

TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24 V (WITH ACU) REFURBISHED
2005 [REDACTED]

MODIFICATION INSTRUCTION NO 17

Sponsor: Protected Mobility Team (PMT)
Project No.: UOR A01431
File Ref: PMT/04/0410/09/14/08

Publication Authority: PMT AW

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Rear door release mechanism

INTRODUCTION

1 To support the role of the TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24V (WITH ACU) REFURBISHED 2005 [REDACTED], it has been assessed that a revised rear door hose assembly is fitted.

1.1 This Modification Instruction details the fitting procedure to be adopted together with instructions for the disposal of any components and sub-assemblies removed from the equipment.

1.2 Limitations on use of equipment. Nil.

APPLICABILITY

2 This Modification Instruction is to be carried out on all TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24 V (WITH ACU) REFURBISHED 2005 [REDACTED], held by user units.

2.1 Fitted to subject equipment asset code (EAC) NBS 004-3101.

REASON FOR MODIFICATION

3 Code 3 – To improve reliability.

PRIORITY

4 Army: Routine – During next scheduled maintenance.

ESTIMATED TIME REQUIRED

5 This Modification Instruction should take:

- 5.1 Dismantling: 1.0 man-hours.
- 5.2 Assembly: 1.0 man-hours.
- 5.3 Embodiment: 0.5 man-hours.
- 5.4 Testing: 0.5 man-hours.

MODIFICATION IMPLEMENTATION PLAN

6 This Modification Instruction is to be implemented by:

- 6.1 Units/ sections authorised to carry out Levels 2, 3 and 4 repairs.
- 6.2 Associated Modification Instructions. Nil.
- 6.3 Modification plate strike action: No.

Action required by

7 The following action is to be carried out:

7.1 Units and establishments holding equipment.

7.1.1 Examine the equipment documents, or check the equipment/ sub-unit serial numbers, to determine whether or not the modification is applicable.

7.1.2 Examine equipment or modification record plate to see if modification is embodied and where necessary Units with REME support demand the stores required.

7.1.3 Army – on receipt of stores, request the REME to modify equipment.

7.1.4 Army – record the modification subject and AESP number in the equipment documents.

7.2 Units authorised to carry out Unit, Field or Base repairs (levels 2, 3 or 4).

7.2.1 Army – implement the modification when requested by the holding unit (or demand the stores required for equipment on charge to units without REME support) and carry out the modification during repair or overhaul where this is a stated restriction on implementation.

7.2.2 Record completion of the modification in the equipment document as applicable.

7.3 All recipients of the AESP. Add particulars to AESP 2320-D-132-811 Modification Instruction Index contained in the Preliminary pages, where applicable.

Stores, tools and equipment

8 The following stores, tools and equipment are required to carry out the modification:

8.1 Stores to be demanded.

8.1.1 The following items/ modification sets are/ is to be demanded quoting this instruction as authority for demand.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh
1	7NP	4720-99-405-9383	Hose assembly	1
			Comprising:	
2	-	NIV	Flanged nut	(1)
3	-	NIV	Connector	(1)
4	-	NIV	Hose	(1)
5	-	NIV	Union nut	(1)
6	-	NIV	Olive washer	(1)

8.2 Stores or suitable equivalent to be obtained locally.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh
7	POLPEP	9150-99-220-1149	Grease (general purpose) XG 279	A/ R
8	7MF	5310-99-870-1910	Nuts, M8, nyloc	2
9	-	NIV	Cable ties	A/ R

8.3 Stores to be removed and reduced to scrap.

Item No.	DMC	NSN/Part No.	Designation	Qty Per Veh
10	7NP	4720-99-979-1862	Hose assembly	1
			Comprising:	
11		NIV	Flanged nut	((1))
12		NIV	Connector	((1))
13		NIV	Hose	((1))
14		NIV	Union nut	((1))
15		NIV	Olive washer	((1))

WARNINGS

- (1) **PERSONAL INJURY.** WHEN WORKING ON THE EQUIPMENT, ENSURE ALL LOCAL STANDARD WORKSHOP AND HEALTH AND SAFETY PRACTICES ARE ADHERED TO. IF ANY OF THE INSTRUCTIONS IN THIS DOCUMENTATION CONTRAVENE THE LOCAL ORDERS SEEK CLARIFICATION BEFORE CONTINUING.
- (2) **PERSONAL INJURY.** ENSURE VEHICLE IS POSITIONED ON A LEVEL HARD STANDING AND THE PARK BRAKE APPLIED. CHOCK AT LEAST TWO WHEELS ON OPPOSITE SIDES OF THE VEHICLE BEFORE COMMENCING WORK. SWITCH BATTERY/ AUXILIARY BATTERY ISOLATOR SWITCHES TO OFF.
- (3) **PERSONAL INJURY/ BURNS.** OPERATING SURFACES MAY BE HOT. ALLOW SUFFICIENT TIME FOR COMPONENTS TO COOL PRIOR TO CARRYING OUT ANY REMOVAL AND REPLACEMENT OF COMPONENTS.

CAUTIONS

- (1) **EQUIPMENT DAMAGE.** To prevent premature failure of securing devices, before fitting ensure clean and apply a light coating of general purpose grease.
- (2) **BATTERY DAMAGE.** To minimise the risk of sparking, ensure the equipment is switched off where possible during connection or disconnection of electrical cables.
- (3) **EQUIPMENT DAMAGE.** When connecting vehicle battery cables to the battery terminals ensure they are not over tightened. Failure to do so will result in damage to the battery and render the battery unserviceable.
- (4) **EQUIPMENT DAMAGE.** Do not hammer battery terminal connections on to the battery terminals. Failure to comply will result in damage to the battery.

GENERAL INFORMATION

- 9 When carrying out the installation of the equipment ensure the following information is adhered to.

9.1 This Modification Instruction details the installation of the revised rear door release mechanism to the TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24V (WITH ACU) REFURBISHED 2005 [REDACTED] vehicle platforms only.

9.2 Read the complete Modification Instruction before starting.

9.3 Observe all the **WARNINGS** and **CAUTIONS** detailed within this Modification Instruction.

9.4 Left Hand and Right Hand (LH and RH) denotes the left and right hand sides of the vehicle with respect to viewing the vehicle from the rear looking towards the front.

9.5 The item numbers of Para 8 (example: (Item 1) Hose assembly) are used as reference throughout this Publication, as well as figure numbers.

9.6 When assembling securing devices, it will ease operation if a small amount of grease, (general purpose) XG 279 (Item 7) is first applied to the threads. Ensure all excess is removed once equipment is fully secured.

9.7 It may be necessary to unclip and reposition cables to allow easy connection to the equipment being fitted.

9.8 When removing and replacing equipment, always check and replace any unserviceable locking devices as necessary, this will ensure the correct and secure mounting of all the equipment.

SEQUENCE OF OPERATIONS

Preparation

- 10 When carrying out the installation of the equipment ensure the following information is adhered to:

10.1 Observe all the **WARNINGS** and **CAUTIONS** detailed within this Modification Instruction.

10.2 Read the complete Modification Instruction before starting.

WARNING

PERSONAL INJURY. ENSURE VEHICLE IS POSITIONED ON A LEVEL HARD STANDING AND THE PARK BRAKE APPLIED. CHOCK AT LEAST TWO WHEELS ON OPPOSITE SIDES OF THE VEHICLE BEFORE COMMENCING WORK. SWITCH BATTERY/ AUXILIARY BATTERY ISOLATOR SWITCHES TO OFF.

10.3 Park the vehicle on firm level ground, fully apply park brake, chock two wheels on opposite sides of the vehicle then display a **DO NOT START** notice in a prominent position within the driver's compartment.

10.4 Ensure that the working area around the vehicle is made safe and be aware of any hazardous conditions that may exist. If the engine is to be started inside an enclosed space ensure that the exhaust gases are properly vented.

10.5 Open the rear doors and secure to prevent closure.

10.6 Open the bonnet and secure to prevent closing.

REMOVAL**Batteries**

- 11 Ensure the battery isolator switch on the commander's seat base and the auxiliary battery isolator switch on the driver's seat base are set to the OFF position.

Vehicle batteries removal

- 12 To remove the vehicle batteries (Fig 1(7)), proceed as follows:

CAUTION

BATTERY DAMAGE. To minimise the risk of sparking, ensure the equipment is switched off where possible during connection or disconnection of electrical cables.

- 12.1 Pulling vertically from the front, remove the LH seat cushion (1).
- 12.2 Lift the LH over centre catch (8) to release the LH plate (2).
- 12.3 Slide the plate forward then remove.
- 12.4 Identify, tag then disconnect the vehicle battery terminals (9).
- 12.5 Remove and retain nuts (3) and washers (4) from hook rods (6).
- 12.6 Remove and retain the clamp plate (5) and hook-rods.
- 12.7 Noting their position for replacement, carefully lift and remove the vehicle batteries from the vehicle.

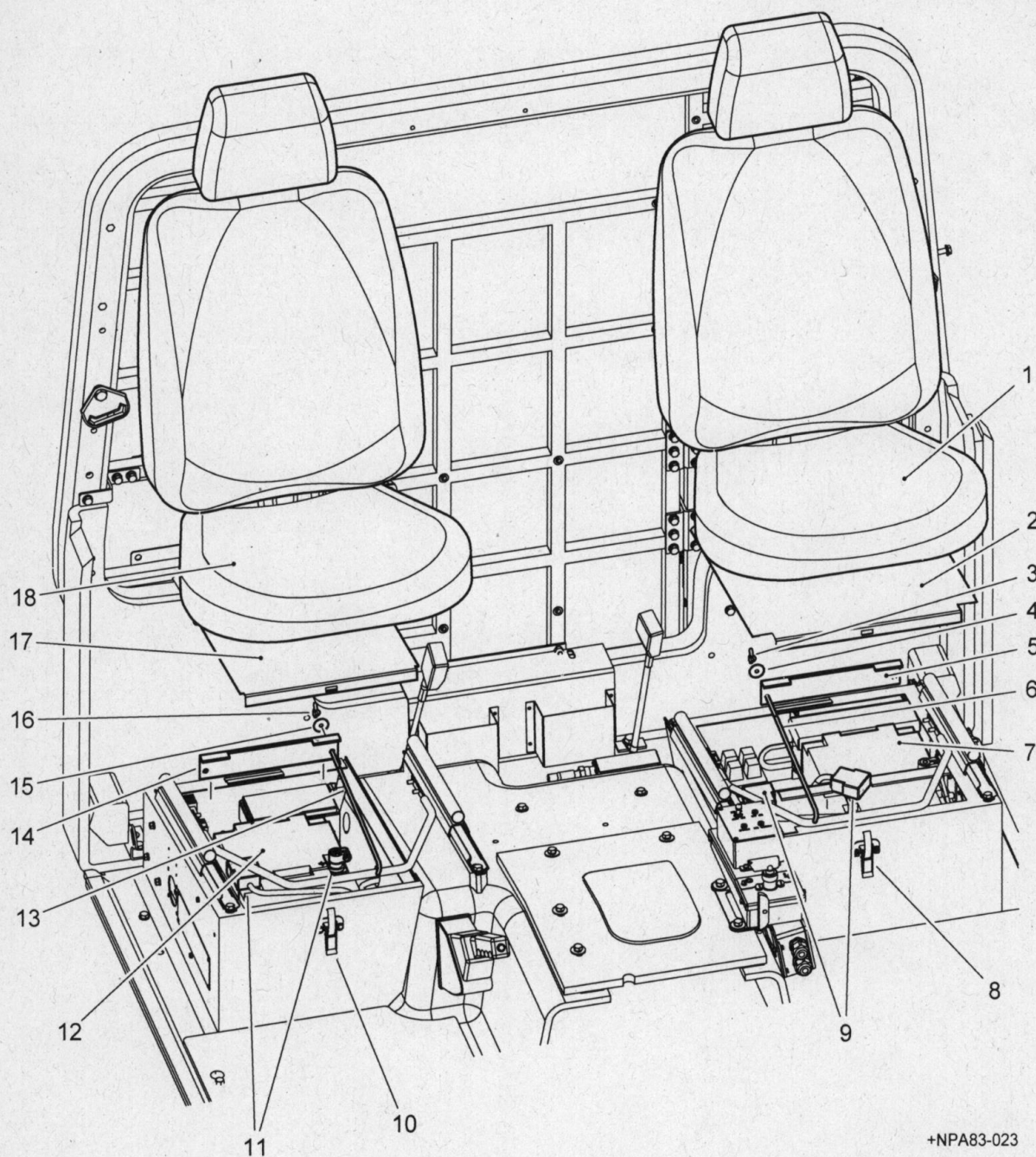
Auxiliary batteries removal

- 13 To remove the auxiliary batteries (Fig 1(12)), proceed as follows:

CAUTION

BATTERY DAMAGE. To minimise the risk of sparking, ensure the equipment is switched off where possible during connection or disconnection of electrical cables.

- 13.1 Pulling vertically from the front, remove the RH seat cushion (18).
- 13.2 Lift the RH over centre catch (10) to release the RH plate (17).
- 13.3 Slide the plate forward then remove.
- 13.4 Identify, tag then disconnect all auxiliary battery terminals (11).
- 13.5 Remove and retain nuts (16) and washers (15) from hook rods (13).
- 13.6 Remove and retain the clamp plate (14) and hook-rods.
- 13.7 Noting their position for replacement, carefully lift and remove the auxiliary batteries from the vehicle.



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|-------------------|--------------------------------|--------------------|
| 1 LH seat cushion | 7 Vehicle batteries | 13 Hook rod |
| 2 LH plate | 8 LH over centre catch | 14 Clamp plate |
| 3 Nut | 9 Vehicle battery terminals | 15 Washer |
| 4 Washer | 10 RH over centre catch | 16 Nut |
| 5 Clamp plate | 11 Auxiliary battery terminals | 17 RH plate |
| 6 Hook rod | 12 Auxiliary batteries | 18 RH seat cushion |

Fig 1 Batteries (Removal)

Electric cable and hose assembly removal

14 To remove the electric cable (Fig 2(11)) and hose assembly (8), proceed as follows.

14.1 Remove and retain two protective caps (4).

14.2 Support the trunking (5) then remove two nyloc nuts (Item 17)(3), penny washers (2) and screws (13). Discard nyloc nuts.

14.3 Carefully move the trunking assembly off the RH rear door (1), identify, tag then disconnect the electric cable from the door solenoid (12).

14.4 Attach a draw wire to the electric cable then withdraw the electric cable through the trunking assembly and hose assembly into the vehicle.

NOTE

Do not remove the draw wire from the trunking assembly until the screened cable has been installed.

14.5 Holding the hose assembly, remove flanged nut (Item 2)(10) securing the connector (Item 12)(9) to the rear roll bar.

14.6 Remove union nut (Item 14)(6) from the hose.

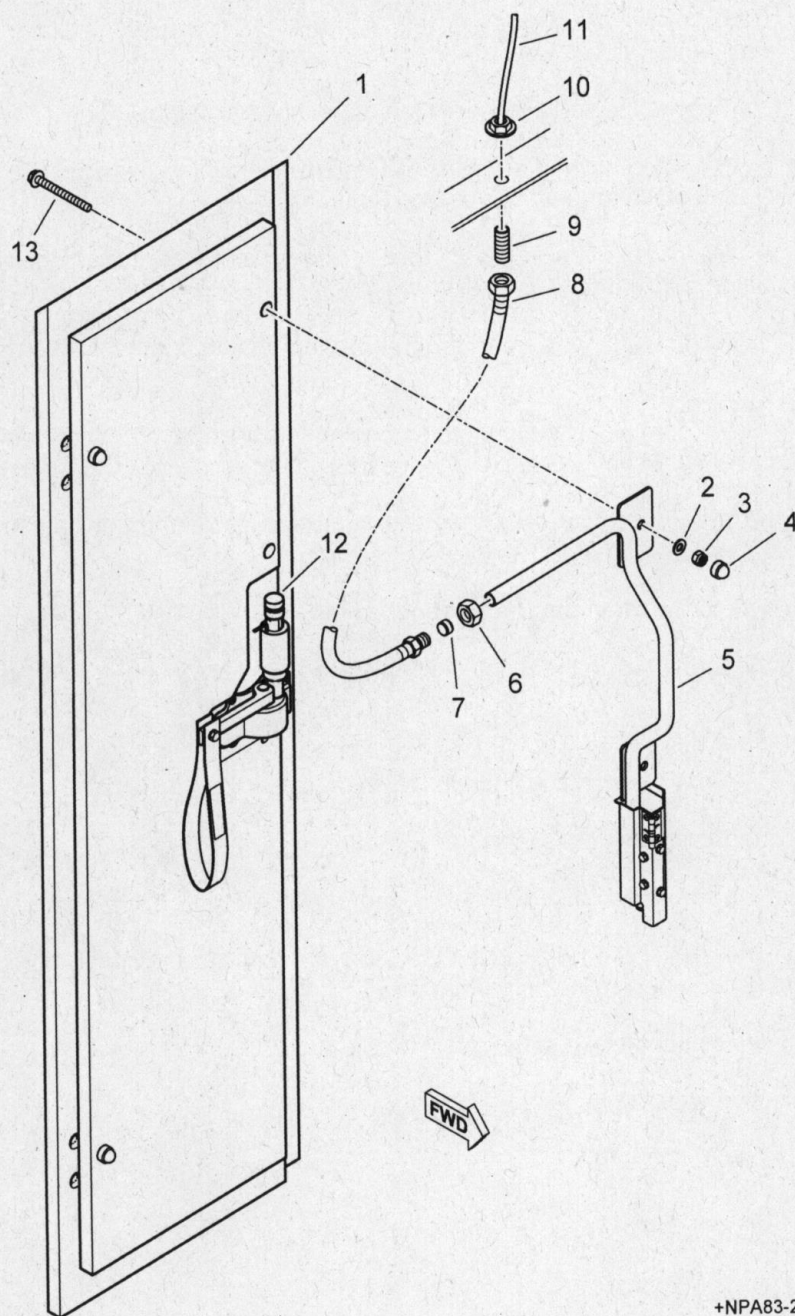
14.7 Carefully remove olive washer (Item 15)(7) and union nut from the trunking assembly.

NOTE

The olive washer and union nut may not be easily removed, if in good condition they can be re-used.

14.8 Discard hose, flanged nut, connector, olive washer and union nut.

14.9 Retain the trunking assembly.



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|---------------------|----------------|-----------------------------------|
| 1 RH rear door | 6 Union nut | 10 Flanged nut |
| 2 Washer, M8, penny | 7 Olive washer | 11 Electric cable |
| 3 Nut, M8, nyloc | 8 Hose | 12 Door solenoid |
| 4 Cap, protective | 9 Connector | 13 Screw, M8 x 75, flange, hex hd |
| 5 Trunking | | |

Fig 2 Electric cable and hose assembly (Removal)

REPLACEMENT**Hose assembly and Electric Cable**

15 To fit the and hose assembly (Item 1), proceed as follows:

15.1 Fit hose assembly as follows:

15.1.1 Ensure the correct orientation of the hose assembly.

15.1.2 Remove union nut (Item 5)(Fig 2(6)) and olive washer (Item 6)(7) from hose assembly then place on previously removed trunking (5).

15.1.3 Push hose on trunking then secure using the olive washer and union nut. Tighten union nut securely. Do not over tighten.

15.1.4 Remove flanged nut (Item 2)(10) then ensure connector (Item 3)(9) is tight in the hose.

15.1.5 Fit connector through the opening in the rear roll bar then secure using the previously removed flanged nut. Do not over tighten.

15.2 Using the draw wire, carefully feed the screened cable through the hose assembly and trunking.

15.3 Remove the draw wire from the screened cable.

15.4 Ensure the terminals on the electrical cable are as follows:

15.4.1 A female terminal is fitted to the blue wire.

15.4.2 A male terminal is fitted to the red wire.

15.5 Replace terminals as necessary.

15.6 Connect the screened cable to the rear door solenoid.

15.7 Position the trunking on the door then secure using the previously removed screws (13), penny washers (2) and new nyloc nuts (Item 8)(3).

15.8 Tighten fixings securely. Do not over tighten.

15.9 Fit protective caps (4).

Batteries

16 Ensure the battery isolator switch on the commander's seat base and the auxiliary battery isolator switch on the driver's seat base are set to the OFF position.

Fit auxiliary batteries

17 To fit the auxiliary batteries (Fig 3(12)), noting the **CAUTION**, proceed as follows:

17.1 Ensure all electrical cables are clear of the auxiliary batteries tray then fit the auxiliary batteries into the vehicle in the positions noted during removal.

17.2 Fit the hook rods (13) and clamp plate (14).

17.3 Secure the clamp plate using the retained nuts (16) and washers (15). Do not over tighten.

CAUTION

EQUIPMENT DAMAGE. Do not hammer battery terminal connections on to battery terminals. Failure to comply will result in damage to the battery and render the battery inoperable.

17.4 Connect and secure all auxiliary battery terminals (11) in the positions noted during removal.

17.5 Fit the RH plate (17) then lock into position, use the RH over centre catch (10).

17.6 Fit the RH seat cushion (18).

Fit vehicle batteries

18 To fit the vehicle batteries (Fig 3(7)), noting the **CAUTION**, proceed as follows:

18.1 Ensure all electrical cables are clear of the vehicle batteries tray then fit the vehicle batteries into the vehicle in the positions noted during removal.

18.2 Fit the hook rods (6) and clamp plate (5).

18.3 Secure the clamp plate using the retained nuts (3) and washers (4). Do not over tighten.

CAUTION

EQUIPMENT DAMAGE. Do not hammer battery terminal connections on to battery terminals. Failure to comply will result in damage to the battery and render the battery inoperable.

18.4 Connect and secure all vehicle battery terminals (9) in the positions noted during removal.

18.5 Fit the LH plate (2) then lock into position, use the LH over centre catch (8).

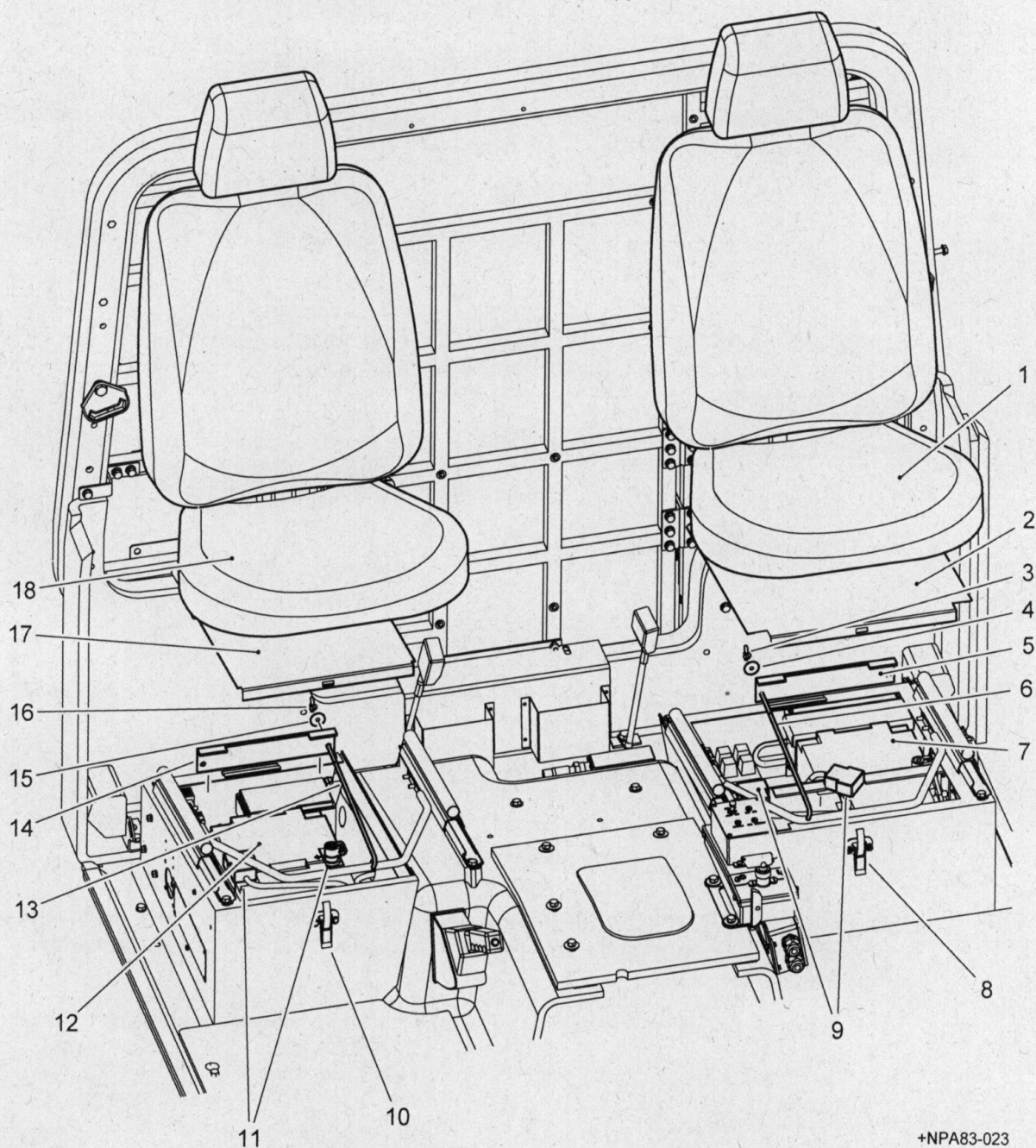
18.6 Fit the LH seat cushion (1).

Completion

19 With all components replaced and secured, proceed as follows:

19.1 Release then close and secure the bonnet.

19.2 Release then close the rear doors.



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|-------------------|--------------------------------|--------------------|
| 1 LH seat cushion | 7 Vehicle batteries | 13 Hook rod |
| 2 LH plate | 8 LH over centre catch | 14 Clamp plate |
| 3 Nut | 9 Vehicle battery terminals | 15 Washer |
| 4 Washer | 10 RH over centre catch | 16 Nut |
| 5 Clamp plate | 11 Auxiliary battery terminals | 17 RH plate |
| 6 Hook rod | 12 Auxiliary batteries | 18 RH seat cushion |

Fig 3 Batteries (Replacement)

TESTING AFTER EMBODIMENT

20 Carry out the following task:

20.1 Press the rear door solenoid switch to activate the door solenoid.

NOTE

The switch operates on a 10 second delay system. After 10 seconds the door solenoid activates the rear door to the locked position.

EFFECT ON WEIGHT

21 Negligible.

PUBLICATION AMENDMENTS

22 Necessary AESP publication amendments will be issued separately.

TRUCK UTILITY MEDIUM (HS) HT W/ VPK2 24V (WITH ACU) REFURBISHED
2005 [REDACTED]

MODIFICATION INSTRUCTION No. 19

Sponsor: Protected Mobility Team
Project No.: UOR A01431
File Ref: TBA
Publication Authority: PMT DE&S
ABBNEYWOOD

Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Commanders Grab Handle

INTRODUCTION

1. This instruction introduces a grab handle, to be used by the vehicle commander to aid ingress into the vehicle.

1.1. Limitations on use of equipment. Nil.

APPLICABILITY

2. This Modification Instruction is to be carried out on all TRUCK UTILITY MEDIUM (HS) HT W/VPK 24V (WITH ACU) REFURBISHED 2005 [REDACTED], held by user units.

2.1. Equipment Asset Code (EAC) NB5004-3101.

REASON FOR MODIFICATION

3. Code 2 – To improve ingress

PRIORITY

4.

4.1. ARMY: Routine

4.2. RAF: Class 3

ESTIMATED TIME REQUIRED

5. Embodiment: 0.25 man-hours.

MODIFICATION IMPLEMENTATION PLAN

6. This instruction is to be implemented by:

- 6.1. ARMY – Units authorised to carry out levels 1, 2, 3 or 4 maintenance.
- 6.2. RAF - Record modification details on AF G1084A and Form 4870. Units
- 6.3. operating STAMA are also to record modification details on ADPMTMS job certification sheet and to follow the procedures laid down in AP 100C - 08A.

Action required by

7. The following action is to be carried out:

7.1. Units and establishments holding equipment.

- 7.1.1. On receipt of stores, request REME to modify equipment.
- 7.1.2. ARMY – Record the AESP and instruction number in equipment documents.

7.2. Army units authorised to carry out levels 2, 3 and 4 maintenance.

- 7.2.1. ARMY – When requested by units or during overhaul of equipment on charge without REME 1st Line Support, obtain the items in Para 8 and carry out this modification.
- 7.2.2. Record completion details of modification against appropriate entry in vehicle documents.

7.3. All recipients of this instruction. Add particulars to AESP 2320-D-132-811 Modification Instruction Index contained in the preliminary pages.

Stores, tools and equipment

8. The following stores, tools and equipment will be required to carry out the Modification Instruction:

8.1. Stores to be demanded.

8.1.1. The following item is to be demanded quoting this instruction as the authority.

Refer to Item No.	DMC	NSN / Part No.	Designation	Qty per Vehicle
(1)	(2)	(3)	(4)	(5)
1	7WH	5340-99-151-6042	Grab Handle	1
2	G1C	5310-99-624-5250	M8 Washer Flat	1
3	G1	5310-99-122-5496	M8 Nyloc Nut	1

8.2. Stores to be removed and discarded.

Refer to Item No.	DMC	NSN / Part No.	Designation	Qty per Vehicle
(1)	(2)	(3)	(4)	(5)
4	G1	5310-99-122-5496	M8 Nyloc Nut	1

SEQUENCE OF OPERATIONS

NOTE

The item numbers of Para 8 are used as reference throughout this instruction.

9. Carry out this instruction as follows:

- 9.1. Undo and discard the nut (item 4) securing ECM conduit 'P' clamp forward of loud speaker illustrated in Fig 1.
- 9.2. Remove the 'P' clamp from bolt shaft.
- 9.3. Fit grab handle (item 1) as illustrated in Fig 2, replace 'P' clamp and fit new washer (item 2) and M8 Nyloc nut (item 3) to bolt and torque to 35 Nm (26 Lb/ft).
- 9.4. Check security of grab handle, and drivers vision is not impaired.

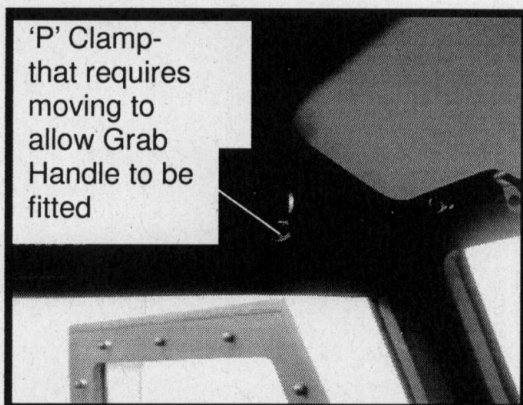


Fig 1

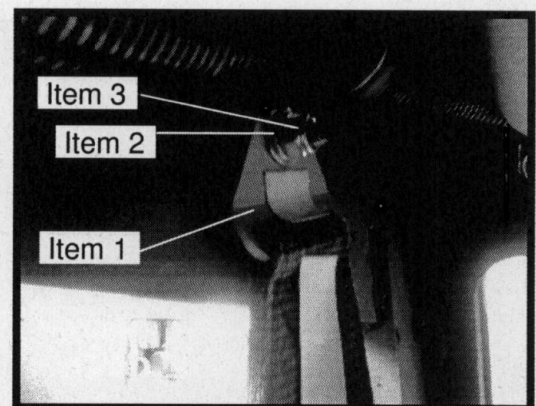


Fig 2

TESTING AFTER EMBODIMENT

10. Nil.

EFFECT ON WEIGHT

11. Nil.

**TRUCK UTILITY MEDIUM (HS) W/VPK
BODY AND ASSOCIATED EQUIPMENT**

MODIFICATION INSTRUCTION NO. 20

Sponsor:
CWG PMT

Publications Agency:
DE&S
Project No: UOR AO1491
File ref: PMT/04/0410/07/01

AMENDMENT RECORD

Amdt No.	Incorporated By (Signature)	Date
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Amdt No.	Incorporated By (Signature)	Date
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SUBJECT: Replacement of the speedometer drive gear – (SNATCH-VIXEN PLUS)

INTRODUCTION

1 Following the introduction of the revised final drive axle ratios fitted to SNATCH-VIXEN PLUS during the UOR upgrade, a new speedometer drive gear has been introduced to correct the speedometer readout inaccuracy resulting from the axle ratio change.

1.1 This modification instruction details the replacement procedure to be adopted.

1.2 Limitations on use of equipment. Nil.

APPLICABILITY

2 Truck Utility Medium (HS) WVPK SNATCH-VIXEN PLUS:

2.1 Fitted to subject Equipment Asset Code – (EAC) NB5004-3101 held by user units.

2.2 Unmodified stock, held at all levels of technical storage.

REASON FOR MODIFICATION

3 Reason for modification:

3.1 Code 1 – to improve safety.

PRIORITY

4 ARMY: Routine.

ESTIMATED TIME REQUIRED

- 5 The estimated times for each stage of this instruction are:
- 5.1 Dismantling: 1.5 man-hours.
 - 5.2 Embodiment: 0.5 man-hours.
 - 5.3 Assembling: 1.5 man-hours.
 - 5.4 Testing: 0.1 man-hours.

MODIFICATION IMPLEMENTATION

- 6 This modification is to be implemented by:
- 6.1 Units authorised to carry out Levels 2, 3 and 4 repairs.
 - 6.2 Associated modification instructions. Nil.
 - 6.3 Modification strike plate action. Nil.

ACTION REQUIRED BY

- 7 Action required by:
- 7.1 Units and establishments holding equipment.
 - 7.1.1 Examine documents to see if modification is applicable.
 - 7.1.2 Examine equipment or modification record plate to see if modification is embodied and where necessary Units with level 2 REME support demand the stores required.
 - 7.1.3 ARMY – on receipt of stores, request REME to modify equipment.
 - 7.1.4 ARMY – Record the modification subject and AESP number in equipment documents.
 - 7.1.5 RAF – Record modification details on AF G1084A and Form 4870. Units operating STAMA are also to record modification details on ADPMTMS job certification sheet and are to follow the procedures laid down in AP 100C – 08A.
 - 7.2 Army units authorised to carry out levels 2, 3 and 4 maintenance and RAF units:
 - 7.2.1 ARMY – When requested by users or during overhaul of the equipment on charge without REME level 2 support, obtain the items listed in Para 8 and carry out this modification.
 - 7.2.2 Record completion details of modification against appropriate entry in equipment documents.
 - 7.2.3 Complete AF G1084A when reporting completion of modification to FORWARD (RAF) using the following code:
 - 7.2.3.1 RAF MODIFICATION CODE AFA190.

NOTE

RAF units operating STAMA are also to complete ADP MTS job certification sheet and are to follow the procedures laid down in AP 100C – 08A.

7.3 All recipients of this instruction.

7.3.1 Add particulars to AESP 2320-D-132-811.

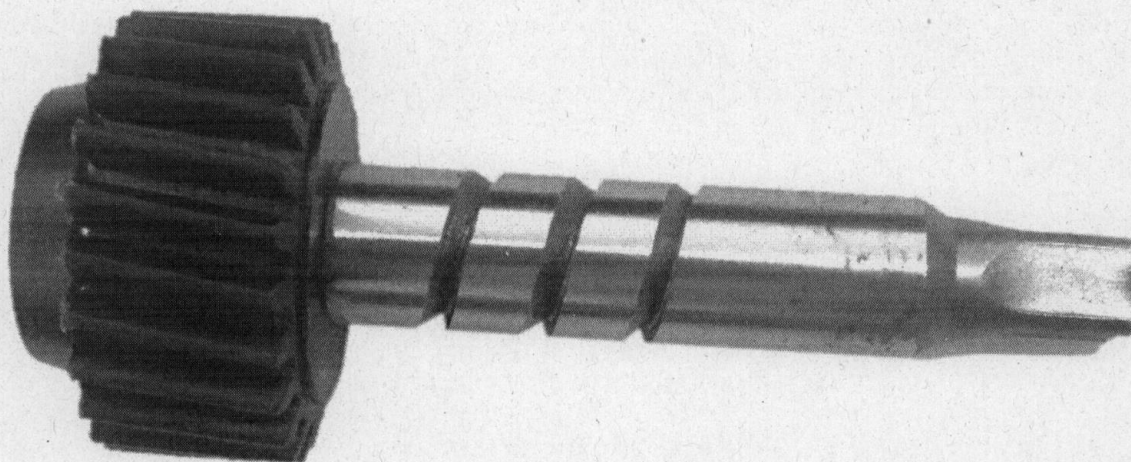
STORES, TOOLS AND EQUIPMENT

8 The following stores, tools and equipment will be required to carry out the modification:

8.1 Stores to be demanded.

8.1.1 The following items are to be demanded quoting this instruction as authority for demand. Fig 1 shows the item of the modification part.

Item No (1)	DMC (2)	NSN/Part No (3)	Designation (4)	Qty per eqpt (5)
1	7WMK	3040-99-376-2850	Speedometer drive gear (Red) (24 teeth)	1
8.2 <u>Stores or suitable equivalent to be obtained locally.</u>				
2		XG 279	Grease, general purpose	AR
8.3 <u>Stores to be removed and reduced to scrap.</u>				
3	7RU	3040-99-792-0909	Speedometer drive gear (Blue 20 teeth) or (Green 21 teeth)	1
8.4 <u>Special tools and test equipment.</u>				
4	7WMK	4910-99-693-1088	Belly armour lifting frame	1



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Fig 1 Replacement speedometer drive gear

SEQUENCE OF OPERATIONS**WARNINGS**

- (1) **PERSONNEL INJURY. WHEN WORKING ON THE EQUIPMENT; ENSURE ALL LOCAL STANDARD WORKSHOP AND HEALTH AND SAFETY PRACTICES ARE ADHERED TO. IF ANY OF THE INSTRUCTIONS IN THIS DOCUMENTATION CONTRAVENE THE LOCAL ORDERS SEEK CLARIFICATION BEFORE CONTINUING.**
- (2) **PERSONNEL INJURY. CRUSH HAZARD, ENSURE EQUIPMENT IS SECURE ON THE CORRECTLY RATED AXLE STANDS PRIOR TO WORKING UNDERNEATH.**
- (3) **PHYSICAL INJURY/ WEIGHT HAZARD. THE BELLY PLATE ARMOUR IS HEAVY. A MINIMUM OF TWO PERSONS ARE REQUIRED TO REMOVE AND REPLACE THE ARMOUR.**

CAUTION

EQUIPMENT DAMAGE. To prevent premature failure of securing devices, before operating, ensure they are clean and undamaged, and apply a light coating of general purpose grease.

9 Before starting this modification ensure that the vehicle is positioned on a hard standing with the parking brake applied, the engine switched off, the master switch set to the OFF position and the wheels chocked.

NOTES

- (1) The figure key numbers are shown to support the text and the Item numbers of Para 8 are provided as reference where indicated.
- (2) Check all previously removed securing components before reassembly, if not fully serviceable replace accordingly.
- (3) Left hand and right hand (LH and RH) denotes the left and right hand side of the vehicle when viewing the vehicle from the rear looking towards the front.
- (4) When assembling securing devices, apply a small amount of general purpose grease (XG 279) to the threads. Ensure all excess grease is removed once equipment is fully secured.

Preparation

10 To gain access to the speedometer drive proceed as follows:

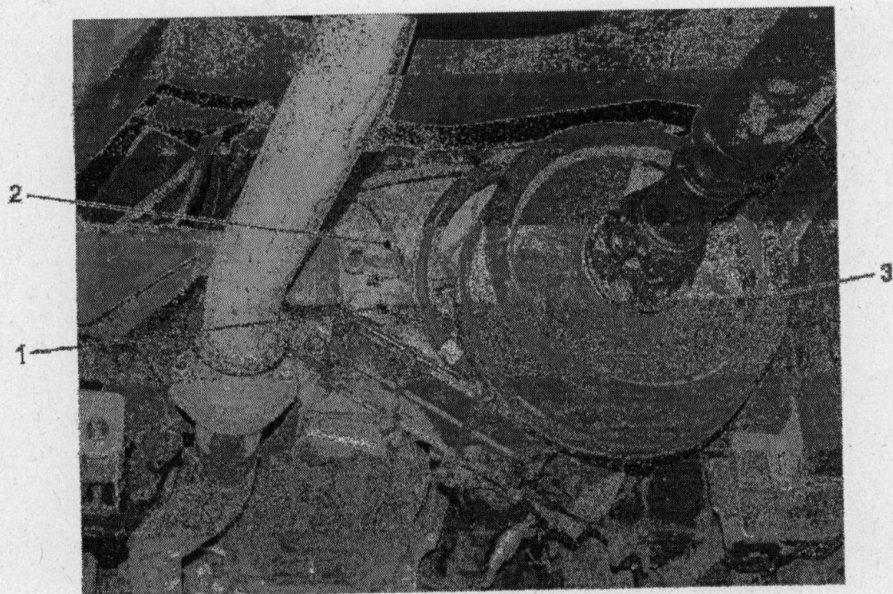
WARNING

PERSONNEL INJURY. CRUSH HAZARD, ENSURE EQUIPMENT IS SECURE ON THE CORRECTLY RATED AXLE STANDS PRIOR TO WORKING UNDERNEATH THE VEHICLE.

10.1 Refer to AESP 2320-D-132-821, Gen Instr No 5 Sect 5, Front (Belly) Armour Removal, and remove the front belly armour.

Disassembly

10.2 Refer to Fig 2. The speedometer drive and cable (Fig 2.2) is located at the rear of the transfer box (Fig 2.1), in front of the handbrake drum (Fig 2.3).



1 – Transfer gear box 3 – Hand brake drum
2 – Speedometer cable

Fig 2 Speedometer drive located at the rear of the transfer box

10.3 The speedometer drive is an electronic configuration, with the electronic sensor secured directly onto the speedometer output of the transfer gear box.

10.4 Refer to Fig 3. Disconnect the electrical connection (Fig 3.1) from the electronic sensor (Fig 3.2).



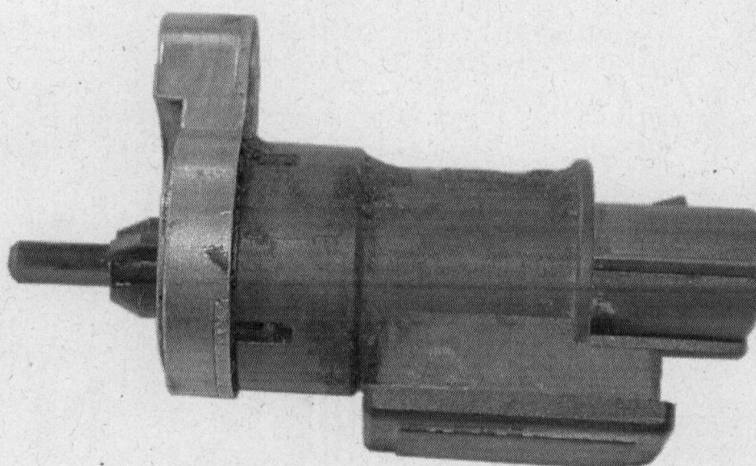
1 – Electrical connection

2 – Electronic sensor

Fig 3 Electrical connection and sensor

10.5 Remove and retain the 10mm screw and spring washer, which secures the sensor to the transfer gear box.

10.6 Refer to Fig 4. Remove the electronic sensor (Fig 4.1) from the transfer gear box.



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1 – Electronic sensor

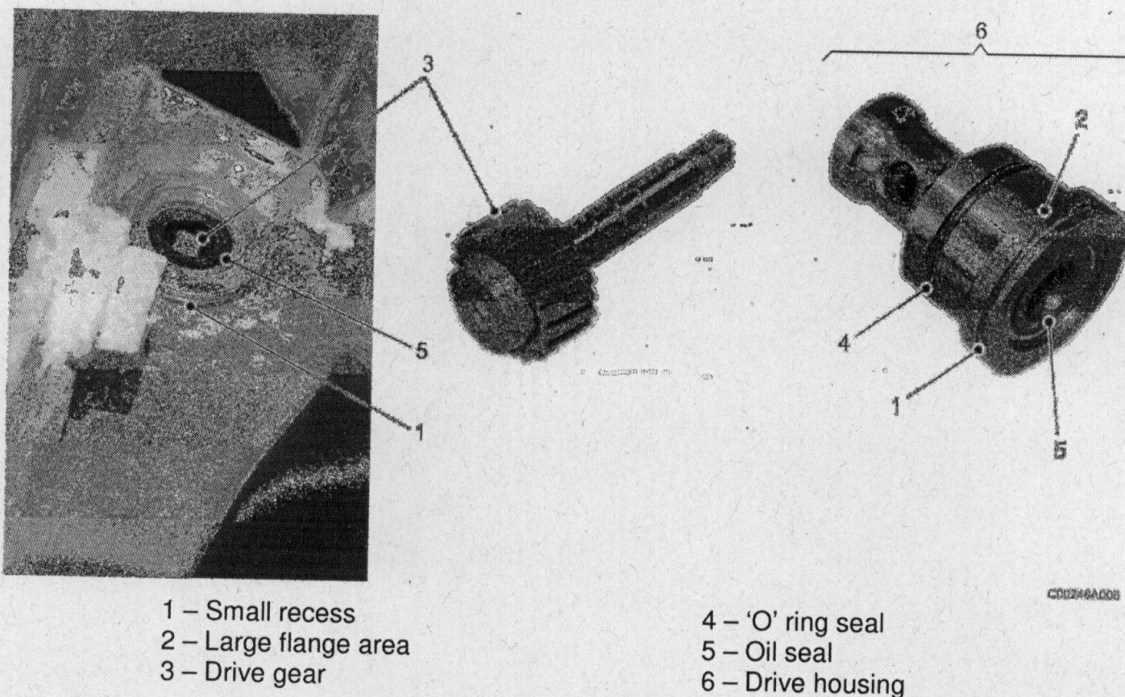
Fig 4 Speedometer drive electronic sensor

10.7 Refer to Fig 5. Locate the small recess (Fig 5.1) on the speedometer drive housing (Fig 5.6), insert a small flat blade screwdriver into the recess and lever out the drive housing. When the drive housing has been extracted by approximately 5mm a larger flange area (Fig 5.2) is revealed, and a larger screwdriver can now be inserted to allow greater leverage on the drive housing.

10.8 Once the drive housing is loose, pull it free from the transfer box housing, remove the drive gear (Fig 5.3) and discard.

NOTE

The drive gear removed item may be Blue (20 teeth) or Green (21 teeth). Ensure that the replacement drive gear is Red and has 24 teeth.



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- 1 – Small recess
- 2 – Large flange area
- 3 – Drive gear

- 4 – 'O' ring seal
- 5 – Oil seal
- 6 – Drive housing

Fig 5 Drive housing and gear

Reassemble

- 11 To reassemble the speedometer drive, proceed as follows:
 - 11.1 Identify the replacement part and ensure that it is serviceable.
 - 11.2 Ensure the oil seal (Fig 5.5) is serviceable, replace if necessary.
 - 11.3 Apply a light smear of grease to the drive gear shaft and the outside of the drive housing, ensuring that the rubber 'O' ring seal (Fig 5.4) is still intact and serviceable, replace if necessary.
 - 11.4 Insert the drive gear (Fig 5.3) into the drive housing.
 - 11.5 Insert the drive gear and drive housing carefully back into the transfer box housing, ensuring that the drive gear has fully engaged with the internal drive gear and that the drive housing is fully seated.
 - 11.6 Replace the electronic sensor and secure in place with the 10mm screw and spring washer.
 - 11.7 Refit the speedometer cable connection, ensuring that it clips and locks into place.

Testing after embodiment

- 12 Test drive the vehicle before fitting the belly armour to ensure that the speedometer is working.
 - 12.1 Refit and secure the front belly armour section.

EFFECT OF WEIGHT

- 13 Negligible.

PUBLICATION AMENDMENTS

NOTE

Necessary amendment(s) will be issued separately. (Delete as necessary).

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