

FIG 14:13 Layout of front winch

- Key to Fig 14:13**
- | | | | | | | | |
|----------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------|-----------------------------------|---------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------|
| 1. Casing assembly for front winch | 2. Stud for bottom cover | 3. Dowel for thrust washer | 4. Bush collar/d shaft | 5. Grease point for shaft | 6. Breather cup for housing | 7. Bollard and shaft assembly | 8. Dowel for s |
| 9. Pin for bollard | 10-12. Fixings for bollard | 13. Thrust washer (for bollard) | 14. Shim (for bollard) | 15. Cap for bol | 16, 17. Fixings for cap | 18. Worm wheel and worm complete | 19. Special key to worm wheel |
| 20. Circlip fixing worm w | 21. Roller bearing for worm | 22. Washer for bearing | 23. Circlip fixing bearing to casing | 24. Ballbearing for worm's | 25. Distance piece for worm shaft | 26. Oil seal for worm shaft | 27. Retainer for oil seal |
| 28. Joint washer for oil seal reta | 29, 30. Fixings for oil seal retainer | 31. Starting dog | 32. Lockwasher for starting dog | 33. Universal joint slk | 34. Special pin fixing sleeve to worm | 35. Bottom cover for winch casing | 36. Joint washer for bottom cover |
| 37, 38. Fixing: front winch | 39. Drain plug for front winch | 40. Joint washer for drain plug | 41. Filler plug and dipstick | 42-44. Fixings: front winch | 45. Support plate for front winch | 46-49. Fixings for support plate | 50. Rivnut |
| 51. Propeller shaft for front w | 52. Plunger (for propeller shaft) | 53. Plunger spring (for propeller shaft) | 54. Dust cover (for propeller shaft) | 55. Driving s for front winch | 56. Winch shaft housing assembly (2 1/2 litre petrol/diesel models) | 57. Stud for support p | 58. Bush for control shaft (2 1/2 litre petrol/diesel models) |
| 59. Winch shaft housing assem | 60. Stud for support plate (2 litre petrol models) | 61. Bush for control shaft (2 litre petrol mac | 62. Bush for winch driving shaft | 63. Support plate for winch shaft | 64, 65. Fixings for housing | 66-68. Fixings for sup | 69. Bracket for winch shaft support plate, righthand (2 1/2 litre petrol/diesel models) |
| 70. Bracket for winch shaft support pl | 71. Bracket for winch shaft support plate, righthand (2 litre petrol mac | 72. Bracket for winch shaft support plate, lefthand (2 litre petrol models) | | | | | |

2 1/2 litre petrol/diesel models:

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|-----------------------------------------|-----------------------------------------|------------------------------------|--------------------------------|
| 73-75. Fixings (bracket to front cover) | 76. Driving flange for front winch | 77. Winch driving plate | 78, 79. Fixings for driving p |
| 80. Control shaft for driving flange | 81. Selector fork for control shaft | 82, 83. Fixings for fork | 84. Steel ball (for control st |
| 85. Spring (for control shaft) | 86. Plug for spring (for control shaft) | 87. Grease point for control shaft | |

2 litre petrol models:

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|----------------------------------------------|---------------------------------------|---------------------------------------------|-----------------------------------------|
| 88. Setbolt fixing bracket to front cover | 89. Driving flange for front winch | 90. Driving flange for fan pulley | 91. Winch driving p |
| 92, 93. Fixings for driving flange and plate | 94. Control shaft for driving flange | 95. Selector fork for control s | |
| 96, 97. Fixings for fork | 98. Steel ball (for control shaft) | 99. Spring (for control shaft) | 100. Plug for spring (for control st |
| 101. Grease point for control shaft | 102-104. Clevis, locknut and splitpin | 105. Control rod for winch | 106. Eyebolt for wi |
| control rod | 107, 108. Fixings for eyebolt | 109. Knob for control rod | 110. Locknut for knob |
| 111. Plain washer for sp | 112. Spring for control rod | 113. Rope guide bracket assembly, righthand | 114. Rope guide bracket assembly, lefth |
| 115. Thrust washer | 116. Bush for guide bar | 117. Grease point for bush | 118. Guide bar for winch r |
| 119-121. Fixings for rope guide | | | |

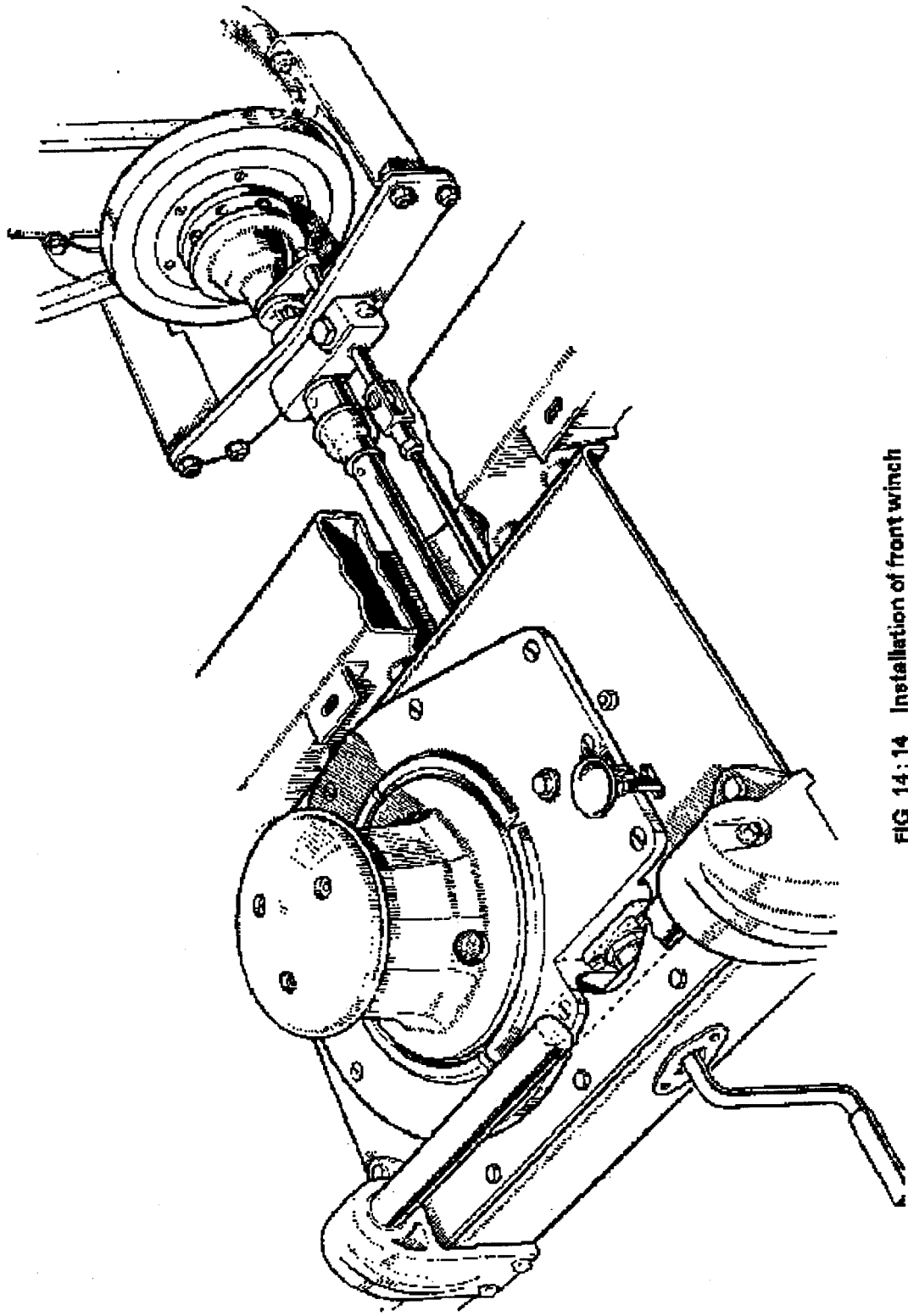
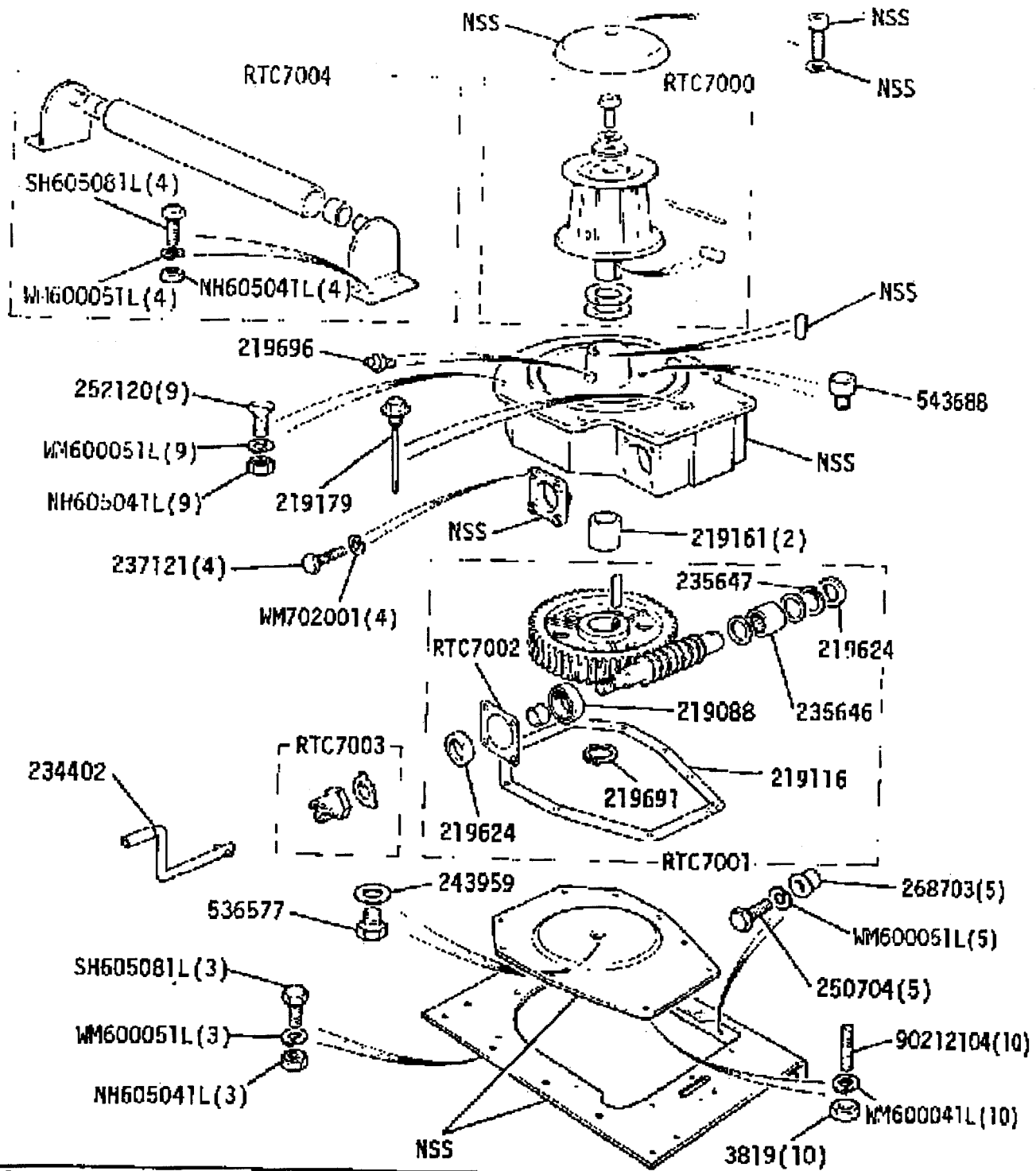


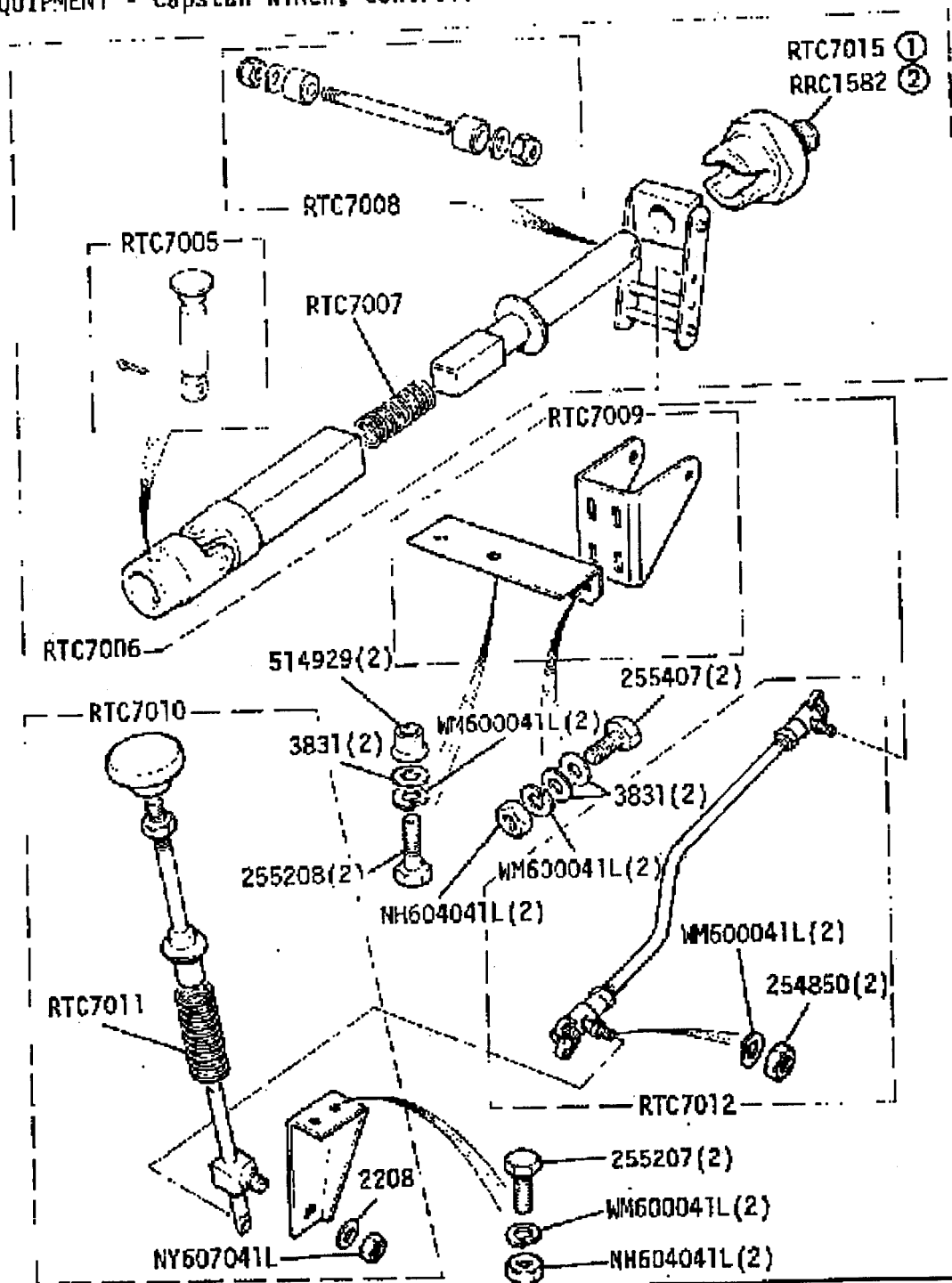
FIG 14:14 Installation of front winch

GROUP N
 OPTIONAL EQUIPMENT - Capstan Winch Drive Unit



Series IIA and III
 Capstan Winch Kit RTC8001

JP N
 ONAL EQUIPMENT - Capstan Winch, Controls



Series IIA and III
 Capstan Winch Kit RTC8001

- ① 3 Bearing Engine
- ② 5 Bearing Engine

and Rover Optional Equipment

21 02

6RE 21

1 1/2 inches long. With the threads out of a nut, slide it on the bolt, then screw on a sleeve 1/8 inch (3.2 mm) of the bolt protruding, the 5/16 inch nut onto the distance piece (3/8 inch) and Rivnut (see FIG 14:15). Insert the sleeve into the drilled hole, then, keeping the 1/8 inch nut stationary, turn the 5/16 inch nut 2 1/2 turns. Remove bolt, nut, plain washer and distance piece. FIG 14:16 shows the method of fitting and locking the Rivnut in the chassis.

Fit the winch support plate (see FIG 14:13) to the chassis crossmember, securing it to the chassis with Rivnuts. Using the support plate as a guide, mark off the other four holes for Rivnuts on the chassis crossmember and the five 5/16 inch (8 mm) clearance holes in the front bumper. Fit the support plate and bumper; drill all the holes to fit the four Rivnuts.

Fit the starting dog.

Remove the crankshaft pulley, strip it and fit the timing plate, making sure the correct one for the engine, either petrol or diesel, is fitted.

Fit the shaft support brackets to the engine cover, using the longer bolts or studs (see FIG 14:13). These brackets are items 69 and 70 or 71 (see FIG 14:13).

Fit the crankshaft pulley and the fan belt.

Fit the shaft housing 56 or 59 to plate 63, grease the shaft 55 and insert in the housing 56 or 59, sliding the driving flange 76 or 89 onto the splines. Fit the control shaft 80 or 94 into the housing 56 and secure the selector fork 81 or 95 to it with a pin in the groove of the driving flange. Fit the oil seal, spring and plug. Fit the grease nipple in the housing. Bolt the shaft housing and support brackets to the engine brackets.

Fit two dust covers 54 onto shaft 51, then fit a sleeve and plunger 52 into each end of shaft 51. Fit the sleeve 51 into shaft 55 and push one dust cover over the joint.

Fit the 1/2 inch support plate 45 to the front bumper, and fit the winch to the support plate. Offer the support plate and bumper up to position, engage the winch with sleeve 33. Bolt the winch, bumper and support plate firmly in position. Slide the second dust cover 54 over the shaft to sleeve joint. Note that the 1/2 inch (2 mm) plain washers must be fitted between the support plate and the Rivnuts on 86 and 107

TO SERVICE THE UNIT :

Remove the winch from the vehicle by the fitting procedure, then proceed as follows:

- 1 Drain off the oil.
- 2 Drive out pin 34 and remove sleeve. Unscrew dog 31. Remove the oil seals, then turn the worm shaft 18 while the worm wheels slide out of the casing. Pull the balls out of the shaft.
- 3 Remove cover 35, turn the unit over, unscrew screws 16 and cap 15. Undo bolt 12 and lift the bollard 7 from the shaft. Remove thrust washer 13 and any shims 14, then lift the shaft and worm wheel 18 from the casing.
- 4 Remove circlip 20 and press the roller bearing out of the wheel.
- 5 If necessary, press out the bollard shaft oil seals and remove the oil seals 21.
- 6 Thoroughly wash and inspect all parts for damage. Renew any worn components. The worm shaft and wheel and the balls are only supplied as pairs.
- 7 Assemble the unit by reversing the disassembly procedure, but note the following points:

(a) The roller bearing must be a press fit on the shaft and in the casing. The ballbearing must be a light press fit on the shaft and in the casing.

(b) The bollard shaft bushes must be a light press fit in the casing and a sliding fit on the shaft. The bushes must stand 1/8 inch (3.17 mm) proud of the casing.

(c) The oil seal lips must face inward. The worm shaft must turn freely with no end play.

(d) Adjust the shims on the bollard shaft. The clearance must be .003 to .005 inch (.075 to .125 mm) end to end.

(e) The drive shaft bush 62 must be a light press fit in the housing and must be reamed to .001 inch (25.4 mm) after fitting.

- 8 Refill the unit with oil and grease all new parts.

14:6 The front capstan winch, mechanical

In this section, refer to FIGS 14:13 and 14:14. Note particularly, that there are minor component differences between the kit for installation on petrol and diesel vehicles and these are listed in FIG 14:13.

A hand throttle (see Section 14.6) must be fitted to the unit when used with the winch on petrol engines.