

MANUAL GEARBOX

CONTENTS

Description and Operation

	Page
Gearbox components	3
Cross section of gearbox	4
Operation	5

Adjustments

	Page
Gearbox oil refill - from dry	1
Oil level check and top - up	1

Repairs

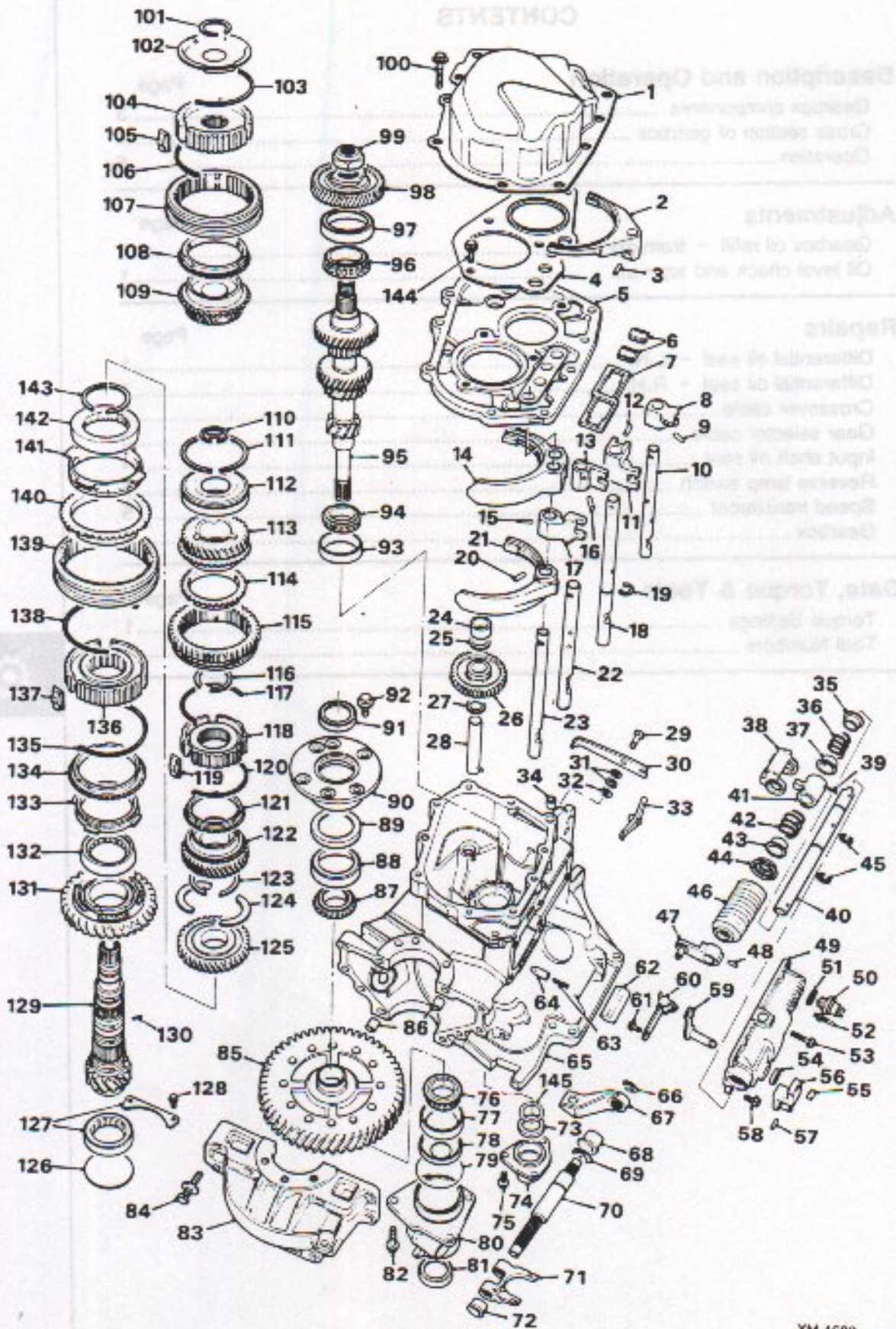
	Page
Differential oil seal - L.H.	1
Differential oil seal - R.H.	1
Crossover cable	2
Gear selector cable	3
Input shaft oil seal	4
Reverse lamp switch	5
Speed transducer	5
Gearbox	5

Data, Torque & Tools

	Page
Torque Settings	1
Tool Numbers	1



CONTENTS

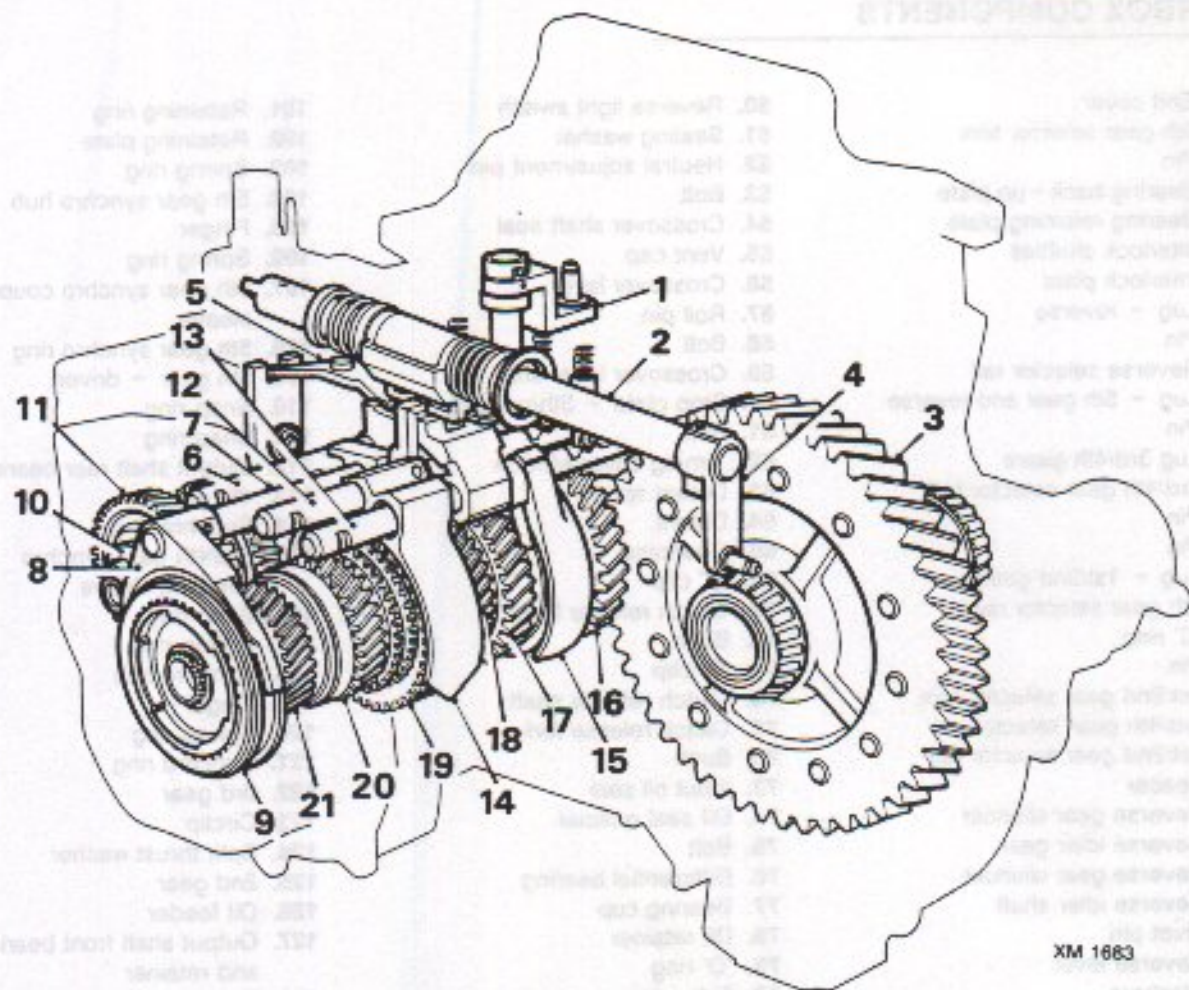


XM 1682



GEARBOX COMPONENTS

- | | | |
|---|-------------------------------|--|
| 1. End cover | 50. Reverse light switch | 101. Retaining ring |
| 2. 5th gear selector fork | 51. Sealing washer | 102. Retaining plate |
| 3. Pin | 52. Neutral adjustment pin | 103. Spring ring |
| 4. Bearing back - up plate | 53. Bolt | 104. 5th gear synchro hub |
| 5. Bearing retaining plate | 54. Crossover shaft seal | 105. Finger |
| 6. Interlock shuttles | 55. Vent cap | 106. Spring ring |
| 7. Interlock plate | 56. Crossover lever | 107. 5th gear synchro coupling sleeve |
| 8. Lug - reverse | 57. Roll pin | 108. 5th gear synchro ring |
| 9. Pin | 58. Bolt | 109. 5th gear - driven |
| 10. Reverse selector rail | 59. Crossover lever shaft | 110. Snap ring |
| 11. Lug - 5th gear and reverse | 60. Stop plate - 5th/reverse | 111. Snap ring |
| 12. Pin | 61. Bolt | 112. Output shaft rear bearing |
| 13. Lug 3rd/4th gears | 62. Timing cover window | 113. 4th gear |
| 14. 3rd/4th gear selector fork | 63. Detent spring | 114. Synchro ring |
| 15. Pin | 64. Detent | 115. 3rd/4th gear synchro coupling sleeve |
| 16. Pin | 65. Gearcase | 116. Snap ring |
| 17. Lug - 1st/2nd gears | 66. 'C' clip | 117. Spring ring |
| 18. 5th gear selector rail | 67. Clutch release lever | 118. Synchro hub |
| 19. 'C' ring | 68. Bush | 119. Finger |
| 20. Pin | 69. 'C' clip | 120. Spring ring |
| 21. 1st/2nd gear selector fork | 70. Clutch release shaft | 121. Synchro ring |
| 22. 3rd/4th gear selector rail | 71. Clutch release fork | 122. 3rd gear |
| 23. 1st/2nd gear selector rail | 72. Bush | 123. Circlip |
| 24. Spacer | 73. Input oil seal | 124. Split thrust washer |
| 25. Reverse gear silencer | 74. Oil seal retainer | 125. 2nd gear |
| 26. Reverse idler gear | 75. Bolt | 126. Oil feeder |
| 27. Reverse gear silencer | 76. Differential bearing | 127. Output shaft front bearing and retainer |
| 28. Reverse idler shaft | 77. Bearing cup | 128. Bolt |
| 29. Pivot pin | 78. Oil retainer | 129. Output shaft |
| 30. Reverse lever | 79. 'O' ring | 130. Pin |
| 31. Washers | 80. Extension | 131. 1st gear |
| 32. 'C' clip | 81. Oil seal | 132. Thrust washer |
| 33. Reverse pivot arm | 82. Bolt | 133. Sleeve |
| 34. Spring dowel | 83. Differential casing | 134. Synchro ring |
| 35. Selector spring sleeve | 84. Bolt | 135. Spring ring |
| 36. Spring (long) - 5th/reverse gear selector | 85. Differential assembly | 136. Synchro hub |
| 37. Selector spring sleeve | 86. Hollow dowels | 137. Finger |
| 38. Selector inhibitor | 87. Differential bearing | 138. Spring ring |
| 39. Roll pin | 88. Bearing cup | 139. 1st/2nd gear synchro coupling sleeve |
| 40. Selector shaft | 89. Oil feed baffle | 140. Synchro ring |
| 41. Selector | 90. Bearing retainer | 141. Sleeve |
| 42. Spring (short) - 1st/2nd gear selector | 91. Oil seal | 142. Thrust washer |
| 43. Selector spring sleeve | 92. Bolt | 143. Snap ring |
| 44. Selector shaft seal | 93. Bearing cup | 144. Bolt |
| 45. Snap rings | 94. Input shaft front bearing | 145. Selective thrust washer |
| 46. Selector shaft garter | 95. Input shaft | |
| 47. Selector lever | 96. Input shaft rear bearing | |
| 48. Pin | 97. Bearing cup | |
| 49. Selector housing | 98. 5th gear - drive | |
| | 99. Retaining nut | |
| | 100. Bolt | |



XM 1663

CROSS SECTION OF GEARBOX

- | | |
|------------------------------|-----------------------------------|
| 1. Crossover lever | 12. 3rd/4th gear selector rail |
| 2. Selector shaft | 13. 1st/2nd gear selector rail |
| 3. Differential assembly | 14. 3rd/4th gear selector fork |
| 4. Selector lever | 15. 1st/2nd gear selector fork |
| 5. Reverse pivot arm | 16. 1st gear |
| 6. Reverse selector rail | 17. 2nd gear |
| 7. 5th gear selector rail | 18. 3rd gear |
| 8. 5th gear selector fork | 19. 3rd/4th gear synchro assembly |
| 9. 5th gear synchro assembly | 20. 4th gear |
| 10. Input shaft | 21. 5th gear (driven) |
| 11. 5th gear (drive) | |



OPERATION

The 5 speed constant mesh gearbox comprises a gearcase with integral clutch housing, end cover, gear train components and the differential assembly.

The input shaft is carried in two taper needle bearings with all drive gears with the exception of 5th gear being integral with the input shaft. 5th gear is located on splines machined in the end of the input shaft and is secured by a self - locking nut.

The output shaft is carried in a roller bearing at the differential end and a ball bearing at the opposite end. All driven gears and synchro assemblies are located on the output shaft with the differential drive gear being an integral part of the shaft.

Reverse idler gear is carried on the reverse idler shaft and is free to rotate on the shaft which is secured in the gearcase by a roll pin. Reverse idler gear chatter is eliminated by means of a silencer bush on the shaft.

All forward gears are engaged via the selector shaft located in a housing bolted to the top of the gearcase; the selector lever being connected to the gear lever by a cable.

Reverse gear engagement is via the crossover cable connected to the crossover lever.

The gear selector forks are mounted on selector rails which connect to the selector by means of lugs. The selector mechanism incorporates a safety interlock to prevent a gearshift direct from 5th gear to reverse.

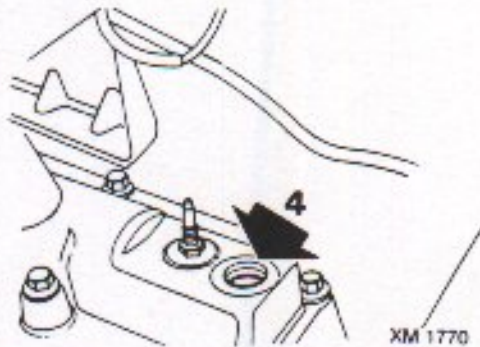
The differential assembly is carried in taper roller bearings and is located in the gearcase.

Geartrain lubrication is by splash with the differential and lower halves of geartrain being immersed in the gearbox oil. Drillings in the output shaft also direct oil to the synchro assemblies, gears and bearings.



GEARBOX OIL REFILL - FROM DRY

1. Remove reverse lamp switch, see **Repairs**.
2. Fit funnel to gearbox reverse lamp switch hole.
3. Fill measure with 2 litres of oil of the specified type and grade, see **INFORMATION - CAPACITIES, FLUIDS AND LUBRICANTS**



XM 1770

4. Fill gearbox through reverse lamp switch hole.
5. Remove funnel.
6. Fit reverse lamp switch, see **Repairs**.

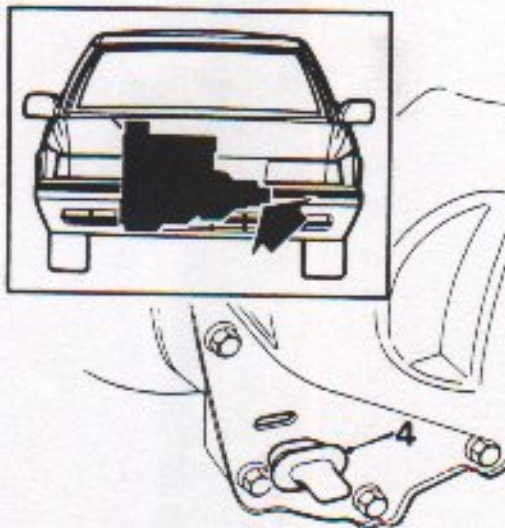


XM 1733A

7. Top - up gearbox, through reverse light switch hole, with specified type and grade of oil, until oil runs out of level plug hole.
8. Fit level plug to gearbox.
9. Fill a measure with 0.5 litre of oil and add this oil to the gearbox.
10. Remove funnel.
11. Fit reverse lamp switch, see **Repairs**.
12. Remove drain tin.
13. Lower ramp.

OIL LEVEL CHECK AND TOP - UP.

1. Raise vehicle on a ramp.
2. Position clean drain tin.
3. Clean area around level plug.



XM 1732

4. Remove level plug.
5. Remove reverse lamp switch, see **Repairs**.
6. Fit funnel to gearbox reverse lamp switch hole.



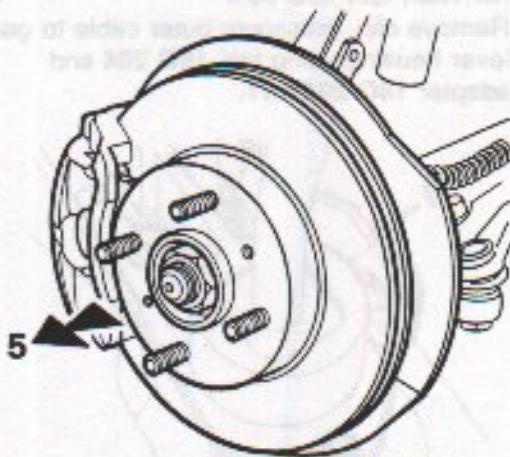
DIFFERENTIAL OIL SEAL - L.H.

Service Repair No. 54.10.18

1. Raise front of vehicle.

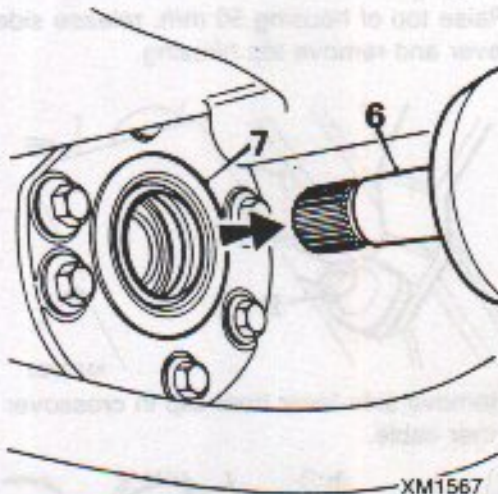
WARNING: Support on safety stands.

2. Remove road wheel(s).
3. Disconnect lower arm from ball joint, see **REPAIR MANUAL - FRONT SUSPENSION - Repairs - Hub bearing and lower ball joint.**
4. Position drain tin beneath differential housing.



XM1566

5. Using assistance pull hub assembly outwards.

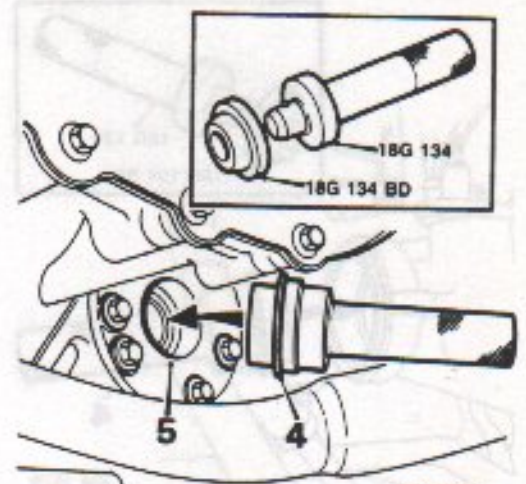


XM1567

6. Release drive shaft from differential.
7. Carefully prise oil seal out of differential housing; discard oil seal.

Refit

1. Thoroughly clean oil seal recess and splines of drive shaft.
2. Lubricate oil seal with clean gearbox oil - see **CAPACITIES, FLUIDS AND LUBRICANTS.**



XM1568

3. Fit 18G 134BD to 18G 134.
4. Locate oil seal on 18G 134BD with sealing lip facing towards differential housing.
5. Carefully drift oil seal into differential housing until it is fully seated in recess.
6. Remove 18G 134BD and 18G 134.
7. With an assistant carefully pulling hub assembly outwards, insert drive shaft into differential.

CAUTION: Keep drive shaft horizontal to avoid damaging oil seal.

8. Connect lower arm to steering knuckle, see **REPAIR MANUAL - FRONT SUSPENSION - Repairs - Hub bearing and lower ball joint.**
9. Top-up gearbox oil - see **Oil level check and top-up - Adjustments.**
10. Fit road wheel and tighten nuts to 110 Nm.
11. Remove stand(s) and lower vehicle.

DIFFERENTIAL OIL SEAL - R.H.

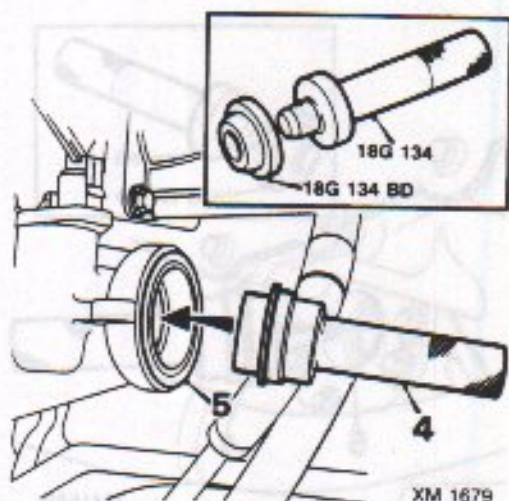
Service Repair No. 54.10.21

Remove

1. Remove R.H. drive shaft - see **DRIVE SHAFT - Repairs.**
2. Carefully prise oil seal out of differential housing; discard oil seal.

Refit

1. Thoroughly clean oil seal recess and splines of drive shaft.
2. Lubricate oil seal with clean gearbox oil - see **CAPACITIES, FLUIDS AND LUBRICANTS.**



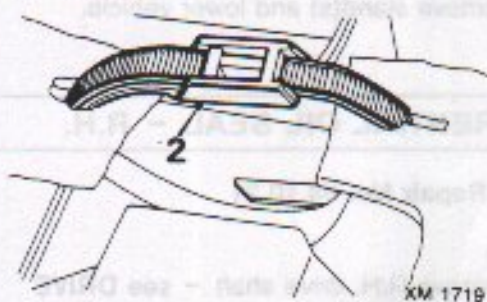
3. Fit 18G 134BD to 18G 134.
4. Locate oil seal on 18G 134BD with sealing lip facing towards differential housing.
5. Carefully drift oil seal into differential housing until it is fully seated in recess.
6. Remove 18G 134BD and 18G 134.
7. Fit R.H. drive shaft - see DRIVE SHAFT - Repairs.

CROSSOVER CABLE

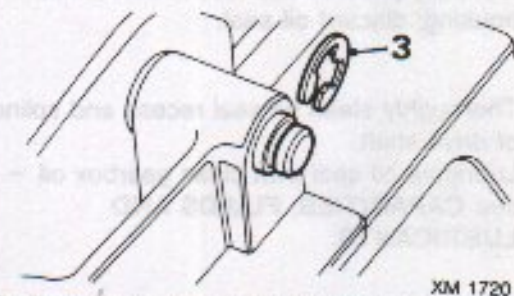
Service Repair No. 37.16.17

Remove

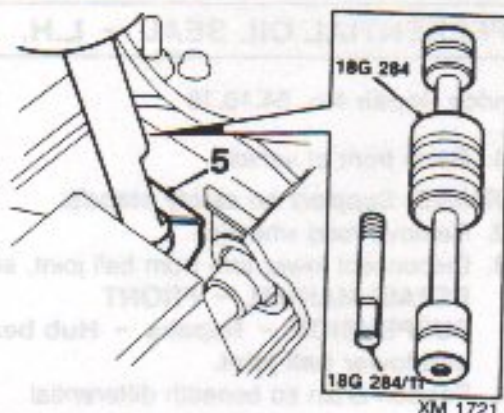
1. Remove centre console and front ash tray, see REPAIR MANUAL - BODY - Repairs.



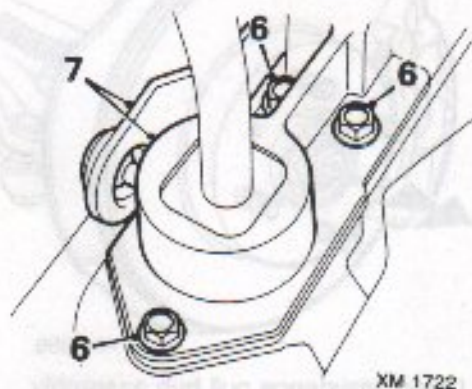
2. Remove strap securing carpet.



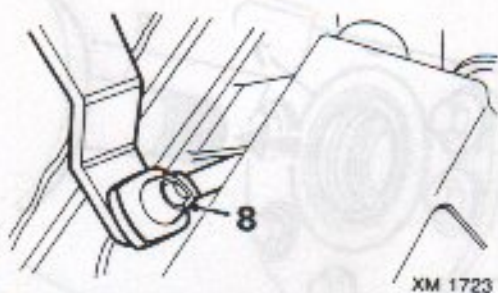
3. Remove circlip, side lever to gear change top housing.



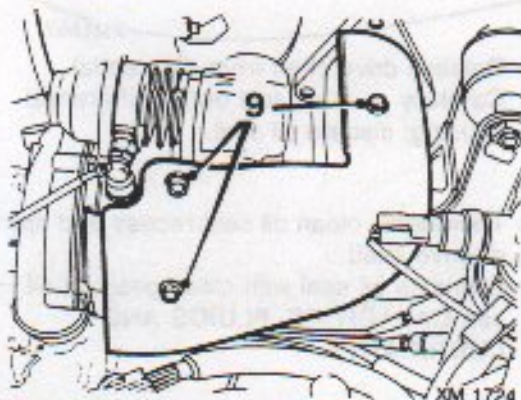
4. Fit adapter, tool 18G 284 - 11 to slide hammer, tool 18G 284.
5. Remove clip, crossover outer cable to gear lever housing using tool 18G 284 and adapter 18G 284 - 11.



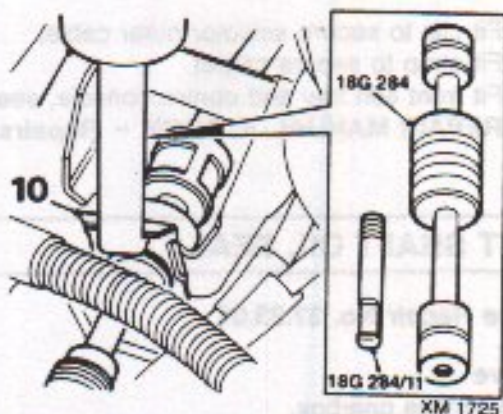
6. Remove 3 bolts securing top of gear lever housing.
7. Raise top of housing 50 mm, release side lever and remove top housing.



8. Remove side lever from clip in crossover inner cable.



9. Remove 3 screws securing turbocharger heat shield; remove heat shield.



10. Remove clip, crossover outer cable to gearbox bracket using tool **18G 284** and adapter **18G 284 - 11**.
11. Carefully prise crossover inner cable off lever.

CAUTION: Ensure crossover inner and outer cables are not subjected to excessive bending or damage to crossover cable guide will result.

12. Raise front of vehicle.

WARNING: Support on safety stands.

13. Withdraw crossover cable from gearbox bracket.
14. Release crossover cable from gear lever housing.
15. Withdraw crossover cable.

Refit

1. Position crossover cable to gear lever housing.
2. Position crossover cable to gear lever bracket.
3. Remove stand(s) and lower vehicle.
4. Connect crossover inner cable to lever.

CAUTION: Do not subject inner and outer cables to excessive bending.

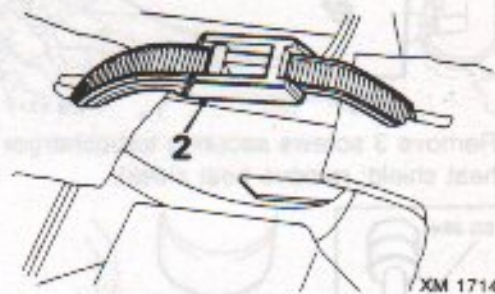
5. Fit clip to secure crossover outer cable.
6. Fit turbocharger heat shield; fit and tighten 3 screws
7. Secure lever to clip in crossover inner cable.
8. Position and align bush in gear change top housing.
9. Fit side lever to gear change top housing.
10. Fit top of housing, fit and tighten 3 bolts to 25 Nm.
11. Align crossover outer cable to gear lever housing.
12. Fit clip to secure crossover outer cable.
13. Fit circlip securing side lever to gear change top housing.
14. Fit strap to secure carpet.
15. Fit front ash tray and centre console, see **REPAIR MANUAL - BODY - Repairs**.

GEAR SELECTOR CABLE

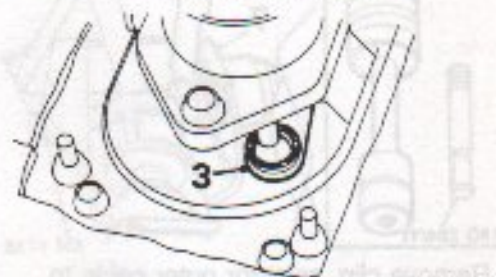
Service Repair No. 37.16.16

Remove

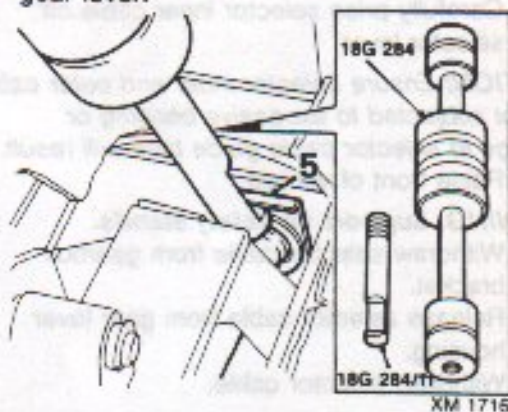
1. Remove centre console and front ash tray, see **REPAIR MANUAL - BODY - Repairs**.



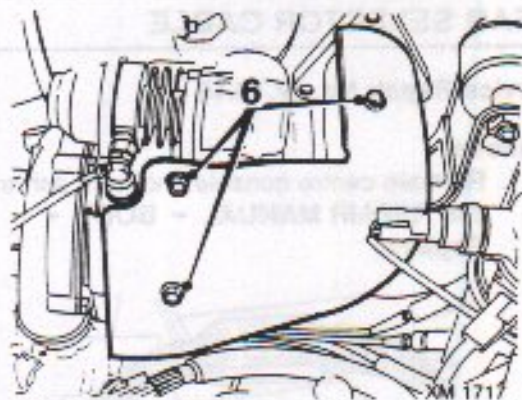
2. Remove strap securing carpet.



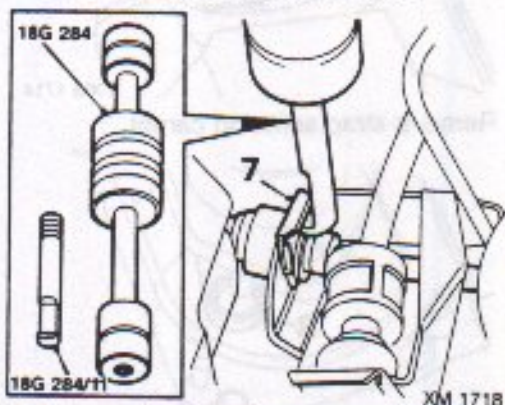
3. Release selector inner cable ball joint from gear lever.



4. Fit adapter, tool **18G 284 - 11** to slide hammer, tool **18G 284**.
5. Remove clip, selector outer cable to gear lever housing using tool **18G 284** and adapter **18G 284 - 11**.



- Remove 3 screws securing turbocharger heat shield; remove heat shield.



- Remove clip, selector outer cable to gearbox bracket using tool 18G 284 and adapter 18G 284 - 11.
- Carefully prise selector inner cable off selector lever.

CAUTION: Ensure selector inner and outer cables are not subjected to excessive bending or damage to selector cable guide tube will result.

- Raise front of vehicle.

WARNING: Support on safety stands.

- Withdraw selector cable from gearbox bracket.
- Release selector cable from gear lever housing.
- Withdraw selector cable.

Refit

- Position selector inner and outer cables.
- Position selector outer cable to gearbox bracket.
- Remove stand(s) and lower vehicle.
- Connect selector inner cable to selector lever.

CAUTION: Do not subject inner and outer cables to excessive bending.

- Fit clip to secure selector outer cable.
- Fit turbocharger heat shield; fit and tighten 3 screws.
- Connect selector inner cable ball joint to gear lever.
- Push gear lever forwards and align selector outer cable to gear lever housing.

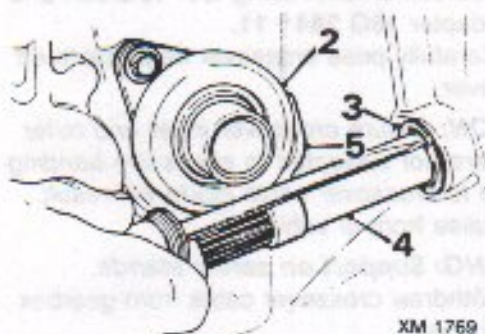
- Fit clip to secure selector outer cable.
- Fit strap to secure carpet.
- Fit front ash tray and centre console, see **REPAIR MANUAL - BODY - Repairs.**

INPUT SHAFT OIL SEAL

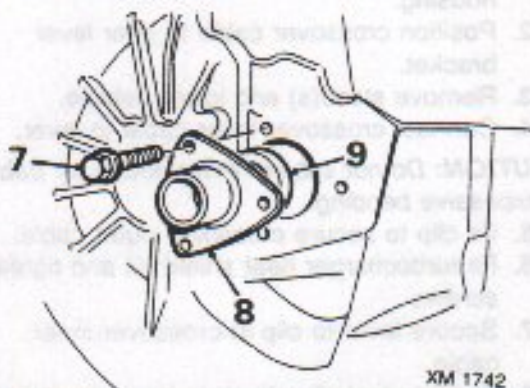
Service Repair No. 37.23.06

Remove

- Remove gearbox.



- Remove clutch release bearing.
- Remove 'C' clip securing clutch release shaft.
- Withdraw shaft.
- Remove release fork.
- Remove 2 bushes.



- Remove 3 bolts, input shaft oil seal retainer to gearbox.
- Withdraw retainer, recover shim.

CAUTION: Do not discard shim.

- Remove and discard oil seal.

Refit

- Clean retainer, gearbox mating face, clutch release shaft, bush recesses, bushes and release fork.
- Smear oil seal with clean gearbox oil, see **CAPACITIES, FLUIDS AND LUBRICANTS.**
- Fit oil seal to retainer.
- Apply RTV sealant to gearbox mating face of retainer.



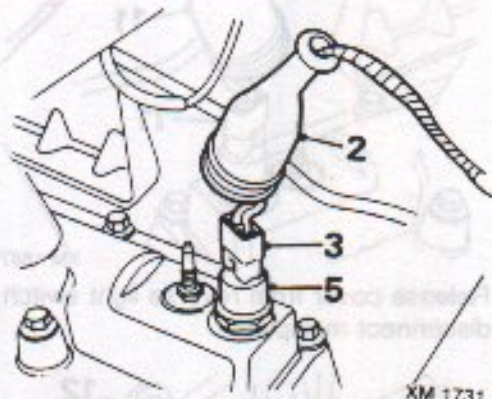
5. Position shim to retainer
6. Fit retainer to gearbox; fit and tighten 3 bolts to 15 Nm.
7. Apply suitable grease to inner surface of clutch release shaft bushes, see **CAPACITIES, FLUIDS AND LUBRICANTS**.
8. Fit 2 bushes.
9. Fit clutch release shaft and release fork.
10. Fit 'C' clip.
11. Fit clutch release bearing.
12. Fit gearbox.

REVERSE LAMP SWITCH

Service Repair No. 37.27.01.

Remove

1. Raise vehicle on a ramp.



2. Release cover from reverse lamp switch.
3. Disconnect multiplug.
4. Clean area around reverse lamp switch.
5. Remove switch; discard sealing washer.

Refit

1. Fit new sealing washer to switch.
2. Fit switch
3. Reconnect multiplug.
4. Locate cover on switch.
5. Lower ramp.

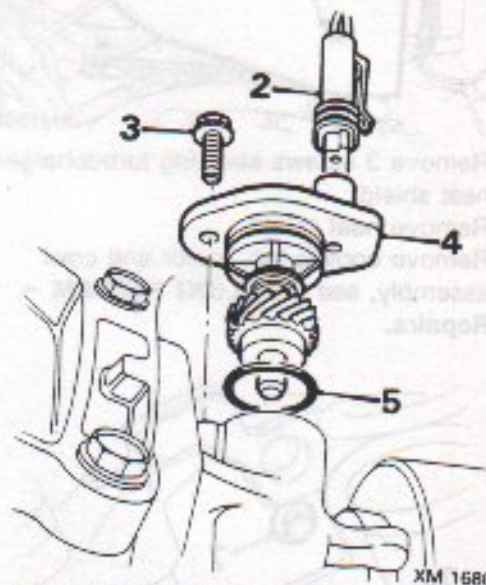
SPEED TRANSDUCER

Service Repair No. 37.25.15.

Remove

1. Raise front of vehicle.

WARNING: Support on safety stands.



2. Disconnect speed transducer multiplug.
3. Remove bolt securing speed transducer.
4. Withdraw speed transducer from gearbox.
5. Remove and discard 'O' ring.

Refit

1. Lubricate new 'O' ring with clean gearbox oil, see **CAPACITIES, FLUIDS AND LUBRICANTS**.
2. Fit 'O' ring to speed transducer.
3. Fit speed transducer.
4. Fit and tighten bolt to 8 Nm.
5. Connect multiplug.
6. Remove stand(s) and lower vehicle.

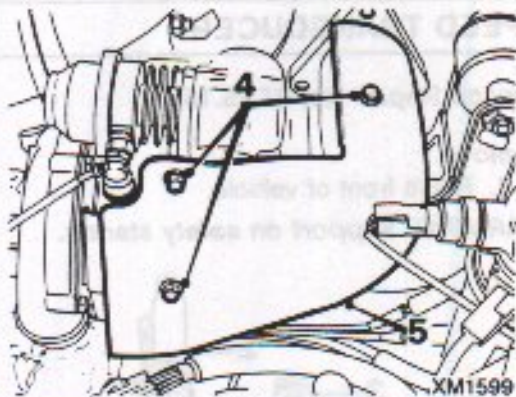
GEARBOX

Service Repair No. 37.20.02

Remove

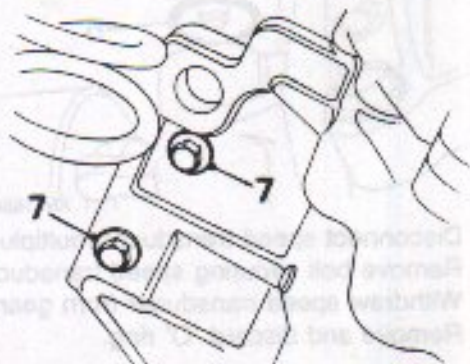
1. Support vehicle on a suitable lift in 'wheel free' position.
2. Remove air cleaner, see **FUEL SYSTEM - Repairs**.
3. Remove under belly panel, see **BODY - Repairs**.

MANUAL GEARBOX



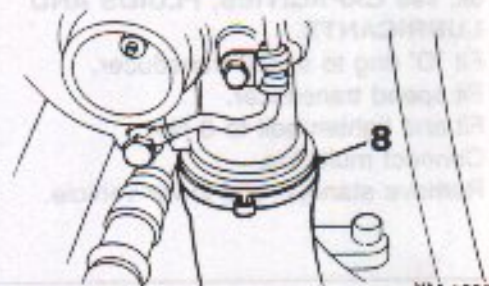
XM1599

4. Remove 3 screws securing turbocharger heat shield.
5. Remove heat shield.
6. Remove cooling fan, motor and cowl assembly, see **COOLING SYSTEM - Repairs**.



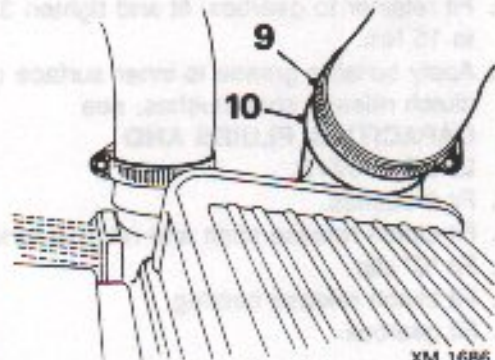
XM 1684

7. Remove 2 bolts, turbocharger hose bracket to gearbox.



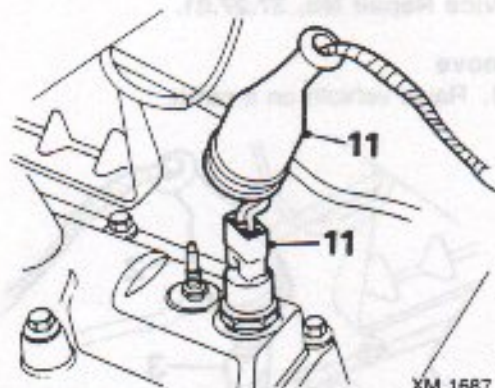
XM 1685

8. Release clip; disconnect hose from turbocharger.



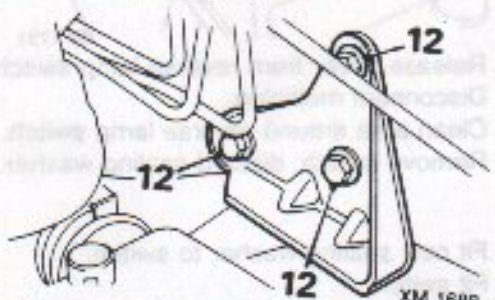
XM 1686

9. Slacken clip; disconnect hose from intercooler; remove hose and bracket.
10. Plug or blank off hose connections on turbocharger and intercooler.



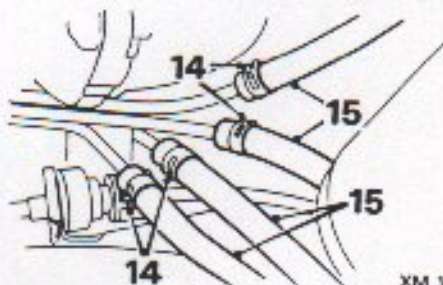
XM 1687

11. Release cover from reverse light switch; disconnect multiplug.



XM 1688

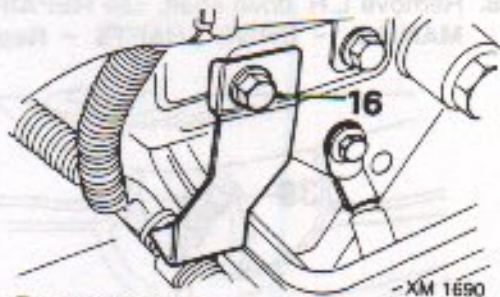
12. Remove 3 bolts, bump rubber to longitudinal beam; remove bump rubber.
13. Position cloth to absorb fuel spillage.



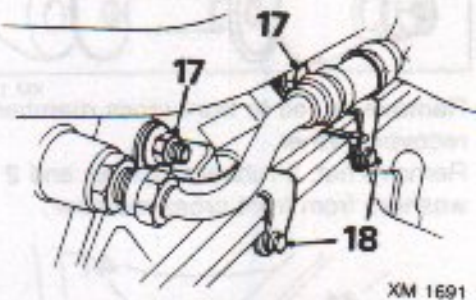
XM 1689

14. Release 4 clips, fuel hoses to pipes.
15. Disconnect 4 hoses.

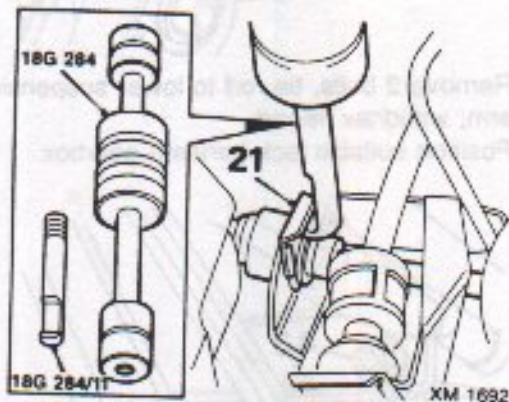
CAUTION: Plug pipes to prevent ingress of dirt.



16. Remove bolt, harness bracket to engine backplate.



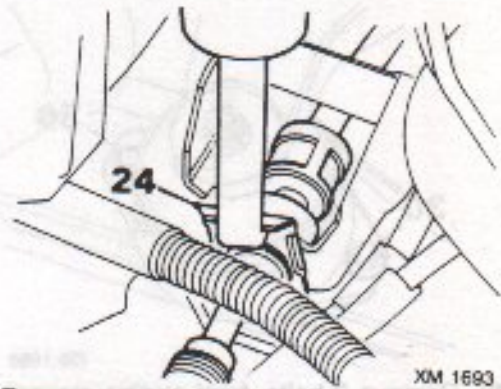
17. Remove nut and bolt securing fuel pipes, move pipes aside to gain access to pipe clamps.
18. Remove 2 screws, recover clamps.
19. Move fuel pipes aside.



20. Fit adapter, tool 18G 284 - 11 to slide hammer, tool 18G 284.
21. Remove clip, selector outer cable to gearbox bracket using tool 18G 284 and adapter 18G 284 - 11.
22. Carefully prise selector inner cable off selector lever.

CAUTION: Ensure selector inner and outer cables are not subjected to excessive bending or damage to selector cable guide tube will result.

23. Withdraw selector cable from bracket.

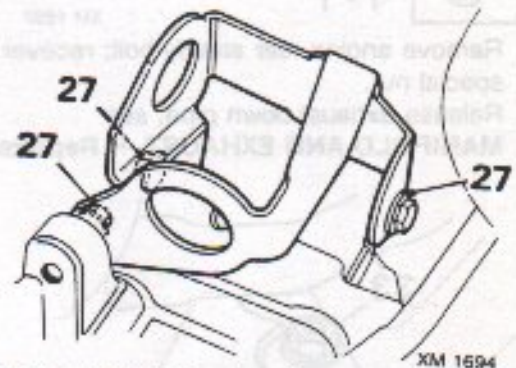


24. Remove clip, crossover cable to gearbox bracket using tool 18G 284 and adapter 18G 284 - 11.

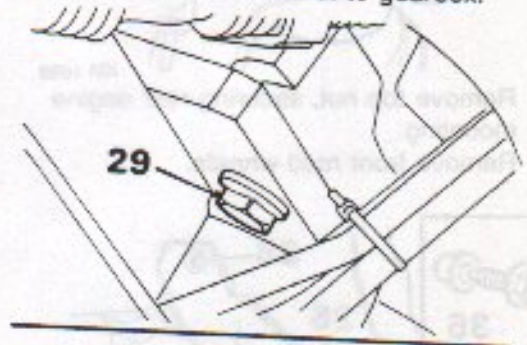
25. Carefully prise crossover inner cable off lever.

CAUTION: Ensure crossover inner and outer cables are not subjected to excessive bending or damage to crossover cable guide tube will result.

26. Withdraw crossover cable from bracket.

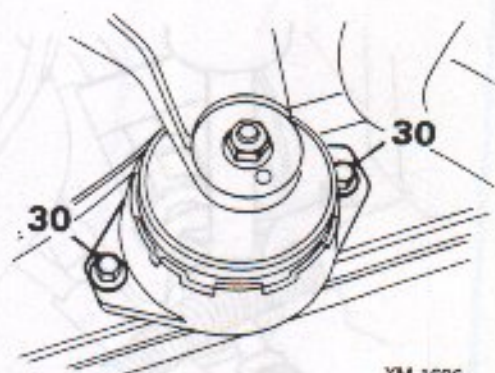


27. Remove 3 bolts, bracket to gearbox.



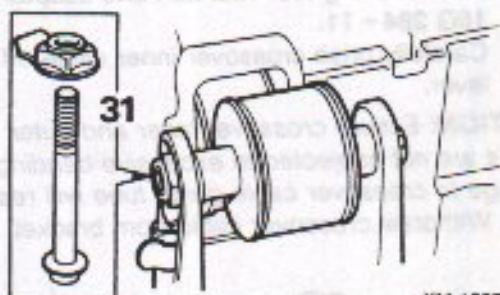
28. Remove nut securing top of gearbox.
29. Withdraw bolt, top of gearbox.





XM 1696

30. Remove 2 bolts, front engine mounting to cross member.



XM 1697

31. Remove engine rear steady bolt; recover special nut.

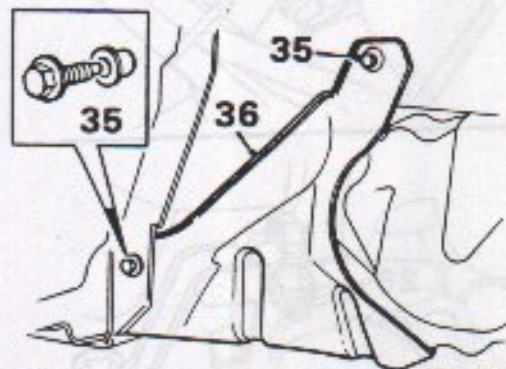
32. Release exhaust down pipe, see **MANIFOLD AND EXHAUST - Repairs.**



XM 1698

33. Remove top nut, securing rear engine mounting.

34. Remove front road wheels.



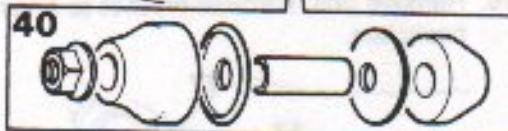
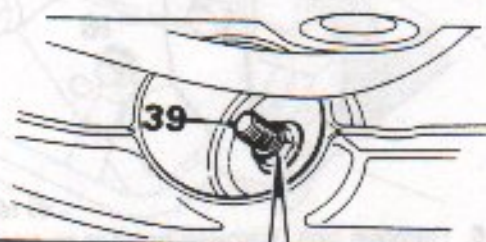
XM 1699

35. Remove 3 screws securing L.H. splash shield, recover spacer from front screw.

36. Remove L.H. splash shield.

37. Remove R.H. drive shaft, see **DRIVE SHAFTS - Repairs.**

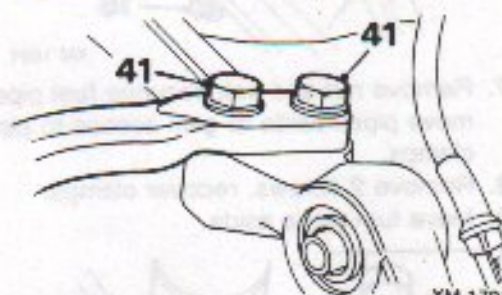
38. Remove L.H. drive shaft, see **REPAIR MANUAL - DRIVE SHAFTS - Repairs.**



XM 1700

39. Remove tie rod to front cross member; recover washer.

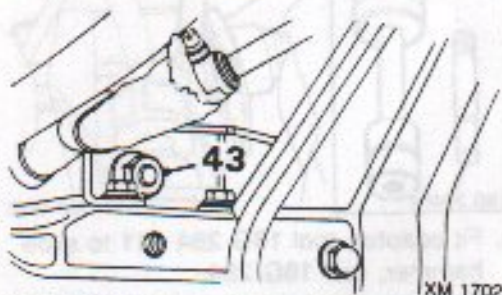
40. Remove nut, 2 rubbers, spacer and 2 washers from front cross member.



XM 1701

41. Remove 2 bolts, tie rod to lower suspension arm; withdraw tie rod.

42. Position suitable jack beneath gearbox.



XM 1702

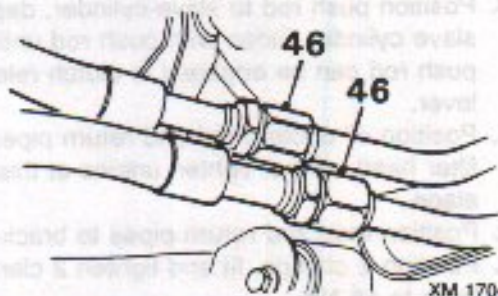
43. Remove bottom nut securing rear engine mounting.



XM 1703

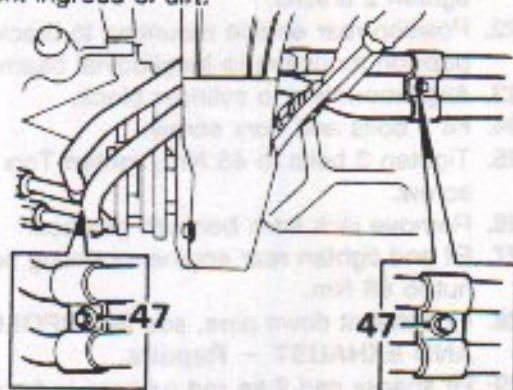
44. Remove 3 bolts and Torx screw, rear engine mounting bracket to engine; remove rear engine mounting and bracket.

45. Position drain tin.



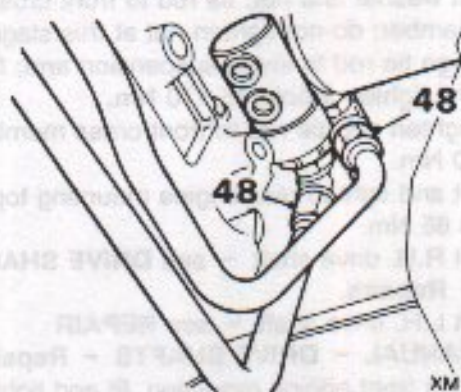
XM 1704

46. Disconnect 2 hoses from oil cooler unions.
CAUTION: Plug ends of hoses and unions to prevent ingress of dirt.



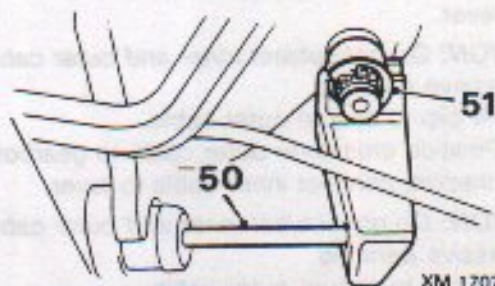
XM 1705

47. Remove 2 screws, release 2 oil cooler pipe clamps from engine steady and starter support brackets.



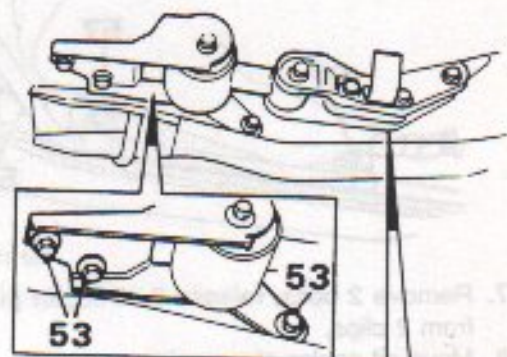
XM 1706

48. Disconnect 2 oil cooler pipe unions from filter head.
CAUTION: Plug unions to prevent ingress of dirt.
49. Remove 2 oil cooler pipes.



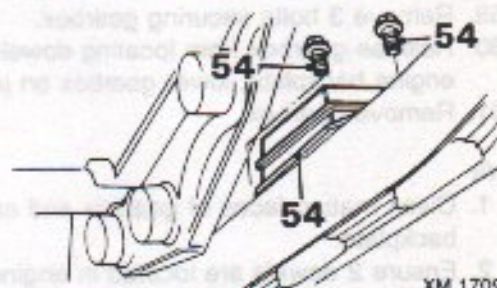
XM 1707

50. Remove clutch lever push rod.
 51. Remove 'C' clip securing clutch release lever; remove lever from gearbox.



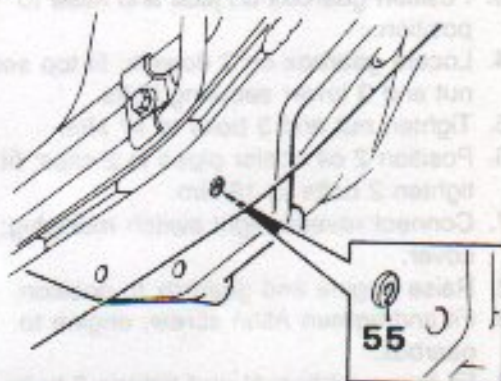
XM 1708

52. Remove 3 bolts, steady bracket to engine backplate; release steady bracket from backplate.
 53. Remove 3 bolts, steady bracket to longitudinal beam and cross member; remove steady bracket assembly.



XM 1709

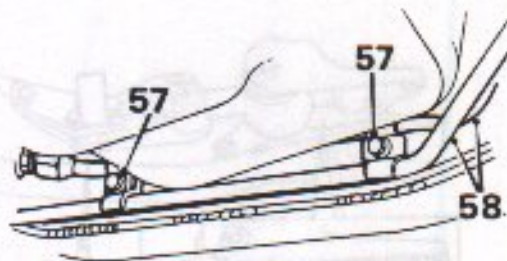
54. Remove 2 bolts, bump rubber to longitudinal beam; remove bump rubber.



XM 1710

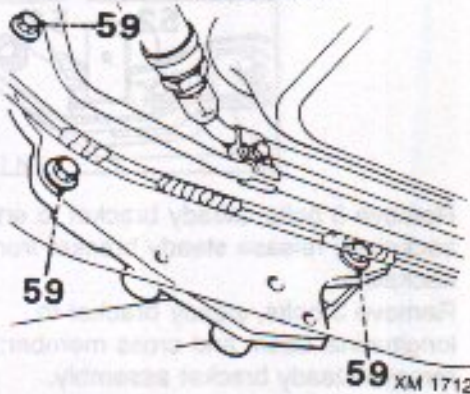
55. Remove Allen screw, engine backplate to gearbox.
 56. Lower jack until sump reinforcing plate rests on longitudinal beam.

Note: Move engine and gearbox towards front of car during above operation to give clearance.



XM 1713

57. Remove 2 bolts, release 2 oil cooler pipes from 2 clips.
58. Move oil cooler pipes aside.



XM 1712

59. Remove 3 bolts securing gearbox.
60. Release gearbox from locating dowels in engine backplate; lower gearbox on jack.
61. Remove gearbox.

Refit

1. Clean mating faces of gearbox and engine backplate.
2. Ensure 2 dowels are located in engine backplate; clean 2 dowel holes in gearbox mating face.
3. Position gearbox on jack and raise to position.
4. Locate gearbox on 2 dowels; fit top securing nut and 3 lower securing bolts.
5. Tighten nut and 3 bolts to 47 Nm.
6. Position 2 oil cooler pipes in 2 clips; fit and tighten 2 bolts to 15 Nm.
7. Connect reverse light switch multiplug; fit cover.
8. Raise engine and gearbox to position.
9. Fit and tighten Allen screw, engine to gearbox.
10. Fit bump rubber; fit and tighten 2 bolts to 20 Nm.
11. Position steady bracket assembly to engine backplate; fit and tighten 3 bolts to 82 Nm.
12. Align steady bracket to longitudinal beam and cross member; fit and tighten 3 bolts to 82 Nm.
13. Clean splines of clutch release lever.
14. Fit clutch release lever; secure with 'C' clip.
15. Apply grease to clutch lever end of push rod, see **CAPACITIES, FLUIDS AND LUBRICANTS**.

16. Position push rod to slave cylinder, depress slave cylinder piston with push rod until push rod can be engaged in clutch release lever.
17. Position oil cooler feed and return pipes to filter head; do not tighten unions at this stage.
18. Position feed and return pipes to brackets.
19. Position 2 clamps, fit and tighten 2 clamp bolts to 15 Nm.
20. Tighten feed and return pipe unions.
21. Connect 2 hoses to oil cooler unions; tighten 2 unions.
22. Position rear engine mounting to bracket; position mounting to longitudinal beams.
23. Align mounting to cylinder block.
24. Fit 3 bolts and Torx screw.
25. Tighten 3 bolts to 45 Nm; tighten Torx screw.
26. Remove jack from beneath gearbox.
27. Fit and tighten rear engine mounting bottom nut to 85 Nm.
28. Fit exhaust down pipe, see **MANIFOLD AND EXHAUST - Repairs**.
29. Fit spacer and 2 tie rod rubbers to front cross member.
30. Fit washer to tie rod; position tie rod to front cross member.
31. Fit washer and nut, tie rod to front cross member; do not tighten nut at this stage.
32. Align tie rod to lower suspension arm; fit and tighten 2 bolts to 170 Nm.
33. Tighten nut, tie rod to front cross member to 90 Nm.
34. Fit and tighten rear engine mounting top nut to 85 Nm.
35. Fit R.H. drive shaft - see **DRIVE SHAFTS - Repairs**.
36. Fit L.H. drive shaft - see **REPAIR MANUAL - DRIVE SHAFTS - Repairs**.
37. Align front engine mounting, fit and tighten 2 bolts to 45 Nm.
38. Fit gearbox bolt above front engine mounting bracket; tighten bolt to 50 Nm.
39. Position selector outer cable to gearbox bracket; connect inner cable to selector lever.

CAUTION: Do not subject inner and outer cables to excessive bending.

40. Fit clip to secure outer cable.
41. Position crossover outer cable to gearbox bracket; connect inner cable to lever.

CAUTION: Do not subject inner and outer cables to excessive bending.

42. Fit clip to secure outer cable.
43. Position crossover cable bracket to gearbox, fit and tighten 2 bolts to 10 Nm.
44. Position fuel pipes, fit 2 brackets, 2 clamps and 2 screws.
45. Tighten 2 screws.



46. Align harness bracket to engine backplate; fit and tighten nut and bolt.
47. Connect 4 fuel hoses, fit and secure 4 hose clips.
48. Position bump rubber to longitudinal beam; fit and tighten 3 bolts to 20 Nm.
49. Top - up gearbox oil level, see **Adjustments - oil level check and top - up.**
50. Connect hose to turbocharger and intercooler; fit and tighten 2 clips.
51. Align turbocharger hose bracket to gearbox; fit and tighten 2 bolts to 15 Nm.
52. Fit cooling fan, motor and cowl assembly, see **COOLING SYSTEM - Repairs.**
53. Fit under belly panel, see **BODY - Repairs.**
54. Fit turbocharger heat shield; fit and tighten 3 screws.
55. Fit air cleaner, see **FUEL SYSTEM - Repairs.**
56. Position L.H. splash shield.
57. Fit spacer to front securing screw; fit and tighten 2 screws to secure splash shield.
58. Fit road wheel and tighten nuts to 110 Nm.
59. Remove vehicle from ramp.
60. Bleed fuel system - if necessary, see **FUEL SYSTEM - Adjustments.**



TORQUE SETTINGS

Road wheel nuts	110 Nm
Top gear lever housing bolts	25 Nm
Input shaft oil seal retainer bolts	15 Nm
Speed transducer bolt	8 Nm
Gearbox securing nut and bolts	47 Nm
Oil cooler pipes bolts	15 Nm
Bump rubber bolts	20 Nm
Engine steady bracket bolts	82 Nm
Steady bracket to longitudinal beam bolts	82 Nm
Feed and return pipe clamp bolts	15 Nm
Rear engine mounting to engine bolts and torx screw	45 Nm
Rear engine mounting bottom nut	85 Nm
Lower suspension arm tie rod	170 Nm
Front crossmember tie rod nut	90 Nm
Rear engine mounting top nut	85 Nm
Front engine mounting bolts	45 Nm
Gearbox bolt above front engine mounting	50 Nm
Crossover cable bolts	10 Nm
Turbocharger hose bracket to gearbox bolts	15 Nm

TOOL NUMBERS

18G 134	Basic tool
18G 134BD	Basic tool adapter
18G 284	Slide Hammer (basic tool)
18G 284 - 11	Slide Hammer adapter