

TECHNICAL INFORMATION



A/C Clutch Link Harness Installation

No: 82/01/99/NAS
Ref:
Issue: 1
Date: 05/21/99

AFFECTED VEHICLE RANGE:

RANGE ROVER (LP)

MY 1995 up to VIN XA410503

SITUATION:

A/C CLUTCH FAILURE IN SERVICE

If a customer complains that the Automatic Temperature Control (ATC) system operates intermittently and the Handbook symbol on the ATC display is lit, this may be the result of vehicles in hot climates or under extreme conditions experiencing reduced engagement voltage for the Air Conditioning compressor clutch. This in turn may lead to clutch slippage and ultimately to clutch failure.

RESOLUTION:

REPLACE FAULTY CLUTCH/COMPRESSOR IF APPLICABLE AND INSTALL HARNESS

To ensure that sufficient voltage (11.5 VDC minimum) is always available for A/C clutch engagement, special wiring harnesses have been developed. Whenever a failed clutch is replaced or a clutch is adjusted, these modified harnesses should be installed. In addition, due to the possibility of damage to the compressor clutch, it will also be necessary to confirm the condition of this component by inspecting the clearance as described in the repair procedure in this bulletin.

PARTS INFORMATION:

LRN104310KIT.....A/C Link Harness Kit Qty 1
YSB106340.....Alternator Link Harness Qty 1
Locally Sourced:
• Tie WrapsQty 6

WARRANTY CLAIMS:

82.10.89/28Time 1.20 hrs.
 Install Link Harnesses
 Material Allowance is included in time allowance for repair

FAULT CODE: .Z

Normal warranty policy and procedures apply

TIB 82/01/99/NAS	CIRCULATE: TO	Service Mgr X	Warranty X	Workshop X	Body Shop X	Parts X
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REPAIR PROCEDURE:

DETERMINE A/C CLUTCH CONDITION



NOTE: Prior to beginning work, carry out an initial inspection to confirm that the new link harnesses have not already been installed. Compressor link harness LRN104310KIT can be identified by the presence of resistor A (Figure 3) Alternator link harness YSB106340 can be identified by referring to Figure 10 references A and B.

1. Measure the air gap between the clutch armature and rotor at three points around its circumference. (Figure 1)
2. If the gap exceeds 0.8mm (0.030 in.) remove the armature retaining nut.
3. Remove armature.
4. Inspect for the presence of a shim.
5. If the shim is present, perform the following:
 - Remove the shim.
 - Install armature.
 - Install the clutch retaining nut.
 - Torque the nut to 17.7 Nm (13 lbf.ft.).
 - Verify proper A/C clutch operation.
6. If the shim is not present, or if proper adjustment and clutch operation are not possible, replace the A/C compressor assembly.
7. Install the A/C Link Harness (LRN104310KIT) as outlined below.

INSTALL A/C LINK HARNESS.



CAUTION: Whenever performing electrical work, disconnect the battery ground cable to protect the vehicle electrical system.

1. Disconnect the battery ground cable first.
2. Refer to the WSM and remove the front bumper of the vehicle.
3. Locate the trinary switch on the A/C system receiver/drier. (Figure 2)
4. Disconnect the electrical connector from the switch.
5. Connect the link harness between the receiver/drier switch and the removed harness connector.
6. Feed the link harness and resistor into the engine compartment and position it as shown in Figure 3 and Figure 6.

Figure 1

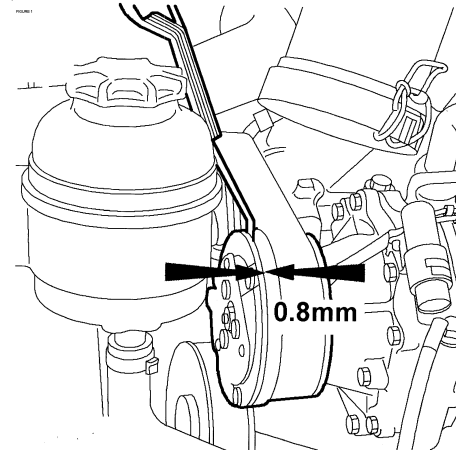


Figure 2

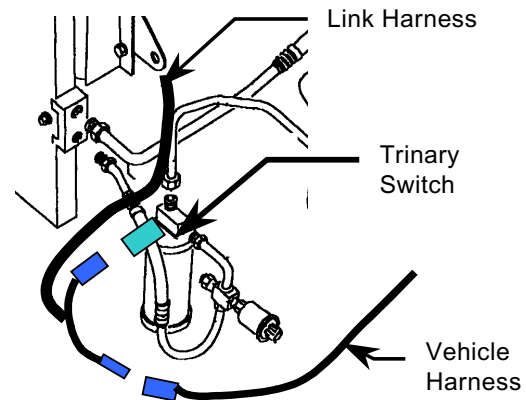
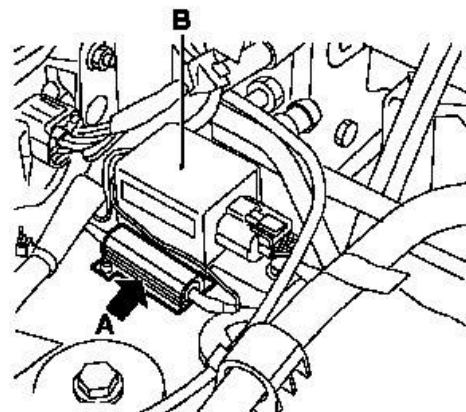


Figure 3



Drill two 2.0mm (5/64 inch) holes in the body panel as follows:

- Position resistor (Figure 3 - Position A) in the desired location next to crash sensor (Position B).
 - Mark and center punch the hole locations.
 - Drill the holes. (Removing the air filter box may be desirable for access.)
 - Protect the exposed metal of the holes using touch-up paint.
7. Attach the resistor body using the two supplied screws.
 8. Secure the link harness to the high side refrigerant hose (Figure 4) using the wire tie.
 9. Route the link harness along the front body cross member to the right side of the vehicle (Figure 5).
 10. Secure the harness using the existing harness clips (Figure 5).
 11. Route the link harness into the engine compartment to the under-hood fuse box (Figure 6).
 12. Secure the link harness to the existing wiring harness using 2 wire ties.
 13. Remove the bolts securing the fuse box to gain access to the connectors.

Figure 4

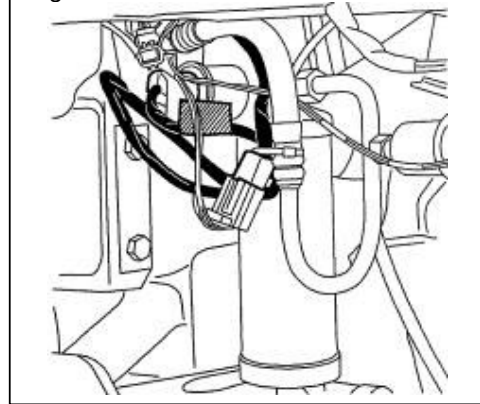


Figure 5

Harness routing and clips

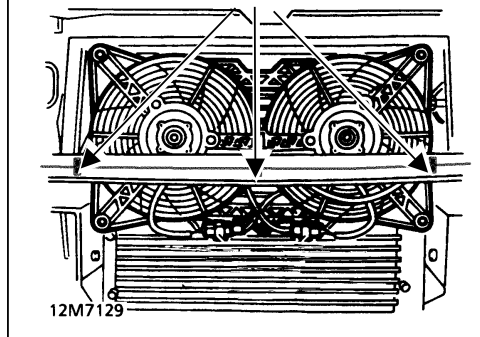
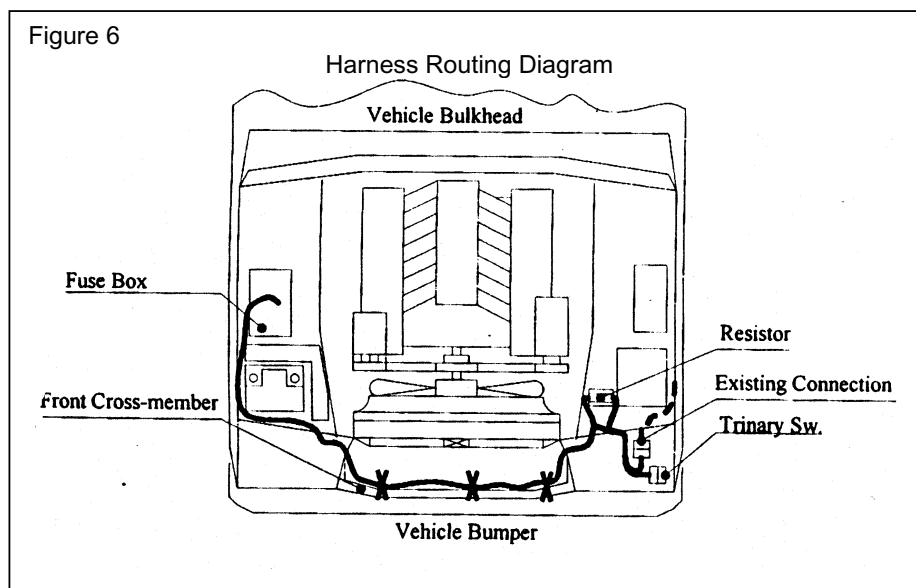


Figure 6



14. Refer to the wiring diagram (Figure 7) and insert the three link harness terminals into the fuse box connector cavities as follows:
 - Green/White into position M4-1
 - Black into position M6-3
 - Black/yellow into position M6-2
15. When all wiring connections are complete, install the fuse box.
16. Install yellow 4-pin relay into the fuse box location RL10.
17. Install the 10-amp fuse into the fuse box location F40.
18. Identify the newly added relay and fuse with labels. (Figure 8)
19. Install the front bumper.

Figure 7

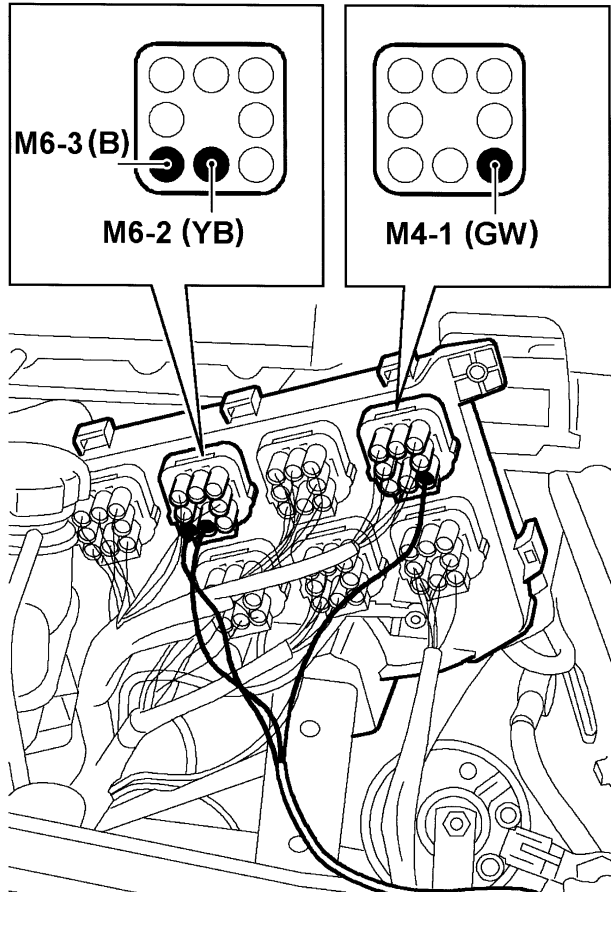
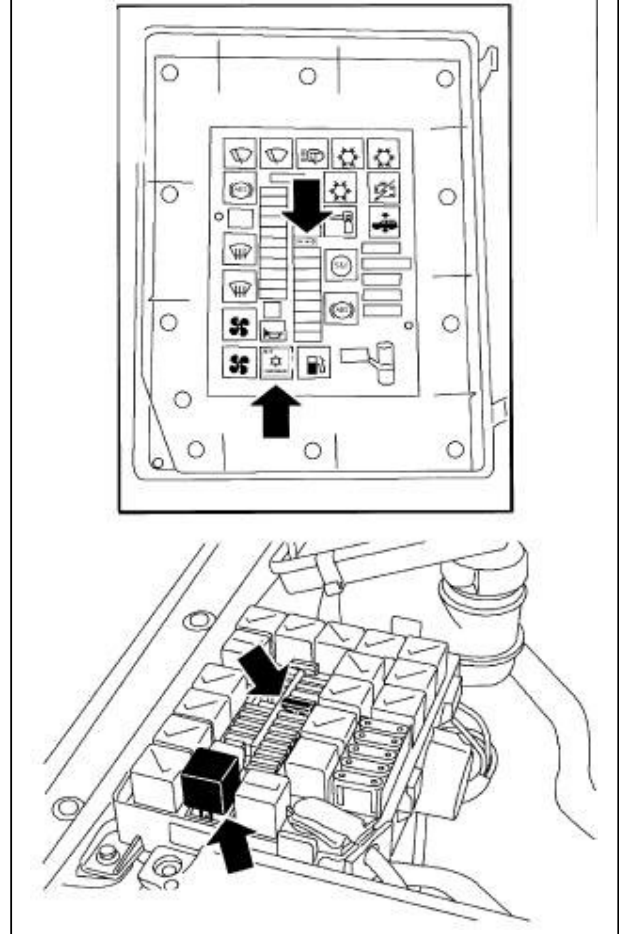


Figure 8



INSTALLATION OF ALTERNATOR LINK LEAD

△ NOTE: Prior to beginning work, carry out an initial inspection to confirm that the new link harnesses have not already been installed. Compressor link harness LRN104310KIT can be identified by the presence of resistor A (Figure 3) Alternator link harness YSB106340 can be identified by referring to Figure 10 references A and B.

1. Remove the battery box cover.
2. Disconnect the negative battery cable.

△ NOTE Ensure that the terminal cannot accidentally re-connect to the battery post until the procedure has been completed.

3. Disconnect the positive battery terminal
4. Remove and discard the clamp bolt.
5. Cut a hole in the unused port of the battery box grommet using a sharp knife or scissors. (Figure 10 Reference E)
6. On the new link lead, cut the black sleeving back by 50mm from the threaded stud end of the lead.
7. Feed the stud end of the new lead through the new hole in the battery box grommet, towards the battery.
8. Remove the terminal cover from the rear face of the alternator.
9. Remove the M8 nut from the B+ terminal of the alternator, (Figure 10, Reference A).
10. Route the new lead (Figure 10, Reference B) from the battery box grommet to the alternator, between the rocker cover and the alternator mounting bracket.
11. Connect the lead to the alternator B+ terminal and secure with the previously removed M8 nut. (Figure 10, Reference A)
12. Install the terminal cover on the alternator rear face.
13. Insert the link lead stud (Figure 10, Reference C) into the battery positive clamp in place of the discarded bolt.
14. Connect the battery positive terminal.

⚠ CAUTION: Secure the new link lead at a point directly above the auxiliary drive belt.

15. Secure the link lead to the existing vehicle harness with cable ties. (Figure 10, Reference D).
16. Connect the negative battery terminal.
17. Install the battery box cover.

Figure 10

