CLUTCH ASSEMBLY

Overhaul

Clutch pressure plate

Renew the pressure plate if the diaphragm spring fingers are worn or if the pressure plate shows signs of wear, cracks or burning.

Clutch driven plate

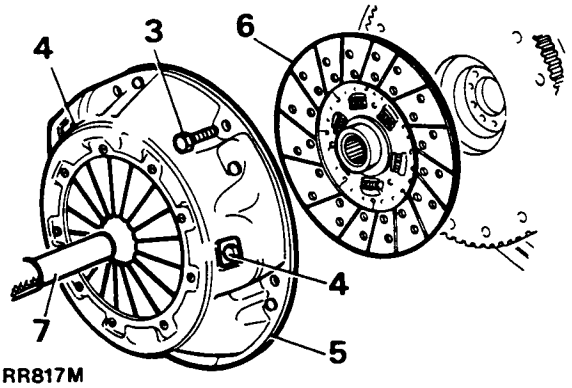
Renew the driven plate if the centre hub splines are worn or if the lining is contaminated, burned or unevenly worn.

Remove and refit

Service tool: 18G 79 clutch centralising tool

Removing

1. Remove the engine.
2. Mark the clutch cover fitted position relative to the flywheel.
3. Remove the clutch cover securing bolts, working evenly and diagonally.
4. Do not disturb the three bolts located in the apertures in the clutch cover.
5. Remove the clutch assembly.
6. Withdraw the clutch driven plate.



RR817M

Refitting

NOTE: As a precaution against the clutch plate sticking, lubricate the splines using Rocol MV 3 or Rocol MTS 1000 grease.

7. Reverse 5 and 6, aligning the assembly marks. Centralising tool 18G 79.
8. Secure the cover fixings evenly, working in a diagonal sequence. Finally tighten to the correct torque, see Data section.
9. Fit the engine.

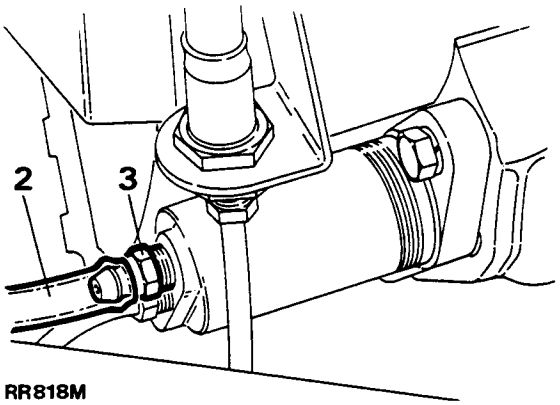
HYDRAULIC SYSTEM

Bleed

Procedure

NOTE: During the following procedure, keep the fluid reservoir topped up to avoid introducing air to the system. Use only the hydraulic fluid recommended in Section 09.

1. Attach a length of suitable tubing to the slave cylinder bleed screw.
2. Place the free end of the tube in a glass jar containing clutch fluid.
3. Slacken the bleed screw.



RR818M

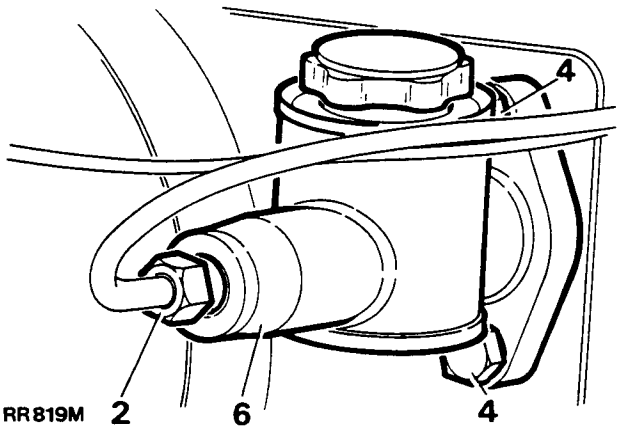
4. Pump the clutch pedal, pausing at the end of each stroke, until the fluid issuing from the tubing is free of air with the tube free end below the surface of the fluid in the container.
5. Hold the clutch pedal down. Keeping the free end of the tube below the fluid, tighten the bleed screw.

MASTER CYLINDER

Remove and refit

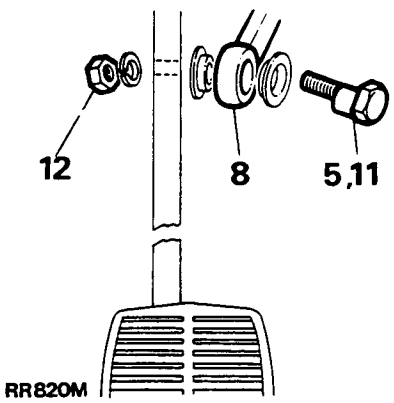
Removing

1. Evacuate the hydraulic fluid from the system.
2. Disconnect the fluid pipe at the master cylinder. Plug the master cylinder fluid port and seal the end of the hydraulic pipe to prevent ingress of foreign matter.
3. Remove the lower fascia panel.
4. Remove the master cylinder fixings at the dash panel.
5. Remove the pivot bolt and sleeves to free the push rod from the clutch pedal.
6. Withdraw the master cylinder.

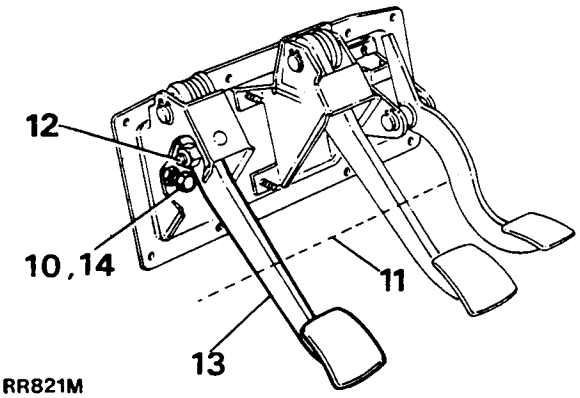


Refitting

7. Fit the master cylinder and dash fixings.
8. Fit the push-rod to the pedal. Do not tighten the pivot bolt nut at this stage.



9. Check the brake pedal setting.
10. Back off the lower stop bolt.
11. Align the clutch pedal to the same angle as the brake pedal by turning the pivot bolt and integral cam.
12. Tighten the pivot bolt securing nut.
13. Fully depress the pedal.
14. Adjust the lower stop bolt to touch the pedal then continue a further turn.



15. Fit the fluid pipe to the master cylinder.
16. Bleed and replenish the hydraulic system.
17. Fit the lower fascia panel.

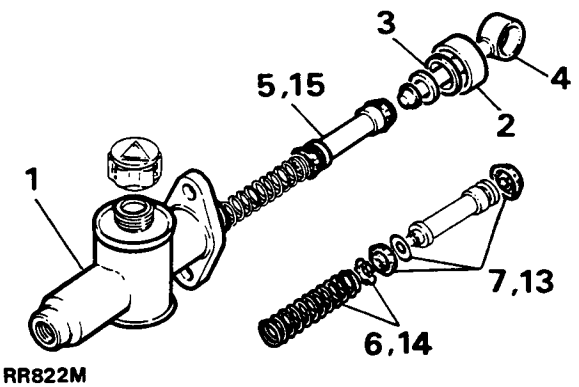
MASTER CYLINDER

Overhaul

1. Remove the master cylinder.

Dismantling

2. Pull back and remove the rubber sealing boot from the pushrod.
3. Depress the push-rod and extract the circlip.
4. Withdraw the push-rod assembly.
5. Withdraw the piston assembly.
6. Withdraw the retainer and spring.

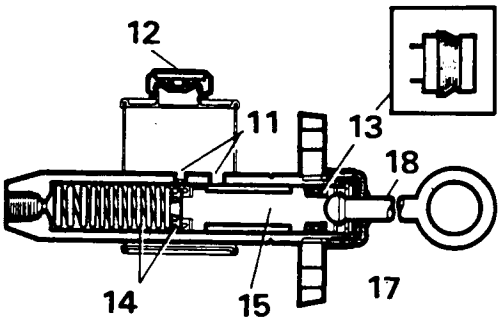


7. Remove the two piston seals and the piston washer.

Inspecting

8. Clean all the components thoroughly using new hydraulic fluid. Dry, using a lint-free cloth.

9. Examine the cylinder bore and piston, ensure that they are smooth to the touch with no corrosion, score marks or ridges. If there is any doubt, fit new replacements.
10. Replace the seals and rubber boot using new components. These items are all included in the master cylinder overhaul kit.
11. Ensure that the feed and by-pass ports are not obstructed.



RR823M

12. Ensure the reservoir cap vent is clear.

Assembling

NOTE: Scrupulous cleanliness is essential, ensure that the hands are free of grease or dirt. Lubricate the cylinder bore and rubber seals with new hydraulic fluid before assembling.

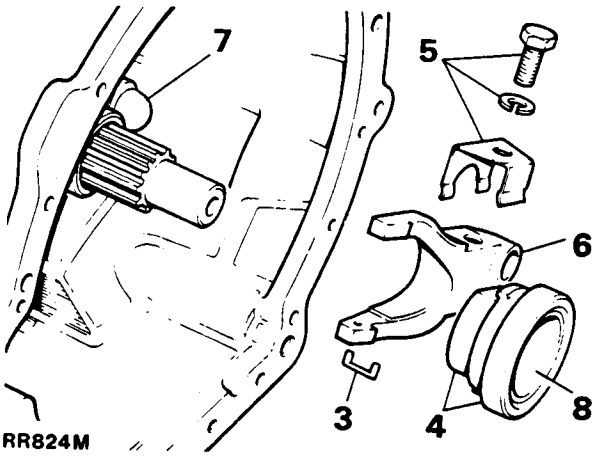
13. Fit a new piston washer and the thinner of the two piston seals, lip last, over the piston nose, up against the drilled piston head. Fit the thicker seal into the piston groove with the lip facing towards the seal at the opposite end.
14. Insert the spring and retainer into the master cylinder bore.
15. Insert the piston and seal assembly, ensuring that the seal lips do not bend back.
16. Reverse 3 and 4, correctly locating the circlip.
17. Gently stretch the new rubber boot over the push-rod, pack with rubber grease, and fit securely into its locating groove.
18. Operate the push-rod several times to ensure free movement of the internal components.
19. Fit the master cylinder.

RELEASE BEARING ASSEMBLY

Remove and refit

Removing

1. Remove the engine.
2. Remove the clutch slave cylinder.
3. Withdraw the retainer staple.



RR824M

4. Withdraw the bearing and sleeve. If required, press the bearing off the sleeve. Fit the replacement bearing with the domed face outwards from sleeve.
5. Remove the spring clip and fixings.
6. Withdraw the release lever assembly.

Refitting

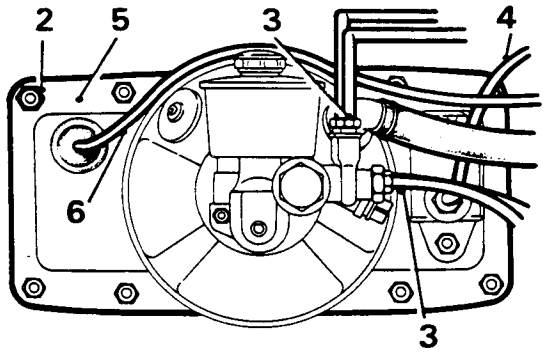
7. Smear the pivot with grease and fit the release lever and retain with the spring clip and bolt.
8. Smear the release bearing sleeve inner diameter with molybdenum disulphide base grease.
9. Reverse 1 to 4.

CLUTCH PEDAL

Remove and refit

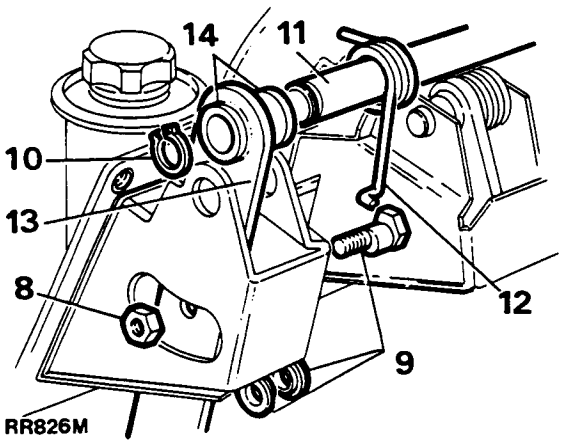
Removing

1. Remove the lower fascia panel.
2. Remove the pedal bracket fixings at the cab dash panel.
3. Disconnect the brake fluid pipes and electrical connection at the brake master cylinder.
4. Disconnect the fluid pipe at the clutch master cylinder.
5. Withdraw the pedal bracket assembly into the engine compartment.



RR825M

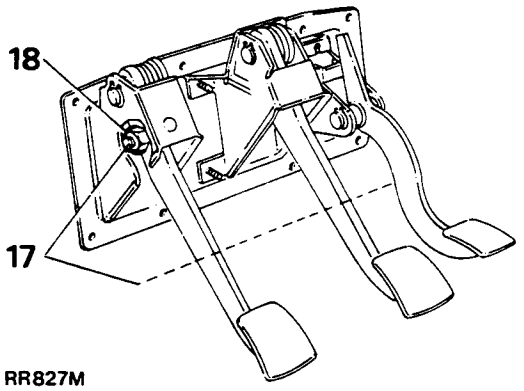
6. Disconnect the accelerator control cable at the pedal.
7. Withdraw the pedal bracket assembly from the vehicle.
8. Remove the pivot bolt nut.
9. Withdraw the pivot bolt and bearing sleeves which retain the master cylinder push-rod.
10. Remove the pedal spindle circlip.
11. Withdraw the spindle.
12. Lift out the return spring.
13. Withdraw the pedal.
14. If required, press out the spindle bushes. Press in replacements and lubricate.



RR826M

Refitting

15. Reverse 9 to 13.
16. Loosely fit the pivot bolt nut.
17. Align the clutch pedal to the same angle as the brake pedal by turning the pivot bolt and integral cam.
18. Tighten the pivot bolt securing nut.



RR827M

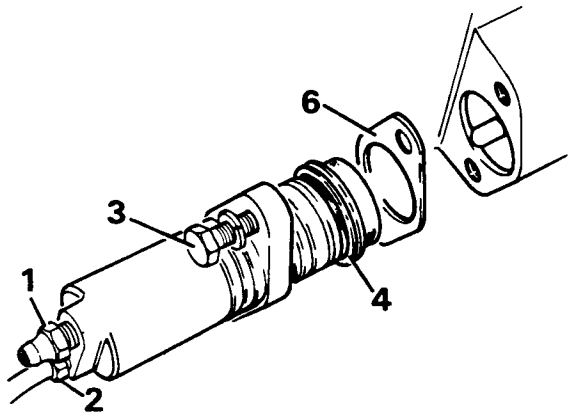
19. Fit the accelerator cable.
20. Offer the pedal bracket assembly and joint washer to the dash panel. Avoid damaging the brake light switch.
21. Reverse 1 to 4.
22. Bleed the brake system.
23. Bleed the clutch system.

SLAVE CYLINDER

Remove and refit

Removing

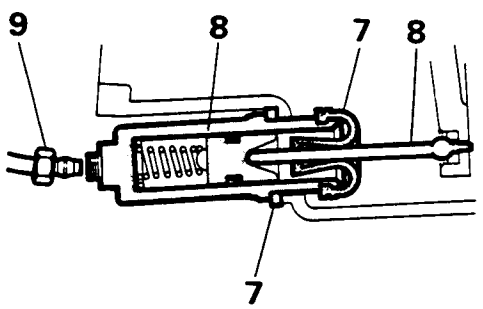
1. Evacuate the clutch system fluid at the slave cylinder bleed valve.
2. Disconnect the fluid pipe.
3. Remove the two securing bolts and withdraw the slave cylinder and backing plate.
4. If the dust cover is not withdrawn with the slave cylinder, withdraw it from the bell housing.



RR828M

Refitting

5. Withdraw the dust cover and backing plate from the slave cylinder.
6. Coat both sides of the backing plate with Hylomar P232M waterproof jointing compound.
7. Locate the backing plate and dust cover in position on the slave cylinder.
8. Fit the slave cylinder, engaging the push-rod through the centre of the dust cover and with the bleed screw uppermost.



RR829M

9. Reconnect the fluid pipe.
10. Replenish and bleed the clutch hydraulic system.
11. Check for fluid leaks with the pedal depressed and also with the system at rest.

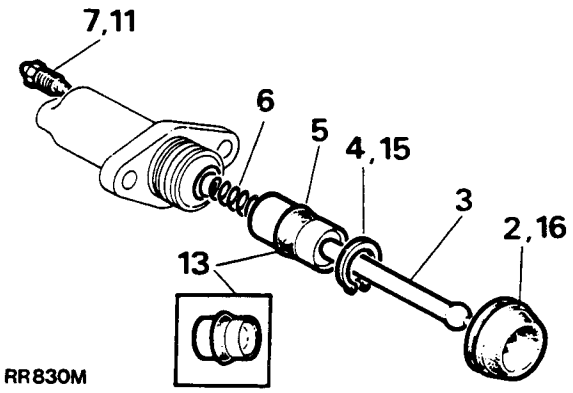
SLAVE CYLINDER

Overhaul

1. Remove the slave cylinder.

Dismantling

2. Withdraw the rubber boot.
3. Withdraw the push-rod.
4. Remove the circlip.
5. Extract the piston and seal assembly, applying low pressure air to the fluid inlet if necessary.
6. Withdraw the spring.
7. Remove the bleed valve.



RR830M

Inspecting

8. Clean all components thoroughly using new hydraulic fluid, and dry using lint-free cloth.
9. Examine the cylinder bore and piston which must be free from corrosion, scores and ridges.
10. Replace the seal and rubber boot using the appropriate repair kit.

Assembling

NOTE: Scrupulous cleanliness is essential, ensure that hands are free of grease or dirt.

11. Fit the bleed valve. Do not overtighten.
12. Lubricate the seals, piston and bore using new hydraulic fluid.
13. Fit the seal into the piston groove, the lip of the seal towards the fluid inlet end of the cylinder.
14. Enter the piston assembly, spring first, into the cylinder bore. Ensure that the seal lip does not fold back.
15. Secure with the circlip.
16. Fill the rubber boot with rubber grease.
17. Reverse 1 to 3.

Notes