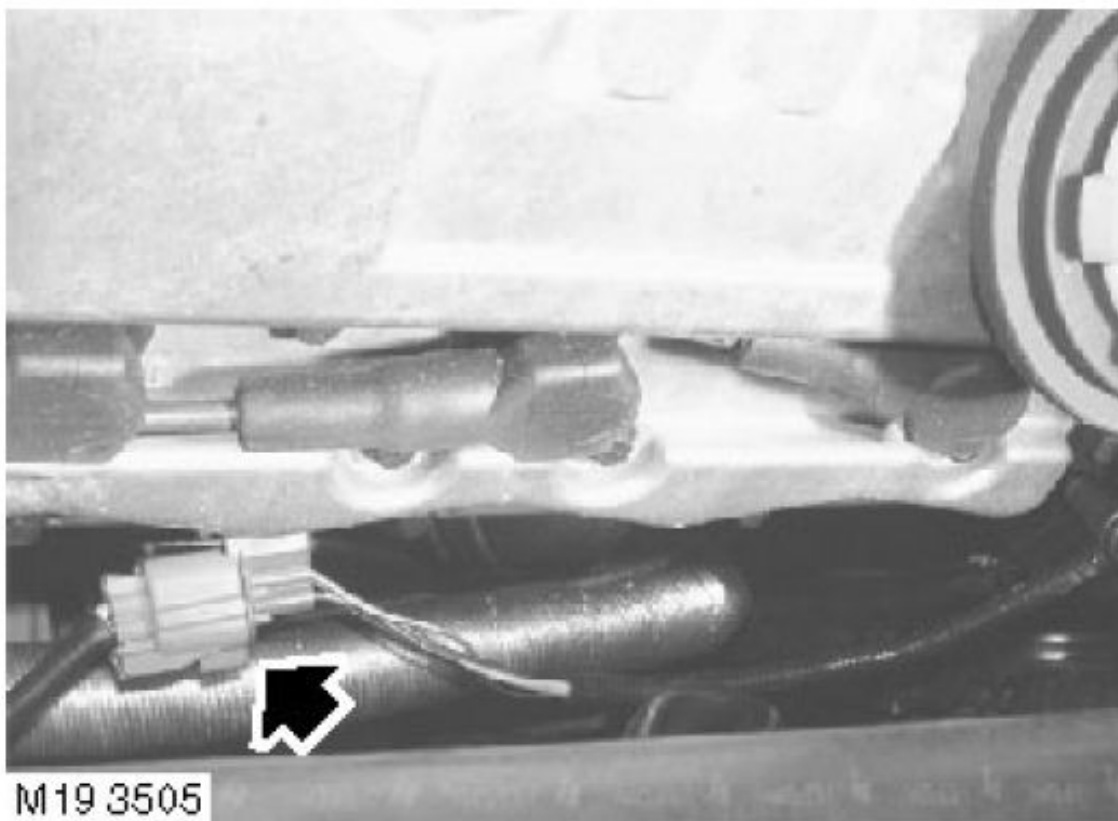


Automatic Transmission/Transaxle: Service and Repair Gearbox - KV6 - NAS Models

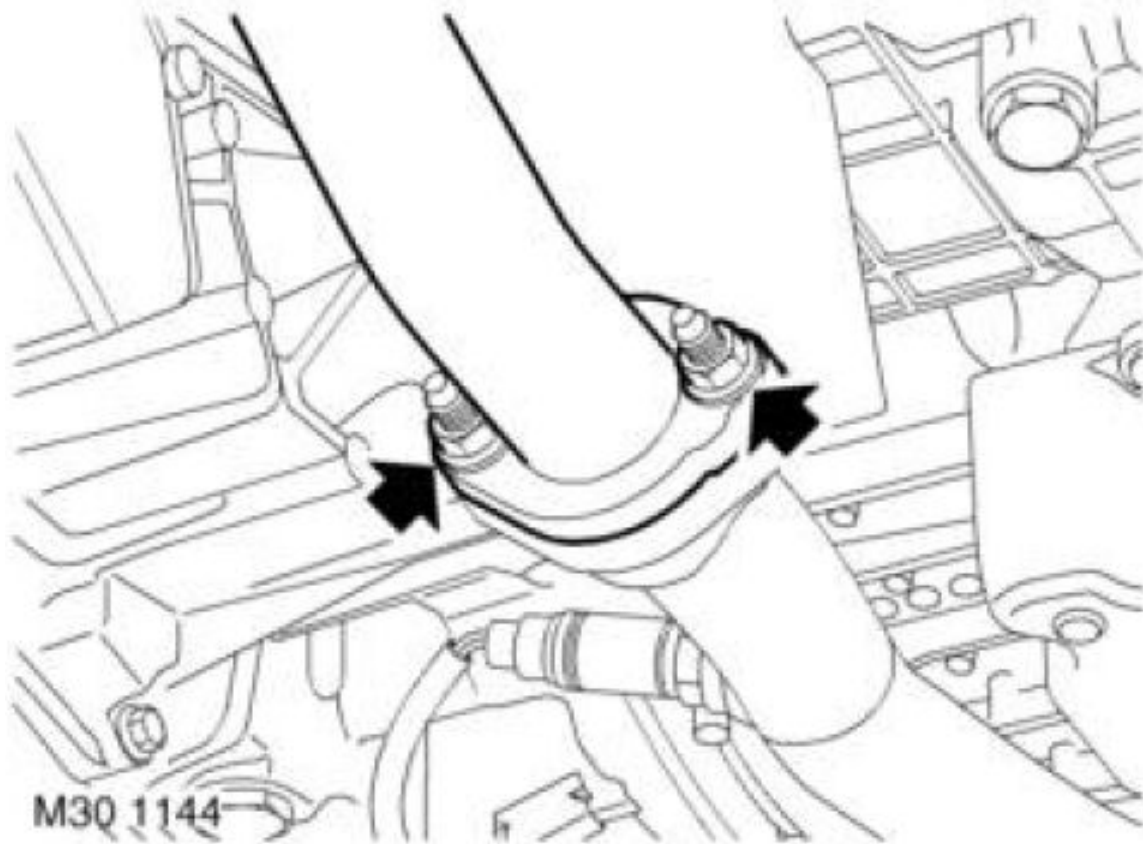
JATCO Gearbox - KV6 - NAS models

Remove

1. Position the vehicle on a twin-post lift.
2. Tie bonnet back in upright position.
3. Disconnect battery earth lead.
4. Remove engine acoustic cover.

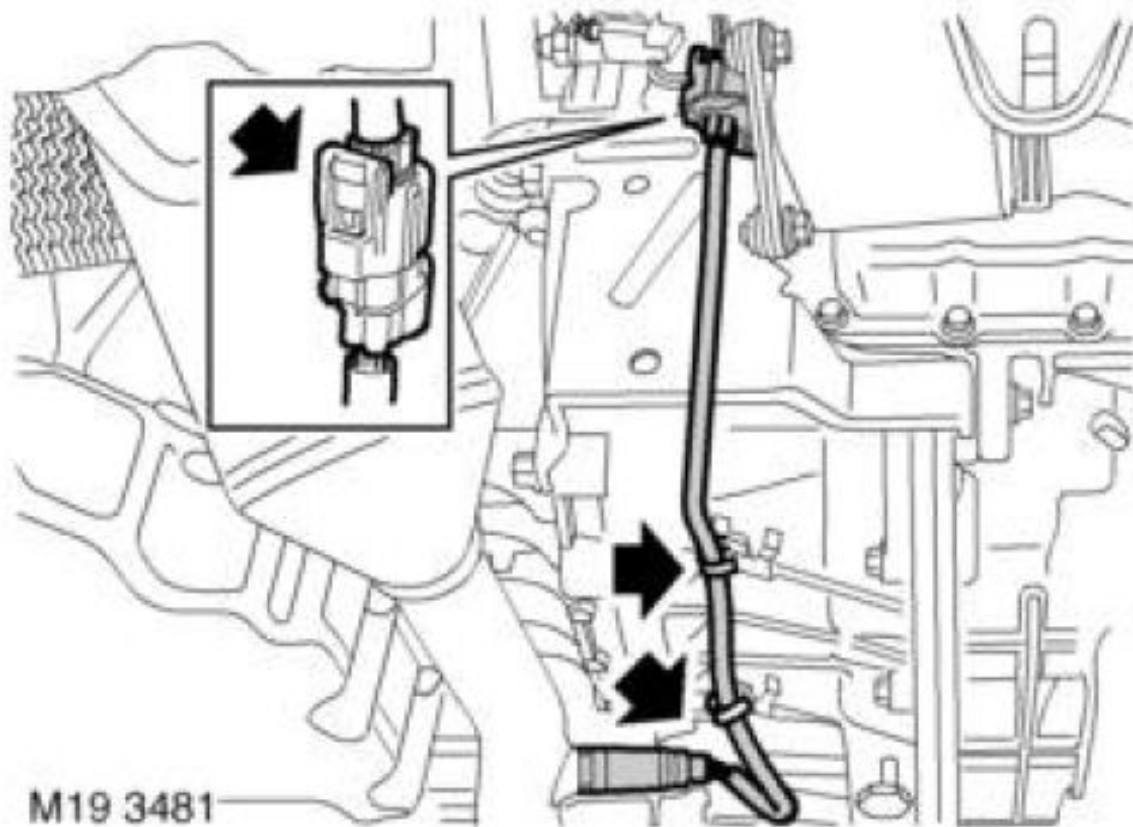


5. Release HO2S multiplug from support bracket on LH camshaft cover, disconnect multiplug.
6. Raise vehicle on lift.
7. Remove rear beam.
8. Remove RH catalytic converter.



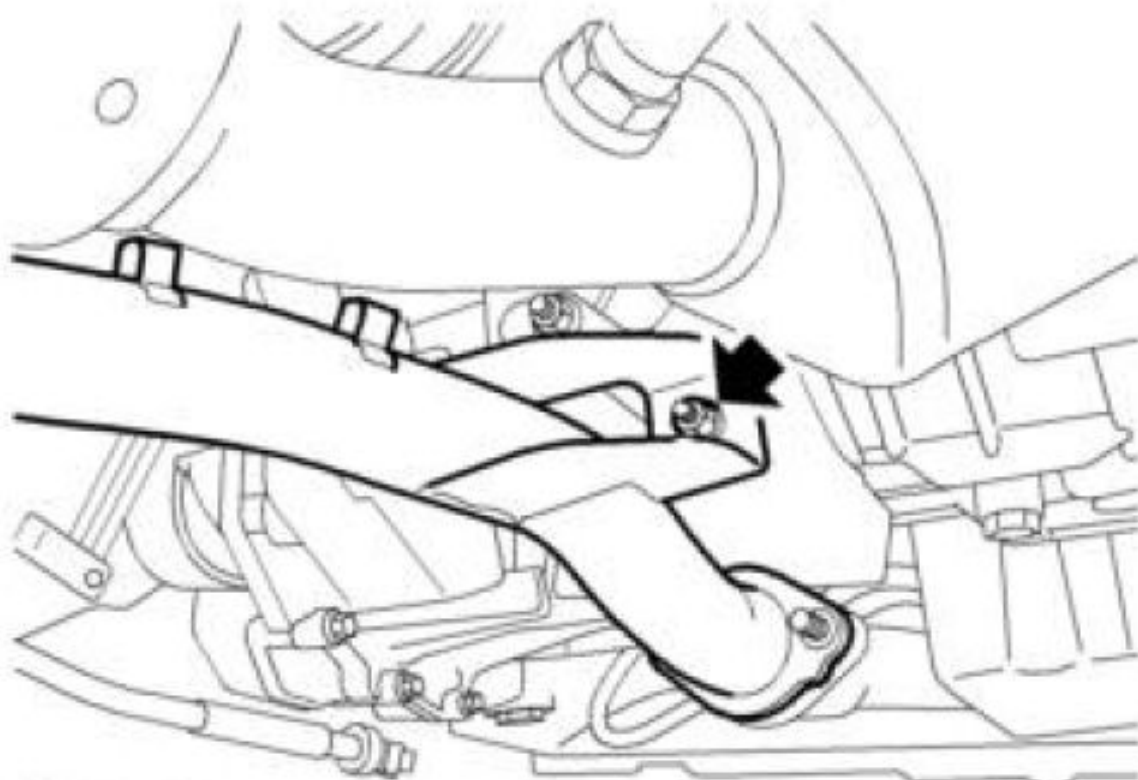
M30 1144

9. Remove 2 nuts securing front pipe to manifold.



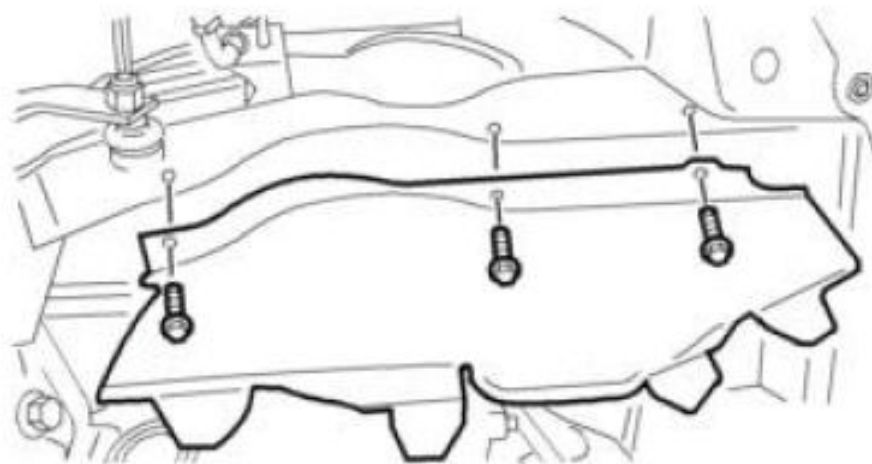
M19 3481

10. Release and disconnect post catalyst HO2S multiplug.
11. Release post catalyst HO2S harness from clips.



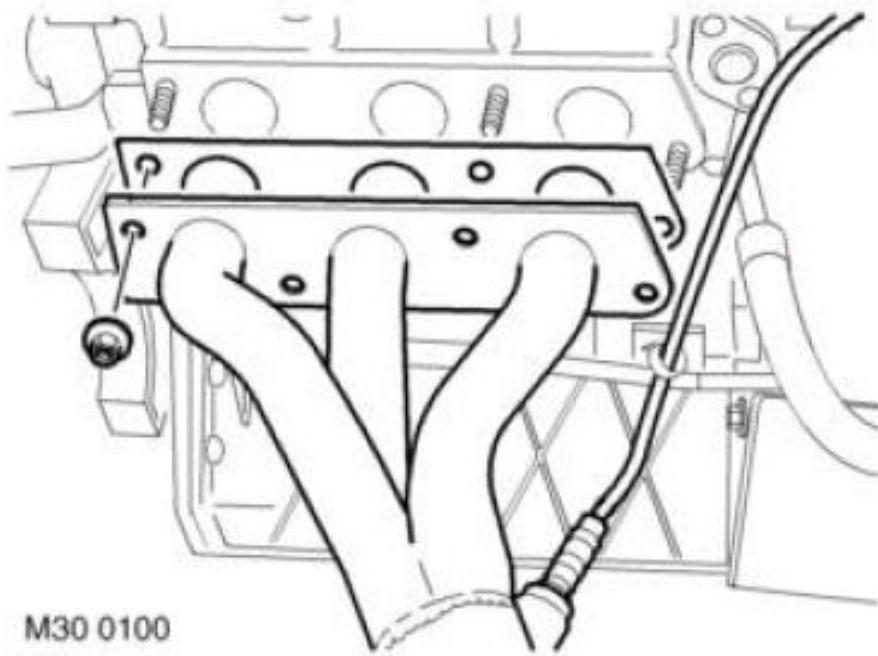
M30 1145

12. Remove bolt securing front pipe to bracket and remove front pipe. Discard gasket.

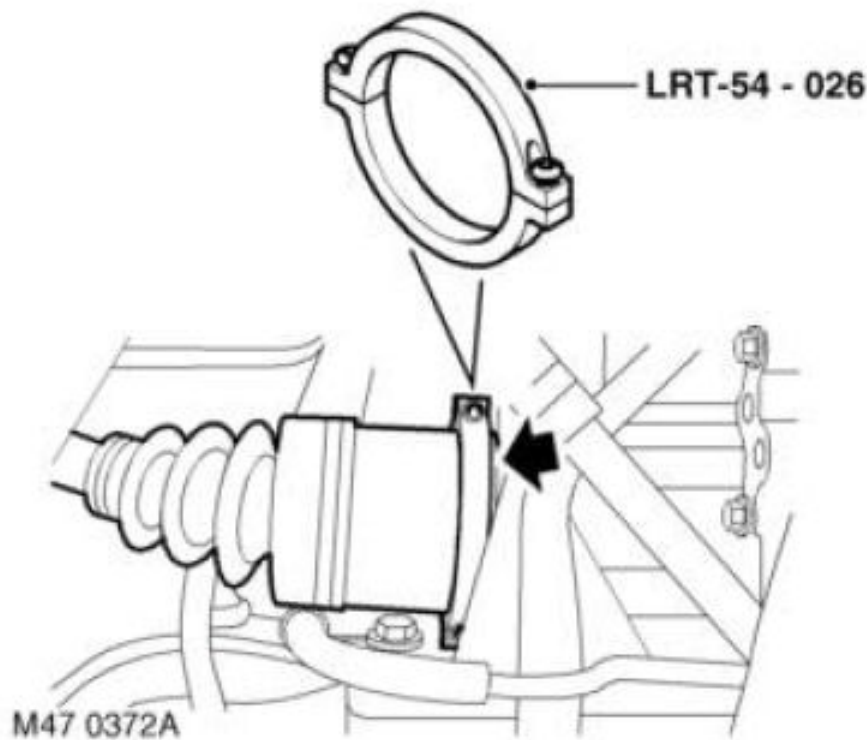


M12 6977

13. Remove 3 screws securing LH splash shield and remove shield.



14. Release HO2S lead from clip on cylinder block. Remove 4 nuts securing exhaust manifold to cylinder head, remove manifold and discard gasket.
15. Drain fluid from IRD.
16. Drain gearbox fluid.

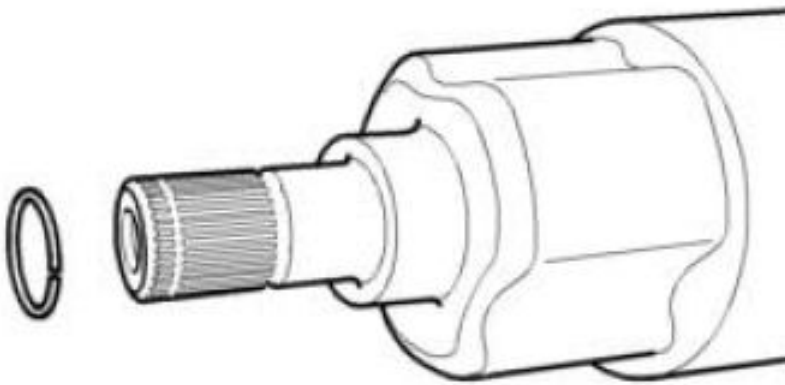


17. Fit LRT-54-026 to the RH drive shaft inboard joint.
18. Using a suitable lever, release drive shaft from IRD.
19. With assistance, pull hub outwards and release drive shaft from IRD.

CAUTION: Care must be taken not to damage oil seal when removing drive shaft from IRD.

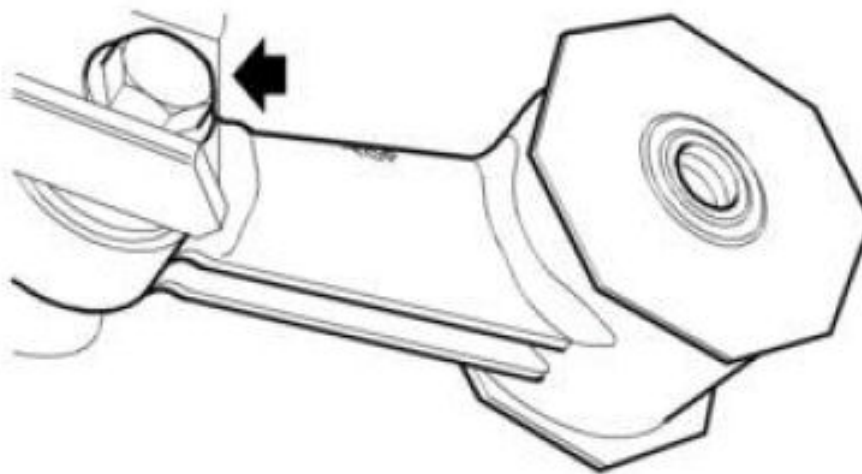
CAUTION: To avoid damage to gaiter or joint, do not allow shaft to hang on joint.

20. Remove LRT-54-026 from RH drive shaft inboard joint.



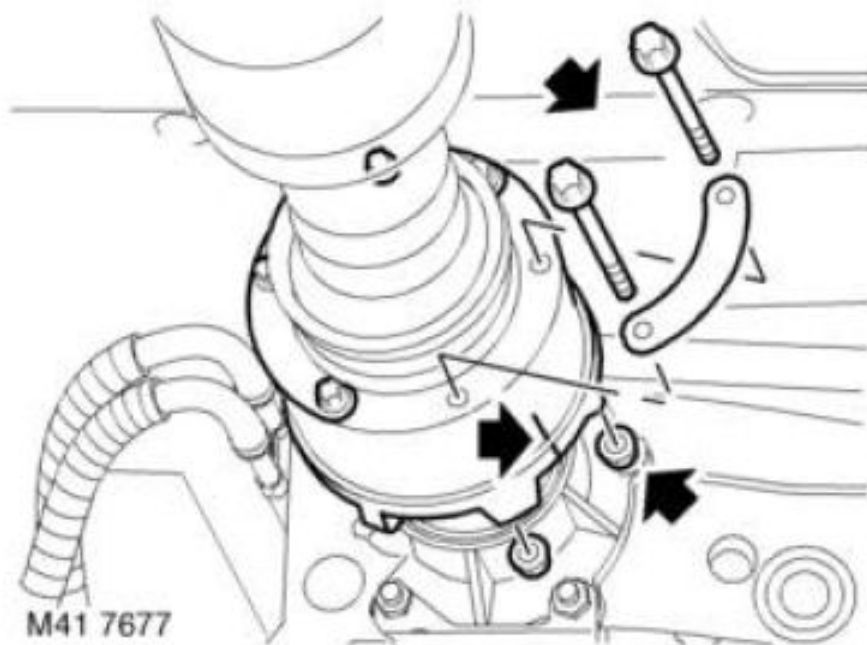
M41 7695

21. Remove and discard drive shaft circlip.



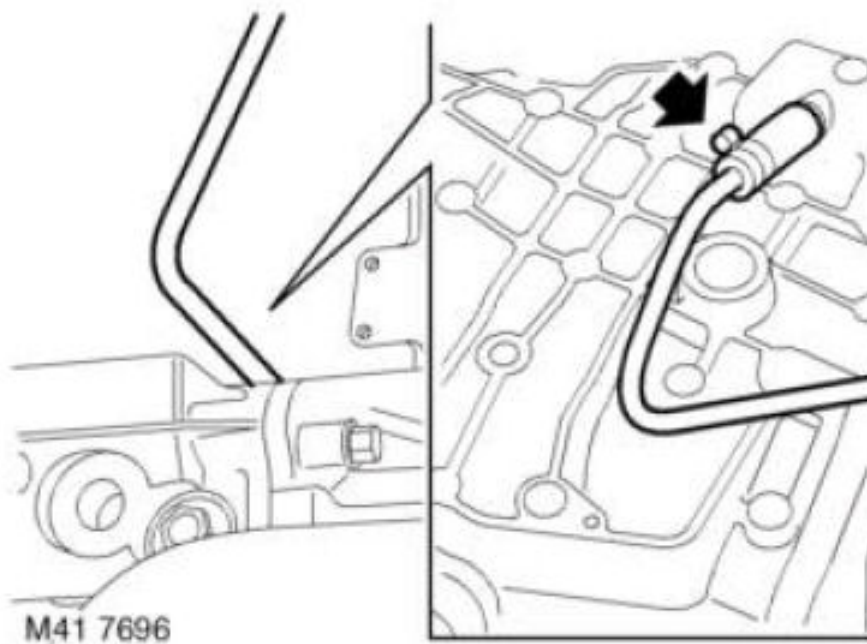
M41 7688

22. Remove bolt securing lower engine steady to sump mounting bracket.
23. Remove lower engine steady noting that "TOP" mark on engine steady faces uppermost.

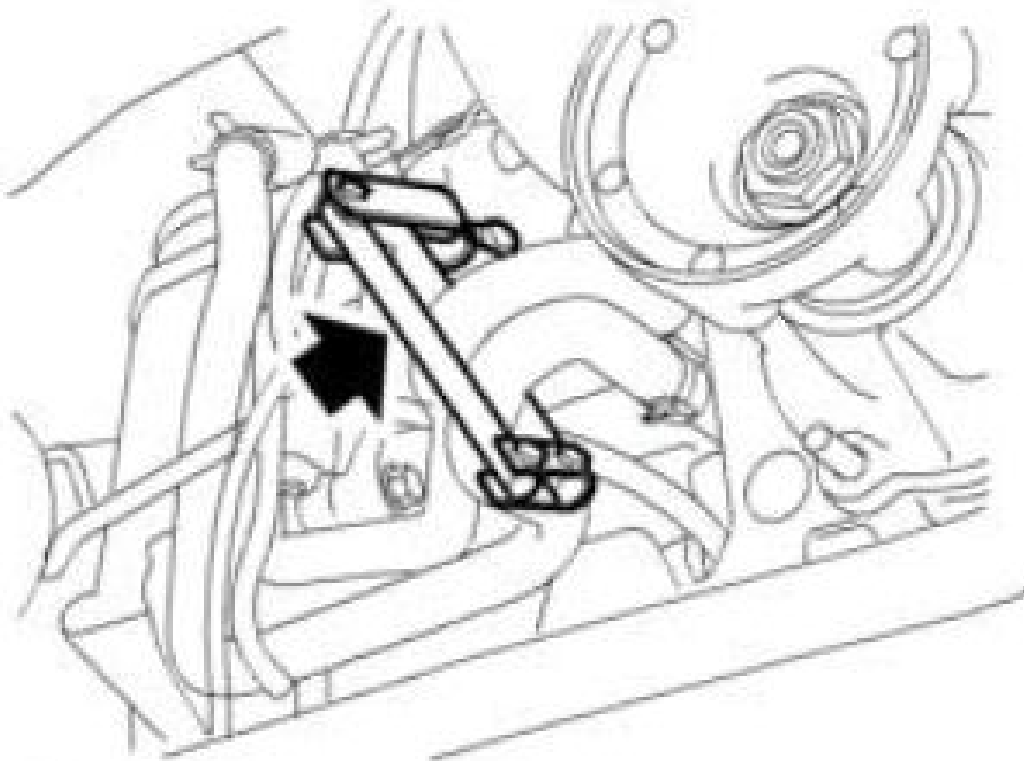


24. Reference mark front propeller shaft for reassembly.
25. Remove 6 nuts and bolts securing propeller shaft to IRD drive flange.
26. Release propeller shaft from IRD drive flange and tie shaft aside.

CAUTION: Care must be taken to support the Tripode joint when removed from the IRD unit. To avoid damage to gaiter or steel can, the joint should not be allowed to fully extend or be dropped.

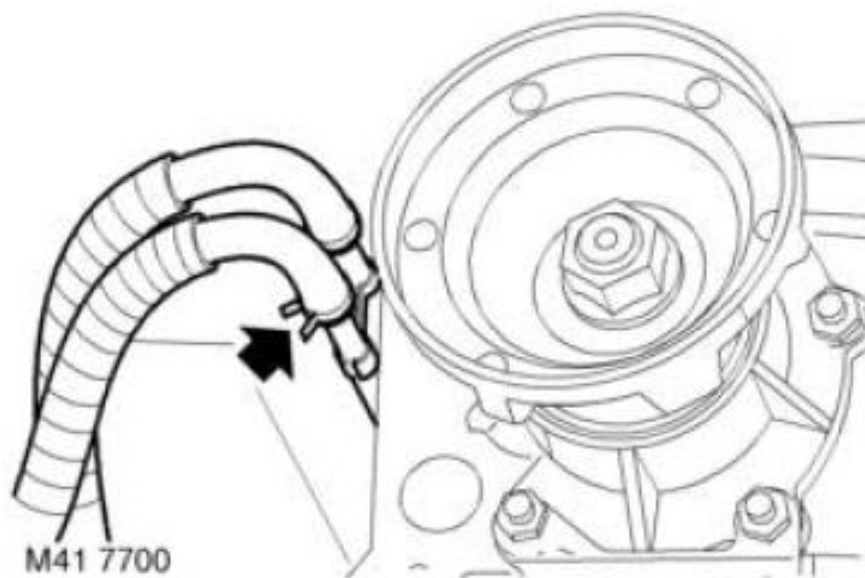


27. Disconnect breather hose from IRD housing.
28. Position container to collect coolant spillage.



M41 7925

29. Fit pipe clamp to IRD coolant hoses.

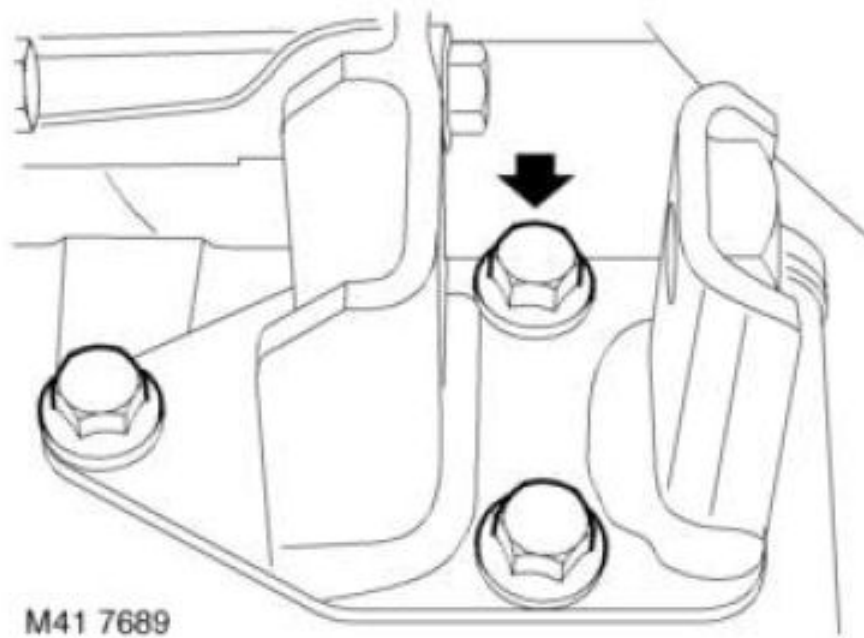


M41 7700

30. Release clips and disconnect coolant hoses from IRD.

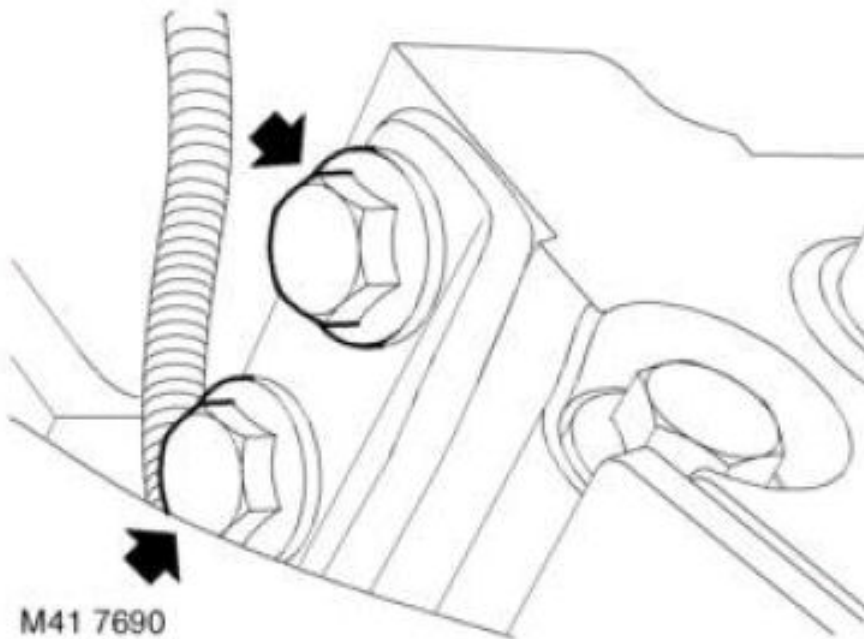
CAUTION: Always fit plugs to open connections to prevent contamination.

31. Remove container.



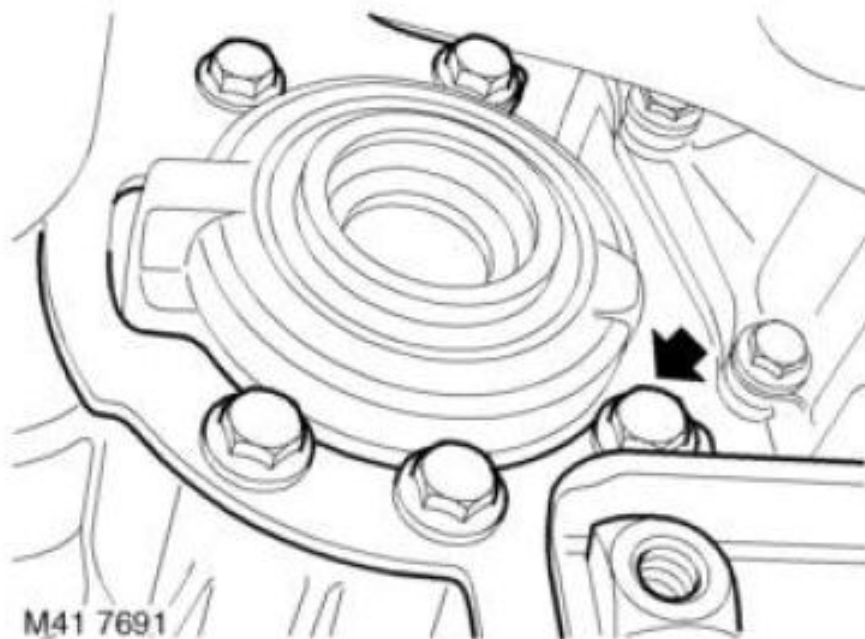
M41 7689

32. Remove 3 bolts securing IRD support bracket to sump.

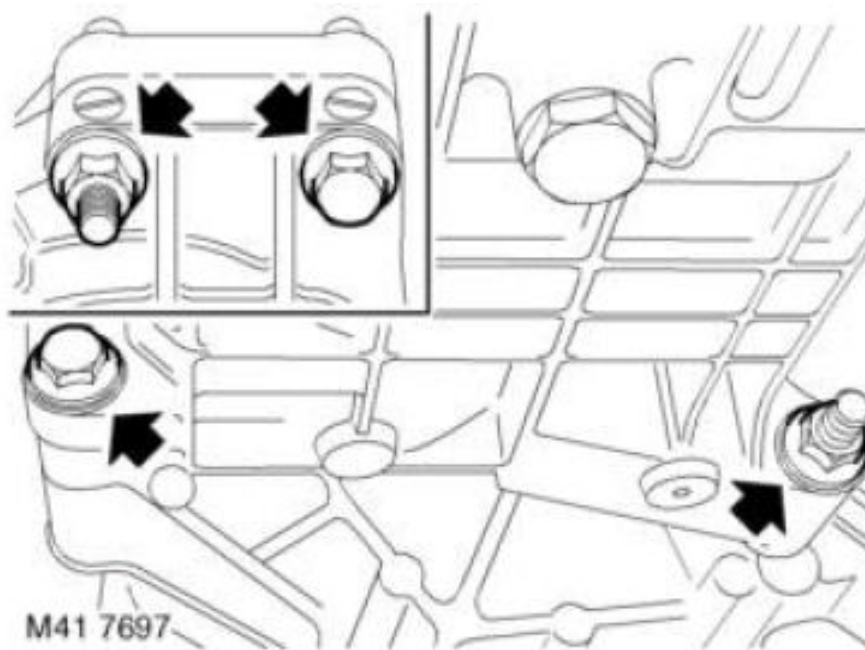


M41 7690

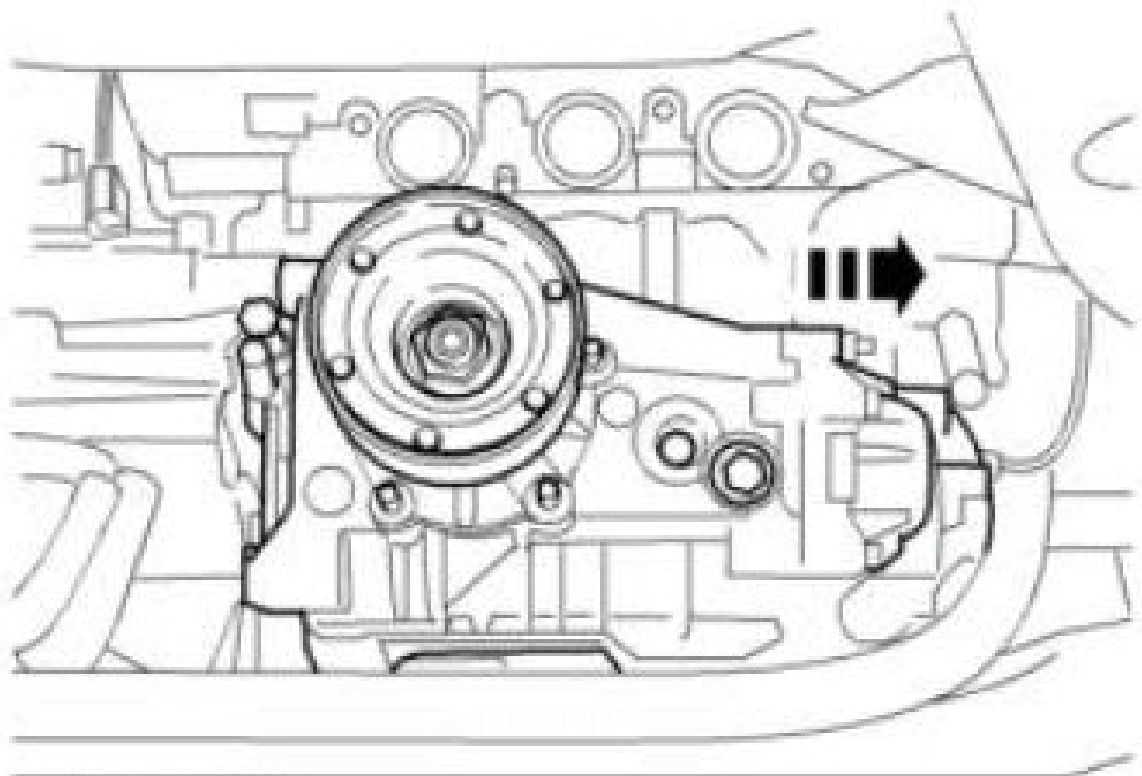
33. Remove 2 bolts securing IRD support bracket to engine front mounting plate.



34. Remove 5 bolts securing support bracket to IRD.
35. Remove support bracket.

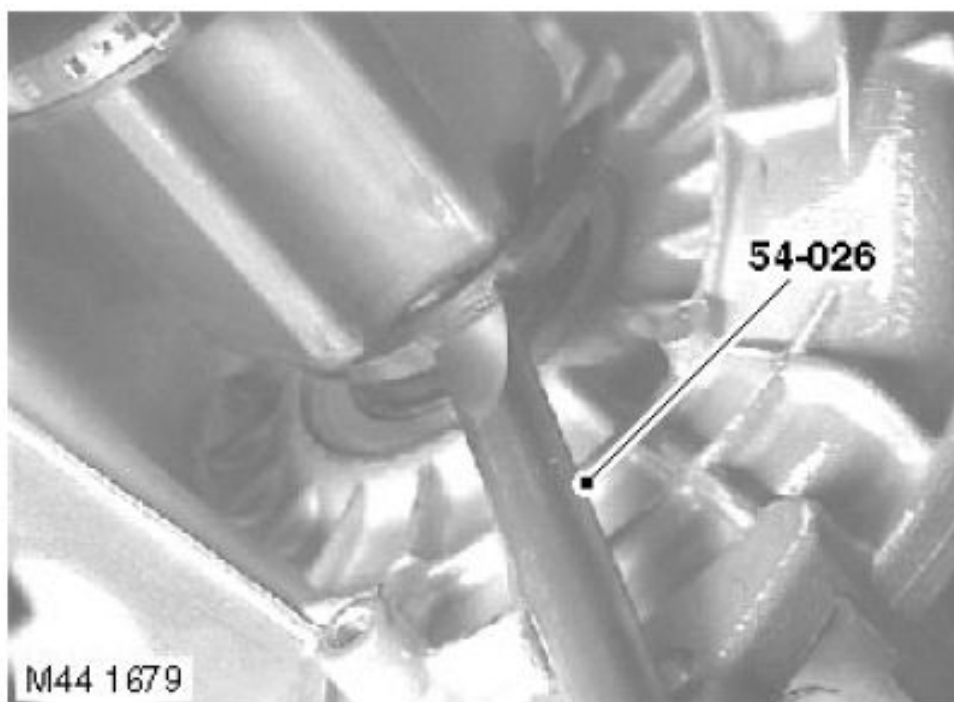


36. Remove 4 bolts securing IRD.



M41 7926

37. With assistance, release IRD from gearbox and remove.

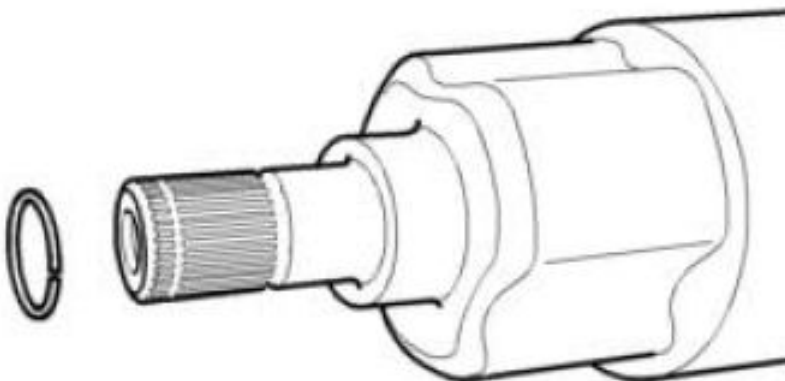


38. Fit LRT-54-026 to the LH drive shaft inboard joint.
39. Using a suitable lever, release drive shaft from gearbox.
40. With assistance pull hub outwards and release drive shaft from gearbox.

CAUTION: Care must be taken not to damage oil seal when removing drive shaft from gearbox

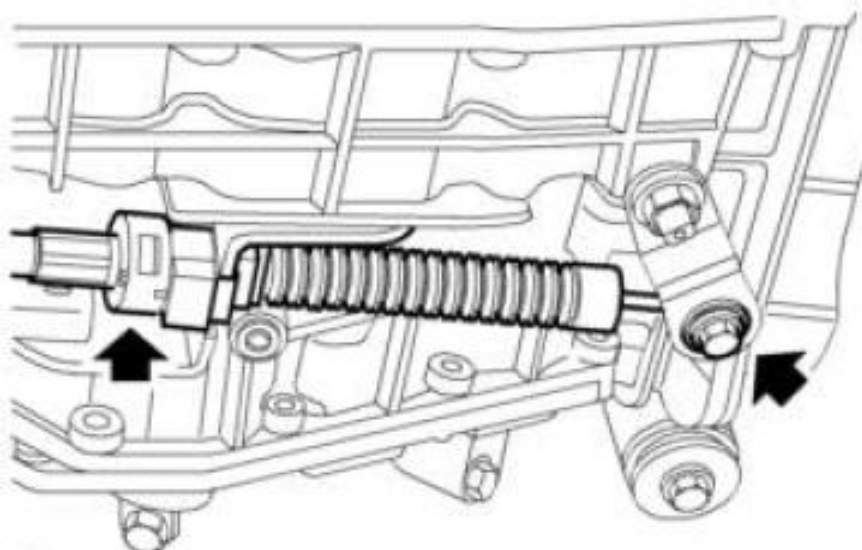
CAUTION: To avoid damage to gaiter or joint, do not allow shaft to hang on joint.

41. Remove LRT-54-026 from LH drive shaft inboard joint.



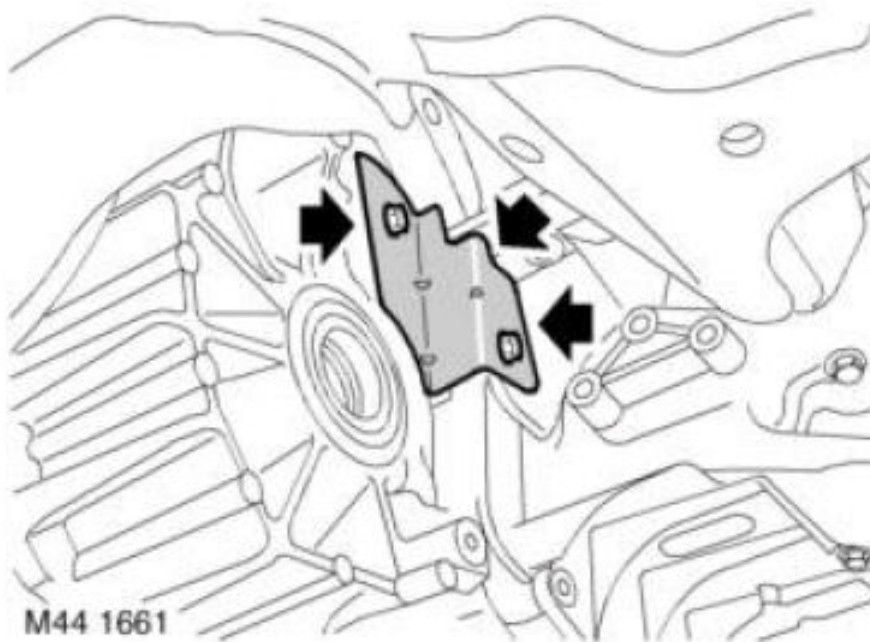
M41 7695

42. Remove and discard circlip from drive shaft.

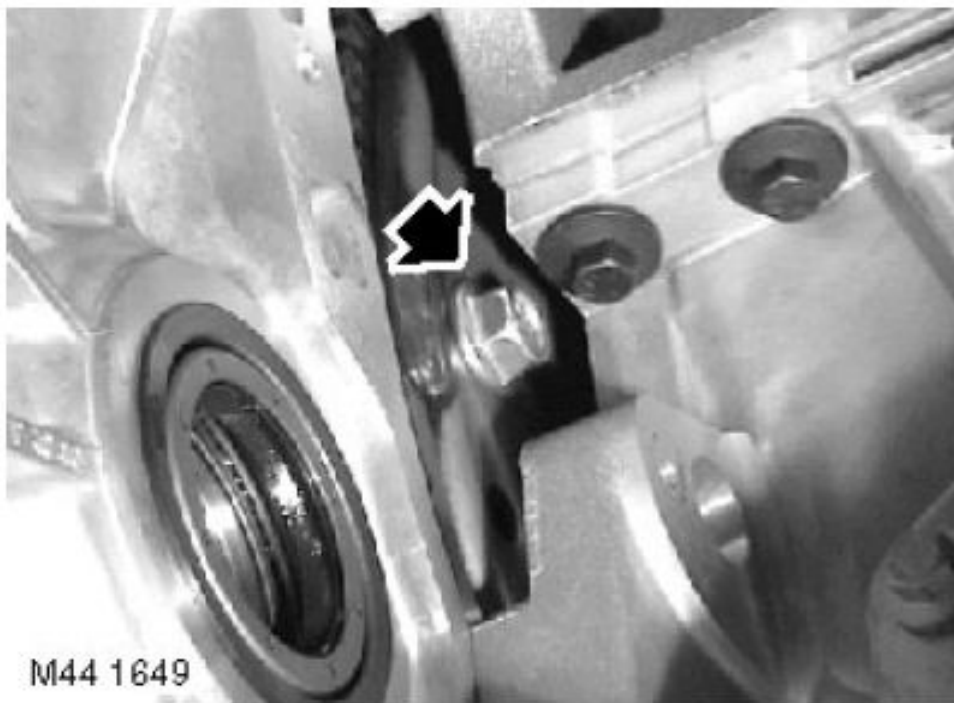


M44 1648

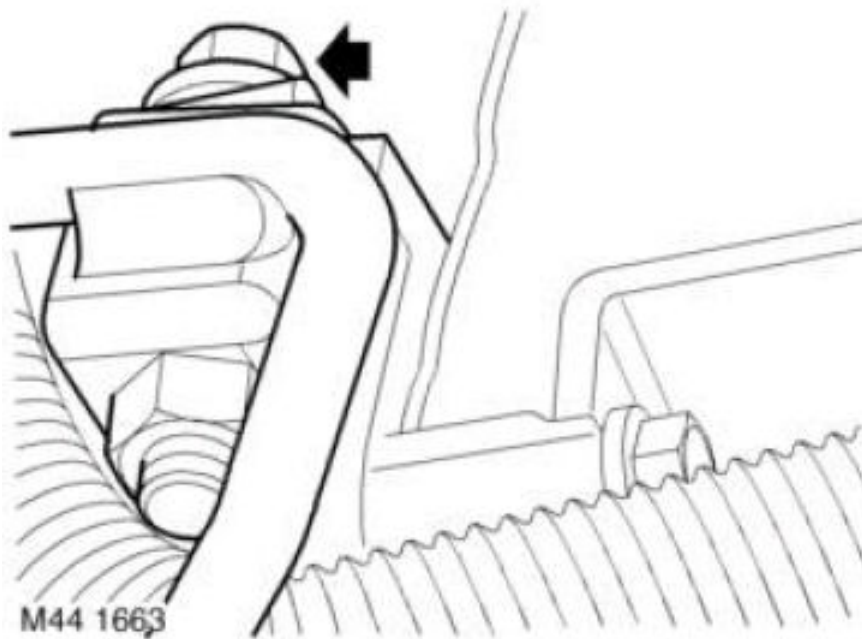
43. Loosen selector cable trunnion nut.
44. Release clip securing selector cable to gearbox bracket, remove selector cable and collect trunnion from selector lever.



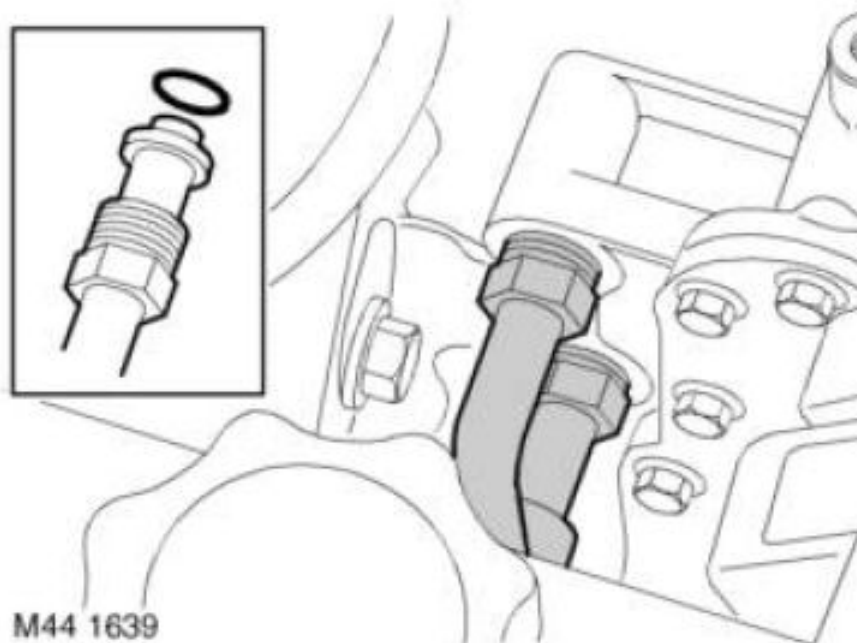
45. Remove 2 bolts securing torque converter access plate.
46. Remove access plate.
47. Mark drive plate to torque converter, for refit purposes.



48. Remove 4 bolts securing drive plate to converter.



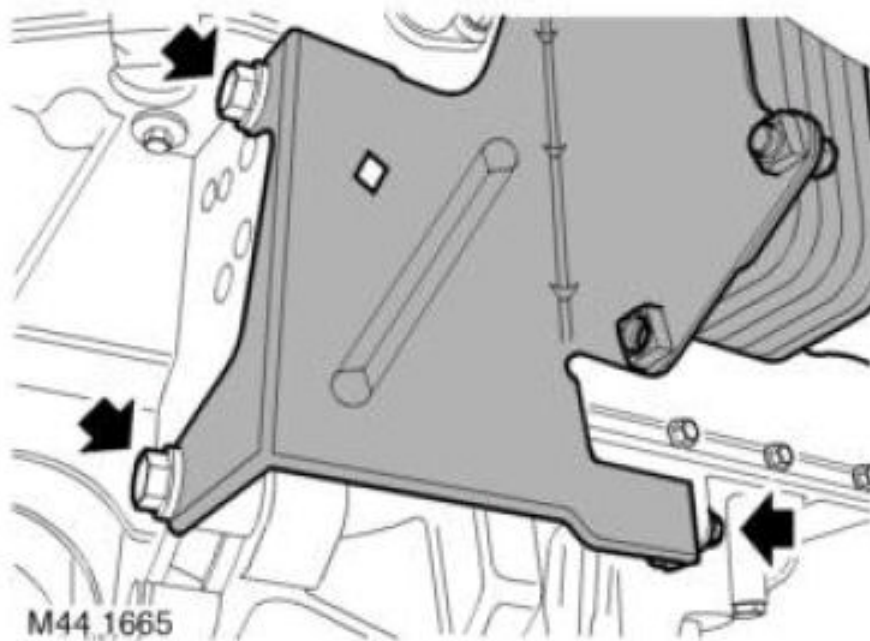
- 49. Remove bolt securing IRD cooling hose retainer. Remove retainer.
- 50. Position a container to collect fluid spillage.



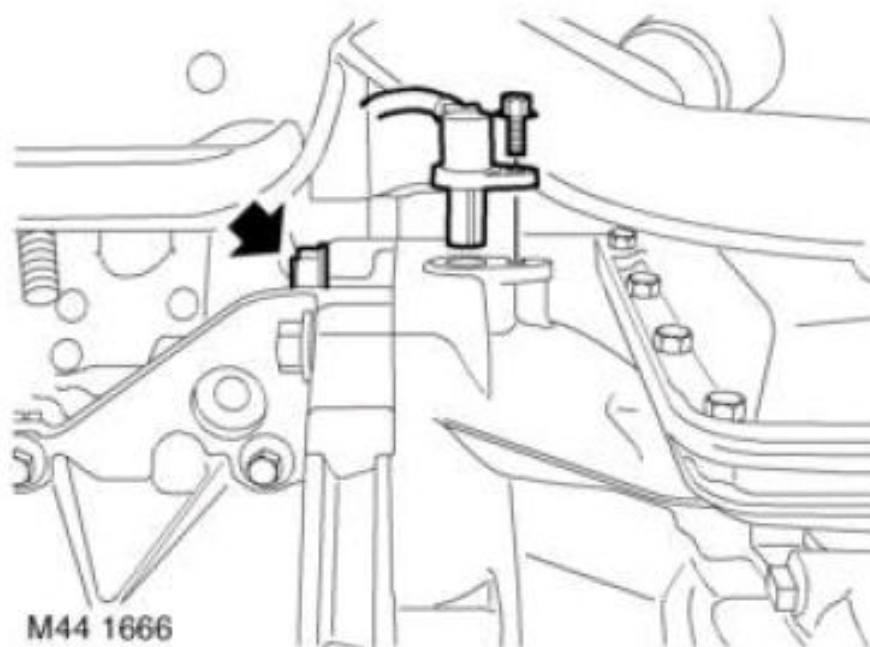
- 51. Disconnect 2 fluid cooler hose unions and discard 'O' rings.

CAUTION: Always fit plugs to open connections to prevent contamination.

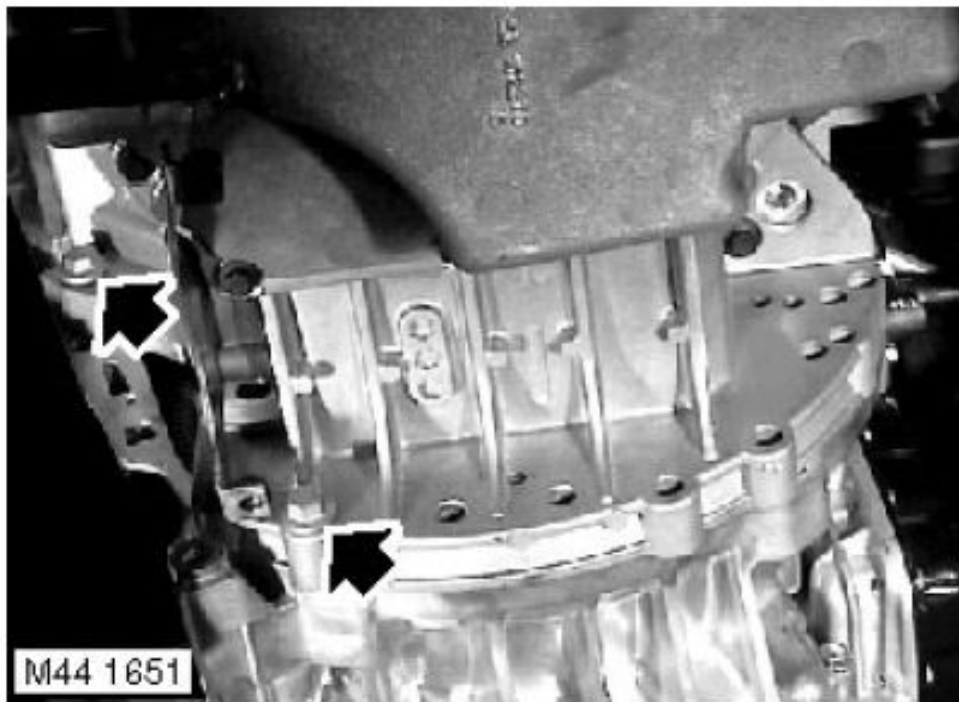
- 52. Remove container.



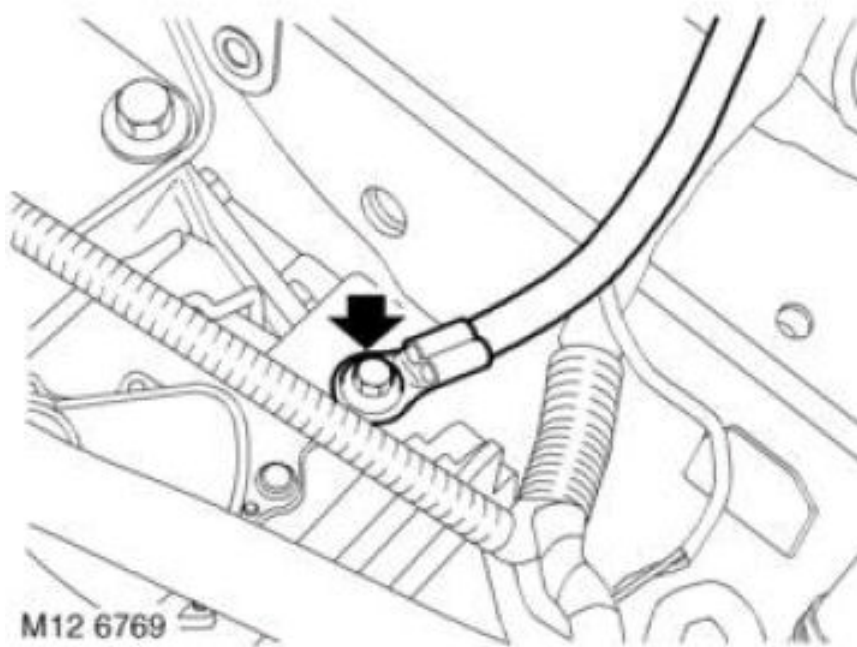
53. Remove 3 bolts securing fluid cooler bracket.
54. Move fluid cooler aside.



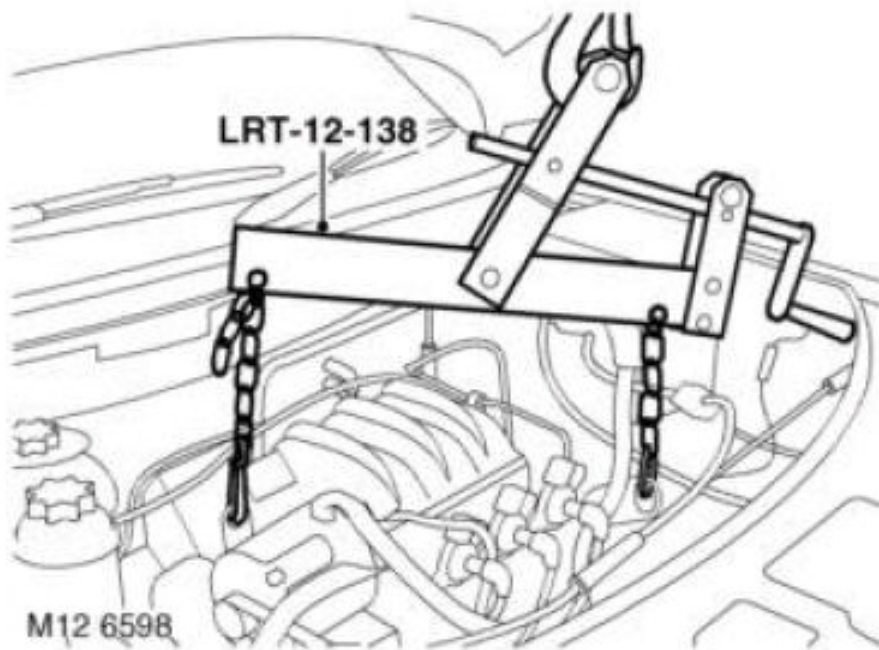
55. Remove bolt securing CKP sensor to gearbox, release sensor and position aside.
56. Remove nut and bolt, adjacent to CKP sensor, securing gearbox to engine.



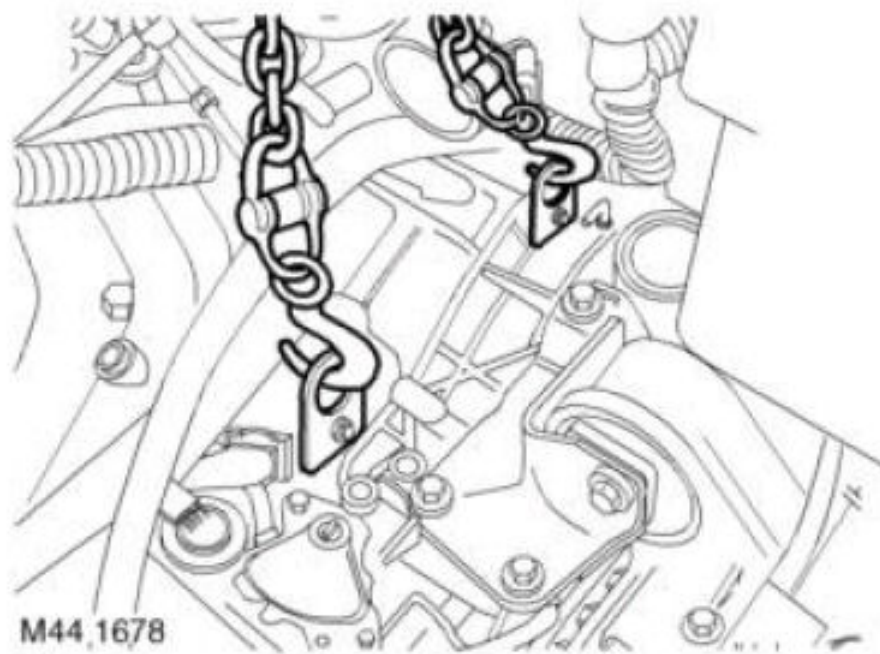
57. Remove 2 bolts securing gearbox to engine.
58. Lower vehicle on lift.
59. Remove starter motor.



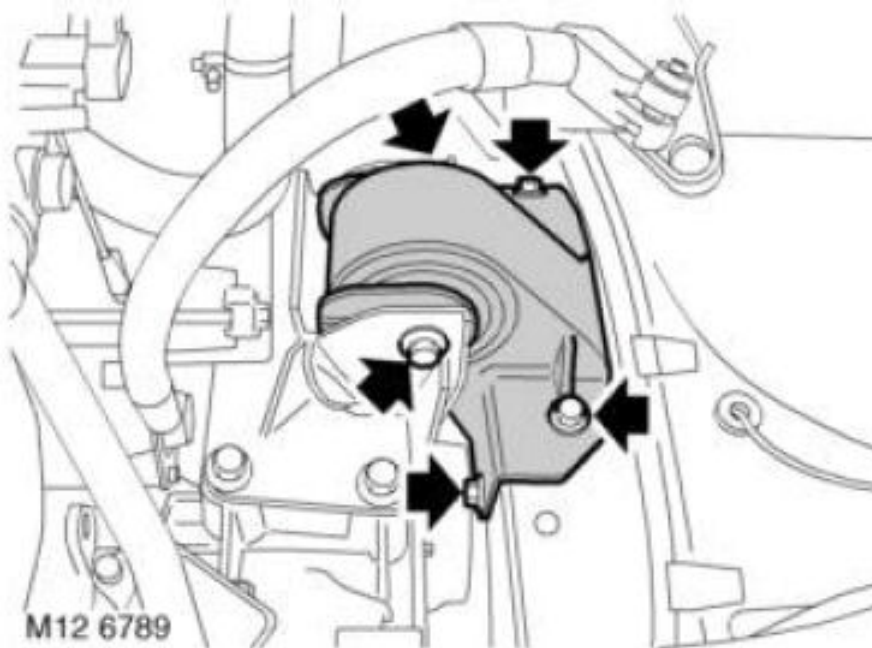
60. Remove bolt securing engine earth lead.
61. Release 2 gearbox harness multiplugs from mounting bracket clips and disconnect multiplugs.



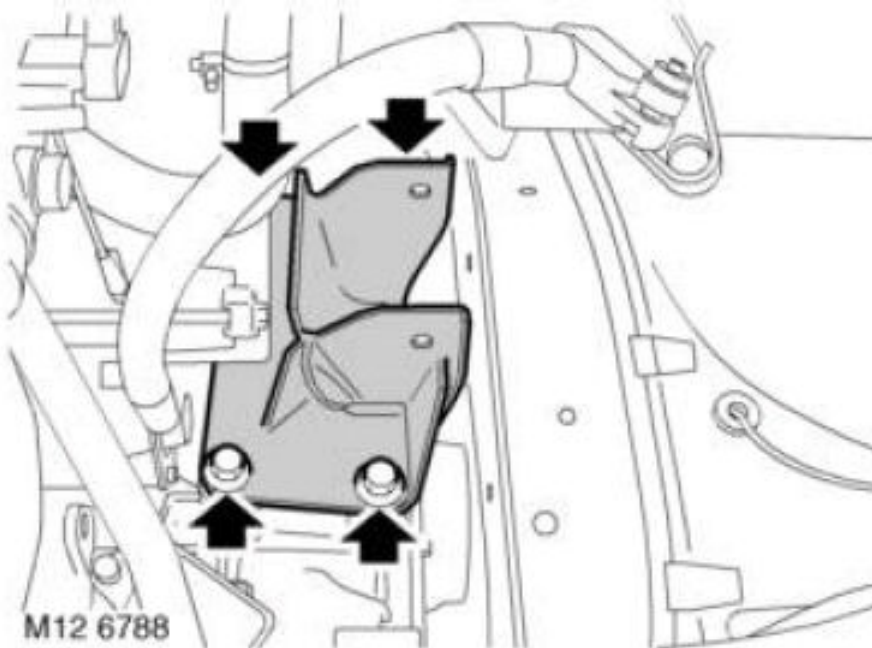
62. Using a hoist, connect adjustable lifting bracket, LRT-12-138 to engine.
63. Raise hoist to take weight without exerting any load on the engine mountings.



64. Fit suitable lifting brackets to gearbox and secure with nuts and bolts.
65. Connect lifting equipment to brackets.



66. Remove through bolt securing LH engine mounting to gearbox bracket.
67. Remove 4 bolts securing LH mounting to body and remove mounting.

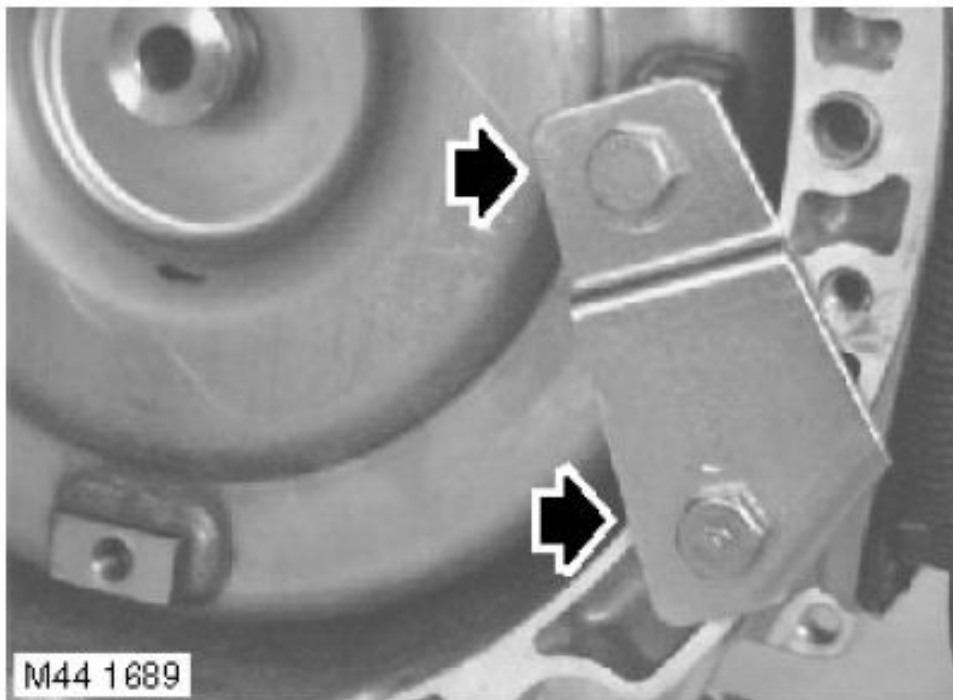


68. Remove 4 bolts securing LH mounting bracket to gearbox and remove bracket.



M44 1667

- 69. Remove 2 top bolts securing gearbox to engine.
- 70. Release gearbox from 2 dowels.
- 71. Manoeuvre and lower gearbox to floor.

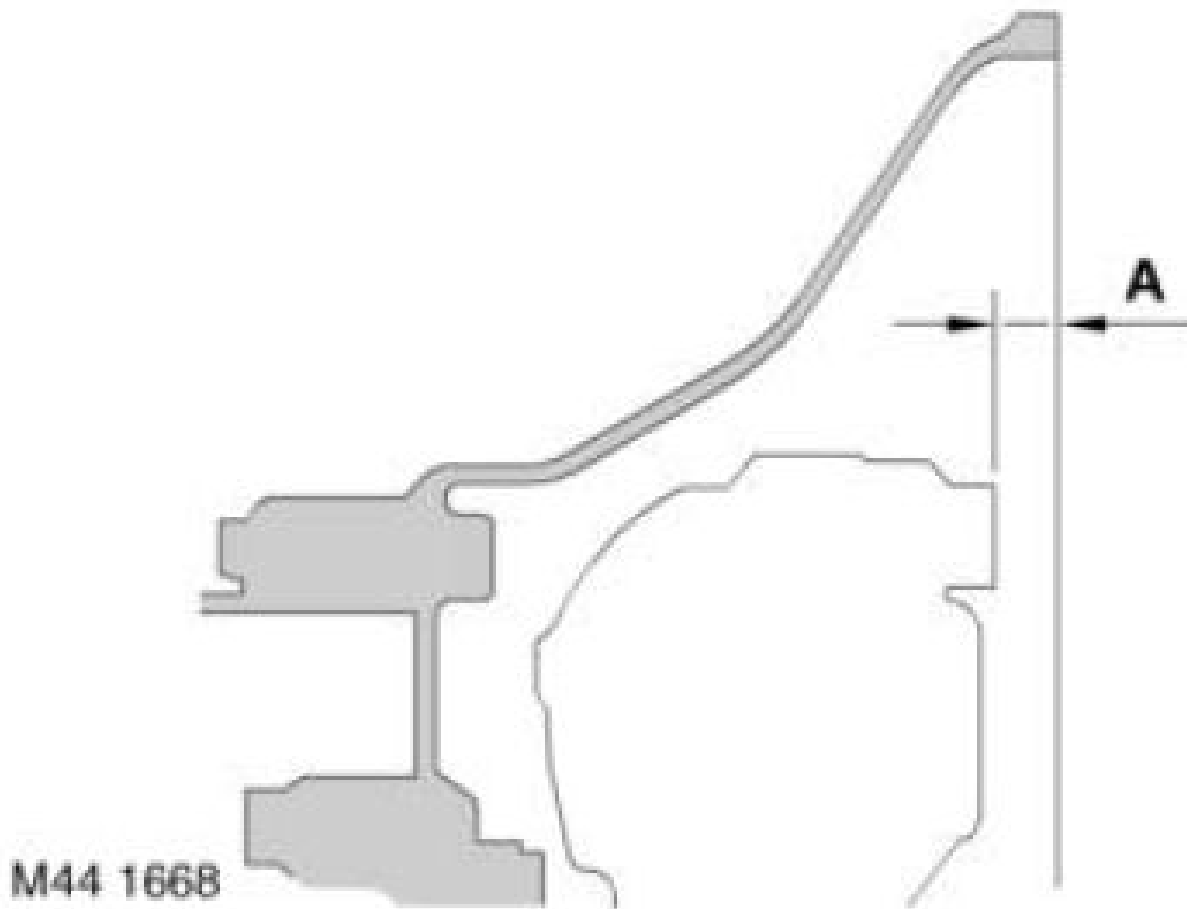


M44 1689

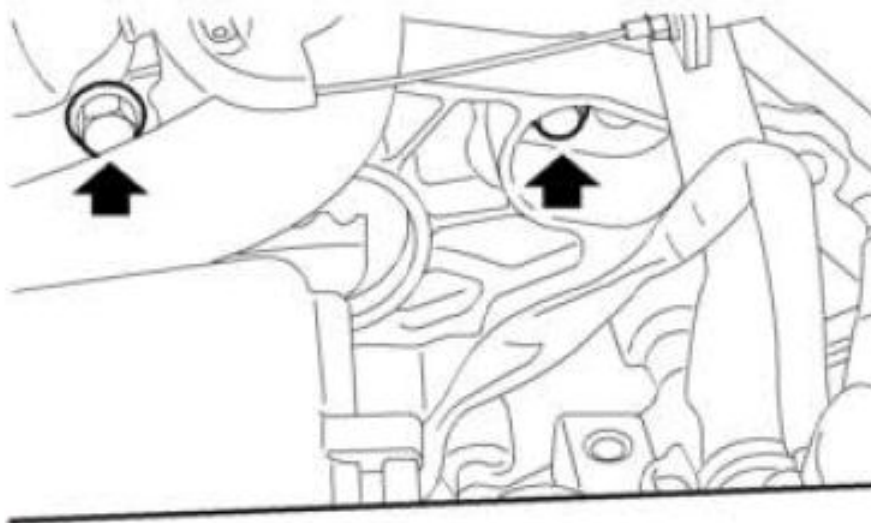
- 72. Fit converter retaining plate and secure with bolts.

Refit

- 1. Remove torque converter retaining plate.

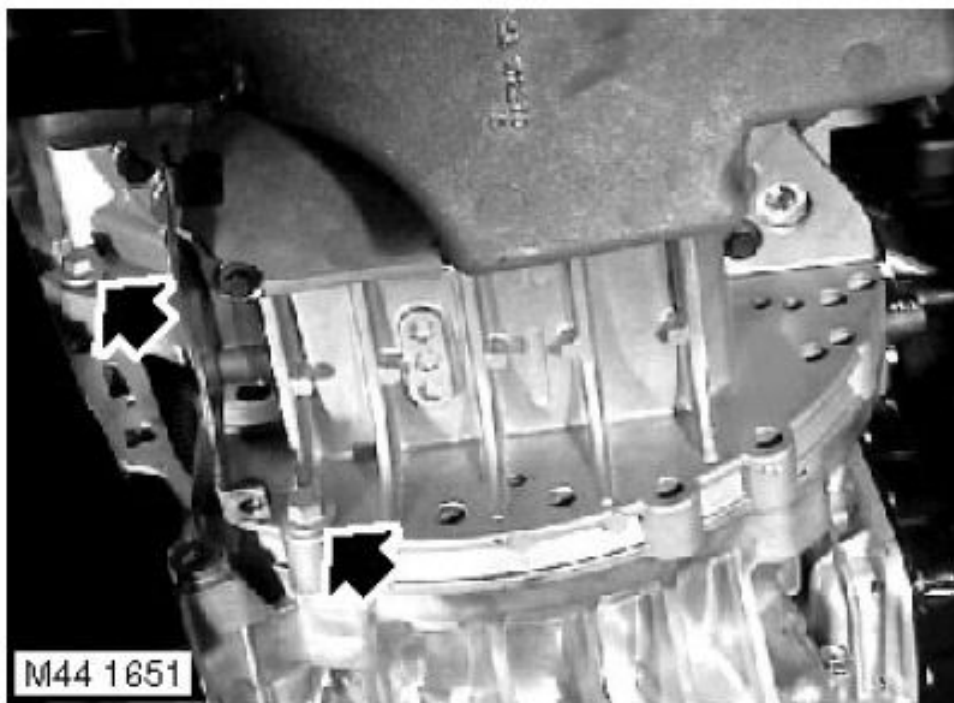


2. Ensure converter is fully located in oil pump drive by checking depth 'A' as illustrated. **Depth A = 4 mm.**
3. Clean gearbox to engine mating faces, dowels and dowel holes.
4. Fit gearbox assembly.



5. Fit bolts securing gearbox and tighten to **85 Nm (63 lbf.ft).**
6. Position LH mounting bracket to gearbox, fit and tighten bolts to **85 Nm (63 lbf.ft).**
7. Position LH mounting to body, fit and tighten bolts to **48 Nm (35 lbf.ft).**
8. Align gearbox bracket to LH body mounting, fit and tighten through bolt to **100 Nm (74 lbf.ft).**
9. Disconnect lifting equipment.

10. Remove nuts and bolts securing lifting brackets to gearbox and remove brackets.
11. Connect engine and gearbox harness multiplugs to main harness.
12. Secure multiplugs to clips.
13. Position engine earth lead and secure with bolt.
14. Fit starter motor.
15. Raise vehicle on lift.



16. Fit bolts securing gearbox and tighten to **85 Nm (63 lbf.ft)**.
17. Fit nut and bolt securing gearbox to engine and tighten to **85 Nm (63 lbf.ft)**.
18. Clean CKP sensor and mating face.
19. Fit CKP sensor, fit bolt and tighten to **9 Nm (7 lbf.ft)**.
20. Position fluid cooler, tighten M12 bolts to **85 Nm (63 lbf.ft)** and M8 bolt to **25 Nm (18 lbf.ft)**.
21. Clean fluid cooler unions.
22. Lubricate new 'O' rings with clean transmission fluid and fit 'O' rings to fluid cooler hoses.
23. Connect fluid cooler hoses to gearbox and tighten unions to **18 Nm (13 lbf.ft)**.
24. Position IRD cooling hose retainer, fit bolt and tighten to **25 Nm (18 lbf.ft)**.
25. Align marks on drive plate to torque converter.
26. Fit bolts securing drive plate to torque converter and tighten bolts to **45 Nm (33 lbf.ft)**.
27. Position access plate, fit bolts and tighten to **9 Nm (7 lbf.ft)**.
28. Position trunnion to selector lever, locate inner cable through trunnion, do not tighten nut at this stage.
29. Position selector cable to gearbox bracket and secure with clip.
30. Adjust selector cable.
31. Inspect drive shaft oil seal, renew if worn or damaged.
32. Clean end of drive shaft and mating splines in gearbox.
33. Fit new circlip to LH drive shaft.
34. With assistance pull hub outwards, align drive shaft and fit to gearbox, taking care not to damage drive shaft oil seal.

CAUTION: Pull the drive shaft to ensure the circlip is fully engaged and retains the shaft.

35. Clean mating faces of IRD and gearbox.
36. Lubricate and fit new 'O' ring
37. With assistance, fit IRD.
38. Fit bolts securing IRD to gearbox and tighten sufficiently only to pull mating faces of IRD and gearbox together at this stage.
39. Fit IRD support bracket and tighten bolts sufficiently only to pull mating faces together.
40. Final tighten bolts securing IRD to gearbox to **80 Nm (59 lbf.ft)**.
41. Final tighten bolts securing IRD support bracket in following sequence: 5 bolts securing support bracket to IRD **50 Nm (37 lbf.ft)**, 2 bolts securing support bracket to engine front mounting bracket **50 Nm (37 lbf.ft)**, 3 bolts securing support bracket to sump **45 Nm (33 lbf.ft)**.
42. Connect coolant hoses to IRD unit and secure with clips.
43. Remove pipe clamp from IRD coolant hoses.
44. Connect breather hose to IRD housing.
45. Clean propeller shaft flange and mating face.

46. Fit propeller shaft to IRD flange and align marks. Tighten nuts and bolts to **42 Nm (31 lbf.ft)**.
47. Position lower engine steady, 'TOP' mark uppermost. Fit bolt but do not tighten at this stage.
48. Inspect drive shaft oil seal, renew if worn or damaged.
49. Clean drive shaft and flange splines.
50. Fit new circlip to drive shaft.
51. With assistance, pull hub outwards, align drive shaft and fit to IRD taking care not to damage oil seal.

CAUTION: Pull the drive shaft to ensure the circlip is fully engaged and retains the shaft.

52. Clean exhaust manifold and mating face on cylinder head.
53. Fit exhaust manifold gasket.
54. Position exhaust manifold, fit nuts and progressively tighten, from centre outwards to **45 Nm (33 lbf.ft)**.
55. Connect HO2S multiplug and secure to support bracket.
56. Fit splash shield and secure with bolts.
57. Fit RH catalytic converter.
58. Fit rear beam.
59. Clean front pipe and manifold mating faces.
60. Using a new gasket, fit front pipe and fit but do not tighten nuts.
61. Fit bolt securing front pipe to bracket but do not tighten.
62. Tighten nuts securing front pipe to manifold to **50 Nm (37 lbf.ft)**.
63. Tighten bolt securing front pipe to bracket to **25 Nm (18 lbf.ft)**.
64. Connect multiplug to post catalyst HO2S sensor and secure with clips.
65. Final tighten bolt securing lower engine steady to sump bracket to **100 Nm (74 lbf.ft)**.
66. Fill IRD to correct level with fluid.
67. Lower vehicle on lift.
68. Connect HO2S multiplug to sensor and secure to support bracket.
69. Connect the battery earth lead.
70. Fit the engine acoustic cover.
71. Fill automatic gearbox with oil.
72. Check coolant level in expansion tank and if necessary top-up.
73. Untie and close bonnet.