

# RECALL ACTION BULLETIN



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WARRANTY MANAGER	X		

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Bull. No: A/B/D233

Issue: 1

Date: 05/03/01

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MODEL/DERIVATIVE	AFFECTED RANGE:
Range Rover V8 Automatic models	XA410482 to 1A452817
Discovery Series II Automatic models	XA220000 to 1A299999 1A700000 to 1A713517
Build date range	June 1998 to December 2000

## PROBLEM:

**AUTOMATIC GEARBOX FLUID CONTAMINATED WITH WATER**

## CAUSE:

Efflux (liquid condensate) from the air conditioning system runs over the body of the transmission and may pass over the right hand side of the sump flange. The water may then collect on the transmission breather pipe and fall to the ground. Some of the water that remains on the breather tube can then be drawn into the transmission.

On both Range Rover and Discovery, the condensate can exit from the air conditioning system on either side of the transmission. However, on Range Rover it is far more likely to come from the right hand side and hence, this problem is more prevalent on Range Rover models.

The current routing and location of automatic gearbox breather pipe is also below the wading depth of the vehicle and may also in extreme circumstances siphon water into the gearbox resulting in emulsification of the gearbox fluid.

## ACTION:

**VEHICLES WITH ZERO AND UP TO 500 RECORDED MILES THAT FALL INTO THE CATEGORY OF UNSOLD OR USED VEHICLE STOCK:**

At or before Pre- delivery inspection and prior to customer handover of a used unsold vehicle, the gearbox breather pipe **MUST** be re-routed over the top of the gearbox casing (Refer to procedure I).

**DEALER FORECOURT (USED) AND IN SERVICE VEHICLES WITH OVER 500 RECORDED MILES:**

The gearbox fluid must be checked for the presence of water contamination. Where contamination is found the fluid must be drained and gearbox lubrication system flushed to expel all water contamination, the gearbox breather pipe must also be re-routed.

## IMPORTANT NOTE: DISCOVERY ONLY:

- A small number of vehicles at the start of the Discovery VIN range may have gearbox breather pipes that are routed into the engine bay located at the engine rear lifting eye. This routing is deemed acceptable and no further work is required on these vehicles. Submit a warranty claim for inspection only, utilising Option code F for UK markets and 44.24.89/32 for all overseas markets.
- Likewise, a small number of vehicles that appear at the end of the VIN range may have gearbox breather pipes routed correctly, up and over the top gearbox. No further work is required on these vehicles, submit a warranty claim for inspection only, utilising Option code F for UK markets and 44.24.89/32 for all overseas markets.

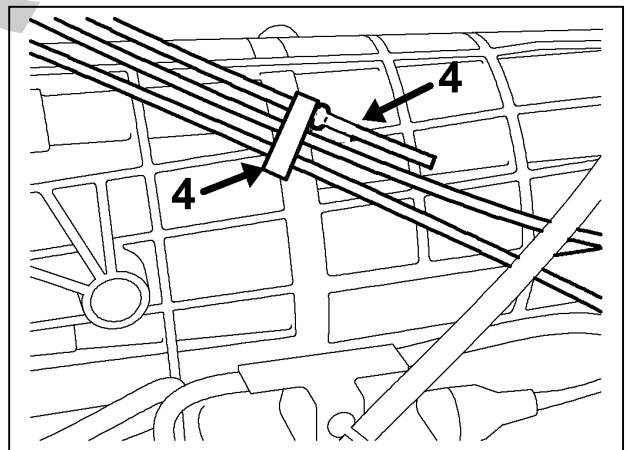
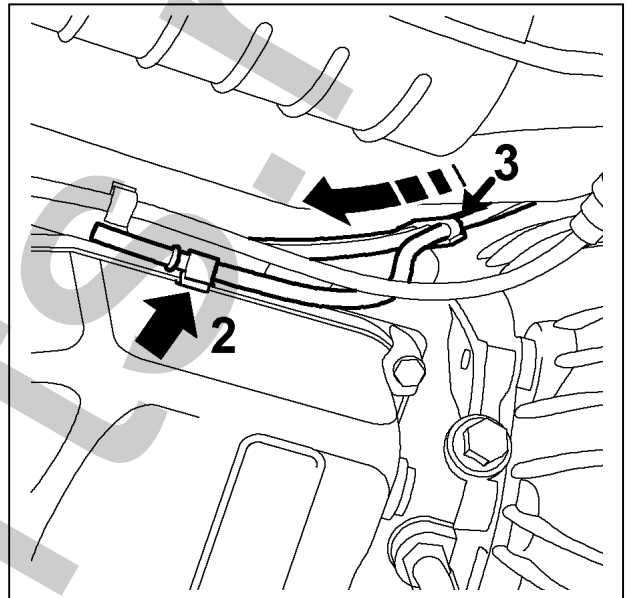
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## PROCEDURE

### Procedure I - VEHICLES WITH ZERO AND UP TO 500 RECORDED MILES THAT FALL INTO THE CATEGORY OF UNSOLD OR USED VEHICLE STOCK:

Note: Any vehicle that has knowingly been waded does not fall into this category and must be re-worked as part procedure II. A new vehicle under 500 miles that has not been knowingly waded carry out procedure I.

1. Place the vehicle on a ramp.
2. Locate the automatic gearbox breather pipe, which is clipped to the right hand side of gearbox fluid pan when viewing the vehicle from the rear, release the pipe from the clip and discard the clip. NOTE: Discovery models only – Snip the cable tie wrap to release the breather pipe from the electrical harness located adjacent to the breather pipe banjo at the gearbox casing.
3. Check the breather pipe for damage and that it is free from debris at the open end of the pipe.
4. Locate the white plastic three-way saddle clamp situated above the gearbox bell housing, lightly spray silicon lubricant along the pipes to aid the movement of the saddle clamp.
5. Slide the saddle clamp down the breather pipe. The natural routing of the breather pipe to the left hand side of the gearbox will automatically redirect the open end of the pipe over the top of the gearbox. The saddle clamp must be manoeuvred along the pipe until it contacts the swage on the open end of the pipe.
6. Apply a white paint dot to the top of the fan cowl as a visual indication that this work has been completed.



**Procedure II - DEALER FORECOURT (USED) AND IN SERVICE VEHICLES WITH OVER 500 RECORDED MILES:**

1. Check the park lock function, a slight forward down slope must be selected so that the vehicle will roll slowly forward in 'N', start the engine and allow the vehicle to roll forward no more than two metres. Stop the vehicle completely using the foot brake, select park 'P', release the brakes and check that the vehicle does not roll forward, repeat this procedure a further nine times. **EVERY TEST MUST BE CARRIED OUT ON A SLOPE.** In the event that the park lock does not hold on all ten tests, this will indicate that a park lock is malfunctioning and the gearbox will require replacement. **NOTE:** Only a very small proportion of the vehicles will require a gearbox replacement.
2. Should a gearbox be replaced the gearbox breather pipe should be re-routed as described in procedure I and prior to fitment of the new transmission the oil cooler pipes should be blown out to expel any debris that may be present. The following instructions in this instance do not apply to a gearbox replacement at this stage. If a gearbox passes the park lock function test the following process must be carried out to determine the presence of water contamination.



**CARE POINT – Fluid drained from the sump pan may be 'hot' - Due care and attention must be observed when draining the fluid.**

3. The next operation must be carried out when the gearbox fluid has cooled sufficiently enough to allow handling. Remove the gearbox drain plug and carefully drain 100cc of gearbox fluid into a clear container and refit the drain plug.
4. Visually inspect the fluid for the presence of water contamination, lightly contaminated fluid will have a 'deep cherry red and opaque' appearance, heavily contaminated fluid will have a 'milky pink' appearance. If a level of uncertainty exists compare the sample taken to new fluid from stock.
5. If the gearbox fluid is clear no further action is required other than re-routing the gearbox breather pipe as described in procedure I and topping up the fluid level.
6. If the gearbox fluid exhibits a contaminated appearance the gearbox lubrication system must be drained and flushed to remove all signs of contamination.



**CARE POINT – Fluid drained from the sump pan may be 'hot' - Due care and attention must be observed when draining the fluid.**

7. Drain the fluid from the gearbox fluid pan, **NOTE:** Fluid will remain in the torque converter, therefore only 5 litres of fluid can be drained at any one time.
8. Remove the oil pan and strainer and clean out all debris and sludge from the pan using a lint free cloth. Refit the old strainer and refit the oil pan.
9. Fill the transmission with new fluid and carry out the flushing process, note that additional fluid will require to be added to the gearbox after the engine has been started to bring the fluid to approximately the correct level.
10. Start and run the engine for 20 minutes, selecting all gears initially twice during this period and then selecting neutral 'N', switch off engine.
11. Check the water content of the gearbox fluid again as described in items 3 to 6. If the fluid is still contaminated continue flushing until the fluid is clear, should the fluid be clear no further flushing is required.



**CARE POINT:** Ensure wheels are chocked during the following procedure and hand brake and foot brake are applied when selecting gears.



**CARE POINT –** Fluid drained from the sump pan may be ‘hot’ - Due care and attention must be observed when draining the fluid.

12. Drain the fluid from the gearbox and remove the sump pan, discard the pan seal (if necessary retain for warranty return).
13. Remove the strainer and discard (if necessary retain for warranty return).
14. Wipe out the fluid pan with a lint free cloth to remove debris and sludge.
15. Fit new strainer, tighten fixings to 8Nm.
16. Install new fluid pan seal, fit pan to the gearbox and tighten fixings to 8Nm.
17. Refill the gearbox with the correct quantity of fluid up to the level plug according to the workshop manual instructions, start and run the engine and re-check fluid level once the fluid has reached 20 to 40 degrees centigrade.
18. Road test the vehicle to check that the gearbox functions correctly.
19. Apply a white paint dot to the top of the fan cowl as a visual indication that this work has been completed.

#### **PARTS INFORMATION:**

The following parts to be used against the various repair options:

Repair Type UK	Repair Type USA/Canada /Europe/Rest of World	Parts Required	Description	No Off
Option A	44.24.89/28	Not applicable	Not applicable	Not applicable
Option B	44.24.89/29	Not applicable	Not applicable	Not applicable
Option C	44.24.89/30	RTC4653K RTC4268K RTC4276	Oil strainer Oil pan seal 'O' ring strainer	1 1 1
Option D Range Rover	44.24.89/31 Range Rover	TGD101420K or TGD101430K	4.6L Gearbox or 4.0L Gearbox	1 1
Option E Discovery	44.24.89/31 Discovery	TGD101360K	4.0L Gearbox	1

Dexron IID ATF fluid locally sourced.

Glass beaker 25mm minimum 50mm maximum diameter locally sourced

## **WARRANTY CLAIMS:**

### **UK Complaint code A233**

Option code A = 00.10 hour - Inspect to determine if white paint is present on fan cowl and if necessary re-route breather pipe.

Option code B = 00.30 hour – Check fluid condition and re-route breather pipe.

Option code C = 02.60 hour – Check fluid condition, flush lubrication system, re-route breather pipe and test drive.

The following two repair times include all options included in Option C and should be used if it is determined that a gearbox is to be replaced after test drive.

Option code D = 08.30 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, change gearbox – Discovery Series II models

Option code E = 09.00 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, change gearbox – Range Rover models

Option F = 00.20 hour – Inspect for location of breather underbonnet – Discovery only

£30.00 can be claimed against ZZZ1 for 20 litres of automatic gearbox fluid when undertaking Option code C.

### **USA/Canada Complaint code B233**

44.24.89/28 = 00.10 hour - Inspect to determine if white paint is present on fan cowl and if necessary re-route breather pipe.

44.24.89/29 = 00.30 hour – Check fluid condition and re-route breather pipe

44.24.89/30 = 02.60 hour – Check fluid condition, flush lubrication system, re-route breather pipe and test drive.

The following two repair times include all options included in 44.24.89/30 and should be used if it is determined that a gearbox is to be replaced after test drive.

44.24.89/31 = 08.30 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, change gearbox – Discovery Series II models

44.24.89/31 = 09.00 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, change gearbox – Range Rover models

44.24.89/32 = 00.20 hour – Inspect for location of breather underbonnet – Discovery only

Included in the material allowance upper limit is an allowance for £30.00 UK sterling for 20 litres of automatic gearbox fluid when undertaking repair option 44.24.89/30.

### **Europe/Rest of World Complaint code D233**

44.24.89/28 = 00.10 hour - Inspect to determine if white paint is present on fan cowl and if necessary re-route breather pipe.

44.24.89/29 = 00.30 hour – Check fluid condition and re-route breather pipe

44.24.89/30 = 02.60 hour – Check fluid condition, flush lubrication system, re-route breather pipe and test drive.

The following two repair times include all options included in 44.24.89/30 and should be used if it is determined that a gearbox is to be replaced after test drive.

44.24.89/31 = 08.30 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, replace gearbox – Discovery Series II models

44.24.89/31 = 09.00 hours - Check fluid condition, flush lubrication system, re-route breather pipe and test drive, replace gearbox – Range Rover models

**44.24.89/32 = 00.20 hour – Inspect for location of breather underbonnet – Discovery only**

**Included in the material allowance upper limit is an allowance for £30.00 UK sterling for 20 litres of automatic gearbox fluid when undertaking repair option 44.24.89/30.**

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