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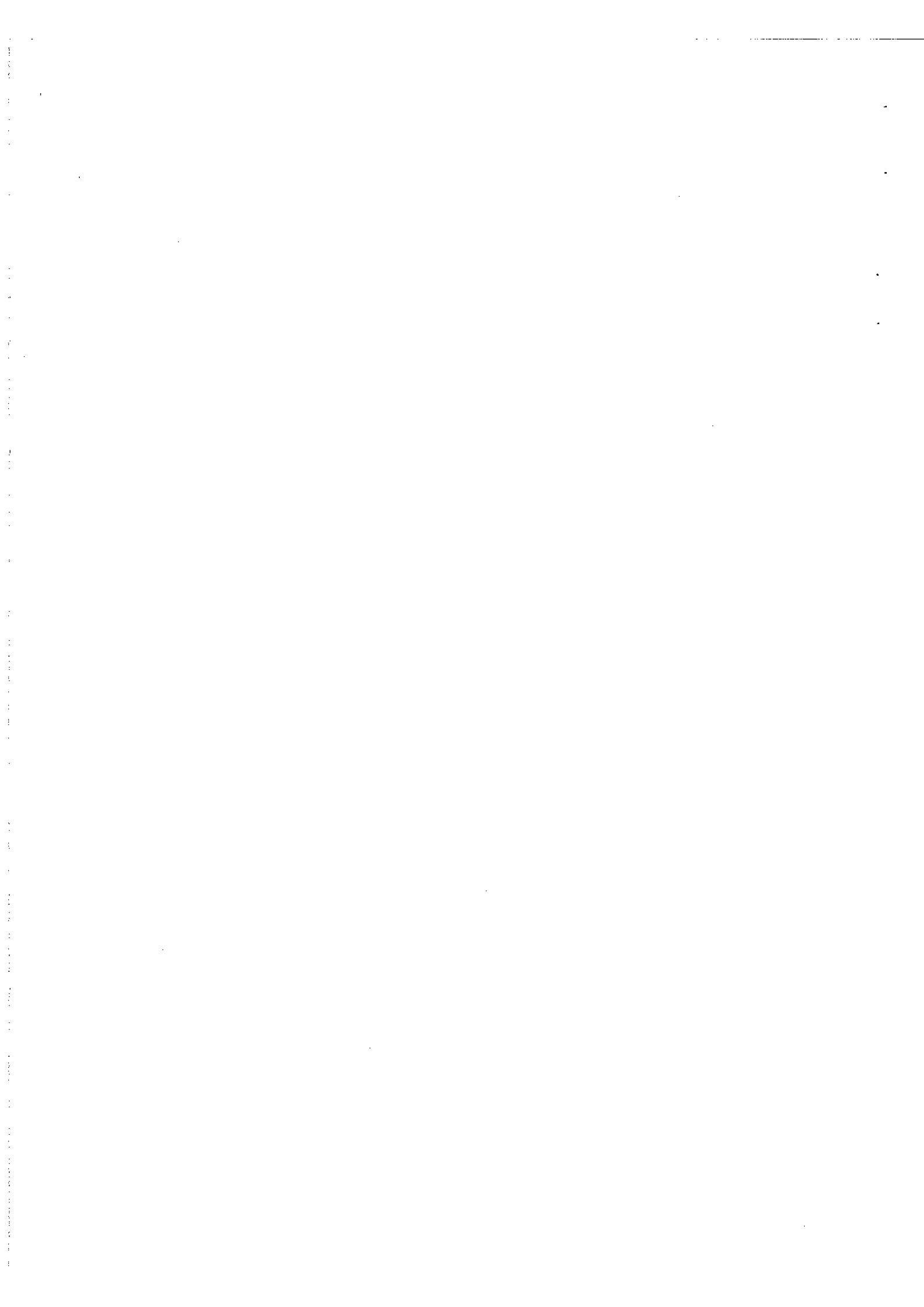
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# **TRAILER LIGHTWEIGHT GS CARGO OPERATING INFORMATION**

**BY COMMAND OF THE DEFENCE COUNCIL**

*Kenn T. Smith*

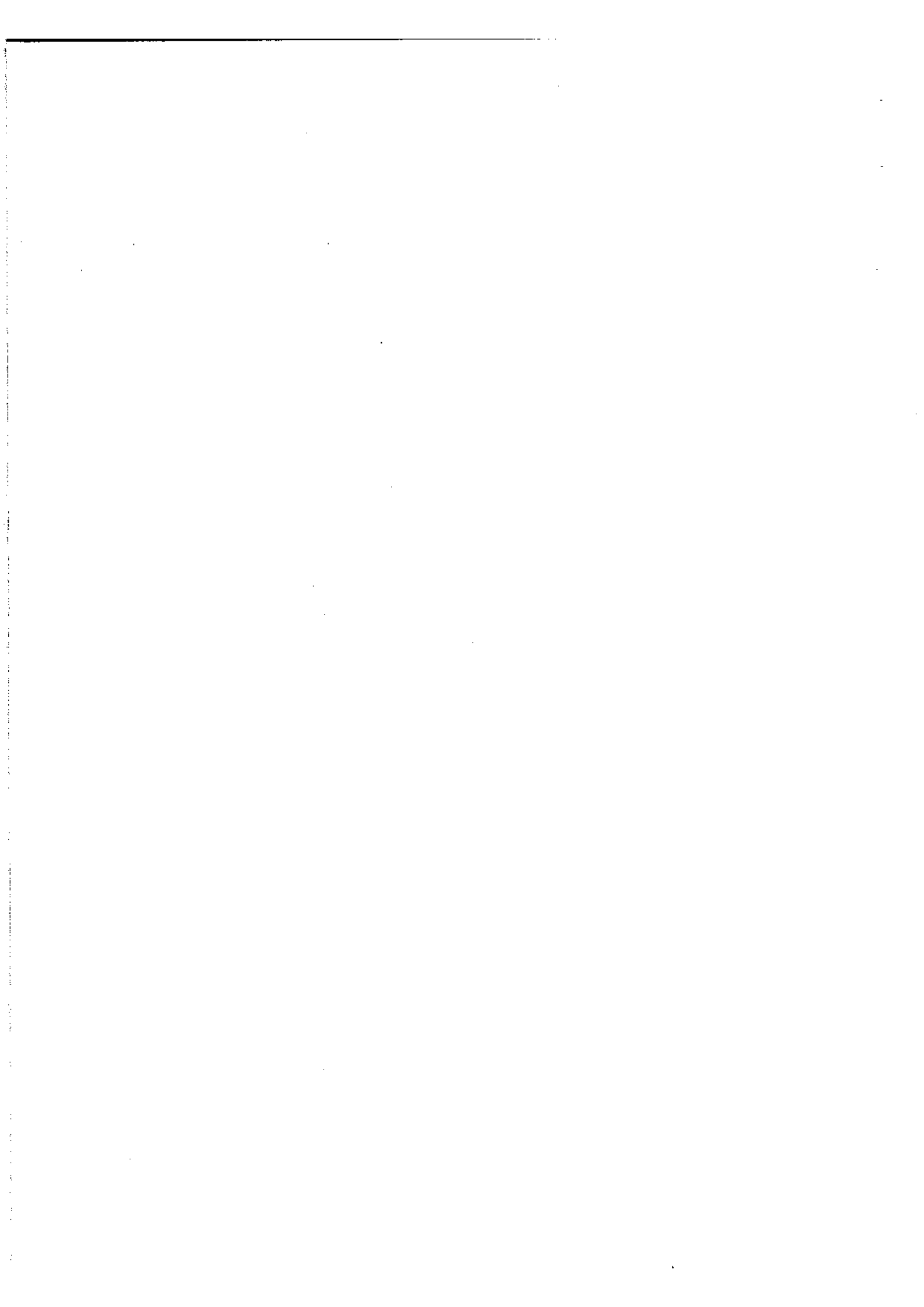
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57		
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59		
60		
61		
62		



**CONTENTS**

<b>PRELIMINARY MATERIAL</b>	<b>Page</b>
Front Cover.....	(i)/(ii)
AMENDMENT RECORD.....	(iii)/(iv)
CONTENTS (this list).....	(v)
PREFACE.....	(vi)
Introduction.....	(vi)
Related and associated publications.....	(vi)
Related publications.....	(vi)
Associated publications.....	(viii)
List of abbreviations.....	(viii)
Warnings.....	(ix)
Cautions.....	(x)
COMMENT(S) ON AESP*.....	Final leaf

**OPERATING INFORMATION**

Chapter

- 1 General description and data
- 2 Operating information
- 3 User maintenance
- 4 Denial of equipment

## PREFACE

Sponsor: DEC ELS

### INTRODUCTION

1 Service users should forward any comments concerning this Publication 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.

2 AESPs are issued under Defence Council authority and, where AESPs specify action 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 Council Instructions (DCIs), Standard Operating Procedures (SOPs) or by local regulations. When any such Instruction, Order or Regulation contradicts any portion of this publication they are to be taken as the overriding authority.

### RELATED AND ASSOCIATED PUBLICATIONS

#### Related publications

4 The Octad for the subject equipment consists of the categories as detailed overleaf. All references are prefixed with the first eight digits of this publication. The availability of the publications can be checked by reference to the relevant Group Index (refer to AESP 0100-A-001-013).

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	*
	1	Equipment Support Policy Directive	111	111	111	*
	2	Equipment Support Policy Directive	*	*	*	*
2	0	Operating Information	201	*	*	*
	1	Aide Memoire	*	*	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	201	302	302	*
4	1	Installation Instructions	411	411	411	*
	2	Preparation for Special Environments	421	421	421	*
5	1	Failure Diagnosis	201	512	512	*
	2	Maintenance Instructions	201	522	522	*
	3	Inspection Standards	*	532	532	*
	4	Calibration Procedures	*	*	*	*
6		Maintenance Schedules	601	601	*	*
7	1	Illustrated Parts Catalogues	711	711	711	*
	2	Commercial Parts Lists	*	*	*	*
	3	Complete Equipment Schedule, Production	*	*	*	*
	4	Complete Equipment Schedule, Service Edition (Simple Equipment)	741	741	741	*
	5	Complete Equipment Schedule, Service Edition (Complex Equipment)	*	*	*	*
8	1	Modification Instructions	*	*	*	*
	2	General Instructions, Special Technical Instructions and Servicing Instructions	*	821	821	*
	3	Service Engineered Modification Instructions (RAF only)	*	*	*	*

\* Category/sub-category not published

**Associated publications**

5 A full list of associated publications is as follows:

<u>Reference</u>	<u>Title</u>
AESP 0200-A-221-013	Painting of Service Equipment
AESP 0200-A-308-013	REME Recovery Manual
AESP 2300-A-050-013	B Vehicle Test, Inspection and Certification
AESP 2300-A-110	Vehicle and Trailer Electrical Circuits Installation Checks
AESP 2320-A-300-532	B Vehicle Cab Corrosion Inspection Standards
AESP 2300-A-310-201	B Vehicle Corrosion Prevention
AESP 2300-A-500	Material Quality Assessment - Principles and Practices in REME
AESP 2300-A-600	Waterproofing Regulations-Vehicles and Equipment
EME T & M A028 Chap 155	Inspection of Waterproofing Materials and Kits
JSP 371	Transportation Diagrams for Wheeled and Tracked Vehicles

**LIST OF ABBREVIATIONS**

6 The following abbreviations are used in this publication:

AESP	Army Equipment Support Publication
Ah	Ampere Hour
CES	Complete Equipment Schedule
dB	Decibel
dc	Direct Current
DCIs	Defence Council Instructions
EMER	Electrical Mechanical Engineering Regulation
GIE	Government Issued Equipment
LCT	Landing Craft Tank
LST	Landing Ship Tank
NATO	North Atlantic Treaty Organisation
NSN	Nato Stock Number
SOPs	Standard Operating Procedures
UK	United Kingdom



**WARNINGS**

7 The following WARNINGS are applicable to this equipment.

(1) **PERSONNEL HAZARD. ENSURE THE JOCKEY WHEEL IS LOWERED BEFORE COUPLING TO OR UNCOUPLING FROM THE PRIME MOVER.**

(2) **PERSONAL HAZARD. BEFORE DRIVING THE PRIME MOVER WITH THE TRAILER ATTACHED, ENSURE THAT THE JOCKEY WHEEL AND REAR STANDS ARE SECURED IN THE STOWED POSITION.**

(3) **TRAILER LOADING. ENSURE THAT THE TRAILER PAY LOAD IS CORRECTLY DISTRIBUTED AND THAT THE DRAWBAR PREPONDERANCE IS STRICTLY OBSERVED.**

(4) **PERSONNEL HAZARD. WHEN PARKING THE TRAILER, ENSURE THAT THE PARKING AREA IS AS FLAT AS POSSIBLE, THAT THE HANDBRAKE IS FULLY APPLIED, THAT THE REAR STANDS ARE DOWN AND LOCKED AND THAT THE JOCKEY WHEEL IS DOWN AND LOCKED.**

(5) **PERSONAL HAZARD. OBSERVE ALL APPROPRIATE SAFETY INSTRUCTIONS CONCERNING JACKING AND SCOTCHING WHEN REMOVING AND REFITTING ROAD WHEELS.**

(6) **PERSONAL HAZARD. DUE CONSIDERATION SHOULD BE GIVEN TO THE HIGHLY FLAMMABLE NATURE OF GASOLINE AND ITS VAPOUR. CARELESSNESS IN ITS USE MAY RESULT IN PAINFUL BURNS. GASOLINE SHOULD ALWAYS BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF JSP 317.**

(7) **PERSONAL HAZARD. FIRING ARTILLERY AT RANGES OF 500 YARDS OR LESS SHOULD BE FROM COVER. FIRING RIFLE GRENADES OR ANTI-TANK ROCKETS SHOULD BE FROM COVER.**

(8) **DRAUGHT EYE. THIS TRAILER HAS A DRAUGHT EYE OF THE NON ROTATING TYPE, IT IS NOT TO BE COUPLED TO A VEHICLE WITH A FIXED TOWING PINTLE.**

(9) **PERSONNEL INJURY. UNDER NO CIRCUMSTANCE ARE PERSONNEL TO STAND BETWEEN A PRIME MOVER AND TRAILER WHEN COUPLING OR UNCOUPLING.**

(10) **PERSONAL SAFETY. THE TOWING VEHICLE IS TO BE OF THE SAME OR A GREATER WEIGHT CATEGORY THAN THE DISABLED VEHICLE AND TOWING SPEEDS REDUCED TO AN APPROPRIATE LEVEL.**

(11) **ROAD HAZARD. ENSURE THAT THE BREAKAWAY CABLE IS CORRECTLY CONNECTED TO THE PRIME MOVER. THE TRAILER MUST NOT BE USED IF THE CABLE IS DAMAGED OR A SECURE CONNECTION IS NOT POSSIBLE.**

(12) **PERSONAL INJURY. THE TAILGATE MUST NOT BE LOADED IN EXCESS OF 150 KG (330 LB) MAXIMUM, THE LOAD MUST ALSO BE EVENLY DISTRIBUTED. ANY LOAD IN EXCESS OF THE MAXIMUM MAY CAUSE FAILURE OF THE SECURING CABLES AND RESULT IN INJURIES TO PERSONNEL.**

(13) **PERSONAL HAZARD. WHEN REPLACING A ROAD WHEEL ENSURE THAT ONLY 'WOLF' LANDROVER WHEEL RIMS ARE USED WITH THE REPLACEMENT WHEEL ASSEMBLY. FAILURE TO DO SO WILL AFFECT THE STABILITY OF THE VEHICLE.**

(14) **PERSONAL HAZARD.** UNDER NO CIRCUMSTANCES ARE THE FRONT JOCKEY WHEEL OR REAR STANDS TO BE USED AS A METHOD OF JACKING UP THE TRAILER DURING ANY ROAD WHEEL REMOVAL/REFITTING PROCEDURE. THE JOCKEY WHEEL AND STANDS ARE USED FOR STABILITY AND MANOEUVRABILITY PURPOSES ONLY, THEY WILL NOT SUPPORT THE TRAILER WHEN A ROAD WHEEL IS REMOVED

(15) **SAFETY HAZARD.** AFTER CROSS-COUNTRY USE, ENSURE THAT THE TRAILER IS THOROUGHLY CLEANED WITH PARTICULAR REGARD TO THE HANDBRAKE LEVER MECHANISM AND BRAKING SYSTEM.

#### CAUTIONS

8 The following CAUTIONS are applicable to this equipment.

(1) **EQUIPMENT DAMAGE.** *If the towing vehicle has a 12V electrical system, the 24V lamps on the trailer must be changed to 12V lamps of an equivalent type and wattage. Additionally, an indelible and legible label must be fitted to the trailer, adjacent to the lighting cable, stating '12 VOLT SYSTEM'.*

(2) **EQUIPMENT DAMAGE.** The rear tow hitch is to be used for unladen trailer movement in depot only. Under no circumstances is the tow hitch to be used for recovery purposes.

(3) **EQUIPMENT DAMAGE.** The front lifting loops are not to be used for a direct lift. Attach recovery equipment around the chassis rails and then through the lifting loops.

(4) **EQUIPMENT DAMAGE.** Do not winch the trailer with the prime mover still connected. Always disconnect and recover each vehicle separately.

(5) **EQUIPMENT DAMAGE.** Extreme care is to be exercised to avoid damage to the trailer body when lifting onto a flatbed vehicle.

(6) **EQUIPMENT DAMAGE.** Sand is an abrasive material and will cause accelerated wear to components if not effectively removed.

**CHAPTER 1**  
**GENERAL DESCRIPTION AND DATA**  
**CONTENTS**

Para

- 1 General description
- 10 Data

Fig

Page

- 1 Trailer lightweight, GS, cargo ..... 2

**GENERAL DESCRIPTION**

1 The trailer lightweight, General Service (GS), cargo (Fig 1) a single axle, two wheeled unit is capable of carrying loads up to 1130 kg.

2 The trailer chassis (12) is constructed from steel members welded to form a platform which carries a formed stainless steel body (1). The body is flat floored with wheel arches protruding into the floor space. A hinged tailgate (3) is provided at the rear of the body, the tailgate is fitted with a closure plate (11).

3 Equally spaced around the outside, the body is fitted with cleats (14) for the retaining rope of a top cover.

4 Mudwings (8) are attached to the chassis and sit under the body wheel arch and over the wheel locations.

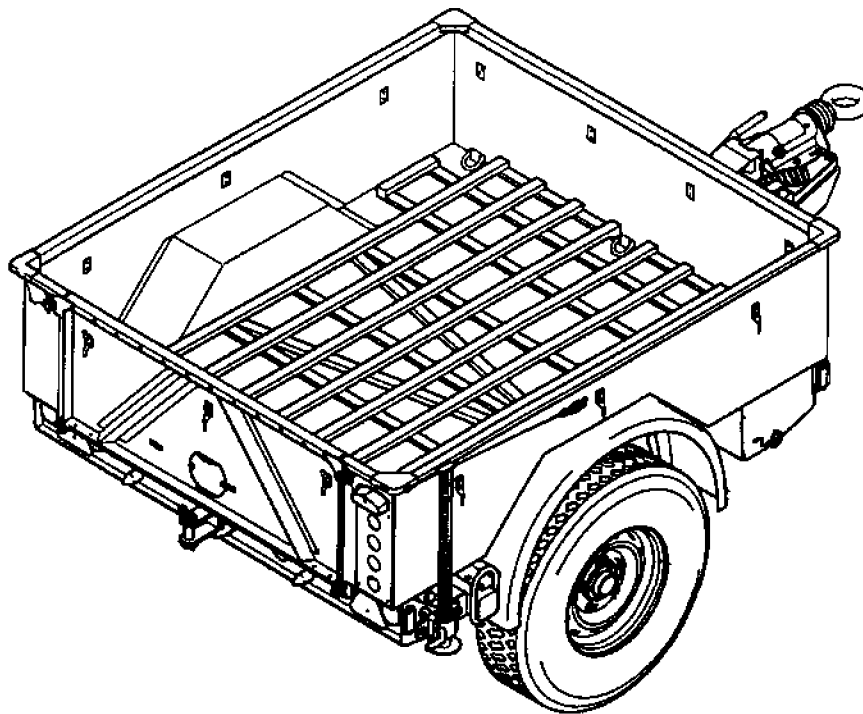
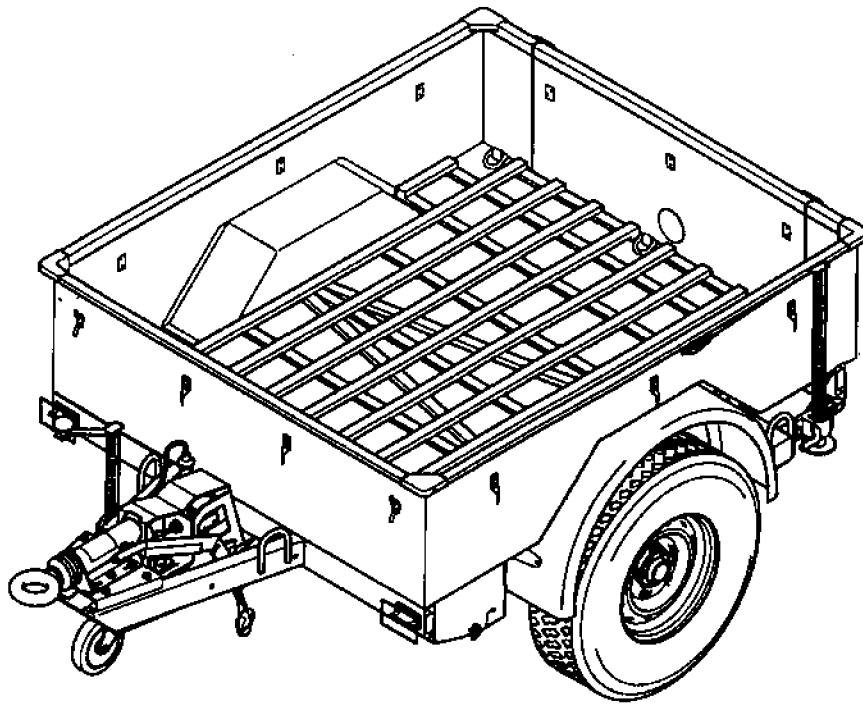
5 A standard size fixed towing eye and damper (14) are attached to the drawbar extension of the chassis. A fully adjustable wind down jockey wheel (13) is attached to the drawbar.

6 The chassis members support rear stands (5 and 9) and CES stowage boxes (6 and 7). The rear cross member is fitted with a tow hitch (10).

7 A single beam axle on two longitudinal, semi-elliptical leaf springs is attached to hangar brackets on the chassis, together with two telescopic shock absorbers, check straps and rubber springs. A transverse anti-roll bar is connected across the axle.

8 The trailer has a hydraulic disc brake system, operated by the towing eye damper moving backwards when the prime mover brakes are applied and the trailer overruns. An automatic reversing device incorporated within the hydraulic system, allows reversing to take place without a mechanical operation being applied. A mechanical handbrake is provided on the drawbar. A breakaway cable is connected to the handbrake linkage, which is also connected to the prime mover when the trailer is being towed. Should the trailer become detached from the prime mover, the trailer brakes are automatically applied.

9 The trailer electric circuit operates and is controlled from the towing vehicles 24V dc supply via a NATO standard socket. The lighting consists of normal tail, brake, turn, rear fog and convoy plate light and front runner white lights. Reflectors are fitted to the front, sides and rear.



TRL/027

- |   |                      |    |                       |
|---|----------------------|----|-----------------------|
| 1 | Body                 | 9  | Rear stand (RH)       |
| 2 | Duckboard            | 10 | Tow hitch             |
| 3 | Tie down             | 11 | Closure plate         |
| 4 | Tailgate             | 12 | Chassis               |
| 5 | Rear stand (LH)      | 13 | Jockey wheel          |
| 6 | CES stowage box (LH) | 14 | Towing eye and damper |
| 7 | CES stowage box (RH) | 15 | Cleat                 |
| 8 | Mudwing              |    |                       |

Fig 1 Trailer lightweight, GS, cargo

**DATA**

10 The following data is applicable to the trailer lightweight GS cargo.

**Dimensions**

Refer to Cat 101

**Weights**

Unladen  
Laden (Gross vehicle weight)  
Payload  
Drawbar preponderance (laden), based upon  
the lightest towing vehicle

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**Bridge classification**

Unladen  
Laden

1  
4

**NOTE**

Bridge classification does not include prime mover.

**Fording depth**

Without preparation - fresh or seawater  
With preparation - fresh or seawater

0.75 m (29.5 in.)  
1.5 m (59.1 in.)

**Shipping tonnage**

[REDACTED]

**Performance**

Metalled roads

80 kph (50 mph)

**Tyres**

Size  
Pressure

7.50 x R 16 C  
3.2 bar

**Brakes**

Type

Disc brakes, hydraulically operated  
Mechanical parking brake

**Suspension**

Two longitudinal semi-elliptical springs,  
rubber springs, two telescopic shock  
absorbers and a transverse anti-roll bar.



**CHAPTER 2**  
**OPERATING INFORMATION**  
**CONTENTS**

Para	
	Before use checks
1	General
3	Tyres
4	Electrical equipment (CAUTION)
5	Braking system (WARNING)
	Operation (CAUTION)
7	Jockey wheel
8	Deploy
12	Stow
14	Rear stands
15	Handbrake
17	Trailer coupling (WARNINGS)
18	Checks during a journey
20	Trailer uncoupling (WARNINGS)
21	Tailgate (WARNING)
	Recovery (WARNING) (CAUTIONS)
24	Recovery by the user
26	Recovery by REME
29	Winch recovery
32	Trailer recovery

Fig		Page
1	Jockey wheel .....	4
2	Rear stand .....	5
3	Handbrake .....	6
4	Tailgate .....	10

**BEFORE USE CHECKS****General**

- 1 Examine the trailer for damage or failure of welds, security of component items, tighten any part that is likely to come loose during use.
- 2 Check that all warning decals and plates are clearly visible and secured.

**Tyres**

- 3 The tyres must be checked for the following:
  - 3.1 Replace any missing valve caps.
  - 3.2 Check the tyre pressure (3.2 bar). Tyre pressure checks and adjustment should always be done when the tyres are cold.
  - 3.3 Remove any flints or stones from the tyre treads, check for cuts and damage on the tyre side walls.
  - 3.4 Remove any oil or grease from the tyres, using an approved cleaning agent.

**Electrical equipment****CAUTION**

**EQUIPMENT DAMAGE.** If the towing vehicle has a 12V electrical system, the 24V lamps on the trailer must be changed to 12V lamps of an equivalent type and wattage. Additionally, an indelible and legible label must be fitted to the trailer, adjacent to the lighting cable, stating '12 VOLT SYSTEM'.

- 4 Check the electrical equipment as follows:
  - 4.1 Check all leads, cables and connectors for security or any deterioration.
  - 4.2 Check the lighting cable plug for damage and security.
  - 4.3 Check all lamps, lights, lenses and reflectors for cleanliness, operation and security.

**Braking system****WARNING**

**ROAD HAZARD. ENSURE THAT THE BREAKAWAY CABLE IS CORRECTLY CONNECTED TO THE PRIME MOVER. THE TRAILER MUST NOT BE USED IF THE CABLE IS DAMAGED OR A SECURE CONNECTION IS NOT POSSIBLE.**

- 5 Carry out the following checks on the braking system:
  - 5.1 Master cylinder reservoir fluid level, top up as necessary.
  - 5.2 Check the serviceability of the master cylinder outer cover, waterproofing requirement.
  - 5.3 Operation of handbrake.
  - 5.4 Check that the breakaway cable is fitted and serviceable ensuring that the connecting ring at the base of the handbrake is not distorted or deformed.



- 6 Report all faults to REME.

## OPERATION

### CAUTION

**EQUIPMENT DAMAGE.** The rear tow hitch is to be used for unladen trailer movement in depot only. Under no circumstances is the tow hitch to be used for recovery purposes.

### Jockey wheel

- 7 The jockey wheel (Fig 1) mounted on the drawbar provides stability for the trailer while it is being loaded or when parked. The jockey wheel assists when connecting the trailer to the prime mover or manually moving the trailer (rear stands in the stowed position). Deploy/stow the jockey wheel, as follows.

#### Deploy

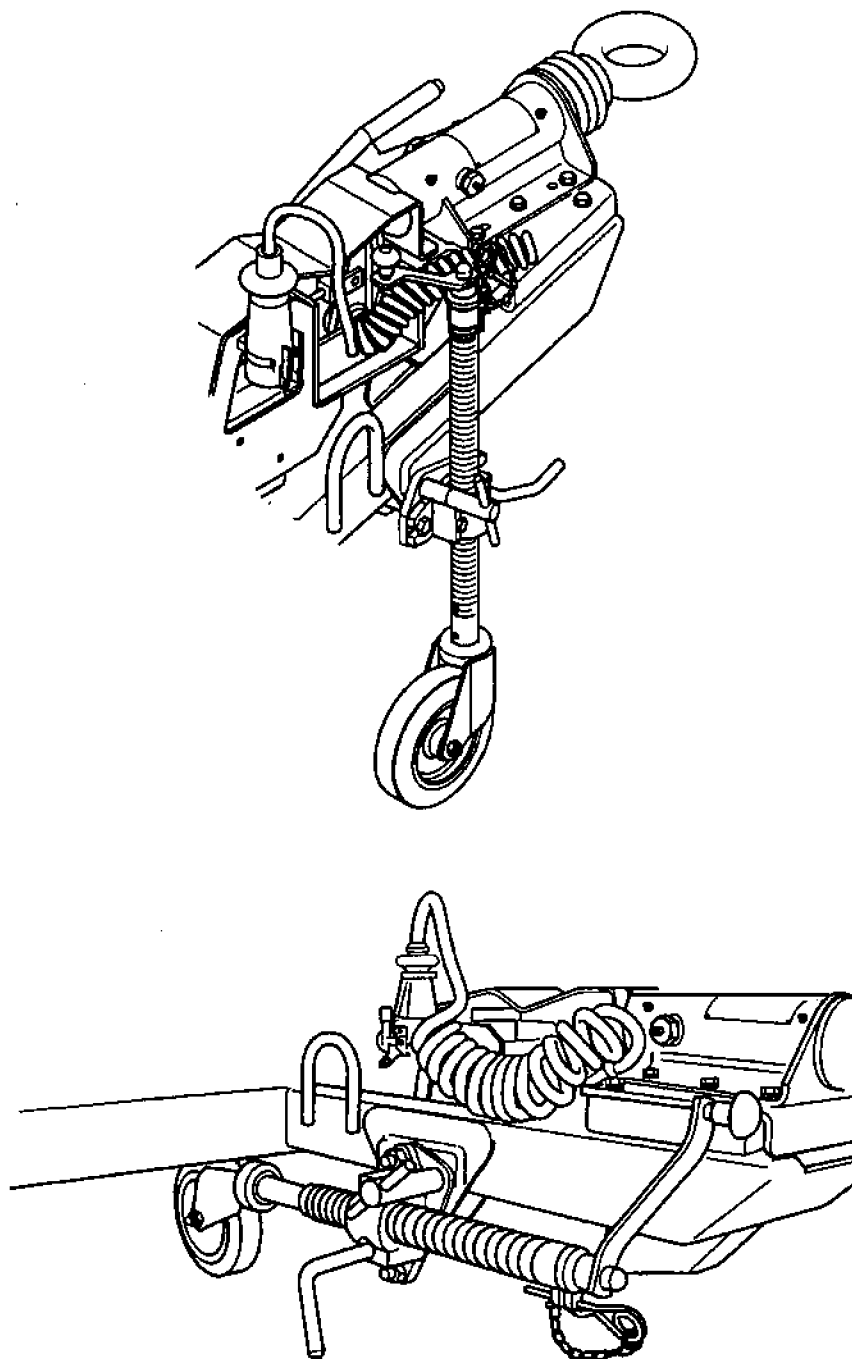
- 8 Pull out the spring loaded plunger (4), holding the jockey wheel in the stowed position.
- 9 Carefully swing the jockey wheel down until the locking plunger locks the jockey wheel in the vertical position.
- 10 If required slacken off the handle (3) and adjust the height of the jockey wheel until it is in contact with the ground. Tighten the handle, clamping the outer leg (5) tightly.
- 11 Remove the winding handle locking clip (2), rotate the winding handle (1) counter-clockwise to raise the height of the drawbar, clockwise to lower the height of drawbar. Refit the locking clip.

#### Stow

### NOTE

Stowing the jockey wheel is normally done when the trailer is connected to the prime mover.

- 12 Remove the winding handle locking clip (2), rotate the winding handle (1) clockwise to raise the wheel (7) clear of the ground, refit the locking clip.
- 13 Pull out the spring loaded plunger (4), rotate the jockey wheel until the spring loaded plunger locks it in the horizontal position. When stowed the wheel (7) should be positioned beneath the chassis and the winding handle locked in an upright position.



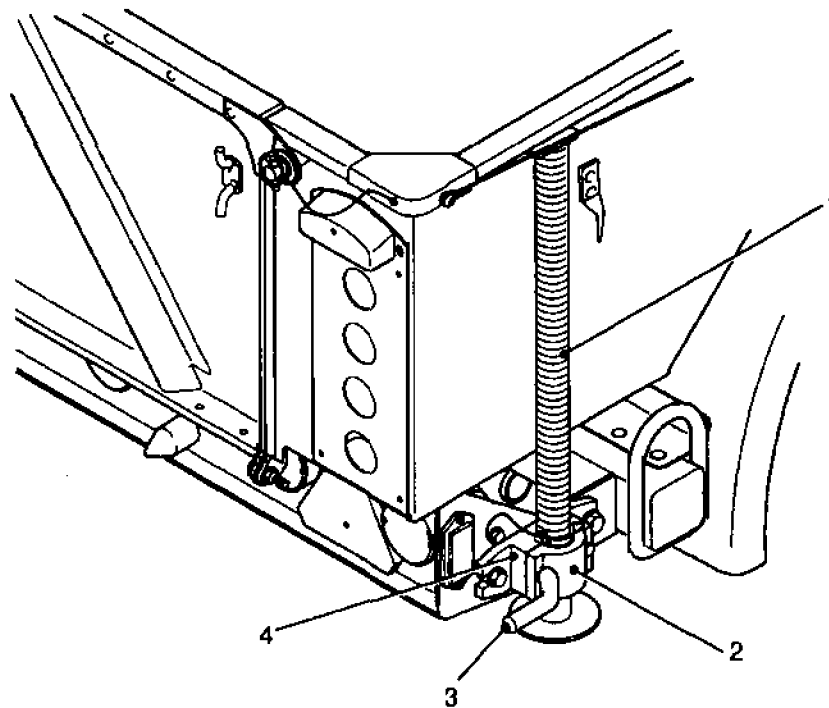
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- |   |                       |   |           |
|---|-----------------------|---|-----------|
| 1 | Winding handle        | 5 | Outer leg |
| 2 | Locking clip          | 6 | Inner leg |
| 3 | Handle                | 7 | Wheel     |
| 4 | Spring loaded plunger |   |           |

Fig 1 Jockey wheel

**Rear stands**

14 . The rear stands (Fig 2) can be height adjusted by slackening off the handle (3), loosening the clamp (2) and raise or lower the stand leg (1) to the required height. The locking pin (4) must be fitted at all times, it is only removed to allow the stand leg to pass through the clamp.



TRL/029

1 Stand leg  
2 Clamp

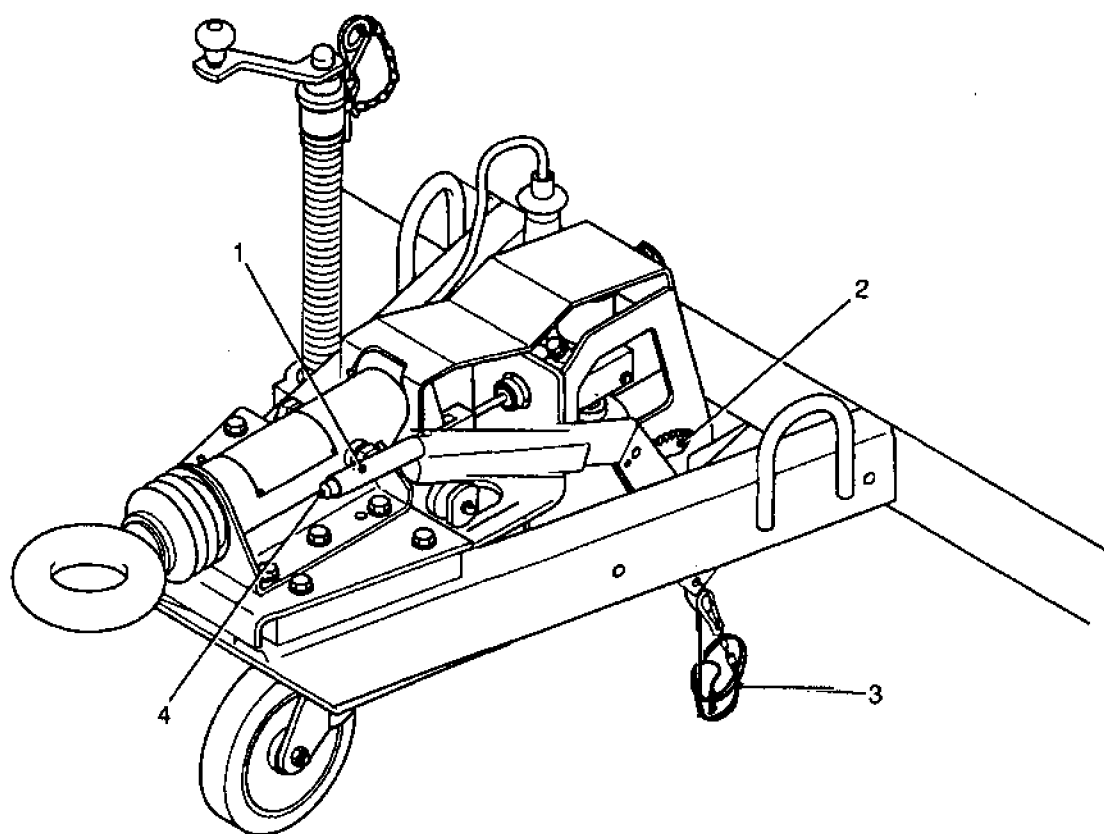
3 Handle  
4 Locking pin

**Fig 2 Rear stand**

**Handbrake**

15 To apply the handbrake (Fig 3), depress the pawl release button (4), lift the handbrake lever (1) until it reaches the end of its travel, release pawl release button, allowing the pawl to engage with the ratchet (2) teeth. Attempt to lift the handle to fully apply the handbrake.

16 To release the handbrake, grip the handbrake lever handle apply an upward pressure, at the same time depress the pawl release button to disengage the pawl from the ratchet. Keeping the pawl release button depressed lower the handbrake lever.



TRL/030

- |                   |                       |
|-------------------|-----------------------|
| 1 Handbrake lever | 3 Breakaway cable     |
| 2 Ratchet         | 4 Pawl release button |

**Fig 3 Handbrake**

**Trailer coupling**

**WARNINGS**

**(1) PERSONNEL HAZARD. ENSURE THE JOCKEY WHEEL IS LOWERED BEFORE COUPLING TO OR UNCOUPLING FROM THE PRIME MOVER.**

**(2) PERSONAL HAZARD. BEFORE DRIVING THE PRIME MOVER WITH THE TRAILER ATTACHED, ENSURE THAT THE JOCKEY WHEEL AND REAR STANDS ARE SECURED IN THE STOWED POSITION.**

**(3) TRAILER LOADING. ENSURE THAT THE TRAILER PAY LOAD IS CORRECTLY DISTRIBUTED AND THAT THE DRAWBAR PREPONDERANCE IS STRICTLY OBSERVED.**

**(4) DRAUGHT EYE. THIS TRAILER HAS A DRAUGHT EYE OF THE NON ROTATING TYPE, IT IS NOT TO BE COUPLED TO A VEHICLE WITH A FIXED TOWING PINTLE.**

17 Couple the trailer to a suitable prime mover, as follows:

17.1 Ensure that the trailer handbrake is on.

**WARNING**

**PERSONNEL INJURY. UNDER NO CIRCUMSTANCE ARE PERSONNEL TO STAND BETWEEN A PRIME MOVER AND TRAILER WHEN COUPLING OR UNCOUPLING.**

17.2 Reverse the prime mover to the front of the trailer.

17.3 Adjust the position of the trailer to engage the towing eye with the towing hook, as follows:

17.3.1 Release the handbrake to obtain side to side movement. Re-apply the handbrake.

17.3.2 Raise or lower the height of the towing eye by operating the jockey wheel winding handle (Fig 1 (1))

**NOTE**

The position of the rear stands may require adjusting to allow movement of the trailer for alignment.

17.4 Connect the towing eye and ensure that the following conditions apply.

17.4.1 The prime mover towing hook is closed and locking devices applied.

17.4.2 The towing hooks anti-rotation device is unlocked.

17.5 Connect the trailer electrical plug into the vehicle's NATO socket, check operation of all trailer lights.

**WARNING**

**ROAD HAZARD. ENSURE THAT THE BREAKAWAY CABLE IS CORRECTLY CONNECTED TO THE PRIME MOVER. THE TRAILER MUST NOT BE USED IF THE CABLE IS DAMAGED OR A SECURE CONNECTION IS NOT POSSIBLE.**

17.6 Connect the breakaway cable (Fig 3 (3)).

17.7 Raise and lock the jockey wheel, as detailed in Para 12.

- 17.8 Raise and lock the rear stands, as detailed in Para 14.

### Checks during a journey

18 After travelling approximately 1 mile, stop the vehicle and carry out the following checks on the trailer:

- 18.1 Security of the load.
- 18.2 Security of the towing eye.
- 18.3 Tyre's, for punctures and embedded stones.
- 18.4 Breakaway cable is connected.
- 18.5 Brake fluid level.
- 18.6 Report all faults to REME.

19 Carry out the checks detailed in Para 18 after every subsequent four hours of travelling time.

### Trailer uncoupling

#### WARNING

**PERSONNEL HAZARD. WHEN PARKING THE TRAILER, ENSURE THAT THE PARKING AREA IS AS FLAT AS POSSIBLE, THAT THE HANDBRAKE IS FULLY APPLIED, THAT THE REAR STANDS ARE DOWN AND LOCKED AND THAT THE JOCKEY WHEEL IS DOWN AND LOCKED.**

20 Uncouple the trailer from the prime mover, as follows:

#### NOTE

It may be necessary to unload the trailer before uncoupling the trailer.

- 20.1 Lower and lock the rear stands, as detailed in Para 14.
- 20.2 Lower and lock the jockey wheel, as detailed in Para 8.
- 20.3 Adjust the height of the jockey wheel, using the winding handle (Fig 1 (1)).
- 20.4 Disconnect the trailer electrical plug.
- 20.5 Disconnect the breakaway cable.
- 20.6 Unlock and open the prime mover's towing hook.
- 20.7 Apply the handbrake.
- 20.8 Raise the height of the towing hook by using the jockey wheel winding handle.

#### WARNING

**PERSONNEL INJURY. UNDER NO CIRCUMSTANCE ARE PERSONNEL TO STAND BETWEEN A PRIME MOVER AND TRAILER WHEN COUPLING OR UNCOUPLING.**

- 20.9 Uncouple the trailer.

### Tailgate

21 The tailgate (Fig 4(1)) can be fully lowered (180 deg) or lowered to a position parallel (90 deg) with the body load area using tailgate securing cables (3) located either side of the body. When not in use each securing cable connects to a staple (4) secured to the body.

22 To fully lower the tailgate proceed as follows:

22.1 Ensure that the rear tow hatch is secured in the stowed position.

22.2 Remove the two locking pins (2) securing the tailgate in the closed position.

22.3 Allow the tailgate to lower, under control, until it reaches its maximum position.

### WARNING

**PERSONAL INJURY. THE TAILGATE MUST NOT BE LOADED IN EXCESS OF 150 KG (330 LB) MAXIMUM, THE LOAD MUST ALSO BE EVENLY DISTRIBUTED. ANY LOAD IN EXCESS OF THE MAXIMUM MAY CAUSE FAILURE OF THE SECURING CABLES AND RESULT IN INJURIES TO PERSONNEL.**

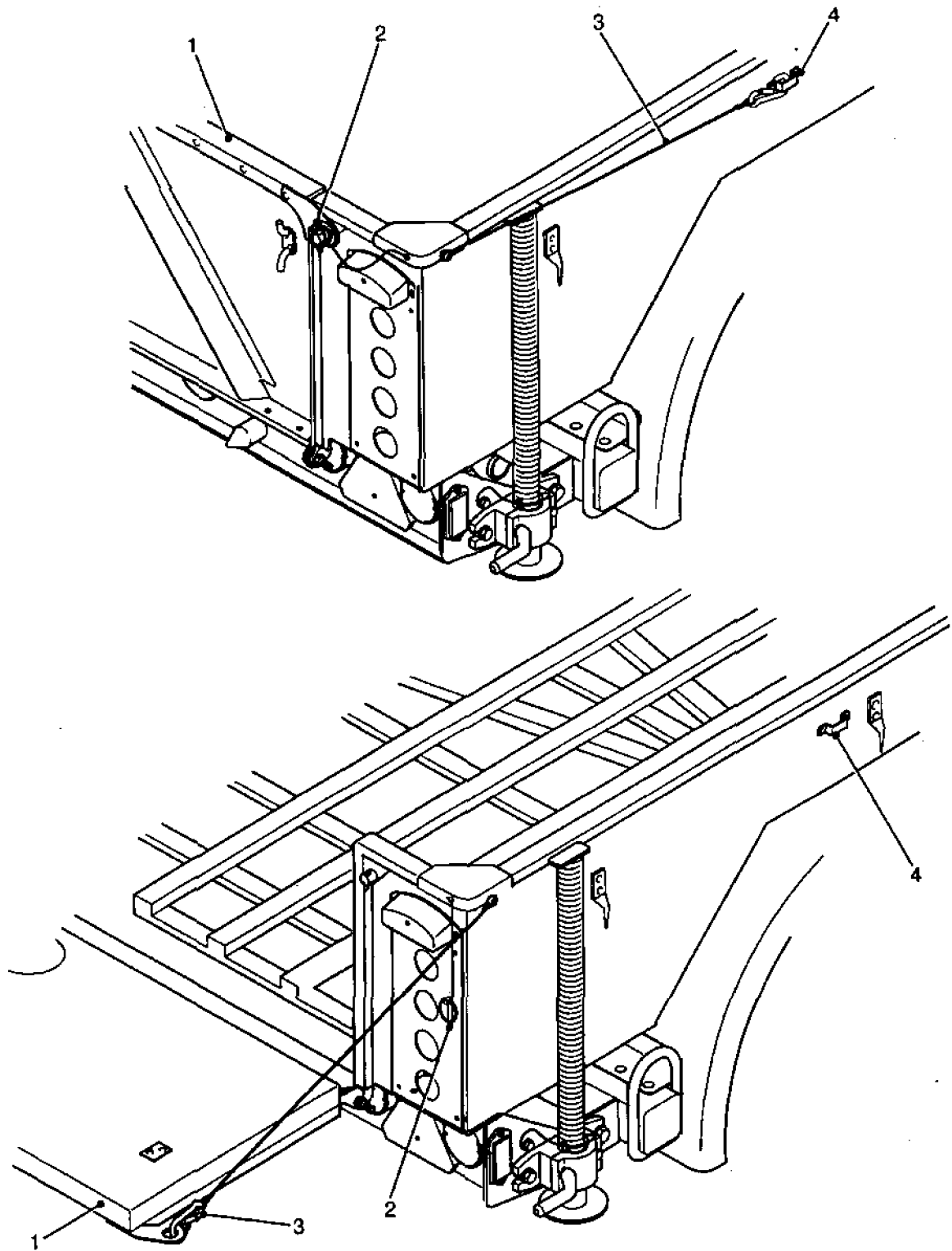
23 To lower the tailgate parallel with the load area proceed as follows:

23.1 Release the two tailgate securing cables from their stowed position.

23.2 With the tailgate supported remove the two locking pins.

23.3 Connect each securing cable, in turn, to the tailgate as shown in Fig 4.

23.4 Lower the tailgate under control until the cables are fully extended.



- |   |             |   |                |
|---|-------------|---|----------------|
| 1 | Tailgate    | 3 | Staple         |
| 2 | Locking pin | 4 | Securing cable |

Fig 4 Tailgate

TRL/065



## RECOVERY

### WARNING

**PERSONAL SAFETY. THE TOWING VEHICLE IS TO BE OF THE SAME OR A GREATER WEIGHT CATEGORY THAN THE DISABLED VEHICLE AND TOWING SPEEDS REDUCED TO AN APPROPRIATE LEVEL.**

### CAUTIONS

- (1) **EQUIPMENT DAMAGE.** The front lifting loops are not to be used for a direct lift. Attach recovery equipment around the chassis rails and then through the lifting loops.
- (2) **EQUIPMENT DAMAGE.** Do not winch the trailer with the prime mover still connected. Always disconnect and recover each vehicle separately.
- (3) **EQUIPMENT DAMAGE.** Extreme care is to be exercised to avoid damage to the trailer body when lifting onto a flatbed vehicle.

### Recovery by the user

- 24 **Front.** User recovery is restricted to normal towing from the drawbar eye.
- 25 **Rear.** The trailer can be recovered from the rear using suitable shackles and towropes. This method is for emergency obstacle clearance only. The rear tow hitch is not to be used for self-recovery.

### Recovery by REME

- 26 **Front.** Recovery is restricted to normal towing from the drawbar eye.
- 27 **Rear.** The trailer can be recovered from the rear using suitable shackles and towropes. This method is for emergency obstacle clearance only.
- 28 Where damage has occurred to the towing pintle or any other sub-system the trailer is to be lifted onto a suitable flatbed vehicle or recovery trailer. When carrying out a trailer lift extreme care is to be exercised to avoid damage to the body of the trailer. The front lifting loops are not to be used as the main point of lifting. The drawbar chassis rails are to be used with the lifting loops as a guide.

### Winch recovery

- 29 **Front.** The trailer can be winched from the drawbar chassis. The spring hangars are not to be used as a winching point.
- 30 **Rear.** The trailer can be winched from the rear using the chassis outriggers. The spring hangars are not to be used as a winching point.
- 31 Always disconnect the prime mover and recover each vehicle separately.

### Trailer recovery

- 32 The vehicle can be loaded and recovered using the following trailers:
  - 32.1 Trailer Recovery CL 20 tonne.
  - 32.2 44 Tonne Light 'A' mover.



**CHAPTER 3**  
**USER MAINTENANCE**  
**CONTENTS**

Para

- 1 General
- User maintenance
  - Road wheels (WARNINGS)
- 3        To remove a road wheel (WARNING)
- 4        To refit a road wheel
- 5        To check and top-up the brake fluid reservoir
- 7        Lamp, lens and reflector replacement (CAUTION)
- 10        Lubrication
- 12        Wash down (WARNING) (CAUTION)

Table

	Page
1 Lamp type and wattage .....	5
2 Access method to lamps.....	7
3 Reflector replacement methods.....	7
4 Lubricating points.....	7

Fig

1 Wheel nut tightening sequence and spring restrainer position .....	3
2 Drawbar assembly .....	4
3 Lamp replacement.....	6
4 Lubricating points.....	9/10

**GENERAL**

- 1 User maintenance should be carried out at intervals specified in the Cat 601.
- 2 Refer to the Cat 601 for details of the oils and lubricants to be used when carrying out user maintenance.

**USER MAINTENANCE****Road wheels****WARNINGS**

**(1) PERSONAL HAZARD. OBSERVE ALL APPROPRIATE SAFETY INSTRUCTIONS CONCERNING JACKING AND SCOTCHING WHEN REMOVING AND REFITTING ROAD WHEELS.**

**(2) PERSONAL HAZARD. WHEN REPLACING A ROAD WHEEL ENSURE THAT ONLY 'WOLF' LANDROVER WHEEL RIMS ARE USED WITH THE REPLACEMENT WHEEL ASSEMBLY. FAILURE TO DO SO WILL AFFECT THE STABILITY OF THE VEHICLE.**

**(3) PERSONAL HAZARD. UNDER NO CIRCUMSTANCES ARE THE FRONT JOCKEY WHEEL OR REAR STANDS TO BE USED AS A METHOD OF JACKING UP THE TRAILER DURING ANY ROAD WHEEL REMOVAL/REFITTING PROCEDURE. THE JOCKEY WHEEL AND STANDS ARE USED FOR STABILITY AND MANOEUVRABILITY PURPOSES ONLY, THEY WILL NOT SUPPORT THE TRAILER WHEN A ROAD WHEEL IS REMOVED.**

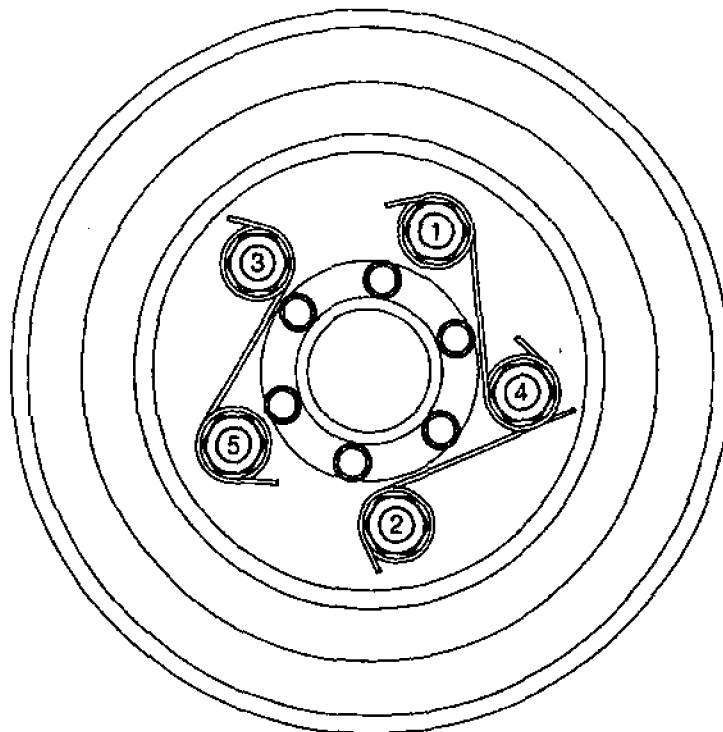
**To remove a road wheel**

- 3 Remove a road wheel, as follows:
  - 3.1 Ensure the handbrake is fully applied.
  - 3.2 Chock the road wheel on the opposite side of the trailer.
  - 3.3 Place a jack up under the road spring clamping plate.
  - 3.4 Remove the road wheel spring restrainers (Fig 1).
  - 3.5 Loosen the wheel nuts slightly.
  - 3.6 Using the jack raise the trailer to allow removal of the road wheel.
  - 3.7 Remove the 6 plastic caps from the axle hub cap.
  - 3.8 Remove the wheel nuts and remove the road wheel from the hub, taking care not to damage the wheel stud threads.

**To refit a road wheel**

- 4 Refit a road wheel, as follows:
  - 4.1 Position the road wheel near to the hub.
  - 4.2 Fit the road wheel onto the hub and wheel studs, taking care not to damage the threads.
  - 4.3 Fit the wheel nuts and tighten, do not fully tighten at this stage.
  - 4.4 Lower the trailer to the ground. Refit the 6 plastic caps to the axle hub cap.

- 4.5 Tighten the wheel nuts to 102 to 105 Nm with a torque wrench if available. Use a wheel brace if no torque wrench is available.
  - 4.5.1 Use the sequence as shown (Fig 1).
  - 4.5.2 Re-tighten the wheel nuts after approximately 3 miles.
  - 4.5.3 Re-torque the wheel nuts at the earliest opportunity. Refit the wheel nut restraints the correct way.
- 4.6 Refit the wheel nut spring restrainer (Fig 1) as follows:
  - 4.6.1 Ensure the tipped end is facing towards the wheel.
  - 4.6.2 Position the restrainer and offer up to the wheel nut(s).
  - 4.6.3 Pull back the end ring and slide the restrainer onto the nut.
  - 4.6.4 Release and ensure the fit is secure.
- 4.7 Lower and remove the jack.
- 4.8 Remove the scotching from the opposite trailer wheel.



TRL/031

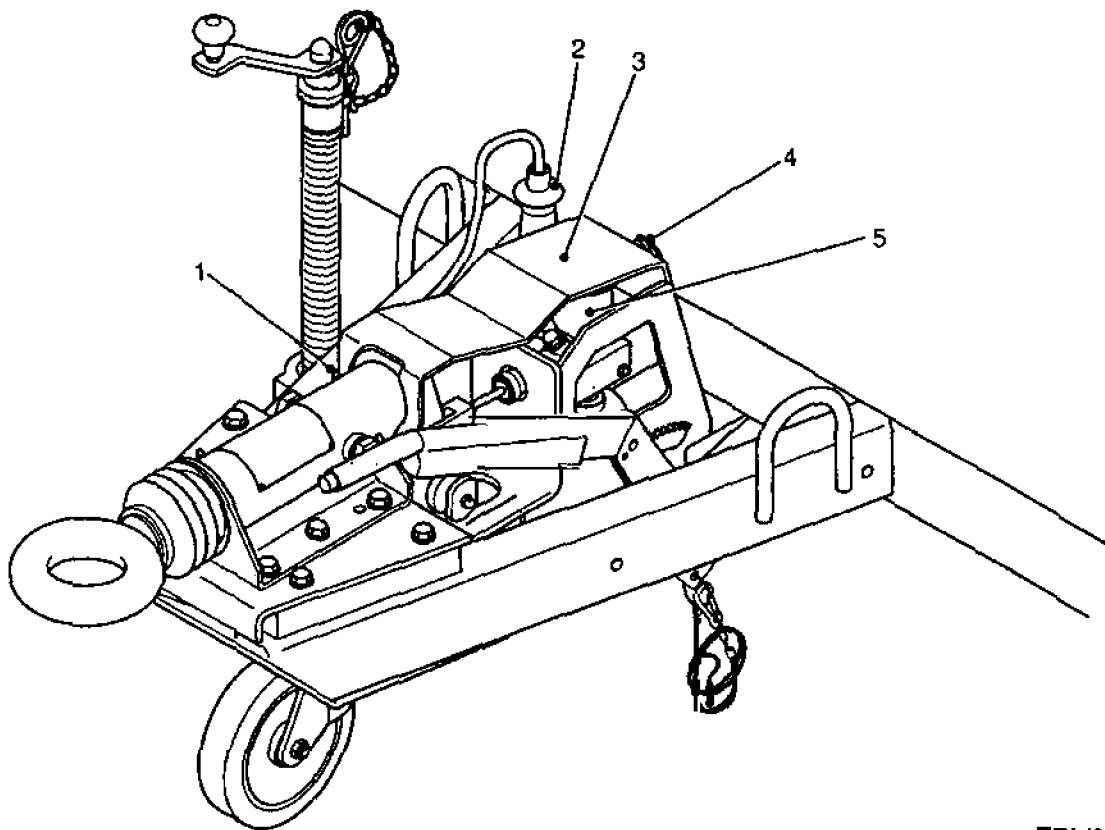
**Fig 1 Wheel nut tightening sequence and spring restrainer position**

**To check and top-up the brake fluid reservoir**

5 The hydraulic brake fluid reservoir (Fig 2(5)) level, can be checked by observing the translucent reservoir, ensure the fluid level is above the inscribed mark.

6 *Top-up the reservoir, as follows:*

- 6.1 Release the pin (4) securing the cover (3).
- 6.2 Remove the electrical plug (2) from its stowage clip.
- 6.3 Remove the cover by swinging out sideways approximately 60 degrees in the direction of the stowage clip before lifting at the rear, then disengaging the tang at the front end of the cover.
- 6.4 Remove the reservoir outer rubber cover.
- 6.5 *Remove the reservoir cap.*



TRL/032

- |   |                 |   |           |
|---|-----------------|---|-----------|
| 1 | Grease nipple   | 4 | Pin       |
| 2 | Electrical plug | 5 | Reservoir |
| 3 | Cover           |   |           |

**Fig 2 Drawbar assembly**

6.6 Top up the reservoir with fluid, as detailed in the Cat 601. Ensure that the fluid level is above the inscribed line.

**NOTE**

Ensure that the internal diaphragm is seated correctly. This should be done prior to refitting the outer dust cap as the diaphragm is visible through the translucent reservoir.

6.7 Refit the reservoir cap and wipe up any spilt fluid.

6.8 Refit the outer rubber cover.

6.9 Refit the cover by engaging and refitting the pin.

6.10 Stow the electrical plug.

**Lamp, lens and reflector replacement**

**CAUTION**

**EQUIPMENT DAMAGE.** If the towing vehicle has a 12V electrical system, the 24V lamps on the trailer must be changed to 12V lamps of an equivalent type and wattage. Additionally, an indelible and legible label must be fitted to the trailer, adjacent to the lighting cable, stating '12 VOLT SYSTEM'.

7 Refer to Table 1 for lamp type and wattage.

**TABLE 1 LAMP TYPE AND WATTAGE**

Serial (1)	Location (2)	Type (3)	Wattage (4)
1	Stop/tail	Bayonet	21/5 W
2	Turn	Bayonet	21 W
3	Fog	Bayonet	21 W
4	Number plate	Bayonet	5 W
5	Convoy	Bayonet	5 W
6	Front marker	Spade	5 W

8 Refer to Table 2 and Fig 3 for method of access to lamps. To replace a lamp proceed as follows:

**NOTE**

This procedure is suitable for the stop/tail, turn, fog, convoy and front marker lamps.

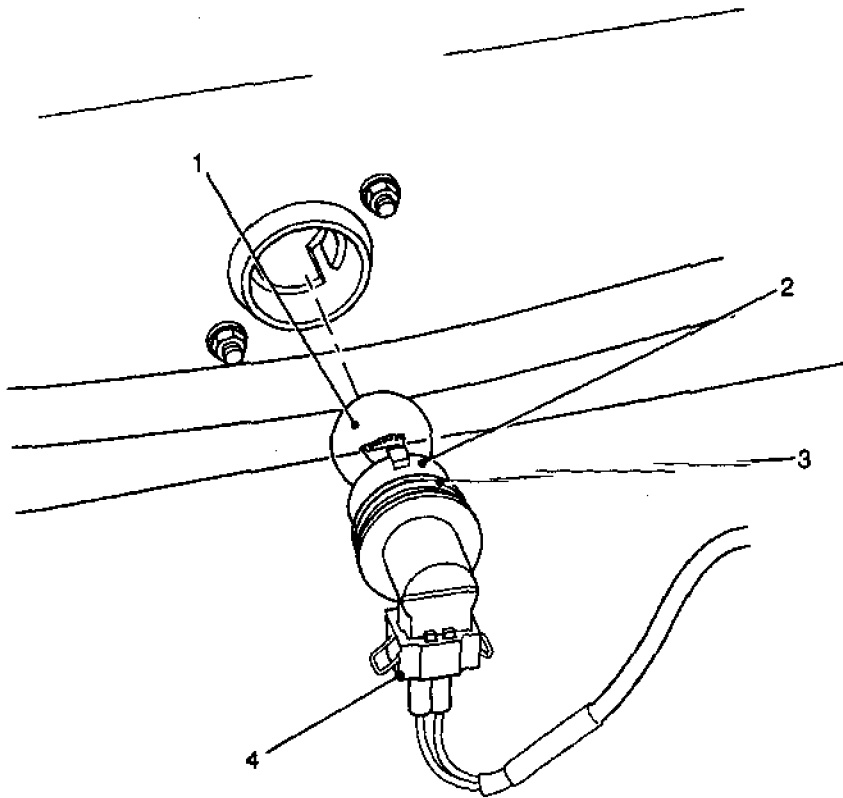
8.1 Disconnect the branch connector (Fig 3(4)) by squeezing the metal clips together and pulling it clear of the lamp holder (2).

8.2 Rotate the lamp holder through 90 deg clockwise and release it from the chassis/plinth.

8.3 Replace the lamp (1) with one of an equivalent type and wattage, refer to Table 1.

8.4 Examine the lamp holder O-ring (3) for serviceability. If damaged REPORT to REME.

- 8.5 Refit the lamp holder and rotate through 90 deg counter-clockwise to lock in position.
- 8.6 Reconnect the branch connector by squeezing the metal clips together and refitting on the lamp holder. Ensure the branch connector is secure.
- 8.7 Check the operation of all lights.



TRL/053

- |   |             |   |                  |
|---|-------------|---|------------------|
| 1 | Lamp        | 3 | O-ring           |
| 2 | Lamp holder | 4 | Branch connector |

Fig 3 Lamp replacement



**TABLE 2 ACCESS METHOD TO LAMPS**

Serial (1)	Location (2)	Access method and remarks (3)
1	Stop and tail	Rotate lamp holder through 90 deg
2	Turn	Rotate lamp holder through 90 deg
3	Fog	Rotate lamp holder through 90 deg
4	Number plate	Remove lens securing screw
5	Convoy	Rotate lamp holder through 90 deg
6	Front marker	Rotate lamp holder through 90 deg

9 Refer to Table 3 for reflector replacement methods.

**TABLE 3 REFLECTOR REPLACEMENT METHODS**

Serial (1)	Location (2)	Access method and remarks (3)
1	Rear	Screw (2 off) complete with sealing washer, plain washer and nyloc nut.
2	Side	Screw (2 off) complete with plain washer and nyloc nut.
3	Front	Screw (2 off)

**Lubrication**

10 At intervals detailed in the Cat 601, grease and lubricate the points detailed in Fig 4 and Table 4.

11 Lubricate the front jockey wheel pivot (3) with grease, as detailed in Cat 601, until the grease is clearly seen to extrude from both ends of the bush. Wipe off any excess.

**TABLE 4 LUBRICATING POINTS**

Serial (1)	Item (2)	Type (3)
1	Damper (2)	Grease nipple (Qty 4)
2	Jockey wheel pivot (3)	Grease nipple
3	Handbrake pivot (1)	Grease nipple
4	Brake operating pivot (4)	Grease nipple

**Wash down**

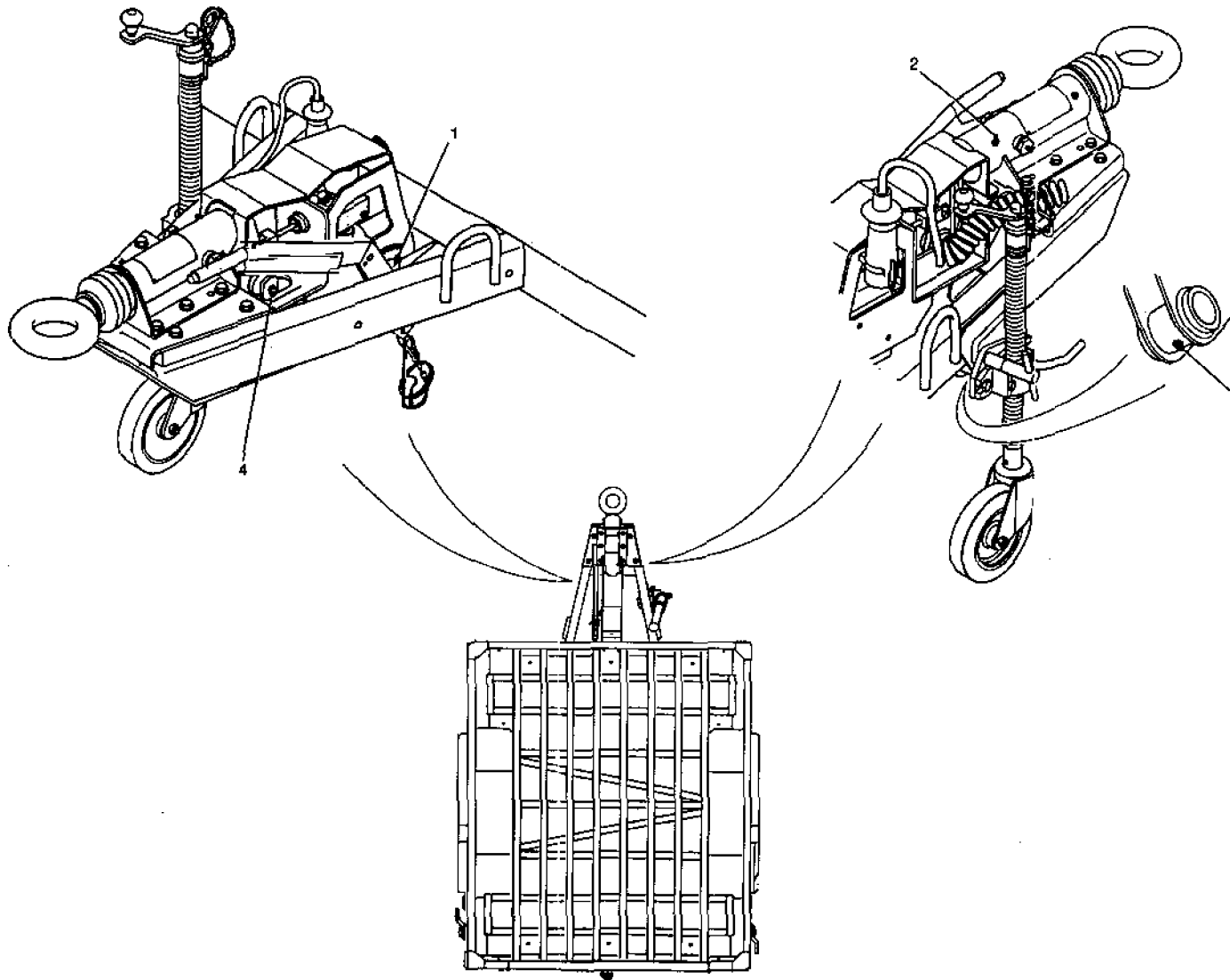
**WARNING**

**SAFETY HAZARD. AFTER CROSS-COUNTRY USE, ENSURE THAT THE TRAILER IS THOROUGHLY CLEANED WITH PARTICULAR REGARD TO THE HANDBRAKE LEVER MECHANISM AND BRAKING SYSTEM.**

**CAUTION**

**EQUIPMENT DAMAGE. Sand is an abrasive material and will cause accelerated wear to *components if not effectively removed.***

12 Do not rely on dry brushing to remove sand deposits, the preferred method is to wash down the equipment thoroughly with clean fresh water.



- 1 Handbrake pivot
- 2 Damper

- 3 Jockey wheel pivot
- 4 Brake operating pivot

Fig 4 Lubricating points

TRL/033



**CHAPTER 4**  
**DENIAL OF EQUIPMENT**  
**CONTENTS**

Para

General

- 1 Destruction
- 4 Degree of damage
- 5 Priorities for destruction
- 6 Spare parts
- 7 Equipment being carried on the trailer
- 8 Methods of destruction
- 9 Mechanical
- 10 Burning (WARNING)
- 11 Gunfire (WARNING)

Table

Page

1	Priorities for destruction.....	2
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**GENERAL****Destruction**

1 Destruction of the equipment, when subject to capture by the enemy will be undertaken by the user arm **ONLY WHEN** ordered to do so by divisional or higher commanders, who may delegate the authority to subordinate commanders should the situation require it.

2 Destruction of the equipment is to be reported through command channels.

3 In general, destruction of essential parts, followed by burning, will usually be sufficient to render the equipment useless. However, selection of the particular method of destruction requires imagination and resourcefulness in the utilisation of the facilities at hand under the existing conditions. Time is usually critical. If destruction is ordered, due consideration should be given to:

3.1 Selection of a point of destruction that will cause greatest obstruction to enemy movement but not prove a hazard to friendly troops from fragments or ricocheting projectiles which may occur incidental to the destruction by gunfire.

3.2 Observance of appropriate safety precautions.

**Degree of damage**

4 The degree of damage inflicted to prevent the equipment being used by an enemy shall be as follows:

4.1 Methods of destruction should achieve such damage to equipment and essential spare parts that it will not be possible to restore the equipment to a usable condition in the combat zone by repair or be cannibalisation.

4.2 Classified equipment must be destroyed in such degree to prevent whenever possible, duplication by the enemy or the revelation of function or operation.

4.3 Any classified documents, notes, instructions or other written material pertaining to function, operation, maintenance or employment including drawings or parts lists must be destroyed in a manner to render them useless to the enemy.

**Priorities for destruction**

5 Priorities for destruction are:

5.1 Priority must be given to the destruction to classified equipment and associated documents.

5.2 When lack of time and/or stores prevents complete destruction of equipment, priority is to be given to the destruction of essential parts, and the same parts are to be destroyed on all like equipment.

5.3 A guide to priorities for the destruction of this equipment is shown below.

**TABLE 1 PRIORITIES FOR DESTRUCTION**

Serial (1)	Parts (2)	Priority (3)
1	Tyres and suspension	1
2	Braking system	2
3	Frame	3

Spare parts

6 The same priority, for destruction of component parts of a major item necessary to render the item inoperable, must be given to the destruction of similar components in spare parts storage areas.

Equipment being carried on the trailer

7 Equipment being carried on the trailer should be destroyed in accordance with the priorities for the equipment itself, taking into account the relative importance of the equipment being carried and the trailer itself.

**Methods of destruction**

8 The following information is for guidance only. Of the several means of destruction, those most generally applicable are as under.

Mechanical

9 This requires an axe, pick, crowbar or similar implement. The equipment should be destroyed in accordance with the priorities given in Para 5.

Burning

**WARNING**

**PERSONAL HAZARD. DUE CONSIDERATION SHOULD BE GIVEN TO THE HIGHLY FLAMMABLE NATURE OF GASOLINE AND ITS VAPOUR. CARELESSNESS IN ITS USE MAY RESULT IN PAINFUL BURNS. GASOLINE SHOULD ALWAYS BE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF JSP 317.**

10 This requires gasoline, oil or other flammables.

10.1 Smash all vital parts, in accordance with the priorities given in Para 5.

10.2 Pour gasoline and oil in, on and over the entire equipment.

10.3 Ignite by means of an incendiary grenade fired from a safe distance, by a burst from a flame thrower, by a combustible train of suitable length, or other appropriate means.

10.4 Take cover immediately.

Gunfire

**WARNING**

**PERSONAL HAZARD. FIRING ARTILLERY AT RANGES OF 500 YARDS OR LESS SHOULD BE FROM COVER. FIRING RIFLE GRENADES OR ANTI-TANK ROCKETS SHOULD BE FROM COVER.**

11 When destroying the equipment by gunfire proceed as follows.

11.1 Smash all vital parts, in accordance with the priorities given in Para 5.

11.2 Destroy the equipment by gunfire, using adjacent gun tanks, self-propelled guns artillery, rifles using rifle grenades or launchers using anti-tank rockets. Fire on the equipment aiming at the road wheels. Although one well placed direct hit may render the equipment temporarily useless, several hits are usually required for complete destruction unless an intense fire is started, in which case the equipment may be considered destroyed.





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