

**TRUCK, FLATBED, HEAVY, MC3, GUN TRACTOR/AMMO TRANSPORTER  
W/CRANE, W/WINCH, MACK**

**HOWITZER, MEDIUM, TOWED, 155 MM, M777A2, PRIME MOVER INTEGRATION KIT  
INSTALLATION PROCEDURE**

**MODIFICATION INSTRUCTION**

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

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## INTRODUCTION

1. This instruction details the procedure for the installation of the M777A2 Prime Mover Integration Kit (PMIK) and modifications required to the vehicle to support the installation of the M777A2 PMIK.
2. The M777A2 PMIK consists of the following as shown in Figure 1:
  - a. Installation of W1 (power) cable assembly; and
  - b. Installation of W2 (navigation and communication) cable assembly.

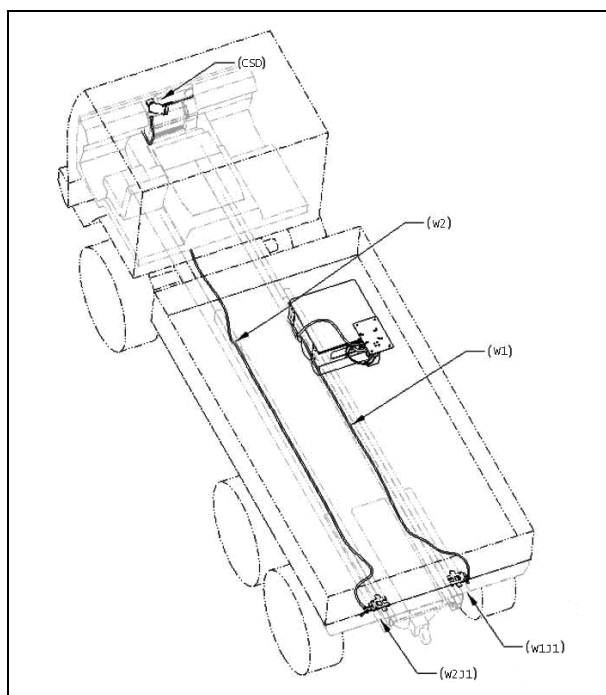


Figure 1 M777A2 PMIK in General

3. **Associated Publications.** Reference may be necessary to the latest issue of the following documents:
  - a. [EMEI VEHICLE G 727-15](#) – Truck, Flatbed, Heavy, Mc3, Gun Tractor/Ammo Transporter W/Crane, W/Winch, Mack – Installation of an Upgraded 24 V dc Electrical Power System
  - b. Repair Parts Scale 02160 – Truck, Cargo Heavy, MC3, 8 Tonne, GS, Mack
  - c. Technical Regulation of ADF Materiel Manual – Land (TRAMM-L), Issue 4.0, 1 Dec 09 (available from DTR-A website <http://intranet.defence.gov.au/armyweb/Sites/DTRA>)
  - d. Electronic Supply Chain Manual (ESCM), Volume 4, Section 3 – Supply Management Processes, Stores Accounting General, ESCM website <http://escmweb/2112.htm>
  - e. US Army Publication: TB 9-1025-215-24-1 Howitzer, Medium, Towed:155 mm, M777A1/A2 PMIK Installation and Removal Procedures (FMTV), PMIK Installation and Removal Procedures (M939), 30 Oct 07
4. **Authority.** ECO CGSVSPO 100/10 is the authority to carry out this modification.

## GENERAL

5. **Modification Application.** This modification is to be applied to all Truck, Flatbed, Heavy, MC3, Gun Tractor/Ammo Transporter w/Crane, w/Winch, Mack.
6. **Items Affected.** This modification alters the following items:
  - a. Panel, Dash (reference Para 3.b, Group SAB, Item 20);
  - b. Panel, Firewall Left-hand, Noise Reduction Fuse Cover (reference Para 3.b, Group SGA, Item 22); and

- c. Panel, Complete, Instrument, Left-hand (reference Para 3.b, Group SAG, Item 1).

**NOTE**

Where modification would delay priority issues of depot or pool stock, equipment may be issued unmodified providing the equipment record book is endorsed appropriately.

7. **Priority – Group 2.** All applicable equipment is to be modified when next in a workshop for repair or prior to issue from depot or pool stock.

8. **Action Required.** Actions detailed in this instruction are to be performed by accredited maintenance organisations authorised to carry out Light Grade Repairs, utilising ECN 418 Technician Electrical and ECN 229 Vehicle Mechanic or civilian equivalents.

**NOTE**

On receipt of this instruction, enter all relevant information other than date completed in the modifications section of the GM 120 – Record Book for Service Equipment.

9. **Task Recording.** The conduct of this modification is to be recorded in:

- a. Vehicle’s GM 120 (Record Book for Service Equipment); and
- b. MILIS using Standard Job Number 0000625.

10. **Estimated Workhours.** For initial planning purposes only, it is estimated that this modification will take 15 work hours.

11. **Stores Required.** All stores required, containing items listed in Table 1, are supplied in the modification kit NIIN 5895-66-159-1687. All items in Table 1 are included in the APL attached to Standard Job 0000625.

**Table 1 M777A2 PMIK**

Item	NSN	Mfr Part No	Designation or Description	Unit of Issue	Qty per Kit
1	5305-01-435-7561	B18231B05016N	Screw, Hexagon, M5 x 0.8 x 16 mm	ea	7
2	5305-01-433-3327	B18231B05025N	Screw, Hexagon, M5 x 0.8 x 25 mm	ea	11
3	5305-01-300-6266	B18231B06020N	Screw, Hexagon, M6 x 1 x 20 mm	ea	4
4	5305-01-381-1202	B18231B08025N	Screw, Hexagon, M8 x 1.25 x 25 mm	ea	10
5	5310-01-420-8858	B1822BH050N	Washer, Flat, M5	ea	18
6	5310-01-494-2307	B1822BH060N	Washer, Flat, M6	ea	8
7	5310-01-406-7811	B1822BH080N	Washer, Flat, M8	ea	12
8	5310-99-122-5494		Nut, Self Locking , Hexagon, M5 x 0.8 mm	ea	11
9	5310-66-144-6236		Nut, Self Locking, Hexagon, M6 x 1 mm	ea	4
10	5310-01-264-9404	DIN985-M8-A4C	Nut, Self Locking, Hexagon, M8 x 1.25 mm	ea	10
11	5305-01-499-3296		Screw, Hexagon, UNF, 3/8 x 1.5 in	ea	3
12	5310-01-576-2488		Nut, Hexagon, UNF, 3/8 in	ea	3
13	5310-01-481-1322		Washer, Flat, 3/8 in	ea	6
14	5310-66-158-8592	DE253600017-2	Washer, Step, (Large) SW2 – SW5	pair	4
15	5310-66-158-8591	DE253600017-1	Washer, Step, (Small) SW6 – SW7	pair	2

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**Table 2 M777A2 PMIK (continued)**

Item	NSN	Mfr Part No	Designation or Description	Unit of Issue	Qty per Kit
16	5320-66-158-8673	SSVG48120LF	Rivet, Blind, Vari-grip	ea	7
17	5340-00-286-9421	MS21919DWG13	Clamp, Loop (P1 – P7)	ea	7
18	5975-66-158-8593	HELLA8353	Conduit, Split Convolute, 20 mm	metre	10
19	9505-00-293-4208	MS20995	Wire, Non-electrical	metre	2
20	5975-00-899-4606	MS3367-2-0	Strap, Line Supporting	ea	50
21	5340-66-158-8587	DE253600014	Plate, Mount (W1 Circuit Breaker)	ea	1
22	5340-66-158-8589	DE253600013	Bracket, Retaining (W1P1)	ea	1
23		13022350	Bracket, Mounting (NATO Vehicle Receptacle Assembly)	ea	1
24	5939-01-560-1189	12422955-005	Receptacle Assembly, Vehicle, NATO	ea	1
25	6145-01-550-3603	13022340	Cable Assembly, SP, Electrical, W1	ea	1
25a	5340-01-558-7538	BLRCK25-0L4R	Cover, Electrical Connector (Part of 25)	ea	1
25b		D38999/28-12K	Nut, Hexagonal, Connector (Part of 25)	ea	1
26	6145-01 550-3602	13022341	Cable Assembly, SP, Electrical, W2	ea	1
26a	5340-01-565-5147	BLRCK15-0L4R	Cover, Electrical Connector (Part of 26)	ea	1
26b		D38999/28-5K	NUT, Hexagonal, Connector (Part of 26)	ea	1
27	5340-01-581-0864	13022349	Bracket, Connector (W1J1)	ea	1
28	5340-01-575-9637	13022348	Bracket, Connector (W2J1)	ea	1
29	3465-66-158-8594	DE253600019	Template, Cover	ea	1
30	5330-66-158-8596	DE253600010	Gasket, Cover	ea	1
31	5340-66-158-8600	DE253600009	Cover, Vehicle Fire Wall	ea	1
32	5340-66-158-8602	DE253600018	Plate, Support, Cover	ea	1
33	1025-66-158-8607	DE253600005	Mount, Ball, Ram	ea	1
34	5340-66-158-8615	DE253600008	Plate, Support	ea	1
35		13022331	Mount Assembly, Display	ea	1
36	3040-01-530-8587	13022338	Arm Assembly, Double Ball Joint	ea	1
37	5340-66-158-8613	DE253600011	Mount, W2P1	ea	1
38	5305-00-052-9050	MS24630-35	Screw, Self Tapping, 8G x 3/4	ea	2

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12. **Items to be Removed.** Screw, Cap, Hexagon Head 3/8 inch UNF (reference 3.b, Group SAG, Item 16).
13. **Drawings Required.** Nil.
14. **Special Equipment Required.** Nil.

#### DETAIL

##### Preparation of the Vehicle

15. The vehicle is to be prepared as follows:
  - a. Classify the vehicle '**DO NOT USE – XX**' until the mechanical and wiring installations are complete.
  - b. The vehicle should be parked in a suitable environment for conducting maintenance tasks.

#### NOTE

Electrical power system upgrade, detailed in EMEI Vehicle G 727-15 must be completed before commencing this modification.

**Installation of Cable Assembly, SP, Electrical, W1**

16. The W1 Cable (Table 1, Item 25) is to be installed by following the procedures below:

**a. Installation of Plate, Mount (W1 Circuit Breaker)**

- (1) The W1 Circuit Breaker Mounting Plate (Table 1, Item 21) is to be installed above the start air reservoir as shown in Figure 2.



**Figure 2 Location of Plate, Mounting, (W1 Circuit Breaker Box)**

- (2) Remove the six hexagonal screws installed on the support structure under the cargo tray. Position the W1 Circuit Breaker Mounting Plate under the cargo tray structure above the start air reservoir as shown in Figure 3. Align the W1 Circuit Breaker Mounting Plate to the six screw holes. Reinstall the six hexagonal screws to secure the W1 Circuit Breaker Mounting Plate.



**Figure 3 Installation of Plate, Mounting, (W1 Circuit Breaker)**

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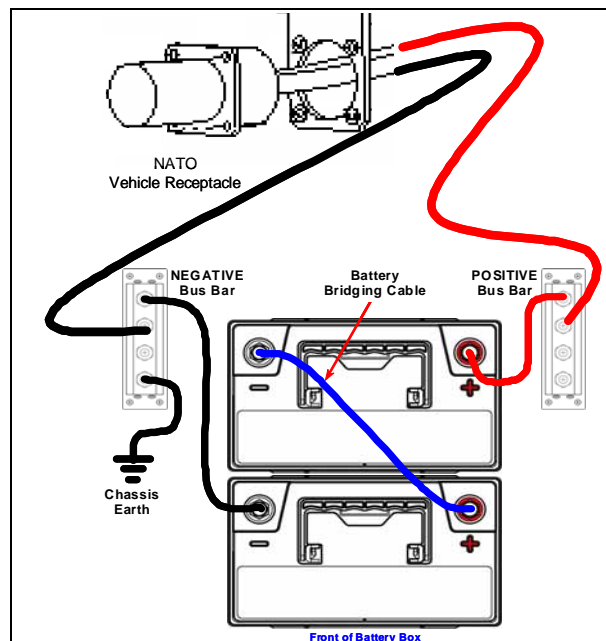
b. **Installation of Receptacle Assembly, Vehicle, NATO and Bracket, Mounting (NATO Vehicle Receptacle Assembly)**

- (1) Install the NATO Vehicle Receptacle Assembly Mounting Bracket to the W1 Circuit Breaker Box Mounting Plate as shown in Figure 4, using four M8 x 25mm Hexagonal Screws, Nuts and Flat Washers (Table 1, Items 4, 7 and 10).



**Figure 4 Bracket, Mounting, (NATO Vehicle Receptacle Assembly)**

- (2) Feed the two leads of the NATO Vehicle Receptacle Assembly (Table 1, Item 24) through the hole in NATO Vehicle Receptacle Assembly Mounting Bracket as shown in Figure 4, and secure using four M5 x 16 Hexagonal Screws, Flat Washers and Self Locking Nuts (Table 1, Items 1, 5 and 8).
- (3) Feed the two leads of the NATO Vehicle Receptacle Assembly through the battery tray slot and connect the positive and negative leads to the second studs from the top of their respective battery bus bars (Figure 5).



**Figure 5 NATO Vehicle Receptacle Connections to Battery Bus Bars**

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**c. Installation of W1 Circuit Breaker Box**

- (1) Mount the W1 Circuit Breaker Box, that is part of W1 Cable Assembly (Table 1, Item 25), to the W1 Circuit Breaker Box Mounting Plate using four M8 Flat Washers and Self Locking Nuts (Table 1, Items 7 and 10) as shown in Figure 6 (only two hexagonal nuts visible in the picture). The face with fuses and connector as shown in Figure 6, shall be facing to the rear of vehicle.



**Figure 6 W1 Circuit Breaker Box**

**d. Securing the W1 Cable to the Vehicle Chassis**

- (1) Leave the NATO Plug W1P1 of the W1 Cable Assembly disconnected at this stage.

**NOTE**

For the next steps, do not immediately tighten the cable ties. Further adjustments may be required to ensure the W1J1 Connector terminates at the W1J1 Mounting Bracket at the rear end of the prime mover.

- (2) Route the W1 Cable starting from the W1 Circuit Breaker Box to the rear of the truck along the right-hand (driver) side Cargo Floor Mounting Angle. Positions of W1 Cable, cable ties, P-clamps and Corrugated Split Conduits are detailed below.
- (3) Using cable ties (Table 1, Item 20), secure the W1 Cable to the crane hydraulic line as shown in Figure 7.



**Figure 7 Cable-Tie Fastening**

- (4) Using a cable tie, secure the W1 Cable to the L-bracket on the Cargo Floor vertical support structure as shown in Figure 8.



**Figure 8 Cable Tie Fastening**

- (5) Fit 500 mm Corrugated Split Conduit (Table 1, Item 18) and secure the W1 Cable to the L-bracket on the Cargo Floor vertical support structure as shown in Figure 9.



**Figure 9 Protective Conduit Installation**

- (6) Attach the W1 Cable to the an existing fastener hole on the Cargo Floor Mounting Angle by fitting P-Clamp (P1) (Table 1, Item 17) using M5 x 25 mm Hexagonal Screw, Flat Washers and Nut (Table 1, Items 2, 5 and 8) as shown in Figure 10.



**Figure 10 P-Clamp (P1) Installation**

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- (7) Fit 500 mm Corrugated Split Conduit to the W1 Cable and cable tie as shown in Figure 11.



**Figure 11 Protective Conduit Installation**

- (8) Fit P-Clamps (P2 and P3) (Table 1, Item 17) to chassis rail using two existing holes located on the chassis rail between intermediate and rear axles (see Figure 12 and Figure 13).



**Figure 12 P-Clamp Mounting Holes between Intermediate and Rear Axles**

- (9) Use M5 x 25mm Hexagonal Screws, Nuts and Large Step Washers (SW2 and SW3) (Table 1, Items 2, 8 and 14) as shown in Figure 13, to mount the P2 and P3 P-Clamps (Table 1, Item 17).

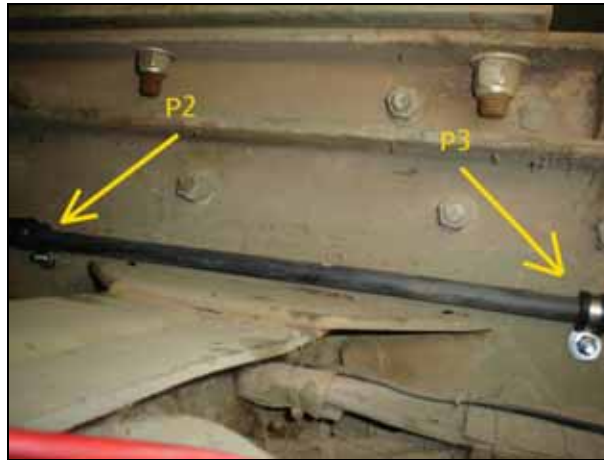


Figure 13 P-Clamps P2 and P3 Installation

- (10) Route the W1 Cable along existing wiring loom and use cable ties to secure the W1 Cable as shown in Figure 14 and Figure 15.



Figure 14 Cable Tie Fastening



Figure 15 Cable Tie Fastening

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- (11) At the air reservoir, fit two 300 mm Corrugated Split Conduit to W1 Cable. Loop the W1 Cable between the inside face of chassis rail and the air reservoir to take up excess length and allow correct length to reach W1J1 Mounting Bracket.
- (12) Cable tie to existing loom as shown in Figure 16.



**Figure 16 Air Receiver Cable Loop 'Top' Installation**

- (13) Fit 300 mm Corrugated Split Conduit to W1 Cable loop on the underside of the air reservoir, along inside face of chassis rail as shown in Figure 17.



**Figure 17 Air Receiver Cable Loop 'Bottom' Installation**

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- (14) Fit 800 mm Corrugated Split Conduit, run W1 Cable along existing Tail Light cabling between Chassis Rail and right-hand side Fuel Tank, and secure with cable ties as shown in Figure 18.



**Figure 18 Cable Tie Fastening**

- (15) Route the W1 Cable along existing Tail Light cabling, routing cable between Cargo Floor Mounting Angle and right-hand side Fuel Tank. Secure with cable ties as shown in Figure 19.



**Figure 19 W1 Cable Route and Conduit to W1J1 Connector**

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**e. Installation of Bracket, Connector (W1J1)**

- (1) Secure the W1J1 Mounting Bracket (Table 1, Item 27) to the right-hand side tail light structure using two M6 x 20mm Hexagonal Screws, Flat Washers and Nuts (Table 1, Items 3, 6 and 9) as shown in Figure 20.



**Figure 20 W1J1 Rear Connector Bracket Installation**

- (2) Install W1J1 Cable Connector and Connector Cover (Table 1, Item 25a) to the W1J1 Mounting Bracket, using the Connector Hexagonal Nut (Table 1, Item 25b) as shown in Figure 21. Use Wire, Non-electrical (Table 1, Item 19) to prevent the Connector Hexagonal Nut from loosening.



**Figure 21 Cable Route to W1J1 Mounting Bracket**

**f. Final Adjustment of W1 Cable**

- (1) Adjust the position of W1 cable so that there is no excessive slack or kink, then tighten the cable ties and P-clamps.

**g. Connecting NATO Intervehicle Power Receptacle**

- (1) Plug the NATO Connector W1P1 to the NATO Intervehicle Power Receptacle. Install the W1P1 Retaining Bracket (Table 1, Item 22) using M8 x 25mm Hexagonal Screws, Flat Washers and Self Locking Nuts (Table 1, Items 4, 7 and 10) as shown in Figure 22.

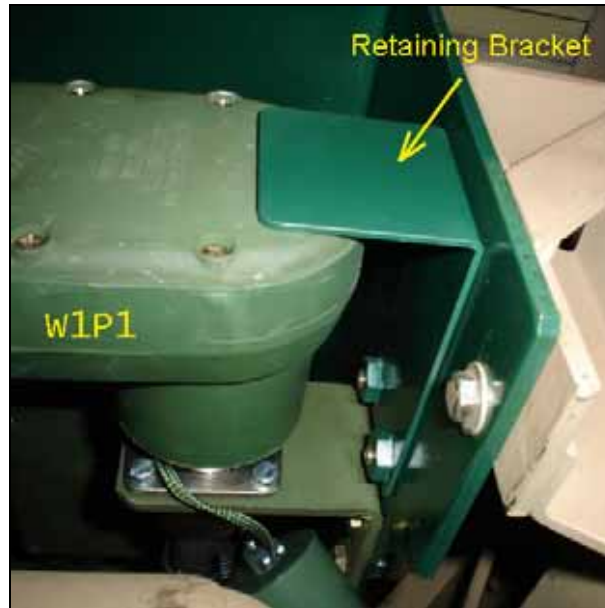


Figure 22 NATO Connector W1P1



### Installation of Cable Assembly, SP, Electrical, W2

17. The W2 Cable (Table 1, Item 26) is to be installed by following the procedures below:

a. **Cutting of Cabin Firewall**

- (1) Remove Left-hand (Passenger) Side Firewall Panel within the cabin. Ensure the cables have sufficient clearance in the area where the cut will be made to avoid them from being cut accidentally.
- (2) Position the firewall template (Figure 23) provided (Table 1, Item 29) on the vehicle firewall with the top edge against the horizontal stiffener and the big chamfer just touching the existing grommet as shown in Figure 24.

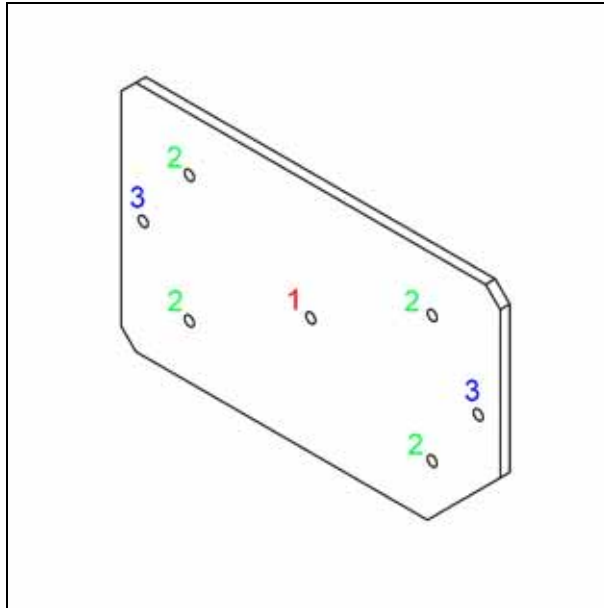


Figure 23 Template for Vehicle Firewall

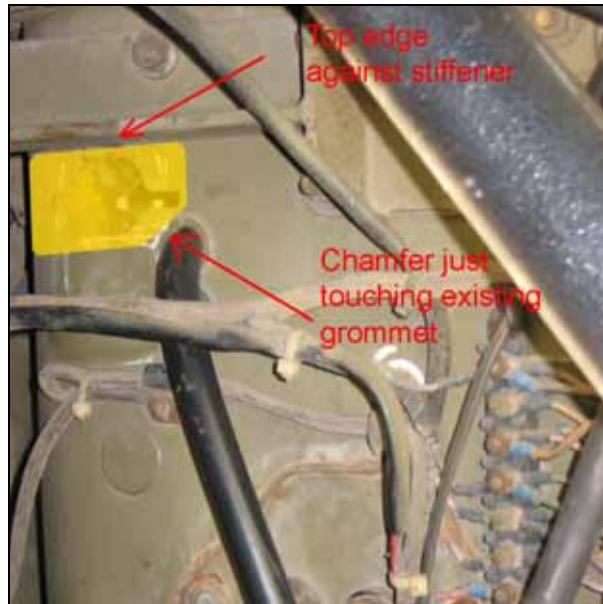


Figure 24 Position of Template on Firewall

- (3) Because the vehicle firewall is curved, the template will need to be moulded to shape. If necessary, to hold the template in place, drill both number 2 holes on the passenger side to 2.5 mm and use 8G x 3/4 self taper screws (Table 1, Item 38).
- (4) Drill the remainder of pilot holes using 2.5 mm drill bit.

- (5) Using pilot holes number 1 and 3 as aids, create a cutout in the cabin firewall as shown in Figure 25 using 40 mm hole saw and 7 mm drill. Drill pilot holes number 2 to 5 mm holes for fitting fasteners.

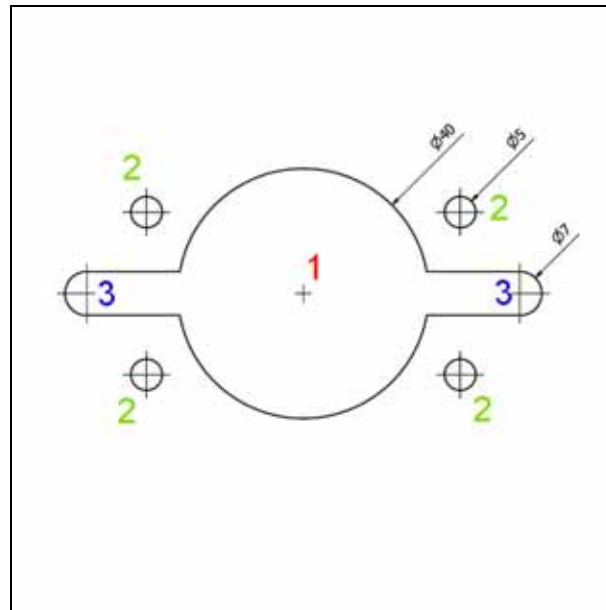


Figure 25 Firewall Cutout Shape and Dimensions

**NOTE**

Fitment of the firewall grommet will be conducted later after the installation of the W2 cable in the cabin has been completed.

**b. Routing W2 Cable in the Cabin**

**NOTE**

In the following steps, do not immediately tighten the cable ties. Further adjustments may be required to ensure ideal length of W2 Cable inside the cabin to reach the Chief of Section Display (CSD) and W2P1 Connector Support Bracket when not in use.

- (1) Feed W2P1 Connector through the firewall cutout into the cabin. The steel ring retaining the W2P1 protective cap may be bent out of shape to allow the W2P1 Connector to go through the firewall into the cabin.
- (2) Remove the glove box door, latch, and foam in the Glove Box to enable routing of the W2 Cable inside the Glove Box and down into the left hand side of the passenger leg area.
- (3) The length of the cable required inside the cabin should be such that there is 0.75 metre of cable length from this slot in Firewall Panel to the end of W2P1 Connector (see Para 17.b step (10) and Figure 31).

- (4) Fit one metre Corrugated Split Conduit to W2 Cable and feed W2 Cable over and behind the Instrument Panel Lower Reinforcement inside the Glove Box as shown in Figure 26.



Figure 26 W2 Cable in the Glove Box

- (5) Push back the existing Glove Box loom to expose the three screws (3/8 UNF x 1 in) in the Instrument Panel Lower Reinforcement in the Glove Box as shown in Figure 27. Remove these screws and dispose them. These three holes will be used to mount the CSD, which will be covered later in this document.



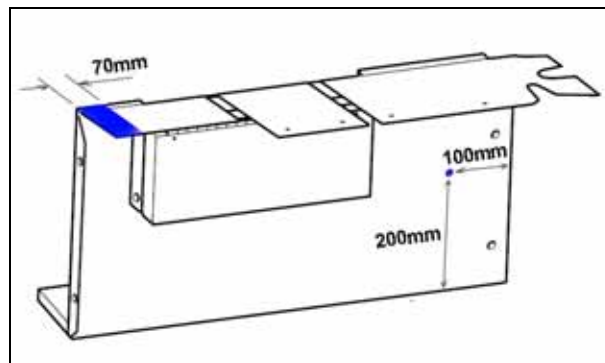
Figure 27 Screw Holes in Instrument Panel Lower Reinforcement

- (6) Tie back W2 Cable to loom by looping the cable tie through Reinforcement Bracket below the Glove Box as shown in Figure 28.



**Figure 28 Reinforcement Bracket and Cable Tie Installation**

- (7) Cut the left-hand side flange of the Left-hand Side Firewall Panel 70 mm wide as shown in Figure 29 to allow W2 Cable to pass through from the Glove Box.
- (8) Drill one 5 mm hole to fit a blind rivet, 100 mm from the right-hand edge and 200 mm from the bottom edge (see Figure 29 for illustration). This hole is for the upper rivet of the three used to secure the W2P1 Connector Mount.



**Figure 29 Cut and Drill the Left Hand Side Firewall Panel**

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- (9) Mount the W2P1 Connector Mount (Table 1, Item 37) at approximately 30° angle as shown in Figure 30. Use the W2P1 Connector Mount as a template to drill the other two rivet holes and secure using three blind rivets (Table 1, Item 16).

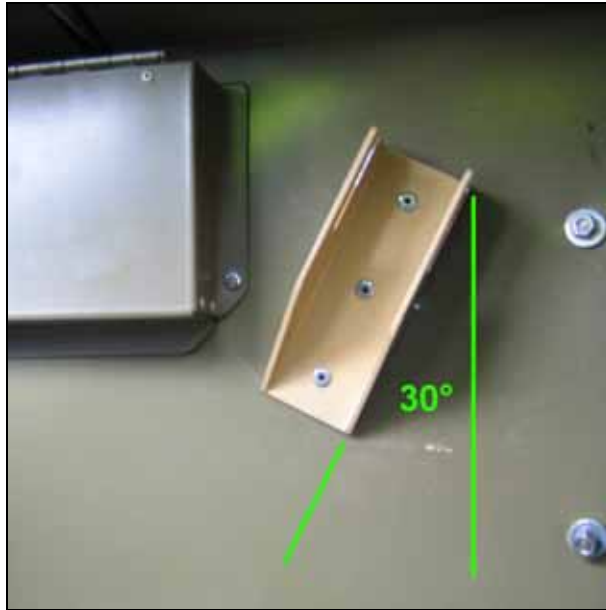


Figure 30 W2P1 Connector Support Bracket

- (10) Reinstall the Left-hand Side Firewall Panel. Feed the W2 Cable downwards exiting the Glove Box from the left-hand side through the cut made on the Firewall Panel as shown in Figure 31. There should be 0.75 metre of cable length from this slot in Firewall Panel to the end of W2P1 Connector.

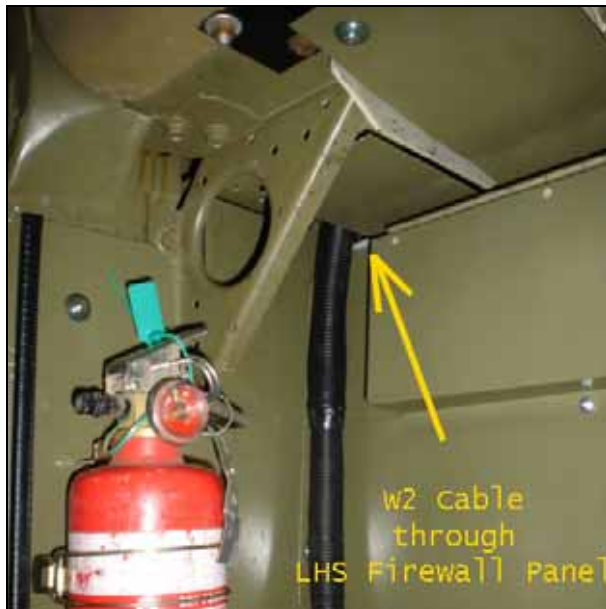
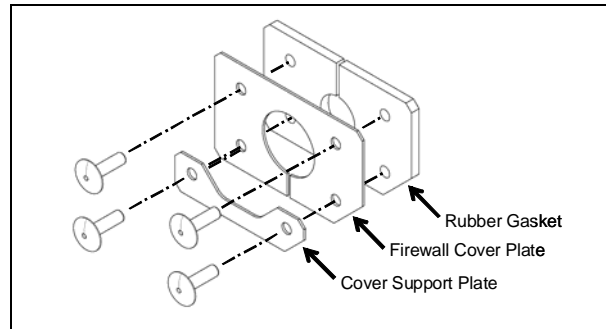


Figure 31 W2 Cable Exit from Glove Box

**c. Rubber Plate Installation on the Firewall**

- (1) Fit rubber Gasket, Firewall Cover and Cover Support plates (Table 1, Items 30, 31 and 32) as shown in Figure 32, around the W2 Cable to the vehicle firewall. Secure to the firewall using four blind rivets (Table 1, Item 16).



**Figure 32 W2 Cable Firewall Gasket Assembly**

**d. Installation of Chief of Section Display (CSD) Mount**

- (1) Mark the upper surface of the dashboard on the passenger side, in line with the right edge of the steel bracket for the glove box door latch and 72.5 mm from the rear edge and perpendicular as shown in Figure 33.



**Figure 33 Centre Mark for Dashboard Cutout**

- (2) Using a 64 mm hole saw and the centre mark, cut through the upper surface of the dashboard (Figure 34).



**Figure 34 Dashboard Cutout**

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- (3) Place the Ram Ball Mount in the glove box. The arrow in Figure 35 indicates the forward direction. Align to the existing three holes in the Instrument Panel Lower Reinforcement.

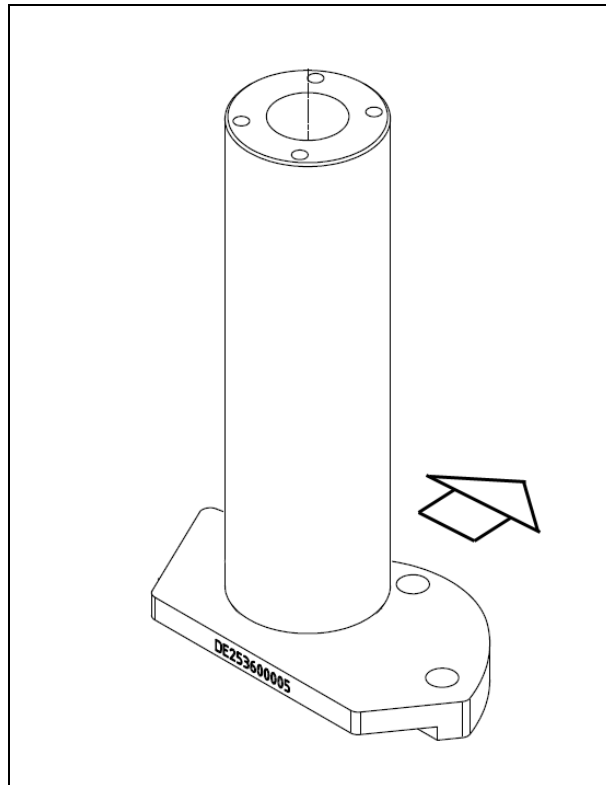


Figure 35 Ram Ball Mount

- (4) Secure the ram ball mount using three 3/8 x 1.5 in UNF, 3/8 UNF Nuts and Washers (Table 1, Items 11, 12 and 13) as shown in Figure 36.



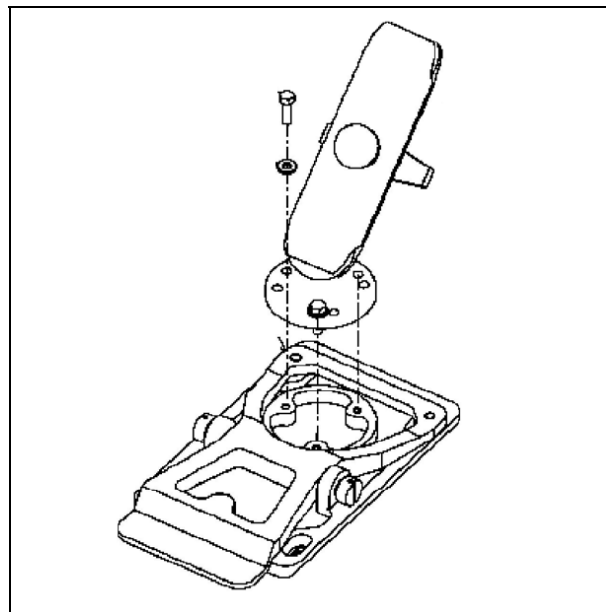
Figure 36 CSD Display Ball Mount Bracket Installation

- (5) Fit the ram ball Support Plate (Table 1, Item 34) and one Ram Ball (part of Double Ball Joint Arm Assembly – Table 1, Item 36) on the dashboard using four M5 x 25 mm Hexagonal Screws and Washers (Table 1, Items 2 and 5) as shown in Figure 37.



**Figure 37 Ram Ball Installed on Dashboard**

- (6) Assemble the Display Mount Assembly and Double Ball Joint Arm Assembly (Table 1, Items 35 and 36) using three M5 x 16 mm Hexagonal Screws and Washers (Table 1, Items 1 and 5) as shown in Figure 38.



**Figure 38 Display Mount and Double Ball Joint Arm Assembly**

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- (7) Attach the Display Mount and Double Ball Joint Arm Assembly to the ball joint mounted on the vehicle dashboard (Figure 39). Refit foam, glove door latch and the glove box door to complete the installation of CSD Mount.



**Figure 39 Chief of Section Display Mount Installed**

**e. Routing of W2 Cable**

- (1) Route the W2 Cable under the cabin and cable tie the W2 Cable to existing cable loom in the Engine Bay as shown in Figure 40.



**Figure 40 W2 Cable Engine Bay Installation**

**NOTE**

From here onwards, do not immediately tighten the cable ties. Adjustments may be required for the W2 Cable to terminate at W2J1 Mounting Bracket at the rear end of the prime mover.

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- (2) Fit 450 mm Corrugated Split Conduit and route the W2 Cable along existing cable loom under the cabin and over the left hand side Gearbox Mount (see Figure 41 and Figure 42 for illustrations). Cable tie the W2 Cable to existing looms as shown in the pictures.



Figure 41 W2 Cable Route Under the Cabin, Left-hand Side

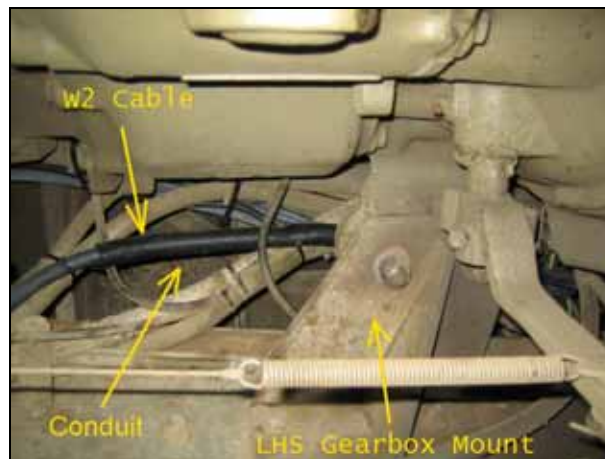


Figure 42 (Looking Up) W2 Cable over Left-hand Side Gearbox Mount

- (3) Fit 450 mm Corrugated Split Conduit and route the W2 Cable behind the bottom Primary Air Reservoir, resting on the flange of chassis rail as shown in Figure 43. Cable tie the W2 Cable to the existing loom.

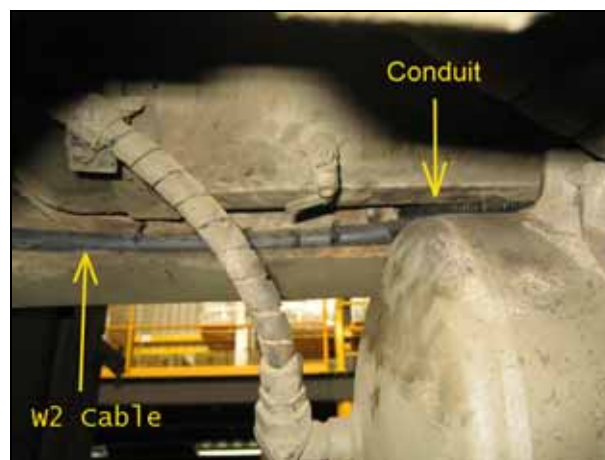
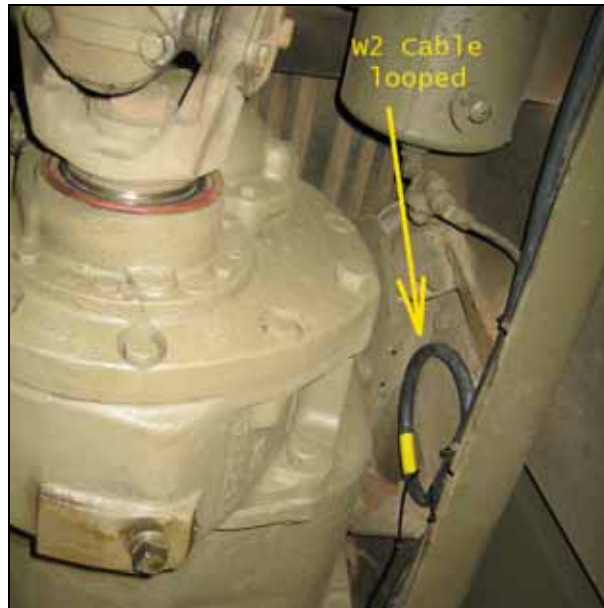


Figure 43 W2 Cable behind Bottom Primary Air Reservoir

- (4) Loop the W2 Cable opposite of the Transfer Case to take up the excess cable length. Cable tie to the Transfer Case mount and existing loom on the chassis rail as shown in Figure 44.

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**Figure 44 W2 Cable Looped Opposite of Transfer Case**

- (5) Run W2 Cable, with 450 mm conduit, over chassis rail cross member adjacent to Winch Drum. Cable tie to existing loom as shown in Figure 45.



**Figure 45 W2 Cable Over Chassis Rail Cross Member Installation**

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- (6) Using existing hole located in front of the mud guard of intermediate wheel (see Figure 46), fit P-Clamp (P7) (Table 1, Item 17) to chassis rail using M5 x 25 mm Hexagonal Screw, Nut and Small Step Washers SW7 (Table 1, Items 2, 8 and 15) as shown in Figure 46.



Figure 46 P-Clamp P7 Mounting Hole

- (7) Fit 700 mm Corrugated Split Conduit from P-Clamp (P7) (Table 1, Item 17) rearwards, over the air valve as shown in Figure 47.



Figure 47 P-Clamp (P7) and Step Washer (SW7) Installation

- (8) Locate two holes on the chassis rail behind the intermediate wheels as shown in Figure 48. Use the upper hole to mount a P-Clamp (P6) (Table 1, Item 17). Use M5 x 25 mm Hexagonal Screw, Nut and Small Step Washers (SW6) (Table 1, Items 2, 8 and 15) as shown in Figure 49.



**Figure 48 Mounting Holes behind Intermediate Wheel**



**Figure 49 Locations of P-Clamp P5 and P6**

- (9) Fit 450 mm Corrugated Split Conduit between P-Clamps P5 and P6. Use existing holes in the chassis rail located between intermediate and rear wheels to mount P-Clamp (P5) (Table 1, Item 17) as shown in Figure 49. Use M5 x 25 mm Hexagonal Screw, Nut and Large Step Washer (SW5) (Table 1, Items 2, 8 and 14) to secure P-Clamp P5.

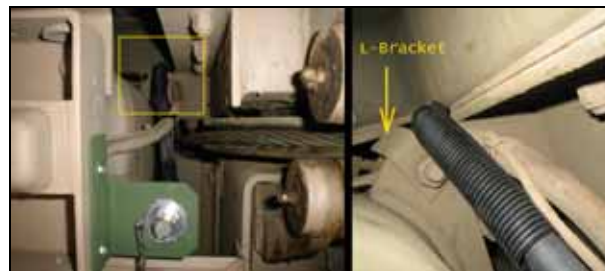
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- (10) Fit Corrugated Split Conduit between P-Clamps P4 and P5 as shown in Figure 50. Use existing holes in the chassis rail located between intermediate and rear wheels to mount P-Clamp P4 (Table 1, Item 17). Use M5 x 25 mm Hexagonal Screw, Nut and Large Step Washer (SW4) (Table 1, Items 2, 8 and 14).



**Figure 50 Corrugated Split Conduit between P-Clamps P4 and P5**

- (11) Remove temporarily an L-shape bracket located on the left hand side Fuel Tank (see Figure 51) to allow the W2J1 Cable Connector to pass through.



**Figure 51 Remove L-Shape Bracket Temporarily**

- (12) Fit 800 mm Corrugated Split Conduit to W2 Cable rear plug end. Adjacent to the left-hand side Fuel Tank, route the W2 Cable through the cargo tray vertical support structure, over the Chassis Rail, and to the rear end of the prime mover (see Figure 52 for illustration).



**Figure 52 W2 Cable Adjacent to Left-hand Side Fuel Tank**

- (13) Ensure the W2J1 Connector terminates at the W2J1 Mounting Bracket. Refit the L-shape bracket located on the left hand side Fuel Tank.

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**f. Installation of W2J1 Connector and Mounting Bracket**

- (1) Fit the W2J1 Mounting Bracket (Table 1, Item 28) to the right-hand side tail light structure using M6 x 20 mm Hexagonal Screws, Washers and Nuts (Table 1, Items 3, 6 and 9).
- (2) Install W2J1 Cable Connector and Connector Cover (Table 1, Item 26a) to the W2J1 Mounting Bracket, using the Connector Hexagonal Nut (Table 1, Item 26b) as shown in Figure 53. Use lock wire to prevent the Connector Hexagonal Nut from loosening.



**Figure 53 W2J1 Connector and Mounting Bracket**

**g. Final Adjustment of W2 Cable**

- (1) Adjust the position of W2 cable so that there is no excessive slack or kink, then tighten the cable ties and P-clamps.

**POST MODIFICATION TESTING**

**18.** Check the function of W1 cable by checking the voltage of W1J1 connector. With the vehicle engine set at fast idle 1 500 rpm, the voltage across the W1J1 pin combinations in Table 3 below should be 28.3 ±0.1 V.

**Table 3 W1J1 Voltage Check Pin Combinations**

Positive	Ground
A	B
C	D
E	F
G	H
K	J

**19.** Post modification testing of W2 cables is not required.

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**RECORDING ACTION**

- 20.** On completion of the modification, the following action is to be taken in accordance with TRAMM-L:
- a.** Deface the number 57 on the vehicle modification record plate.
  - b.** Complete the modification details in the GM 120 – Record Book for Service Equipment.
  - c.** Update the MILIS MSE600 record Mod Strike Number 57; and
  - d.** Reclassify the vehicle.

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**END**

Distribution List: **VEH G 56.0 – Code 2** (Maint Level)  
(Sponsor: CGSVSPO Med/Hvy B Veh)  
(Authority: ECO CGSVSPO 100/10)