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**TRUCK, GENERAL SERVICE, 1 TONNE, 4x4, ROVER**  
**TRUCK, GENERAL SERVICE, FFR, 1 TONNE, 4x4, ROVER**

**Amendment List No.6**

**June 1978**

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***NEW PAGES***

**Remove and replace pages 173-174 and 175-176**

**AMENDMENT RECORD**

**Record** the incorporation  
of this Amendment on the  
Record Sheet

## SECTION V

# Optional Equipment

## 12 VOLT AND 24 VOLT MODELS

Some of the optional equipment which may be fitted to the Land Rover 1 Tonne may need some explanation concerning its use. These details are given on the pages that follow under the appropriate headings.

### POWERED WINCH

#### Description

**314.** The winch is mounted on the left-hand chassis side member and is driven from a bottom power take-off unit fitted to the underside of the transfer gearbox. A multi pulley arrangement provides two alternative routes for the winch cable, giving a front or rear pull capability. A slipping clutch is incorporated to prevent overloading.

- **Note:** When towing/manoeuvring equipment, the winch fairlead should be fitted in position at the front of the vehicle (Fig 146).

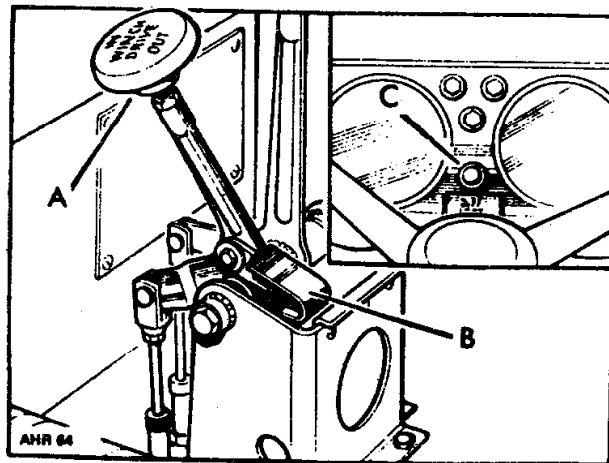
**314a.** The winch rope 'Limit of Extension' is marked by the application of red paint. This mark is approximately 56 metres (185 feet) from the towing hook. When this mark is 1 metre (3 feet) outside the front pulley - paying out should cease - leaving 1 complete rope lay on the drum.

#### Operation

**315.** The winch is controlled from the driving compartment by the lever with the green knob, mounted on the top of the radiator ducting. The lever incorporates a safety catch to prevent accidental engagement of the winch drive; there is also a white warning light fitted in the instrument panel that illuminates when the winch drive is engaged and is extinguished when the drive is disengaged.

**Fig. 145**  
Winch control lever and  
warning light

- A—Winch control lever
- B—Lever safety catch
- C—Warning light



All normal winching should be carried out with the transfer gear lever in the 'Neutral' position but, if the circumstances demand, it is permissible to winch and drive simultaneously in either 'Low' or 'High' transfer.

Any gear in the main gearbox may be selected for winching, giving four winching-in and one pay-out cable speeds relative to engine rev/min. The following chart provides a guide to the cable speeds obtainable in the specified gear at 1000 engine rev/min.

Gear		Metres/min	ft/min
Reverse	{ cable	7.30	24
	{ pay out		
1	{ cable	6.60	21
2		10.87	36
3		17.81	58
4		26.76	88

Operate the winch as follows:

- (i) Position the vehicle in line with the object to be recovered, or in the case of self-recovery the end of the cable should be anchored in line with the vehicle.
- (ii) Place the transfer gear lever in the 'NEUTRAL' position.
- (iii) Place the main gear lever in the 'neutral' position.
- (iv) Start the engine.
- (v) Lift the safety catch and move the winch control lever to the 'IN' position.
- (vi) Engage the required gear in the main gearbox, the winch will then commence operation when the clutch is released.
- (vii) The winch must only be stopped when under 'load' conditions by switching the ignition switch 'OFF' and stopping the engine. The vehicle clutch, gear lever and winch control lever must not be disengaged until the load, self-recovery or other object – is safely checked, secured or removed. ▶
- (viii) After completion of the winching operation, rewind the remaining cable under light load to ensure even distribution on the drum, then move the main gear lever to the 'neutral' position and the winch control lever to the 'OUT' position.
- (ix) Stop the engine, as required.

#### Lubrication

**316.** Lubricate the winch driving chain and cable assembly as necessary after use, also at the recommended intervals using approved lubricants.

#### Winch drive gearbox and chain

**317.** Remove the oil level plug from the winch drive gearbox casing; oil should be level with the bottom of the plug hole, top up if necessary and replace plug.

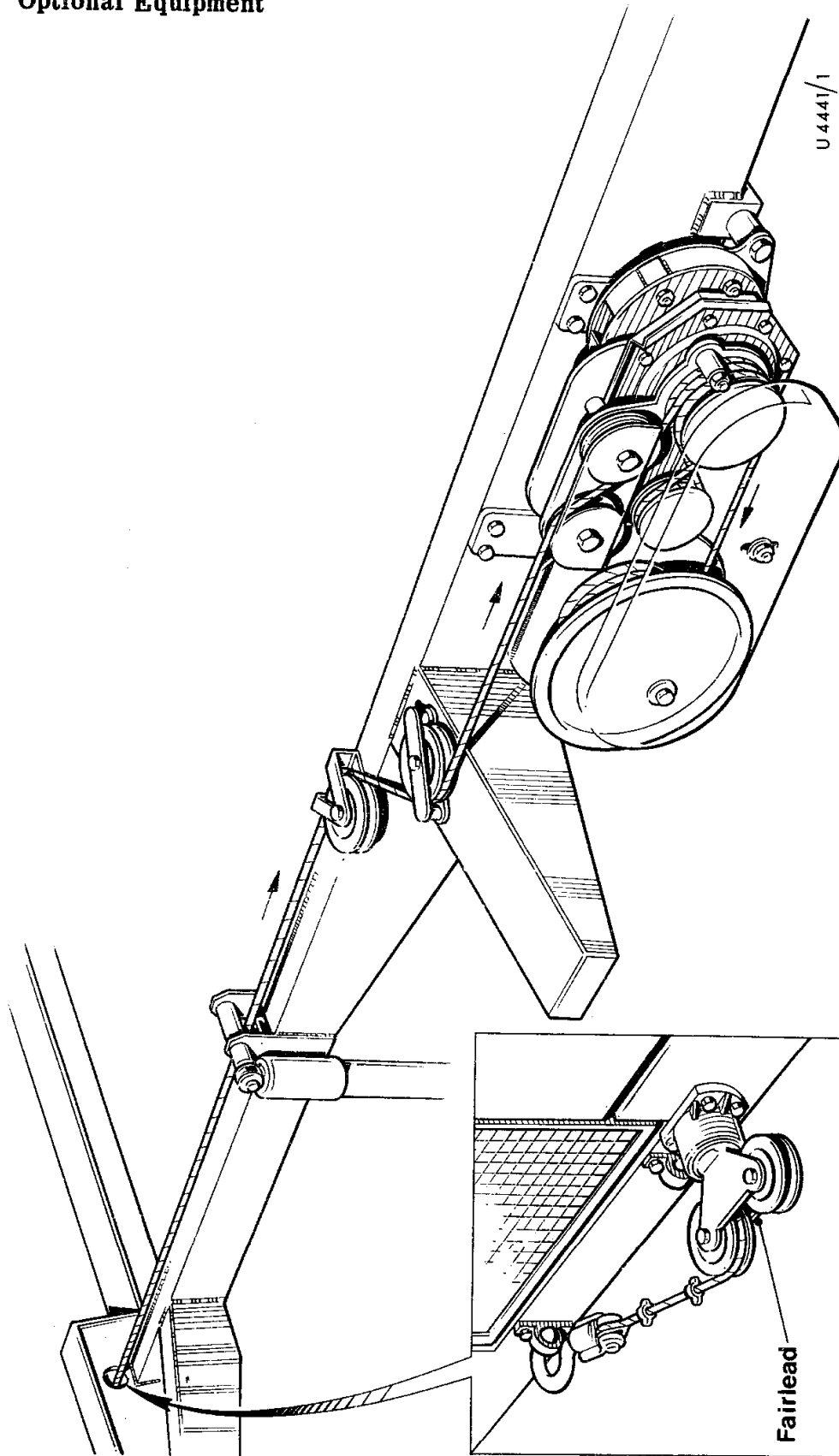
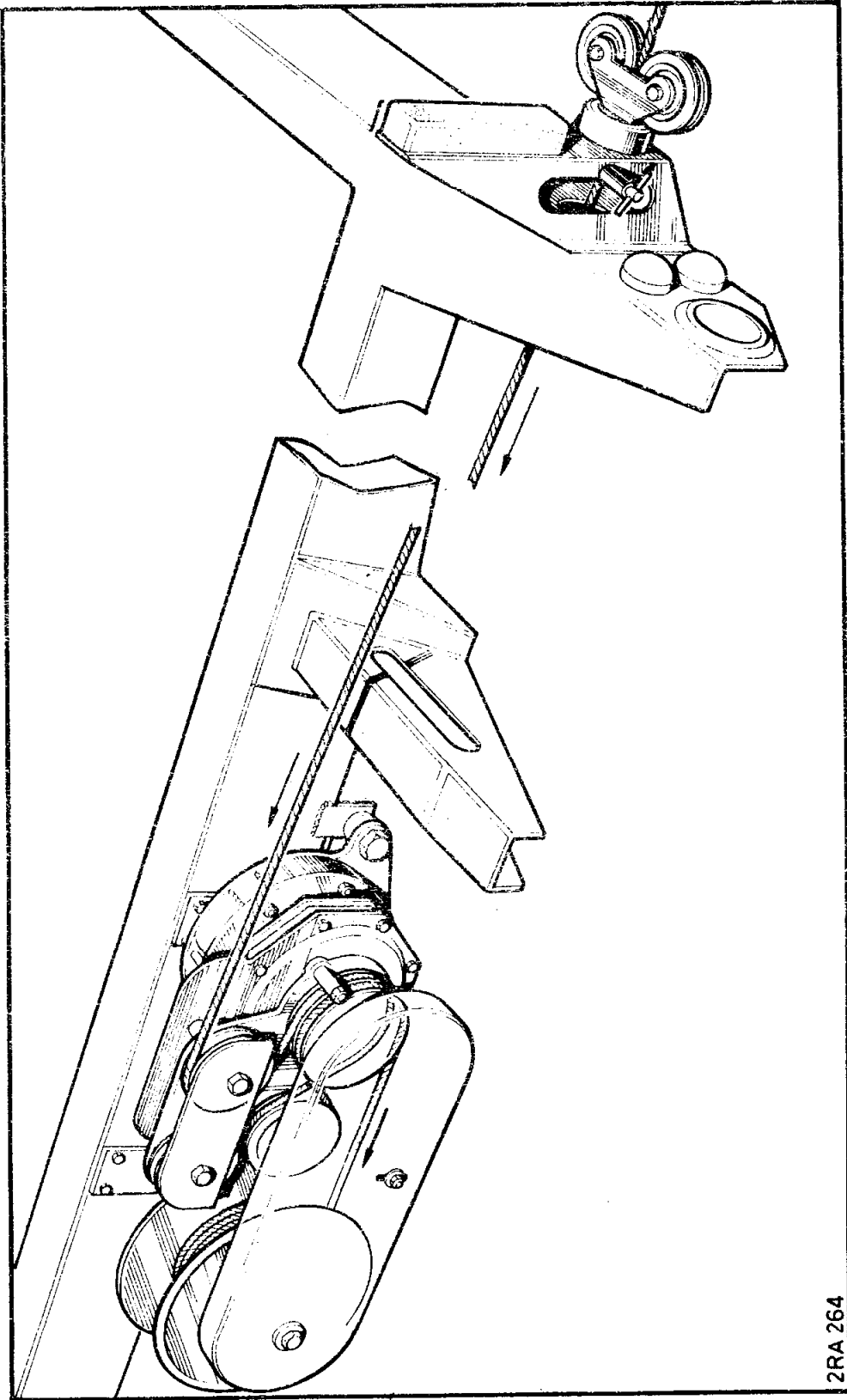


Fig 146 Winch cable layout, forward pulling



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Fig. 147 Winch cable layout, rearward pulling

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