

# HOMWORKSHOP

with Dave Barker

Defender 300 Tdi

## Replacing a brake servo

**T**he brake servo is one of those items you tend to forget about. It sits there on the bulkhead and does its job with no fuss. There is nothing to service or check or top up.

But you would find braking much more difficult without it! The introduction of servo-assisted brakes was a great leap forward for driving, taking the leg strain out of braking especially when driving a heavy vehicle like a Land Rover.

Generally the brake servo is bomb-proof. Nothing goes wrong with it, though age can take its toll as corrosion eats through the cylinder; pressure is then reduced and, along with it, so is braking power. Very occasionally on newer vehicles the servo does fail for no apparent reason with the same results – no servo assistance when you're braking.

On this occasion you could hear the air leaking out of the servo unit itself, but there was no sign of



damage or corrosion to give any indication of a cause. The only remedy was to fit a complete new servo, as the servo is a sealed unit and can not be serviced.

Most workshop manuals have good descriptions of how to change the servo. It's basically a simple job, but removing and refitting the clevis and split pin that secure the servo push rod to the brake pedal can be a bit fiddly.

The following photographs and descriptions are only an indication of the work required to complete the job. All work carried out should always be done in conjunction with one of the many workshop manuals available, showing step by step the correct procedure and torque settings as recommended by Land Rover Ltd. Where appropriate, all the relevant Health and Safety precautions should always be adhered to when carrying out any work on your vehicle.

The work was carried out to a customer's Defender 90 300 Tdi by:-  
**Roberts Country Vehicles (Doncaster) Ltd.**  
 8 Croft Court Road,  
 Sandall Carr Road,  
 Kirk Sandall Industrial Estate,  
 Doncaster DN3 1QR.  
 Tel: 01302 880001.

### Part numbers

There have been two different servos used on Defender models, and there were yet more different types on pre-Defender coil-sprung models. The earlier Defender servo, STC 442, has been superseded by STC 4322 and the two types are interchangeable; our pictures show the later servo being fitted to a 1995 Defender 300 Tdi.

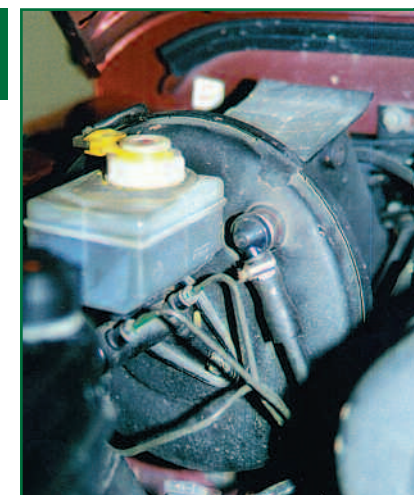
All prices given here are full retail, and VAT is extra.

STC 442..... for VIN HA 701010 to WA 159806 ..... £96.92

STC 4322..... for VIN XA onwards..... £100.32



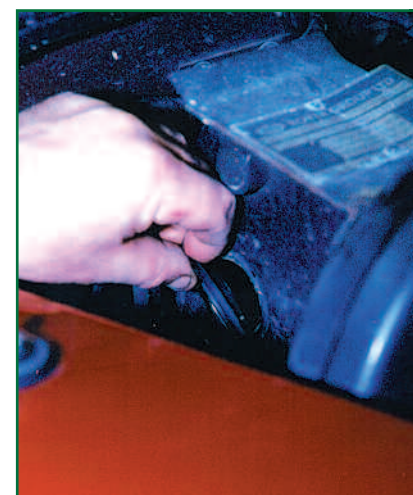
Always check physically that it is the right part before starting work; parts numbers on boxes are not always correct!



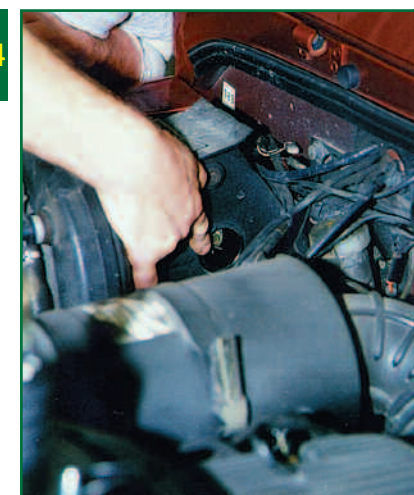
Disconnect the electrical supply lead for the low fluid-level warning light from the top of the brake fluid reservoir



Using a screwdriver, carefully prise out the plastic connector for the vacuum supply hose from the servo unit



On each side of the pedal box is a blanking grommet; both of these need to be carefully prised out



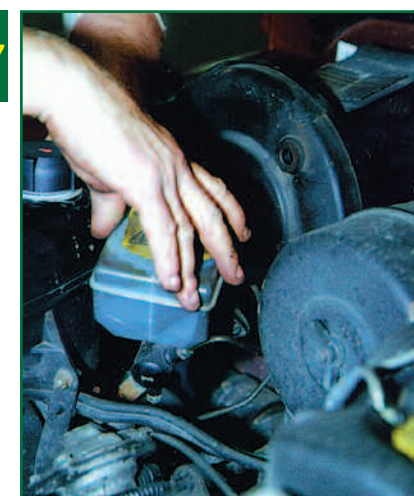
With the grommets removed, the split pin and clevis pin holding the servo push rod to the brake pedal are exposed



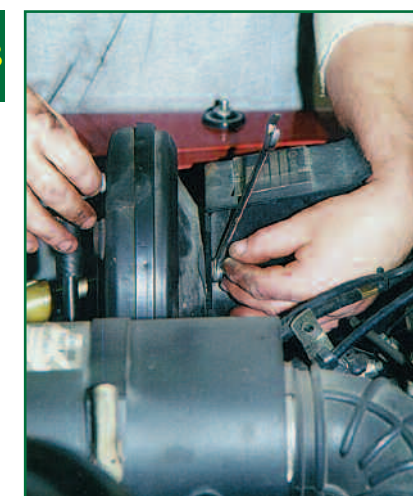
The split pin must be removed to allow the clevis pin to be withdrawn; it's best to use thin long-nose pliers



Next step is to undo the two nuts that secure the brake master cylinder to the servo unit itself

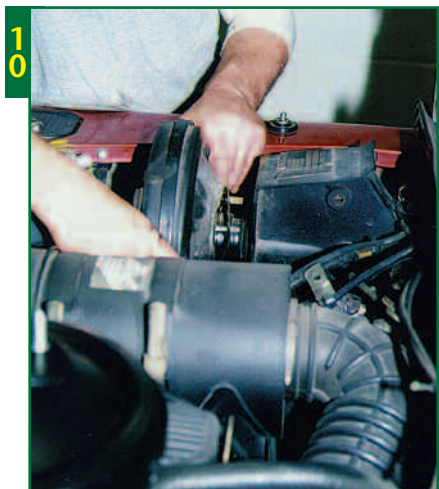


There is no need to undo the brake pipes; the master cylinder can be pulled clear of the servo assembly



Next remove the four nuts at the back of the servo unit that secure it to the pedal box; accessibility isn't bad

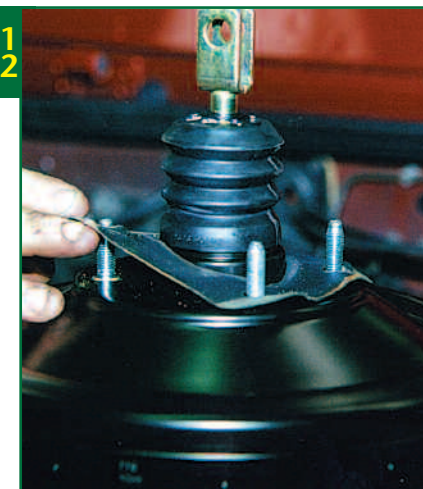




**10** Carefully pull the servo unit away from the pedal box assembly so as not to damage the sealing gasket



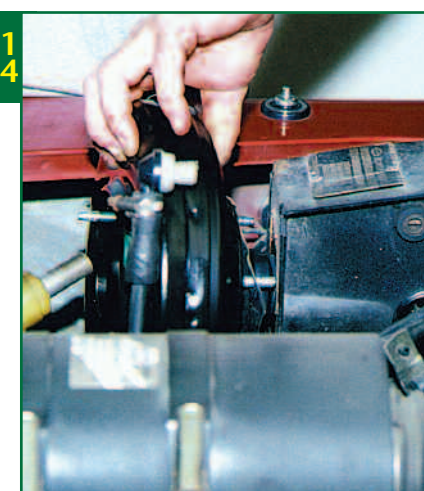
**11** With the servo now free from the pedal box, carefully remove the rubber gasket from the four retaining bolts



**12** You will need to refit the old gasket to the new servo; a replacement gasket is not supplied with it



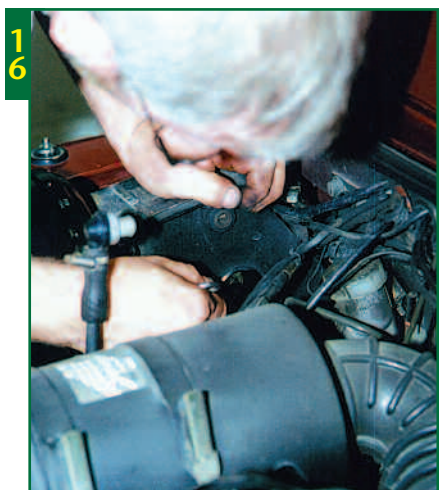
**13** An O-ring prevents water getting into the master cylinder; take this off the old servo and refit to the shaft



**14** The new servo unit can be fitted to the pedal box assembly, but don't bolt it up yet, to allow for movement



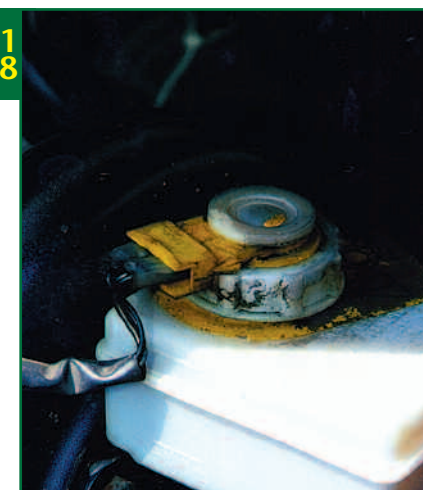
**15** Re-fit the clevis pin, holding the servo push rod to the brake pedal; a bit of movement makes alignment easier



**16** The split pin needs to be re-fitted through the clevis pin. This is difficult! Use thin long-nose pliers or industrial tweezers



**17** Now tighten the retaining bolts, and re-fit the master cylinder. Ensure the plunger is correctly fitted to the shaft



**18** Finally re-fit the vacuum hose and electrical lead (shown) and check that the brake pipes are not rubbing on each other. ■