OVERHAUL REAR HUB ASSEMBLY

Service tool: 18G 1349 seal replacer

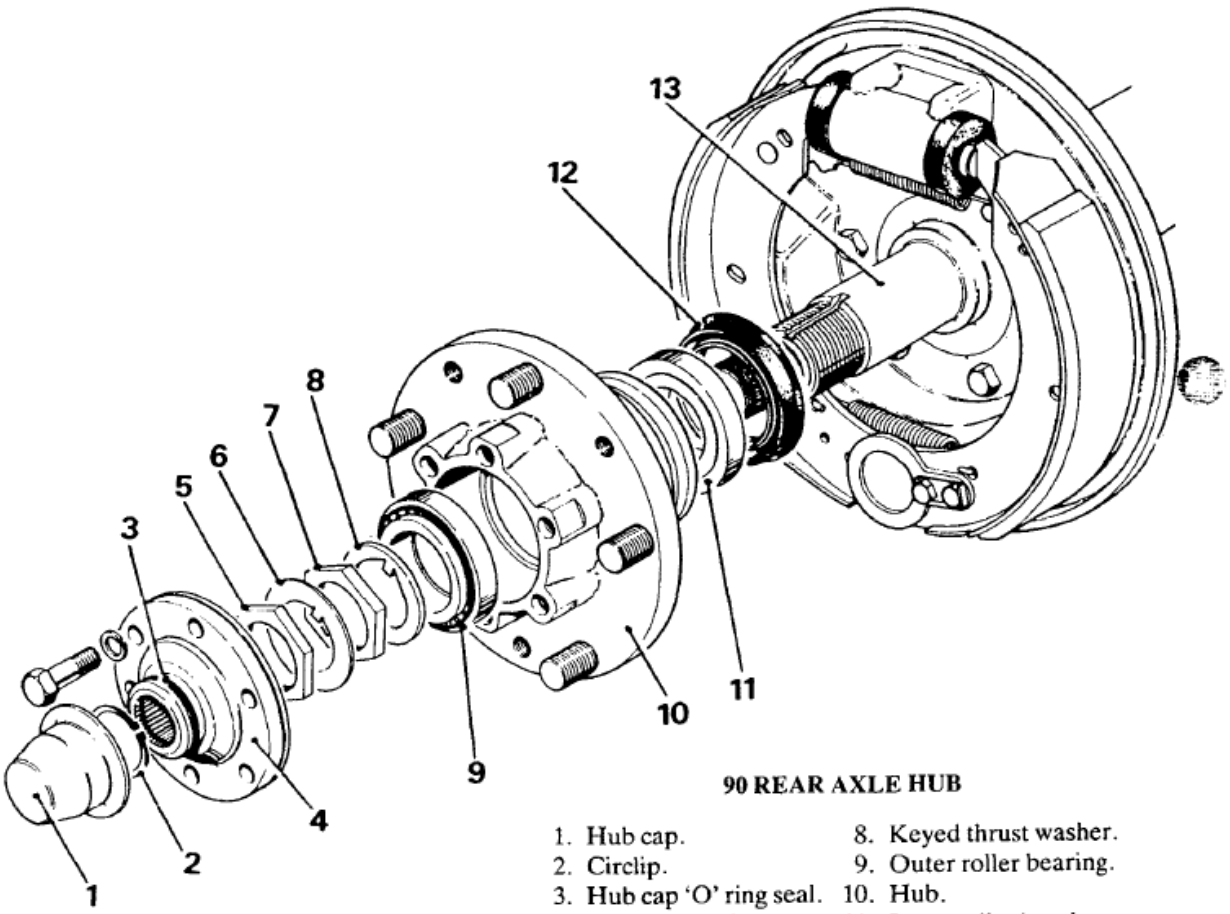
Dismantle

NOTE: The oil catcher mentioned in instructions 7 and 17, is fitted to 110 models only.

1. Slacken the road wheel retaining nuts, jack up the vehicle, lower onto axle stands and remove the road wheels.
2. Remove the three brake drum retaining screws and withdraw the brake drum. If necessary, slacken the brake adjuster to facilitate removal.
3. Lever **off** the hub cap and remove the axle shaft circlip.
4. Remove the six bolts and withdraw the hub driving member and joint washer.
5. Unlock the tab washer, remove the outer and inner locknuts and keyed thrust washer.
6. Withdraw the hub complete with inner and outer taper roller bearings and dual lipped seal.
7. If required, remove the oil catcher and bearing sleeve by removing the six brake backplate retaining nuts and bolts.

Overhaul hub

8. Remove the dual lipped seal and inner bearing from the hub.
9. If new bearings are to be fitted drift or press out the old bearing cups.
10. Examine the road wheel studs and renew any worn or damaged ones.
11. Press in new bearing cups up to the shoulder.
12. Examine the oil seal housing in the hub and remove any burrs that could damage the seal.
13. Pack the inner bearing with Shell Retinax A grease or equivalent and fit to the hub.
14. While taking care not to touch the seal lips, liberally smear — not pack — the cavity between the seal lips with Shell Retinax A or equivalent.

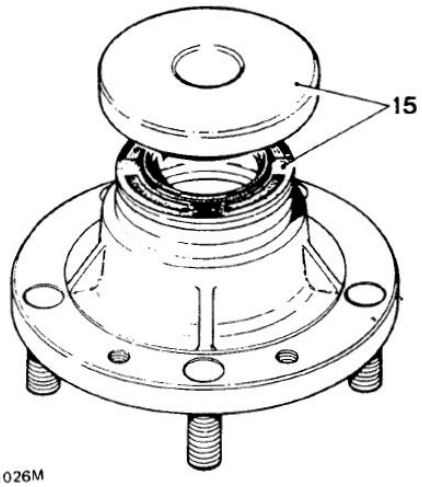


ST775M

90 REAR AXLE HUB

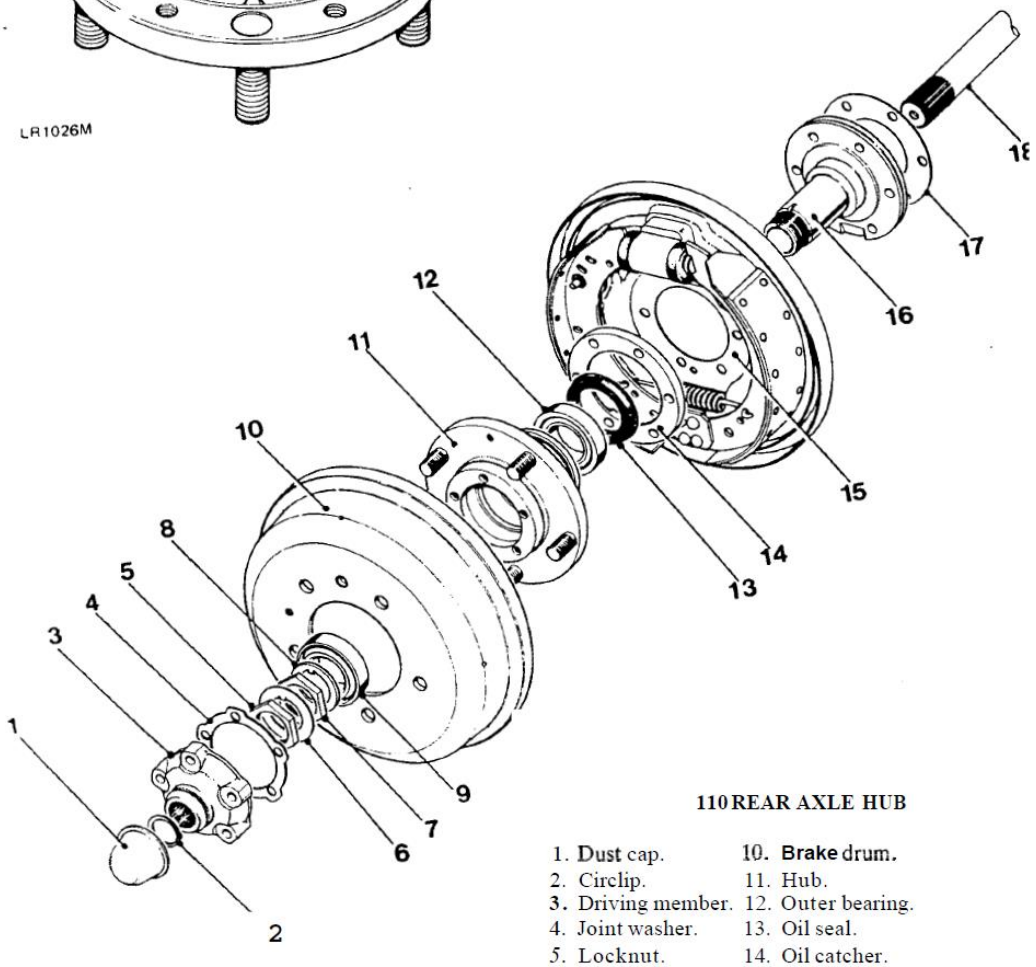
1. Hub cap.
2. Circlip.
3. Hub cap 'O' ring seal.
4. Driving member.
5. Outer locknut.
6. Lock washer.
7. Inner adjusting nut.
8. Keyed thrust washer.
9. Outer roller bearing.
10. Hub.
11. Inner roller bearing.
12. Dual lipped seal.
13. Bearing sleeve.

15. To avoid possible damage to the seal and to ensure the correct depth into the hub, press-in the seal, lip side leading, using special tool 18G 1349.



LR1026M

16. If this tool is not available obtain a suitable tube that will fit exactly on the four diametrically opposed pads in the channel round the seal on the opposite side to the lip and with the lip leading press-in the seal so that it is recessed 4,8 to 5,3 m (0.190 to 0.210 in) from the rear face of the hub.



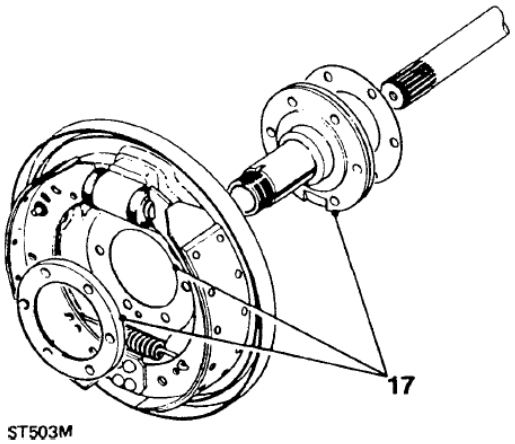
ST626M

110 REAR AXLE HUB

1. Dust cap.
2. Circlip.
3. Driving member.
4. Joint washer.
5. Locknut.
6. Lock washer.
7. Adjusting nut.
8. Key washer.
9. Outer bearing.
10. Brake drum.
11. Hub.
12. Outer bearing.
13. Oil seal.
14. Oil catcher.
15. Brake back plate assembly.
16. Stub axle.
17. Joint washer.
18. Half-shaft.

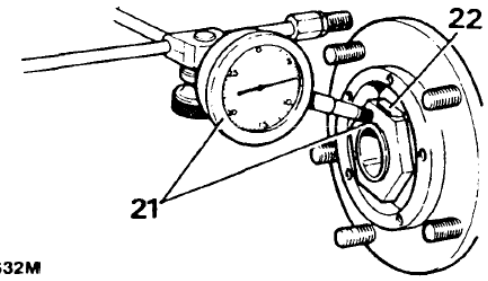
Reassemble hub to axle

17. If removed, assemble the backplate and oil catcher to the axle having first smeared Hylomar SQ32M on the face of the oil catcher to seal it to the backplate. Ensure that the milled slot and the drain hole in the backplate line **up** at the bottom. Secure the assembly to the axle with the six bolts and nuts and tighten to the correct torque.



ST503M

18. Before fitting the hub, ensure that the journal on which the dual lipped seal runs is clean and free from imperfections that could damage the seal.
19. Fit the hub to the bearing sleeve, pack the outer bearing with grease and fit to the hub.
20. Fit the keyed thrust washer and adjusting inner nut. Tighten the nut, by hand, whilst rotating the hub until all the end-play is taken up.
21. Mount a dial test indicator so that the stylus rest on the adjusting nut. Slacken the nut back to obtain an end-float of 0,050 to 0,101 mm (0.002 to 0.004 in).
22. Fit the tab washer and outer locknut. Tighten the locknut, re-check the end-float and lock the nuts.



ST632M

23. Using a new joint washer, fit the hub driving member and tighten the retaining bolts and spring washers to 60 to 70 Nm (44 to 52 lbf ft).
24. Fit the circlip to the axle shaft, ensuring that it locates correctly in the groove.
25. Fit the hub cap, if necessary using a new 'O' ring seal.
26. Fit the brake drum and secure, if necessary with new screws.
27. Adjust the brake shoes to the drum.
28. Fit the road wheels, using new nuts if necessary.
29. Remove the vehicle from the axle stands and finally tighten the wheel nuts to the correct torque.

REAR HUBS

With inner and outer seals. From axle numbers onwards

Land Rover 90	22S08284B
Land Rover 110	21S22955B

REMOVE AND OVERHAUL

Special tools:
Oil seal replacer LST 550-5
Drift for seal replacer MS 550 or 186134
Hub nut spanner 606435

Remove

1. Jack-up the vehicle, lower onto axle stands and remove the road wheels.
2. Remove the two brake drum retaining screws and withdraw the brake drum. If necessary, slacken the brake adjuster to facilitate removal.
3. Prise-off the hub cap.
4. Remove the circlip.
5. Remove the five bolts and withdraw the hub driving member and joint washer.
6. Prise-up the lock washer and remove the outer locknut and inner adjusting nut.
7. Withdraw the hub complete with with the inner and outer seals, seal track spacer, and inner and outer taper roller bearings.
8. If the stub axle is damaged or scored remove and discard it by removing the six brake back plate **retaining nuts** and bolts.

Overhaul hub

9. Remove the seal track spacer and outer seal.
10. Remove the outer bearing cone.

continued

11. Remove the inner seal and bearing cone.
12. If new bearings are to be fitted drift or press out the old cups.
13. Degrease and examine the hub for cracks and damage and renew if necessary. Renew hub if wheel studs are faulty.

Assemble

14. If removed, fit the stub axle to the axle casing with a new joint washer and secure with the six nuts and bolts and tighten to the correct torque.
15. Fit new inner and outer bearing cups to the hub, ensuring that they are drifted or pressed squarely into position.
16. Fit the inner bearing cone and pack with one of the recommended hub greases.

Fitting inner oil seal

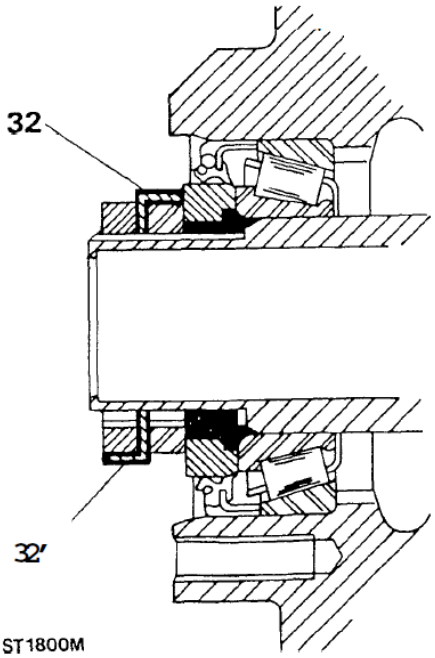
17. Clean the hub oil seal housing and ensure that the seal locating surface is smooth and the chamfer on the leading edge is also smooth and free from burrs.
18. Examine the new seal and ensure that it is clean, undamaged and that the garter spring is properly located. Even a small scratch on the seal lip could impair its efficiency.
19. Although the new seal is already pre-greased by the manufacturer, apply one of the recommended hub bearing greases to the outside diameter of the seal, before fitting, taking care not to damage the lip.
20. Place the seal, lip side leading, squarely on the hub and using the 76 mm end of seal replacer tool LST 550-5 and drift *550* or 18 G 134 drive the seal into position to the depth determined by the tool.

Fitting outer oil seal

21. Fit the new outer bearing cone and pack with one of the recommended hub greases.
22. Carry out instructions 17 to 19 but insert the seal with the lip side trailing.
23. Place the seal, lip side leading, squarely on the hub and using the 72 mm end of seal replacer tool LST 550-5 and drift 550 or 18 G 134, drive the seal into position to the depth determined by the tool.

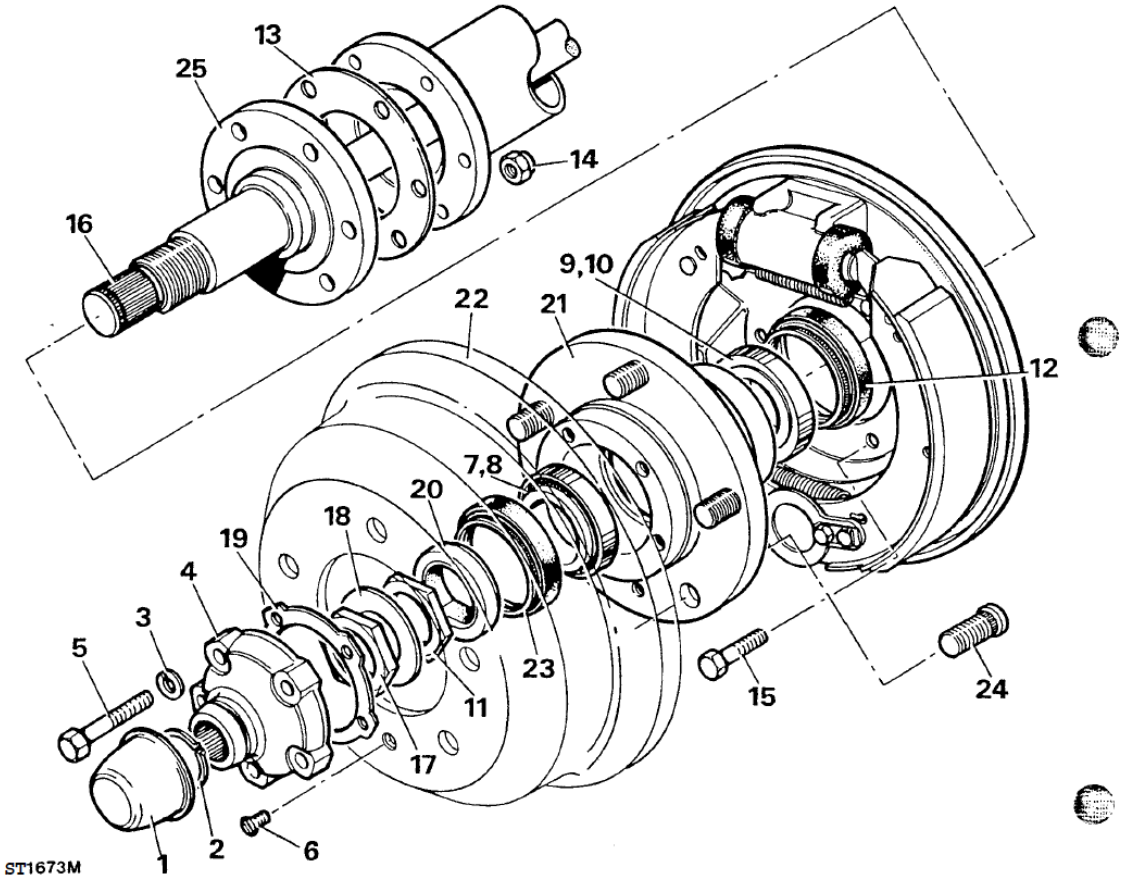
Fitting hub to stub axle

24. Smear the lips of both seals with one of the recommended greases. This **is** important since a dry seal can be destroyed during the first few revolutions of the hub.
25. Select a new seal track spacer and check that the outer diameter is smooth and free from blemishes and that there are no burrs on the chamfered leading edge.
26. Taking care not to damage the seal lips fit the hub assembly to the stub axle. Do not allow the weight of the hub to rest, even temporarily, on the outer seal otherwise damage and distortion could occur. Therefore hold the hut clear of the stub axle until the seal track spacer is fitted.
27. Carefully fit the seal track spacer, seal lip leading.
28. Fit the hub inner nut and using spanner 606435 tighten the adjusting nut whilst slowly revolving the hub until all end-float is removed then back-off the nut approximately half-a-turn.
29. Mount a dial test indicator and bracket on the hub so that the stylus rests in a loaded condition on the nut. Check the end-float which must be 0,013 to 0,010 mm (0.0005 to 0.0004 in). Adjust the nut as necessary to achieve this.
30. Fit the locker and locknut and tighten against the adjusting nut.
31. Rotate the hub several times to settle the bearings then re-check the end-float.
32. Bend one segment of the locker over the adjusting nut and another, diametricallyopposite, over the locknut.



ST1800M

33. Using a new joint washer, fit the hub driving member and secure with the five bolts and tighten evenly to the correct torque.
34. Fit the circlip to the axle shaft ensuring that it is properly seated in the groove.
35. Fit the **hub** cap.
36. Fit the road wheels and secure with the nuts. Jack-up the vehicle, remove axle stands and lower vehicle to ground. Finally tighten the road wheel nuts to the correct torque.



KEY TO HUB COMPONENTS

1. Hub cap.
2. Circlip.
3. Spring washer — hub driving member bolt.
4. Hub driving member.
5. Hub driving member bolts.
6. Brake drum retaining screws.
7. Outer bearing cone.
8. Outer bearing cup.
9. Inner bearing cup.
10. Inner bearing cone.
11. End-float adjusting nut.
12. Inner oil seal.
13. Joint washer.
14. Locknut. } stub axle to axle casing
15. Bolt. }
16. Axle shaft
17. Locknut.
18. Lock washer.
19. Joint washer.
20. Seal track spacer.
21. Hub casting.
22. Brake drum.
23. Outer oil seal.
24. Road wheel stud.
25. Stub axle.