

54 - FRONT AXLE AND FINAL DRIVE

CONTENTS

Page

DESCRIPTION AND OPERATION

DESCRIPTION1

FAULT DIAGNOSIS

FAULT DIAGNOSIS1

REPAIR

FRONT AXLE ASSEMBLY1

FRONT BRAKE DISCS2

FRONT HUB ASSEMBLY3

OVERHAUL

FRONT DIFFERENTIAL1

FRONT HUB1

FRONT STUB AXLE, CONSTANT VELOCITY JOINT AND SWIVEL PIN
HOUSING NON ABS3

FRONT STUB AXLE, CONSTANT VELOCITY JOINT AND SWIVEL PIN
HOUSING ABS7

SPECIFICATIONS, TORQUE

TORQUE VALUES1

FRONT HUB AND SWIVEL DATA2

SERVICE TOOLS

FRONT HUB1





DESCRIPTION

The welded steel front 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 front wheels via the axle shafts and constant velocity joints which are totally enclosed in the spherical and swivel housings.

The front axles fitted with ABS brakes or non ABS brakes are of the same construction except for different top swivel pins in the swivel housing and a sensor on the constant velocity joint.

Front axle - ABS

The front wheels are pivoted on taper roller bearings 19 at the bottom of the swivel housing and a 'Rialco bush' 25 at the top. The top swivel pin also houses the ABS pickup (electrical connection) as shown in the main illustration, J5367.

Front axle - non ABS

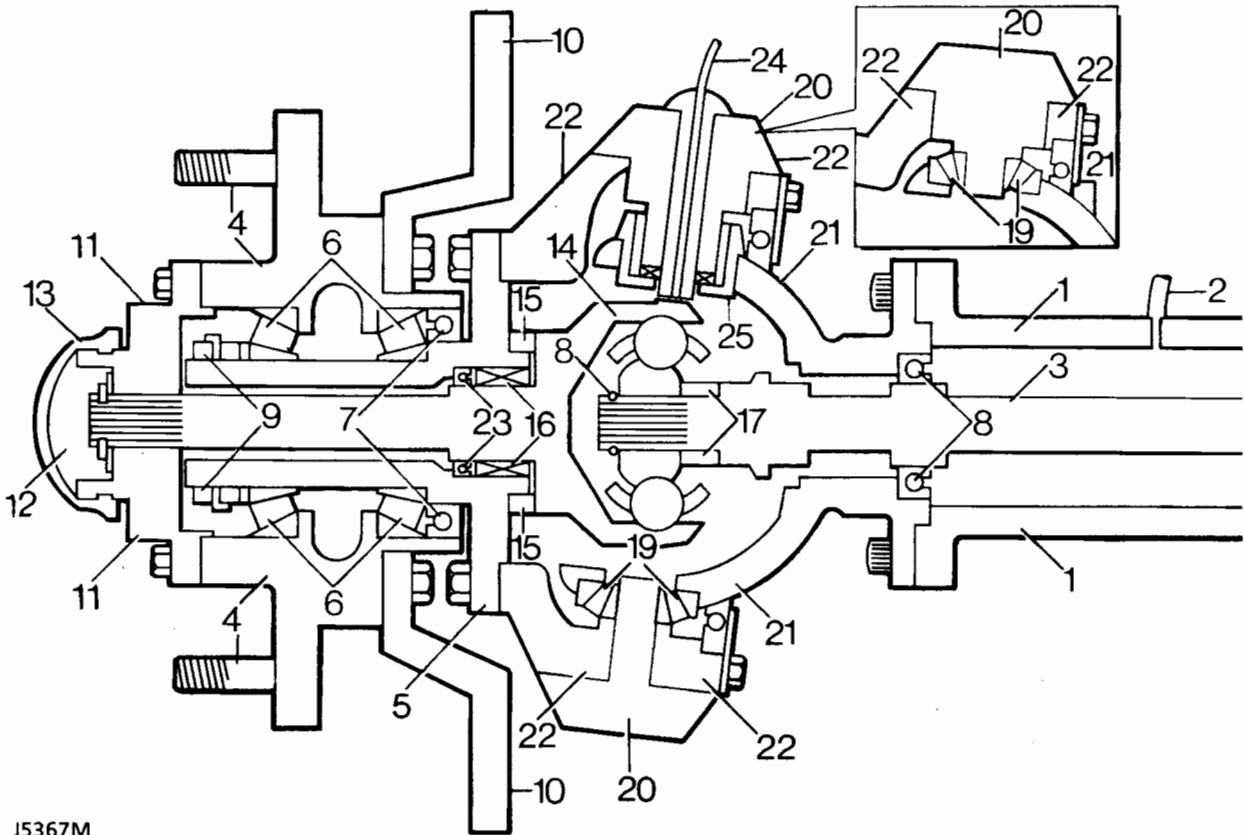
The front wheels are pivoted on taper roller bearings at the top (see insert) and bottom of the swivel housing. The wheel hubs on all axles are supported by two taper bearings and driven by drive flanges which are splined to the one piece, stub shaft/constant velocity joint.

Lubrication

The differential, swivel pin housing and wheel hubs are individually lubricated and separated by oil seals 7 and 8 to prevent oil transfer across the axle when the vehicle is traversing steep inclines. The wheel bearings are lubricated with grease and the swivel housing and differential with oil.

Ventilation

Ventilation of the differential is through a plastic pipe 2 which terminates at a high level in the vehicle on both ABS and non ABS axles. The swivel housings ventilate through axle shaft oil seals 8 into the differential and the hub bearings vent via the oil seals into swivel housing.



J5367M

Front axle

- | | |
|---|--|
| 1. Axle casing | 14. Constant velocity joint/shaft |
| 2. Ventilation pipe | 15. Thrust collar for CV joint |
| 3. Axle shaft | 16. Roller bearing |
| 4. Wheel studs and hub | 17. Spacer |
| 5. Stub axle | 18. Circlip |
| 6. Wheel bearings (2) | 19. Bottom swivel taper bearing |
| 7. Inner and outer hub seals | 20. Top and bottom swivel pins |
| 8. Axle shaft seal | 21. Spherical housing, seal and retainer |
| 9. Hub lock plate, thrust washer and nuts (2) | 22. Swivel housing |
| 10. Brake disc | 23. Constant velocity shaft seal |
| 11. Drive flange | 24. ABS pickup (electrical connection) |
| 12. Shim washer and circlip | 25. 'Rialco' bush ABS |
| 13. Dust cap | |



FAULT DIAGNOSIS

Complaint - Oil leaks

An external leak of lubrication can be caused by a faulty internal seal. For example, if the seals which separate the differential from the swivel housings are faulty and the vehicle is operating or parked on an embankment, oil may leak across the axle leaving one swivel with a high level and the other swivel and differential lacking lubrication.

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

When investigating leaks or checking oil levels, it is essential that all the lubrication is drained from any housing with a high level and that the other levels are checked.

Swivel oil should be checked for signs of grease leaking from the hub bearings and the hub grease should not contain oil.

Check that the axle ventilation system is clear, as a blockage can cause internal pressure to force oil past the seals.

If the vehicle is driven in deep water with defective oil seals, water may contaminate the lubricants and when checked, give a false impression that the housing has been overfilled with oil.

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



FRONT AXLE ASSEMBLY

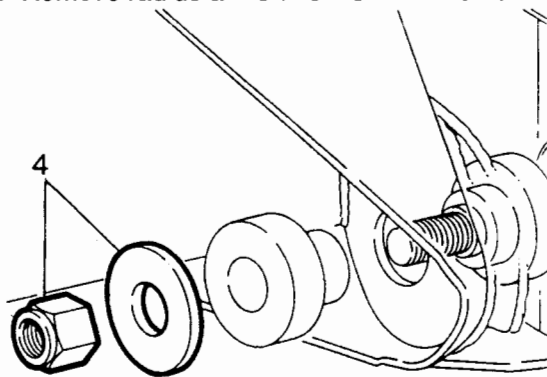
Service repair no - 54.15.01

Remove

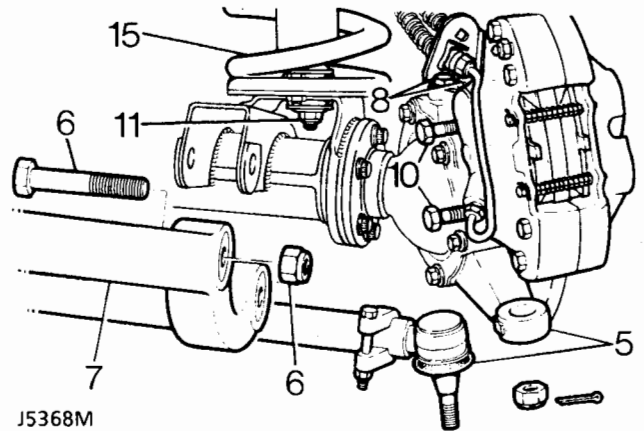


WARNING: Remove and refit of axle requires a further two persons to steady axle when lowering or repositioning axle.

1. Support chassis front.
2. Remove road wheels.
3. Support axle weight with hydraulic jack.
4. Remove radius arms to chassis frame nuts.



- RR 983
5. Disconnect steering damper from track rod. Using an extractor remove track rod links from swivel pin arms.
 6. Remove four nuts and bolts securing radius arms to axle bracket.
 7. Remove radius arms.
 8. Remove bolts securing brake hose brackets. Refit bolts to prevent oil leakage.
 9. Remove ABS sensor, if applicable.
 10. Remove bolts from brake calipers and tie to one side.
 11. Remove nuts and washers securing shock absorbers to axle.
 12. Disconnect drag link from swivel pin housing arm.



J5368M

13. Remove two nuts and bolts securing panhard rod to axle bracket. Lift rod clear of axle.
14. Mark for reassembly drive shaft flanges. Remove four nuts and bolts, tie propeller shaft to one side.
15. Lower axle assembly and remove road springs.
16. Disconnect anti-roll[sway] bar link. **See FRONT SUSPENSION, Repair, Anti-Roll[Sway] Bar Ball Joint Links**
17. Remove axle assembly.

Refit

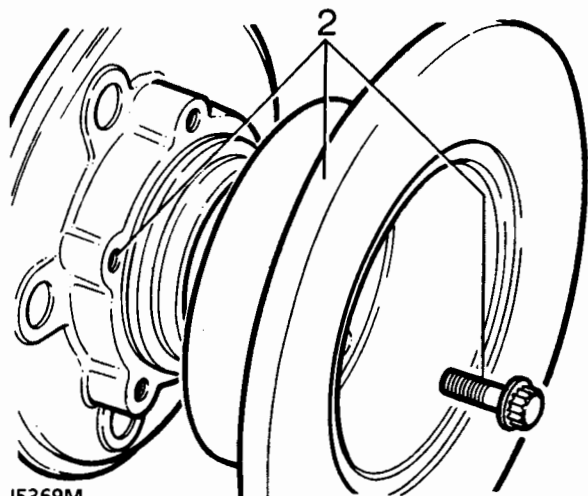
18. Position axle under vehicle, supporting left side of axle.
19. Reverse removal procedure.
20. Tighten propeller shaft bolts to **47 Nm**.
21. Tighten panhard rod to axle bracket to **88 Nm**.
22. Tighten drag link to hub arm to **40 Nm**.
23. Tighten upper swivel pin bolts. **See Specifications, torque, Torque Values**
24. Tighten radius arms to axle bolts to **197 Nm**.
25. Tighten radius arms to chassis side member nuts to **197 Nm**.
26. Tighten track rod end to **40 Nm**.
Fit new split [cotter] pin.

FRONT BRAKE DISCS

Service repair no - 70.10.10.

Remove

1. Remove front hub assembly. *See Front Hub Assembly*
2. Remove five hub to disc bolts.
3. Tap disc to separate from hub.



Refit

4. Locate disc to hub.
5. Apply Loctite 270 to disc bolts. Tighten to **73 Nm**.
6. Check total disc runout with a dial indicator, this must not exceed 0,15 mm. If necessary reposition disc.
7. Fit hub assembly. *See Front Hub Assembly*

Disc reclamation

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



FRONT HUB ASSEMBLY

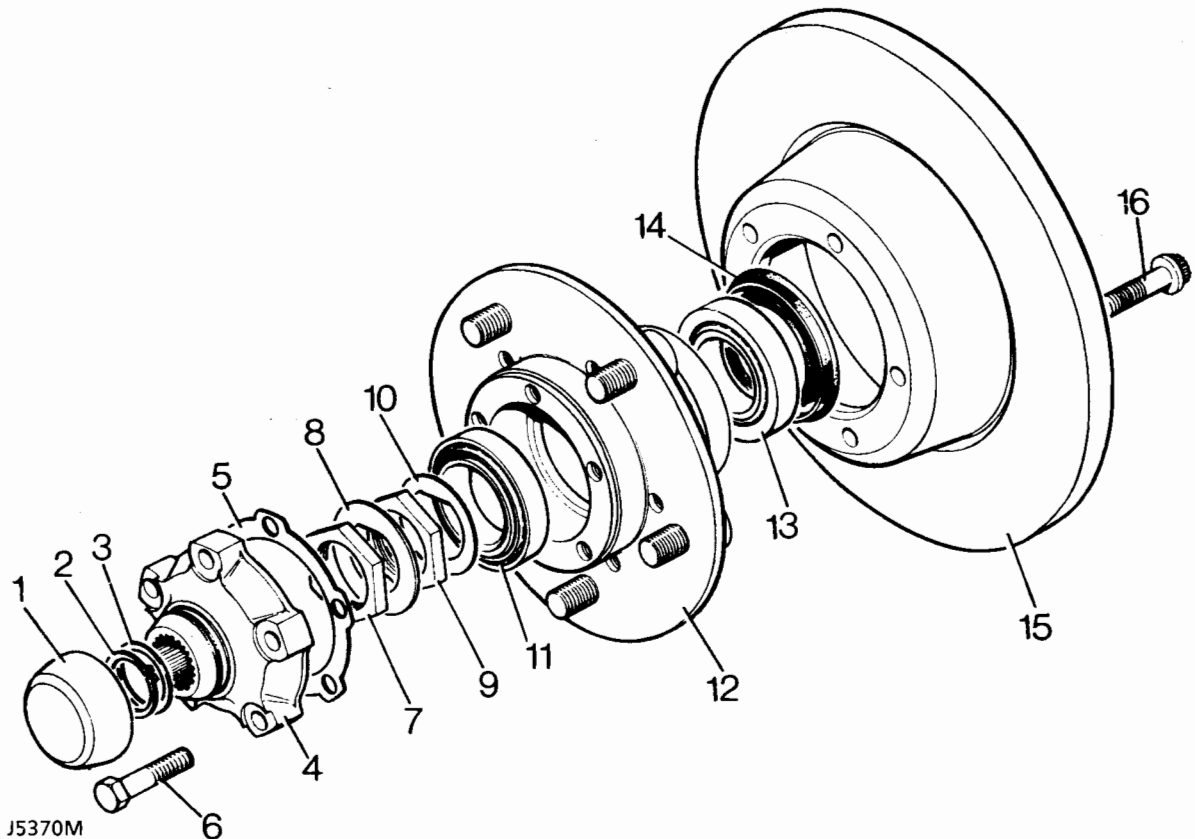
Service repair no - 60.25.01.

Remove

1. Loosen front wheel nuts, jack up vehicle and lower onto axle stands and remove road wheel.
2. Release brake hose clips and remove brake caliper. Secure to one side.
3. Lever off dust cap.
4. Remove circlip and drive shaft shim from driveshaft.
5. Remove five bolts and withdraw driving member and joint washer.
6. Bend back lock washer tabs.
7. Remove locknut and lock washer.
8. Remove hub adjusting nut.
9. Remove spacing washer.
10. Remove hub and brake disc assembly complete with bearings.

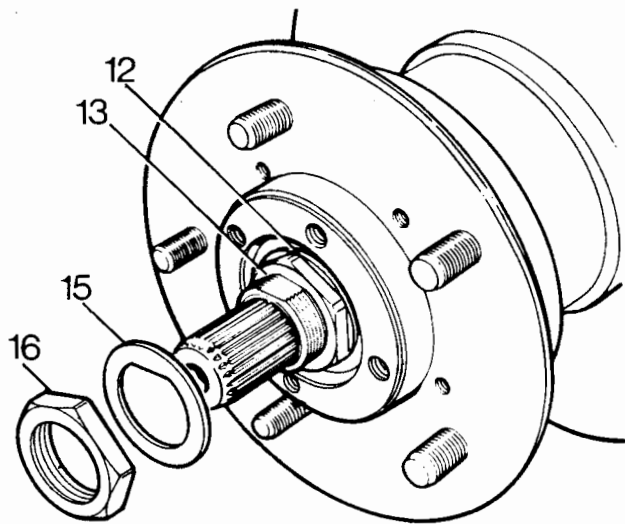
HUB COMPONENTS

1. Dust cap.
2. Drive shaft circlip.
3. Drive shaft shim.
4. Drive member.
5. Drive member joint washer.
6. Drive member retaining bolt.
7. Lock nut.
8. Lock washer.
9. Hub adjusting nut.
10. Spacing washer.
11. Outer bearing.
12. Hub.
13. Inner bearing.
14. Grease seal.
15. Brake disc
16. Disc retaining bolt.



Refit

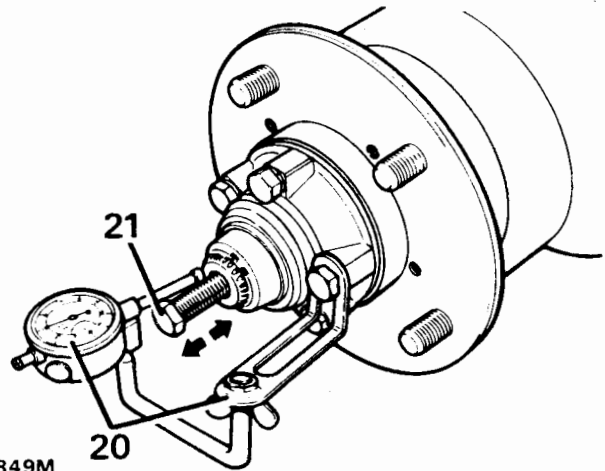
11. Clean stub axle and drive shaft and fit hub assembly to axle.
12. Fit spacing washer.
13. Fit hub adjusting nut. Tighten to **61 Nm**.
14. Back off adjusting nut 90°. Tighten to **4 Nm**. This will give the required hub end float of 0,010mm
15. Fit a new lock washer.



J5371M

16. Fit locknut. Tighten to **61 Nm**.
17. Tab over lock washer to secure adjusting nut and locknut.
18. Fit a new joint washer to driving member and fit member to hub and secure with five bolts. Tighten to **65 Nm**.

19. Fit original drive shaft shim and secure with a circlip.
20. To check drive shaft end play mount a dial gauge using bracket LRT-99-503 and rest pin in a loaded condition on end of drive shaft.
21. Fit a suitable bolt to threaded end of drive shaft. Move drive shaft in and out noting dial gauge reading. End play should be between **0,08 to 0,25 mm**.



RR3849M

22. If end play requires adjustment, remove circlip, measure shim thickness and fit an appropriate shim to give required end-play.
23. Remove bolt from drive shaft, fit circlip and dust cap.
24. Fit brake caliper. Tighten to **82 Nm**.
25. Bleed brake system. **See BRAKES, Repair, Brake System Bleed**
26. Fit road wheel, remove axle stands and tighten road wheel nuts to **126 Nm**.
27. Operate footbrake to locate brake pads before taking vehicle on road.



FRONT DIFFERENTIAL

Service repair no - 54.10.07.

Overhaul

The front and rear differentials are the same. When overhauling front differential. **See REAR AXLE AND FINAL DRIVE, Overhaul, Axle Differential Assembly**

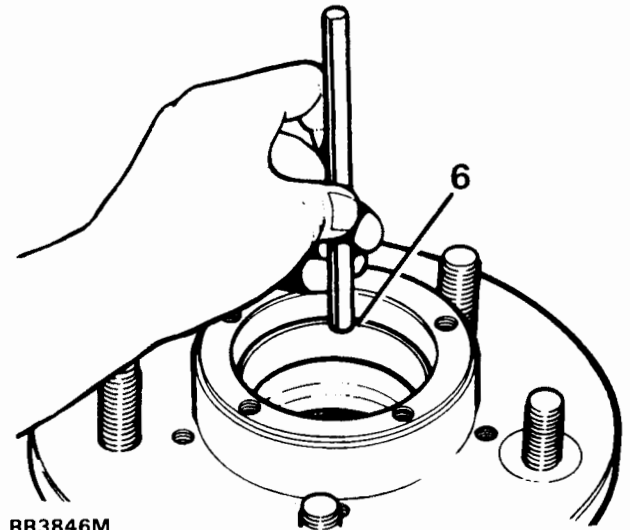
FRONT HUB

Service repair no - 60.26.14.

Overhaul

1. Remove front hub assembly. **See Repair, Front Hub Assembly**
2. Remove outer bearing.
3. Mark, for reassembly, relationship between hub and brake disc, if original hub is to be refitted.
4. Remove five bolts and separate hub from brake disc.

5. Drift out grease seal and inner bearing from hub and discard seal.
6. Drift out inner and outer bearing tracks.
7. Clean hub and drift in inner and outer bearing tracks.

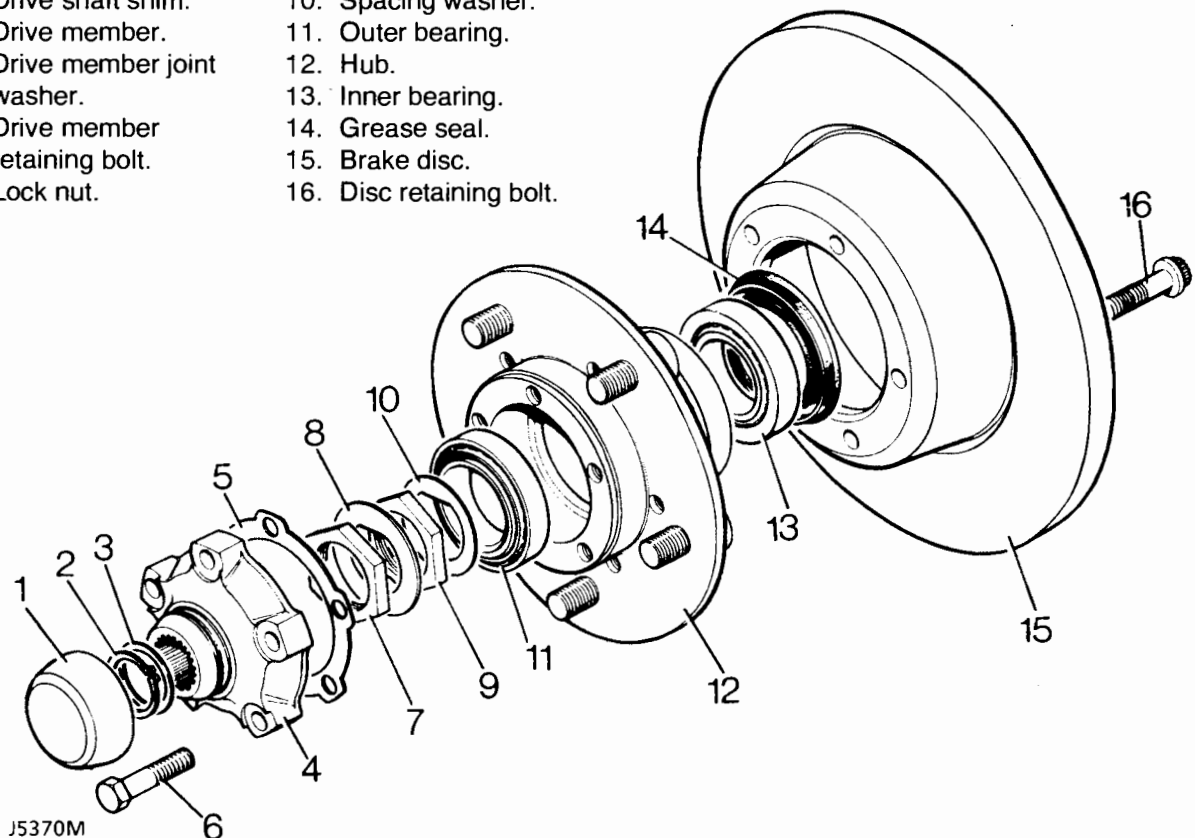


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8. Pack hub inner bearing with recommended grease and fit to hub.

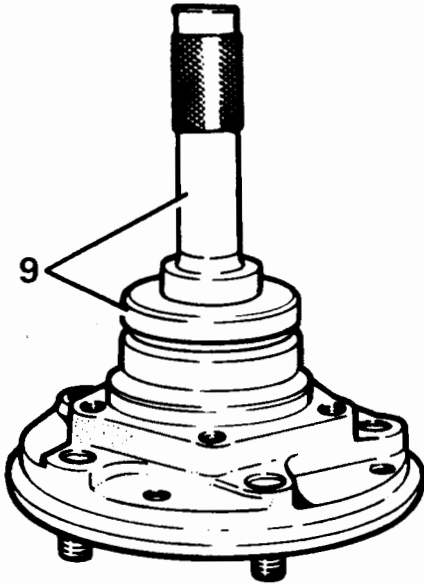
HUB COMPONENTS

- | | |
|---------------------------------|--------------------------|
| 1. Dust cap. | 8. Lock washer. |
| 2. Drive shaft circlip. | 9. Hub adjusting nut. |
| 3. Drive shaft shim. | 10. Spacing washer. |
| 4. Drive member. | 11. Outer bearing. |
| 5. Drive member joint washer. | 12. Hub. |
| 6. Drive member retaining bolt. | 13. Inner bearing. |
| 7. Lock nut. | 14. Grease seal. |
| | 15. Brake disc. |
| | 16. Disc retaining bolt. |



J5370M

9. With lip side leading fit new seal to hub using special tool LST 137 seal replacer and drift 18G 134. Drive in seal flush with rear face of hub. Apply grease between seal lips.
10. Fit brake disc to hub, lining up to marks made during dismantling. applying Loctite 270, fit five retaining bolts. Tighten to **73 Nm**.



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11. Grease and fit outer bearing to hub.
12. Fit front hub assembly. **See Repair, Front Hub Assembly**

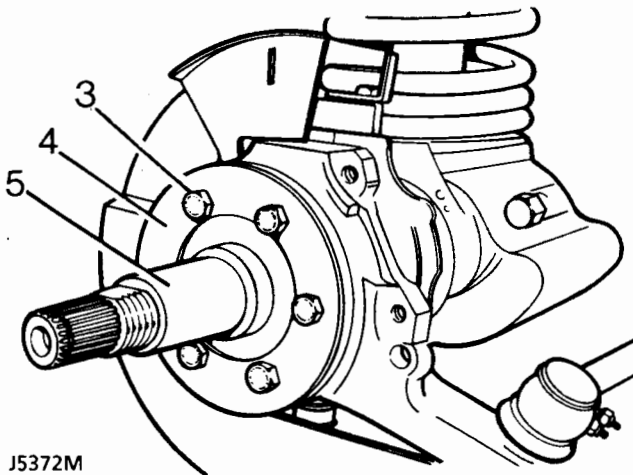


FRONT STUB AXLE, CONSTANT VELOCITY JOINT AND SWIVEL PIN HOUSING NON ABS

Service repair no - 60.15.43.

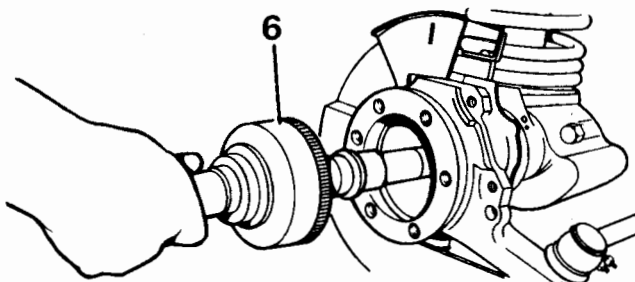
Remove stub axle, axle shaft and constant velocity joint.

1. Remove front hub assembly. *See Repair, Front Hub Assembly*
2. Drain swivel pin housing and refit plug.
3. Remove six bolts retaining stub axle to swivel housing.
4. Remove mud shield.
5. Remove stub axle and joint washer.



J5372M

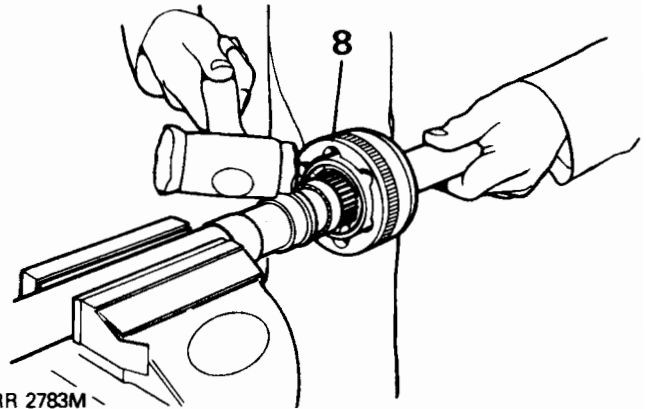
6. Pull out axle shaft and constant velocity joint from axle casing.



RR2782M

Remove constant velocity joint from axle shaft

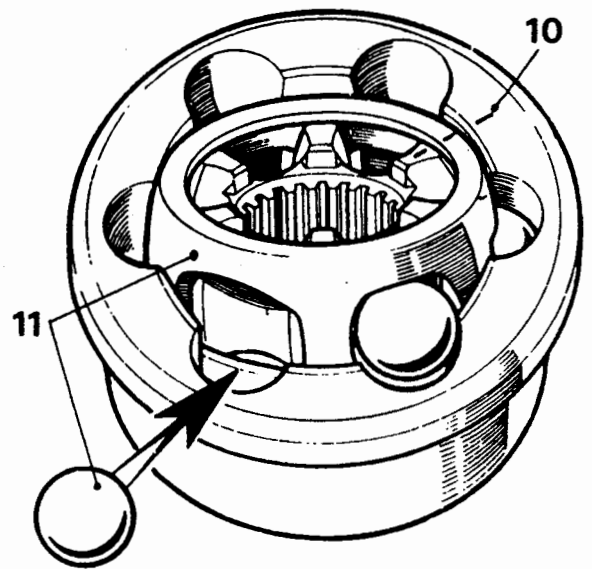
7. Hold axle shaft firmly in a soft jawed vice.
8. Using a soft mallet drive constant velocity joint from shaft.
9. Remove circlip and collar from axle shaft.



RR 2783M

Constant velocity joint

10. Mark positions of constant velocity joint, inner and outer race and cage for reassembly.
11. Swivel cage and inner race to remove balls.

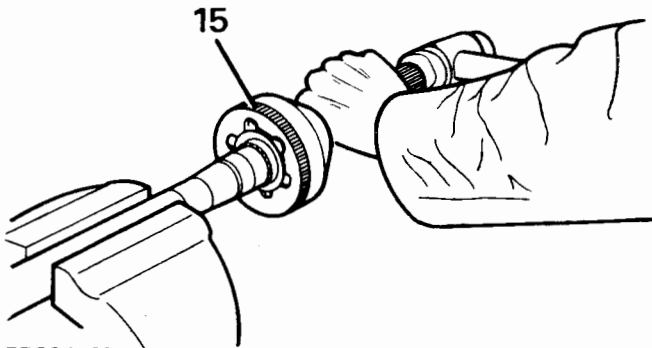


ST1025M

12. Examine all components in particular inner and outer track, cage balls and bearing surfaces for damage and excessive wear.
13. Maximum acceptable end-float on assembled joint 0,64mm. Renew if worn or damaged. Lubricate with a recommended oil during assembly.

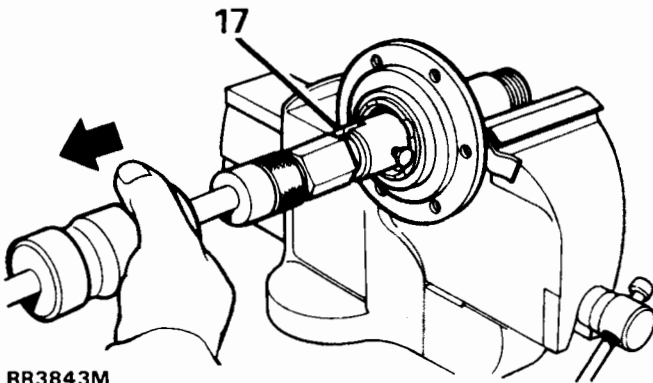
Fit constant velocity joint to axle

14. Fit collar and a new circlip.
15. Engage constant velocity joint on axle shaft splines and using a soft mallet, drive joint in fully.

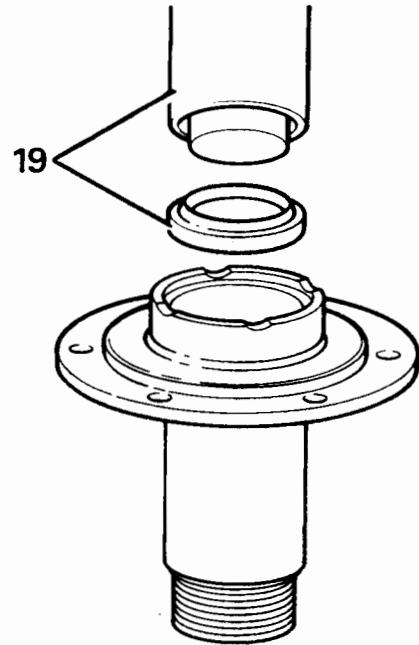


Renew stub axle, thrust ring, oil seal and bearing

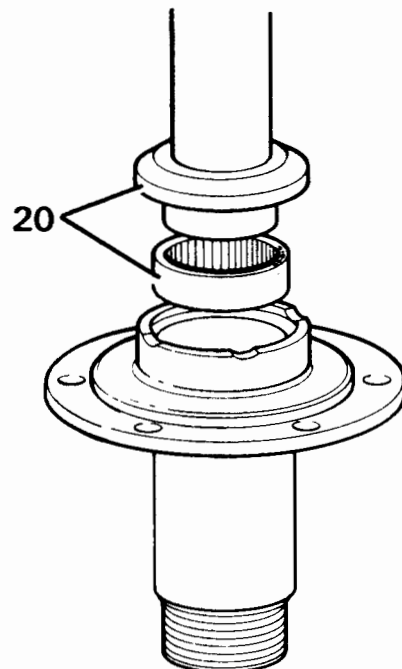
16. Drill and chisel off thrust ring taking care to avoid damaging stub axle.
17. Remove bearing and oil seal using special tool LRT-37-004 and slide hammer LRT-99-004. Ensure lip of tool locates behind bearing to drive it out.
18. Repeat instruction for removal of oil seal.



19. Lubricate seal and lip with EP90 oil and with cavity side leading press in a new oil seal using special tool LRT-54-004.



20. Using special tool LRT-54-005, fit bearing with its part number visible when fitted, and flush with end face of stub axle.
21. Press fit a new thrust ring onto stub axle.





Swivel pin housing

22. Remove bolts securing oil seal retaining plate and joint washer. Release assembly from swivel pin housing.



NOTE: Removal of oil seal and retaining plate is achieved when swivel bearing housing is removed.

23. Remove two bolts, retaining lower swivel pin to housing.
24. Remove brake disc shield bracket.
25. Tap lug to remove lower swivel pin and joint washer.
26. Remove two bolts retaining brake hose bracket and top swivel pin.
27. Remove bracket, top swivel pin and shims.
28. Remove swivel pin housing while retrieving lower and upper bearings.

Swivel bearing housing

29. Remove lower bearing track from swivel bearing housing.



NOTE: Use upper bearing opening to gain access to lower bearing track.

30. Remove seven bolts retaining swivel bearing housing to axle case.
31. Remove inner oil seal from back of housing.
32. Remove top bearing track from swivel bearing housing.



NOTE: Use lower bearing opening to gain access to upper bearing track.

33. If worn, pitted or damaged, renew housing.
34. Fit upper and lower bearing tracks into swivel bearing housing.



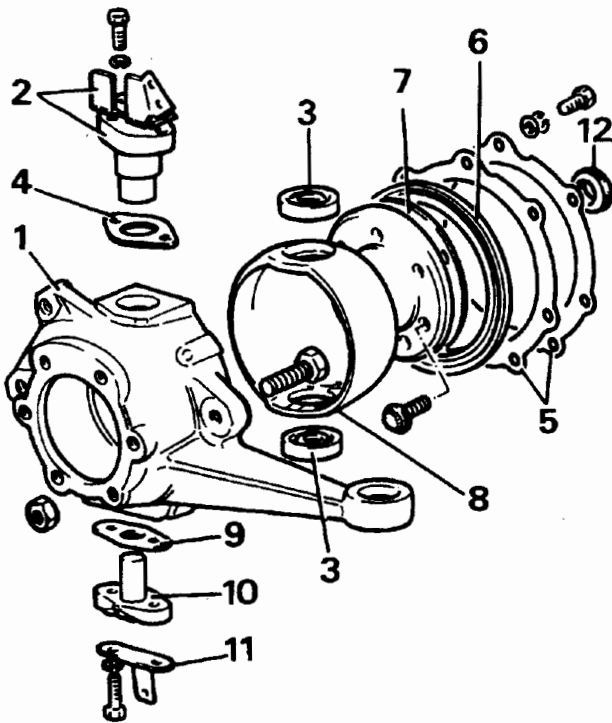
CAUTION: Ensure bearing tracks are fitted square or damage could occur.

35. With seal lips trailing, fit swivel housing inner oil seal into rear of housing. Grease seal lips.

Fit swivel pin housing

36. Coat swivel bearing housing to axle casing bolts with Loctite 270 or equivalent.
37. Coat both sides of joint washer with a sealing compound. Position swivel bearing housing to axle mating face.
38. Place retaining plate, joint washer and oil seal over axle flange ready for assembly.
39. Fit swivel bearing housing to axle flange with seven bolts. Tighten to **73 Nm**.
40. Grease and fit upper and lower swivel pin taper roller bearings.
41. Position swivel pin housing over swivel bearing housing.
42. Coat joint washer both sides with sealing compound and position on lower swivel pin.
43. Loosely fit brake shield bracket plus lower swivel pin with lug outboard to swivel pin housing.
44. Loosely fit top swivel pin plus existing shims and brake hose bracket to swivel pin housing.
45. Apply Loctite 270 or equivalent to lower swivel pin bolts. Tighten to **78 Nm** bend over lock tabs.
46. Tighten top swivel pin bolts to **78 Nm**.

Swivel assembly components



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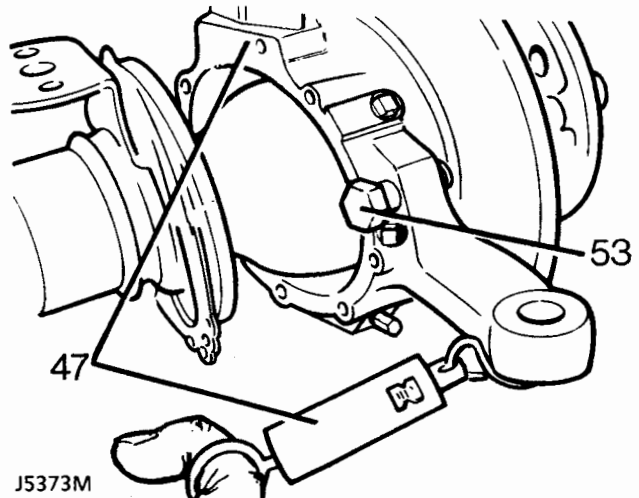
1. Swivel pin housing
2. Top swivel pin and brake hose bracket
3. Upper and lower swivel pin bearings
4. Shim
5. Retaining plate and washer
6. Oil seal
7. Joint washer
8. Swivel bearing housing
9. Joint washer
10. Lower swivel pin
11. Mudshield bracket
12. Swivel housing inner oil seal

Check and adjust preload on bearings



NOTE: Swivel housing oil seal and axle should not be fitted.

47. Attach a spring balance to ball joint bore and pull balance to determine effort required to turn swivel pin housing. Resistance, once initial inertia has been overcome, should be 1.16 to 1.46 kg. Adjust by removing or adding shims to top swivel pin.



J5373M

48. When setting is correct remove top swivel bolts, apply Loctite 270 or equivalent. Refit to **78 Nm**, and bend over lock tabs.
49. Apply recommended grease between lips of swivel oil seal.
50. Fit oil seal, joint washer and retaining plate with seven bolts and spring washers to **11 Nm**.
51. Fit tie rod and drag link and secure with new cotter pins. Tighten to **40 Nm**.
52. Fit brake disc shield.
53. Loosely fit lock stop bolt and nut.
54. Apply a recommended grease between lips of swivel housing oil seal.
55. Secure oil seal with retaining plate and securing bolts. Tighten to **11 Nm**.
56. Fit track-rod and drag link and secure with new cotter pins.
57. Loosely fit lock stop bolt for later adjustment.
58. Fit brake disc shield.



Fit driveshaft and stub axle

59. Insert axle shaft, and when differential splines are engaged, push assembly in fully.



CAUTION: Take care not to damage axle shaft oil seals.

60. Place a new joint washer in position on swivel pin housing to stub axle mating face. Coat threads of stub axle bolts with Loctite 270.
61. Fit stub axle with flat at 12 o'clock position.



CAUTION: Ensure that constant velocity joint bearing journal is butted against thrust ring on stub axle. Before stub axle is secured. nupar> Place mud shield in position and secure stub axle to swivel pin housing with six bolts and tighten evenly to 65 Nm.

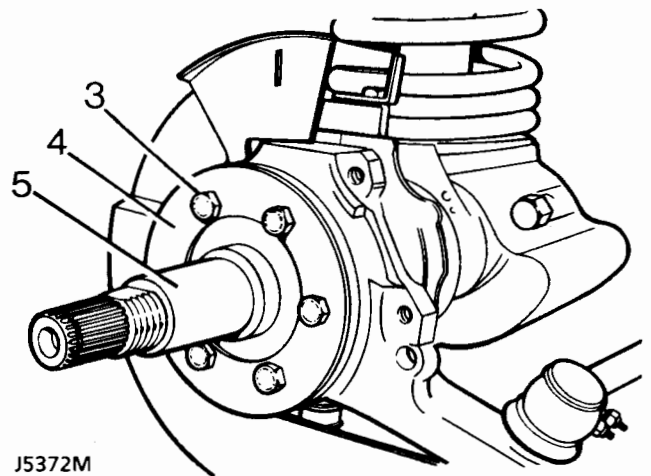
62. Fit brake jump hoses to brake jump hose bracket.
63. Fit front hub complete assembly. *See Repair, Front Hub Assembly*
64. Check swivel pin housing oil drain plug is fitted.
65. Fill swivel assembly to correct level, with new oil. *See SECTION 10, Maintenance, Under Vehicle Maintenance*
66. Set steering lock stop bolts to provide a clearance of 20mm. *See STEERING, Adjustment, Steering Lock Stops*

FRONT STUB AXLE, CONSTANT VELOCITY JOINT AND SWIVEL PIN HOUSING ABS

Service repair no - 60.15.43.

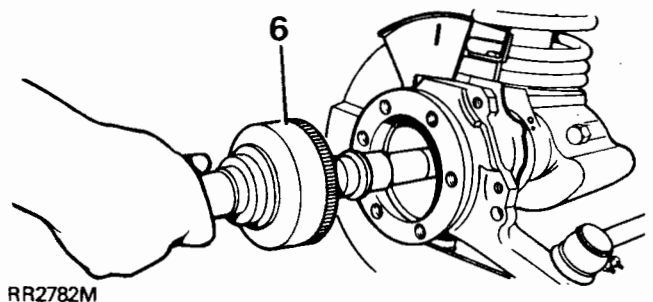
Remove stub axle, axle shaft and constant velocity joint.

1. Remove front hub assembly. *See Repair, Front Hub Assembly*
2. Drain swivel pin housing and refit plug.
3. Remove six bolts retaining stub axle to swivel housing.
4. Remove mud shield.
5. Remove stub axle and joint washer.



J5372M

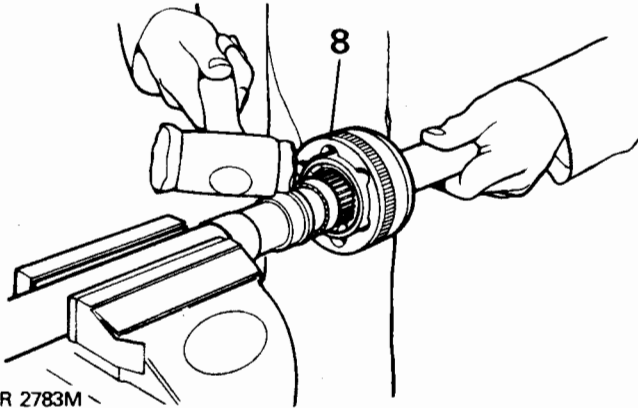
6. Pull out axle shaft and constant velocity joint from axle casing.



RR2782M

Remove constant velocity joint from axle shaft

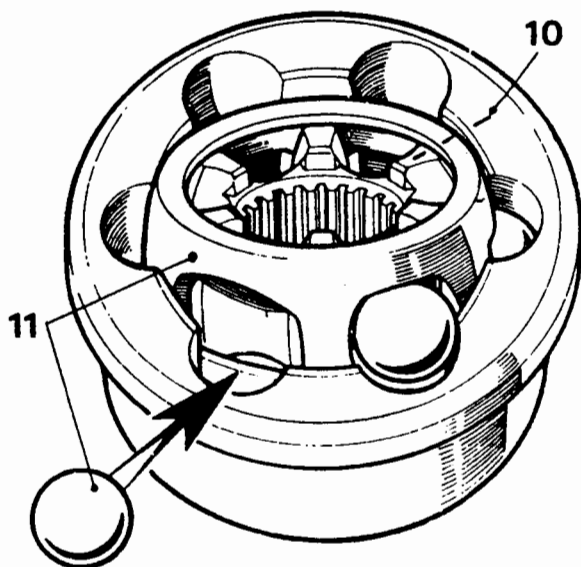
7. Hold axle shaft firmly in a soft jawed vice.
8. Using a soft mallet drive constant velocity joint from shaft.
9. Remove circlip and collar from axle shaft.



RR 2783M

Constant velocity joint

10. Mark positions of constant velocity joint, inner and outer race and cage for reassembly.
11. Swivel cage and inner race to remove balls.

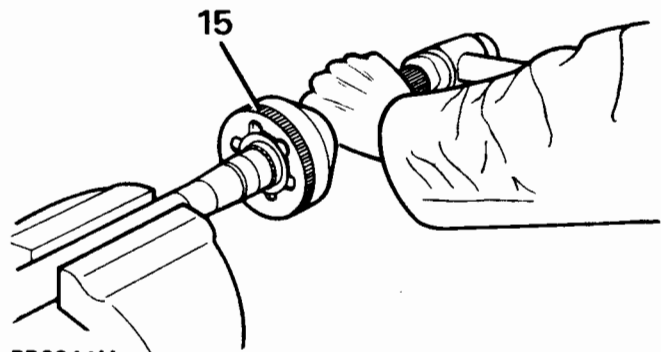


ST1025M

12. Examine all components in particular inner and outer track, cage balls and bearing surfaces for damage and excessive wear.
13. Maximum acceptable end-float on assembled joint 0,64mm. Renew if worn or damaged. Lubricate with a recommended oil during assembly.

Fit constant velocity joint to axle

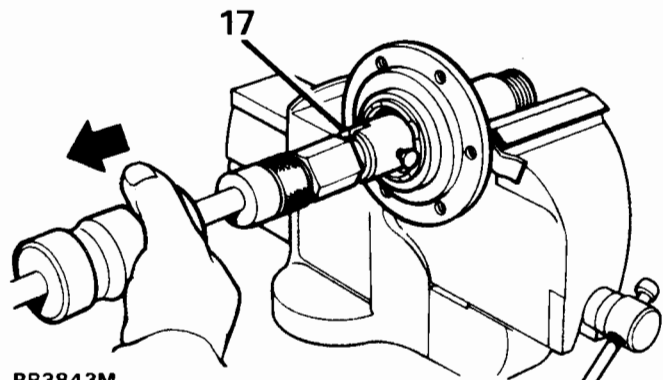
14. Fit collar and a new circlip.
15. Engage constant velocity joint on axle shaft splines and using a soft mallet, drive joint in fully.



RR3844M

Renew stub axle, thrust ring, oil seal and bearing

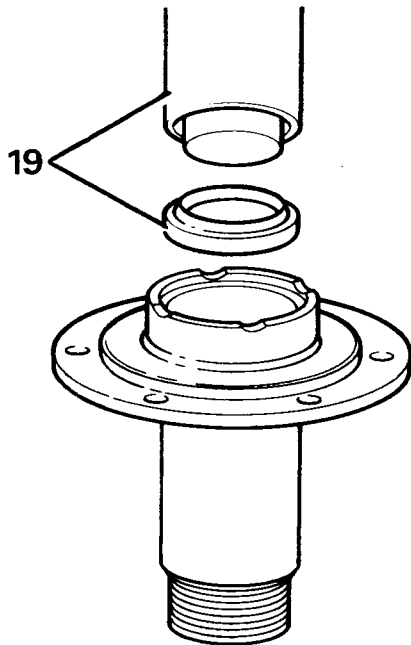
16. Drill and chisel off thrust ring taking care to avoid damaging stub axle.
17. Remove bearing and oil seal using special tool LRT-37-004 and slide hammer LRT-99-004. Ensure lip of tool locates behind bearing to drive it out.
18. Repeat instruction for removal of oil seal.



RR3843M

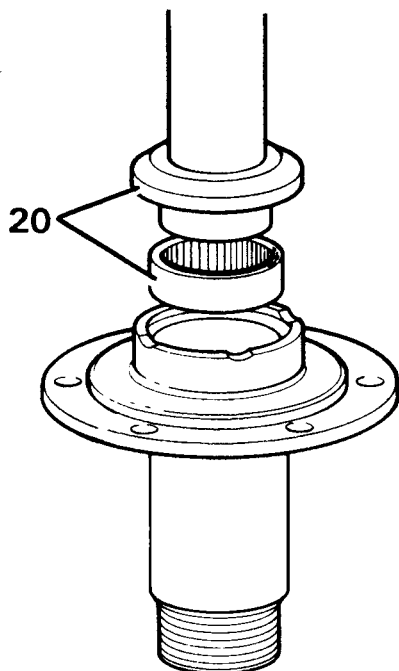


19. Lubricate seal and lip with EP90 oil and with cavity side leading press in a new oil seal using special tool LRT-54-004.



RR3840M

20. Using special tool LRT-54-005, fit bearing with its part number visible when fitted, and flush with end face of stub axle.
 21. Press fit a new thrust ring onto stub axle.



RR3839M

Swivel pin housing assembly

22. Remove brake disc shield bracket.
 23. Disconnect track-rod end ball joint from housing.
 24. Disconnect drag-link ball joint.
 25. Disconnect jump hoses from brake jump hose bracket.
 26. Remove ABS brake sensor.
 27. Remove six bolts securing oil seal and retaining plate to swivel pin housing. Prise seal from swivel pin housing.

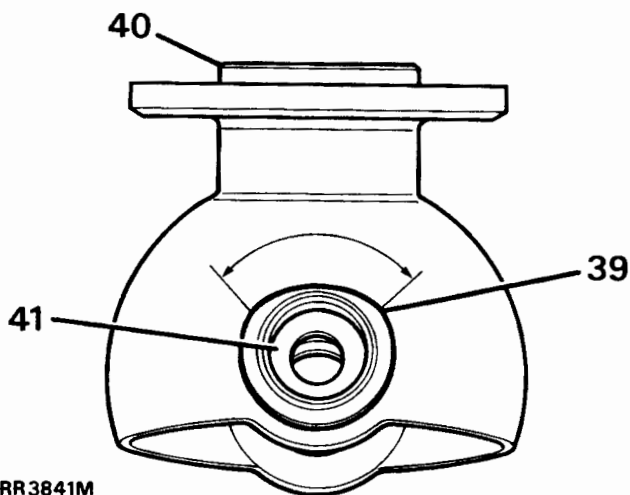


NOTE: Oil seal and retaining plate cannot be removed until swivel pin bearing housing is removed.

28. Remove two screws securing brake damper/shield bracket, and lower swivel pin to housing.
 29. Withdraw lower swivel pin and joint washer by tapping protruding lug.
 30. Remove top swivel pin retaining bolts complete with brake jump hose bracket.
 31. Remove top swivel pin and shims.
 32. Remove swivel pin housing while retrieving lower taper bearing.

Swivel pin bearing housing

33. Remove seven bolts securing swivel pin bearing housing to axle case.
 34. Remove and discard oil seal and joint washer.
 35. Remove lower swivel pin bearing track.
 36. Remove top swivel pin bush housing assembly. Discard two thrust washers and bearing.
 37. If worn, pitted or damaged, renew swivel pin bearing housing.
 38. Fit a new lower swivel pin bearing track.
 39. Fit a new bush and bush housing. Ensure relieved lip of bush housing faces towards rear, as shown.



RR3841M

- 40. With seal lips trailing press axle shaft oil seal flush into rear of housing. Grease lips.
- 41. Fit new thrust washers and bearing into top swivel pin bush.
- 42. Hang swivel pin bearing housing oil seal and retainer plate over back of housing. Ensure they are in correct assembly order.
- 43. Fit a new joint washer and secure swivel pin bearing housing to axle. Starting with top fixing dowel bolt. Tighten to **72Nm**.

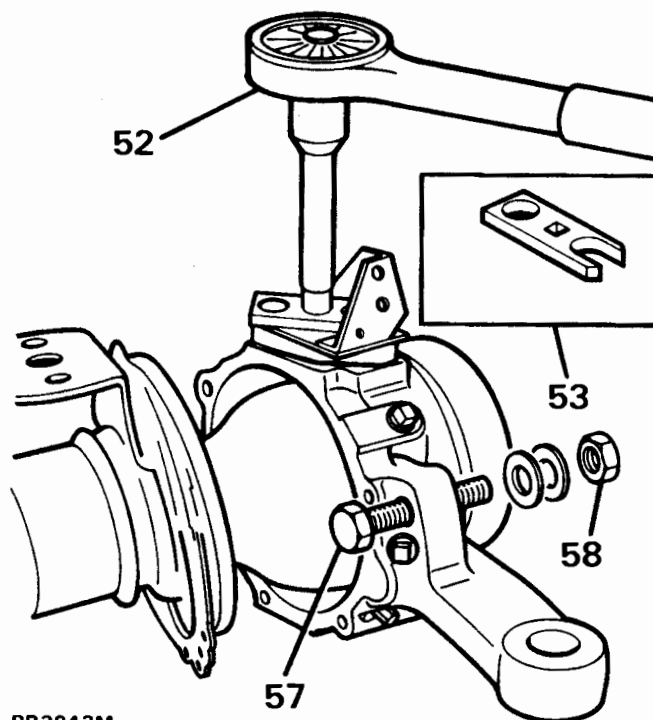
Fit swivel pin housing

- 44. Grease and fit lower swivel pin bearing to bearing housing.
- 45. Place swivel pin housing in position over swivel pin bearing housing.
- 46. Using a new joint washer, fit lower swivel pin with lip outboard. Do not secure with screws at this stage.
- 47. Fit a new sensor bush and new oil seal, lip side leading to top swivel pin.
- 48. Lubricate with a recommended oil and fit top swivel pin with existing shims.
- 49. Coat threads of top swivel pin bolts with Loctite 542. Fit bolts and jump hose bracket (do not tighten).

- 50. Coat threads of lower swivel pin screws with Loctite 270 and fit, together with damper and shield bracket. Tighten to **25 Nm**.
- 51. Tighten top swivel pin and brake jump hose bracket securing bolts to **65 Nm**.

Check and adjust preload on bearings

- 52. The preload on bearings to be **0,25 to 0,30 mm**, **without** swivel housing oil seal and axle fitted, and reading from centre of swivel pin. The torque required to turn swivel assembly from lock to lock to be **2.0 to 2.8 Nm**. Adjust by removing or adding shims as necessary.
- 53. To take a reading use special tool LRT-57-024 torque test adaptor, with a torque wrench and extension as shown.



RR3842M

- 54. Apply a recommended grease between lips of swivel housing oil seal.
- 55. Secure oil seal with retaining plate and securing bolts. Tighten to **11Nm**.
- 56. Fit track-rod and drag link and secure with new cotter pins.
- 57. Loosely fit lock stop bolt for later adjustment.
- 58. Fit brake disc shield.

**Fit driveshaft and stub axle**

59. Insert axle shaft, and when differential splines are engaged, push assembly in fully.



CAUTION: Take care not to damage axle shaft oil seals.

60. Place a new joint washer in position on swivel pin housing to stub axle mating face. Coat threads of stub axle bolts with Loctite 270.
61. Fit stub axle with flat at 12 o'clock position.

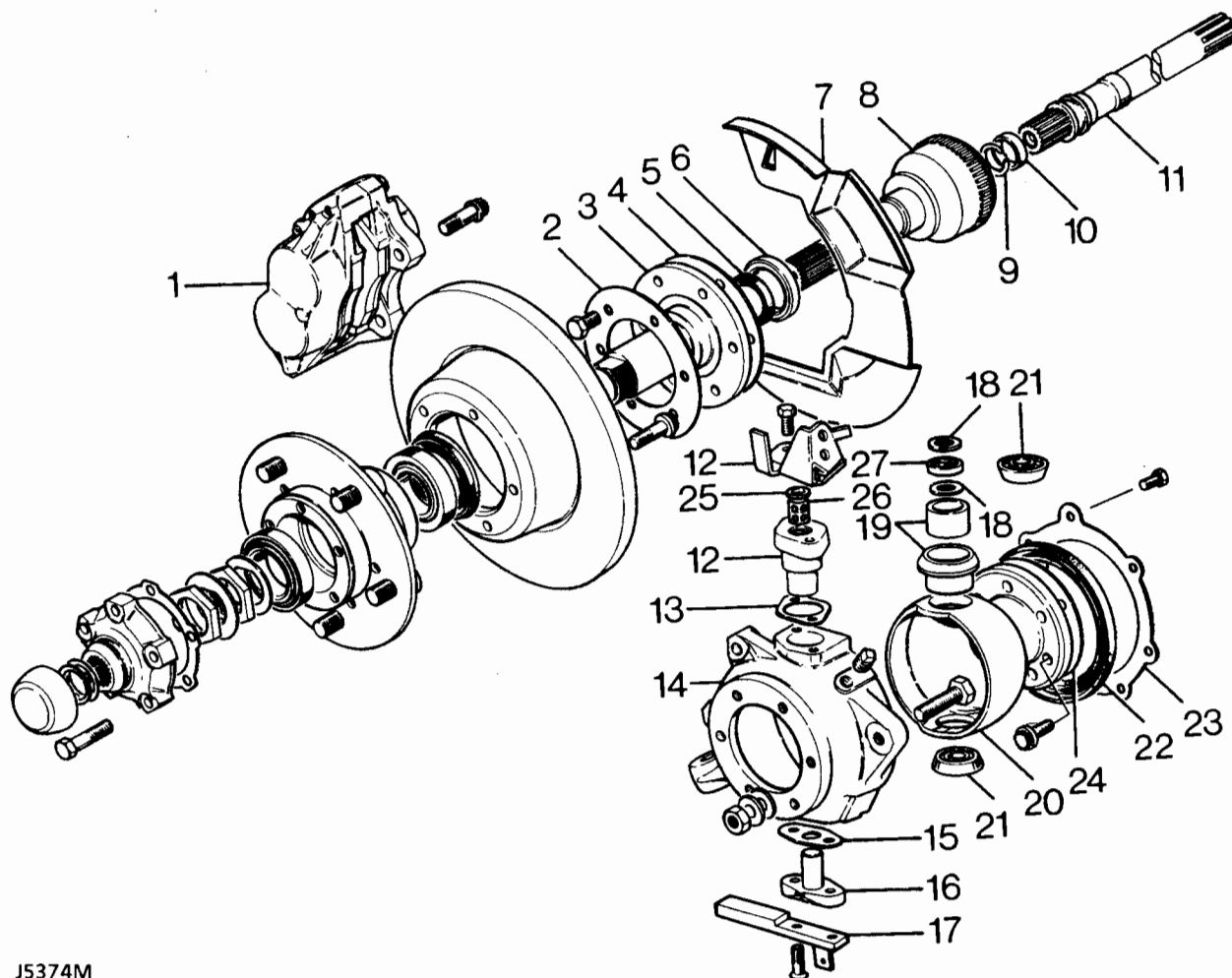


CAUTION: Ensure that constant velocity joint bearing journal is butted against thrust ring on stub axle. Before stub axle is secured.

62. Place mud shield in position and secure stub axle to swivel pin housing with six bolts and tighten evenly to **65 Nm**.
63. Fit brake jump hoses to brake jump hose bracket.
64. Fit front hub complete assembly. **See Repair, Front Hub Assembly**
65. Check swivel pin housing oil drain plug is fitted.
66. Fill swivel assembly to correct level, with new oil. **See SECTION 10, Maintenance, Under Vehicle Maintenance**
67. Set steering lock stop bolts to provide a clearance of 20mm. **See STEERING, Adjustment, Steering Lock Stops**
68. Fit ABS brake sensor. **See BRAKES, Repair, Sensors - Front**

FRONT HUB AND SWIVEL COMPONENTS

1. Brake caliper.
2. Mud shield.
3. Stub axle.
4. Joint washer.
5. Oil seal.
6. Bearing.
7. Brake disc shield.
8. Constant velocity joint.
9. Circlip.
10. Bush.
11. Inner driveshaft.
12. Top swivel pin and jump hose bracket.
13. Shim.
14. Swivel pin housing.
15. Joint washer.
16. Lower swivel pin.
17. Damper and shield bracket.
18. Thrust washer, ABS.
19. Bush and housing, ABS.
20. Swivel pin bearing housing.
21. Lower swivel pin bearing (and upper bearing non ABS).
22. Oil seal.
23. Oil seal retaining plate.
24. Joint washer.
25. Oil seal, ABS.
26. Sensor bush, ABS.
27. Thrust bearing, ABS.



J5374M

**Fit driveshaft and stub axle**

59. Insert axle shaft, and when differential splines are engaged, push assembly in fully.



CAUTION: Take care not to damage axle shaft oil seals.

60. Place a new joint washer in position on swivel pin housing to stub axle mating face. Coat threads of stub axle bolts with Loctite 270.
61. Fit stub axle with flat at 12 o'clock position.

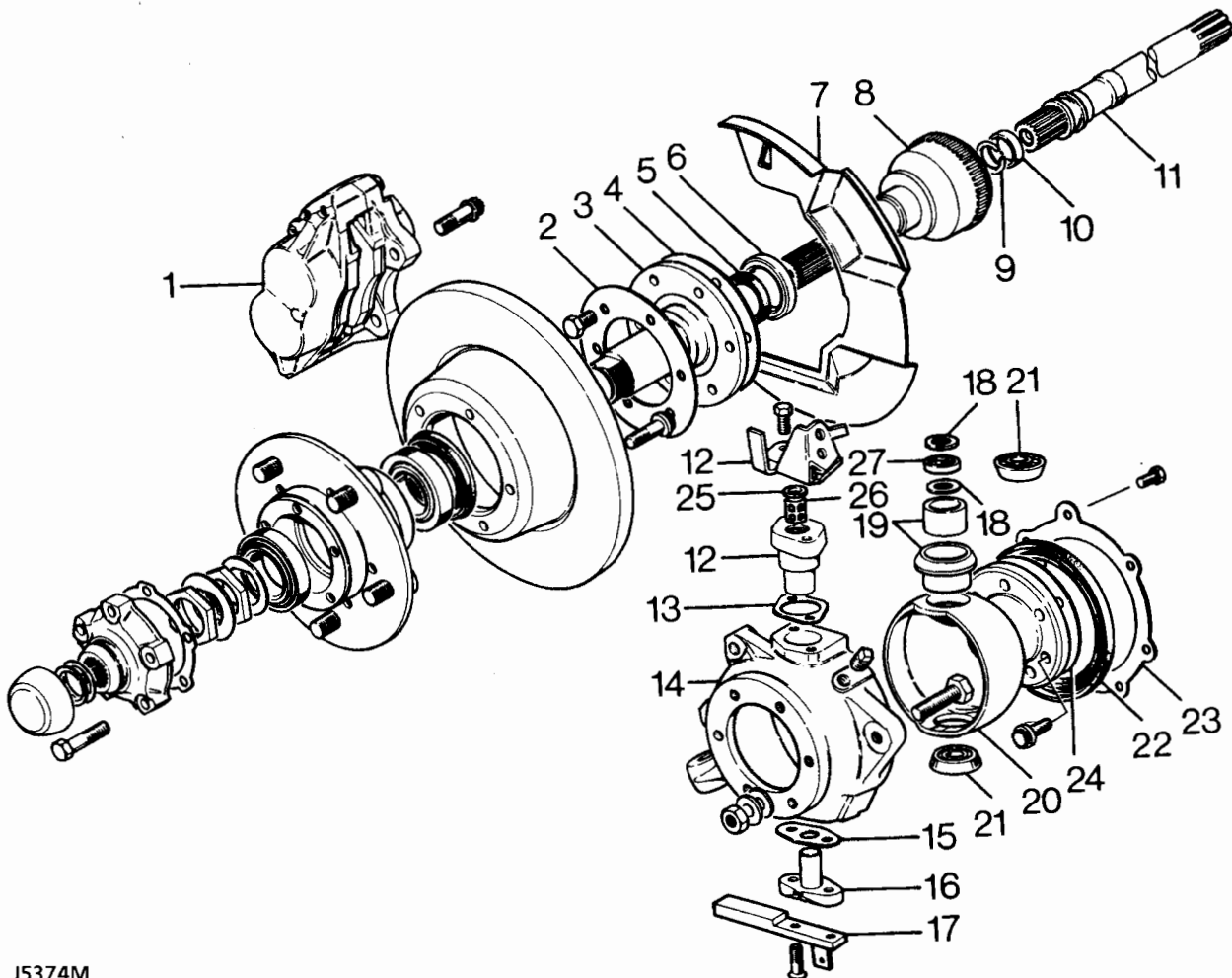


CAUTION: Ensure that constant velocity joint bearing journal is butted against thrust ring on stub axle. Before stub axle is secured.

62. Place mud shield in position and secure stub axle to swivel pin housing with six bolts and tighten evenly to **65 Nm**.
63. Fit brake jump hoses to brake jump hose bracket.
64. Fit front hub complete assembly. **See Repair, Front Hub Assembly**
65. Check swivel pin housing oil drain plug is fitted.
66. Fill swivel assembly to correct level, with new oil. **See SECTION 10, Maintenance, Under Vehicle Maintenance**
67. Set steering lock stop bolts to provide a clearance of 20mm. **See STEERING, Adjustment, Steering Lock Stops**
68. Fit ABS brake sensor. **See BRAKES, Repair, Sensors - Front**

FRONT HUB AND SWIVEL COMPONENTS

- | | |
|---|---|
| 1. Brake caliper. | 15. Joint washer. |
| 2. Mud shield. | 16. Lower swivel pin. |
| 3. Stub axle. | 17. Damper and shield bracket. |
| 4. Joint washer. | 18. Thrust washer, ABS. |
| 5. Oil seal. | 19. Bush and housing, ABS. |
| 6. Bearing. | 20. Swivel pin bearing housing. |
| 7. Brake disc shield. | 21. Lower swivel pin bearing (and upper bearing non ABS). |
| 8. Constant velocity joint. | 22. Oil seal. |
| 9. Circlip. | 23. Oil seal retaining plate. |
| 10. Bush. | 24. Joint washer. |
| 11. Inner driveshaft. | 25. Oil seal, ABS. |
| 12. Top swivel pin and jump hose bracket. | 26. Sensor bush, ABS. |
| 13. Shim. | 27. Thrust bearing, ABS. |
| 14. Swivel pin housing. | |



J5374M



TORQUE VALUES



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

	Nm
FRONT AXLE	
Hub driving member to hub	65*
Brake disc to hub	73
Stub axle to swivel pin housing	65*
Brake caliper to swivel pin housing	82
Upper swivel pin to swivel pin housing	78*
Upper swivel pin to swivel pin housing ABS	65
Lower swivel pin to swivel pin housing	78*
Lower swivel pin to swivel pin housing ABS	25*
Oil seal retainer to swivel pin housing	11
Swivel bearing housing to axle case	73*
Pinion housing to axle case	41
Crown wheel to differential housing	58
Differential bearing cap to pinion housing	90
Differential drive flange to drive shaft	47
Mudshield to bracket lower swivel pin	11
Disc shield to bracket lower ABS	9
Bevel pinion nut	130
Draglink to hub arm	40
Panhard rod to axle bracket	88
Radius arm to axle	190
Radius arm to chassis side member	190



NOTE: * These bolts to be coated with Loctite 270 prior to assembly.

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

METRIC	Nm
M5	6
M6	9
M8	25
M10	45
M12	90
M14	105
M16	180

UNC / UNF	Nm
1/4	9
5/16	24
3/8	39
7/16	78
1/2	90
5/8	136

FRONT HUB AND SWIVEL DATA

Front hub

Front hub end float	0,010 mm
Drive shaft end play	0,08 to 0,25 mm

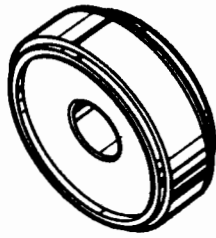
Swivel pin bearing preload

ABS vehicles - Torque to turn	2. to 3. Nm
Non ABS vehicles - Resistance to turn	1,16 to 1,46Kg



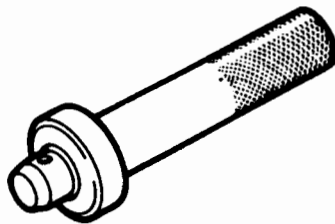
FRONT HUB

LRT-54-001 Oil seal replacer non ABS
LST550-5



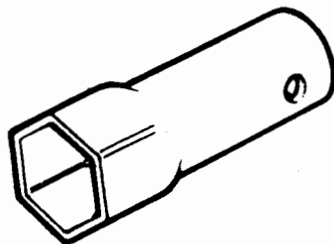
LST 5505

LRT-99-003 Drift
18G134



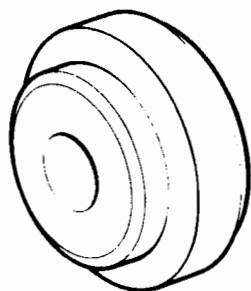
18G134

LRT-54-002 Hub nut wrench
RO606435A

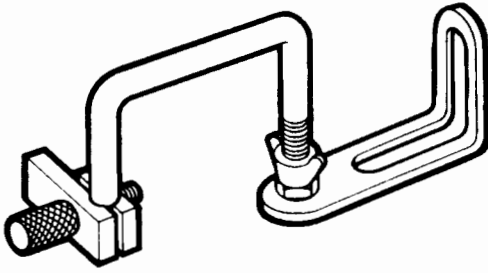


606435A

LRT-54-003 Hub oil seal replacer ABS
LST137

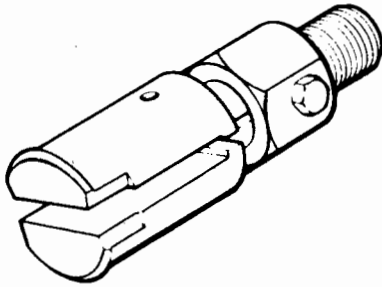


LST137



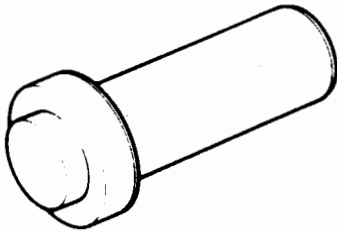
RO530106

LRT-99-503 Dial gauge bracket
RO530106



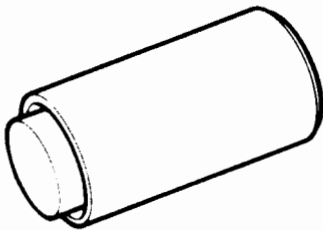
8G284AAH

LRT-37-004 Extractor ABS
18G284AAH



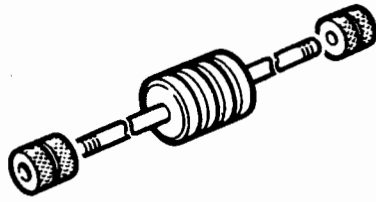
LST132

LRT-54-005 Bearing installer ABS
LST132



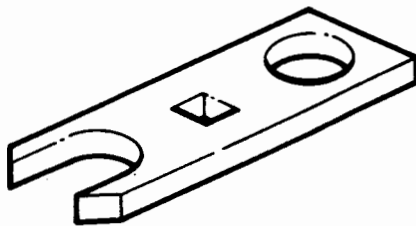
LST133

LRT-54-004 Seal installer ABS
LST133



LRT-99-004 Impulse extractor
MS284

MS284



LRT-570-024 Torque test adaptor ABS
LST141

LST141