



Ministry Of Defence

Army Equipment Support Publication

Truck Utility Light (TUL) HS, Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS, All Variants

Maintenance Schedules 2320-D-128-601

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AMENDMENT RECORD

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PREFACE

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INTRODUCTION

1 Any comments by service users on this publication should be forwarded through the channels prescribed in Army Equipment Support Publication (AESP) 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on this AESP. This procedure is only to be used for the purpose of commenting on the content of an individual AESP and must not be used as follows:

1.1 In place of the Equipment Failure Reporting (EFR) procedure outlined in the Land Equipment Unit Maintenance Standards (LEUMS) Edition 4.

1.2 For subjects which are the concern of the GEMS Defence Ideas Scheme. For advice on the GEMS procedure contact your GEMS Local Awards Group (LAG) through your Equipment Support (ES) Chain of Command. Details of the GEMS LAG locations and Points Of Contact (POC) can be obtained through the GEMS website or through:

GEMS Scheme Manager
Level 6, Zone I
MOD Main Building
Whitehall
London

2 AESPs are issued under United Kingdom (UK) Ministry Of Defence (MOD) authority and where AESPs specify action is to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores, subject to the provisions of Para 3 below.

3 The subject matter of this publication may be affected by Defence Instructions and Notices (DIN), Standard Operating Procedures (SOP) or by local regulations. When any such instruction, Order or Regulation contracts any portion of this publication it is to be taken as the overriding authority.

RELATED AND ASSOCIATED PUBLICATIONS

Related Publications

4 The AESP Octad for the subject equipment consists of the publications shown below. All references are prefixed with the first eight digits of this publication.

Category/Sub-category			Information Level			
			1 User/ Operator	2 Unit Maintenance	3 Field Maintenance	4 Base Maintenance
1	0	Purpose and Planning Information	101	101	101	101
	1	Equipment Support Policy Directives	111	111	111	111
	2	Cancellation Instructions	*	*	*	*
2	0	Operating Information	201	201	201	201
	1	Aide-Memoire	211	211	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	302	*	*	*
4	1	Installation Instructions	411	411	411	411
	2	Preparation for Special Environments	421	421	421	421
5	1	Failure Diagnosis	*	512	512	512
	2	Maintenance Instructions	*	522	523	524
	3	Inspection Standards	*	532	533	533
	4	Calibration Procedures	*	*	524	524
6		Maintenance Schedules	601	601	601	601
7	1	Illustrated Parts Catalogues	*	711	711	711
	2	Commercial Parts Lists	*	721	721	721
	3	Complete Equipment Schedule, Production	*	*	*	*
	4	Complete Equipment Schedule, Service Edition (Simple Equipment)	741	741	741	741
	5	Complete Equipment Schedule, Service Edition (Complex Equipment)	*	*	*	*
8	1	Modification Instructions	811	811	811	811
	2	General Instructions, Special Technical Instructions and Servicing Instructions	821	821	821	821
	3	Service Engineered Modification Instructions (RAF only)	*	*	*	*

* Category/sub-category not published

Associated Publications

5 The following associated publications should be read in conjunction with this category:

Reference	Title
AESP 0200-A-062-013	Management and Control of Equipment Supporting Casting procedures for all Equipment
AESP 0200-A-307-013	All Arms recovery Manual
AESP 2300-A-050-013	B Vehicle Test, Inspection and Certification
AESP 2300-A-300	B Vehicle Assessment
AESP 2320-D-128-522	Truck Utility Light (TUL) HS, Truck Utility Medium (TUM) HS, and (TUM) Ambulance HS Defender XD All Variants
AESP 2300-A-050-013	B Vehicle Test, Inspection and Certification
AESP 2300-A-310-201	B Vehicles Corrosion Prevention
AESP 2540-A-100-201	Pintle, Towing, Rotatable (All Capacities)
AP 3260 Book 1	Mechanical Transport Maintenance Regulations for the Royal Air Force
DLF	Defence Logistics Framework
LEUMS	Land Equipment User Maintenance Standard
JSP 375	Health And Safety Manual
JSP 445	Transport of Dangerous Goods by Road, Rail and Sea (Ammunition Explosives and Other Dangerous Goods)
JSP 800	Defence Movements and Transport Regulations

WARNINGS AND CAUTIONS

WARNINGS

6 The following WARNINGS are used in this document:

- (1) **HEALTH HAZARD. DO NOT USE AN AIRLINE TO CLEAR BRAKE OR CLUTCH DUST WHICH CONTAINS MATERIALS HAZARDOUS TO HEALTH.**
- (2) **HEALTH HAZARD. FLUID AL 11 IS HIGHLY INFLAMMABLE. THE PREPARATION OF THE FLUID FOR WINDSCREEN WASHERS IS TO BE CARRIED OUT IN THE OPEN AND AWAY FROM NAKED FLAME. MINIMUM PRECAUTION AFTER USE IS TO WASH ANY AFFECTED SKIN AREAS WITH SOAP AND WATER.**
- (3) **HEALTH HAZARD. FLUID AL 39 IS BOTH TOXIC & HAZARDOUS. REFER TO LOCAL UNIT ORDERS OR DCI'S FOR FULL SAFETY PROCEDURES. MINIMUM PRECAUTION AFTER USE IS TO WASH ANY AFFECTED SKIN AREAS WITH SOAP & WATER.**
- (4) **HEALTH HAZARD. USED ENGINE OIL IS HAZARDOUS TO HEALTH. PROLONGED SKIN CONTACT SHOULD BE AVOIDED.**
- (5) **HEALTH HAZARD. THE HANDLING OF FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS CAN BE HAZARDOUS. REFER TO UNIT STANDARD OPERATING PROCEDURES, SAFETY PROCEDURES, INSTRUCTIONS ON CONTAINERS AND ALL OTHER RELEVANT REGULATIONS FOR FULL OPERATIONAL SAFETY PROCEDURES.**
- (6) **HEALTH HAZARD. EXHAUST FUMES ARE HAZARDOUS; DO NOT RUN VEHICLE WITHIN AN ENCLOSED SPACE WITHOUT SUITABLE EXTRACTION EQUIPMENT OPERATING.**
- (7) **FIRE HAZARD. FUEL SPILLAGES ARE HIGHLY INFLAMMABLE AND MUST NOT BE EXPOSED TO A NAKED FLAME, SPARK OR INTENSE HEAT SOURCES. WIPE UP ALL SPILT FUEL IMMEDIATELY AND DISPOSE OF CONTAMINATED CLEANING MATERIAL ACCORDING TO LOCAL STANDING ORDERS.**
- (8) **PERSONAL INJURY. EXTREME CARE MUST BE TAKEN WHEN DRAINING HOT FLUIDS; HOT ENGINE OIL AND COOLANT CAN CAUSE SEVERE PERSONAL INJURY.**
- (9) **PERSONAL HYGIENE. WHERE NECESSARY, WEAR PROTECTIVE CLOTHING/APPARATUS, APPLY BARRIER CREAM AND OBSERVE NORMAL PERSONAL HYGIENE.**

CAUTIONS

7 The following CAUTIONS are used in this document:

- (1) **JACKING OF VEHICLE.** The handbrake acts on the transmission, not on the rear wheels. When jacking the vehicle, apply handbrake, engage first gear and ensure wheels are chocked.
- (2) **BRAKES.** Diesel engine vehicles must not be operated with the brake servo hose disconnected.
- (3) **FUELS.** When changing to low temperature fuels, ensure that the fuel pump and fuel lines are filled with low temperature fuel.

MAINTENANCE NOTE

Maintainers must ensure that grease exudes from the joint caps. Grease nipple wear/damage can prevent this, replace nipple with NSN 4930-99-208-9923 and check for correct greasing. The relative position of the front propeller slip joint is indicated by arrows. The arrows must be in line to position the trunnions correctly

ABBREVIATIONS AND SYMBOLS**ABBREVIATIONS**

8 The following abbreviations are used in this category:

Abbreviation	Definition
AESP	Army Equipment Support Publication
AF	Army Form
DIN	Defence Instruction Notice
DSG	Defence Support Group
EFR	Equipment Failure Report
EMER	Electrical Mechanical Engineering Regulations
Kg	Kilograms
km	Kilometres
lbs	Pounds
Mix	Mixture
MOD	Ministry of Defence
MT	Mechanical Transport
NSN	NATO Stock Number
QT	Qualified Tradesman
RAF	Royal Air Force
REME	Royal Electrical Mechanical Engineers
SOP	Standard Operating Procedures
TUL	Truck Utility Light
TUM	Truck Utility Medium
VM	Vehicle Mechanic

SYMBOLS

9 No symbols are used in this category.

CHAPTER 1

MAINTENANCE SCHEDULE

CONTENTS

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- 1 Introduction
- 6 Definitions
- 7 Warnings, cautions and maintenance notes
- 8 Maintenance intervals and areas of responsibility

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INTRODUCTION

1 This Maintenance Schedule is the authority for carrying out all scheduled maintenance tasks on the subject equipment and takes precedence over any other conflicting publication.

2 The Unit Commander (Army) or Mechanical Transport (MT) Officer (RAF) is responsible for ensuring that the operations detailed in this Maintenance Schedule are properly carried out by appropriately qualified and trained personnel or, where annotated, a Qualified Tradesman (QT) (Army only). These personnel are defined as follows:

2.1 A REME Vehicle Mechanic (VM).

2.2 Any person who has been formally trained as a Driver/Operator Mechanic on the subject equipment type (Army only).

2.3 Any person who has been taught how to carry out that task during a formal training course.

2.4 The civilian equivalent of the above.

3 The Unit Commander (Army) or MT Officer (RAF) may order any operation to be carried out more frequently than is specified if the conditions under which the equipment operates render it necessary. For Army equipment the Senior Maintenance Advisor should be consulted.

4 Scheduled Maintenance is to be recorded in the appropriate equipment document in accordance with JSP 341, Part IV, Chap 11, Annex C (Army), Annex D (RAF) and AP 3260, Book 1, Chap 3 (RAF).

5 Serial numbers left blank in the tables may be taken up by amendment action at a later date.

DEFINITIONS

6 As far as this document is concerned, the following definitions apply:

6.1 Examine. Carry out a survey of the condition of an item without dismantling, unless specifically instructed to do so in the relevant task requirement. The condition of an item may be impaired by the following:

6.1.1 Insecurity of attachment.

6.1.2 Cracks or fractures.

6.1.3 Corrosion, contamination or deterioration.

6.1.4 Distortion.

6.1.5 Loose or missing fasteners.

6.1.6 Chafing, fraying, scoring or wear.

6.1.7 Faulty or broken locking devices.

6.1.8 Loose clips or packing, obstruction of, or leakage from pipelines.

6.1.9 Discolouration due to overheating or leakage of fluids.

6.1.10 Damage due to external sources.

6.2 Check. Make a comparison of measurement of time, pressure, temperature, resistance, dimensions or other quantity, with a known figure.

6.3 Operate. As far as possible, ascertain that a component or system functions correctly without the use of test equipment or reference to measurement.

6.4 Replenish. Refill a container to a predetermined level, pressure or quantity. This includes any necessary cleaning of orifices, examination of caps, covers, gaskets and washers, renewal of locking devices and clearing of vents.

6.5 Replace. Remove an item and then fit a new or reconditioned item.

WARNINGS, CAUTIONS AND MAINTENANCE NOTES

7 Warnings and Cautions and Notices are used in this publication to highlight health, safety, equipment care and additional information, which must be observed by the equipment operator and Maintainer.

7.1 Warnings are used to alert the reader to possible hazards, which may cause loss of life, physical injury or ill health in any form. The warning caption and the text of the warning are typed in bold upper case. The warning will precede the text to which it relates.

7.2 Cautions are used to draw attention to possible hazards, which may cause damage to equipment but no danger to personnel. The caution caption is typed in bold upper case and the text of the caution is typed in bold lower case. The caution will precede the text to which it relates.

7.3 Notes are used to provide information that is not the immediate subject of the text but provides additional information of use to the reader. The note caption is typed in upper case text and the text of the note text is typed in lower case. A note will precede the text to which it relates.

7.4 Before any maintenance task is carried out, the COSHH regulations, WARNINGS, CAUTIONS and Maintenance Notes preceding the appropriate table must be read and understood.

MAINTENANCE INTERVALS AND AREAS OF RESPONSIBILITY

8 Table 4 - Action on Receipt. The maintenance detailed in Table 4 covers the action taken when the equipment arrives on a unit. These operations will normally be of a once only nature, eg the recording of lifting equipment with the appropriate test authority, actions that are necessary to be undertaken before the equipment is put into service or actions that are only required during the running in period. Table 4 maintenance must be carried out by appropriate trained personnel, as detailed in Para 2.

9 Table 5 - Out of Phase Maintenance. The maintenance detailed in Table 5 covers tasks that do not fall into line with the time/usage interval requirements of Table 6 or Table 7. Table 5 maintenance must be carried out by appropriately trained personnel, as described in Para 2.

10 Table 6 - Driver/Operator Maintenance. The maintenance detailed in Table 6 (Maintenance Intervals A, B, C and D), must be carried out by appropriately trained personnel, as described in Para 2, at the following intervals and recorded within the vehicle documents:

10.1 A - Daily before use (only on days used).

10.2 B - Daily after use (after the equipment has been operated).

10.3 C - Weekly, whether the equipment is used or not.

10.4 D - Not applicable.

11 Table 7 - Time/Usage Maintenance. The maintenance detailed in Table 7 (Maintenance Interval 1st, A, B, C and D), must be carried out by appropriately trained personnel, as described in Para 2, at the following intervals:

11.1 1st - After the first 1,000 miles (1,600 km).

11.2 A - Every 6,000 miles (10,000 km) or 6 months, whichever occurs first.

- 11.3 B - Every 12,000 miles (20,000 km) or 12 months, whichever occurs first.
- 11.4 C - Every 24,000 miles (40,000 km) or 24 months, whichever occurs first.
- 11.5 D - Contains the Area Maintenance Indicator which may be used, at the discretion of the MT Officer, to carry out Area Maintenance at the appropriate time/usage intervals (RAF only).

NOTES

- (1) Vehicles that do less than 6000 miles annually and are on Area Maintenance are to have a Lubrication Maintenance at 6 monthly intervals in accordance with AP 3260, Chap 2.
- (2) The number in Maintenance Interval D indicates which Area is to be carried out.
- (3) The Area Maintenance detailed is to be carried out in conjunction with its associated prime mover/specialist equipment scheduled maintenance if applicable.

12 Table 8 - Out of Use Maintenance.

12.1 For Army equipment, this maintenance is to be carried out as follows:

12.1.1 When the equipment is taken out of use for periods exceeding one month on the advice of the local Maintenance Advisor.

12.1.2 Any equipment taken out of use for periods exceeding 4 months is to be put into preservation in accordance with AESP 2300-A-401, Short Term Storage, All Vehicles.

12.1.3 The equipment is to be cleaned, dried and stored under cover where possible.

12.1.4 Any overdue maintenance is to be carried out when the equipment is brought back into use.

12.1.5 The maintenance detailed in Table 8 is to be carried out by appropriately trained personnel, as described in Para 2.

12.2 For RAF equipment, out of use vehicles or vehicles in second echelon are to be maintained in accordance with AP 3260, Book 1, Chap 1, Para 0109 and Chap 2, Para 0227. Any specific operation appertaining to this equipment will be listed in Table 8 of this AESP.

TABLE 1 APPLICABILITY

Serial No (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
1	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR)	2310-99-893-9746	NB 1047 3100
2	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2310-99-893-9971	NB 1047 3101
3	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) with Medical Monitoring IK	2310-99-908-6496	NB 1047 3102
4	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) with Bowman NH	2310-99-908-6890	NB 1047 3160
5	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman NH	2310-99-908-6891	NB 1047 3161
6	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) Diesel Trials Vehicle Land Rover	2310-99-908-5513	NB 1047 3199
7	Ambulance Battlefield (HS) 4 Stretcher LHD 4x4 Land Rover 2.5 Tdi (EEGR)	2310-99-893-9970	NB 1047 8100
8	Ambulance Battlefield (HS) 4 Stretcher LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman NH	2310-99-908-6892	NB 1047 8160
9	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Semi Water (Proofed for 600mm Depth)	2310-99-908-5445	NB 1048 3100
10	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Semi Water (Proofed for 600mm Depth) with Bowman NH	2310-99-908-6893	NB 1048 3160
11	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Tropical	2310-99-908-5446	NB 1049 3100
12	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Tropical with Medical Monitoring IK	2310-99-908-6497	NB 1049 3101
13	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) Tropical with Medical Monitoring IK	2310-99-908-6550	NB 1049 3102
14	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Desert with Medical Monitoring IK	2310-99-908-6705	NB 1049 3103
15	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) Desert with Medical Monitoring IK	2310-99-908-6706	NB 1049 3104
16	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Tropical with Bowman NH	2310-99-908-6894	NB 1049 3160
17	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (EEGR) Tropical with Bowman NH & Medical Monitoring IK	2310-99-908-6895	NB 1049 3161
18	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR)Tropical With Bowman NH & Medical Monitoring IK	2310-99-908-6896	NB 1049 3162

(continued)

TABLE 1 APPLICABILITY (continued)

Serial No (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
19	Truck Utility Light (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9933	NB 4219 3100
20	Truck Utility Light (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9741	NB 4220 3100
21	Truck Utility Light (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Trials Vehicle	2320-99-908-5512	NB 4220 3199
22	Truck Utility Light (HS) GS (Soft Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9964	NB 4220 8100
23	Truck Utility Light (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9934	NB 4223 3100
24	Truck Utility Light (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter	2320-99-908-5441	RB 4224 3100
25	Truck Utility Light (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9742	NB 4225 3100
26	Truck Utility Light (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9965	NB 4225 8100
27	Truck Utility Light (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9935	NB 4226 3100
28	Truck Utility Light (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9936	NB 4228 3100
29	Truck Utility Light (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9937	NB 4229 3100
30	Truck Utility Light (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Air Dropable	2320-99-908-5442	NB 4232 3100
31	Truck Utility Medium (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Heli Support	2320-99-908-5449	RB 5006 3100
32	Truck Utility Medium (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Talon Support Vehicle	2320-99-908-6885	NB 5007 3100
33	Truck Utility Medium (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9938	NB 5008 3100
34	Truck Utility Medium (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water with Bowman NH	2320-99-908-7023	NB 5008 3160
35	Truck Utility Medium (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9939	NB 5009 3100
36	Truck Utility Medium (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter / Water with Bowman NH	2320-99-908-6924	NB 5009 3160
37	Truck Utility Medium (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter / Water with Bowman SH	2320-99-908-7024	NB 5009 3170
38	Truck Utility Medium (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (Non EEGR)	2320-99-893-9743	NB 5010 3100
39	Truck Utility Medium (HS) GS (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9963	NB 5010 3101

(continued)

TABLE 1 APPLICABILITY (continued)

Serial No (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
62	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman NH	2320-99-908-6913	NB 5020 3160
64	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman SH	2320-99-908-6914	NB 5020 3170
65	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with BOWMAN BF LAS	2320-99-908-6911	NB 5020 3180
66	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with BOWMAN FF LAS	2320-99-908-6912	NB 5020 3190
67	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9968	NB 5020 8100
71	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with NBC Support	2320-99-908-6492	NB 5020 8104
72	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman NH	2320-99-908-6918	NB 5020 8160
73	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman SH	2320-99-908-6919	NB 5020 8170
74	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman BF LAS	2320-99-908-6916	NB 5020 8180
75	Truck Utility Medium (HS) FFR (Hard Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman FF LAS	2320-99-908-6917	NB 5020 8190
76	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water	2320-99-893-9941	NB 5021 3100
77	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water with Bowman NH	2320-99-908-6926	NB 5021 3160
78	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water with Bowman SH	2320-99-908-6927	NB 5021 3170
79	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water with Bowman BF LAS	2320-99-908-6928	NB 5021 3180
80	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter/Water with Bowman FF LAS	2320-99-908-6920	NB 5021 3190

(continued)

TABLE 1 APPLICABILITY (continued)

Serial No (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
81	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Commanders IK	2320-99-908-5720	NB 5022 3100
82	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9745	NB 5031 3100
83	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman NH	2320-99-908-6922	NB 5031 3160
84	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman SH	2320-99-908-6923	NB 5031 3170
85	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) with BF LAS	2320-99-908-6921	NB 5031 3180
86	Truck Utility Medium (HS) FFR (Soft Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR)	2320-99-893-9969	NB 5031 8100
87	Truck Utility Medium (HS) FFR (Soft Top) LHD 4x4 Land Rover 2.5 Tdi (EEGR) with Bowman SH	2320-99-908-7025	NB 5031 8160
88	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi WMIK (Higher Payload)	2320-99-908-7086	NB 5032 3100
89	Truck Utility Medium (HS) FFR (Soft Top/HP) RHD 4x4 Land Rover 2.5 Tdi R/WMIK (Higher Payload) with Bowman NH	2320-99-908-7391	NB 5032 3160
90	Truck Utility Medium (HS) FFR (Soft Top/HP) RHD 4x4 Land Rover 2.5 Tdi R/WMIK(Higher Payload) with Bowman NH	2320-99-908-7392	NB 5032 3161
91	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi R/WMIK(Higher Payload) with Bowman SH	2320-99-908-7080	NB 5032 3170
92	Truck Utility Medium (HS) FFR (Soft Top) RHD 4x4 Land Rover 2.5 Tdi E/WMIK (Higher Payload) with Bowman BF LAS	2320-99-908-7081	NB 5032 3180
93	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) (SIGS)	2320-99-908-5272	NB 5035 3100
94	Truck Utility Medium (HS) GS (S/Wagon) RHD 4x4 Land Rover 2.5 Tdi (EEGR) 110 Media Operations Support Vehicle	2320-99-908-6976	NB 5040 3100
95	Truck Utility Medium (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) 130 Media Operations Base Vehicle	2320-99-908-6948	NB 5041 3100
96	Truck Utility Medium 130 (HS) GS (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) 130 Defence Monitoring System	2320-99-908-7384	NB 5041 3101
97	Truck Utility Medium (HS) FFR (Hard Top) RHD 4x4 Land Rover 2.5 Tdi (EEGR) Winter Heli Support vehicle	2320-99-908-5450	RB 5042 3100
98	Truck Utility Medium (HS) 4x4 GS LHD Land Rover 2.5 TDi (w/EEGR) Scout	2320-99-908-7632	NB 5013 8100

(continued)

TABLE 1 APPLICABILITY (continued)

Serial No (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
99	Truck Utility Medium (HS) FFR 4x4 Land Rover 2.5 TDi (w/EEGR) Scout	2320-99-908-7633	NB 5033 3100
100	Truck Utility Medium (HS) FFR 4x4 Land Rover 2.5 TDi (w/EEGR) Scout Bowman NH	2320-99-908-7635	NB 5033 3160
101	Truck Utility Medium (HS) FFR 4x4 Land Rover 2.5 TDi (w/EEGR) Scout Bowman SH	2320-99-908-7636	NB 5033 3170
102	Truck Utility Medium (HS) FFR 4x4 Land Rover 2.5 TDi (w/EEGR) Scout	2320-99-908-7634	NB 5033 8100

TABLE 2 FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS

NOTES

- (1) Only the products listed below are to be used on this equipment. Alternative products must not be used without the approval of an appropriate qualified REME Advisor (Army) or MT Officer (RAF).
- (2) Oil changes at the -15 deg C point shall only be made on the advice of MT Officer (RAF) or an appropriate qualified REME Advisor (Army).
- (3) The capacities listed are to be used as a guide only. A physical check is to be carried out to ensure that all fluid levels are correct. This check should be carried out with the vehicle unladen and standing on level ground whenever possible.

Serial (1)	Assembly (2)	Product		Capacity	
		Above -15 deg C (3)	Below -15 deg C (4)	Litres (5)	Pints (6)
	DIESEL ENGINE				
1	Engine and filter	OX90	OX55	6.85	12.06
2	Cooling system (50/50 Mix) (Winter/Water) TUL (HS) TUM (HS)	AL39/Water	AL39/Water	11.10 13.45 13.6	20.00 24.20 24.50
3	Gearbox (5 speed R380)	MTF 94	MTF 94	2.20	3.90
4	Fuel:				
	4.1 Rear tank (TUM) (HS) - (BFA)	Dieso	Dieso	82.00	18.00 Gal
	4.2 Side tank (TUL only)	Dieso	Dieso		12.00 Gal
5	Transfer gearbox	OEP 220	OEP 38	2.80	4.90
6	Front axle differential	OEP 220	OEP 38	1.85	3.27
7	Rear axle differential	OEP 220	OEP 38	1.85	3.27
8	Swivel pin housing (each) grease	Texaco molytech EP00	Texaco molytech EP00		
9	Brake/clutch reservoir	OX 8	OX 8		

(continued)

TABLE 2 FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS (continued)

Serial (1)	Assembly (2)	Product	Capacity	Serial (5)	Assembly (6)
		Above -15 deg C (3)	Below -15 deg C (4)		
10	Power steering system	OX75	OX75	2.90	5.00
11	Windscreen washers (see Annex A)	Windscreen fluid/AL11 water mix	Windscreen fluid/AL11 water mix		
12	Battery terminals (Advanced Glass Mat Batteries, maintenance free)	PX7	PX7		
13	General greasing	XG 279	XG 279		
14	Oilcan lubrication	OX90	OX90		
15	Stretcher nylon bearings and bushes	XG 250	XG 250		
16	Propeller Shafts	XG 291	XG 291		
17	Wheel Hub Bearings (front & rear)	XG 291	XG 291		
18	General sealant	Sikoflex, 255FC	Sikoflex, 255FC		
19	Chassis anti-corrosion treatment	Dinitrol 3125 & 4941	Dinitrol 3125		

TABLE 3 EQUIPMENT DATA

Serial (1)	Item (2)	Detail (3)
	ADJUSTMENTS	
1	Tappet clearance (hot and cold): 1.1 Inlet 1.2 Exhaust	0.20 mm (0.008 in.) 0.20 mm (0.008 in.)
2	Front wheel alignment (toe out)	0.00 mm to 2.0 mm (0.00 to 0.19 in.)
3	Engine idling speed	700 to 800 rev/min
4	Axle hub end float (HS) (refer to AESP 2320-D-128-821) 4.1 Axle hub end float (CL only)	0.127 mm to 0.25 mm (0.005 to 0.01 in.)
5	Injector break-off pressure	135 bar (135 atms)
6	Steering lock stops fitted with the following tyres: All tyres	40.5mm (1.6 in.)
	TORQUE WRENCH SETTINGS	
7	Cylinder head nuts and bolts	Refer to AESP 2320-D-128-522 Chap 1-1.
8	Timing belt tensioner	Refer to AESP 2320-D-128-523 Chap 1-1.
9	Wheel nuts (front and rear)	170 Nm (125 lb ft)
	TYRES	
10	Size	7.50 R 16 radial tubeless

(continued)

TABLE 3 EQUIPMENT DATA (continued)

Serial (1)	Item (2)	Detail (3)		
		Front		Rear
11	Pressures			
	11.1 Normal use (see Note 1):			
	11.1.1 TUL	2.0 bar (28 lb/in. ²)	3.0 bar (42 lb/in. ²)	
	11.1.2 TUM	2.2 bar (32 lb/in. ²)	4.1 bar (60 lb/in. ²)	
	11.1.3 Battlefield Ambulance	2.8 bar (40 lb/in. ²)	4.6 bar (65 lb/in. ²)	
	11.2 Emergency soft (see Note 2):			
	11.2.1 Unladen	1.1 bar (16 lb/in. ²)	1.1 bar (16 lb/in. ²)	
11.2.2 Laden	1.1 bar (16 lb/in. ²)	1.8 bar (28 lb/in. ²)		
	WEIGHTS			
		<u>Gross vehicle weight</u>	<u>Front axle</u>	<u>Rear axle</u>
12	██████████	██████████	██████████	██████████
13	██████████████████	██████████	██████████	██████████
14	██████████	██████████	██████████	██████████
15	██	██████████	██████████	██████████
16	██████████	██████████	██████████	██████████
17	██████████	██████████	██████████	██████████

NOTE

- (1) 'Normal use' tyre pressures are applicable for all conditions of load.
- (2) Emergency soft pressure should only be used in extreme conditions where extra flotation is required. Max speed 40 km/h (25 mph). Return pressures to normal immediately when firm ground is regained.

TABLE 4 ACTION ON RECEIPT

14 Table 4 Maintenance is to be carried out in accordance with the instructions shown at Para 8.

Serial (1)	Action (2)
1	Carry out an in-inspection in accordance with current regulations. Carry out the maintenance tasks from the Driver/Operator Table, in columns A, B and C, where appropriate.
2	On receipt of a vehicle from a source where the maintenance condition of the vehicle is unknown, carry out the maintenance tasks from the Driver/Operator Table, in columns A, B and C, where appropriate, followed by the maintenance tasks from the Time/Usage Maintenance Table, in columns A and B.
3	Check the torque loading of all wheel nuts.

TABLE 5 OUT OF PHASE MAINTENANCE

15 Table 5 Maintenance is to be carried out in accordance with the instructions shown at Para 9.

Serial (1)	Action (2)	Interval (3)
1	Engine: Drain engine oil, replace filter and replenish.	12,000 miles (20,000 km) or 2 years whichever occurs first
2	2.1 Gearbox oil. Drain/replenish (for all climates below +35 deg C) 2.2 Gearbox oil. Drain/replenish (for all climates above +35deg C)	96,000 miles (155,000 km) or very 5 years whichever occurs first Every 2 years.
3	Cooling system: Drain, flush and replenish	5 Years
4	Air Cleaner: Replace element (for vehicles fitted with donaldson filter system see AESP 2320-D-128-421 Installation Instruction No 4)	2 Years or 24000 miles under normal conditions. In adverse conditions 12000 miles or as necessary
5	Replace camshaft timing belt (VM)	72,000 miles (120,000 km) or 6 years, whichever occurs first In adverse conditions, 36,000 miles (60,000 km) or 3 years, whichever occurs first.
6	Centre console: Examine centre console rubber seal, fuse cover and map light for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
7	Steering column switches: Examine switch enclosure to steering column rubber sleeve for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
8	Inter-vehicle start socket: Examine cap for damage (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first.
9	Front windscreen wiper: Examine wiper motor enclosure and rubber sealing grommet for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first.

(continued)

TABLE 5 OUT OF PHASE MAINTENANCE (continued)

Serial (1)	Action (2)	Interval (3)
10	Heater motor: Examine drain tube for damage and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
11	Brake servo unit: Examine push rod rubber seal and vacuum breather hose for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
12	Upper alternator (FFR): Examine waterproofing identification label and de-latch connector colour coding for damage and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
13	Lower alternator: Examine de-latch connector colour coding and de-latch tool for damage and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
14	Batteries: Examine and ensure vented lid type are fitted (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
15	Batteries (FFR): Examine breather tubing for condition and security of attachment. Examine and ensure blanking caps are fitted to all unused breather outlets (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
16	Radio bag (FFR): Examine for damage and operate closure zips (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
17	Fuel tank: Ensure non-vented type cap is fitted. Examine cap rubber seal for damage (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
18	Fuel tank breather: Examine breather pipe colour coding for damage and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
19	Fuel injection pump: Examine throttle potentiometer rubber sleeve for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
20	Component breather system: Drain off any contamination and ensure drain plug is securely located (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
21	Engine air intake system: Examine raised air intake, air cleaner and inter cooler connecting hoses for condition and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
22	Air cleaner: Examine and ensure the end cover is correctly located against the seal on the cleaner casing (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
23	Waterproof equipment markers: Examine for damage and security of attachment (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first
24	Stage 'B' waterproofing kit: Examine for condition and ensure kit is complete (Winter/water only).	3,000 miles (5,000 km) or 3 months, whichever occurs first

TABLE 6 DRIVER/OPERATOR MAINTENANCE

16 Table 6 Maintenance is to be carried out by tradesmen and at the intervals shown at Para 10 of this publication.

17 The following WARNINGS, CAUTIONS and Maintenance Notes must be read and understood before commencing these maintenance tasks

WARNINGS

- (1) **HEALTH HAZARD. DO NOT USE AN AIRLINE TO CLEAR BRAKE OR CLUTCH DUST WHICH CONTAINS MATERIALS HAZARDOUS TO HEALTH.**
- (2) **HEALTH HAZARD. FLUID AL 11 IS HIGHLY INFLAMMABLE. THE PREPARATION OF THE FLUID FOR WINDSCREEN WASHERS IS TO BE CARRIED OUT IN THE OPEN AND AWAY FROM NAKED FLAME. MINIMUM PRECAUTION AFTER USE IS TO WASH ANY AFFECTED SKIN AREAS WITH SOAP AND WATER.**
- (3) **HEALTH HAZARD. FLUID AL 39 IS BOTH TOXIC & HAZARDOUS. REFER TO LOCAL UNIT ORDERS OR DCI'S FOR FULL SAFETY PROCEDURES. MINIMUM PRECAUTION AFTER USE IS TO WASH ANY AFFECTED SKIN AREAS WITH SOAP & WATER.**
- (4) **HEALTH HAZARD. USED ENGINE OIL IS HAZARDOUS TO HEALTH. PROLONGED SKIN CONTACT SHOULD BE AVOIDED.**
- (5) **HEALTH HAZARD. THE HANDLING OF FUELS, LUBRICANTS AND ASSOCIATED PRODUCTS CAN BE HAZARDOUS. REFER TO UNIT STANDARD OPERATING PROCEDURES, SAFETY PROCEDURES, INSTRUCTIONS ON CONTAINERS AND ALL OTHER RELEVANT REGULATIONS FOR FULL OPERATIONAL SAFETY PROCEDURES.**
- (6) **HEALTH HAZARD. EXHAUST FUMES ARE HAZARDOUS; DO NOT RUN VEHICLE WITHIN AN ENCLOSED SPACE WITHOUT SUITABLE EXTRACTION EQUIPMENT OPERATING.**
- (7) **FIRE HAZARD. FUEL SPILLAGES ARE HIGHLY INFLAMMABLE AND MUST NOT BE EXPOSED TO A NAKED FLAME, SPARK OR INTENSE HEAT SOURCES. WIPE UP ALL SPILT FUEL IMMEDIATELY AND DISPOSE OF CONTAMINATED CLEANING MATERIAL ACCORDING TO LOCAL STANDING ORDERS.**
- (8) **PERSONAL INJURY. EXTREME CARE MUST BE TAKEN WHEN DRAINING HOT FLUIDS; HOT ENGINE OIL AND COOLANT CAN CAUSE SEVERE PERSONAL INJURY.**
- (9) **PERSONAL HYGIENE. WHERE NECESSARY, WEAR PROTECTIVE CLOTHING/ APPARATUS, APPLY BARRIER CREAM AND OBSERVE NORMAL PERSONAL HYGIENE.**

CAUTIONS

- (1) **JACKING OF VEHICLE.** The handbrake acts on the transmission, not on the rear wheels. When jacking the vehicle, apply handbrake, engage first gear and ensure wheels are chocked.
- (2) **BRAKES.** Diesel engine vehicles must not be operated with the brake servo hose disconnected.
- (3) **FUELS.** When changing to low temperature fuels, ensure that the fuel pump and fuel lines are filled with low temperature fuel.

TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

MAINTENANCE NOTE

Maintainers must ensure that grease exudes from the joint caps. Grease nipple wear/damage can prevent this, replace nipple with NSN 4930-99-208-9923 and check for correct greasing. The relative position of the front propeller slip joint is indicated by arrows. The arrows must be in line to position the trunnions correctly

Serial (1)	Task (2)	Fig Item No. (3)	Product (4)	Maintenance Interval			
				A (5)	B (6)	C (7)	D (8)
1	Examine vehicle for obvious signs of damage.			X	X		
2	Wheels & Tyres (including spare wheel): Check for security, visual inspection of Wheel Nut Indicator, if a Wheel Nut Indicator is indicating that a wheel nut has come loose (i.e. recognised trailing configuration is misaligned beyond the permissible 3 degree alignment tolerance) physically check wheel nut tightness with a calibrated torque wrench. If a calibrated torque wrench is unavailable the CES wheel brace can be used, a red Wheel Nut Indicator must be fitted/ retained in this instance. The red Wheel Nut Indicator will act as a safety indicator, notifying the User that the wheel requires tightening, with a calibrated torque wrench, at the earliest opportunity. Examine tyres for cuts & other damage, check tread depth and tyre pressures.			X			
3	Vehicle (including engine bay, under vehicle, drivers footwell and fuel filler cap): Visually examine for oil, fuel, brake & clutch fluid and coolant leaks			X	X		
4	Engine oil: Check level and replenish as necessary		OX90	X			
5	Coolant: Check level and replenish as necessary		AL 39 /Water 50/50 Mix	X			
6	Windscreen washer reservoir: Check level and replenish as necessary.		AL 11/Water See Annex A	X			
7	Brake and clutch reservoir: Check levels and replenish as necessary		OX8	X			
8	Lamps, work lights (where fitted) horn, windscreen wipers and washers, directional indicators, hazard warning lamps, heaters, demisters, instruments and gauges: Ensure correct operation.			X			
9	Seat belts and attachments: Examine for wear or damage and operate.			X			
10	Special to role type fittings: Examine if applicable.			X			

(continued)

TABLE 6 DRIVER/OPERATOR MAINTENANCE (continued)

Serial (1)	Task (2)	Fig Item No. (3)	Product (4)	Maintenance Interval			
				A (5)	B (6)	C (7)	D (8)
11	Towing pintle: Examine & ensure that locking latch is free, locking pins are in place & attached by securing chain.			X			
12	Carry out a short mobile functional test in order to confirm the serviceability of all functions of starting, driving through the gears and stopping.			X			
13	Ensure that the vehicle has sufficient fuel for the journey or task.			X			
14	Batteries: Examine connections and security of attachments			X			
15	ADP 658A/FMT658A/FMT1001/ FMT1001A (Duty Movement Authorisation/Driver Tasking Sheet) as appropriate: Signature.			X			

TABLE 7 TIME/USAGE MAINTENANCE

18 Table 7 Maintenance is to be carried out by the tradesmen and at the intervals shown at Para 11.

19 The WARNINGS, CAUTIONS and Maintenance Notes preceding Table 6 must be read and understood before commencing these maintenance tasks.

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	ENGINE							
1	Engine: Drain engine oil, replace filter and replenish (see Table 5, Serial 1)		OX90					1
2	Air Cleaner: Replace element (see Table 5, Serial 4)							
3	Engine air intake system: Examine raised air intake, air cleaner and intercooler connecting hoses for condition and security of attachment (Winter/water only)			X	X	X	X	1
4	Air cleaners: Examine, check resilient mounts for wear and ensure the end cover is correctly located against the seal on the cleaner casing (Winter/water only)			X	X	X	X	1
5	Component breather system: Examine system manifold, pipes and drain tube for condition and security of attachment. Drain off any contamination and ensure drain plug is securely located (Winter/water only)			X	X	X	X	1
6	Alternator and power steering drive belts: Examine for fraying				X	X	X	1
7	Exhaust system: Examine					X	X	1
8	Flywheel housing: Drain (only if wading plug fitted)					X	X	1
9	Exhaust emission: Check exhaust emissions					X	X	1
10	Valve clearances: Check and adjust as necessary (VM)			X			X	1
11	Cooling system: Drain, flush and replenish (see Table 5, Serial 3)		AL 39/ Water: 50/50 mix					1
12	Heater water radiators: Examine for leaks, corrosion, damage and security of attachment (winterised version only)					X	X	1
13	Webasto heater: Examine for damage and check control unit enclosure lid for security of attachment (Winter/water only)			X	X	X	X	1

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	ENGINE (continued)							
14	Webasto heater: Examine for leaks, damage and security of attachment (winterised version only)					X	X	1
15	Webasto heater: Clean the combustion air and exhaust pipes. Check CO ₂ value and adjust as necessary (winterised version only) (VM)					X	X	1
	DIESEL ENGINE ACTIVITIES							
16	Fuel filter(s): Replace						X	1
17	Fuel sediment bowl: Drain, clean and refit				X	X	X	1
18	Fuel lift pump: Examine combined fuel lift pump and fuel injection pump breather system for condition and security of attachment (Winter/water only)			X	X	X	X	1
19	(Not taken up)							
20	Turbocharger: Examine wastegate control drain tube for damage and security of attachment (Winter/water only)			X	X	X	X	1
21	Crankcase breather cyclone: Examine cyclone and connecting hoses for damage and security of attachment (Winter/water only)			X	X	X	X	1
22	EEGR valve and modulator: Examine valve, modulator and connecting pipes for damage and security of attachment (Winter/water only)			X	X	X	X	1
23	EEGR control unit: Examine box for damage (Winter/water only)			X	X	X	X	1
	STEERING AND SUSPENSION							
24	Steering wheel, column, linkage, ball joints and universal joints: Examine					X	X	2
25	Coil springs, pins rebound pads and brackets: Examine					X	X	2
26	Panhard rod, radius arms, link rods, bushes and pins: Examine					X	X	2
27	Anti-roll bar, bushes, ball joints and link assembly: Examine					X	X	2
28	'A' frame bracket ball joint: Examine and lubricate		XG 279			X		2
29	Shock absorbers, mountings and bushes: Examine					X		2

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	STEERING AND SUSPENSION (continued)							
30	Front wheel hub bearings: Check and adjust as necessary (VM)					X	X	2
31	Front wheel hub bearings: Repack hub (VM)		XG 291				X	
	POWER STEERING SYSTEM							
32	Power steering reservoir: Examine breather pipe for damage and security of attachment (Winter/water only)			X	X	X	X	2
33	Power steering reservoir: Check level and replenish as necessary		OX75		X	X	X	
	TRANSMISSION							
34	Gearbox: Examine, drain and replenish (see Table 5, Serial 2)		MTF 94					
35	Gearbox: Examine breather pipe for damage and security of attachment (Winter/water only)			X	X	X	X	3
36	Transfer box: Examine breather pipe for damage and security of attachment (Winter/water only)			X	X	X	X	3
37	Transfer box: Examine, drain and replenish		OEP 220				X	3
38	Propeller shafts: Examine for signs of corrosion and weakness around the counterbalance weights, also lubricate and check for security of flange bolts (see Maintenance Note 1)		XG 291		X	X	X	3
39	Front and rear axles: Examine, drain and replenish		OEP 220				X	3
40	Front and rear axles: Examine breather pipe for damage and security of attachment (Winter/water only)			X	X	X	X	3
41	Rear wheel hub bearings: Check and adjust as necessary (VM)					X	X	3
42	Rear wheel hub bearings: Repack hub (VM)		XG 291				X	
43	Wheel nuts, check torque loading (see Table 3, Serial 9)				X	X	X	X
	BRAKES							
44	Brake pipes and hoses: Examine. Check for damage caused by the air cleaner hose rubbing on the brake pipe			X	X	X	X	4

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
BRAKES (continued)								
45	Brake pedal operating mechanism and pedal rubber: Examine, operate and check free play				X	X	X	4
46	Brake servo unit: Examine push rod rubber seal and vacuum breather hose for condition and security of attachment (Winter/water only)			X	X	X	X	4
47	Front and rear brake callipers, friction pads and discs: Examine (VM)				X	X	X	4
48	Transmission brake: Examine and adjust as necessary. Remove brake drum and inspect at 24,000 ml/24 month interval (VM)					X	X	4
49	Brake system: Carry out roller brake test (VM)					X	X	4
50	Brake hydraulic System: Drain and replenish (VM)		OX 8				X	4
ELECTRICS								
51	Batteries: Examine and ensure vented lid types are fitted (Winter/water only)			X	X	X	X	5
52	Batteries (FFR): Examine breather tubing for condition and security of attachment. Examine and ensure blanking caps are fitted to all unused breather outlets			X	X	X	X	5
53	Batteries: Examine, clean terminals and smear with protective grease (batteries maintenance free gel filled)		PX7		X	X	X	5
54	Upper alternator (FFR): Examine waterproofing identification label and de-latch connector colour coding for damage and security of attachment (Winter/water only)			X	X	X	X	5
55	Lower alternator: Examine de-latch colour coding and de-latch tool for damage and security of attachment (Winter/water only)			X	X	X	X	5
56	FFR battery charging system: Examine and ensure correct operation					X	X	5
57	Check all of the FFR battery cables fitted, including those connecting the FFR Battery Box to the terminal box, the relay box, isolation switch box, and import / export box, for any signs of damage or chaffing			X	X	X	X	5

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	ELECTRICS (continued)							
58	Front windscreen wiper: Examine wiper motor enclosure and rubber sealing grommet for condition and security of attachment (Winter/water only)			X	X	X	X	5
59	Heater motor: Examine drain tube for condition and security of attachment (Winter/ water only)			X	X	X	X	5
60	Heater control cables: Lubricate and operate			X	X	X	X	5
61	Centre console: Examine console rubber seal, fuse cover and map light for condition and security of attachment (Winter/water only)			X	X	X	X	5
62	Instrument panel: Examine speedometer, fuel and coolant temperature gauges for damage			X	X	X	X	5
63	Speedometer cable: Examine cable for damage			X	X	X	X	5
64	Steering column switches: Examine switch enclosure and enclosure to steering column rubber sleeve (Winter/water only) for condition and security of attachment and cancelling of indicator switch			X	X	X	X	5
65	Main fuse box: Examine and check box cover for security of attachment			X	X	X	X	5
66	Inter-vehicle start socket: Examine cap for damage (Winter/water only)			X	X	X	X	5
67	Circuit breaker: Examine and check (ambulance only)					X	X	5
68	Headlamp alignment: Check adjustment (VM)					X	X	5
69	Front screen heaters: Examine, ensure correct operation (Winterised version only)					X	X	5
70	Examine all battery earth leads (all connections) to ensure good contact			X	X	X	X	5
71	Connections MUST be examined after major Unit exchange (VM)							
72	Radio bag (FFR): Examine for damage and operate closure zips (Winter/water only)			X	X	X	X	5

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	ELECTRICS (continued)							
73	Radio bag: Examine the bag for damage, lubricate and operate the closure zip			X	X	X	X	5
74	Earth bonding: Engine and gearbox earth leads, to be removed, cleaned and re-fitted, ensuring all connections are secure. Apply protective grease		PX 7				X	5
75	Check all visible harness cables to confirm they are free from damage (cuts/fretting etc)	See Annex B				X	X	5
76	Commanders IK – Installed 220V and 20/240V electrical circuits should be inspected and tested by a Competent person in accordance with IEE Regulations 17. Test and inspection documents should be added to vehicle documents					X		
	BODY AND CHASSIS							
77	Seat belt mountings, seat belts and buckles: Examine for damage and operate				X	X	X	6
78	Rear towing attachment: Lubricate		OX90 XG 279		X	X	X	6
79	Oilcan lubrication: General lubrication of all catches, controls, pivot pins, locks, linkage and pins		OX90		X	X	X	6
80	Rear towing attachment: Lubricate and check operation & measure gap (as detailed in AESP 2540-A-100-201 Chapter 1, Inspection Standard)				X	X	X	6
81	Vehicle body interior: Examine for condition and security of attachment of fall screen blinds (winterised version only)					X	X	6
82	Soft top hood: Lubricate and operate escape hatch zip (Winter/water only)		BDM WAX	X	X	X	X	6
83	Observation hatch: Examine for condition of rubber seal and function of locking mechanism (winterised version only)					X	X	6
84	Waterproof equipment marker: Examine			X	X	X	X	6
85	Stage B waterproofing kit: Examine			X	X	X	X	6

(continued)

TABLE 7 TIME/USAGE MAINTENANCE (continued)

Serial (1)	Task (2)	Fig/ Item No. (3)	Product (4)	Maintenance Interval				
				1st (5)	A (6)	B (7)	C (8)	D (9)
	AMBULANCE BODY							
86	Rear doors, locks, shoot bolts, hinges and safety catches: Examine/lubricate		XG 279	X	X	X	X	6
87	Red cross plates, hinges and retaining catches: Examine/lubricate		OX90	X	X	X	X	6
88	Seat/stretchers belts and anchorages, tie up seats and backrests: Examine			X	X	X	X	6
89	Bulkhead door, locks, hinges and seals: Examine/lubricate		XG279	X	X	X	X	6
90	Stretcher mechanism: Examine/lubricate		XG 250	X	X	X	X	6
91	Stretcher gas struts: Examine			X	X	X	X	6
92	Two tone horns: Operate			X	X	X	X	6
93	Spare wheel stowage: Examine			X	X	X	X	6
94	Step neoprene: Examine			X	X	X	X	6
95	Stowage straps and blackouts: Examine			X	X	X	X	6
96	Road test: Check steering, brakes and performance (NCO MT Technician only)				X	X	X	All
97	Record action in AB 562				X	X	X	All
98	Sign AF G1084A or STAMA Worksheet			X	X	X	X	All

TABLE 8 OUT OF USE MAINTENANCE

20 Table 8 Maintenance is to be carried out in accordance with the instructions shown at Para 12.

21 WARNINGS, CAUTIONS and Maintenance Notes preceding Table 6 and Table 7 must be read and understood before commencing these maintenance tasks.

Serial (1)	Action (2)
1	Carry out an in-inspection in accordance with current regulations. Carry out the maintenance tasks from the Driver/Operator Table, in columns A, B and C, where appropriate.
2	On receipt of a vehicle from a source where the maintenance condition of the vehicle is unknown, carry out the maintenance tasks from the Driver/Operator Table, in columns A, B and C, where appropriate, followed by the maintenance tasks from the Time/Usage Maintenance Table, in columns A and B.
3	Check the torque loading of all wheel nuts.

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ANNEX A

TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND (TUM) BATTLEFIELD
AMBULANCE HS ALL VARIANTS

WINDSCREEN WASH LIQUID CONCENTRATION/DILUTION

CONTENTS

Para

- 1 Introduction

Table

Page

1	Windscreen wash liquid concentration/dilution	2
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INTRODUCTION

1 This Annex details the Windscreen wash liquid concentration/dilution. See Table 1.

NOTES

- (1) Windscreen wash liquid concentrate must not be used undiluted.
- (2) For Summer use where no anti-freeze properties are required use washer concentrate NSN: H10 6850-99-224-5036 as 5% concentration (one part concentrate -19 parts water).

TABLE 1 WINDSCREEN WASH LIQUID CONCENTRATION/DILUTION

Serial (1)	Freezing point of mix (Approx)		Parts Concentrate (4)	Parts Water (5)	Parts AL11 (Isopropanol) (6)
	Deg C (2)	Deg F (3)			
1	-2	29	1	19	0
2	-3	26	1	18	1
3	-8	17	1	16	3
4	-11	12	1	15	4
5	-18	0	1	13	6
6	-19	-1	1	12	7
7	-20	-4	1	10	9
8	-24	-12	1	7	12
9	-32	-28	1	5	14
10	-42	-43	1	3	16

ANNEX B

**TRUCK UTILITY LIGHT (TUL) HS, TRUCK UTILITY MEDIUM (TUM) HS AND (TUM) BATTLEFIELD
AMBULANCE HS ALL VARIANTS
WIRING HARNESS FITTING REMINDERS**

CONTENTS

Para

1 Introduction

Table

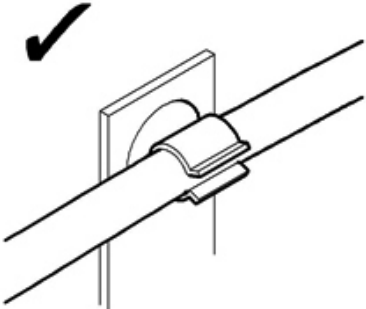
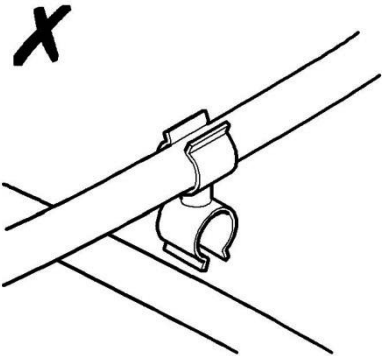
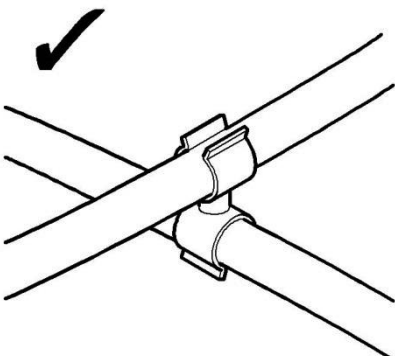
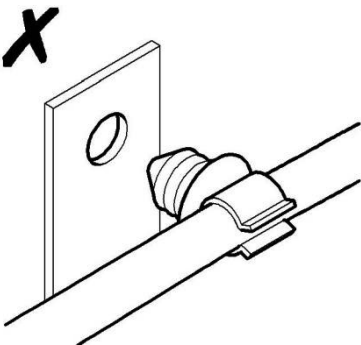
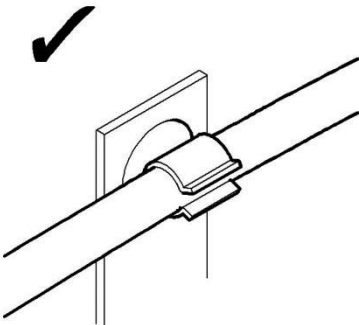
Page

1 Fitting reminders..... 2

INTRODUCTION

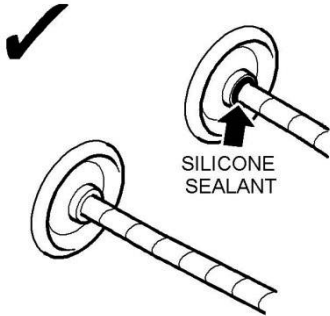
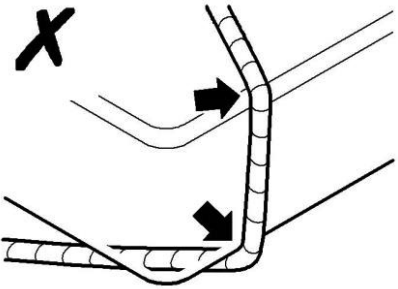
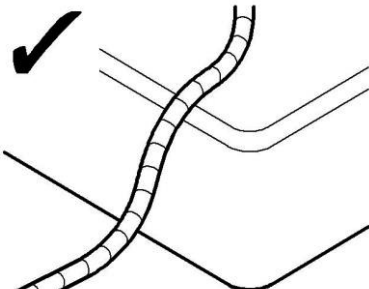
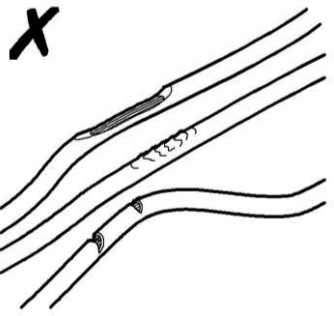
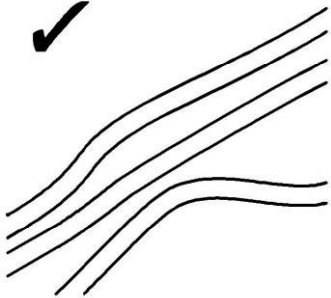
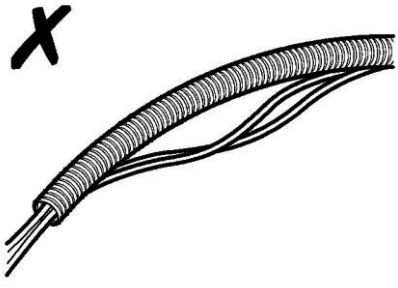
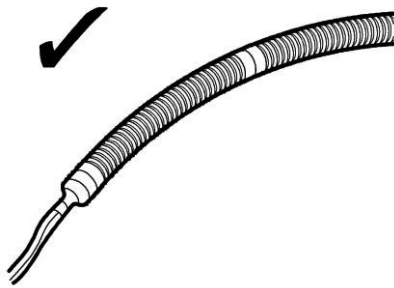
1 This Annex details the correct fitting of wiring harnesses and cables. See Table 1.

TABLE 1 FITTING REMINDERS

		<p>Ensure cables and harnesses are secured into cable clips when fitted.</p>
		<p>Ensure that cables are clipped into cradle clips.</p>
		<p>Ensure cable clips are secured to panels/brackets.</p>

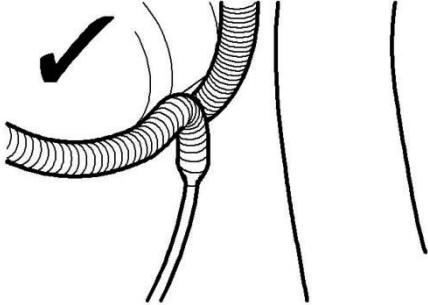
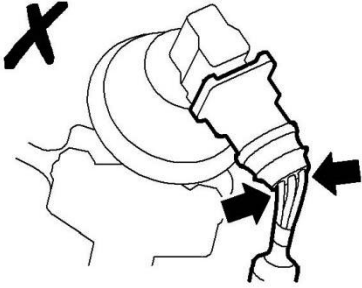
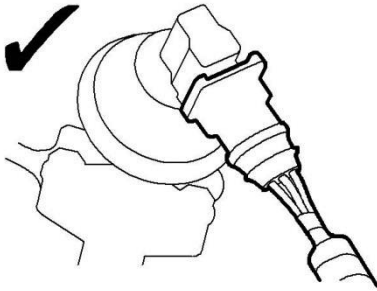
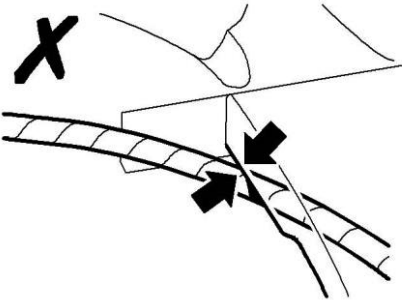
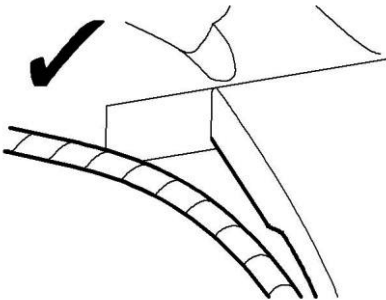
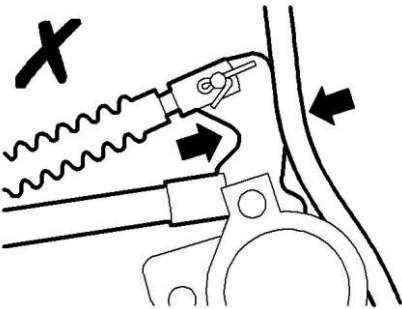
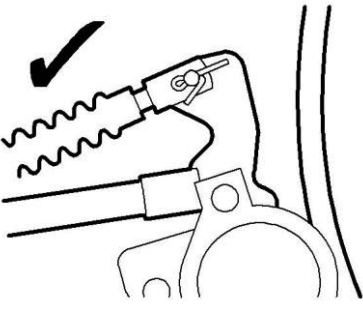
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TABLE 1 FITTING REMINDERS (continued)

		<p>Ensure grommets are fitted correctly. Fill any gaps between grommets and cables with silicone sealant.</p>
		<p>Ensure cables are routed correctly.</p>
		<p>Route cables so that cuts and fretting to cables is avoided.</p>
		<p>Ensure cables are correctly fitted into protective tubing.</p>

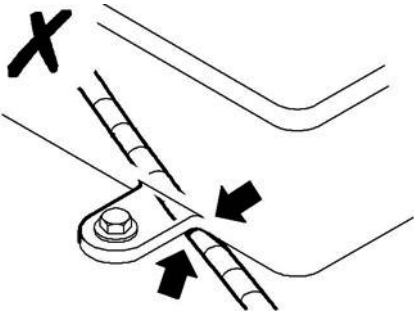
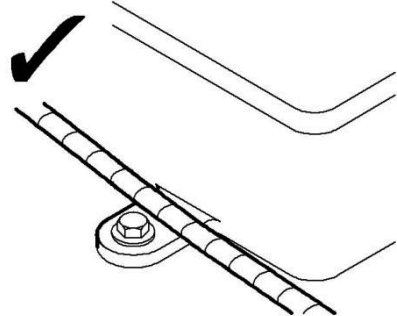
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TABLE 1 FITTING REMINDERS (continued)

		<p>Ensure wiring harnesses and cables do not come into contact with exhaust pipes and other hot components.</p>
		<p>Ensure that wiring and connectors are not strained.</p>
		<p>Ensure that cables do not run across sharp edges.</p>
		<p>Ensure that cables do not interfere with the operation of moving parts.</p>

(continued)

TABLE 1 FITTING REMINDERS (continued)

		<p>Ensure that cables are not trapped under components.</p>
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ARMY EQUIPMENT AND SUPPORT PUBLICATION (AESP) AND ELECTRICAL AND MECHANICAL ENGINEERING REGULATIONS (EMER) - FORM 10

*AESP/EMER NUMBER:		*IS THIS SAFETY RELATED?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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Send Form 10 via the Email or Post address. However email is <u>preferred</u> .	Tel	030 679 71141 or 9679 71141
Email: <u>DESLE-Form10@mod.uk</u>	Post to	Form 10 Cell Land Equipment Elm 3b #4330 MOD Abbey Wood Bristol BS34 8JH
(Save a copy of the form and email to the above address. If the link fails, copy address and paste into email client)		

ORIGINATORS DETAILS			
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*Edition	*Amendment	*Chapter	*Page	*Paragraph	Figure	Instruction	Other

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FORM 10 CELL USE			
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PROJECT TEAM / SME RESPONSE TO COMMENTS:			
Project Team (PT) / SME		*Sponsors Name	
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Form 10 Originator notified of the action taken:			

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Originator responsibility is to enter the following details marked *:

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