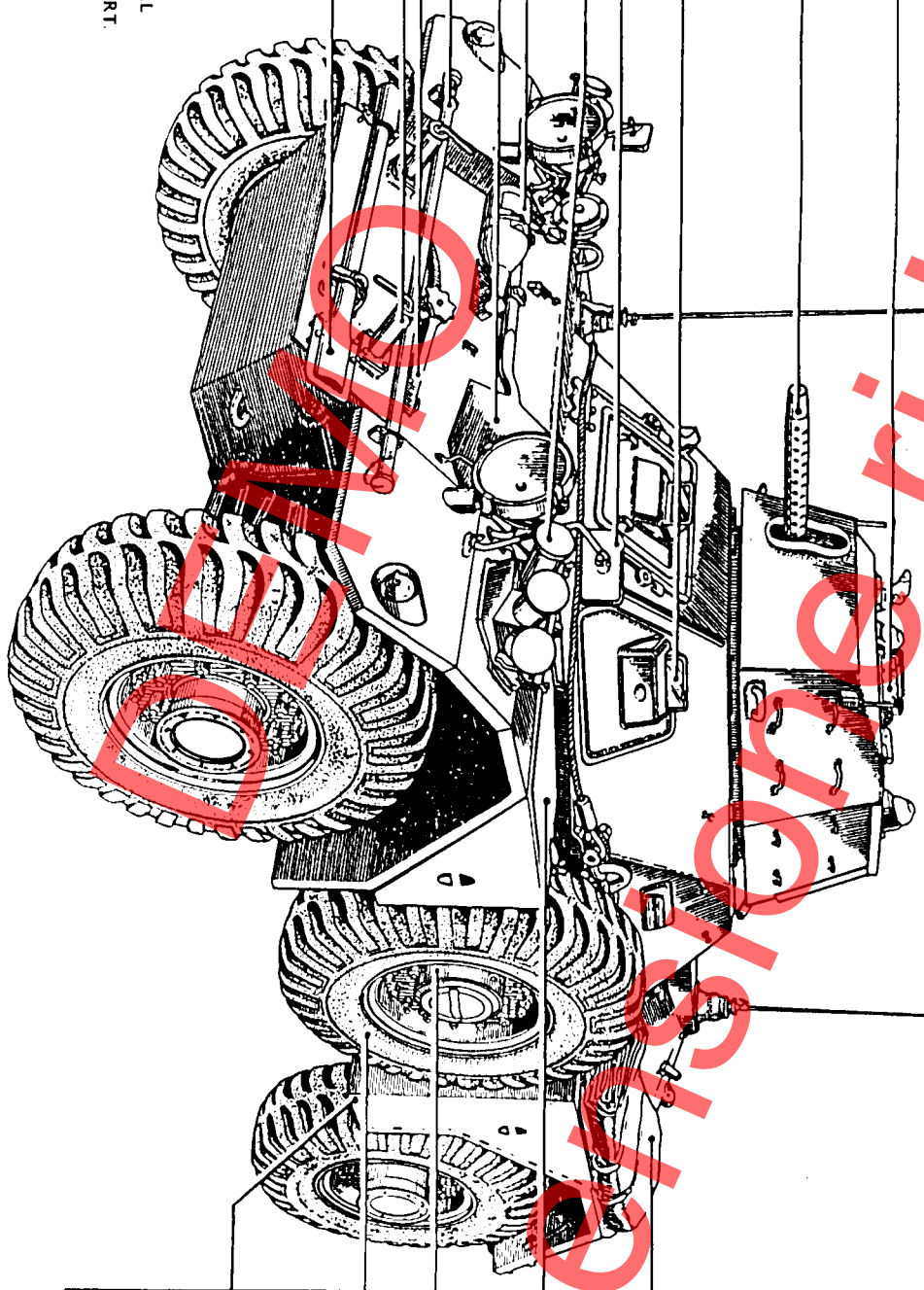
MIRRORS DRIVING  
GRENADES, SMOKE No. 80 IN EACH DISCHARGER (WITH COVERS)

EXTINGUISHER FIRE MB OR CB  
SHOVEL G.S.

ANTENNAE ROD, F. CASES  
CARRYING No. 2

AXE PICK HEAD 4 1/2 LBS.  
LAMP FOR SAND CHANNELS (WHEN STOWED)

AXE PICK HELVE 4 1/2 LBS



NOTE:  
8 PADLOCKS CARRIED ON EXTERNAL LOCKERS, HATCHES AND DOORS  
CHAINS NON-SKID UNIT TRANSPORT

COVER WATERPROOF: 12 x 94

2 RESPIRATORS ANTI-GAS LIGHT  
TYPE CONTAINERS MK. 2 (SPARE  
2 RESPIRATORS ANTI-GAS (LIGHT)  
NOT FITTED WITH 5 POUCH  
DEVICE IN HAVESACK.  
SUIT ANTI-GAS IN VALISE  
GLOVES ANTI-GAS WRAPPED IN 2  
CAGES, ANTI-GAS  
BLEACHING POWDER (2 LB. TIN)  
COVER MUZZLE (M.G. 30 BROWNING  
COVER MUZZLE SMOKE GRENADE  
DISCHARGER  
WHEEL (SPARE) C.W. TYRE  
9-00 x 16 R.F.

COOKER PORTABLE No. 2 MK. 2  
JACK, LIFTING, SCREW 4 TON TRIPLI  
EXTENSION  
GUN, LUBRICATING, POM POM TYPE  
FUNNEL FUEL FILTER  
INJECTOR, OIL LARGI  
PUMP, TYPE FOOT CAR TYPE  
C/W HOSE AND CONNECTION  
BAG, TOOLS  
VEHICLE, ENGINE, AND SPECIAL  
KIT, TANK CLEANING,  
HANDLE, STARTING  
WIRE, COPPER, SOIL No. 20 S.W.G  
WHEEL BRACE ASSEMBLY

6-4-54	3-11-57	8-2-61		
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FERRRET MK. 2.  
STORAGE SKETCH  
EXTENDING

SKETCH BY D. STEVENS	CHECKED BY	4 SHEETS	SHEET No. 1
	<i>Stevens</i>		EV 2609 AC