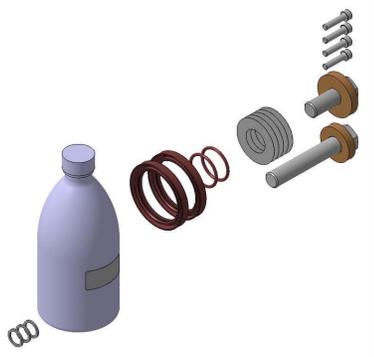
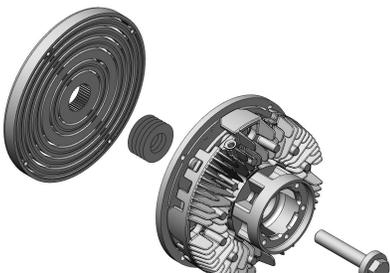


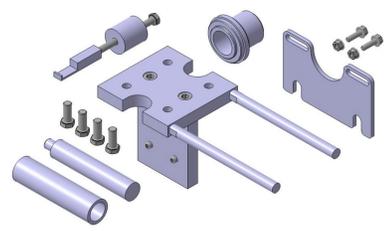


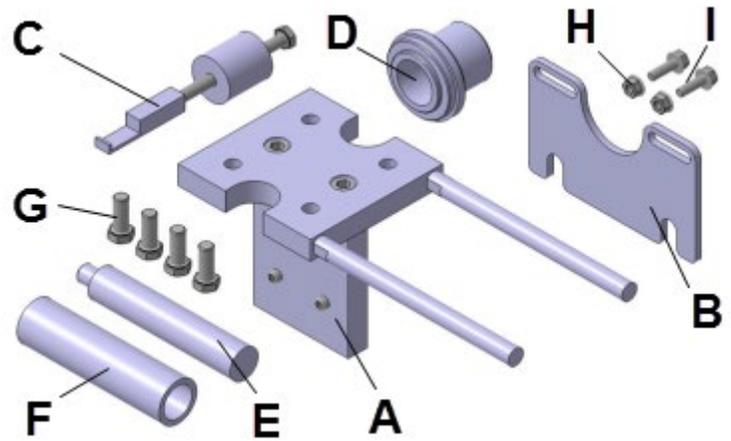
## MATERIAL

Order the following kits:

Part No	Description		Qty
551016	Repair Kit, Radial Shaft Seals		1
551017	Clutch Replacement kit		1

Other parts that may be required:

Part No.	Description		Qty
551015	Tool Kit, Gearbox		1

<b>A</b>	Holding device	
<b>B</b>	Counter holder	
<b>C</b>	Extractor tool	
<b>D</b>	Mounting flange	
<b>E</b>	Mounting shaft	
<b>F</b>	Mounting sleeve	
<b>G</b>	Hexagon screws	
<b>H</b>	Flange nuts	
<b>I</b>	Flange screws	

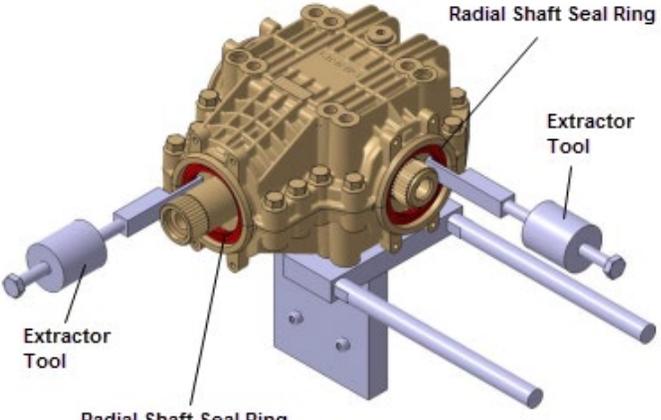
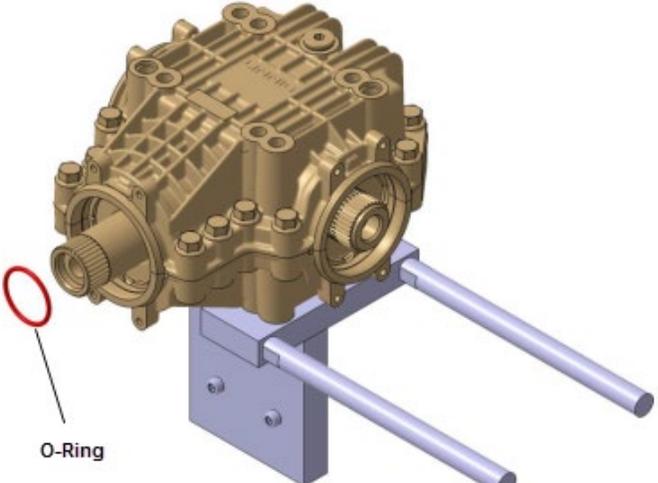
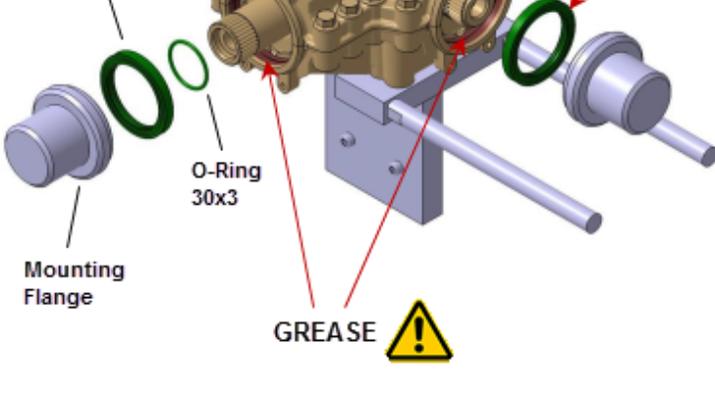
## PROCEDURE

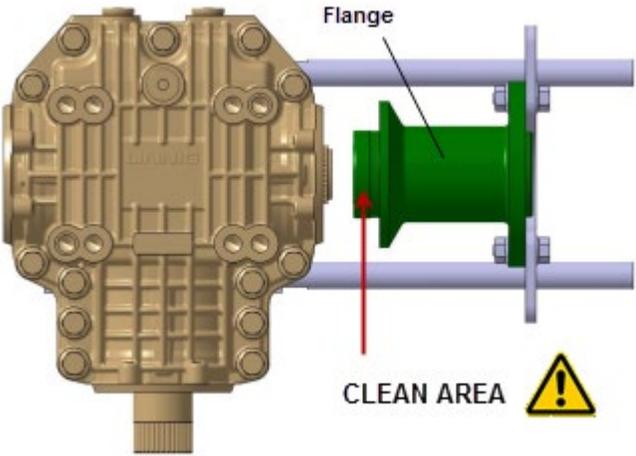
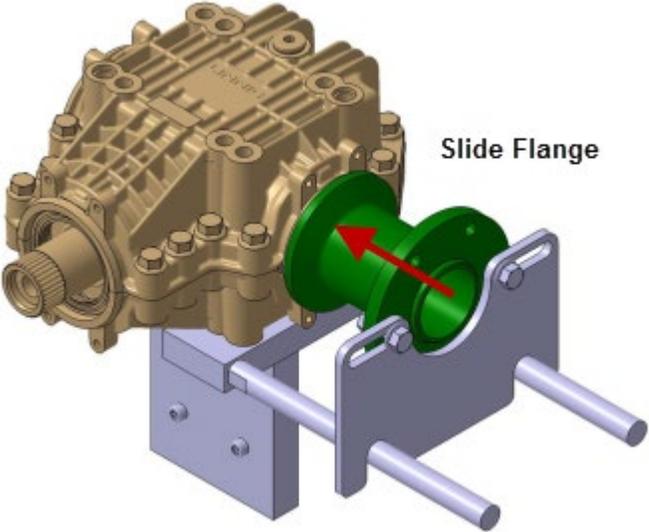
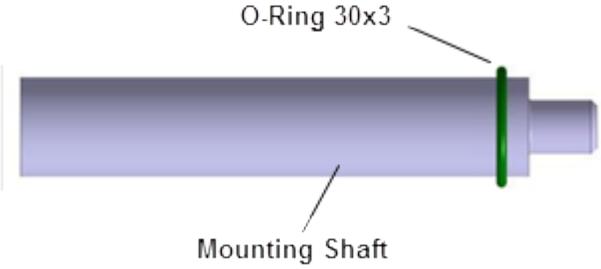


### DANGER

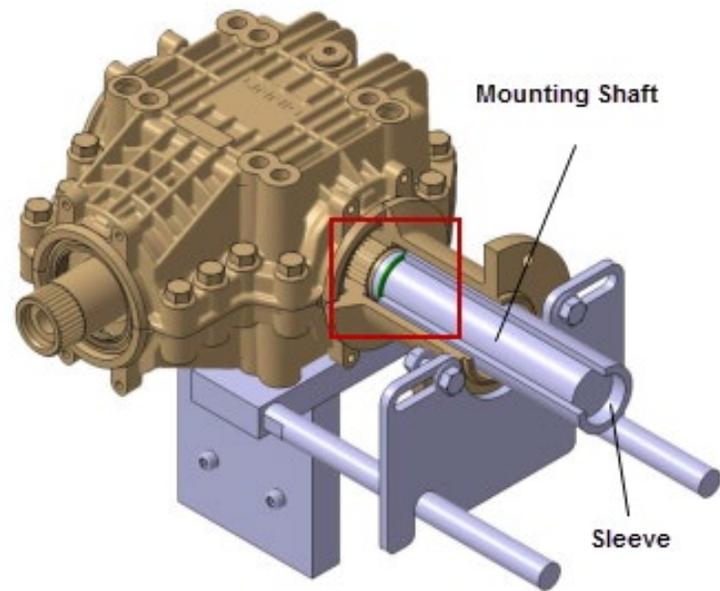
Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

<p>1. Drain oil from the angle gearbox.</p>	
<p>2. Attach the holding device to the bottom side of the angle gearbox.</p>	
<p>3. Fix the holding device with angle gearbox into a bench vise.</p>	
<p>4. Attach counter holder to the fan flange.</p>	
<p>5. Remove central hexagon screw and disc at the clutch side of the angle gearbox.</p>	
<p>6. Remove front part of the clutch and rotor.</p>	
<p>7. Remove 4 socket head cap screws.</p>	
<p>8. Remove magnet and spacer sleeve.</p>	
<p>9. Remove central hexagon screw and washer at the output side of the angle gearbox.</p>	
<p>10. Remove flange and O-ring.</p>	

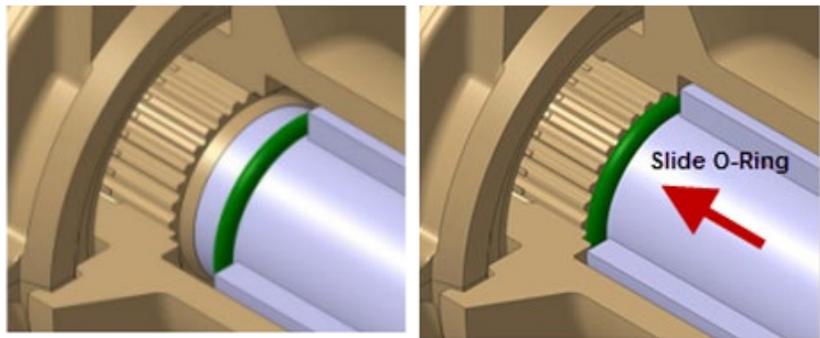
<p>11. Remove radial shaft seal rings at the input and output side of the angle gearbox.</p> <p><b>Attention: Do not damage the gearing and the fitting area of the shaft!</b></p>	 <p>Radial Shaft Seal Ring</p> <p>Extractor Tool</p> <p>Extractor Tool</p> <p>Radial Shaft Seal Ring</p>
<p>12. Remove O-ring at the clutch side of the angle gearbox.</p> <p><b>Attention: Do not damage the gearing and the fitting area of the shaft!</b></p>	 <p>O-Ring</p>
<p>13. Grease new O-ring with multipurpose grease and slide it onto the clutch shaft.</p>	 <p>GREASE PACKING</p>
<p>14. Grease the outside diameter of the new radial shaft seal rings and the bore diameter of the housing with multipurpose grease.</p>	 <p>Radial Shaft Seal Ring 52x68x8</p> <p>GREASE</p>
<p>15. Fill in multipurpose grease between dust lip and sealing lip of the new radial shaft seal rings and press them into the housing.</p> <p><b>Attention: Open side of the radial shaft seal ring must face to the housing!</b></p>	 <p>Radial Shaft Seal Ring 52x68x8</p> <p>O-Ring 30x3</p> <p>Mounting Flange</p> <p>GREASE</p>

<p>16. Clean the tread area of the radial shaft seal ring at the flange.</p>	 <p>The diagram shows a gold-colored gearbox housing on the left. To its right, a green radial shaft seal ring is mounted on a shaft. A red arrow points to the tread area of the seal ring. A label 'Flange' points to the seal ring. Below the seal ring, the text 'CLEAN AREA' is written next to a yellow warning triangle icon.</p>
<p>17. Slide flanges onto the toothed end of the shaft at the output side of the angle gearbox.</p>	 <p>The diagram shows the gold-colored gearbox housing on the left. A green flange is being slid onto the shaft. A red arrow indicates the direction of movement. A label 'Slide Flange' points to the green flange.</p>
<p>18. Grease new O-ring with multipurpose grease and slide it onto the mounting shaft. (approx. 1 cm / 0.4po)</p>	 <p>The diagram shows a silver mounting shaft on the left. A green O-ring is being slid onto the shaft. A label 'O-Ring 30x3' points to the O-ring. Below the shaft, the text 'Mounting Shaft' is written.</p>

19. Screw mounting shaft with new O-ring into the shaft end at the output side of the angle gearbox.

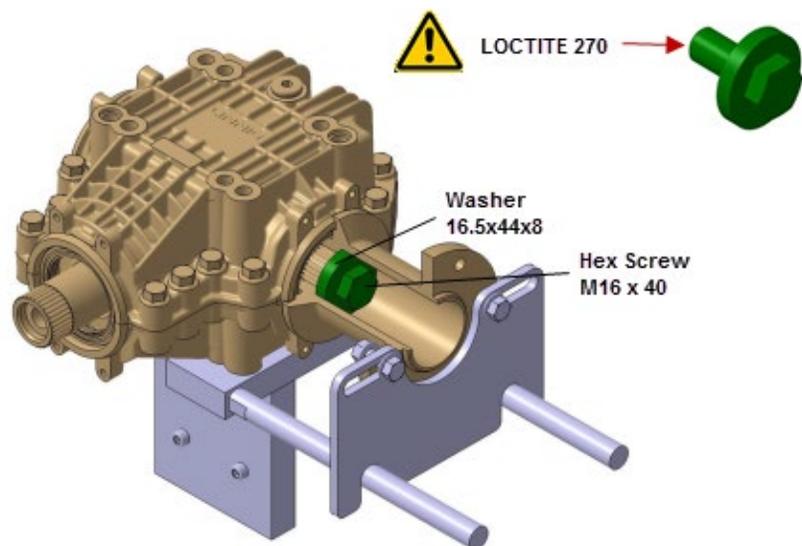


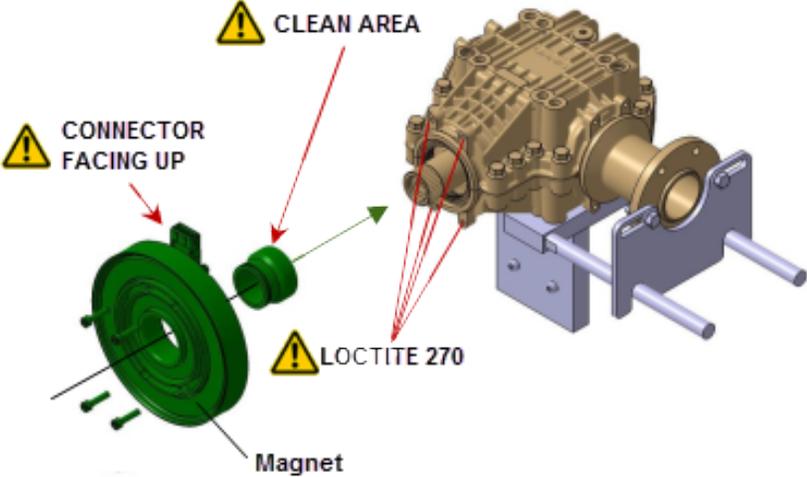
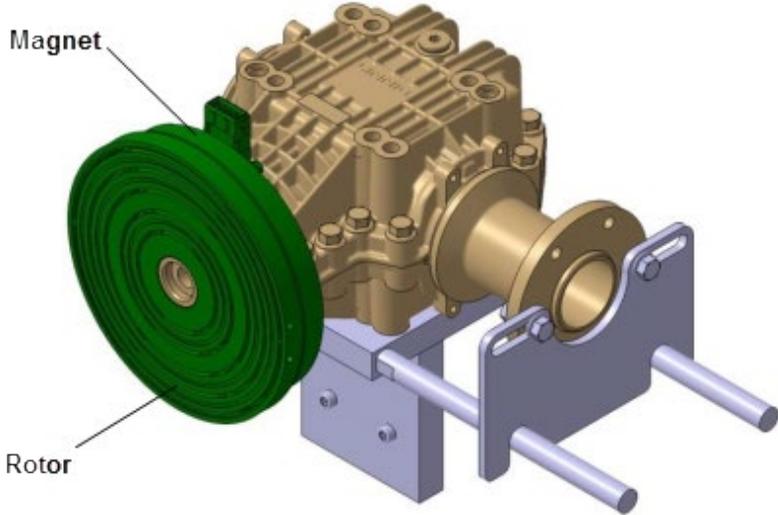
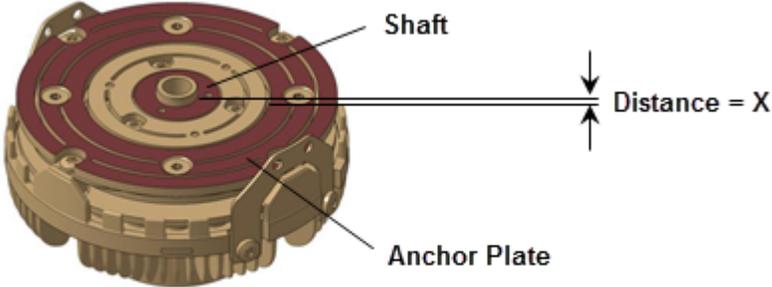
20. Slide mounting sleeve onto the mounting shaft and press the O-ring into the slot between shaft and flange.

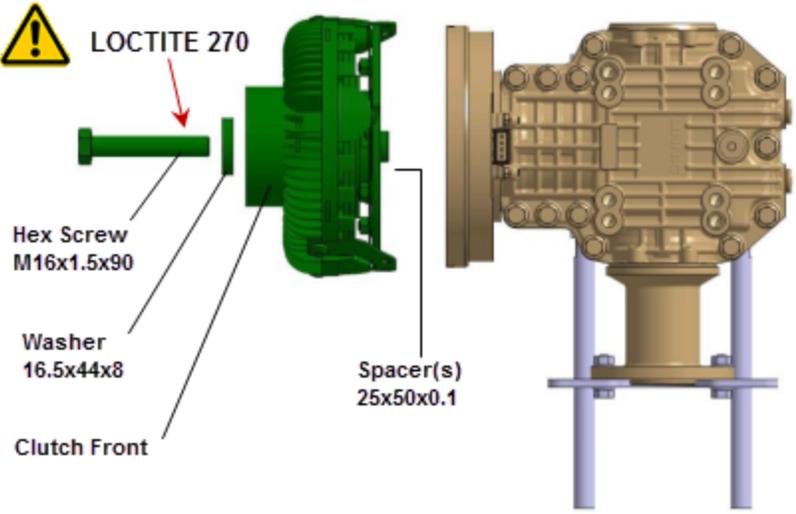
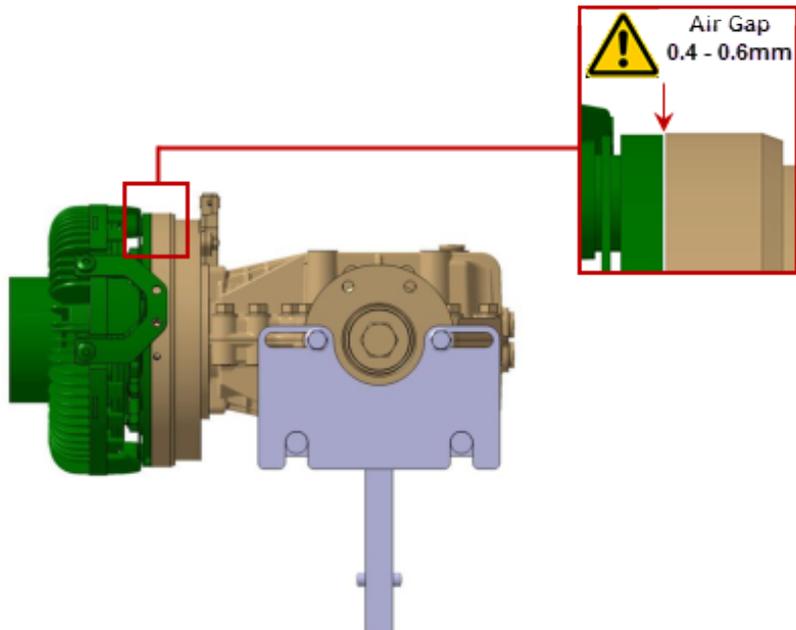


21. Apply Loctite 270 to the thread of the new hexagon screw, screw it with new disc into the shaft and tighten it.

**Torque Value:**  
**135 Nm (100 lb-ft)**



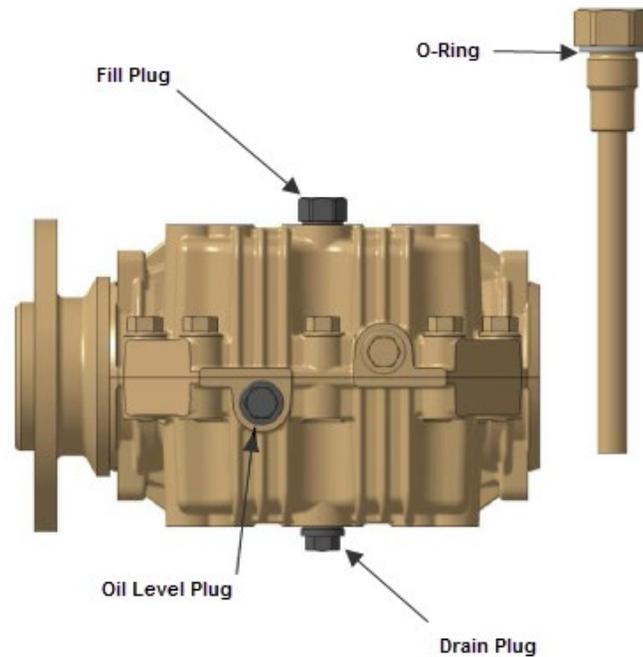
<p>22. Clean the tread area of the radial shaft seal ring at the spacer sleeve and slide the spacer sleeve onto the shaft end.</p>	
<p>23. Apply Loctite 270 to the 4 threads of the housing and bolt on the magnet with 4 new socket head cap screws</p> <p><b>Torque Value: 10 Nm (7 lb-ft)</b></p> <p><b>Attention: Connector must face upwards!</b></p>	
<p>24. Slide rotor onto the toothed end of the shaft.</p>	 <p><b>X ≥ 0.5 mm</b> <input type="checkbox"/> no spacer  <b>X = 0.4 mm</b> <input type="checkbox"/> 1 spacer  <b>X = 0.3 mm</b> <input type="checkbox"/> 2 spacers  <b>X = 0.2 mm</b> <input type="checkbox"/> 3 spacers  <b>X = 0.1 mm</b> <input type="checkbox"/> 4 spacers  <b>X = 0.0 mm</b> <input type="checkbox"/> 5 spacers</p>

<p>26. Slide new spacers onto the shaft of the front part (see point 25.) and center the front part to the shaft end of the angle gearbox.</p>	 <p><b>LOCTITE 270</b></p> <p>Hex Screw M16x1.5x90</p> <p>Washer 16.5x44x8</p> <p>Spacer(s) 25x50x0.1</p> <p>Clutch Front</p>
<p>27. Apply Loctite 270 to the thread of the new hexagon screw, screw it with new disc into the shaft and tighten it.</p> <p><b>Torque Value:</b> <b>135 Nm (100 lb-ft)</b></p>	
<p>28. Check the air-gap: <b>0.4 mm – 0.6 mm</b></p>	 <p><b>Air Gap</b> <b>0.4 - 0.6mm</b></p>

29. Fill with new oil up to the bottom line of oil level bore (use supplied 400ml bottle in 551016 kit).

**Torque value for filling, draining and level plug: 35Nm (26 lb-ft).**

**Use only supplied Oil or Linnig approved API GL-4 75W90 Synthetic Gear Oil.**  
(LINNIG specification 142.377)



## PARTS / WASTE DISPOSAL

Discard according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)



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