Transmission (07.00)

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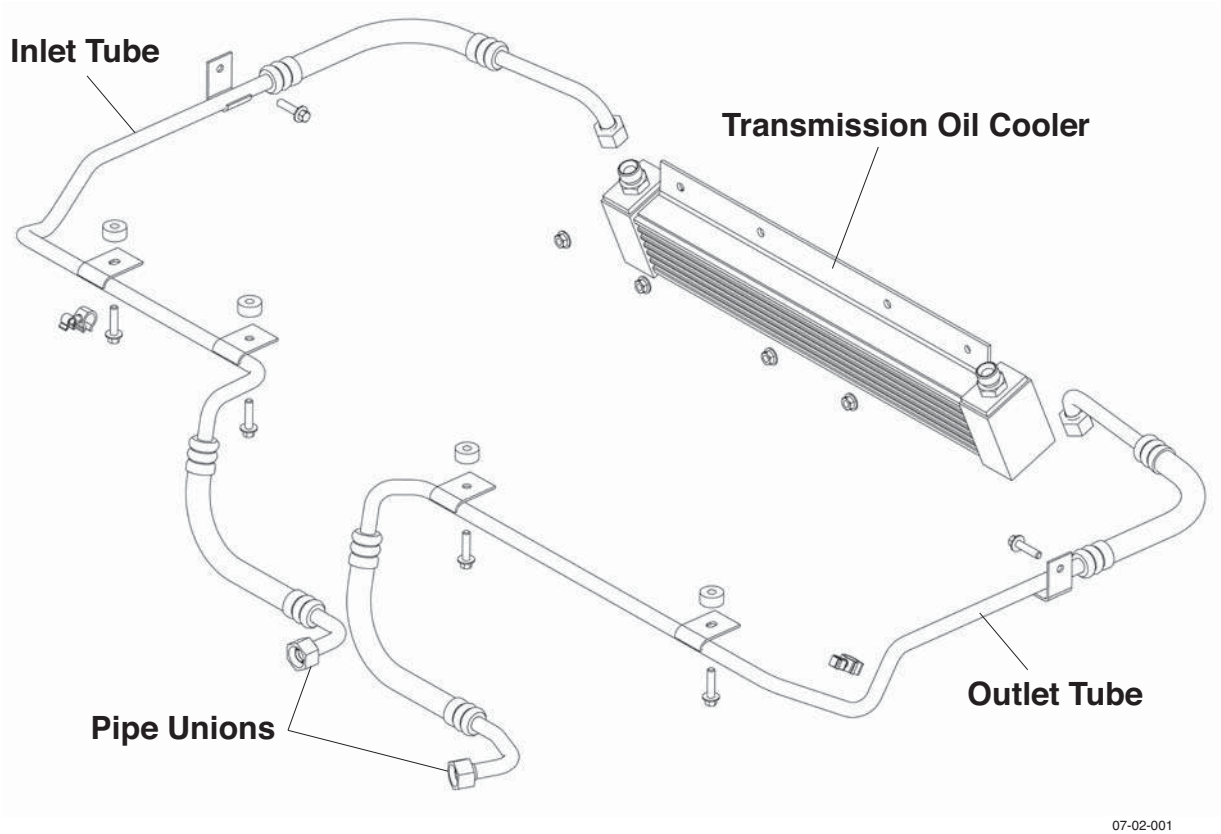
Transmission (07.00)

Transmission Cooling (07.02)



Specifications

Torque Figures		
Description	Nm.	lb. / ft.
Cooler to subframe	8-10	6-7.5

Maintenance

Oil Cooler Matrix-Renew

Repair Operation Time (ROT)	
Item	**Code**
Oil Cooler Matrix-Renew	**07.02.FC**

Removal

1. Raise vehicle on ramp.

WARNING
TO AVOID PERSONAL INJURY, I.E. SEVERE BURNS TO THE SKIN, ALLOW EXHAUST SYSTEM TO COOL DOWN BEFORE REMOVING EXHAUST SYSTEM COMPONENTS.

2. Remove rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Muffler - Renew).
3. Position drain container to collect oil spillage.
4. Loosen oil cooler pipe unions (x2) (see Figure 1).

Figure 1

5. Remove nuts (x4) from oil cooler to rear bumper armature.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

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Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

6. Disconnect oil cooler pipes and remove oil cooler (see Figure 2).

Figure 2

7. Install plugs in oil cooler and pipe connections.

Installation

1. Clean oil cooler, connections and mating face on subframe.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

2. Remove plugs, position oil cooler and connect oil cooler pipes (do not tighten at this stage).
3. Install oil cooler and tighten nuts (x4).
4. Tighten pipe unions.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

5. Top-up transaxle oil level.
6. Remove drain container.
7. Install rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Silencer - Renew).
8. Lower vehicle on ramp.

Manual Transmission Oil Outlet Hose-Renew

Repair Operation Time (ROT)	
Item	**Code**
Manual Transmission Oil Outlet Hose-Renew	**07.02.FD**

Removal

1. Raise vehicle on ramp.

WARNING
TO AVOID PERSONAL INJURY, I.E. SEVERE BURNS TO THE SKIN, ALLOW EXHAUST SYSTEM TO COOL DOWN BEFORE REMOVING EXHAUST SYSTEM COMPONENTS.

2. Remove rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Muffler - Renew).
3. Release transaxle breather hose from oil cooler pipe.
4. Remove bolt, nuts (x2),insulating washers (x2) and plain washer securing outlet hose brackets to body.
5. Position container to collect oil spillage.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

6. Loosen union and remove hose from oil cooler.
7. Loosen union and remove oil cooler hose from transaxle and collect hose.
1. Plug oil cooler and transaxle pipe connections.

Install

1. Clean hose connections and remove plugs.
2. Position hose, align brackets, install insulating washers (x2) and plain washer.
3. Install and tighten bolt and nuts (x2) to correct torque.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

4. Connect and tighten hose unions to correct torque.
5. Remove drain container.
6. Install transaxle breather hose clip to oil cooler pipe.
7. Install rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Muffler - Renew).
8. Lower vehicle on ramp.

Manual Transmission Oil Inlet Hose-Renew

Repair Operation Time (ROT)	
Item	**Code**
Manual Transmission Oil Inlet Hose-Renew	**07.02.FE**

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Removal

1. Raise vehicle on ramp.

WARNING
TO AVOID PERSONAL INJURY, I.E. SEVERE BURNS TO THE SKIN, ALLOW EXHAUST SYSTEM TO COOL DOWN BEFORE REMOVING EXHAUST SYSTEM COMPONENTS.

2. Remove rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Muffler - Renew).
3. Release transaxle breather hose from oil cooler pipe.
4. Remove bolt and nuts (x2) that secure inlet hose brackets to body.
5. Collect pipe insulating washers (x2) and plain washer.
6. Position container to collect oil spillage.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

7. Loosen union and remove hose from oil cooler.
8. Loosen union and remove oil cooler hose from transaxle and collect hose.
1. Plug oil cooler and transaxle pipe connections.

Install

1. Clean hose connections and remove plugs.
2. Position hose, align brackets, install insulating washers and plain washer.
3. Install and tighten bolt and nuts (x2) to correct torque.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

4. Connect and tighten hose unions to correct torque.
5. Remove drain container.
6. Install transaxle breather hose clip to oil cooler pipe.
7. Install rear exhaust silencer heatshield (see Workshop Manual procedure 02.06.AG Heatshield - Exhaust Muffler - Renew)
8. Lower vehicle on ramp.

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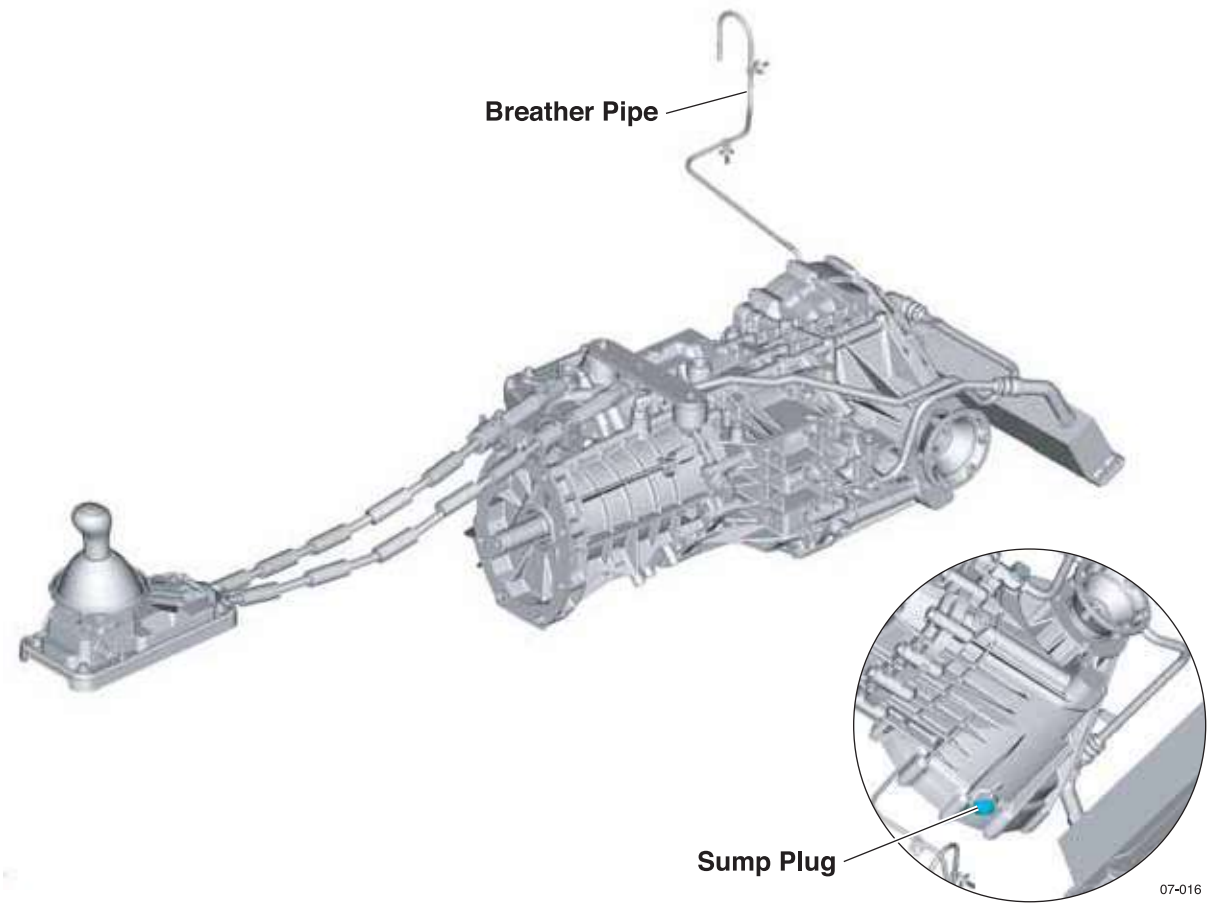
Transmission (07.00)

Manual Transmission (07.03)

Description



The Graziano rear transaxle installed to this vehicle incorporates a six speed transmission plus reverse, with synchromesh on all gears. Gear selection is via an Integrated Shifter Bellcrack System (Cable Operated).

Cooling

The manual transaxle has an external cooling circuit which operates continuously by a fixed displacement pump driven by the input shaft.

The cooler is mounted at the rear attached to the subframe.

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Specifications

Type

Graziano AM803T transaxle with:

- Integrated Shifter Bellcrack System (Cable Operated)
- Integrated Reverse Switch
- Plate Type Limited Slip Differential

Synchronisers

Triple Cone Syncros on 1st and 2nd, double cone on all other gears incl. reverse.

Lubrication

Pressure fed system with integrated pump driven by the input shaft. Filter (filter is serviceable item).

Transaxle Oil

Shell Transaxle 75W/90 (very important that this is the transaxle type, Do not use Shell Spirax 75W90)

Transaxle Quantity.	4 ltr (7 pt / 4.2 US qts)
Coolant System Quantity.	0.5 ltr (0.9 pt / 0.53 US qts)
Transaxle + Coolant Quantity	4.5 ltr (7.9 pt / 4.6 US qts)

Gear Ratios

1st	2nd	3rd	4th	5th	6th
3.15:1	1.95:1	1.44:1	1.15:1	0.94:1	0.77:1 (upto VIN C00525) 0.76:1 (VIN C00526 Onwards)

Reverse
2.39:1

Differential Locking Ratio

10% Drive, 30% Coast

Torque Figures

Description	Nm.	lb. / ft.
Sump plug	49	36.5
LH Output shaft housing	10	7.5
Halfshaft	70	52
Differential Cover	35	26

Maintenance

Transaxle Assembly - Remove for Access and Install

Repair Operation Time (ROT)	
Item	**Code**
Transaxle Assembly-Remove for Access/Refit	**07.03.AA**

Removal

1. Disconnect the battery ground cable.
2. Remove the rear undertray (refer to Workshop Manual procedure 01.02.PB - Rear Undertray).

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Raise the vehicle and install straps to hold it to the lift (refer to Figure 1).

Figure 1

WARNING
THE EXHAUST SYSTEM WILL BE VERY HOT AFTER OPERATION. LET THE EXHAUST COOL BEFORE YOU DO WORK. IF YOU DO NOT, PESONAL INJURY CAN OCCUR.

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4. Remove the four bolts that attach the cross-brace to the rear subframe.

Figure 2

5. Remove the cross brace.
6. Remove the four bolts that attach the exhaust centre pipe to the rear silencer.
7. Loosen the two clamps that attach the exhaust centre pipe to the catalytic converters.
8. Move the clamps along the exhaust pipes.
9. Remove the four bolts that attach the exhaust centre pipe to the exhaust front mount.

WARNING
GET THE AID OF ONE MORE PERSON WHEN YOU REMOVE THE EXHAUST CENTRE PIPE.
THE CENTRE EXHAUST PIPE IS HEAVY

10. Remove the exhaust centre pipe.
11. Remove the exhaust front mount.
12. Remove the four bolts that attach the floor heat shield to the body.
13. Remove the floor heatshield.
14. Remove the eight screws that attach the tunnel reinforcement plate to the body.

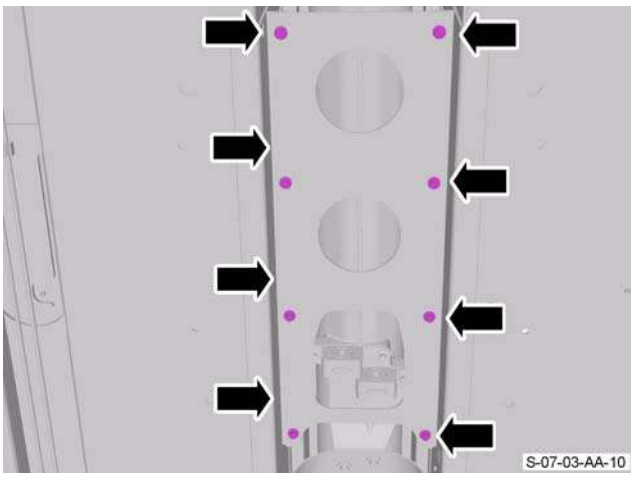

Figure 3

15. Remove the tunnel reinforcement plate.
16. Remove the nut that attaches the ground cable to the body.

Figure 4

17. Move the ground cable away.
18. Put marks on the driveshaft to transaxle flanges to help align during installation.
19. Remove and discard the six bolts that attach the right side driveshaft to the transaxle. Collect and keep the bolt plates.

Note: If necessary, turn the driveshaft to get access to the six bolts.

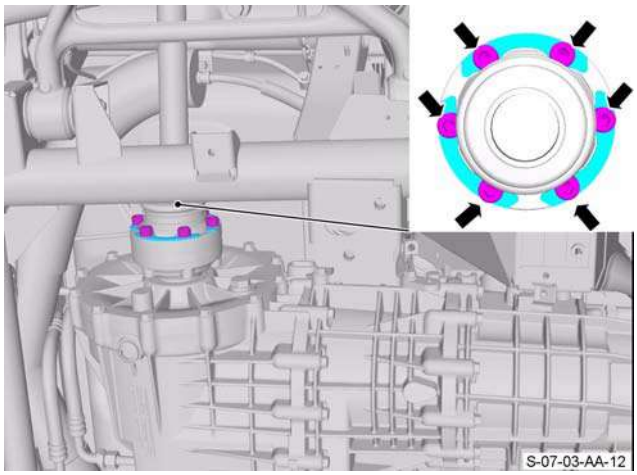

Figure 5

20. Remove and discard the six bolts that attach the left side driveshaft to the transaxle. Collect and keep the bolt plates.

Note: If necessary, turn the driveshaft to get access to the six bolts.

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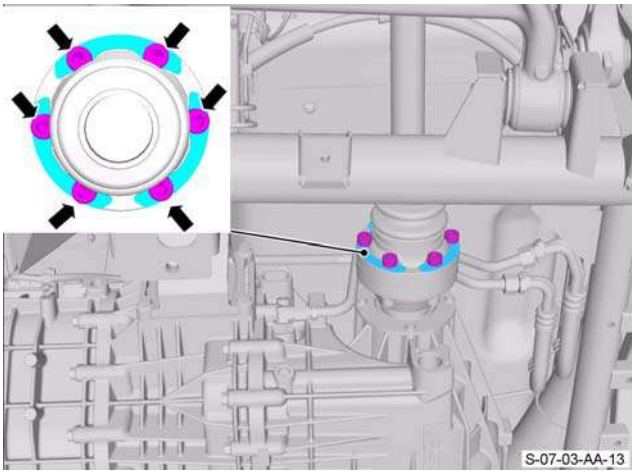

Figure 6

21. Release the driveshafts from the transaxle.

Figure 7

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

22. Put an applicable container in position under the oil cooler matrix to collect spilled oil.
23. Disconnect the pipes from the oil cooler matrix.

Figure 8

24. Let the oil drain into the container.
25. Install plugs to seal the pipe connections.
26. Remove the container of used oil.
27. Disconnect the breather pipe from the transaxle (refer Figure 9).

Figure 9

28. Install sealing plugs into the open ports.
29. Remove the nut that attaches the right side transaxle mount to the rear subframe.

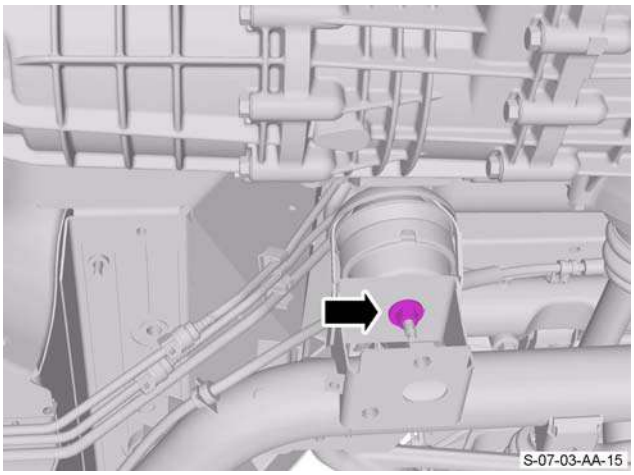

Figure 10

30. Remove the nut that attaches the left side transaxle mount to the rear subframe.

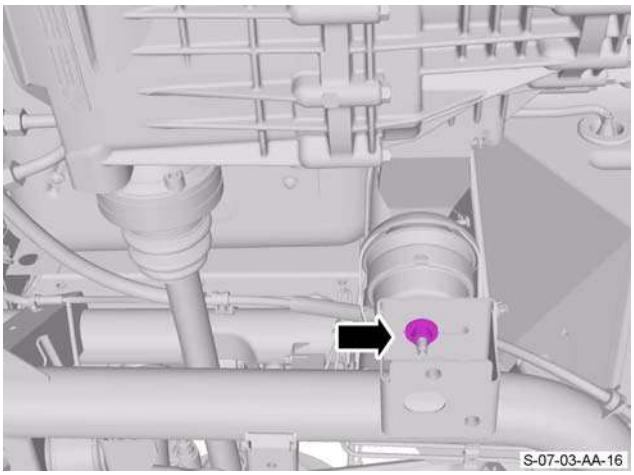

Figure 11

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31. Put a transmission jack below the transaxle (refer to Figure 12).

Figure 12

32. Adjust the height of the transmission jack until it holds the transaxle.
33. Remove and discard the four bolts that attach the right side transaxle mount bracket to the transaxle. (see Figure 13).

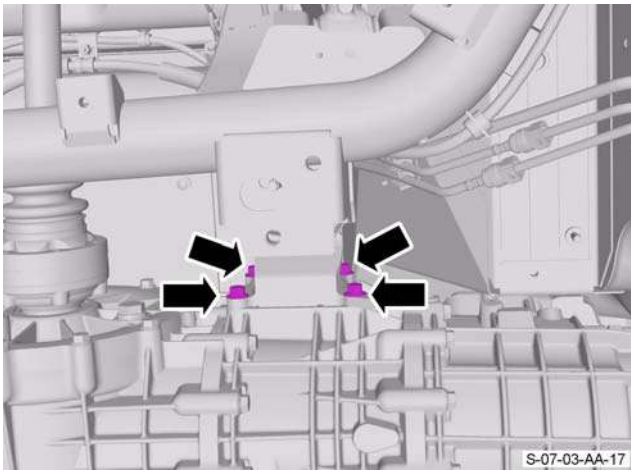

Figure 13

34. Remove and discard the four bolts that attach the left side transaxle mount bracket to the transaxle.

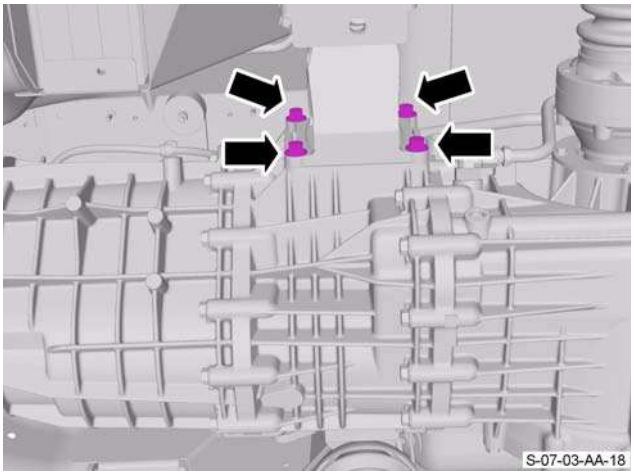

Figure 14

35. Remove the transaxle mount assemblies.

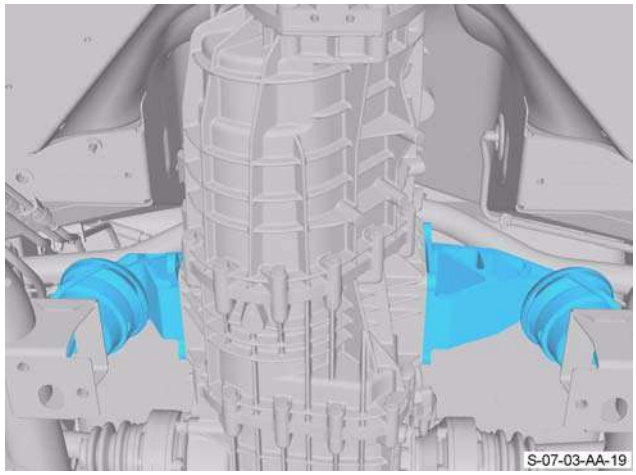

Figure 15

36. Use an applicable strap to attach the transaxle to the transmission jack.
37. Lower the transaxle on the transmission jack by approximately 420 mm.
38. Release the wiring harness for the reverse lamp switch from the clip.
39. Release the electrical connector for the reverse lamp switch from the mount.

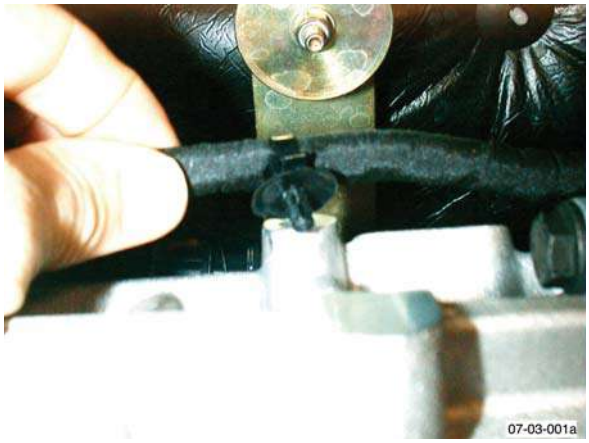

Figure 16

40. Disconnect the electrical connector from the reverse lamp switch.

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41. Use the special tool to release the gear selector cables from the ball joints.

Figure 16

42. Release the gear selector cables from the bracket.

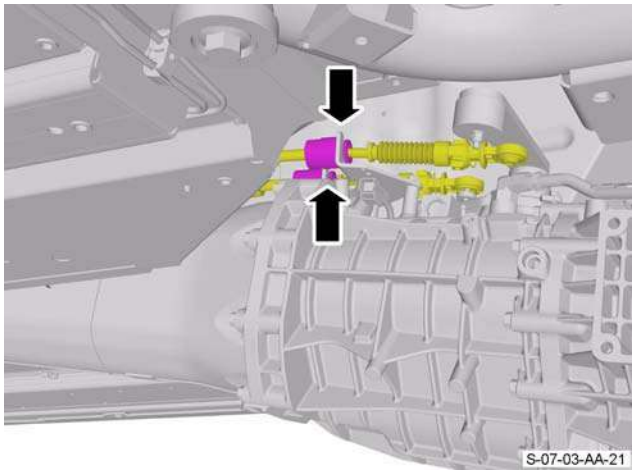

Figure 17

Put a transmission jack in position below the torque tube.

Figure 18

43. Adjust the height of the transmission jack to hold the torque tube.

44. Remove the eight bolts that attach the torque tube to the transaxle.

Figure 19.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

45. Move the transaxle rearward to give clearance between the torque tube and the transaxle
46. Carefully lower the transaxle on the transmission jack to remove the transaxle from the vehicle.

Figure 20

47. Clean the mating faces of the components.

Install

1. Move the transaxle on the transmission jack, into position below the vehicle.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

2. Use the transmission jack to adjust the height of the transaxle to align the transaxle with the torque tube.
3. Install and torque the eight bolts that attach the torque tube to the transaxle.
4. Lower the transmission jack away from the torque tube.
5. Connect the gear selector cables to the ball joints.
6. Install the gear selector cables into the bracket.

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7. Connect the electrical connector to the reverse lamp switch.
8. Install the electrical connector for the reverse lamp switch into the mount.
9. Install the wiring harness for the reverse lamp switch to the clip.
10. Adjust the height of the transmission jack to lift the transaxle into the correct position.
11. Remove the strap from the transaxle and the transmission jack.
12. Install the transaxle mount assemblies.

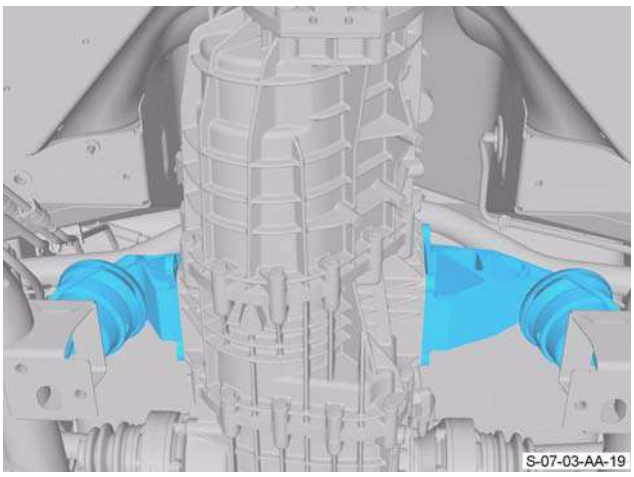

Figure 21

13. Install and torque the four bolts that attach the left side transaxle mount bracket to the transaxle.

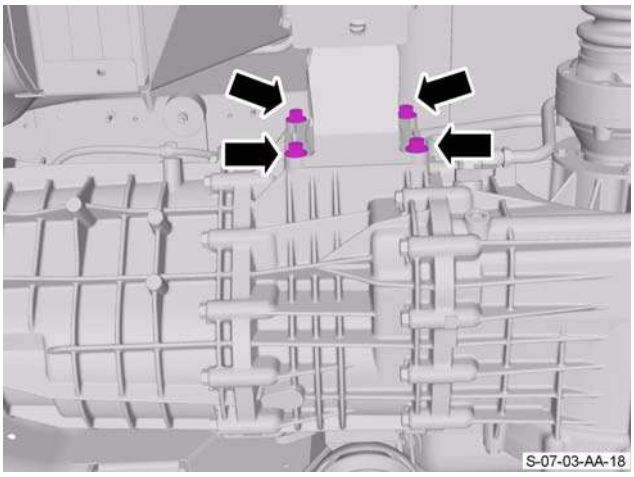

Figure 22

14. Install and torque the four bolts that attach the right side transaxle mount bracket to the transaxle.

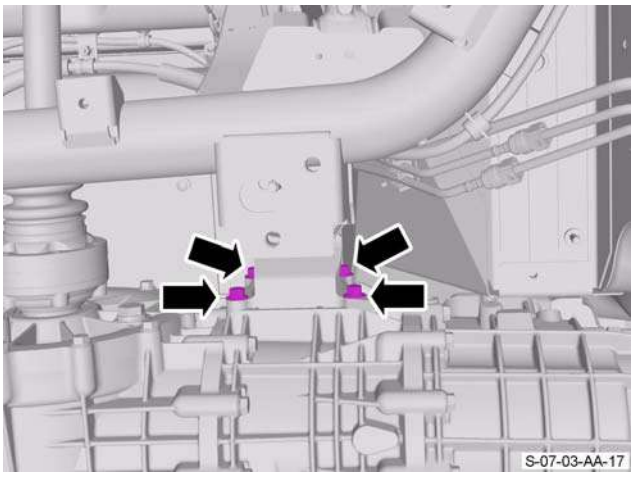

Figure 23

15. Lower the transmission jack to align the transaxle mounts to the rear subframe.
16. Move the transmission jack away from the vehicle.
17. Install and tighten the nut that attaches the left side transaxle mount to the rear subframe.
18. Install and tighten the nut that attaches the right side transaxle mount to the rear subframe.
19. Remove and the sealing plugs from the transaxle and the breather pipe.
20. Connect breather pipe to the transaxle.
21. Remove and discard the sealing plugs from the oil cooler matrix and the pipes.
22. Connect and tighten the pipes to the oil cooler matrix.
23. Put the driveshafts into position on the transaxle shaft flanges. Align the marks on the flanges that you made during removal.

Note: Put the three driveshaft bolt plates in position when you install the bolts in the step that follows.

24. Install and torque the six new bolts that attach the left side driveshaft flange to the transaxle flange. If necessary, turn the driveshaft to get access to all of the bolts.

Note: Put the three driveshaft bolt plates in position when you install the bolts in the step that follows.

25. Install and torque the six new bolts that attach the right side driveshaft flange to the transaxle flange. If necessary, turn the driveshaft to get access to all of the bolts.
26. Put the ground cable into position.
27. Install and tighten the nut that attaches the ground cable to the body.
28. Install the tunnel reinforcement plate.
29. Install and torque the eight bolts that attach the tunnel reinforcement plate to the body.
30. Install floor heatshield.
31. Install and tighten the four bolts that attach the floor heat shield to the body.

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32. Install the exhaust front mount.
33. Clean the component mating faces.
34. Apply an applicable sealant to the component mating faces.

WARNING
THE EXHAUST CENTRE PIPE IS HEAVY. GET THE AID OF ONE MORE PERSON TO DO THE STEP THAT FOLLOWS.

35. Install the exhaust centre pipe.
36. Install and tighten the four bolts that attach the exhaust centre pipe to the exhaust front mount.
37. Put the clamps into position on the exhaust pipes.
38. Loosely install the four bolts that attach the exhaust centre pipe to the rear silencer.
39. Align the exhaust assembly.
40. Tighten the two clamps that attach the exhaust centre pipe to the catalytic converters.
41. Install the cross brace.

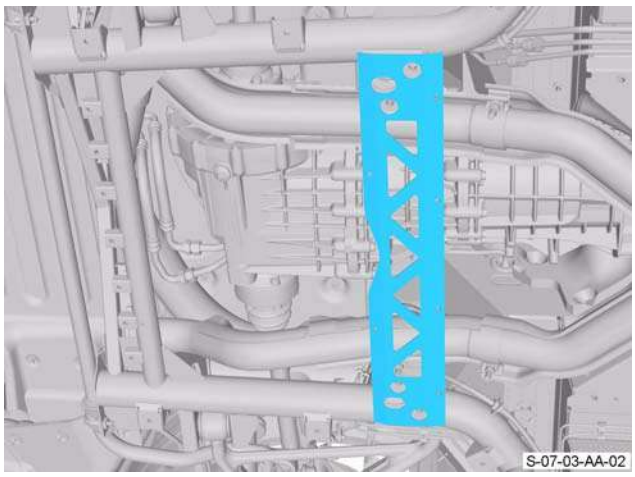

Figure 24

42. Install and torque the four bolts that attach the cross brace to the rear subframe.

Figure 25

43. Remove the strap that attaches the vehicle to the lift.
44. Lower the vehicle until the wheels are 10 mm above the ground.
45. Connect the battery ground cable.
46. Start the engine.
47. Select first gear and let the wheels to turn for 10 seconds.
48. Stop the engine.
49. Lift the vehicle.

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

50. Remove the fill plug for the transaxle oil.
51. Make sure that the transaxle oil is level with the opening for the transaxle oil. Add more oil if necessary.
52. Install and tighten the fill plug for the transaxle oil.
53. Install the rear undertray (refer to Workshop Manual procedure 01.02.PB - Rear Undertray).

Complete Sportshift Hydraulic Kit-Renew

Repair Operation Time (ROT)	
Item	**Code**
Complete Sportshift Hydraulic Kit-Renew	**07.03.AB**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

Caution
When using a 'two post' vehicle ramp, remove the screws that secure the rear section of the wheel arch liner to body. Hold back the rear section of the wheel arch liner to correctly position the foot of the vehicle lift.

3. Remove road wheel(s).
4. Remove rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
5. **Roadster Only** - Remove centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
6. Remove bolts (x4), subframe cross brace.
7. Remove centre exhaust mounting bolts (x4).
8. Loosen clamp nuts (x2), release centre pipe from both catalysts.
9. Remove centre pipe and rear exhaust pipes as an assembly.

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10. Remove bolts/washers (x4), tunnel heatshield to body, remove heatshield.
11. Remove bolts (x8), shear plate to body, remove shear plate.
12. Remove bolt securing earth lead to transaxle.
13. Mark drive shaft to differential flanges for assembly purposes.
14. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.
15. Position drain container to collect oil spillage.
16. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes. Plug pipe connections (x4).

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

17. Remove drain container.
18. Disconnect transaxle breather pipe.
19. Release reservoir hose from mounting bracket (Clips x2).
20. Remove bolt from reservoir bracket, release and remove clamp, tie reservoir aside (see Figure 1).

Figure 1

21. Remove nuts (x2), hydramounts to subframe mountings.
22. Position hydraulic lifter to support transaxle.
23. Remove and discard bolts (x8, 4 each side), mounting brackets to transaxle. Remove mounting brackets with hydramounts.
24. Release drive shafts from transaxle and position aside.
25. Lower transaxle sufficiently to access harness to subframe clip, release harness to subframe clip (see Figure 2).

Figure 2

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

26. Lower transaxle to approx. 420mm from fitted position and retain on hydraulic lifter (see Figure 3).

Figure 3

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27. Disconnect pump multiplug (see Figure 4).

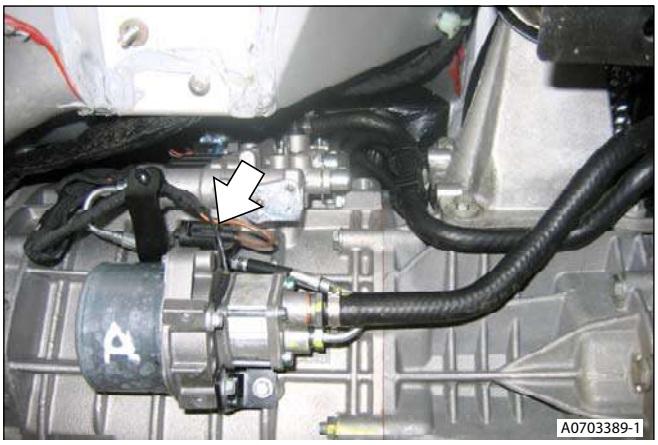

Figure 4

28. Remove ground eye from pump body (bolt x1)(see Figure 5).

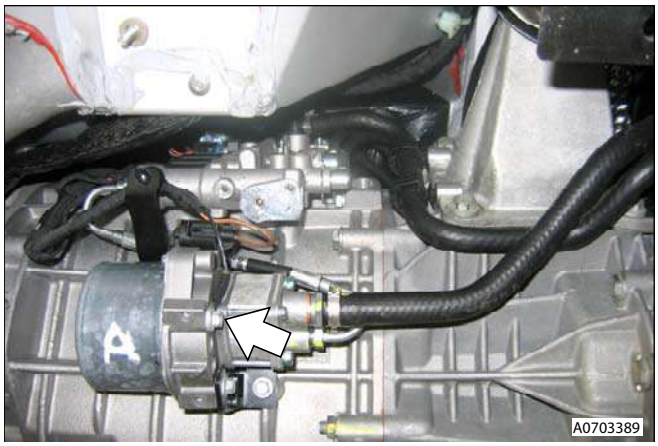

Figure 5

29. Remove pump from transaxle (bolts x2) (see Figure 6).

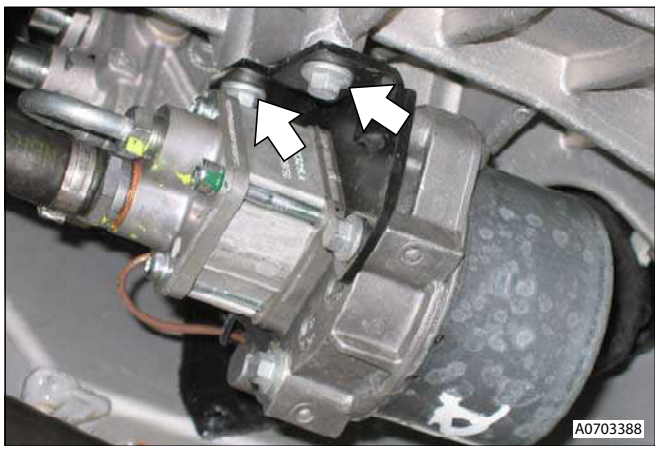

Figure 6

30. Disconnect dry break quick-fit connector from torque tube pipe (see Figure 7).

Figure 7

31. Remove gear position sensor (screws x4).
32. Disconnect gear position sensor from multiplug (see Figure 8).

Figure 8

33. Release harness clip from shifter casing.
34. Remove shifter unit (bolts x6, nut x1) and release from dowels (x2) (see Figure 9).

Figure 9

35. Release hoses from support clips (x3).

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36. Mark and disconnect valve-block connectors positions. Disconnect multiplugs (x5) (see Figure 10).

Figure 10

37. Remove bolt valve block to transaxle (see Figure 11).

Figure 11

38. Remove nuts (x3) securing valve block to transaxle and remove Sportshift hydraulic kit (see Figure 12).

Figure 12

Install

1. Install Sportshift hydraulic kit valve block to stud and fit nuts.
2. Install bolt valve block to transaxle.
3. Connect multiplugs (x5) to valve block.
4. Connect dry break quick-fit connector to torque tube pipe.
5. Install pump to transaxle.
6. Install ground eye to pump body.
7. Connect pump multiplug.
8. Clean mating faces and install new shifter unit gasket to dowels.
9. Ensure alignment of selector mechanism with shifter unit and install shifter unit.
10. Install harness clip into shifter casing.
11. Secure hoses to support clip.
12. Connect gear position sensor to multiplug.
13. Install gear position sensor (screws x4).
14. Raise transaxle, install harness clip to subframe.
15. Connect transaxle breather pipe.
16. Raise transaxle to fitted position. Install transaxle mounting brackets and hydramounts, install and torque tighten new bolts (x8).
17. Align hydramounts to subframe, lower lifter, install and torque nuts. Remove lifter.
18. Position reservoir to bracket and fit clamp (bolt x1).
19. Position reservoir hose and secure clips.
20. Remove plugs, connect and torque oil cooler unions.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

21. Apply thread lock to new Allen bolts.
22. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).

New Allen bolts should have a thread lock coating.

23. Position earth lead to transaxle, install and torque tighten bolt.
24. Install shear plate, install bolts (x8), tighten bolts to correct torque.
25. Install tunnel heatshield, install bolts/washers (x4), tighten bolts to correct torque.
26. Install centre and rear exhaust pipe assembly, align to both catalysts. tighten clamp nuts to correct torque.
27. Install bolts (x4) into centre mounting.
28. Install subframe cross brace, install bolts (x4) and torque.
29. Install rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
30. **Roadster Only** - Install centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
31. Install road wheel(s).
32. Lower vehicle on ramp, remove securing straps.

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33. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

34. Bleed clutch (see Workshop Manual procedure 08.00.AE Clutch Hydraulic System - Sportshift - Bleed).
35. Test drive vehicle.
36. Raise vehicle on ramp; check transaxle and Sportshift fluid.

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

Complete Shifter Assembly-Renew-Roadster Only

Repair Operation Time (ROT)	
Item	**Code**
Complete Shifter Assembly-Renew	**07.03.AC**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Remove Gear position sensor (see Workshop Manual procedure 07.03.AL Sensor - Transmission Assembly - Sportshift - Renew).
3. Release harness clip from shifter casing.
4. Remove and discard clips (x2) securing hoses into shifter assembly and disconnect hoses (see Figure 1).

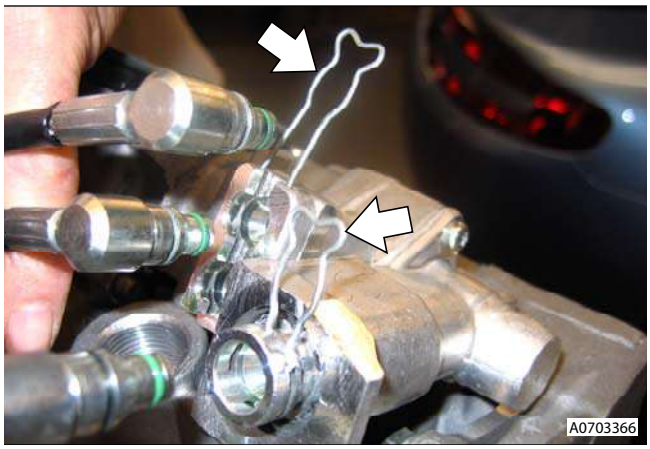

Figure 1

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

5. Remove shifter unit (bolts x6, nut x1) and release from dowels (x2) (see Figure 2).

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Figure 2

6. Remove and discard gasket (see Figure 3).

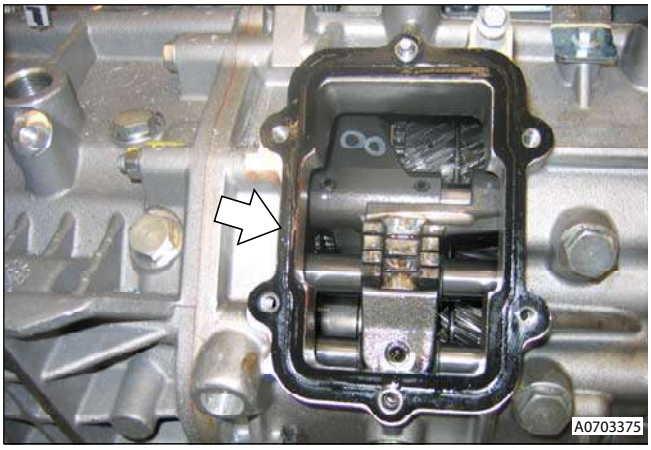

Figure 3

7. Remove and discard hose O-rings (x3).

Install

1. Install new O-rings to hoses.
2. Clean mating faces and install new gasket to dowels.
3. Ensure alignment of selector mechanism with shifter unit and install shifter unit.
4. Install hoses into shifter unit and install clips.
5. Install harness clip into shifter casing.
6. Install Gear position sensor (see Workshop Manual procedure 07.03.AL Sensor - Transmission Assembly - Sportshift - Renew).
7. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

8. Test drive vehicle.
9. Raise vehicle on ramp; Check transaxle and Sportshift fluid.
10. Lower vehicle on ramp.

Reservoir Tank Assembly-Renew-Roadster Only

Repair Operation Time (ROT)	
Item	**Code**
Reservoir Tank Assembly-Renew	**07.03.AD**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp.
3. Remove rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
4. Remove clips and release reservoir hoses from valve unit and pump (place drain tray to collect fluid) (see Figure 1).

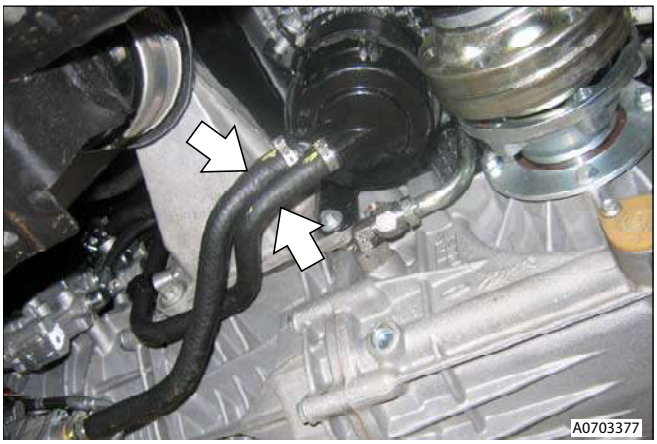

Figure 1

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

5. Release reservoir hoses from transaxle mounting clips (x2) (see Figure 2).

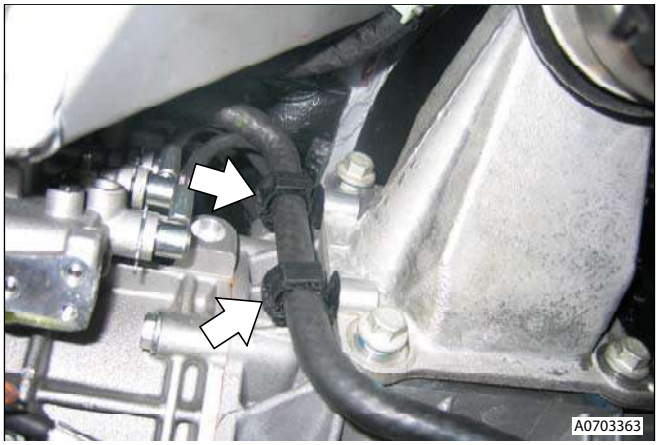

Figure 2

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6. Remove bolt, separate bracket clamp and remove reservoir (see Figure 3).

Figure 3

Install

1. Install reservoir and clamp to bracket.
2. Install reservoir hoses to valve unit and pump then install new clips (remove drain tray) (see Figure 1).

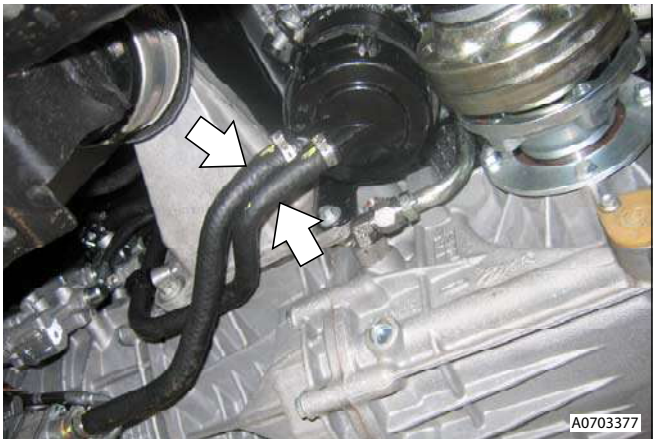

Figure 1

3. Install reservoir hoses to clips.
4. Top-up reservoir.
5. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

6. Lower vehicle, turn ignition ON for 20 seconds to activate gearbox pump. Turn ignition OFF and raise vehicle.
7. Top-up reservoir.
8. Install rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
9. Lower vehicle on ramp.

Pump Inlet/Valve Body Bleed/Reservoir Tank Hoses-Renew-Roadster Only

Repair Operation Time (ROT)	
Item	**Code**
Pump Inlet/Valve Body Bleed/Reservoir Tank Hoses-Renew	**07.03.AF**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp.
3. Remove rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
4. Remove clips and release reservoir hoses from valve unit and pump (place drain tray to collect fluid) (see Figure 1).

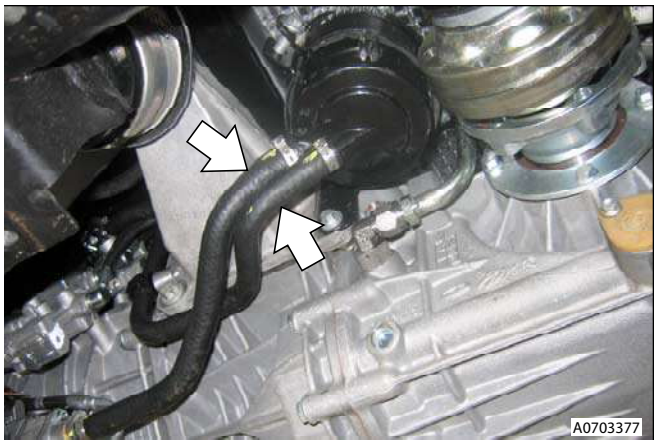

Figure 1

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

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5. Release reservoir hoses from transaxle mounting clips (x2) (see Figure 2).

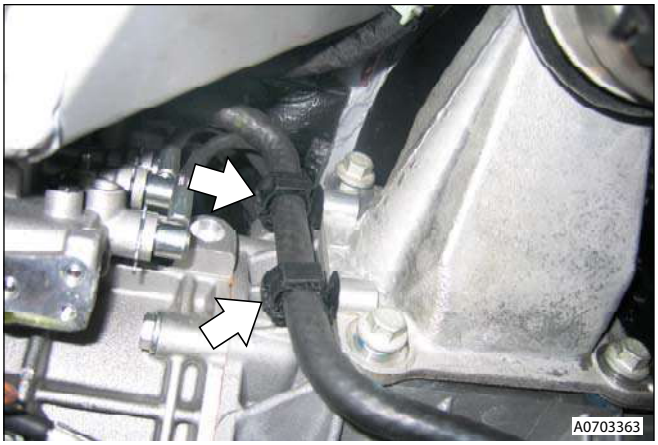

Figure 2

6. Remove clips and release hoses from reservoir (see Figure 3).

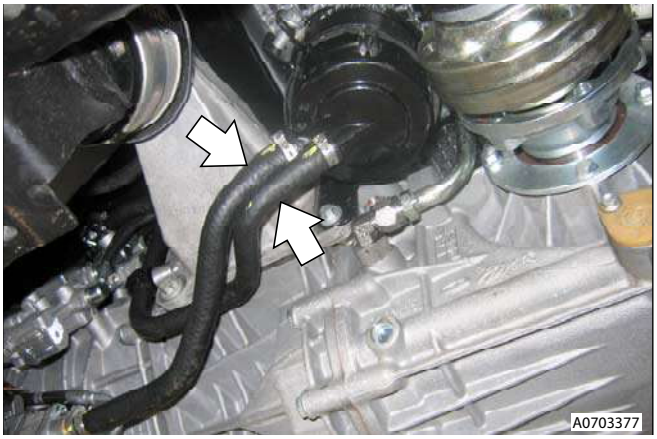

Figure 3

Install

1. Install hoses to reservoir and fit new clips.
2. Install reservoir hoses to valve unit and pump. Fit new clips (remove drain tray).
3. Install reservoir hoses to clips.
4. Top-up reservoir.
5. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

6. Lower vehicle, turn ignition ON for 20 seconds to activate gearbox pump. Turn ignition OFF and raise vehicle.
7. Top-up reservoir.
8. Install rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
9. Lower vehicle on ramp.

Hydraulic Pump Assembly-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Hydraulic Pump Assembly-Renew	**07.03.AG**

Removal

1. Raise vehicle on ramp.
2. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

3. Remove rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
4. Disconnect pump multiplug (see Figure 1).

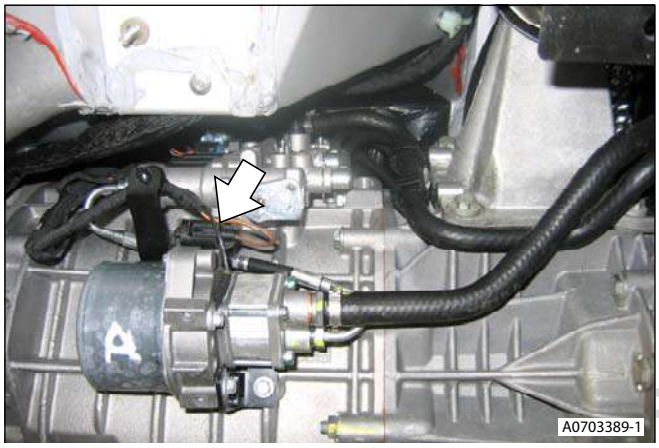

Figure 1

5. Remove ground eye from pump body (bolt x1) (see Figure 2).

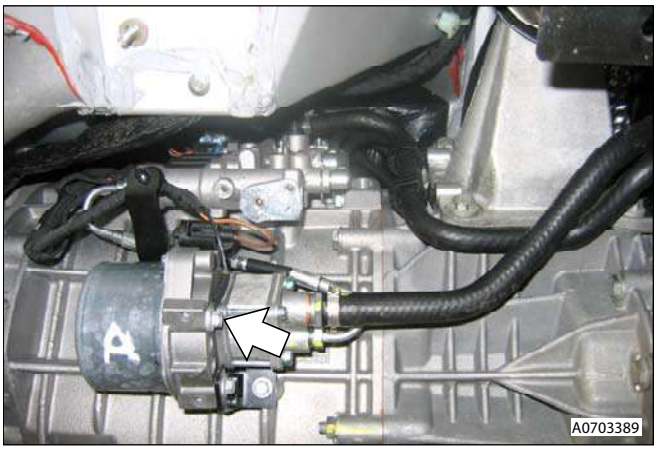

Figure 2

6. Clamp reservoir hose.

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7. Remove clip and release from pump (place drain tray to collect fluid) (see Figure 3).

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

8. Remove HP hose from pump.
9. Remove and discard O-ring from hose.
10. Remove pump from transaxle (bolts x2).

Install

1. Install pump to transaxle.
2. Install new O-ring to HP hose. Install hose to pump.
3. Install reservoir hose to pump then install new clip (remove drain tray).
4. Connect pump multiplug.
5. Install ground eye to pump body.
6. Top-up reservoir.
7. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

8. Lower vehicle, turn ignition ON for 20 seconds to activate gearbox pump. Turn ignition OFF and raise vehicle.
9. Top-up reservoir.
10. Install rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
11. Lower vehicle on ramp.

HP Hose Kit-Renew-Roadster Only

Repair Operation Time (ROT)	
Item	**Code**
HP Hose Kit-Renew-Roadster Only	07.03.AH

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove road wheel(s).
4. Remove rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
5. Remove centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
6. Remove bolts (x4) and subframe cross brace.
7. Remove centre exhaust mounting bolts (x4) (see Figure 1).

Figure 1

8. Loosen clamp nuts (x2), release centre pipe from both catalysts.
9. Remove centre pipe and rear exhaust pipes as an assembly.
10. Remove bolts/washers (x4), tunnel heatshield to body, remove heatshield.
11. Remove bolts (x8), shear plate to body, remove shear plate.
12. Remove bolt securing earth lead to transaxle.
13. Mark drive shaft to differential flanges for assembly purposes.
14. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.

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15. Position drain container to collect oil spillage.
16. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes and plug pipe connections (x4).

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

17. Remove drain container.
18. Disconnect transaxle breather pipe.
19. Release reservoir hose from mounting bracket (clips x2) (see Figure 2).

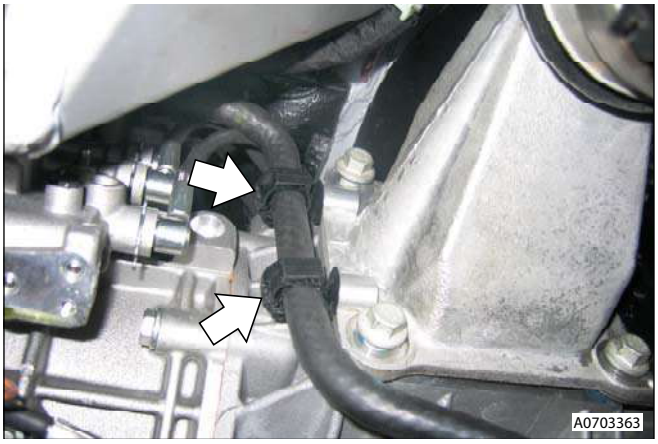

Figure 2

20. Remove bolt from reservoir bracket, release and remove clamp, tie reservoir aside (see Figure 3).

Figure 3

21. Remove nuts (x2) from hydramounts to subframe mountings.
22. Position hydraulic lifter to support transaxle.
23. Remove and discard bolts (x8, 4 each side), mounting brackets to transaxle.
24. Remove mounting brackets with hydramounts.
25. Release drive shafts from transaxle and position aside.
26. Lower transaxle sufficiently to access harness to subframe clip, release harness to subframe clip (see Figure 4).

Figure 4

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. TO AVOID PERSONAL INJURY OR DAMAGE TO THE TRANSAXLE, HANDLING OF THE TRANSAXLE ASSEMBLY IS A TWO PERSON OPERATION.

27. Lower transaxle to approx. 420mm from fitted position and retain on hydraulic lifter (see Figure 5).

Figure 5

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28. Remove and discard clips (x2) securing hoses into shifter assembly and disconnect hoses (see Figure 6).

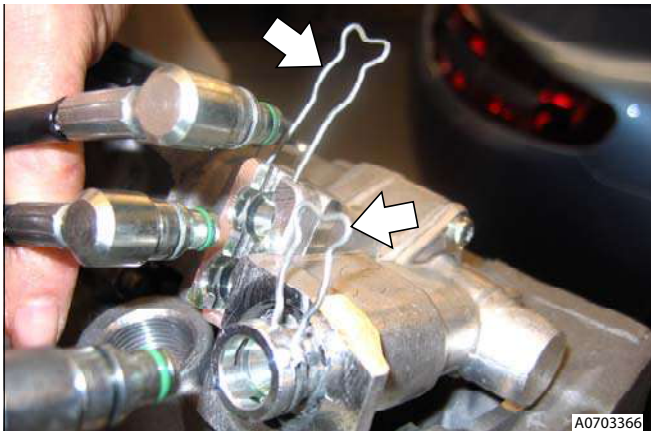

Figure 6

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

29. Remove and discard clips (x3) securing hoses into valve block and disconnect hoses (see Figure 7).

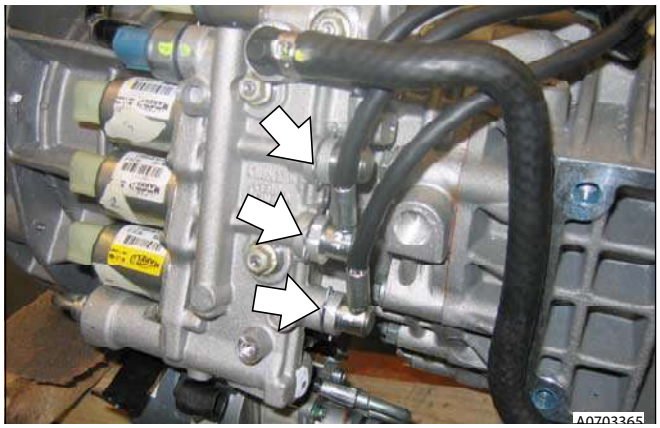

Figure 7

30. Release hoses from support clips (x3) (see Figure 8).

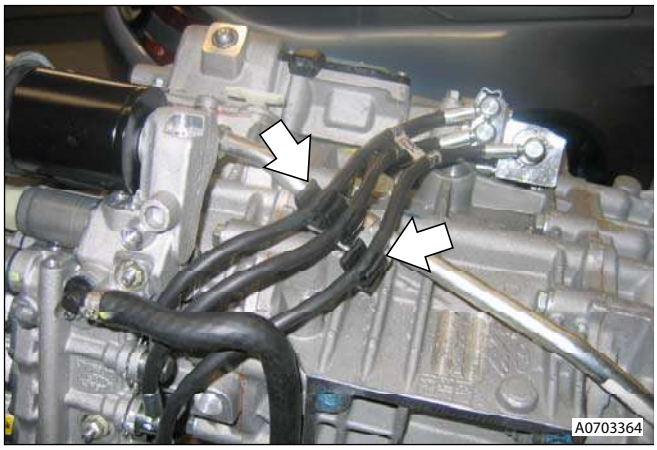

Figure 8

Install

1. Install hoses to support clips.
2. Install hoses into shifter unit and install clips.
3. Install hoses to valve block and install new clips.
4. Raise transaxle, install harness clip to subframe.
5. Connect transaxle breather pipe.
6. Raise transaxle to fitted position.
7. Install transaxle mounting brackets and hydramounts, install and torque tighten new bolts (x8).
8. Align hydramounts to subframe, lower lifter, install and torque nuts. Remove lifter.
9. Position reservoir to bracket and fit clamp (bolt x1).
10. Position reservoir hose and secure clips.
11. Remove plugs, connect and torque oil cooler unions.
12. Apply thread lock to new Allen bolts.
13. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).
14. Position earth lead to transaxle, install and torque tighten bolt.
15. Install shear plate, install bolts (x8), tighten bolts to correct torque.
16. Install tunnel heatshield, install bolts/washers (x4), tighten bolts to correct torque.
17. Install centre and rear exhaust pipe assembly, align to both catalysts. tighten clamp nuts to correct torque.
18. Install bolts (x4) into centre mounting.
19. Install subframe cross brace, install bolts (x4) and torque.
20. Install rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
21. Install centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
22. Install road wheel(s).
23. Lower vehicle on ramp, remove securing straps.
24. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

25. Test drive vehicle.
26. Raise vehicle on ramp; check transaxle and Sportshift fluid.
27. Lower vehicle on ramp.

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Dry Break Connector-Renew-Roadster Only

Repair Operation Time (ROT)	
Item	**Code**
Dry Break Connector-Renew	07.03.AJ

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove road wheel(s).
4. Remove rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
5. Remove centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
6. Remove bolts (x4), subframe cross brace.
7. Remove centre exhaust mounting bolts (x4) (see Figure 1).

Figure 1

8. Loosen clamp nuts (x2), release centre pipe from both catalysts.
9. Remove centre pipe and rear exhaust pipes as an assembly.
10. Remove bolts/washers (x4), tunnel heatshield to body, remove heatshield.
11. Remove bolts (x8), shear plate to body, remove shear plate.
12. Remove bolt securing earth lead to transaxle.
13. Mark drive shaft to differential flanges for assembly purposes.
14. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.
15. Position drain container to collect oil spillage.
16. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes and plug pipe connections (x4).

WARNING
OBSERVE ALL OIL/FLUID MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

17. Remove drain container.
18. Disconnect transaxle breather pipe.
19. Release reservoir hose from mounting bracket (Clips x2) (see Figure 2).

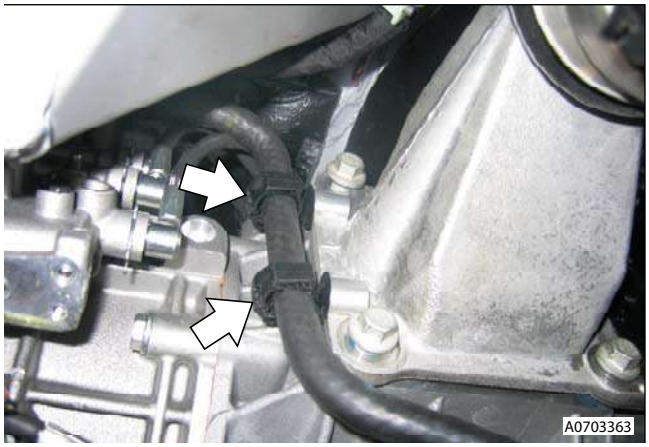

Figure 2

20. Remove bolt from reservoir bracket, release and remove clamp, tie reservoir aside (see Figure 3).

Figure 3

21. Remove nuts (x2), hydramounts to subframe mountings.
22. Position hydraulic lifter to support transaxle.

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23. Remove and discard bolts (x8, 4 each side), mounting brackets to transaxle. Remove mounting brackets with hydramounts.
24. Release drive shafts from transaxle and position aside.
25. Lower transaxle sufficiently to access harness to subframe clip, release harness to subframe clip (see Figure 4).

Figure 4

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

26. Lower transaxle to approx. 420mm from fitted position and retain on hydraulic lifter (see Figure 5).

Figure 5

27. Disconnect dry break quick-fit connector from torque tube pipe (see Figure 6).

Figure 6

28. Remove retaining clip from valve unit and disconnect hose.
29. Remove hose from under valve unit (see Figure 7).

Figure 7

Install

1. Install hose under valve unit.
2. Connect hose to valve unit and install retaining clip.
3. Connect dry break quick-fit connector to torque tube pipe.
4. Raise transaxle, install harness clip to subframe.
5. Connect transaxle breather pipe.
6. Raise transaxle to fitted position.
7. Install transaxle mounting brackets and hydramounts, install and torque tighten new bolts (x8).
8. Align hydramounts to subframe, lower lifter, install and torque nuts and remove lifter.
9. Position reservoir to bracket and fit clamp (bolt x1).
10. Position reservoir hose and secure clips.
11. Remove plugs, connect and torque oil cooler unions.
12. Apply thread lock to new Allen bolts.
13. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).

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14. Position earth lead to transaxle, install and torque tighten bolt.
15. Install shear plate, install bolts (x8), tighten bolts to correct torque.
16. Install tunnel heatshield, install bolts/washers (x4), tighten bolts to correct torque.
17. Install centre and rear exhaust pipe assembly, align to both catalysts. tighten clamp nuts to correct torque.
18. Install bolts (x4) into centre mounting.
19. Install subframe cross brace, install bolts (x4) and torque.
20. Install rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
21. Install centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
22. Install road wheel(s).
23. Lower vehicle on ramp, remove securing straps.
24. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

25. Bleed clutch system (see Workshop Manual procedure 08.00.AE Clutch Hydraulic System - Sportshift - Bleed).
26. Test drive vehicle.

Clutch Position Sensor-Renew-Roadster/ Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Clutch Position Sensor-Renew	**07.03.AK**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove torque tube (see Workshop Manual procedure 05.01.CA Torque Tube - Remove for Access & Refit).
4. Remove grommet sealing clutch position sensor harness to torque tube.
5. Disconnect multiplug between clutch position sensor and transmission harness (see Figure 1).

Figure 1

6. Release clip securing clutch position sensor harness to top of torque tube.
7. Release clips (x2) securing clutch position sensor harness to side of torque tube (see Figure 2).

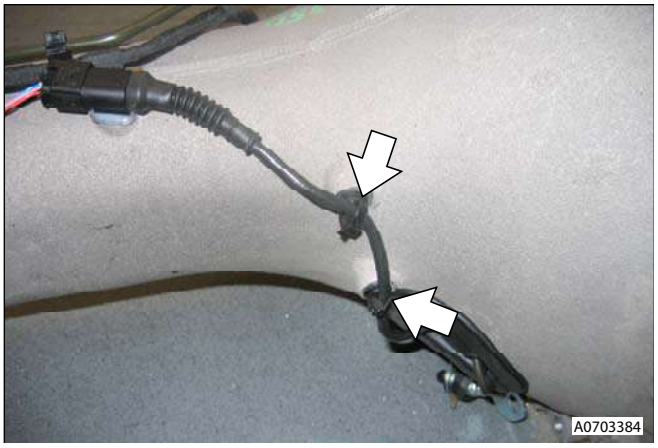

Figure 2

8. Remove bolts (x2) securing clutch position sensor to slave cylinder and remove sensor.

Install

1. Secure clutch position sensor to slave cylinder using bolts.
2. Install clutch position sensor harness to side of torque tube and secure with clips.
3. Secure clutch position sensor harness to top of torque tube using clip.
4. Connect multiplug between clutch position sensor and transmission harness.
5. Install grommet sealing clutch position sensor harness to torque tube.
6. Install torque tube (see Workshop Manual procedure 05.01.CA Torque Tube - Remove for Access & Refit).
7. Lower vehicle on ramp.

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8. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

Transmission Sensor Assembly-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Transmission Sensor Assembly-Renew	**07.03.AL**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove road wheel(s).
4. Remove rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
5. **Roadster Only** - Remove centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
6. Remove bolts (x4), subframe cross brace.
7. Remove centre exhaust mounting bolts (x4) (see Figure 1).

Figure 1

8. Loosen clamp nuts (x2), release centre pipe from both catalysts.
9. Remove centre pipe and rear exhaust pipes as an assembly.
10. Remove bolts/washers (x4), tunnel heatshield to body, remove heatshield.
11. Remove bolts (x8), shear plate to body, remove shear plate.
12. Remove bolt securing earth lead to transaxle.
13. Mark drive shaft to differential flanges for assembly purposes.
14. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.
15. Position drain container to collect oil spillage.
16. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes. Plug pipe connections (x4).

WARNING
OBSERVE ALL OIL/FLUID MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

17. Remove drain container.
18. Disconnect transaxle breather pipe.
19. Release reservoir hose from mounting bracket (clips x2 (see Figure 2).

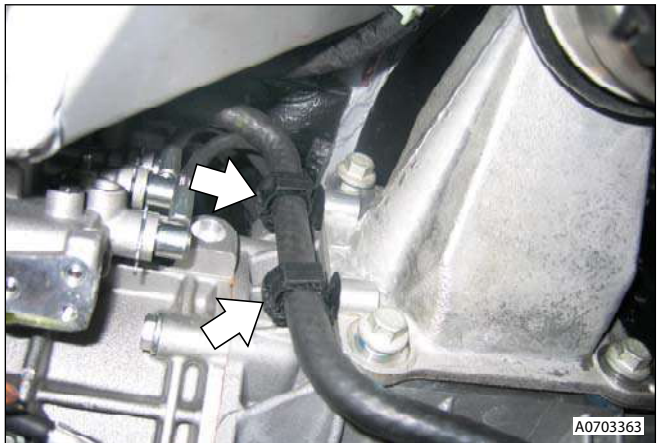

Figure 2

20. Remove bolt from reservoir bracket, release and remove clamp, tie reservoir aside (see Figure 3).

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Figure 3

21. Remove nuts (x2), hydramounts to subframe mountings.
22. Position hydraulic lifter to support transaxle.
23. Remove and discard bolts (x8, 4 each side), mounting brackets to transaxle. Remove mounting brackets with hydramounts.
24. Release drive shafts from transaxle and position aside.
25. Lower transaxle sufficiently to access harness to subframe clip, release harness to subframe clip (see Figure 4).

Figure 4

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

26. Lower transaxle to approx. 420mm from fitted position and retain on hydraulic lifter (see Figure 5).

Figure 5

27. Remove gear position sensor (screws x4).
28. Disconnect gear position sensor from multiplug (see Figure 6).

Figure 6

Install

1. Connect gear position sensor to multiplug.
2. Install gear position sensor (screws x4).
3. Raise transaxle, install harness clip to subframe.
4. Connect transaxle breather pipe.
5. Raise transaxle to fitted position. Install transaxle mounting brackets and hydramounts, install and torque tighten new bolts (x8).
6. Align hydramounts to subframe, lower lifter, install and torque nuts. Remove lifter.
7. Position reservoir to bracket and fit clamp (bolt x1).
8. Position reservoir hose and secure clips.
9. Remove plugs, connect and torque oil cooler unions.
10. Apply thread lock to new Allen bolts.
11. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).
12. Position earth lead to transaxle, install and torque tighten bolt.
13. Install shear plate, install bolts (x8), tighten bolts to correct torque.
14. Install tunnel heatshield, install bolts/washers (x4), tighten bolts to correct torque.
15. Install centre and rear exhaust pipe assembly, align to both catalysts. tighten clamp nuts to correct torque.
16. Install bolts (x4) into centre mounting.
17. Install subframe cross brace, install bolts (x4) and torque.
18. Install rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
19. **Roadster Only -** Install centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
20. Install road wheel(s).
21. Lower vehicle on ramp, remove securing straps.

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22. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

23. Test drive vehicle.

Transmission Valve Block-Renew

Repair Operation Time (ROT)	
Item	**Code**
Transmission Valve Block-Renew	**07.03.AM**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove road wheel(s).
4. Remove rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Silencer & Bypass Valve Assembly - Remove for Access & Refit).
5. **Roadster Only** - Remove centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
6. Remove bolts (x4), subframe cross brace.
7. Remove centre exhaust mounting bolts (x4) (see Figure 1).

Figure 1

8. Loosen clamp nuts (x2), release centre pipe from both catalysts.
9. Remove centre pipe and rear exhaust pipes as an assembly.
10. Remove bolts/washers (x4), tunnel heatshield to body, remove heatshield.
11. Remove bolts (x8), shear plate to body, remove shear plate.
12. Remove bolt securing earth lead to transaxle.
13. Mark drive shaft to differential flanges for assembly purposes.
14. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.
15. Position drain container to collect oil spillage.
16. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes and plug pipe connections (x4).

WARNING
OBSERVE ALL OIL/FLUID MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

17. Remove drain container.
18. Disconnect transaxle breather pipe.
19. Release reservoir hose from mounting bracket (clips x2) (see Figure 2).

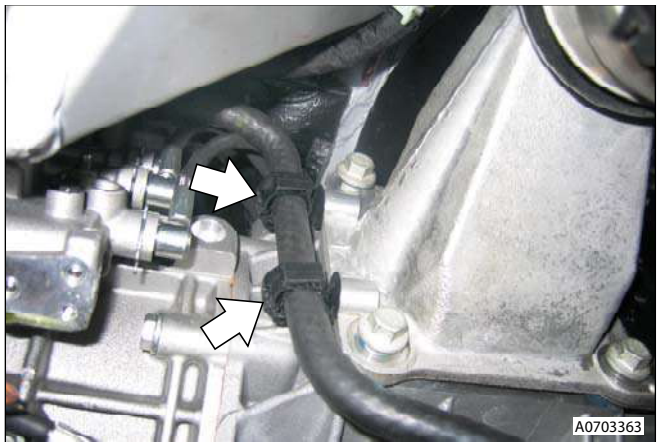

Figure 2

20. Remove bolt from reservoir bracket, release and remove clamp, tie reservoir aside (see Figure 3).

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Figure 3

21. Remove nuts (x2), hydramounts to subframe mountings.
22. Position hydraulic lifter to support transaxle.
23. Remove and discard bolts (x8, 4 each side), mounting brackets to transaxle. Remove mounting brackets with hydramounts.
24. Release drive shafts from transaxle and position aside.
25. Lower transaxle sufficiently to access harness to subframe clip, release harness to subframe clip (see Figure 4).

Figure 4

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

26. Lower transaxle to approx. 420mm from fitted position and retain on hydraulic lifter (see Figure 5).

Figure 5

27. Disconnect dry break quick-fit connector from torque tube pipe (see Figure 6).

Figure 6

28. Mark and disconnect valve-block connectors positions and disconnect multiplugs (x5) (see Figure 7)).
29. Remove and discard clip, release reservoir hose from valve unit (place drain tray to collect fluid) (see Figure 8).
30. Remove and discard clips (x3) securing hoses into valve block and disconnect hoses (see Figure 7).

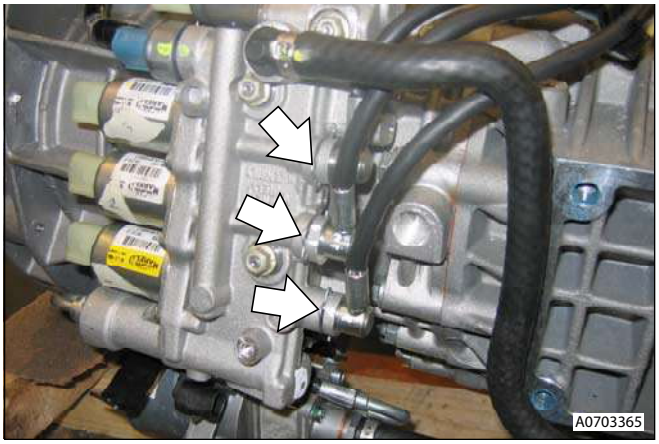

Figure 7

31. Remove clip pump hose to valve block (see Figure 10).
32. Remove bolts (x2) pump to transaxle, move pump aside and remove pipe from valve block.

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33. Remove bolt valve block to transaxle (see Figure 8).

Figure 8

34. Remove nuts (x3) securing valve block to transaxle and remove valve block from studs (see Figure 12).

Install

1. Install valve block to stud and fit nuts.
2. Install bolt valve block to transaxle.
3. Install hoses (x3) to valve block and install new clips.
4. Install pipe into valve block and bolts (x2) pump to transaxle (renew O-ring on hose).
5. Install clip pump hose to valve block.
6. Install reservoir hose to valve block and install new clip.
7. Connect multiplugs (x5) to valve block.
8. Connect dry break quick-fit connector to torque tube pipe.
9. Raise transaxle, install harness clip to subframe.
10. Connect transaxle breather pipe.
11. Raise transaxle to fitted position.
12. Install transaxle mounting brackets and hydramounts, install and torque tighten new bolts (x8).
13. Align hydramounts to subframe, lower lifter, install and torque nuts. Remove lifter.
14. Position reservoir to bracket and fit clamp (bolt x1).
15. Position reservoir hose and secure clips.
16. Remove plugs, connect and torque oil cooler unions.
17. Apply thread lock to new Allen bolts.
18. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).
19. Position earth lead to transaxle, install and torque tighten bolt.
20. Install shear plate, install bolts (x8), tighten bolts to correct torque.
21. Install tunnel heatshield, install bolts/washers (x4), tighten bolts to correct torque.
22. Install centre and rear exhaust pipe assembly, align to both catalysts then tighten clamp nuts to correct torque.
23. Install bolts (x4) into centre mounting.
24. Install subframe cross brace, install bolts (x4) and torque.
25. Install rear exhaust silencer assembly (see Workshop Manual procedure 09.00.KA Muffler & Bypass Valve Assembly - Remove for Access & Refit).
26. **Roadster Only -** Install centre undertray (see Workshop Manual procedure 01.02.MB Undertray - Centre - Renew).
27. Install road wheel(s).
28. Lower vehicle on ramp, remove securing straps.
29. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

30. Test drive vehicle.

Shifter Assembly Gasket-Renew

Repair Operation Time (ROT)	
Item	**Code**
Shifter Assembly Gasket-Renew	**07.03.AN**

Removal

1. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

2. Raise vehicle on ramp and secure with straps.

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

3. Remove gear position sensor (see Workshop Manual procedure 07.03.AL Sensor - Transmission Assembly - Sportshift - Renew).
4. Remove shifter unit fixings (bolts x6, nut x1), release from dowels (x2) and tie shifter aside (see Figure 1).

Figure 1

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5. Remove and discard gasket (see Figure 2).

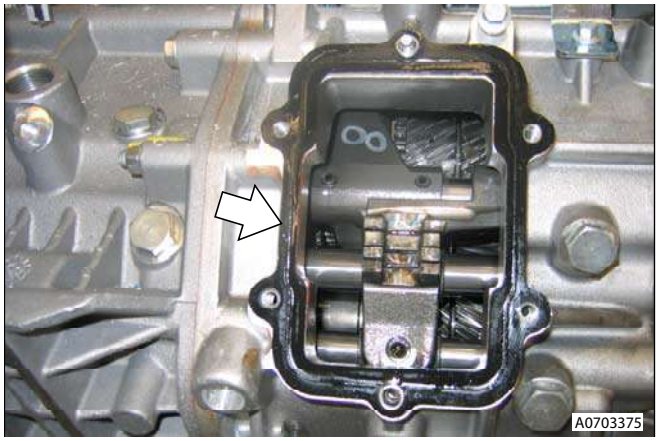

Figure 2

Install

1. Clean mating faces and install new gasket to dowels.
2. Ensure alignment of selector mechanism with shifter unit and install shifter unit.
3. Install Gear position sensor (see Workshop Manual procedure 07.03.AL Sensor - Transmission Assembly - Sportshift - Renew).
4. Connect battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

5. Test drive vehicle.
6. Lower vehicle on ramp.

Transaxle Assembly - Sportshift Only - Remove for Access & Install

Repair Operation Time (ROT)	
Item	**Code**
Transaxle Assembly - Vehicles with Sportshift - Remove for Access and Install	**07.03.BA**

Remove for Access

1. Set the transaxle to neutral.
2. Disconnect the battery ground cable.
3. Remove the rear undertray (refer to Workshop Manual procedure 01.02.PB - Rear Undertray).

WARNING
WHEN YOU LIFT THE VEHICLE ON A 'TWO POST' LIFT MAKE SURE THAT YOU USE A STRAP TO HOLD THE REAR END OF THE VEHICLE TO THE RAMP. IF YOU DO NOT, THE VEHICLE CAN FALL OFF THE RAMP AND CAUSE PERSONAL INJURY OR DEATH.

4. Raise the vehicle and install straps to hold it to the lift (refer to Figure 1).

Figure 1

WARNING
THE EXHAUST SYSTEM WILL BE VERY HOT AFTER OPERATION. LET THE EXHAUST COOL BEFORE YOU DO WORK. IF YOU DO NOT, PESONAL INJURY CAN OCCUR.

5. Remove the four bolts that attach the cross-brace to the rear subframe.

Figure 2

6. Remove the cross brace.
7. Remove the four bolts that attach the exhaust centre pipe to the rear silencer.
8. Loosen the two clamps that attach the exhaust centre pipe to the catalytic converters.
9. Move the clamps along the exhaust pipes.

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10. Remove the four bolts that attach the exhaust centre pipe to the exhaust front mount.

WARNING
GET THE AID OF ONE MORE PERSON WHEN YOU REMOVE THE EXHAUST CENTRE PIPE.
THE CENTRE EXHAUST PIPE IS HEAVY

11. Remove the exhaust centre pipe.
12. Remove the exhaust front mount.
13. Remove the four bolts that attach the floor heat shield to the body.
14. Remove the floor heatshield.
15. Remove the eight screws that attach the tunnel reinforcement plate to the body.

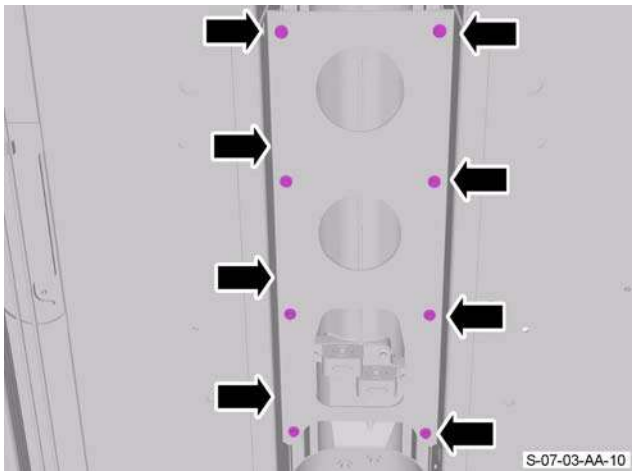

Figure 3

16. Remove the tunnel reinforcement plate.
17. Remove the nut that attaches the ground cable to the body.

Figure 4

18. Move the ground cable away.
19. Put marks on the driveshaft to transaxle flanges to help align during installation.
20. Remove and discard the six bolts that attach the right side driveshaft to the transaxle. Collect and keep the bolt plates.

Note: If necessary, turn the driveshaft to get access to the six bolts.

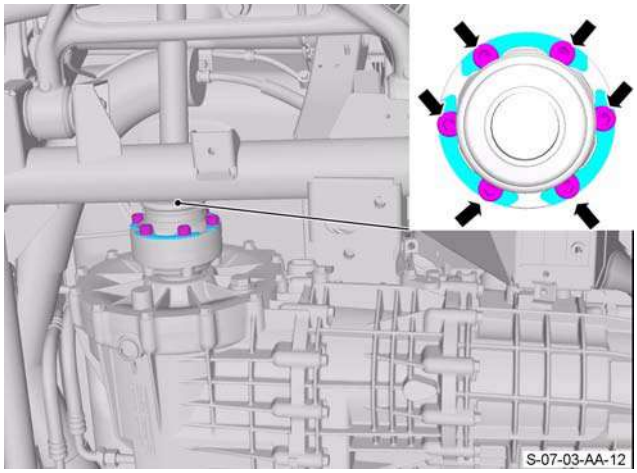

Figure 5

21. Remove and discard the six bolts that attach the left side driveshaft to the transaxle. Collect and keep the bolt plates.

Note: If necessary, turn the driveshaft to get access to the six bolts.

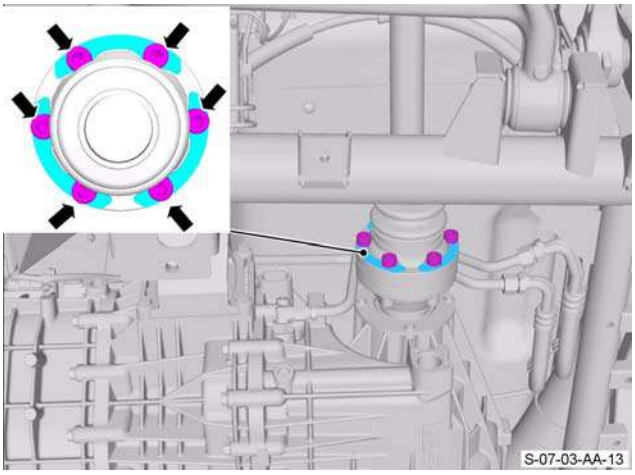

Figure 6

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22. Release the driveshafts from the transaxle.

Figure 7

WARNING
TRANSAXLE OIL CAN BE HARMFUL.
OBEY ALL TRANSAXLE OIL MANUFACTURER'S SAFETY INSTRUCTIONS WHEN YOU HANDLE COMPONENTS THAT HAVE TOUCHED TRANSAXLE OIL.

23. Put an applicable container in position under the oil cooler matrix to collect oil.
24. Disconnect the pipes from the oil cooler matrix.

Figure 8

25. Let the oil drain into the container.
26. Install plugs to seal the pipe connections.
27. Remove the container of used oil.
28. Disconnect the breather pipe from the transaxle (refer Figure 9).

Figure 9

29. Install sealing plugs into the open ports.
30. Remove the nut that attaches the right side transaxle mount to the rear subframe.

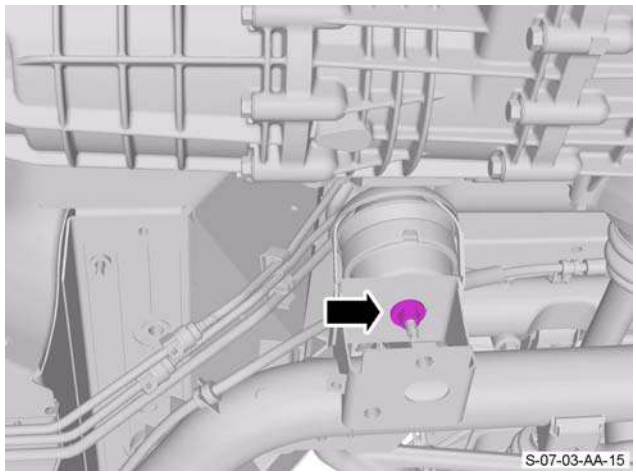

Figure 10

31. Remove the nut that attaches the left side transaxle mount to the rear subframe.

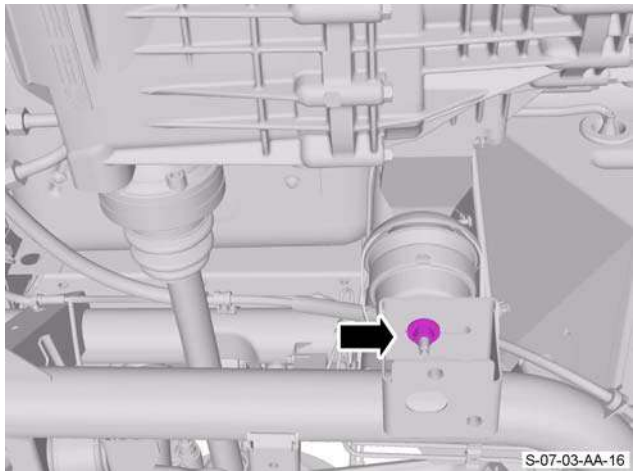

Figure 11

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32. Release the reservoir hose from the two clips.

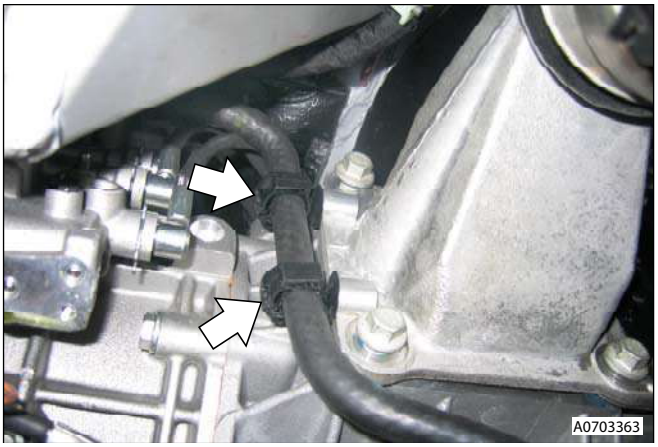

Figure 12

33. Remove the two bolts that attach the reservoir to the transaxle bracket.
34. Use a cable tie to attach the reservoir to the transaxle.
35. Put a transmission jack below the transaxle (refer to Figure 12).

Figure 13

36. Adjust the height of the transmission jack until it holds the transaxle.
37. Remove and discard the four bolts that attach the right side transaxle mount bracket to the transaxle. (see Figure 14).

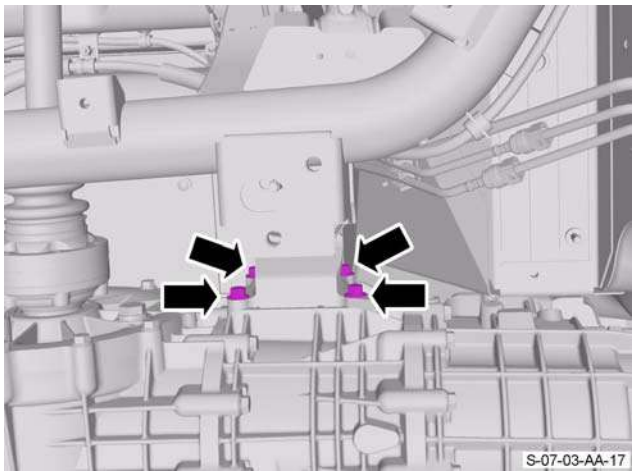

Figure 14

38. Remove and discard the four bolts that attach the left side transaxle mount bracket to the transaxle.

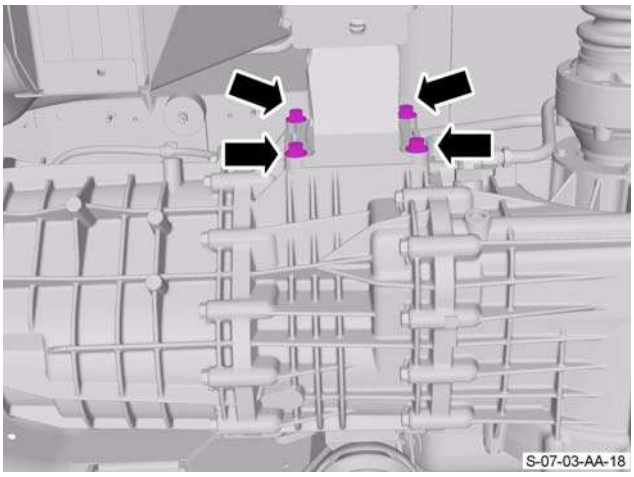

Figure 15

39. Remove the transaxle mount assemblies.

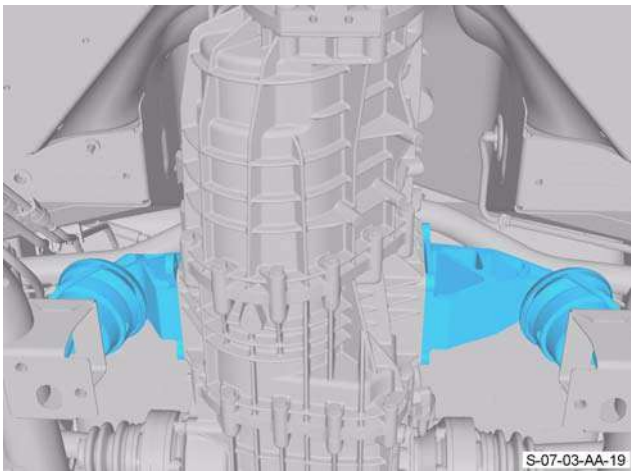

Figure 16

40. Use an applicable strap to attach the transaxle to the transmission jack.
41. Lower the transaxle on the transmission jack by approximately 420 mm.
42. Disconnect the hydraulic pipe for the clutch.

Figure 17

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43. Disconnect the electrical connector from the wiring harness for the torque tube.
44. Remove the bolt that attaches the bracket for the electrical connector.
45. Move the bracket for the electrical connector away.
46. Remove the bolt that attaches the transaxle ground cable to the transaxle Automatic Shift Mechanism (ASM) pump.
47. Disconnect the electrical connector from the ASM pump.
48. Release the wiring harness for the ASM pump from the two clips that attach it to the transxle.
49. Identify and disconnect the five electrical connectors from the transaxle.
50. Disconnect the electrical connector from the selector position sensor.
51. Remove the bolt that attaches the ground cable eyelet to the transaxle.
52. Put the wiring harness under the hydraulic pipe for the clutch, and move it away from the transaxle.
53. Put a transmission jack below the torque tube (refer to Figure 18).

Figure 18

54. Adjust the height of the transmission jack until it holds the torque tube.
55. Remove the eight bolts that attach the torque tube to the transaxle.

Figure 19

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

56. Move the transaxle rearwards to give clearance between the torque tube and the transaxle.
57. Carefully lower the transaxle on the transmission jack to remove the transaxle from the vehicle.

Figure 20

58. Clean the mating faces of the component.

Install

1. Move the transaxle and transmission jack into position below the vehicle.
2. Remove the filler plug for the transaxle oil.
3. Do a level check of the transaxle oil.
4. Install and tighten the filler plug for the transaxle oil.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. GET THE AID OF ONE MORE PERSON WHEN YOU MOVE THE TRANSAXLE. IF YOU DO NOT, PERSONAL INJURY CAN OCCUR.

5. Use the transmission jack to adjust the height of the transaxle to align the transaxle with the torque tube.
6. Lower the transmission jack away from the torque tube.
7. Install and tighten the eight bolts that attach the torque tube to the transaxle.
8. Put the wiring harness for the transaxle into position.
9. Install the ground cable eyelet to the transaxle.
10. Install and tighten the bolt that attaches the ground cable eyelet to the transaxle.
11. Connect the electrical connector to the selector position sensor.
12. Connect the five electrical connectors to the transaxle.
13. Install the wiring harness for the ASM pump to the two clips that attach it to the transaxle.
14. Connect the electrical connector to the ASM pump.
15. Install the transaxle ground cable to the transaxle ASM pump.
16. Install and tighten the bolt that attaches the transaxle ground cable to the transaxle ASM pump.
17. Put the bracket for the electrical connector into position.
18. Install and tighten the bolt that attaches the bracket for the electrical connector.

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19. Connect the electrical connector to the wiring harness for the torque tube.
20. Connect the hydraulic pipe for the clutch.
21. Adjust the height of the transmission jack to lift the transaxle into the correct position.
22. Remove the strap from the transaxle and the transmission jack.
23. Install the transaxle mount assemblies.

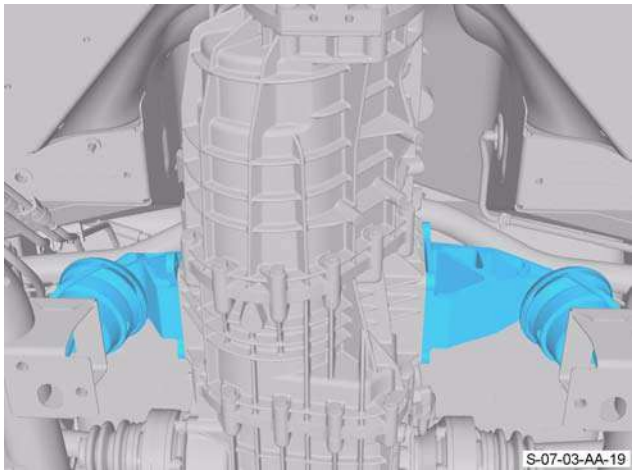

Figure 21

24. Install and tighten the four bolts that attach the left side transaxle mount bracket to the transaxle.

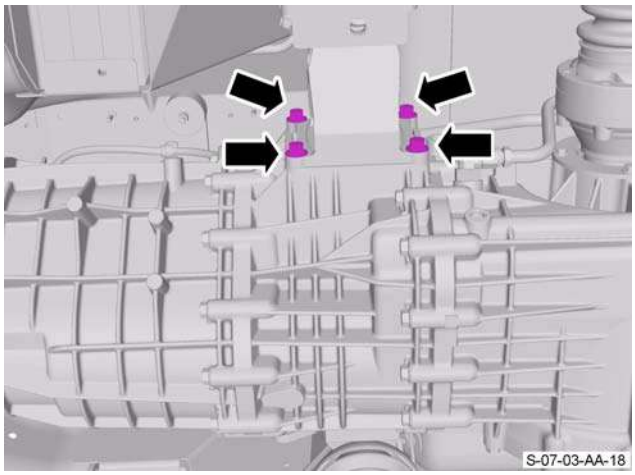

Figure 22

25. Install and tighten the four bolts that attach the right side transaxle mount bracket to the transaxle.

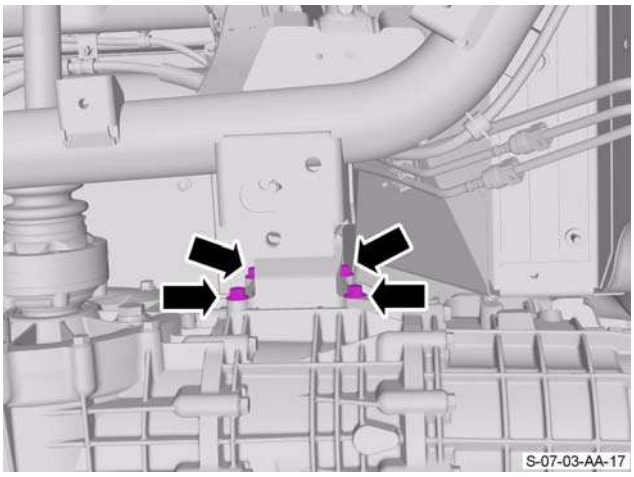

Figure 23

26. Remove and discard the cable tie to release the reservoir from the transaxle.
27. Put the reservoir into position on the transaxle bracket.
28. Install and tighten the two bolts that attach the reservoir to the transaxle bracket.
29. Install the reservior hose into the two clips.
30. Lower the transmission jack to align the transaxle mounts to the rear subframe.
31. Move the transmission jack away from the vehicle.
32. Install and tighten the nut that attaches the left side transaxle mount to the rear subframe.
33. Install and tighten the nut that attaches the right side transaxle mount to the rear subframe.
34. Remove and discard the sealing plugs from the transaxle and the breather pipe.
35. Connect the breather pipe to the transaxle.
36. Remove and discard the sealing plugs from the oil cooler matrix and the pipes.
37. Connect and tighten the pipes to the oil cooler matrix.
38. Put the driveshafts into position on the transaxle shaft flanges. Align the marks on the flanges that you made during removal.

Note: Put the three driveshaft bolt plates in position when you install the bolts in the step that follows.

39. Install and torque the six new bolts that attach the left side driveshaft flange to the transaxle flange. If necessary, turn the driveshaft to get access to all of the bolts.

Note: Put the three driveshaft bolt plates in position when you install the bolts in the step that follows.

40. Install and torque the six new bolts that attach the right side driveshaft flange to the transaxle flange. If necessary, turn the driveshaft to get access to all of the bolts.
41. Put the ground cable into position.
42. Install and tighten the nut that attaches the ground cable to the body.

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43. Install the tunnel reinforcement plate.
44. Install and torque the eight bolts that attach the tunnel reinforcement plate to the body.
45. Install floor heatshield.
46. Install and tighten the four bolts that attach the floor heat shield to the body.
47. Install the exhaust front mount.
48. Clean the component mating faces.
49. Apply an applicable sealant to the component mating faces.

WARNING
THE EXHAUST CENTRE PIPE IS HEAVY. GET THE AID OF ONE MORE PERSON TO DO THE STEP THAT FOLLOWS.

50. Install the exhaust centre pipe.
51. Install and tighten the four bolts that attach the exhaust centre pipe to the exhaust front mount.
52. Put the clamps into position on the exhaust pipes.
53. Loosely install the four bolts that attach the exhaust centre pipe to the rear silencer.
54. Align the exhaust assembly.
55. Tighten the two clamps that attach the exhaust centre pipe to the catalytic converters.
56. Install the cross brace.

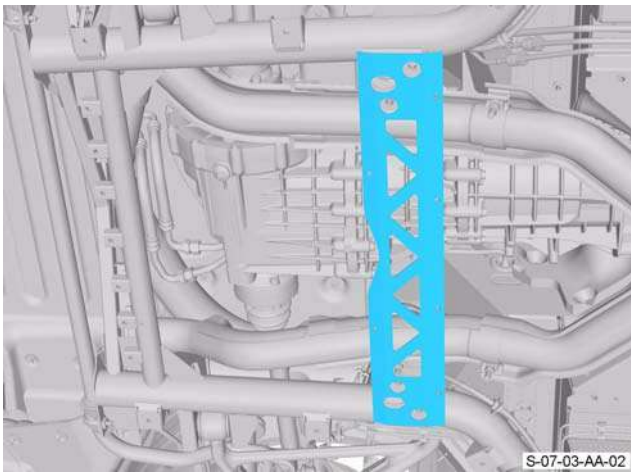

Figure 24

57. Install and torque the four bolts that attach the cross brace to the rear subframe.

Figure 25

58. Remove the strap that attaches the vehicle to the lift.
59. Lower the vehicle until the wheels are approximately 10 mm above the ground.
60. Connect the battery ground cable.
61. Bleed the clutch system.
62. Use AMDS to do an ASM self-tune.
63. Start the engine, select first gear and allow the wheels to turn for 10 seconds.
64. Lift the vehicle.
65. Remove the fill plug for the transaxle oil.
66. Make sure that the transaxle oil is level with the opening for the transaxle oil. Add more oil if necessary.
67. Install and tighten the fill plug for the transaxle oil.
68. Do a check of the ASM fluid level.
69. Install the rear undertray (refer to Workshop Procedure 01.02.PB - Rear Undertray)

Transmission Axle Assembly-Drain/Refill

Repair Operation Time (ROT)	
Item	**Code**
Transmission Axle Assembly-Drain/ Refill	**07.03.BC**

Removal

1. Position vehicle on ramp.
2. Remove rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
3. Position container to collect transaxle oil.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN DRAINING AND REFILLING THE MANUAL TRANSAXLE.

4. Remove transaxle drain plug and drain oil.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

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5. Loosen and disconnect oil cooler pipes and allow oil in the oil cooler system to drain into container.
6. Remove filler plug.
7. Discard sealing washers (x2).

Install

1. Clean drain and filler plugs.
2. Install new sealing washers to filler and drain plugs.
3. Install drain plug and tighten to correct torque.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

4. Install oil cooler pipes and tighten unions to correct torque.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

5. Fill transaxle with the correct grade and quantity of oil.
6. Install filler plug and tighten to the correct torque.
7. Install rear undertray (see Workshop Manual procedure 01.02.PB Undertray - Rear - Renew).
8. Lower vehicle on ramp.
9. Road test vehicle.
10. Position vehicle on ramp.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

11. Check and top-up transaxle oil level.
12. Lower vehicle on ramp.

Transaxle Assembly-Renew

Repair Operation Time (ROT)	
Item	**Code**
Transaxle Assembly-Renew	**07.03.CB**

Removal

1. Remove transaxle assembly (see Workshop Manual procedure 07.03.AA Transaxle Assembly - Manual - Remove for Access & Refit).
2. Attach slings to transaxle and connect suitable hoist.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. TO AVOID PERSONAL INJURY OR DAMAGE TO THE TRANSAXLE, HANDLING OF THE TRANSAXLE ASSEMBLY IS A TWO PERSON OPERATION.

3. With assistance, remove transaxle from lifter and position on work bench.
4. Lower hoist and remove slings.
5. Position container and drain transaxle oil.
6. Remove bolt securing oil cooler pipes bracket to transaxle (see Figure 1).

Figure 1

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

7. Loosen and disconnect oil cooler pipe unions and remove oil cooler pipe assembly (see Fig 2).

Figure 2

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

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8. Remove reverse light switch from transaxle (see Fig, 3).

Figure 3

9. Remove bolts (x3) from selector cable bracket to transaxle and collect bracket (see Figure 4).

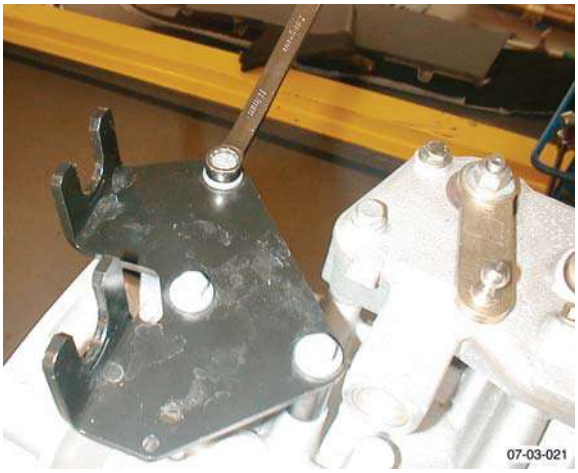

Figure 4

10. Remove nuts (x2) from selector levers (x2) to transaxle (see Figure 5).

Figure 5

Install

1. Clean reverse light switch, oil cooler pipes, selector levers and selector cable bracket.
2. Install selector levers (x2) and install and torque tighten nuts (x2).
3. Install selector cable bracket and install and torque tighten bolts (x3).
4. Install and torque tighten reverse light switch.
5. Install oil cooler pipe assembly.
6. Install and torque tighten oil cooler pipe unions and support bracket bolt.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. TO AVOID PERSONAL INJURY OR DAMAGE TO THE TRANSAXLE, HANDLING OF THE TRANSAXLE ASSEMBLY IS A TWO PERSON OPERATION.

7. Fill transaxle with the specified oil to the correct level.
8. Attach slings to transaxle and connect hoist.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. TO AVOID PERSONAL INJURY OR DAMAGE TO THE TRANSAXLE, HANDLING OF THE TRANSAXLE ASSEMBLY IS A TWO PERSON OPERATION.

9. With assistance, remove transaxle from workbench and position on lifter.
10. Install transaxle assembly (see Workshop Manual procedure 07.03.AA Transaxle Assembly - Manual - Remove for Access & Refit).
11. Install road wheel(s).
12. Test drive vehicle.

WARNING
THE TRANSAXLE ASSEMBLY IS VERY HEAVY. TO AVOID PERSONAL INJURY OR DAMAGE TO THE TRANSAXLE, HANDLING OF THE TRANSAXLE ASSEMBLY IS A TWO PERSON OPERATION.

13. Raise vehicle on ramp and check transaxle oil level.
14. Lower vehicle on ramp.

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Transmission (07.00)

Automatic Control System (07.05)

Maintenance

Paddle Shift Switch Assembly - Renew - (Sportshift Only)

Repair Operation Time (ROT)	
Item	**Code**
Paddle Shift Switch Assembly-Renew	**07.05.AE**

Remove

1. Remove the top and bottom shrouds from the steering column (Refer to 'Top and Bottom Shrouds for the Steering Column - Remove and Install', page 11-4-4).
2. Remove the screw that attaches the paddle shift switch assembly (switch assembly) to the steering column (Refer to Figure. 1).

Figure. 1

3. Move the paddle shift switch assembly to get access to the electrical connector.
4. Disconnect the electrical connector for the paddle shift switch assembly (see Figure 2).

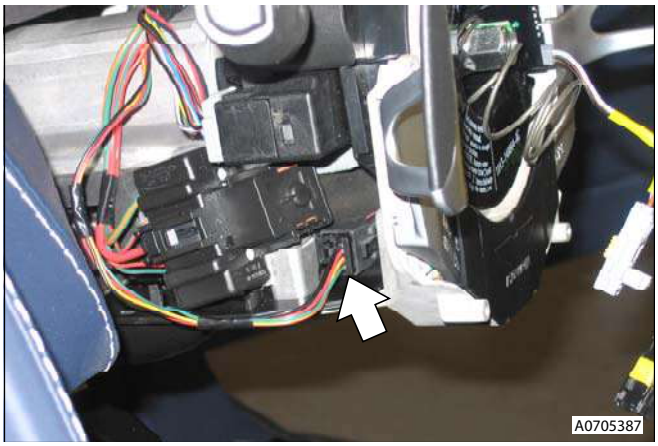

Figure 2

5. Remove the switch assembly.

Install

1. Connect the electrical connector for the switch assembly.
2. Put the switch assembly in position on the steering column.
3. Install the screw that attaches the switch assembly.
4. Remove the top and bottom shrouds from the steering column (Refer to 'Top and Bottom Shrouds for the Steering Column - Remove and Install', page 11-4-4).
5. Connect the vehicle battery.

Sportshift Drive Switch-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Sportshift Drive Switch-Renew	**07.05.AF**

Removal

1. Battery isolation switch OFF.
2. Remove upper centre panel using special tool (501 115) to hook into either one of the two centre air vents (see Figure 1).

Figure 1

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3. Disconnect Drive 'D' switch multiplug (see Figure 2).

Figure 2

4. Depress clips and remove Drive 'D' switch from upper centre panel.

Install

1. Align Drive 'D' switch and secure in upper centre panel.
2. Position upper centre panel, connect multiplug, install upper centre panel.
3. Battery isolation switch ON.

Sportshift Neutral Switch-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Sportshift Neutral Switch-Renew	**07.05.AG**

Removal

1. Battery isolation switch OFF.
2. Remove upper centre panel using special tool (501 115) to hook into either one of the two centre air vents (see Figure 1).

Figure 1

3. Disconnect Neutral 'N' switch multiplug (see Figure 2).

Figure 2

4. Depress clips and remove Neutral 'N' switch from upper centre panel.

Install

1. Align Neutral 'N' switch and secure in upper centre panel.
2. Position upper centre panel, connect multiplug, install upper centre panel.
3. Battery isolation switch ON.

Sportshift Reverse Switch-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Sportshift Reverse Switch-Renew	**07.05.AH**

Removal

1. Battery isolation switch OFF.
2. Remove upper centre panel using special tool (501 115) to hook into either one of the two centre air vents (see Figure 1).

Figure 1

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3. Disconnect Reverse 'R' switch multiplug (see Figure 2).

Figure 2

4. Depress clips and remove Reverse 'R' switch from upper centre panel.

Install

1. Align Reverse 'R' switch and secure in upper centre panel.
2. Position upper centre panel, connect multiplug, install upper centre panel.
3. Battery isolation switch ON.

Sportshift Comfort Switch-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Sportshift Comfort Switch-Renew	**07.05.AJ**

Removal

1. Battery isolation switch OFF.
2. Remove upper centre panel using special tool (501 115) to hook into either one of the two centre air vents (see Figure 1).

Figure 1

3. Disconnect Comfort switch multiplug (see Figure 2).

Figure 2

4. Depress clips and remove Comfort switch from upper centre panel.

Install

1. Align Comfort switch and secure in upper centre panel.
2. Position upper centre panel, connect multiplug, install upper centre panel.
3. Battery isolation switch ON.

Sportshift Interface Box-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Sportshift Interface Box-Renew	**07.05.AL**

Removal

1. Battery isolation switch OFF.
2. Remove upper centre panel using special tool (501 115) to hook into either one of the two centre air vents (see Figure 1).

Figure 1

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3. Cut cable tie securing interface box to mounting bracket (see Figure 2).

Figure 2

4. Release interface box from Velcro (see Figure 3).

Figure 3

5. Disconnect multiplug and remove interface box.

Install

1. Connect multiplug and secure interface box to Velcro.
2. Secure interface box to mounting bracket with cable tie.
3. Position then install upper centre panel.
4. Battery isolation switch ON.

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Transmission (07.00)

Manual Control System (07.06)

Maintenance

Gearshift Assembly Mechanism-Renew

Repair Operation Time (ROT)	
Item	**Code**
Gearshift Assembly Mechanism-Renew	**07.06.AA**

Removal

1. Remove panel assembly - console (see Workshop Manual procedure 01.12.DB Panel Assembly Console - Renew).

Caution
Ensure that the service tool No. 0308 - 642 is used to release selector cable ball joints from selector levers.

2. Using tool (308 - 642), release selector cable ball joints (x2) from gear lever mechanism.
3. Remove screws (x6), securing gear lever mechanism to housing.
4. Remove gearshift assembly mechanism.
5. Remove gear knob, collect gaiter.

Installation

1. Clean gearshift mechanism.
2. Lubricate gearshift mechanism with recommended grease.
3. Install gearshift mechanism, install and tighten screws (x6).
4. Install selector cables to gearshift mechanism.
5. Install panel assembly - console (see Workshop Manual procedure 01.12.DB Panel Assembly Console - Renew).
6. Install gear lever gaiter, install gear knob.

Transmission Gearshift Cable Assembly-Renew

Repair Operation Time (ROT)	
Item	**Code**
Transmission Gearshift Cable Assembly-Renew	**07.06.AE**

Removal

1. Disconnect vehicle battery.
2. Remove panel assembly - console.

Caution
Ensure that the service tool No. 0308 - 642 is used to release selector cable ball joints from selector levers.

3. Using tool 308 - 642, release selector cable ball joint from gear lever mechanism.
4. Remove horseshoe clip securing selector to bracket.
5. Raise vehicle on ramp and secure with straps.
6. Remove road wheel(s).

WARNING
TO AVOID PERSONAL INJURY, I.E. SEVERE BURNS TO THE SKIN, ALLOW EXHAUST SYSTEM TO COOL DOWN BEFORE REMOVING EXHAUST SYSTEM COMPONENTS.

7. Remove rear exhaust muffler (see Workshop Manual procedure 09.00.KA Silencer and Bypass Valve Assembly - Remove for Access and Refit
8. Remove bolts (x4), subframe cross brace.
9. Loosen clamp nuts (x2), release centre pipe from both catalysts.
10. Remove centre pipe and rear exhaust pipes as an assembly.
11. Remove bolts (x4), centre heatshield to body, remove heatshield.
12. Remove bolts (x8), shear plate to body, remove shear plate.
13. Remove bolt securing earth lead to transaxle.
14. Mark drive shaft to differential flanges for assembly purposes.
15. Remove and discard Allen bolts (x12), collect plates (x6), drive shaft flanges to transaxle.
16. Release drive shafts from transaxle and position aside.
17. Position drain container to collect oil spillage.

WARNING
OBSERVE ALL TRANSAXLE OIL MANUFACTURERS SAFETY INSTRUCTIONS WHEN HANDLING COMPONENTS THAT HAVE BEEN IN CONTACT WITH TRANSAXLE OIL.

Caution
Plug oil cooler connections to prevent ingress of dirt or moisture into the system.

18. Loosen unions and disconnect oil cooler pipes (x2) from transaxle interconnecting pipes. Plug pipe connections (x4).
19. Remove drain container.
20. Remove nuts (x2), hydra mounts to subframe mountings.
21. Position hydraulic lifter to support transaxle.
22. Remove and discard bolts (x8 (4 each side), mounting brackets to transaxle. Remove mounting brackets with hydra mounts.
23. Release reverse lamp switch multiplug from bracket, disconnect multiplug.

Caution
Ensure that the service tool No. 0308 - 642 is used to release selector cable ball joints from selector levers.

24. Lower transaxle sufficiently and use tool (308 - 642) to release selector cable ball joint from selector lever.
25. Remove horse shoe clip securing selector cable to mounting bracket, remove selector cable assembly.

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Installation

1. Install selector cable, connect to ball joint, install horseshoe clip.
2. Connect multiplug to reverse light switch, install multiplug in bracket.
3. Install reverse light harness clip in transaxle.
4. Install transaxle mounting brackets and hydra mounts, install and torque tighten new bolts (x8).
5. Align hydra mounts to subframe, lower lifter, install and torque tighten nuts (x2). Remove lifter.
6. Remove plugs, connect and torque oil cooler unions.
7. Apply thread lock to new Allen bolts.
8. Align drive shafts to transaxle flanges, clean and install plates (x6), install and torque tighten Allen bolts (x12).
9. Position earth lead to transaxle, install and torque tighten bolt.
10. Install shear plate, install bolts (x8), tighten bolts to correct torque.
11. Install centre heatshield, install bolts (x4), tighten bolts to correct torque.
12. Install centre and rear exhaust pipe assembly, align to both catalysts. tighten clamp nuts to correct torque.
13. Install subframe cross brace, install and torque tighten bolts (x4).
14. Install rear exhaust muffler (see Workshop Manual procedure 09.00.KA Silencer and Bypass Valve Assembly - Remove for Access and Refit).
15. Install road wheel(s).
16. Lower vehicle on ramp, remove securing straps.
17. Position selector cable in bracket, install horseshoe clip.
18. Install selector cable ball joint to gear lever mechanism.
19. Install panel assembly - console.
20. Connect vehicle battery.
21. Test drive vehicle.
22. Raise vehicle on ramp; Check transaxle oil level.

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Transmission (07.00)

Automatic Shifting Subsystem (07.11)

Maintenance

Transmission Control Module-Renew-Sportshift Only

Repair Operation Time (ROT)	
Item	**Code**
Transmission Control Module-Renew	**07.11.AA**

Removal

1. Open boot lid.
2. Disconnect vehicle battery.

WARNING
ALWAYS DISCONNECT THE BATTERY EARTH (- VE) TERMINAL FIRST.

3. Remove access panel (right-hand side).
4. Release strap securing puncture repair kit from bracket and remove.
5. Remove retention clip (bolt x1) and Transmission Control Module from mounting bracket.
6. Release Transmission Control Module multiplug catches (x2), disconnect Transmission Control Module multiplugs (x2) and remove.

Installation

1. Install Transmission Control Module and connect multiplugs.
2. Install Transmission Control Module to mounting bracket, secure with retention clip and bolt.
3. Install puncture repair kit to bracket and secure with strap.
4. Install access panel (right-hand side).
5. Connect vehicle battery.

WARNING
ALWAYS CONNECT THE BATTERY EARTH (+VE) TERMINAL FIRST.

6. Close the boot lid.

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