

# 51 - REAR AXLE AND FINAL DRIVE

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## DESCRIPTION

The welded steel rear axle casing houses a separate spiral bevel type differential unit, which is off set to the right of the vehicle centre line. The differential unit drives the rear wheels via the axle shafts and fully floating hubs which are mounted on tapered roller bearings.

### Lubrication

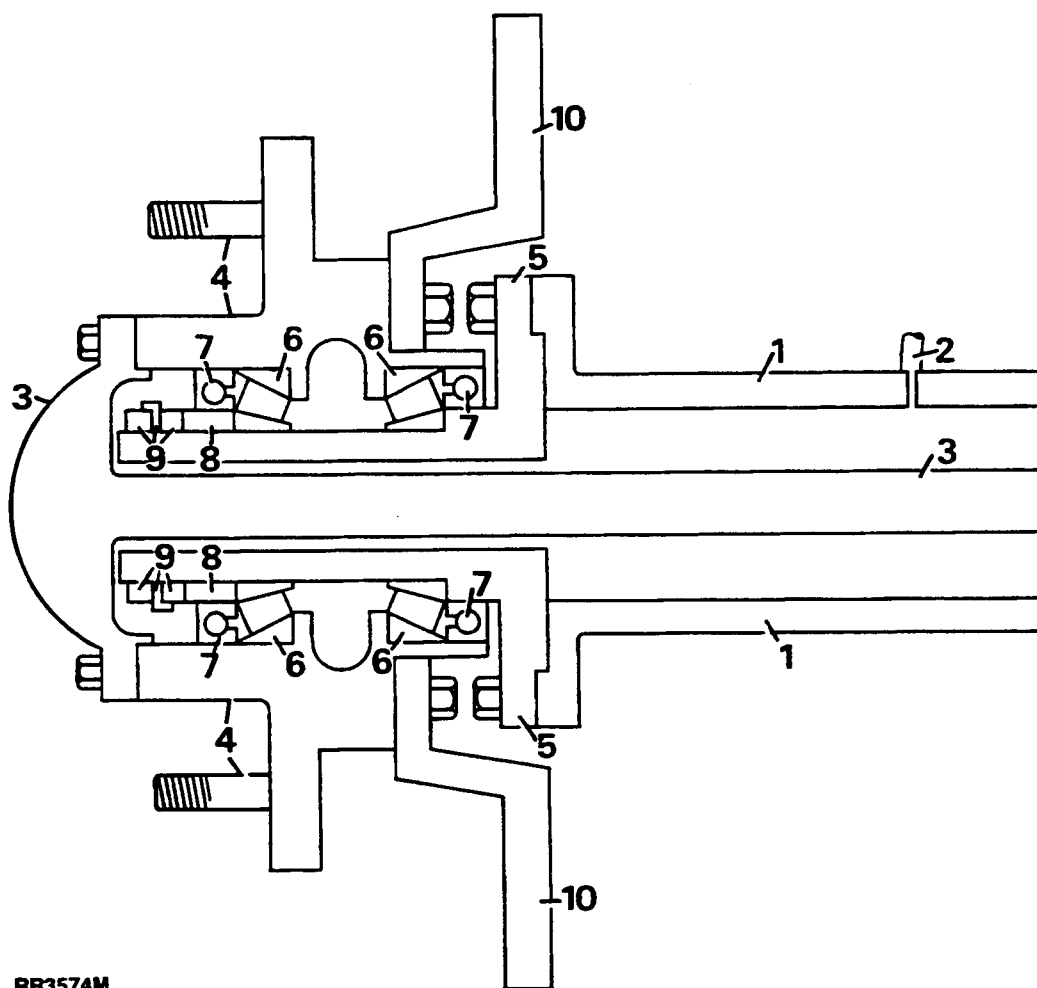
The differential is lubricated with oil and the hub bearings with grease. The hub bearings are fitted

with inner and outer seals. The outer seals prevent the differential oil mixing with the hub grease and the inner seals prevent dirt ingress into the hub.

### Ventilation

Ventilation of the hub bearings is through the outer oil seals and the differential ventilation pipe, which terminates at a high level.

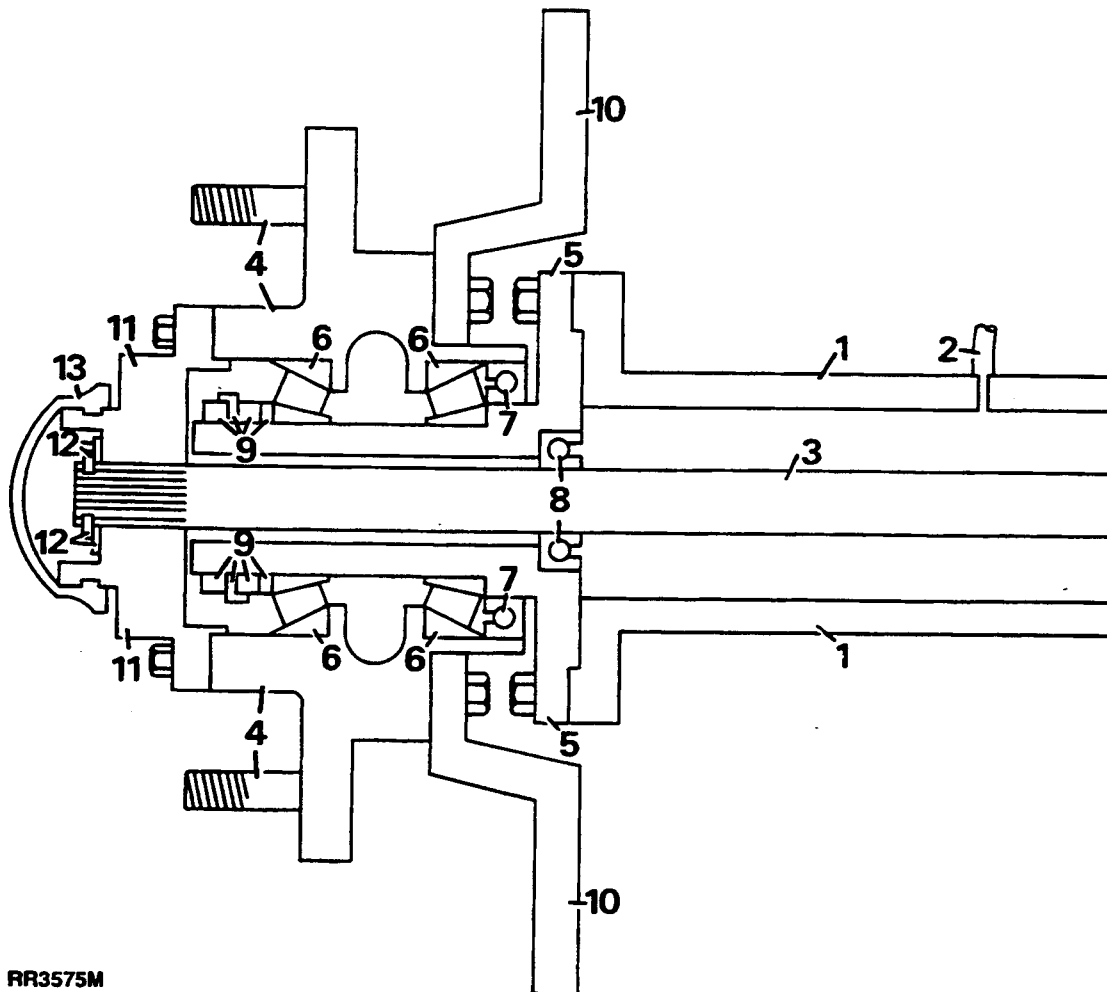
The wheel hubs on axles fitted with ABS brakes are of slightly different construction to non ABS axles. Both types are illustrated



RR3574M

### Rear axle hub - non ABS brakes

- |                            |                                   |
|----------------------------|-----------------------------------|
| 1. Axle casing             | 6. Wheel bearings (2)             |
| 2. Ventilation pipe        | 7. Inner and outer hub seals      |
| 3. Axle shaft/drive flange | 8. Outer seal, inner track/spacer |
| 4. Wheel studs and hub     | 9. Hub lock plate and nuts (2)    |
| 5. Wheel bearing stub axle | 10. Brake disc                    |



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### Rear axle hub - with ABS brakes

- |                            |   |
|----------------------------|---|
| 1. Axle casing             | 8. Outer hub/axle shaft seal                  |
| 2. Ventilation pipe        | 9. Hub lock plate, thrust washer and nuts (2) |
| 3. Axle shaft              | 10. Brake disc                                |
| 4. Wheel studs and hub     | 11. Drive flange - hub/axle shaft             |
| 5. Wheel bearing stub axle | 12. Shim washer and circlip                   |
| 6. Wheel bearings (2)      | 13. Dust cap                                  |
| 7. Inner hub seal          |   |



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## FAULT DIAGNOSIS

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### Complaint - Oil leaks

Rear axles with ABS brakes and those with non ABS brakes have different internal oil seals which separate the lubrication of the differential from the wheel hubs. The external seals on both axles are the same.

An external leak of lubrication from the hub seals can be caused by a faulty internal seal. For example, if the internal seals which separate the differential from the hubs are faulty and the vehicle is operating or parked on an embankment. Oil from the differential may flood one hub causing a leak and leave the differential lacking lubrication.

When a seal is found to be leaking check the axle ventilation system, as a blockage can cause internal - pressure to force oil past the seals.

See 'Description and Operation' for illustrations of oil seal locations.

When investigating hub seal leaks check the grease for dilution with oil. Check also the differential level and oil for metal particles and the condition of internal seals.

If the vehicle is driven in deep water with defective oil seals, water may contaminate the lubricants and raise the differential level giving a false impression that the housing has been overfilled with oil.

**Do not assume that a high oil level in the differential is due to over filling or, that a low level is because of an external leak.**



## REAR AXLE

Service repair no - 51.25.01

Service repair no - 51.26.01(ABS)

### Remove and refit

#### Remove



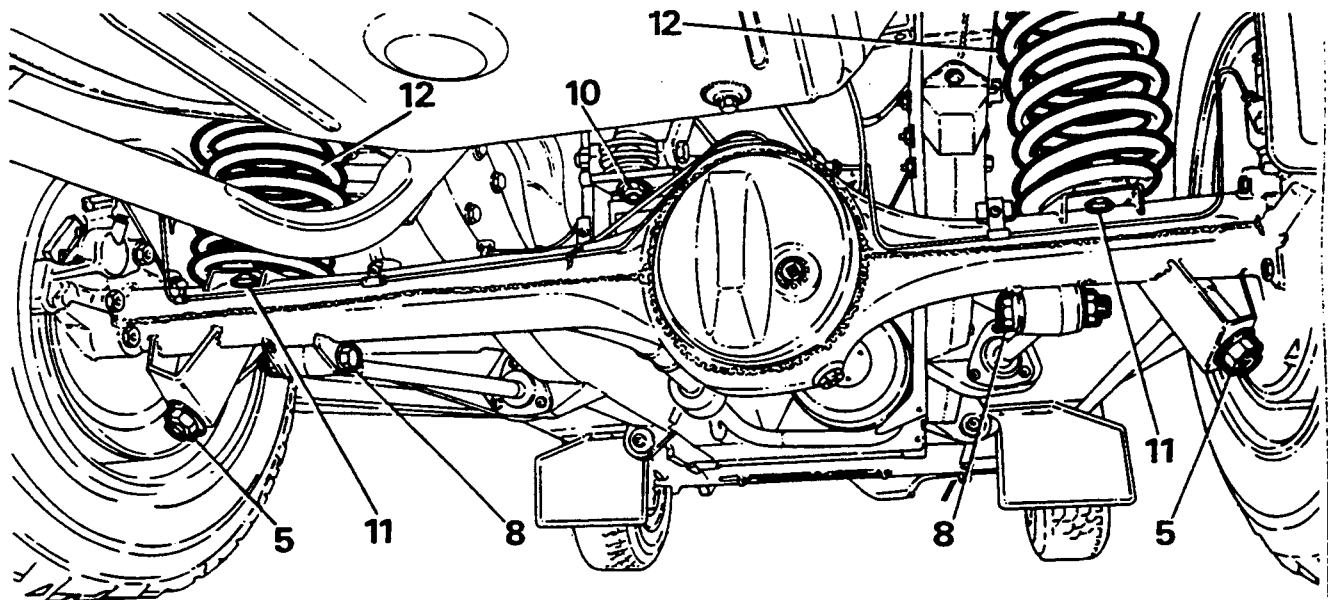
**WARNING:** Remove and refit of axle requires a further two persons to steady the axle when lowering or repositioning axle.

1. Drain brake system.
2. Support chassis rear.
3. Remove road wheels.
4. Support axle weight with hydraulic jack.
5. Disconnect shock absorbers.
6. Disconnect flexible brake hose at connection under floor.
7. Disconnect pad wear multiplug.
8. Disconnect lower links at axle.
9. Mark differential and propeller shaft flanges with identification marks for assembly. Remove four nuts and bolts. Lower propeller shaft and tie to one side.

10. Disconnect pivot bracket ball joint at axle bracket.
11. Release bolts and remove coil spring retaining plates.
12. Lower axle and remove road springs.
13. Disconnect anti-roll bar links to axle. *See REAR SUSPENSION, Repair, Anti-roll bar ball joint links*
14. Remove axle assembly.

#### Refit

15. Position axle and fit lower links. Tighten to **176 Nm**
16. Reverse removal procedure.
17. Tighten pivot bracket ball joint to axle to **176 Nm**.
18. Tighten propeller shaft to differential drive flange nuts to **47 Nm**
19. Bleed brake system. *See BRAKES, Repair, Brake System Bleed*



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**REAR BRAKE DISC NON ABS**

Service repair no - 70.10.11.

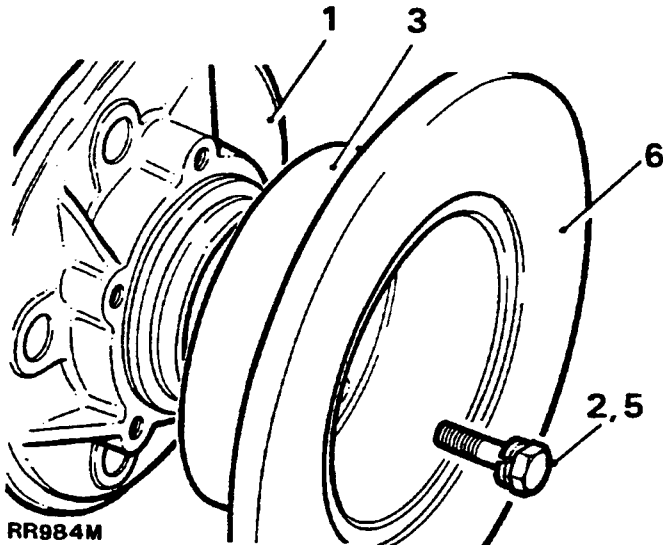
Remove, refit and reclaim.

**Remove**

1. Remove rear hub assembly. *See Rear hub assembly non ABS*
2. Remove disc bolts.
3. Remove disc from rear hub.

**Refit**

4. Fit disc to rear hub.
5. Fit disc bolts. Tighten to **73 Nm**.
6. Check total disc run out, this must not exceed 0,15 mm. If necessary reposition disc.



7. Fit rear hub assembly. *See Rear hub assembly non ABS*

**Disc reclamation**

8. Check disc thickness. This dimension may be reduced to minimum thickness of 12 mm. Machine equal amounts off each face.

**REAR BRAKE DISCS ABS**

Service repair no - 70.11.11.

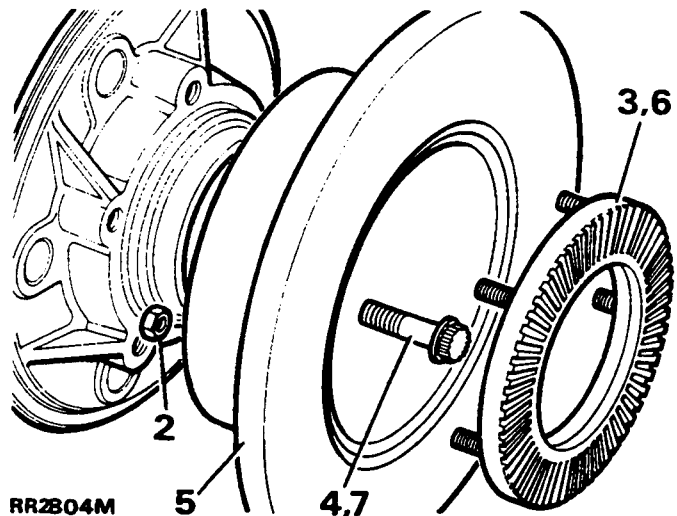
Remove, refit and reclaim

**Remove**

1. Remove rear hub assembly. *See Rear hub assembly ABS*
2. Remove five nyloc nuts.
3. Remove sensor ring.
4. Remove five hub to disc retaining bolts.
5. Remove disc from hub.

**Refit**

6. Fit disc onto hub.
7. Apply loctite 270 and fit hub to disc retaining bolts. Tighten to **73 Nm**.
8. Using new nyloc nuts fit sensor ring.



9. Check total disc run out, this must not exceed 0,15 mm. If necessary reposition disc.
10. Fit hub assembly. *See Rear hub assembly ABS*

**Disc reclamation**

11. Check disc thickness. This dimension may be reduced to a minimum thickness of 12 mm. Machine equal amounts off each face.



## REAR HUB ASSEMBLY NON ABS

Service repair no - 64.15.01

### Remove and refit

#### Remove

1. Place rear axle onto axle stands and remove road wheel.
2. Release brake hose clips and remove brake caliper bolts. Secure to one side.



**WARNING:** Take care not to kink brake hose.

3. Remove bolts, axle shaft to hub and withdraw shaft.
4. Straighten locking washer tab. Use service tool LRT-54-002 to remove locknut. Remove lock washer and adjusting nut.
5. Remove seal track spacer.
6. Remove hub assembly.

#### Refit

7. Select a new seal track spacer. Check outer diameter is smooth and no burrs are on chamfered leading edge.
8. Fit hub assembly to stub axle.



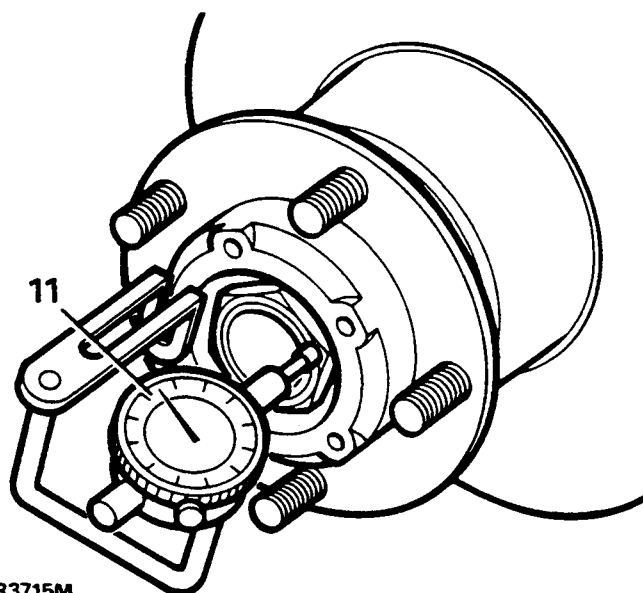
**CAUTION:** Outer seal damage could occur if hub is rested on stub axle before seal track spacer is fitted.

9. Fit seal track spacer, seal lip leading.



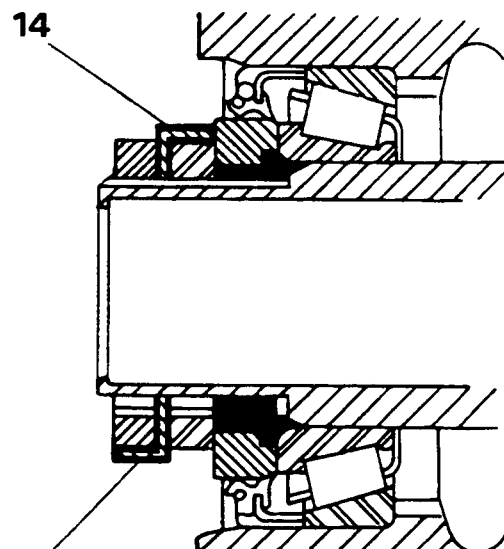
**NOTE:** Instruction 10 applies to hubs fitted with new components. Instruction 11 applies if fitting original components.

10. Fit adjusting nut and using spanner 606435 tighten nut while revolving hub, until end float is removed. Back-off nut, half a turn and retighten to **1.5 Nm** giving required hub end-float of **0,013 to 0,10 mm**.
11. If seal track spacer has previously been compressed hub end-float is checked by mounting a dial indicator on hub so trace pin rests preloaded on nut. Rotate hub and check end-float of **0,013 to 0,10 mm** by pushing and pulling the hub.
12. Fit a new lock washer and locknut. Restrain adjustment nut and tighten lock nut to **102 Nm**.



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13. If fitting original components rotate hub then recheck end-float.
14. Bend lock washer over adjusting nut and over locknut. Avoid damaging outer seal.
15. Using a new joint washer, fit hub driving shaft. Tighten to **47 Nm**.
16. Fit brake caliper bolts. Tighten to **82 Nm**. Secure brake pipes to axle casing.



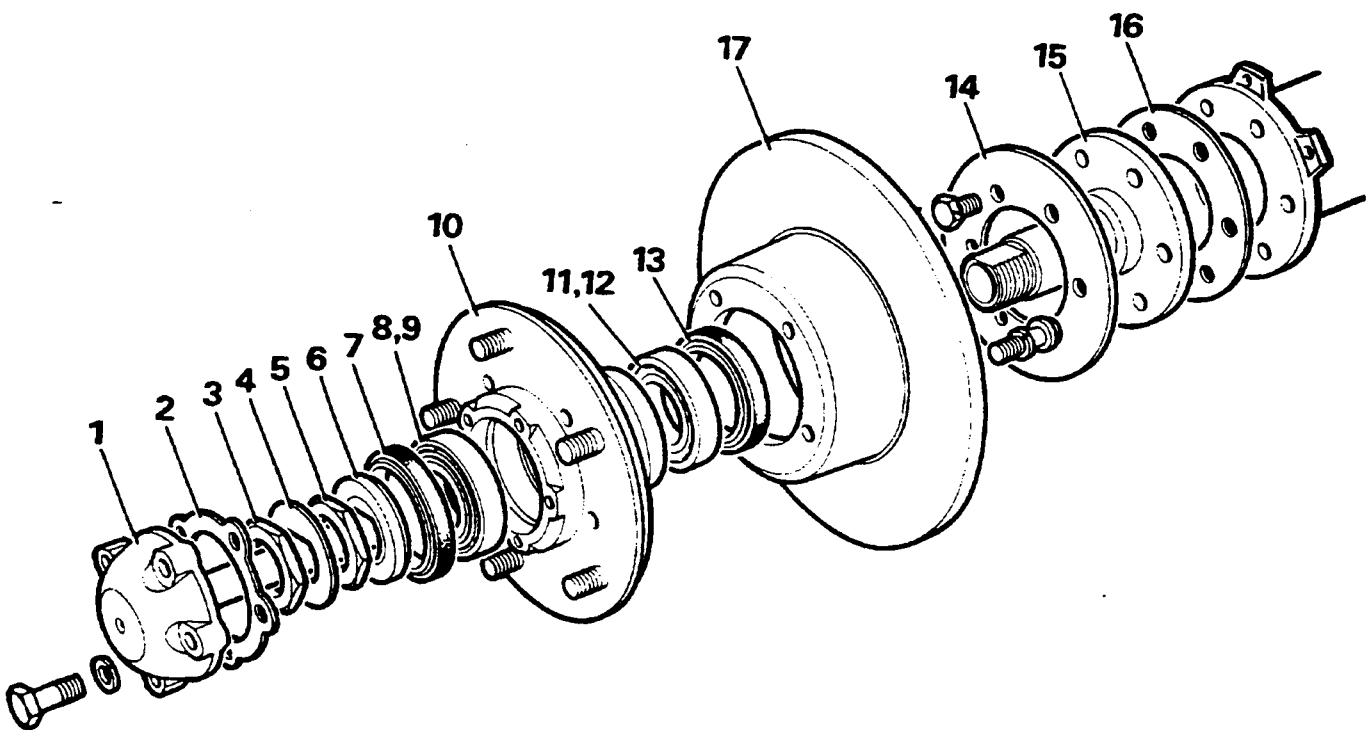
14

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17. Fit road wheel. Place vehicle onto ground and tighten road wheel nuts to **126 Nm**.

## REAR HUB ASSEMBLY NON ABS

- |                       |                            |
|-----------------------|----------------------------|
| 1. Rear axle shaft    | 11. Inner bearing cup      |
| 2. Joint washer       | 12. Inner bearing cone     |
| 3. Locknut            | 13. Inner oil seal         |
| 4. Lock washer        | 14. Mudshield              |
| 5. Adjusting nut      | 15. Stub axle              |
| 6. Seal track spacer  | 16. Stub axle joint washer |
| 7. Outer oil seal     | 17. Brake disc             |
| 8. Outer bearing cone |                            |
| 9. Outer bearing cup  |                            |
| 10. Hub               |                            |



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## REAR HUB ASSEMBLY ABS

Service repair no - 64.16.01

### Remove and refit

#### Remove

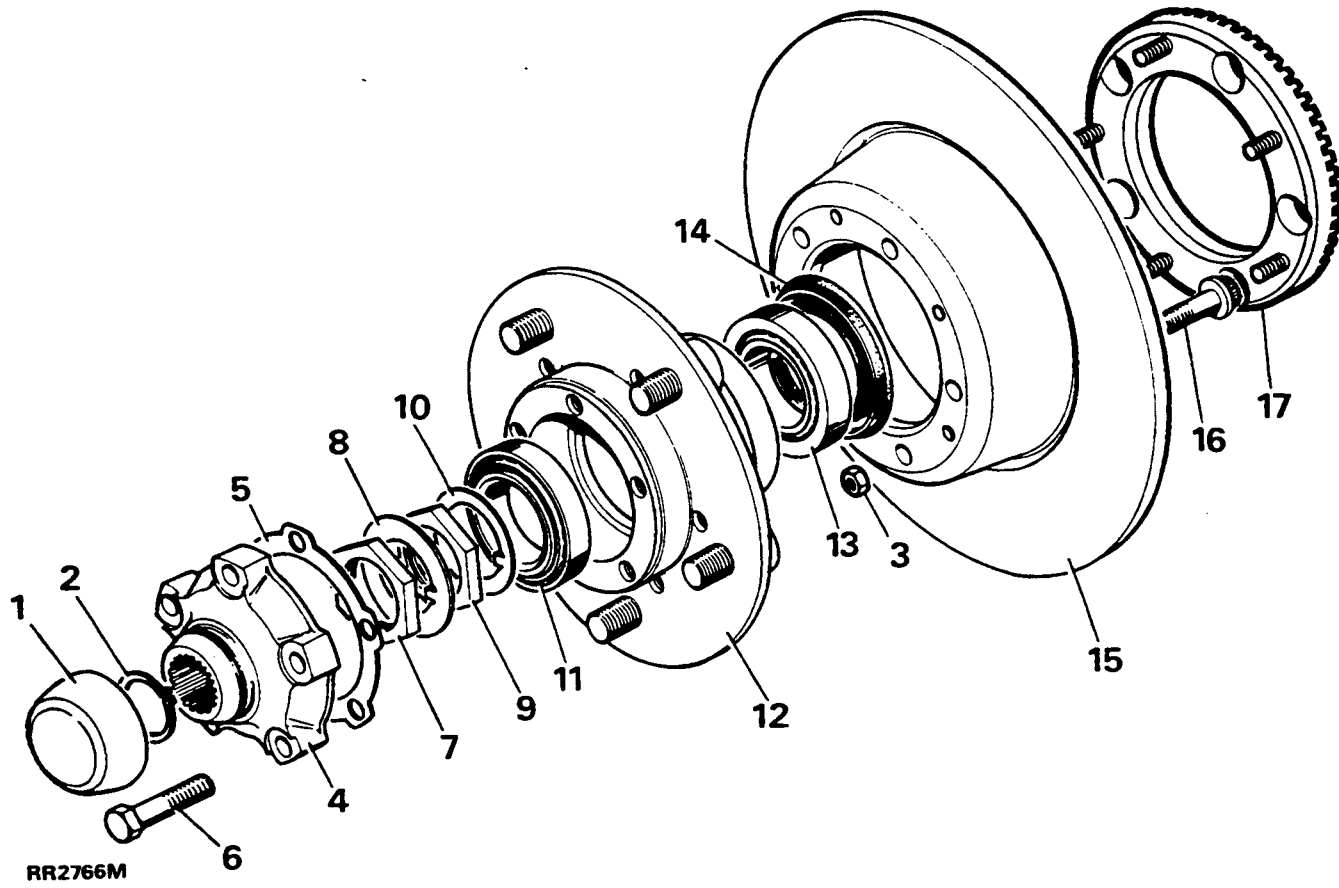
1. Place rear axle onto axle stands and remove road wheel.
2. Release brake hose clips and remove brake caliper bolts. Secure to one side.

**WARNING:** Take care not to kink brake hose.

3. Remove dust cap.
4. Remove circlip from rear axle shaft.
5. Remove five bolts and withdraw driving member and joint washer.
6. Straighten lock washer tab.
7. Remove locknut and tab washer.
8. Remove hub adjusting nut.
9. Remove keyed washer.
10. Remove hub and brake disc assembly complete with bearings.

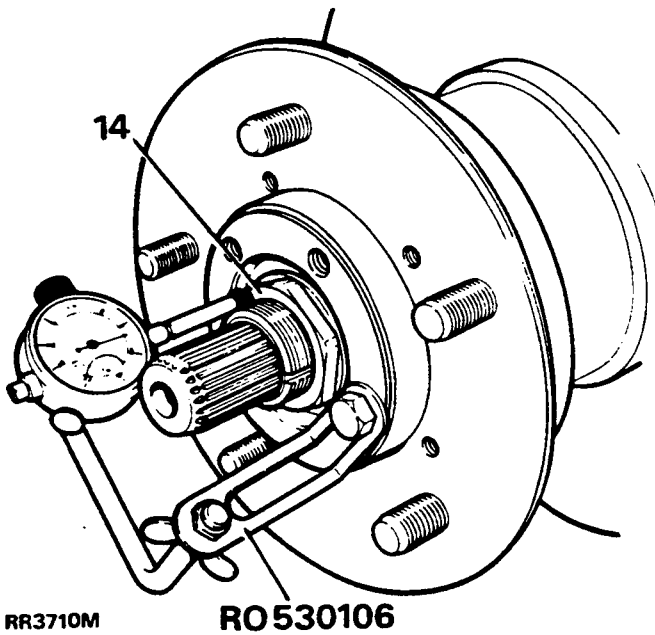
### REAR HUB COMPONENTS

1. Dust cap.
2. Circlip.
3. Sensor ring retaining nut.
4. Drive member.
5. Drive member joint washer.
6. Drive member retaining bolt (five off).
7. Lock nut.
8. Lock washer.
9. Hub adjusting nut.
10. Keyed washer.
11. Outer bearing.
12. Hub.
13. Inner bearing.
14. Grease seal.
15. Brake disc.
16. Disc retaining bolt (five off).
17. Sensor ring.



## Refit

11. Clean stub axle and rear axle shaft. Retract ABS sensor slightly from sensor sleeve.
12. Fit hub assembly to stub axle.
13. Fit keyed washer.
14. Fit hub adjusting nut while rotating hub, until end-play is taken up.
15. Mount dial gauge using bracket LRT-99-503. Rest stylus, in a loaded condition, on adjusting nut.
22. Fit brake caliper. Tighten two bolts to **82 Nm**. Secure brake pipes to axle casing.
23. Set ABS brake sensor. Push sensor in until it touches sensor ring. Then rotate hub to set sensor.
24. Fit road wheel, remove axle stands and final tighten road wheel nuts to **126 Nm**
25. Operate footbrake to locate brake pads before driving vehicle.



16. Loosen adjusting nut until **end-play of 0,013 to 0,05 mm** is obtained.
17. Fit a new keyed lock tab washer.
18. Fit and tighten lock nut. Recheck end-play, bend lock tab over.
19. Using a new joint washer fit drive member to hub. Tighten to **65 Nm**.
20. Fit circlip to groove on rear axle shaft.
21. Fit dust cap.



## AXLE DIFFERENTIAL ASSEMBLY

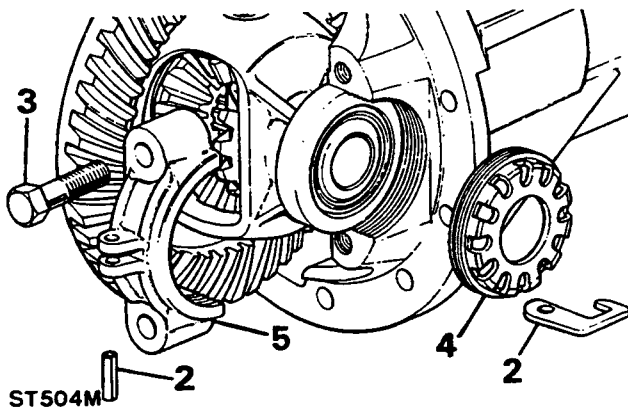
Service repair no - 51.15.07.

### DISMANTLE

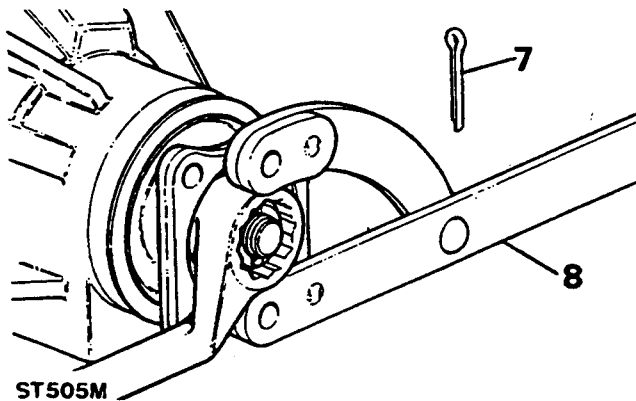


**NOTE:** Mark differential components so their original positions relative to other components is maintained. Bearing caps must not be interchanged.

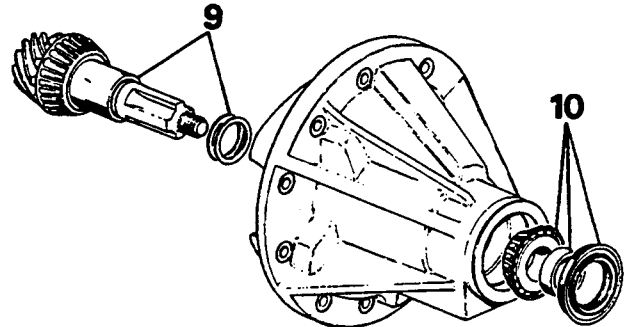
1. Remove axle shafts then differential assembly from axle.
2. Remove roll pin securing bearing nut locking fingers to bearing caps. Remove locking fingers.
3. Loosen bearing cap bolts and mark caps for assembly.
4. Using service tool LRT-54-508, remove bearing adjusting nuts.
5. Remove bearing cap bolts and bearing caps.
6. Remove crown wheel differential unit and bearings.



7. Remove split pin securing pinion flange nut.
8. Remove pinion flange nut using service tool LRT-51-003 to restrain flange.

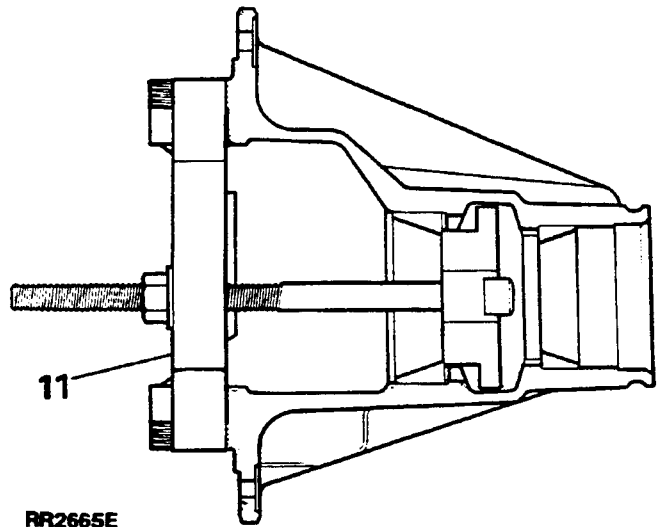


9. Remove pinion complete with bearing and outer bearing shims.
10. Remove pinion flange oil seal, spacer and bearing.



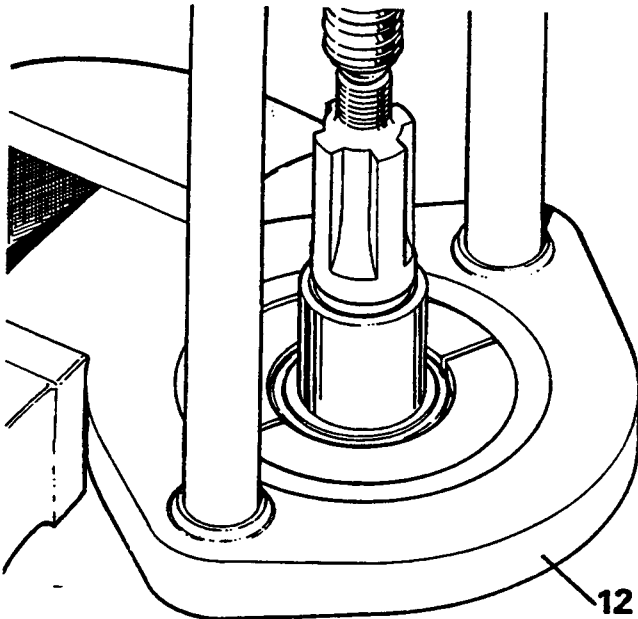
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11. Using service tool LRT-54-505, remove pinion head bearing track and shim and drive out outer bearing of differential housing.



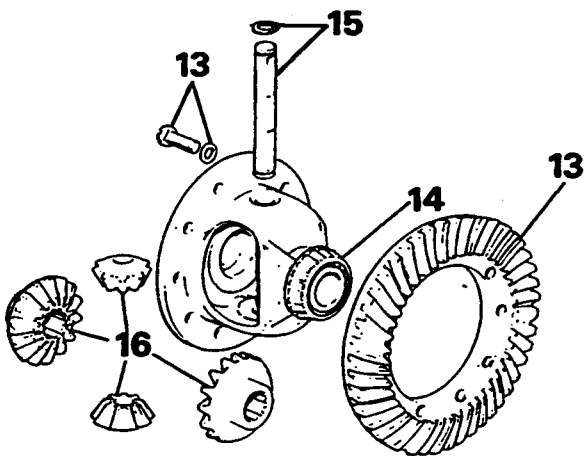
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12. Remove pinion head bearing with service tool LRT-99-002.



ST508M

13. Remove bolts and washers securing crown wheel to differential flange. Remove crown wheel.  
 14. Remove differential carrier bearings.  
 15. Remove circlips and extract differential cross shaft.  
 16. Withdraw differential gears and pinions.  
 17. Clean all components.



ST509M

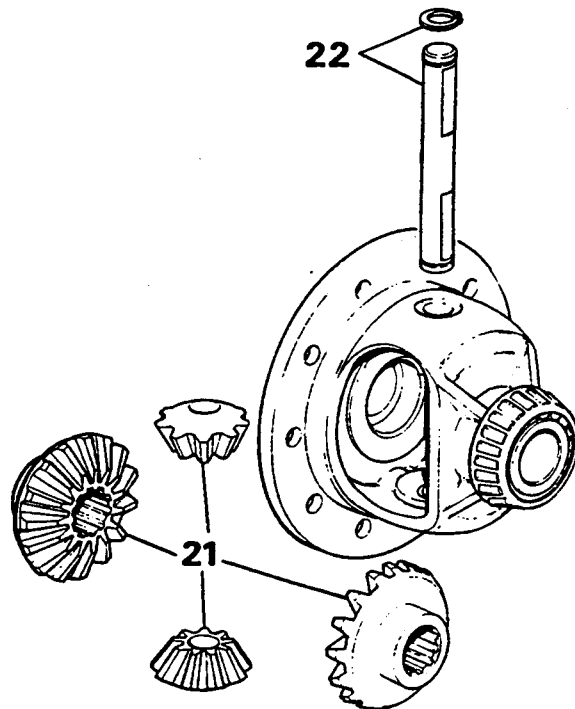
### INSPECTION

18. Check all bearings for wear and pitting.  
 19. Check all gears for wear, scuffing, pitting and damaged teeth.  
 20. Supplied as matched sets are: crown wheel and pinion, pinion housing and bearing caps.

### ASSEMBLE

#### Differential gears

21. Fit differential gears to differential housing.  
 22. Fit differential cross shaft and circlips.

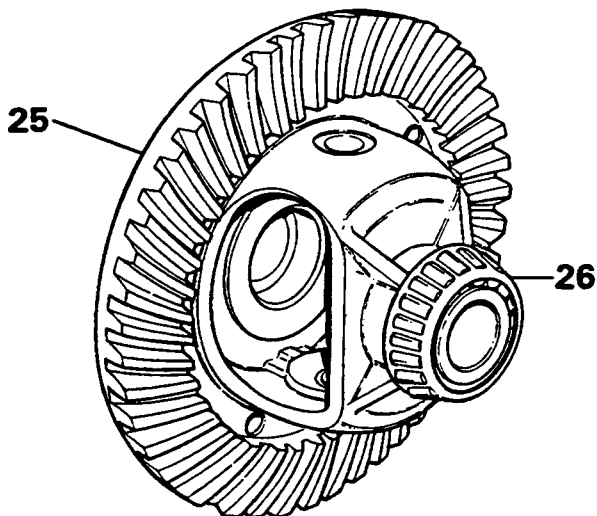


ST510M

23. Check gear for freedom of rotation and backlash. Nominal backlash should be present. Excess backlash necessitates replacement of gears or differential housing.  
 24. Check serial number marked on pinion end face matches that on crown wheel.

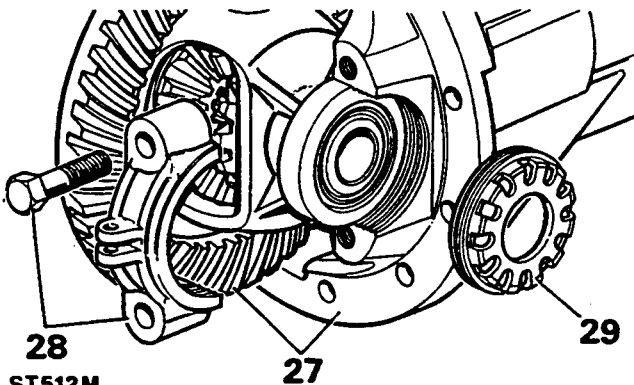


- 25. Clean and fit crown wheel.
- 26. Fit carrier bearings and assemble tracks to bearings.



ST511M

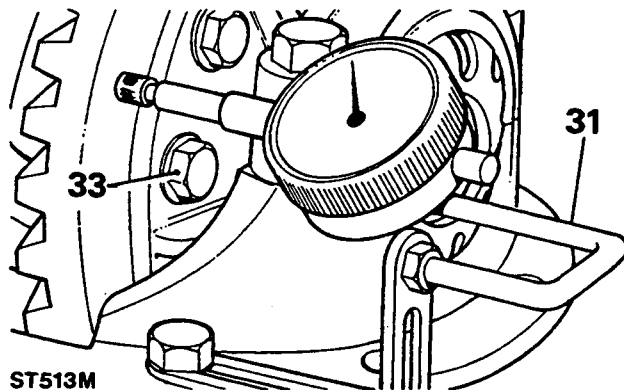
- 27. Place differential housing with crown wheel and bearings in pinion housing.
- 28. Fit bearing caps and bolts. Do not tighten bolts.
- 29. Fit bearing adjusting nuts and adjust to obtain zero end float.



ST512M

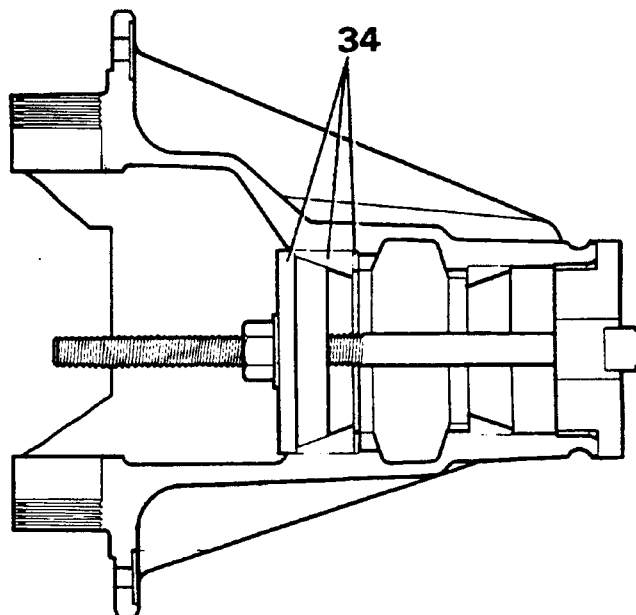
- 30. Tighten bearing cap bolts to **90Nm**
- 31. Check crown wheel for run-out. This should not exceed 0,10 mm. If exceeded examine crown wheel and mounting flange for burrs, grit, etc. Refit and recheck. A buckled or damaged differential housing flange is corrected by replacing differential gear housing.
- 32. After checking run out remove differential housing from pinion housing.

- 33. Remove crown wheel bolts and refit using Loctite 'Studlock'. Tighten to **58Nm**.



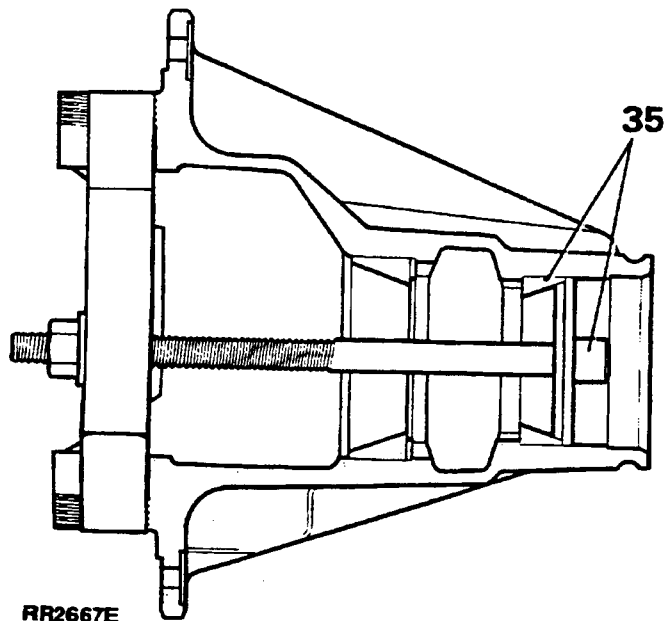
ST513M

- 34. Fit pinion head bearing track and original shim to pinion housing. Use service tools LRT-54-505 and LRT-54-505. If fitting a new shim use minimum 1.27 mm thickness.

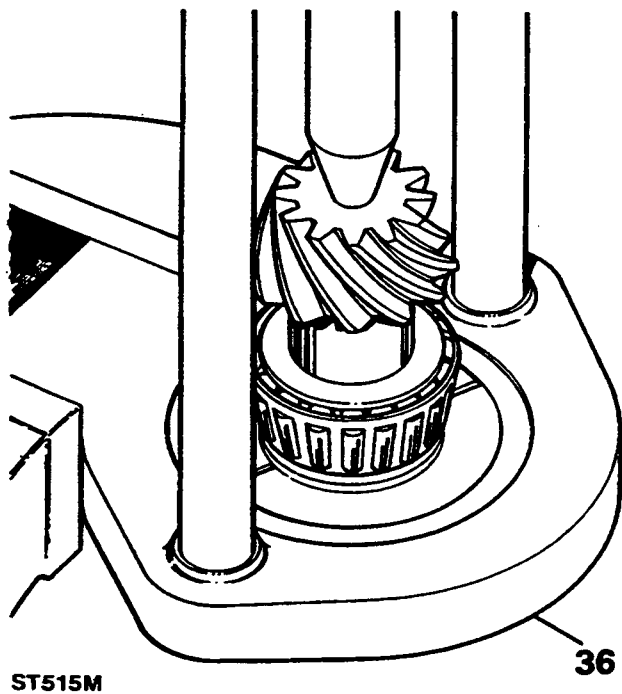


RR2666E

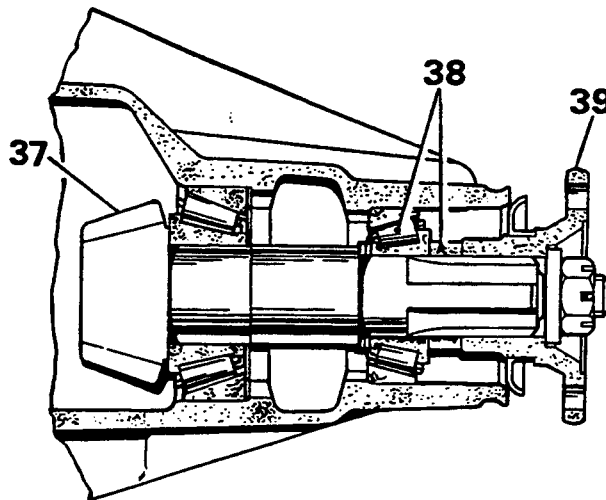
35. Fit pinion outer bearing track to pinion housing.  
Use service tools LRT-54-505 and LRT-54-507.



36. Fit pinion head bearing to pinion. Use service tool LRT-54-502.



37. Fit pinion into its location without shims for bearing pre-load.  
38. Fit outer bearing and spacer.  
39. Fit driving flange, washer and nut.



ST516M

40. Do not fit oil seal at this stage.  
41. Tighten pinion flange nut until force required to rotate pinion is **3Nm** if new bearings are fitted. This will pre-load bearings to check pinion height dimension.



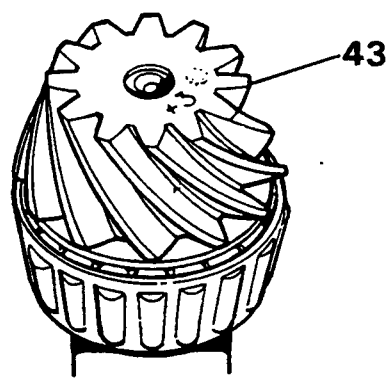
**NOTE:** If using original bearings, pre-load figure is **1.5Nm**.

#### Drive pinion markings



**NOTE:** Markings on end face adjacent to serial number are of no relevance to servicing.

42. Figures marked on end face opposite to serial number show in thousandths of an inch, deviation from nominal, required to set pinion. Pinions marked plus (+) must be set below nominal. Pinions marked minus (-) must be set above nominal. Unmarked pinions must be set at nominal.



ST517

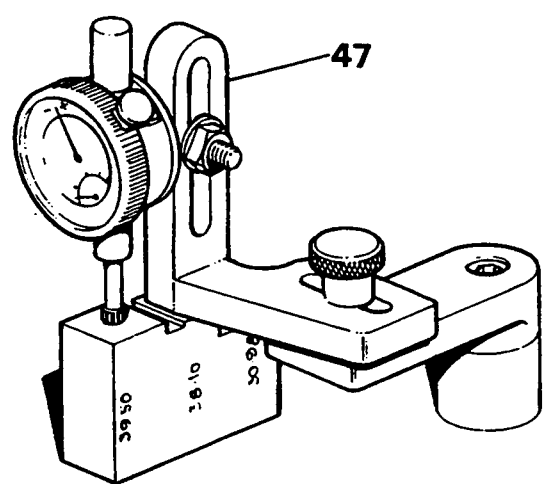
- 43. Nominal setting dimension is represented by setting gauge block LRT-54-503. Referenced from pinion end face to bottom radius of differential bearing bore.

**Drive pinion adjustment**

- 44. Ensure pinion end face is free of burrs around etched markings.
- 45. Remove keep disc from magnetized base of dial gauge tool.
- 46. Place dial gauge and setting block on surface plate. Zero dial gauge trace pin on setting block.

△ **NOTE: Setting block has three height settings heights.**

- 47. Use 39.50 mm setting mark for this differential.

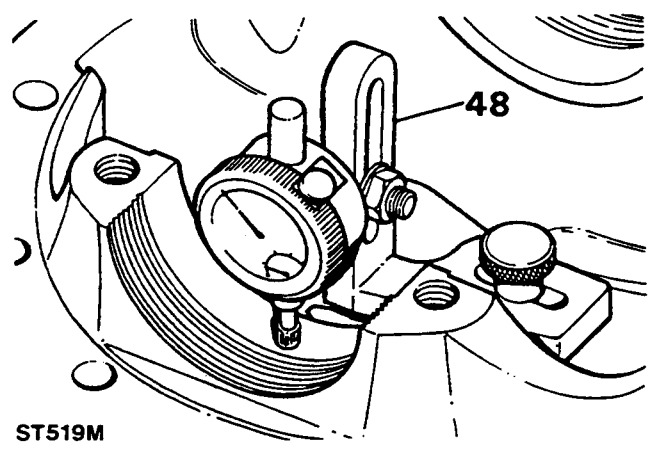


ST518M

**Pinion height shims**

PART No.	INCH	MM
549230	.038	0.97
549232	.040	1.02
549234	.042	1.07
549236	.044	1.12
549238	.046	1.17
549240	.048	1.22
549242	.050	1.27
549244	.052	1.32
549246	.054	1.37
549248	.056	1.42
549250	.058	1.47
549252	.060	1.52
576236	.062	1.57
576237	.063	1.60
576238	.064	1.63
576239	.065	1.65

- 48. Position dial gauge centrally on pinion end face, register on lowest point on one differential bearing bore. Note dial gauge measurement from zeroed setting.



ST519M

- 49. Repeat on other bearing bore. Add readings then halve sum to obtain mean reading. Note whether trace pin has moved up or down from zero.
  - A. Where trace pin moves down, reading is equal to thickness of shims to remove, to bring pinion to nominal.
  - B. Where trace pin moves up. Reading is equal to thickness of shims to add, to bring pinion to nominal.

INCH		MM
.001	=	.025
.002	=	.05
.003	=	.075
.004	=	.10
.005	=	.125
.006	=	.15
.007	=	.175
.008	=	.20
.009	=	.225
.010	=	.25

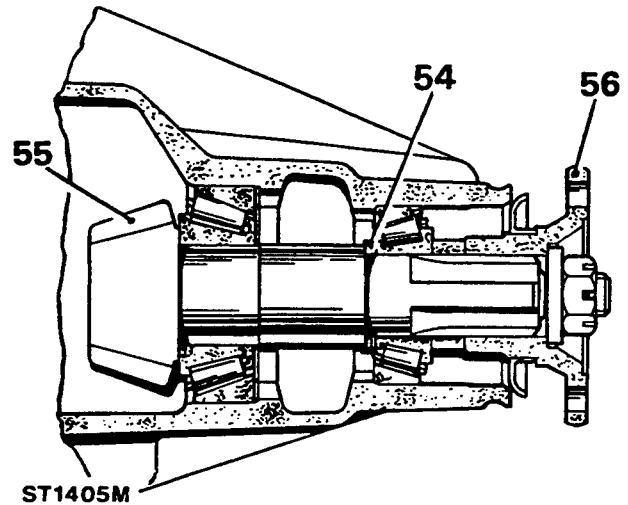


**NOTE:** Where dial indicator is metric conversion must be made to inches when measuring and selecting shims.

50. Before adjusting shim thickness: check pinion face marking. If a plus (+) figure, subtract in thousandths of an inch from shim thickness figure.
51. If pinion has a minus (-) figure, add amount to shim thickness figure.  
Adjust shim thickness under pinion head bearing track as necessary.
52. Recheck pinion height setting. If setting is correct, mean reading of dial gauge will agree with figure marked on pinion end face.  
For example, with end face marking of +3, dial gauge reading should indicate pinion is +0.003 in.

#### Bearing pre-load adjustment

53. Remove the pinion flange, pinion, outer bearing and spacer.
54. Slide new shims, of same thickness as originals (bearing pre-load) into position on pinion shaft. If fitting a new shim use minimum 4.06 mm thickness.
55. Fit pinion to pinion housing and fit outer bearing and spacer.
56. Fit driving flange, washer and nut.
57. Do not fit oil seal at this stage.



58. Tighten pinion flange nut to **130Nm**. Force to rotate pinion shaft is 3Nm using new bearings. Change shim as necessary to obtain reading. Thicker shim will reduce pre-load. Thinner shim will increase pre-load.



**NOTE:** If using original bedded in bearings, pre-load figure is **1.5Nm**.

59. Remove pinion flange.

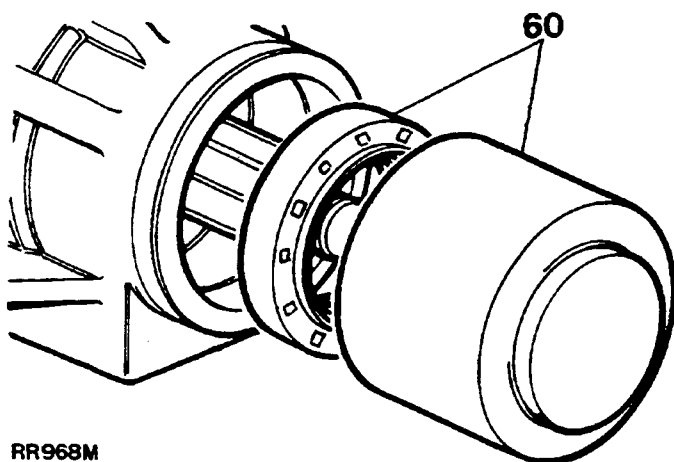
#### PINION PRELOAD SHIMS

PART No.	INCH	MM
FRC1193	.060	1.52
FRC1195	.062	1.57
FRC1197	.064	1.63
FRC1199	.066	1.68
FRC1201	.068	1.73
FRC1203	.070	1.78
539718	.072	1.83
539720	.074	1.88
539722	.076	1.93
539724	.080	2.03

#### Fitting Pinion Oil Seal

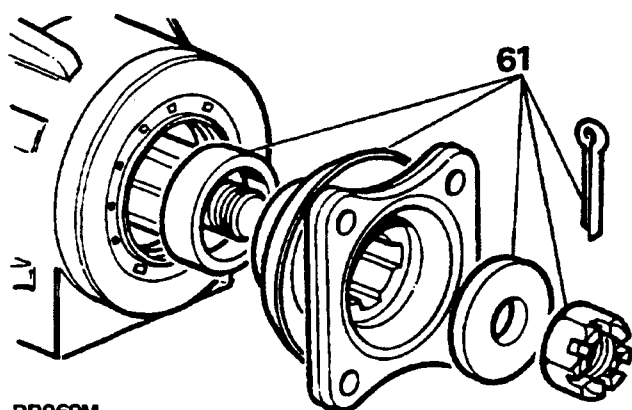
60. Coat outer diameter of seal with grease. Fit seal lip side leading flush with end face of housing using tool LRT-51-001.





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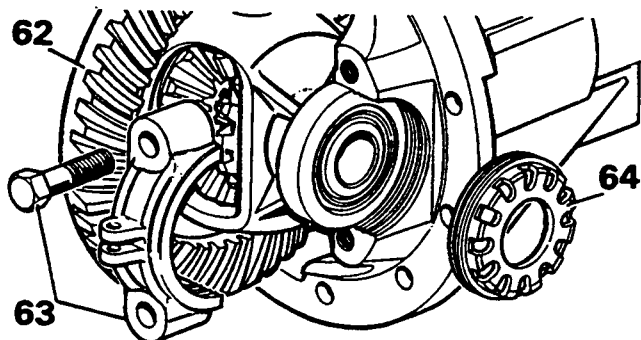
- 61. Lubricate seal lips with axle oil. Fit distance piece and flange, secure with washer and nut. Tighten to **130Nm** fit a new split pin.



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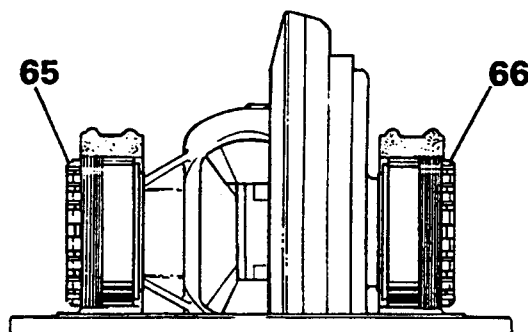
### CROWN WHEEL/PINION BACKLASH ADJUSTMENT

- 62. Place differential housing in pinion housing.
- 63. Fit bearing caps and partly tighten bolts.



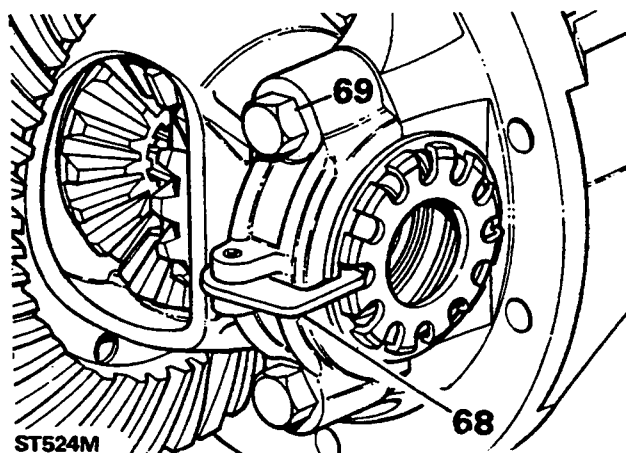
ST522M

- 64. Fit bearing adjusting nuts.
- 65. Mesh crown wheel to pinion. Using service tool LRT-54-508 loosen left bearing adjuster nut.
- 66. Tighten right nut until crown wheel/pinion backlash is just removed.



ST523M

- 67. Tighten left nut until it contacts bearing. Continue turning until a backlash of 0,10 to 0,17 mm is met. **DO NOT** slacken right nut otherwise bearing preload will be affected.
- 68. Fit locking fingers and roll pins. Align locking finger with a slot.
- 69. Evenly tighten bearing cap bolts to **90Nm**



ST524M

- 70. Recheck crown wheel/pinion backlash.
- 71. Lubricate bearings and gears.

**REAR HUB ASSEMBLY ABS**

Service repair no - 64.16.13.

**Overhaul**

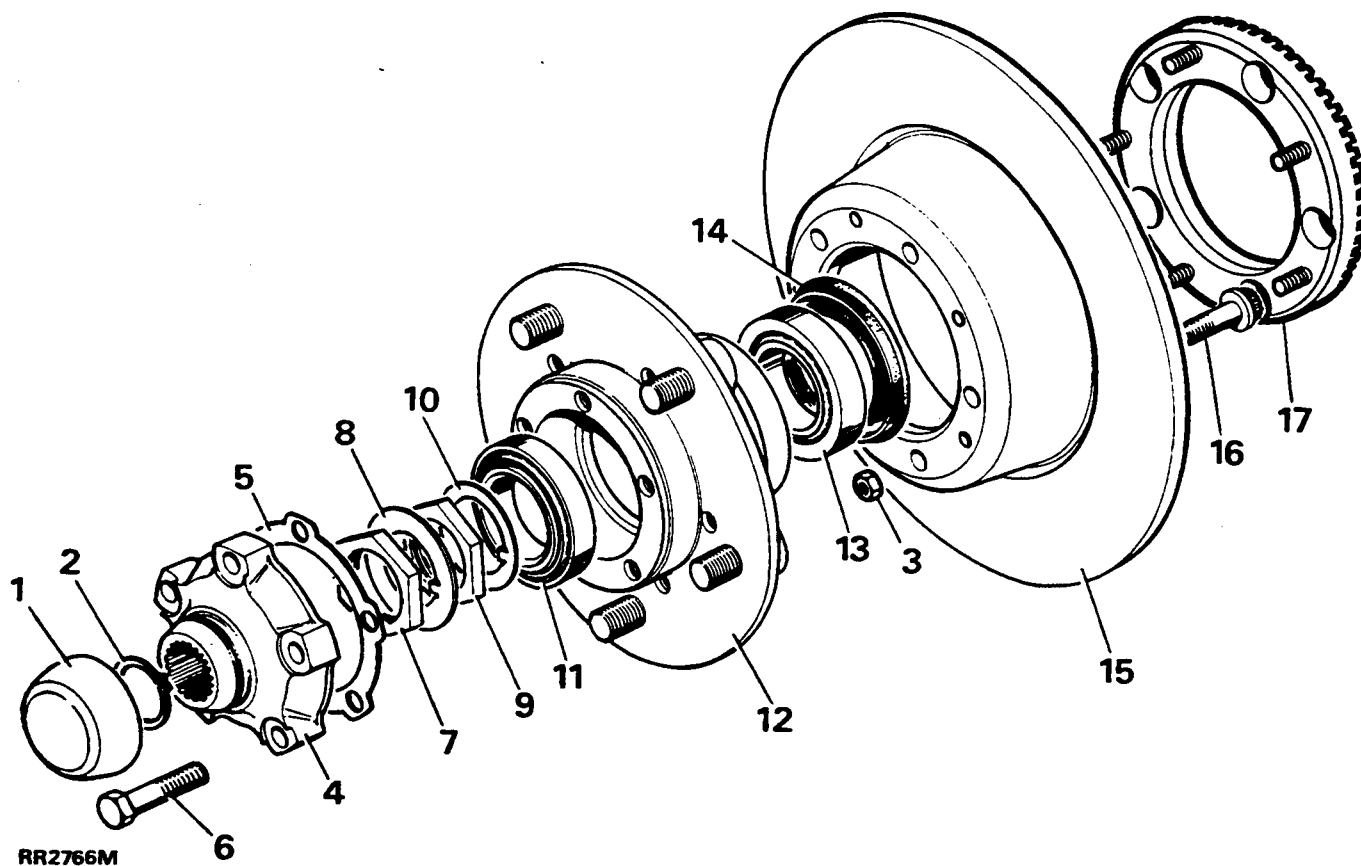
1. Remove rear hub assembly. *See Repair, Rear hub assembly ABS*
2. Remove outer bearing.
3. Remove five nyloc nuts and withdraw sensor ring.
4. Mark, for reassembly, position of hub to brake disc.

5. Remove five bolts and separate hub from brake disc.



**WARNING:** A maximum of two road wheel retaining studs can be renewed. Should more studs be unserviceable fit new hub with studs.

6. Remove grease seal and inner bearing from hub.
7. Remove inner and outer bearing tracks.



RR2766M

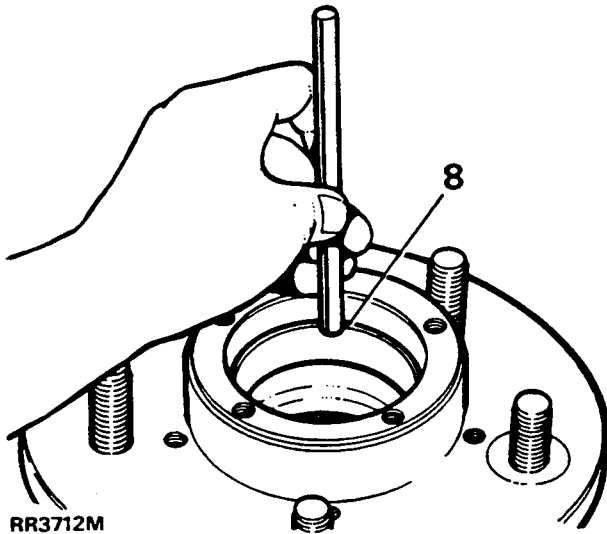
**REAR HUB COMPONENTS WITH ANTI-LOCK BRAKES**

- |  |                                     |
|--|-------------------------------------|
| 1. Dust cap.                               | 10. Keyed washer.                   |
| 2. Circlip.                                | 11. Outer bearing.                  |
| 3. Sensor ring retaining nut.              | 12. Hub.                            |
| 4. Drive member.                           | 13. Inner bearing.                  |
| 5. Drive member joint washer.              | 14. Grease seal.                    |
| 6. Drive member retaining bolt (five off). | 15. Brake disc.                     |
| 7. Lock nut.                               | 16. Disc retaining bolt (five off). |
| 8. Lock washer.                            | 17. Sensor ring.                    |
| 9. Hub adjusting nut.                      |                                     |

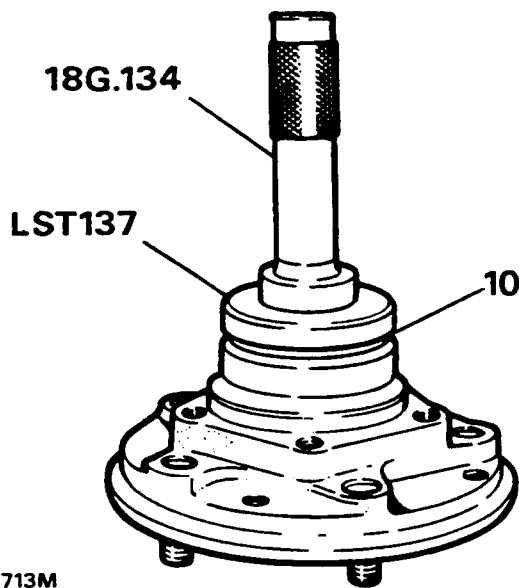


## Refit

8. Clean hub and fit inner and outer bearing tracks.



9. Pack hub inner bearing with grease and fit to hub.
10. With lip side leading fit a new seal flush with rear face of hub. Using service tool LRT-54-003 seal replacer and drift. Apply grease between seal lips.



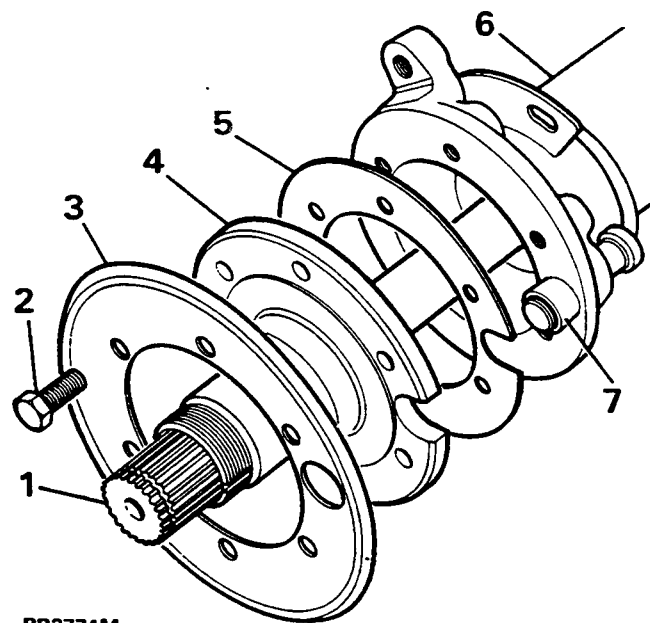
11. Assemble brake disc to the hub, line up reassembly marks. Applying Loctite 270, fit and tighten retaining bolts to **73Nm**.
12. If necessary renew sensor ring studs applying Loctite 270 to threads. Fit sensor ring using new nyloc nuts tighten to **9Nm**. Ensuring it is correctly fitted to avoid tooth run out.
13. Pack hub outer bearing with grease and fit to hub.
14. Fit rear hub assembly. *See Repair, Rear hub assembly abs.*

## REAR STUB AXLE ABS

Service repair no - 64.16.22.

### STUB AXLE COMPONENTS

1. Rear axle shaft.
2. Stub axle to axle casing bolt.
3. Mudshield.
4. Stub axle.
5. Stub axle joint washer.
6. Axle case.
7. Sensor bush sleeve.

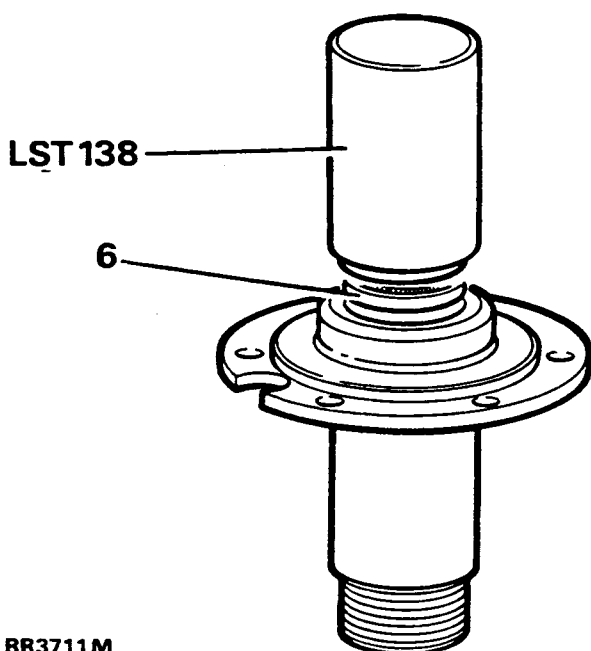


## Overhaul

1. Remove hub assembly. *See Repair, Rear hub assembly abs*
2. Remove six bolts from stub axle to axle casing.
3. Remove mudshield.
4. Remove stub axle and joint washer.
5. Remove rear axle shaft from axle casing.

## Renew rear stub axle oil seal

6. Remove and discard oil seal. Lubricate seal and lip with EP90 oil. Using special tool LST 138 fit new oil seal lipside trailing so that seal is flush with rear face of stub axle.



## Refit

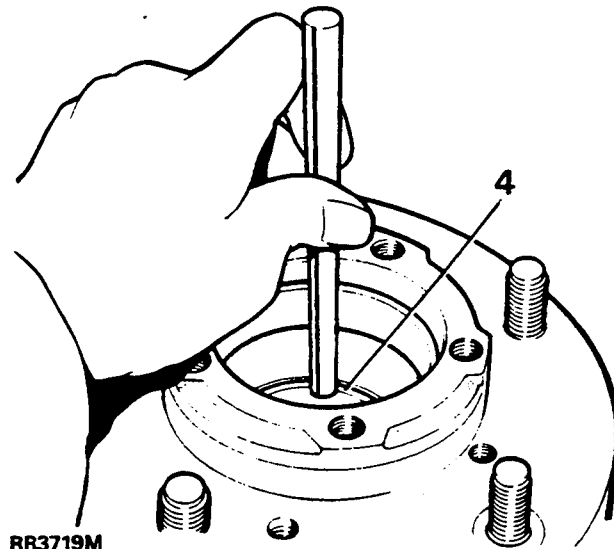
7. Fit new joint washer, stub axle and mudshield with bolts. Tighten to **65Nm**.
8. Fit rear axle shaft avoid damaging stub axle seal.
9. Refit rear hub assembly. *See Repair, Rear hub assembly abs*

## REAR HUB NON ABS

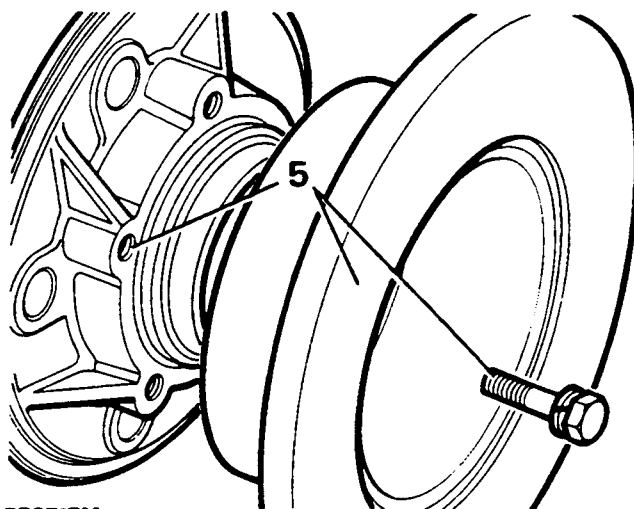
Service repair no - 64.15.13.

## Overhaul

1. Remove hub assembly. *See Repair, Rear hub assembly non ABS*
2. Remove inner and outer oil seals.
3. Remove inner and outer bearing cones (races).
4. Drive out inner and outer bearing cups.



5. Examine hub and brake disc and replace if unserviceable. Mark position of hub to disc if original parts are to be re-assembled.

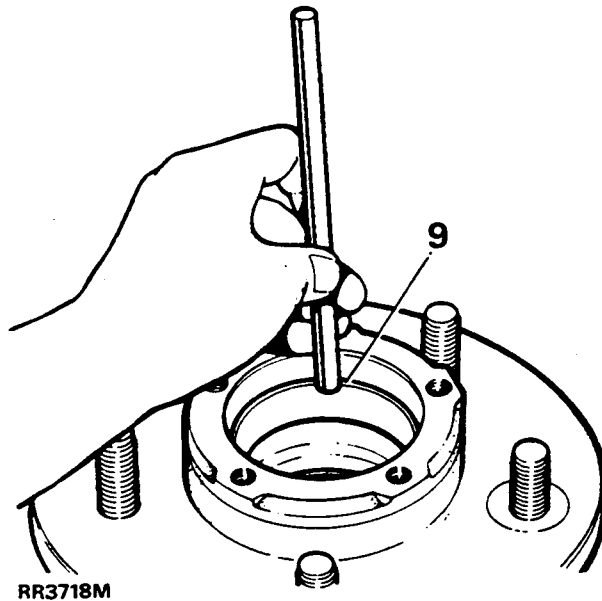




6. Examine stub axle. Check inner seal track is smooth and free from blemishes.
7. If necessary remove six bolts and remove stub axle complete with mudshield and joint washer.

#### Assemble

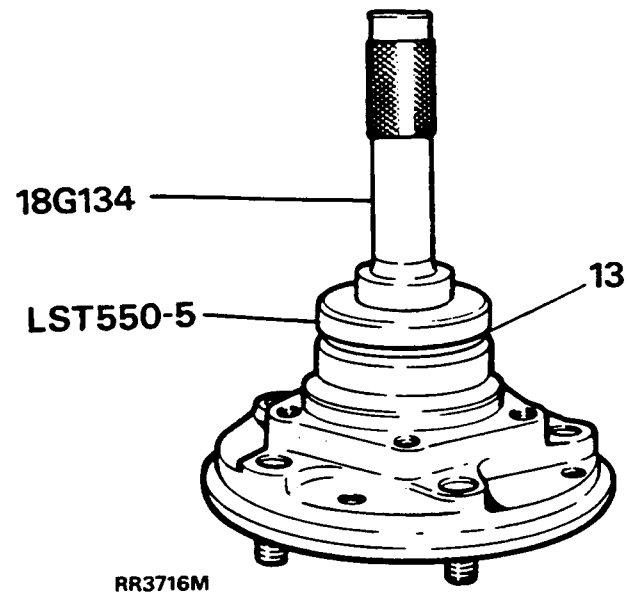
8. Using a new joint washer fit stub axle and mud shield. Coat threads of bolts with Loctite 270. Tighten to **65Nm**
9. Fit new inner and outer bearing cups to hub.



10. Fit new inner bearing cone and pack with recommended hub grease.

#### Fit inner oil seal

11. Clean oil seal housing and check seal locating surface is smooth and free from burrs.
12. Apply recommended hub bearing grease to outside diameter of seal before fitting.
13. Fit seal, lip side leading, using the 76 mm end of service tool LRT-54-001 and drift LRT-99-003, flush with end face of hub.

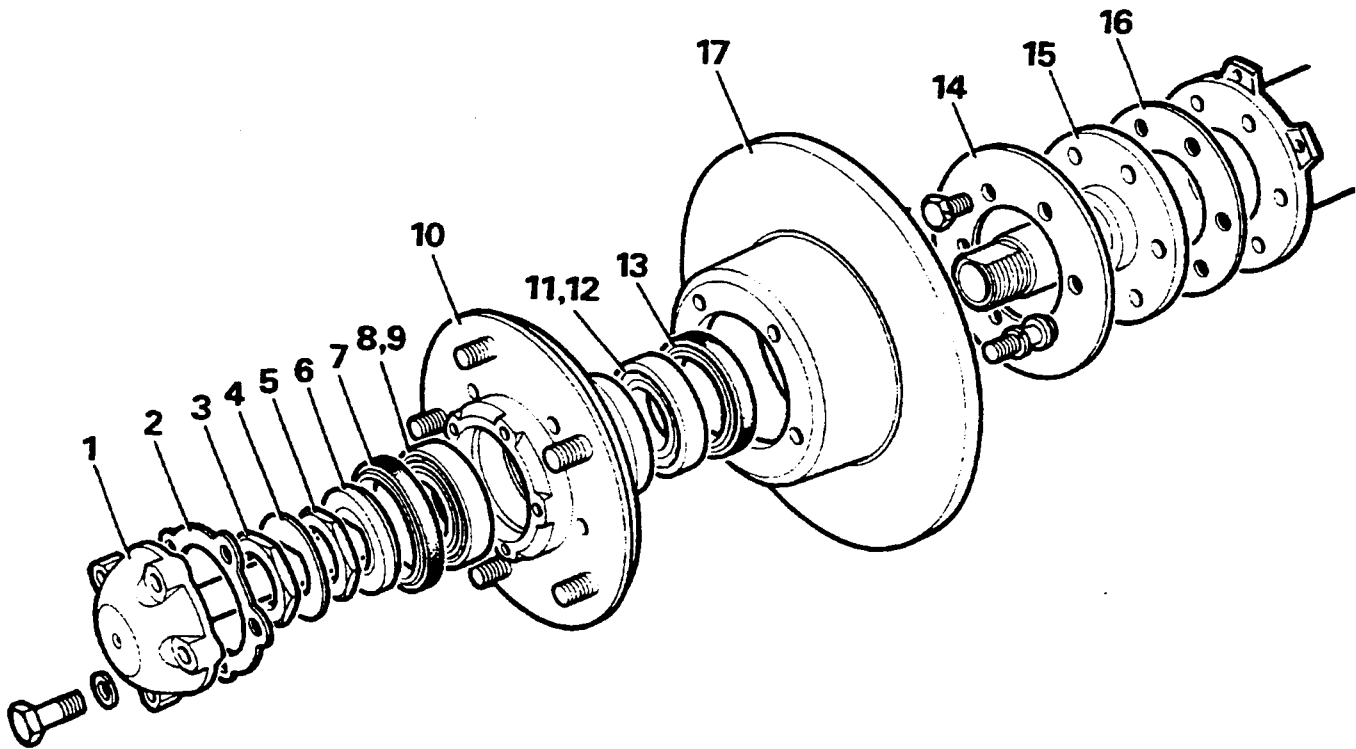


#### Fit outer oil seal

14. Fit new outer bearing cone and pack with a recommended grease. Repeat instructions 11 and 12.
15. Fit seal, lip side leading, using 72 mm end of service tool LRT-54-001 and drift LRT-99-003, to depth determined by tool.
16. Coat lips of seals with recommended grease.
17. Fit hub to axle. **See Repair, Rear hub assembly non ABS**

## REAR HUB COMPONENTS NON ABS VEHICLES

- |                       |                            |
|-----------------------|----------------------------|
| 1. Rear axle shaft    | 11. Inner bearing cup      |
| 2. Joint washer       | 12. Inner bearing cone     |
| 3. Locknut            | 13. Inner oil seal         |
| 4. Lock washer        | 14. Mudshield              |
| 5. Adjusting nut      | 15. Stub axle              |
| 6. Seal track spacer  | 16. Stub axle joint washer |
| 7. Outer oil seal     | 17. Brake disc             |
| 8. Outer bearing cone |                            |
| 9. Outer bearing cup  |                            |
| 10. Hub               |                            |



RR706M



## AXLE DIFFERENTIAL DATA

Pinion bearing pre-load:	
(new bearings) .....	3Nm
(bearings bedded in) .....	1,5Nm
Crown wheel run-out .....	0,10 mm
Crown wheel/pinion backlash .....	0,10 to 0,17 mm

## REAR HUB

Rear hub non ABS vehicle end float .....	0,013 to 0,10mm
Rear hub ABS vehicle end float .....	0,013 to 0,05mm

## TORQUE VALUES



**NOTE:** Torque wrenches should be regularly checked for accuracy to ensure that all fixings are tightened to the correct torque.

Nm

### REAR AXLE

Pinion housing to axle case .....	41
Crown wheel to differential case .....	58
Differential bearing cap to pinion housing .....	90
Differential drive flange to drive shaft .....	47
Bevel pinion nut .....	129
Lower link to axle .....	176
Pivot bracket ball joint to axle .....	176

### REAR HUB NON ABS VEHICLES

Axle shaft to hub .....	47*
Brake disc to hub .....	73*
Stub axle rear to axle case .....	65
Brake caliper to axle case .....	82
Mudshield to axle case .....	11

### REAR HUB ABS VEHICLES

Hub driving member to hub .....	65*
Brake disc to hub .....	73*
Stub axle rear to axle case .....	65
Brake caliper to axle case .....	82
Disc shield to axle case .....	11
Sensor ring to brake disc .....	9

\* Apply loctite 270 prior to assembly.

Torque values below cover all screws and bolts used, unless specified otherwise.

	Nm
<b>METRIC</b>	
M5 .....	6
M6 .....	9
M8 .....	25
M10 .....	45
M12 .....	90
M14 .....	105
M16 .....	180
<b>UNC / UNF</b>	
1/4 .....	9
5/16 .....	24
3/8 .....	39
7/16 .....	78
1/2 .....	90
5/8 .....	136



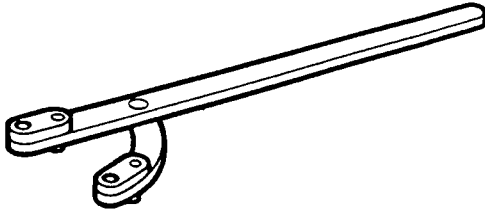


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**AXLE DIFFERENTIAL**

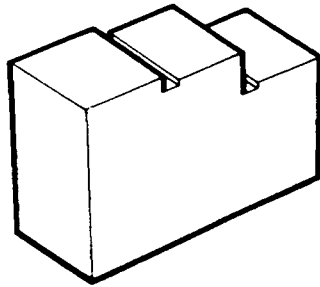
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LRT-51-003 Flange holder tool  
18G1205



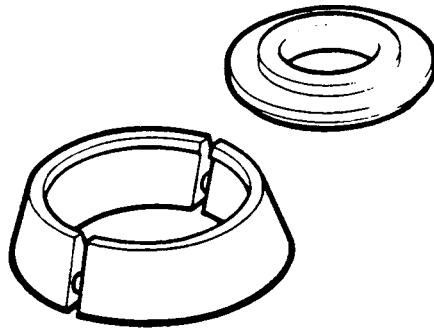
18G1205

LRT-54-504 Universal setting block  
18G1914



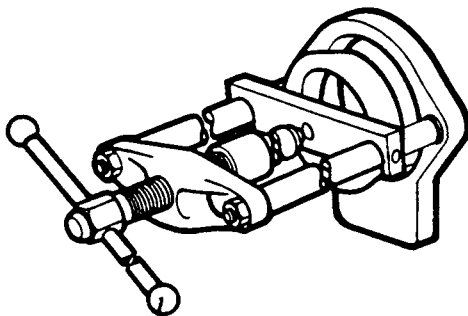
18G1914

LRT-54-502 Pinion head bearing remover/replacer  
18G476

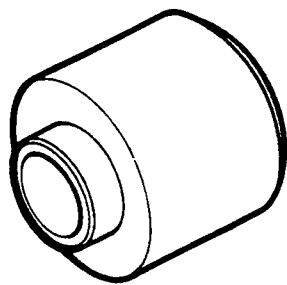


18G476

LRT-99-002 Press  
MS47

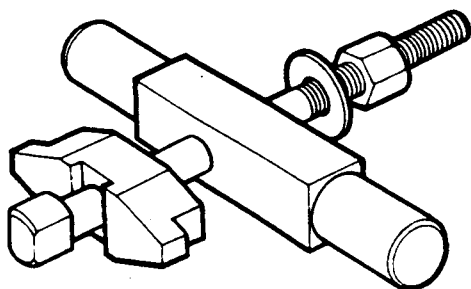


MS47



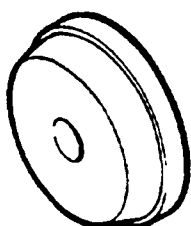
LST106

LRT-51-001 Oil seal replacer  
LST106



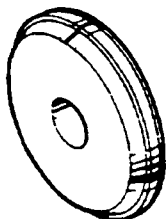
262757A

LRT-54-505 Extractor for pinion bearing races  
RO262757A



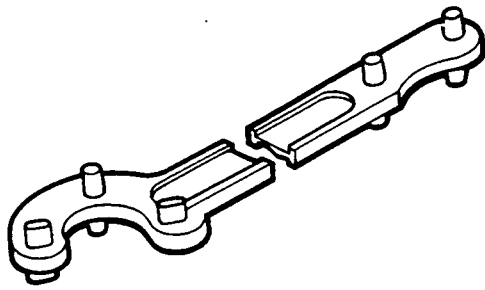
2627571

LRT-54-506 Replacer adapter pinion head bearing  
cup  
RO2627571



2627572

LRT-54-507 Adaptor pinion tail bearing cup  
replacer  
RO2627572



RO530105

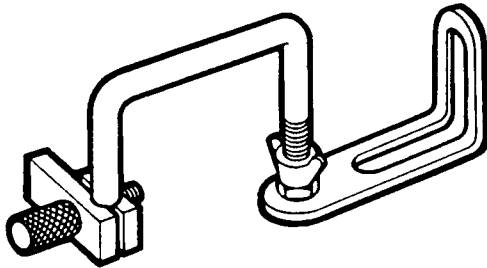
LRT-54-508  
RO530105

Spanner flange and carrier bearing  
nuts

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**REAR HUB**

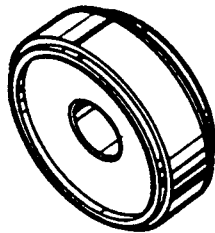
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RO530106

LRT-99-503  
RO530106

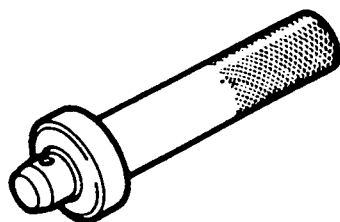
Bracket for dial gauge and indicator



LST 5505

LRT-54-001  
LST550-5

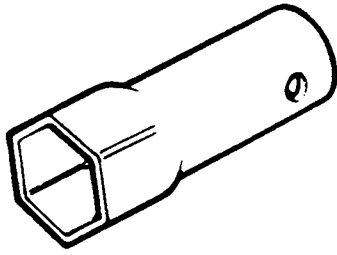
Oil seal replacer non ABS



18G134

LRT-99-003  
18G134

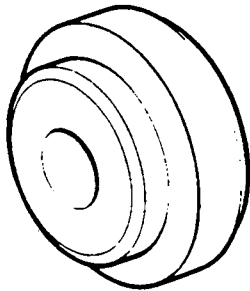
Drift



**606435A**

LRT-54-002  
RO606435A

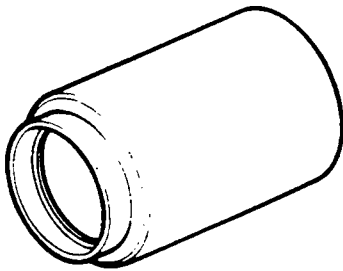
Hub nut spanner



**LST137**

LRT-54-003  
LST137

Hub oil seal replacer ABS



**LST138**

LRT-54-004  
LST138

Oil seal replacer ABS