



# **THEATER LOGISTICS SUPPORT CENTER - EUROPE**



## **SPECIAL MISSION MODIFICATION WORK ORDER - (SMMWO) EUROPEAN ADR; EX/II COMPLIANCE**

**ADR SMMWO 9-2320-332-10-1&2 ao 05 April 2016**

### **WORK PROCEDURES FOR THE EX/II UPGRADE AND ACCEPTANCE OF U.S ARMY VEHICLES IAW ADR REQUIREMENTS**

- **FIELD LEVEL MAINTENANCE**
  - **REMOVAL/INSTALLATION OF EUROPEAN ADR APPROVED COMPONENTS & ACCESSORIES**

End Item to be upgraded

**FAMILY of MEDIUM TACTICAL VEHICLE FMTV,  
2 ½ TON CARGO WITHOUT WINCH,  
M1078A1P2, EIC: BH2 (NSN 2320-01-549-8577)**





## REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your Information (Recommended Changes) via email to [JAMES.P.NEITZEL.CIV@MAIL.MIL](mailto:JAMES.P.NEITZEL.CIV@MAIL.MIL) or call DSN 483-3515 / commercial 0631 414 3515.

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### Scope

Currently (March 2015) 48 European countries are members and signed to stay in compliance with ADR. In Germany the US Forces has quite a few waivers such as the allowance to transport ammunition above 7.5 tons, even the equipment is just certified for EX II instead of EX III. However that's just valid for Germany. As soon as US Forces cross the border to Austria, Poland, Bulgaria, Romania, the Baltic States or even Turkey, the Forces need to be in compliance with all the ADR rules again.

Primarily the transportation by road, for hazardous liquids, e.g. fuel and for ammunition transporting, EX II vs. EX III requirements are applicable.

### References:

- Army Regulation 750-10, dtd. 5 AUG 2013; section 3-9. Alternate changes to equipment; sub-paragraph *b*. Special purpose modification of materiel.
- TM 9-2320-332-10-1&2; dtd. 1 OCT 2014

### ADR 2015:

- Chapter 5.2 Marking and labeling
- Chapter 8.1.4 Firefighting equipment
- Chapter 8.1.5 Miscellaneous equipment and equipment for personal protection
- Chapter 9.2 Requirements concerning the construction of Vehicles
- Chapter 9.3 Additional requirements concerning complete or completed EX/II or EX/III vehicles intended for the carriage of explosive substances and articles (Class 1) in Packages.

### 2. PURPOSE.

The purpose of this SPMWO European ADR work order is to provide data, parts information, and work procedures for upgrading several types of vehicles to provide ability for transportation of dangerous goods within the 48 European countries.

### 3. PRIORITY.

This Upgrade is none classified. Transportation restrictions provided therein remain in effect until this work modification is applied.



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## 4. APPLICATION.

a. Lowest Level of Maintenance authorized to apply this Upgrade:  
Field Level Maintenance (FLM).

b. Work Force and Man-Hour Requirements for Application of the Upgrade:  
Two (2) certified mechanics, Man-Hour requirements: 4 Hrs. per person.

c. SPMWOs that must be applied prior to Application of this Upgrade:  
None

## 5. TECHNICAL PUBLICATIONS AFFECTED/CHANGED.

Publications Affected	
TM 9-2320-332-10-1&2	Oct 2014
ADR	2015

### INITIAL SET-UP:

## 6. Tools and Special Tools necessary to apply SPMWO

Description	Size	Remarks
- General Mechanics Tool Kit		
- COMMON #1, Automotive		
- Drill, Portable Electric or Cordless		
- Drill Bit, Metal Cutting	1/8"	
- Drill Bit, Metal Cutting	1/4"	
- Drill Bit, Metal Cutting	3/8"	
- Saw, Metal Cutting		
- Shears, Metal Cutting		
- Pencil		
- Paint Pen		
- Work Bench w/Vise		
- Metal File		



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## 7. Materials/Parts

a. Part(s) and their Disposition. Parts are partly coming out of the Army supply system, but the majority need to be local purchased. The following parts are required to accomplish this upgrade.

b. Source of Supply: Army Supply System

Nomenclature	NSN	Part	CAGEC	U/I	Qty	Per End Item
Washer	5310-01-157-5671			HD	1	4 ea
Bolt	5306-01-156-8678			HD	1	13 ea
Nut, Self-Locking	5310-01-155-1905			HD	1	13 ea
Pin, Lock	5315-00-052-6744			EA	1	1 ea
Hook, Snap	5340-01-121-8769			EA	1	1 ea
Cable, Assy.	4010-01-155-5101			EA	2	2 ea
Adhesive	8040-00-865-8991	12266964	19207	KT	1	1 KT

c. Source of Supply: Local market & fabricated by TLSC-E.

PICTURE ID OF PART	Nomenclature (English)	Nomenclature (German)	Part Number	U/I	QTY per End Item	SOS Commercial Vendor Cage Code(s)
	CHOCK BLOCK	CHOCK BLOCK	13270200	EA	1	CJ569, DB333, 1JDM6, DK449
	CHOCK BLOCK BRACKET	CHOCK BLOCK BRACKET	13270300	MR	1	CJ569, DB333, 1JDM6, DK449
	FRAME PEGBOARD	WARNTAFEL HALTER	1.74ST	EA	1	CJ569, DB333, 1JDM6, DK449



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PICTURE ID OF PART CONTINUED	Nomenclature (English)	Nomenclature (German)	Part Number	U/I	QTY per End Item	SOS Commercial Vendor Cage Code(s)
	Plate, UN Warn Sign blank	WARNTAFEL OHNE NUMMER	1.14.ST	E A	2	CJ569, DB333, 1JDM6, DK449
	BRACKET BASE PLATE	BRACKET BASE PLATE	20591	E A	1	CJ569, DB333, 1JDM6, DK449
	BASE PLATE	BASE PLATE	8F1ST	E A	3	CJ569, DB333, 1JDM6, DK449
	PLACARD, HAZARD CLASS 1	GEFAHRZETTEL, EXPLOSIV, KLASSE 1	F12KS	E A	3	CJ569, DB333, 1JDM6, DK449
	PLACARD, HAZARD SUB-CLASS 1.4	GEFAHRZETTEL, EXPLOSIV, UNTERKLASSE 1.4	F13KS	E A	3	CJ569, DB333, 1JDM6, DK449
	PLACARD, HAZARD SUB-CLASS 1.5	GEFAHRZETTEL, EXPLOSIV, UNTERKLASSE 1.6	F15KS	E A	3	CJ569, DB333, 1JDM6, DK449
	PLACARD, HAZARD SUB-CLASS 1.6	GEFAHRZETTEL, EXPLOSIV, UNTERKLASSE 1.6	F16KS	E A	3	CJ569, DB333, 1JDM6, DK449
	SCREW, METRIC	SCHRAUBE,	M6X20D92158	E A	6	CJ569, DB333, 1JDM6, DK449
	WASHER, METRIC	UNTERLEG-SCHEIBE	6.4ZNDIN902 1-A	E A	6	CJ569, DB333, 1JDM6, DK449
	NUT, METRIC	MÜTTER,	M6DIN985-8ZN	E A	6	CJ569, DB333, 1JDM6, DK449
	FIRE EXTINGUISHER, CE NORM, 6 KG	FEUERLÖSCHER, 6 KG, CE NORM, ABC	821205	E A	2	CJ569, DB333, 1JDM6, DK449



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continued	Nomenclature (English)	Nomenclature (German)	Part Number	U/ I	QTY per End Item	SOS Commercial Vendor Cage Code(s)
	BRACKET, FIRE EXTINGUISHER	HALTERUNG, FEUERLÖSCHER	253274	E A	2	CJ569, DB333, 1JDM6, DK449
	COVER, FIRE EXTINGUISHER	SCHUTZ, ABDECKUNG	100501	E A	5	CJ569, DB333, 1JDM6, DK449
	TOW PINTLE SECURITY PIN	TOW PINTLE SICHERHEITS PIN	FMTVPIN	E A	1	TLSC-E FABRICATED
	SPEED LIMIT WARNING LABEL	TEMPO LIMIT BEGRENZER AUFKLEBER	SPEED SIGN	E A	1	TLSC-E FABRICATED
	EMERGENCY BATTERY DISCONNECT WARNING SIGN	NOTFALL BATTERIE, TRENNSCHALTER AUFKLEBER	FOULON20090 01	E A	1	TLSC-E FABRICATED
	TAPE, ELECTRICAL	ISOLIERBAND	3465418	E A	2	CJ569, DB333, 1JDM6, DK449
	CONDUIT, PLASTIC, 13 MM	WELLROHR NW13	51271154	M R	.10	CJ569, DB333, 1JDM6, DK449



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## 8. Equipment Condition:

a. Tarp & Bow Kit Installed, TM-10/20 as defined IAW AR 750-1, dtd. 12 SEP 2013; Army Material Maintenance Policy; Chapter 3, section 3-2, a. b. c. & d. on page 16. Parked on a level surface.

## 9. UPGRADE PROCEDURES: Reference ADR 8.1.3 Placarding and marking

*Transport units carrying dangerous goods shall be placarded and marked in conformity with ADR, Chapters 5.2 & 5.3*

- Chapter 5.2 Marking and labeling of packages.
- Chapter 5.3 Placarding of containers, MEGC's, MEMU's, Tank containers, portable tanks and vehicles.

### A. GENERAL

In general, Placards shall be placed IAW applicable ADR Regulations:

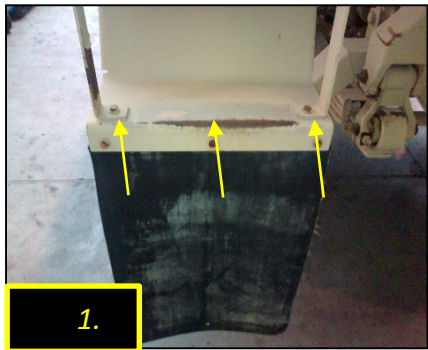
- In its pre-determined location;
- ADR regulated by their characters;
- Clearly identifiable and clearly legible.

### B. INSTALLATION INSTRUCTIONS

1) UN WARN SIGN & MOUNTING BRACKET installation, left rear of vehicle.

a) Required parts

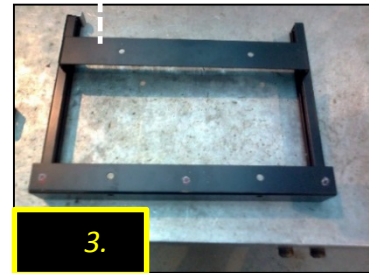
Nomenclature	PN or NSN	QTY
FRAME PEGBOARD	1.74ST	1
UN Warn Sign	1.14.ST	1
Nut, Self-Locking	5310-01-155-1905	5
Bolt	5306-01-156-8678	5



1.



2.



3.



4.



5.

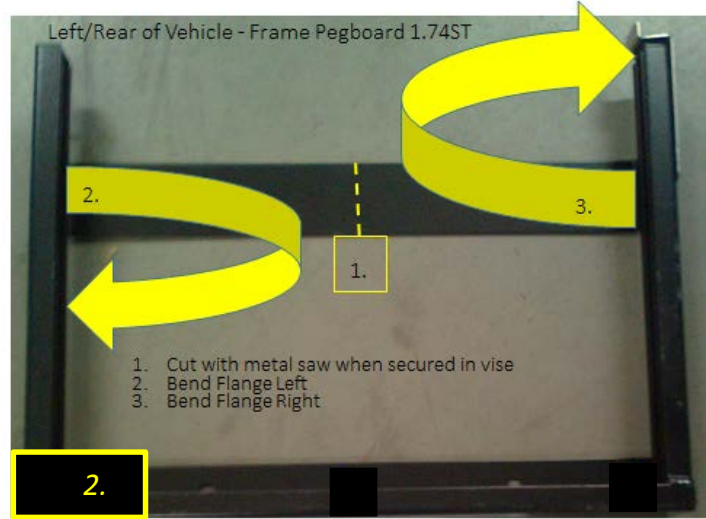


6.

b) Prepare P/N 1.74St for mounting:

1. Remove left rear; retain OEM flap & OEM metal bracket;
2. Camp FRAME PEGBOARD & mark drill hole pattern;
3. Place FRAME PEGBOARD on work bench;
4. Center punch marked drill hole pattern;
5. Secure & drill 3 holes; 6. Cut center of cross member with metal saw.





**c) Mount P/N 1.74St to Left Rear of Vehicle:**

1. Insert 3 Bolts (NSN: 5306-01-156-8678) through FRAME PEGOARD, through retainer metal bracket, through rubber flap and attach to left rear fender by securing with 3ea Nut (NSN: 5310-01-155-1905).
2. Bend cross members to each fender support arm.
3. Insert Part# 1.14ST partially into FRAME PEGBOARD partially and clamp, ensure sign can be removed.
4. Center punch, drill 3/8" hole, secure with Bolt and Nut; cut excess flange; file away any burrs or sharp edges.



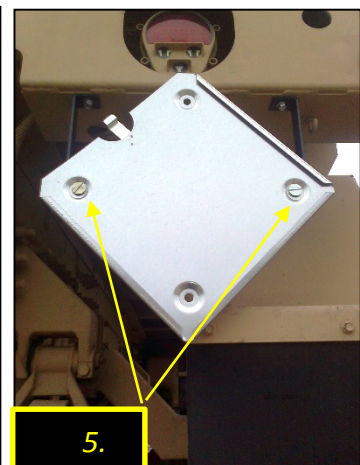
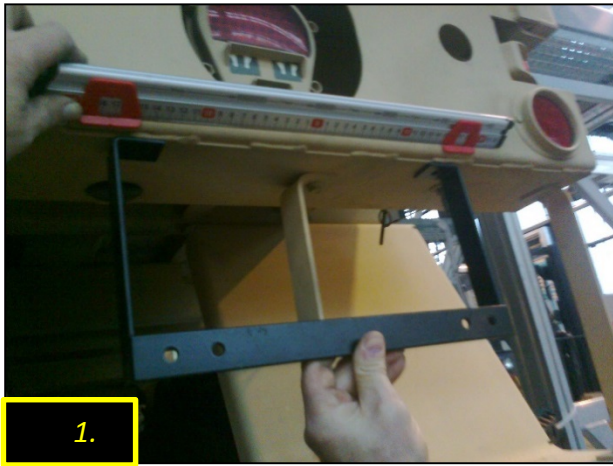
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2) Hazard Class Placard Base Plate & Bracket Installation, right rear of vehicle.

2a) Required parts

Nomenclature	PN or NSN	QTY
BRACKET BASE PLATE	20591	1
BASE PLATE	8F1ST	1
Nut, Self-Locking	5310-01-155-1905	2
Bolt	5306-01-156-8678	2
SCREW	M6X20D92158	2
WASHER	6.4ZNDIN9021-A	2
NUT	M6DIN985-8ZN	2



2b) Mount P/N 20591 & 8F1ST to Right Rear of Vehicle:

1. Position bracket to right rear of vehicle as shown;
2. Mark drill hole pattern; 3. Center punch; Drill 3/8 holes;
4. Attach P/N 20591 to vehicle by securing with 2ea Bolt (NSN: 5306-01-156-8678) 2ea Nut (NSN: 5310-01-155-1905);
5. Attach P/N 8F1ST to installed bracket with 2ea SCREW (P/N: M6X20D92158) and 2ea NUT (P/N: M6DIN985-8ZN).



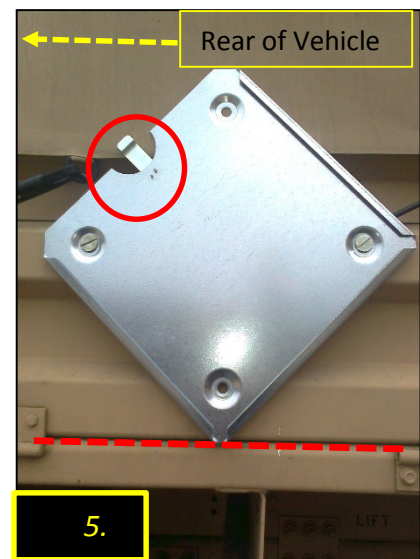
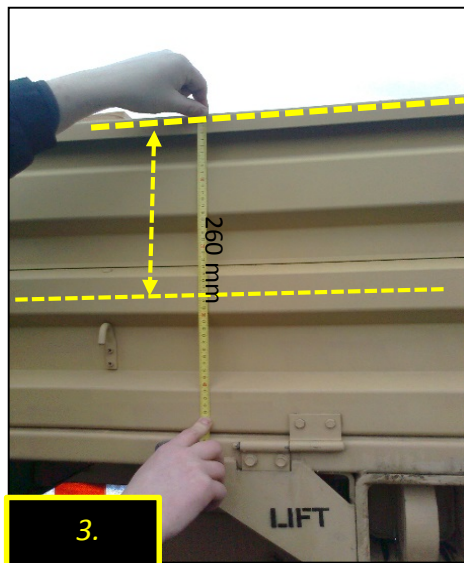
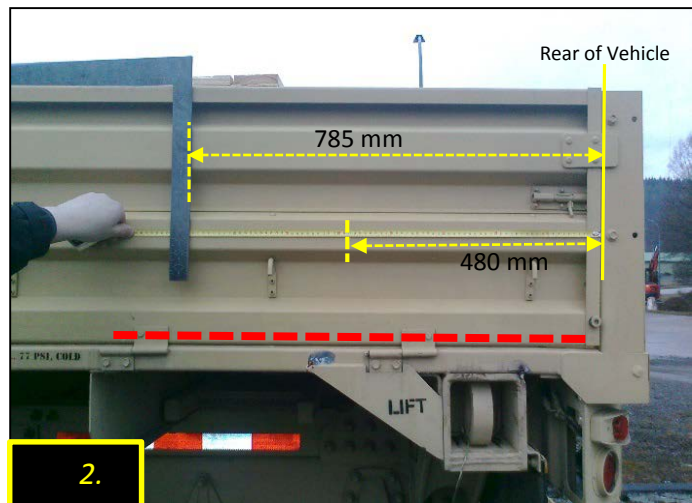
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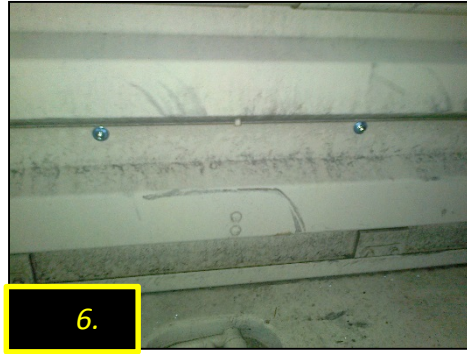


3) Hazard Class Placard Base Plate & Bracket Installation, left & right sides of cargo bed of vehicle.

### 3a) Required parts

Nomenclature	PN or NSN	QTY
BASE PLATE	8F1ST	1
WASHER	5310-01-157-5671	4
SCREW	M6X20D92158	4
WASHER	6.4ZNDIN9021-A	4
NUT	M6DIN985-8ZN	4





**3b) Mount P/N 20591 & 8F1ST to Left & Right Side Rear Cargo Drop Side to Vehicle:**

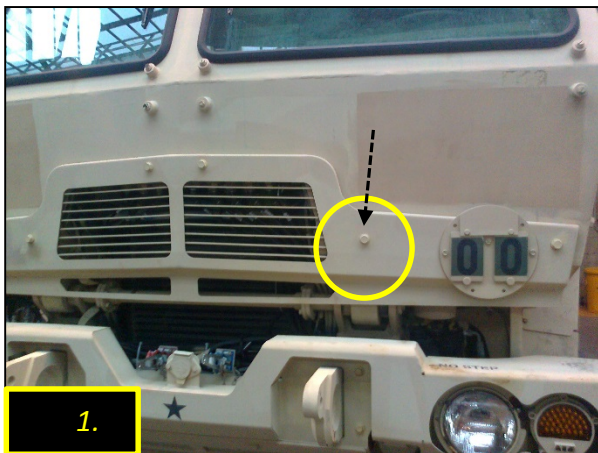
1. Identify mounting position(s) of P/N 8F1ST; (centered on 2<sup>nd</sup> canvas cover strap anchor-hook circled) to side of vehicle, rear cargo drop side panel;
2. Mark side panel with vertical lines at 48.0 cm & 78.5 cm;
3. Mark side panel with horizontal line at 26.0 cm to intersect at both vertical marks;
4. Center punch and drill 1/4" inch holes;
5. Secure P/N 8F1ST to vehicle by inserting SCREW (P/N M6X20D92158) through the two holes of bracket, through a WASHER (NSN: 5310-01-157-5671) and insert into drilled holes as shown (Caution! Ensure tab & Placard insert edge are facing upward and towards the rear of vehicle!)
6. Second mechanic installs WASHER (P/N 6.4ZNDIN9021-A) over exposed threads and fastens each screw with NUT (P/N: M6DIN985-8ZN);
7. Repeat process on opposite side of vehicle; 8. Hazard Class Placard displayed view when vehicle loaded with explosives.



## 4) UN WARN SIGN & MOUNTING BRACKET installation, front of vehicle.

### a) Required parts

Nomenclature	PN or NSN	QTY
FRAME PEGBOARD	1.74ST	1
UN Warn Sign	1.14.ST	1
Nut, Self-Locking	5310-01-155-1905	1
Bolt	5306-01-156-8678	1





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## 4b) Mount P/N 1.74St to Front of Vehicle:

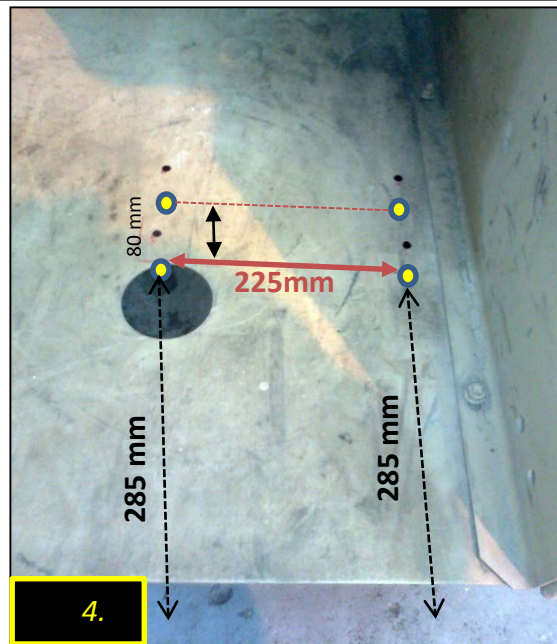
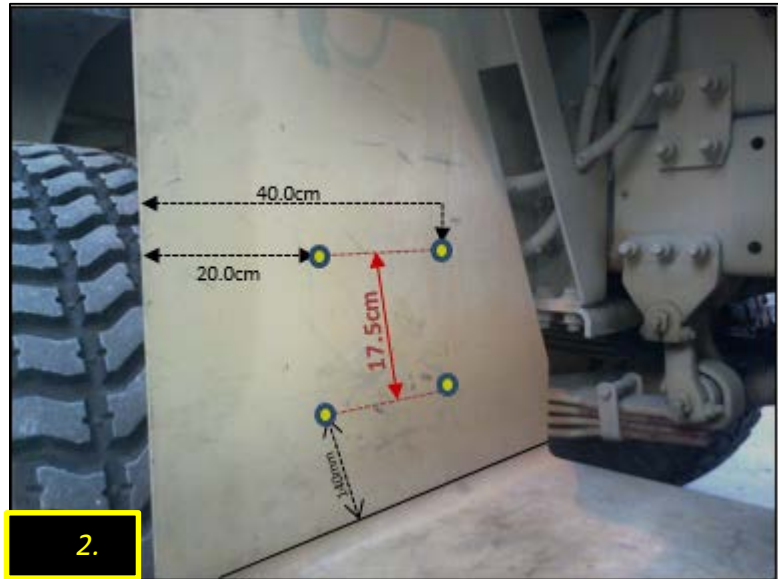
1. Remove bolt;
2. Identify hole;
3. Enlarge hole to 1/2" inch;
4. Attach Frame Pegboard (P/N: 1.74ST), utilize existing hole to mark hole;
5. Center punch; 6. Drill 3/8" inch hole (*Caution - do not drill into hoses behind louver*);
7. Insert leaa Bolt (NSN: 5306-01-156-8678) through Frame Pegboard and drilled hole and fasten with lea Nut (NSN: 5310-01-155-1905).
- 8) **Hint/Note:** Removing Grille after marking but before drill hole (GRILLE REPLACEMENT WORK PACKAGE task found \*EM 0294, TM 9-2320-333-14&P) makes installation easier.



5) FIRE EXTINGUISHER & CHOCK BLOCK MOUNTING BRACKETs installation, left side, center of vehicle.

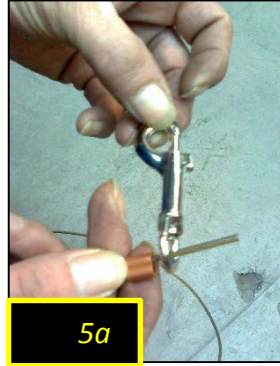
a) Required parts

Nomenclature	PN or NSN	QTY
CHOCK BLOCK	13270200	1
CHOCK BLOCK BRACKET	13270300	1
FIRE EXINGUISHER, CE NORM, 6 KG	821205	2
BRACKET, FIRE EXTINGUISHER	253274	2
COVER, FIRE EXTINGUISHER	100501	2
Hook, Snap	5340-01-121-8769	1
Cable, Assy.	4010-01-155-5101	1
Adhesive	8040-00-865-8991	1
Bolt	5306-01-156-8678	8
Nut, Self-Locking	5310-01-155-1905	8





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## 5b) Mount P/N 253274 & WS485 to left side of Vehicle:

1. Mark, center punch and drill four 3/8" inch holes to mount 2ea P/N 253274
2. Reference only- Fire Extinguisher Bracket drill hole dimensions;
3. Mark, center punch and drill four 3/8" inch holes to mount 1ea P/N 13270300;
4. Reference only - Chock Block Bracket drill hole dimensions; Insert Bolt (NSN: 5306-01-156-8678) through brackets and all drilled holes and fasten with 8ea Nut (NSN: 5310-01-155-1905;
5. Thread one end of cable assy. (NSN: 4010-01-155-5101) through 1<sup>st</sup> eyelet of clamp;
- 5a. Thread same end of cable through solid ring of SNAP HOOK (NSN: 5340-01-121-8769) and then through 2<sup>nd</sup> eyelet;
- 5b. Crimp clamp;
- 5c. Attach cable assy. to Chock Block Bracket (P/N 13270300) loop a shown with same threading and crimping process;
6. Install FIRE EXTINGUISHER (P/N 821205) into each bracket and install COVER (P/N 100501).

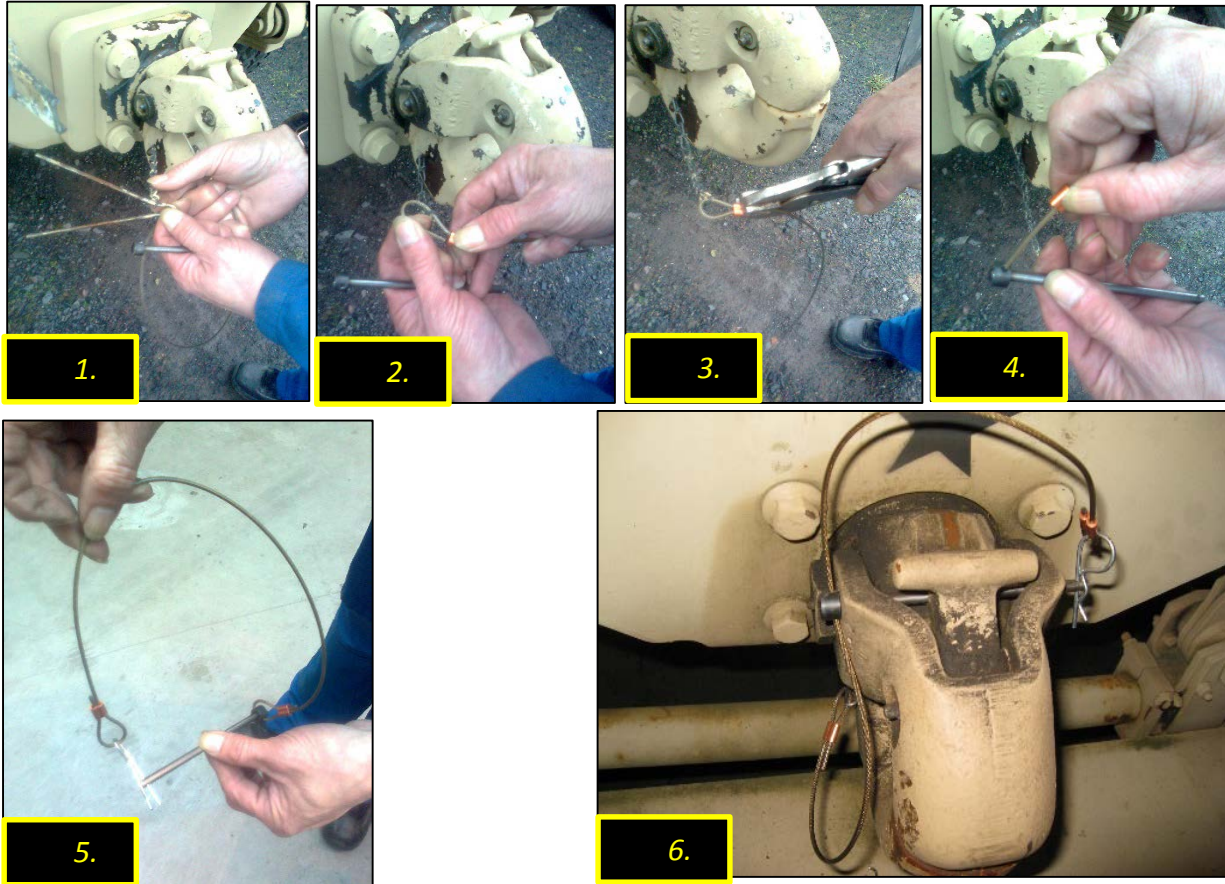




## 6) TOW PINTLE SECURITY PIN installation, rear of vehicle.

### a) Required parts

Nomenclature	PN or NSN	QTY
TOW PINTLE SECURITY PIN	FMTVPIN	1
Hook, Snap	5340-01-121-8769	1
Cable, Assy.	4010-01-155-5101	1
Pin, Lock	5315-00-052-6744	1



### 6b) Mount P/N FMTVPIN to Tow-Pintle, rear of Vehicle:

1. Remove OEM Cotter pin;
2. Thread one end of cable assy. (NSN: 4010-01-155-5101) through 1<sup>st</sup> eyelet of clamp;
3. Thread same end of cable through link of chain attached to vehicle and crimp;
4. Thread cable through eyelet of P/N FMTVPIN;
5. Attach cable assy. to Pin, Lock (NSN: 5315-00-052-6744) with same threading and crimping process;
6. Insert SECURITY PIN through OEM Tow-Pintle travel lock hole and install PIN, LOCK.

7) **SPEED LIMIT & EMERGENCY BATTERY DISCONNECT LABELS** installation, inside operator compartment, left side, dash panel of vehicle.

**a) Required parts**

Nomenclature	PN or NSN	QTY
SPEED LIMIT WARNING LABEL	SPEED SIGN	1
EMERGENCY BATTERY DISCONNECT WARNING SIGN	FOULON2009001	1



**7b) Mount P/N SPEED SIGN & P/N FOULON200901, inside cab of Vehicle:**

1. Clean surface, peel paper backing of self-adhesive label and attach **SPEED LIMIT** (P/N SPEED SIGN) to dash panel as shown;
2. EXTRA VIEW;
3. Clean surface, peel paper backing of self-adhesive label and attach **EMERGENCY BATTERY DISCONNECT** WARNING SIGN (P/N FOULON200901) to dash panel as shown;
4. EXTRA VIEW



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8) IP65 STANDARD INSULATED WARNING HARNESS, inside Cargo loading area of vehicle.

a) Required parts

Nomenclature	PN or NSN	QTY
TAPE, ELECTRICAL	3465418	1
CONDIUT, PLASTIC, 13 MM	51271154	1



8b) Remove or Install all Electrical Wiring IAW ADR 9.1 inside Vehicle Cargo Load Area of Vehicle:

1. *Cut to length and install Conduit, Plastic (P/N 51271154) from where OEM conduit stops to Speaker housing connector;*
2. *Wrap installed conduit with TAPE, ELECTRICAL (P/N 3465418) as shown.*

NOTE: REVIEW MAINTENCE MESSAGE ####  
 "INTER-VEHICULER COMMUNICATION SPEAKER DISCONTINUED"  
 FOR PROCEDURES TO REMOVE SPEAKER AND WIRING HARNESS FROM CARGO AREA.

**9) Apply Adhesive Silicone.**

**a) Required parts**

Nomenclature	PN or NSN	QTY
ADHESIVE, SILICONE	12266964	1



**b) Apply silicone to all newly installed bolts exposed threads and cut brackets sharp edges.**



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## SUPPLIER CONTACT INFORMATION:

### 1) COMMERCIALLY PURCHASED ITEMS: AUTHORIZED VENDOR(S) WITH CAGE CODE

Cage Code: CJ569

Rüffer-Anlagentechnik · Schillerstrasse 55 a ·  
D-64846 Groß-Zimmern  
Telephone: 01149 (0)6071-7369 00 · fax: 0 60 71.73 69 17  
Web: [www.rueffer-anlagentechnik.de](http://www.rueffer-anlagentechnik.de)

Cage Code: DB333 and 1JDM6

Firma Hans Schmidt, GmbH, Postfach 1248, 67602 Kaiserslautern;

Cage Code: DK449

MK Montagetechnik, Margaretenstrasse 2, 66955 Pirmasens;

### 2) FABRICATED PARTS: TLSC-E MAINTENANCE ACTIVITIES

MAINTENANCE ACTIVITY KAISERSLAUTERN

DSN (314) 483-3530

COMMERCIAL (+49) 0631-411-3530/3531/3547

MAINTENANCE ACTIVITY VILSECK

DSN (314) 476-2575/3256/2775

COMMERCIAL (+49) 09662-83-2575/3256/2775

Developed by:  
MAK / DIR/ Deputy  
Date: 07 Mar 2016  
MAK OF ADR 82

Modified by:  
MAK / XXXX  
Date:

Reviewed by:  
MAK / QMR/ Alt  
Date: 16 Mar 2016

Approved by:  
MAK / Director  
Date: 17 Mar 2016