

TRUCK, TRANSPORTER, FLOATING BRIDGE,
MC3, W/WINCH, MACK,
LAUNCH AND RECOVERY VEHICLE (LRV)
NSN 2320-66-131-6653
MANUFACTURE AND FITTING OF ROOF RACK

MODIFICATION INSTRUCTION

EMEI PREFACE:

1. This EMEI is authorised for issue by the authority of the CGS. It provides direction and mandatory controls and procedures for the maintenance and support of equipment. Personnel are to obey the instructions and follow the procedures contained in this publication.

Reference: A. EMEI VEH G 703.

Introduction

1. This instruction details the manufacture and fitting of a roof rack to the Truck, Transporter, Floating Bridge, MC3, W/Winch, Mack, Launch and Recovery Vehicle (LRV).
2. The roof rack incorporates a ladder which will allow LRV operators to move across the roof of the cab and prepare Floating Support Bridge (FSB) modules in a safe manner. The roof rack also incorporates an amber revolving light.

Note:

1. NSN and Designation used in this instruction were current at the date of issue. If twelve months or more have expired since issue, the NSN should be checked for supersession.

General

3. Estimated Manhours to Perform. 6 hr.
4. Priority. Group 1. This modification is to be carried out immediately as a safety requirement.
5. Item Affected. Truck, Transporter, Floating Bridge, MC3, W/Winch, Mack, Launch and Recovery Vehicle (LRV).
6. Action Required. By RAEME workshops as directed by HQ Log Comd.
7. Stores Required. The stores required are detailed in Table 1 overleaf.

TABLE 1 - STORES REQUIRED (To be demanded through normal supply channels except item 20)

Item	NSN	Designation	Qty per Equip
(a)	(b)	(c)	(d)
1.	4710-66-014-9071	Tube, Metallic Steel, Cold Drawn, Welded, 19 mm OD, 0.90 mm Wall Thk	2500 mm
2.	4710-66-067-5292	Tube, Metallic Steel, Mild, Seamless Square Hollow Section, 1/2 IN by 1/2 IN by 0.072 IN Wall Thk	50 mm
3.	4710-66-067-5295	Tube, Metallic Steel, Mild, Seamless Square Hollow Section 1 IN by 1 IN by 1.128 IN Wall Thk	13660 mm
4.	5306-66-012-7341	Bolt, Machine, BSW, Steel, Black, Unmachined, Hex Hd, W/Hex Nut 3/8 IN by 2 IN	6
5.	5306-66-019-3929	Bolt, Machine, UNC, 2A, SAE, Grade 5 Steel, Hex Hd, Zinc Coated, 3/8 IN by 3 IN long	7
6.	5310-66-016-5996	Washer, Lock Spring, Steel Single Turn, Rectangular Section, Cadmium Plated, 3/8 IN, Bolt Size	7
7.	5310-66-019-3967	Nut, Plain, Hex, UNC, 2B, Steel Formed, Zinc Coated, 3/8 IN	7
8.	5310-66-098-4440	Washer, Flat RD, Steel, Cad Plated and Passivated, 6 mm Bolt Size, 12.50 mm OD, 1.32 mm Thk	3
9.	5930-66-122-5861	Switch, Toggle, Engine Break (Manufacturers Part No IMR3410P5 Code 89619) (Note 1)	1
10.	6145-66-102-0463	Wire, Electrical, 41/0.32 mm, V75, PVC INS, Black, 5 mm, Auto Wire	4 m
11.	9510-66-097-0450	Metal Bar, Carbon Steel, Hot Rolled, HRC, 25 mm W by 5 mm Thk	2415 mm
12.	9510-66-097-0645	Metal Bar, Carbon Steel, Cold Finish, Bright Finish, Grade CS 1020, Hex, 46 mm across flats	315 mm
13.	9510-66-097-0648	Metal Bar, Carbon Steel, Cold Finished, Bright Finish, Grade CS1020, RD, 8 mm DIA	1200 mm
14.	9515-66-095-8989	Metal Sheet, Carbon Steel, Hot Rolled, Grade HRC, 3 mm Thk by 900 mm W by 2.40 m LG	1/30 Sheet
15.	NIC	Nut, Plain, Hex, Metric, Steel Formed, Zinc Coated, 8 mm by 1.25 mm pitch	8
16.	NIC	Expanded Metal Mesh, 'EXPAMET' No 19-30, Size 50 x 19	900 mm x 1600 mm

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TABLE 1 - STORES REQUIRED (To be demanded through normal supply channels
except item 20) (Cont'd)

Item	NSN	Designation	Qty per Equip
(a)	(b)	(c)	(d)
17.	NIC	Label, Flashing Light (Manufacturers Part No X50RU243 Code 89619) (Note 1)	1
18.	NIC	Bolt, Machine, 6 mm DIA by 25 mm Lg by 1.25 mm pitch with nut	3
19.	NIC	Washer, Flat, RD, Steel, Cad Plated and Passivated, 8 mm Bolt Size	3
20.	NIC	Amber Revolving Light (Manufacturers Part No 1722) (Note 2)	1 (available on request from MEA ATTN: SO3 ENGR EQUIP)
21.	9905-66-039-2341	Plate Modification Record Aluminium, 90 mm by 58 mm by 0.92 mm Thk	1

Note:

1. Manufacturers Part Numbers are Mack Trucks Australia Pty Ltd numbers.
2. Manufacturers Part Number is a Hella Australia Pty Ltd number.

Detail

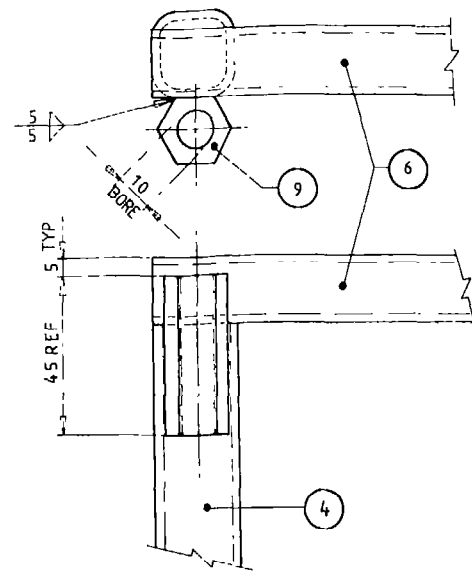
8. Manufacturing and Fitting Procedure.
 - a. Manufacture LRV roof rack in accordance with Figure 1 (MEA Drawing No 1589-1).
 - b. Manufacture ladder in accordance with Figure 2 (MEA Drawing No 1589-3).
 - c. Manufacture LRV roof rack retaining bolts in accordance with Figure 3 (MEA Drawing No 1589-4).
 - d. Manufacture cage weldment for the revolving light in accordance with Figure 4 (MEA Drawing No 1589-2).
 - e. Check the fit of the roof rack and ladder on the LRV cab. Adjust as necessary to fit neatly into the LRV cab gutters.
 - f. Clean off exposed surfaces, prime and paint all manufactured components olive drab.
 - g. Fit the roof rack to the LRV with amber light mounting plate to front of LRV.

- h. Position the ladder on the right hand side of the cab with the middle bolt in line with the upright of the roof rack. Drill three holes in the rear wall of the LRV cab to match (the lining behind the drivers seat will have to be removed).
- i. Fit the ladder to the roof rack and the LRV cab (spacers are to used in the middle and left hand bolts between the ladder and the cab wall and the bracing is to be located on the inside wall of the cab).
- j. Fit the amber revolving light in the following sequence:
- (1) wire from B3 of Black Out Switch (see wiring diagram in Ref A) to Switch, Toggle, Engine Break;
 - (2) wire from Switch, Toggle, Engine Break to Terminal 7 of yellow plug;
 - (3) wire from Terminal 7 of yellow plug behind the dash and through the front right hand cab pillar;
 - (4) route the wire behind the roof lining and insert a bullet type disconnection link. Drill a hole through the cab assembly vent roof centrally 50 mm rear from the front edge of the rubber seal (see Fig 5). Route wire through drill hole and fit with rubber grommet;
 - (5) connect wire to revolving light via central hole in mounting plate;
 - (6) earth revolving light to mounting plate via screw hole (adjacent to central hole in mounting plate);
 - (7) locate revolving light and rubber base gasket centrally on the mounting plate with the amber light cover release catch forward. Remove the amber light cover. Mark and drill holes in the mounting plate to suit the hexagonal slots of the revolving light base and then fit the revolving light to the mounting plate;
 - (8) fit the Switch, Toggle, Engine Break with Label, Flashing Light into the instrument panel as shown in Fig 6;
 - (9) check the correct functioning of the revolving light; and
 - (10) position the cage centrally over the revolving light then mark and drill holes in the mounting plate to suit. Fit the cage over the revolving light.

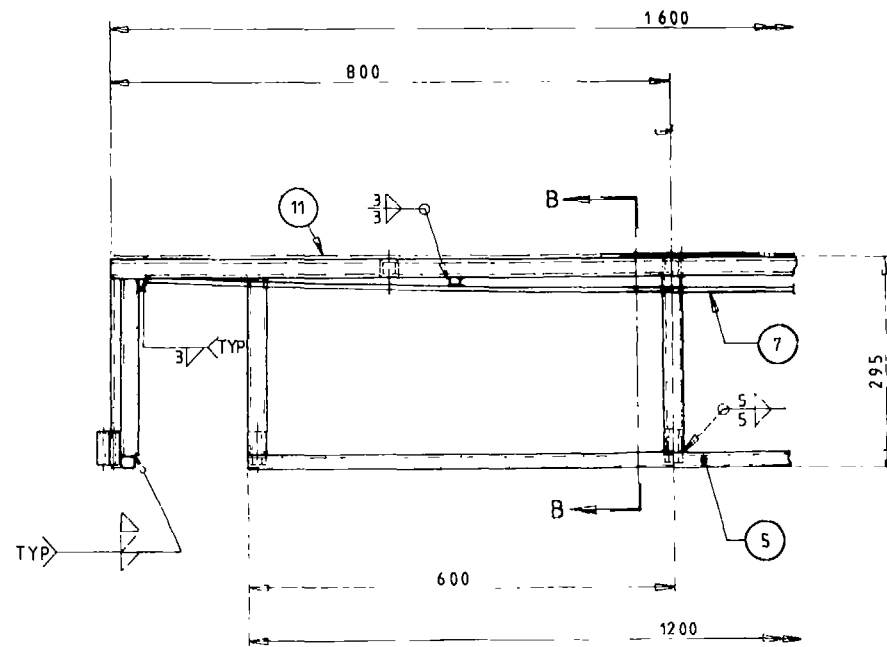
Record of Modification

9. Position and secure (using suitable screws or rivets) the modification plate on the angled kick plate 230 mm beneath the left hand group of three hydraulic control levers on the LRV operator station.
10. Deface the numeral 1 on the modification plate.
11. Enter details of the modification into the Record Book for Service Equipment - Army, GM 120.

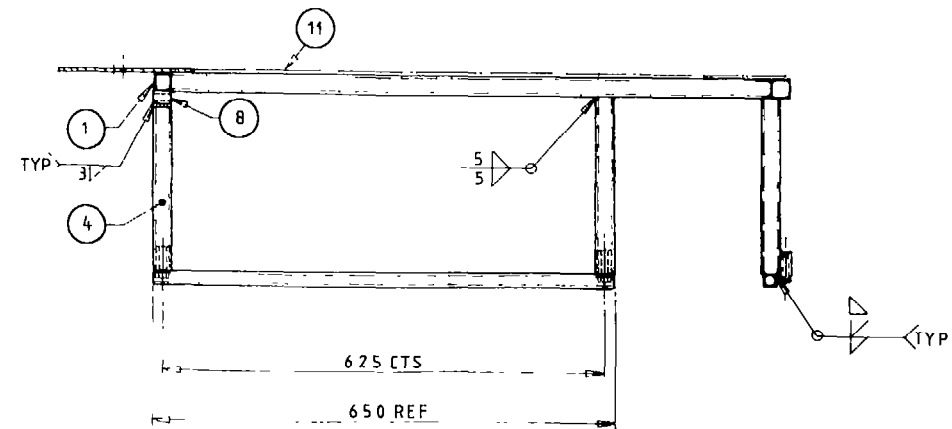
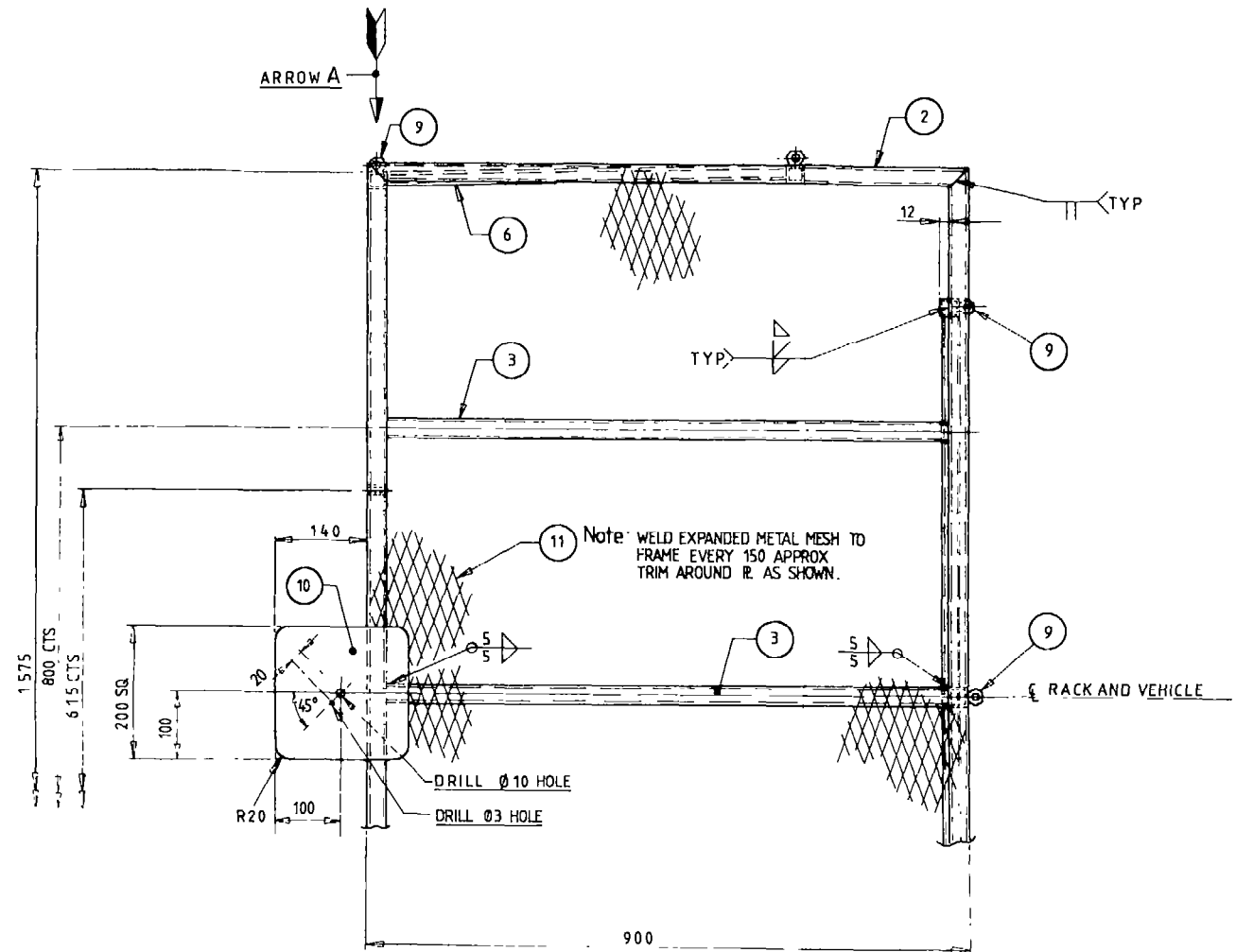
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VIEW ON ARROW A
SCALE-1:1
TYPICAL 7 PLACES



REMOVE ALL SHARP EDGES
ASSEMBLY SYMMETRICAL ABOUT ϵ
WIRE BRUSH AND GRIND SMOOTH ALL WELDED JOINTS

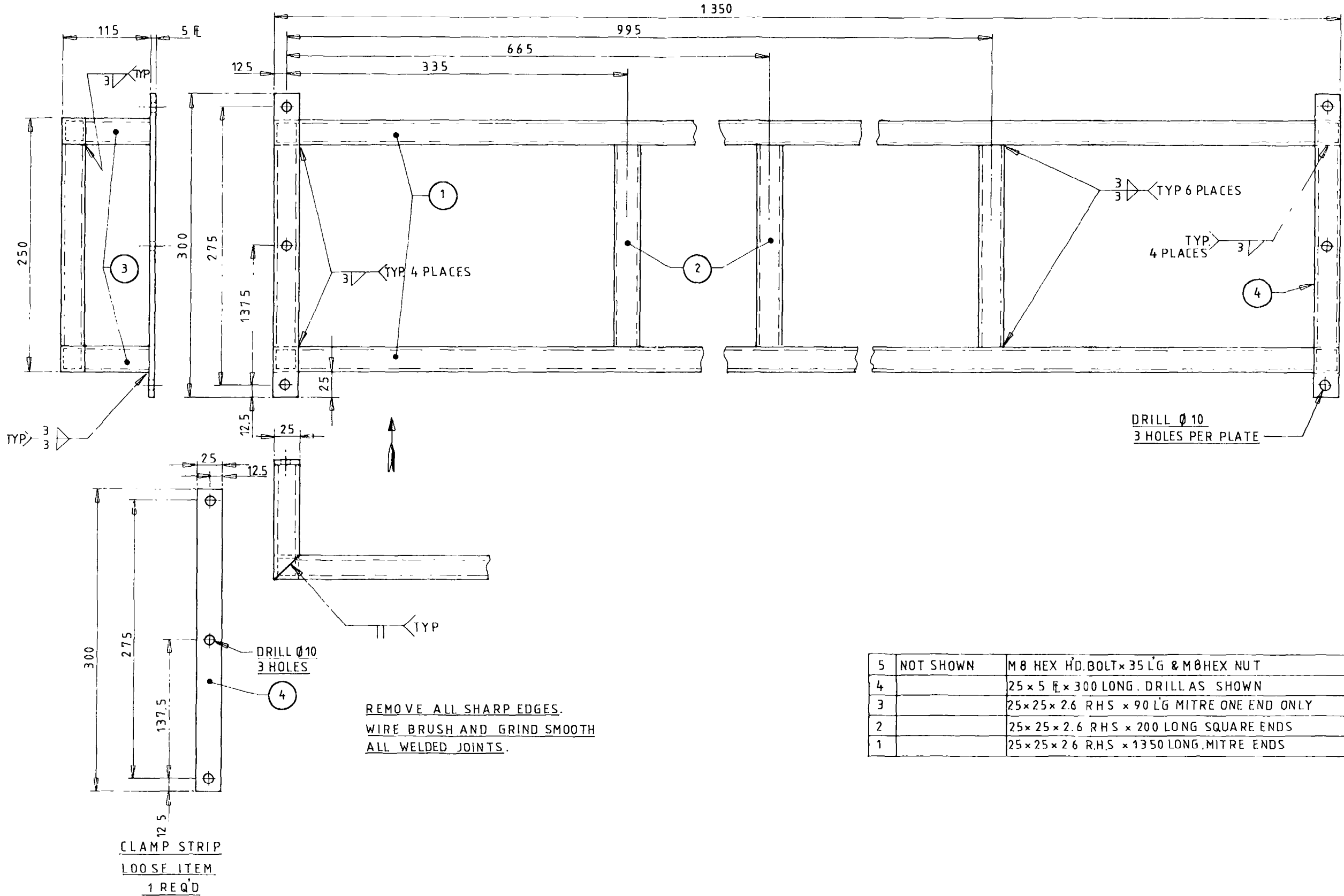


SECTION B-B

REMOVE ALL SHARP EDGES
ASSEMBLY SYMMETRICAL ABOUT ϵ
WIRE BRUSH AND GRIND SMOOTH ALL WELDED JOINTS

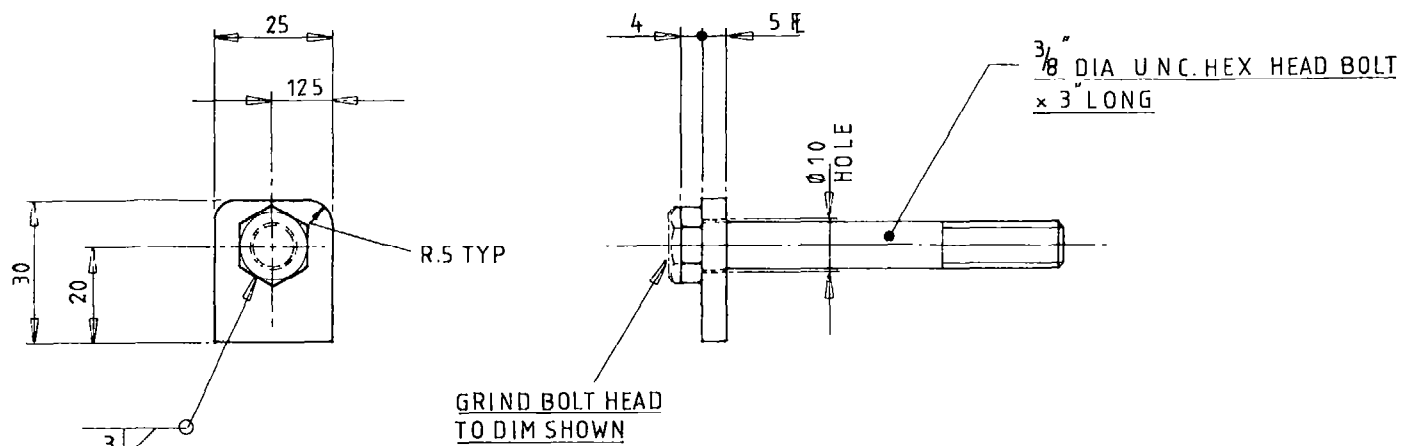
ITEM	DRAWING OR PART NO	DESCRIPTION	QTY
11		EXPANDED METAL MESH -'EXPAMET' N° 19-30 SIZE 50 x 19	900x1600
10		250 x 250 x 3 THK M S PLATE DRILL AS SHOWN	1
9		MS HEX BAR 19A/F x 45 LONG BORE AS SHOWN	7
8		13 x 13 x 1.8 R H S x 25 LONG	2
7		25 x 5 R x 1515 LONG	1
6		19 x 19 x 1.8 R H S x 650 L'G SQUARE ENDS	2
5		19 x 19 x 1.8 R H S x 1200 L'G SQUARE ENDS	1
4		25 x 25 x 2.6 R H S x 250 L'G SQUARE ENDS	7
3		25 x 25 x 2.6 R H S x 850 L'G SQUARE ENDS	3
2		25 x 25 x 2.6 R H S x 900 L'G MITRE ENDS	2
1		25 x 25 x 2.6 R H S x 1600 L'G MITRE ENDS	2

FIG 1 - ROOF RACK ASSEMBLY



5	NOT SHOWN	M 8 HEX HD. BOLT x 35 LG & M 8 HEX NUT	6
4		25 x 5 x 300 LONG. DRILL AS SHOWN	3
3		25 x 25 x 2.6 RHS x 90 LG MITRE ONE END ONLY	4
2		25 x 25 x 2.6 RHS x 200 LONG SQUARE ENDS	5
1		25 x 25 x 2.6 R.H.S x 1350 LONG, MITRE ENDS	2

FIG 2 - LADDER ASSEMBLY



NOTE
1 REMOVE ALL SHARP EDGES

FIG 3 - CLAMPING BOLT - ROOF RACK ASSEMBLY

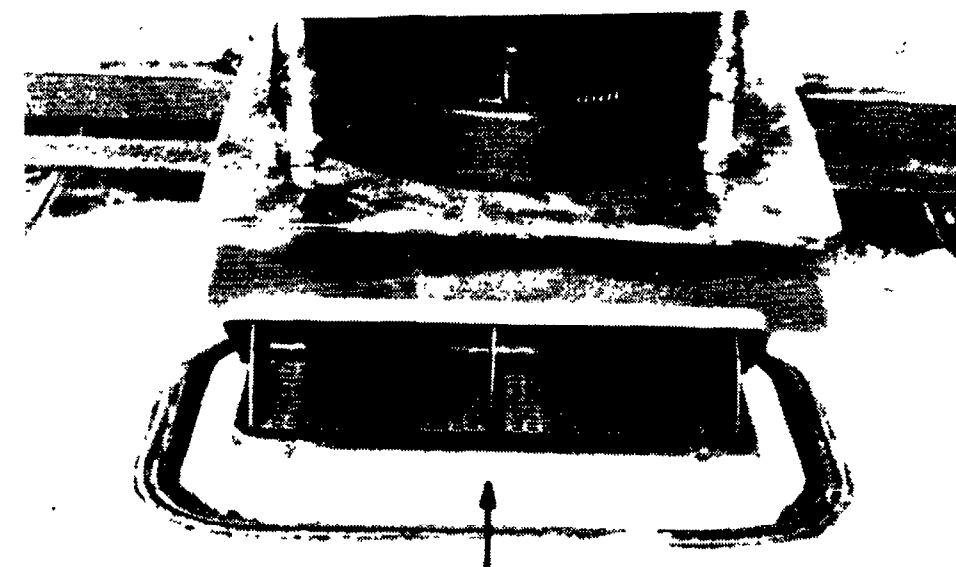
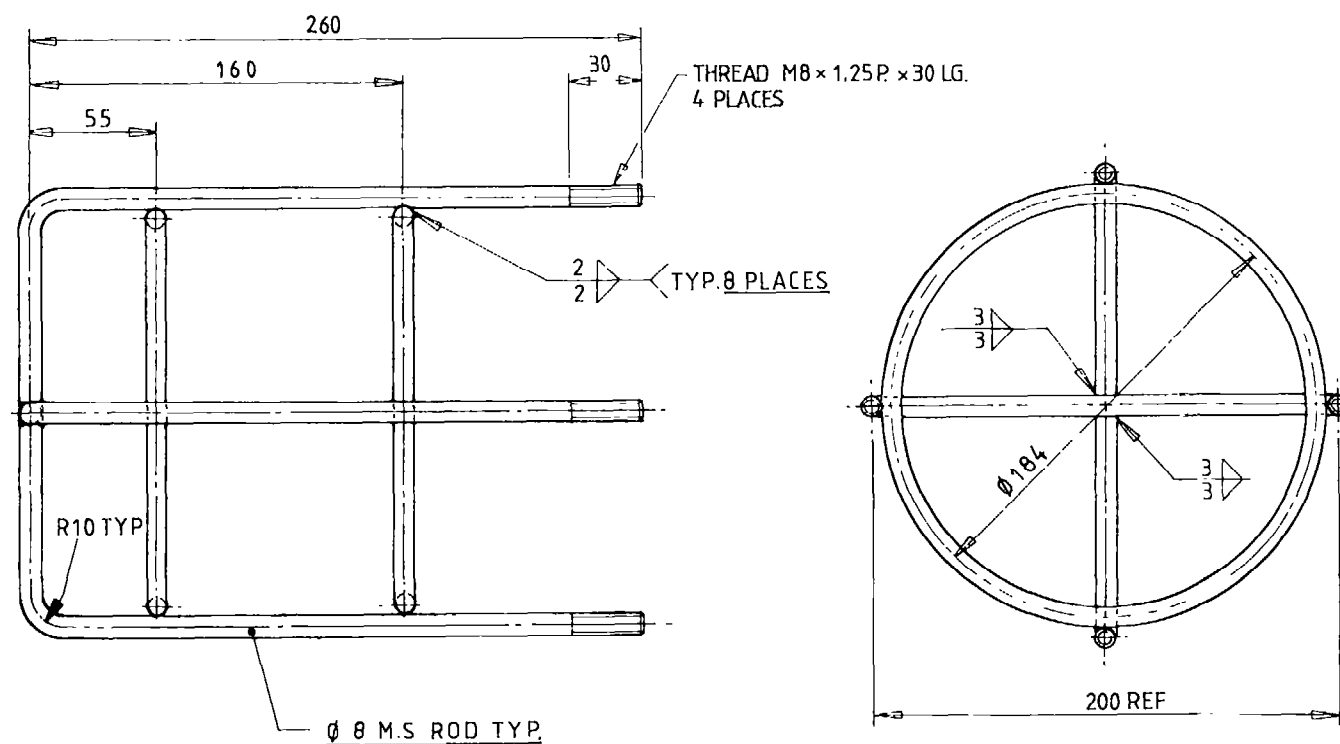


FIG 5 - POSITION OF DRILL HOLE



REMOVE ALL SHARP EDGES

FIG 4 - CAGE WELDMENT

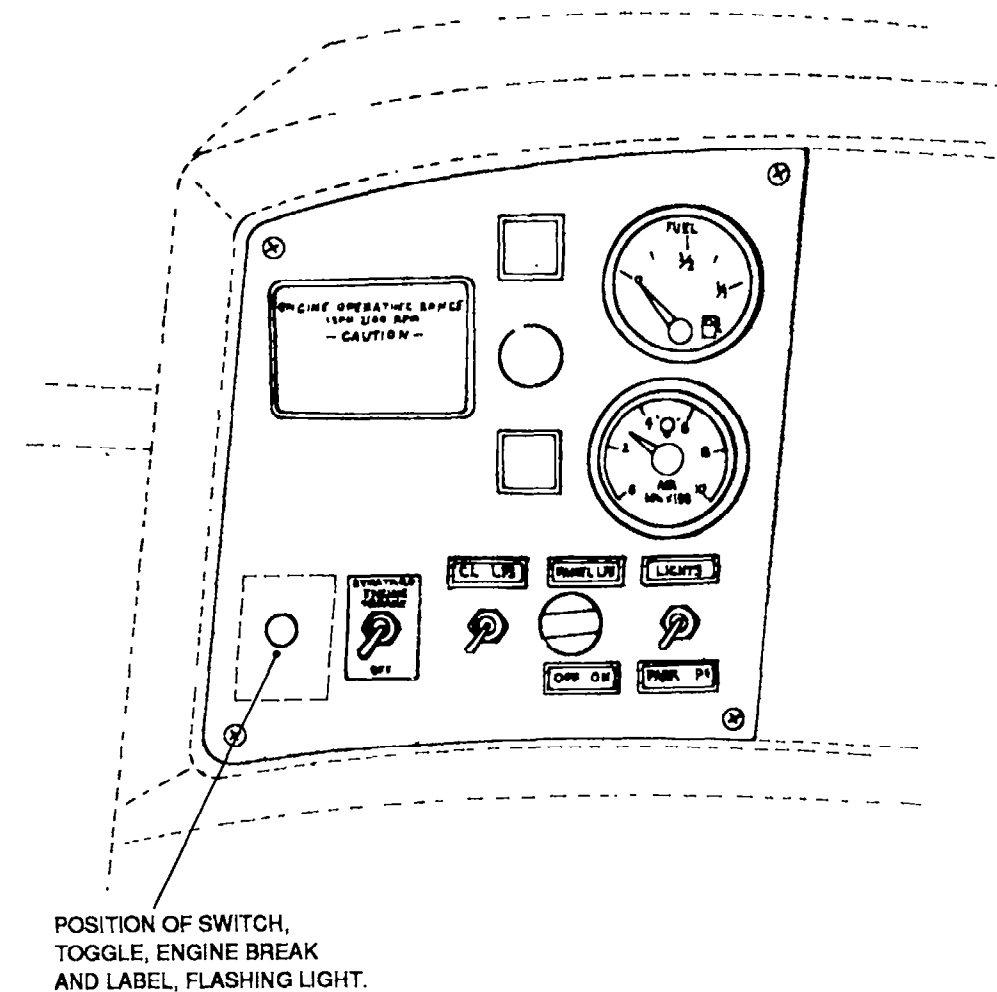


FIG 6 - POSITION OF SWITCH, TOGGLE, ENGINE BREAK AND LABEL, FLASHING LIGHT

E N D

List VEH G 02.0 - Code 4 (MEA 880232)