SUBJECT: Rear A/C Unit Blows Warm Air When Ambient Temperatures Are High

OVERVIEW: This bulletin involves installing front and rear expansion valves and in some cases, lowering the headliner and installing front and side/bottom seals to the rear A/C unit.


NOTE: THIS BULLETIN APPLIES TO VEHICLES EQUIPPED WITH REAR A/C (SALES CODE HBA) BUILT BEFORE DECEMBER 14, 1998 (MDH 1214XX).

SYMPTOM/CONDITION: The rear A/C unit blows warm air out of the overhead ducts when ambient temperatures are greater than 32°C (90°F.) with the rear A/C ON and with the front A/C functioning normally.

NOTE: THE CONDITION MAY BE WORSE WITH HIGH SUN LOADS APPLIED TO THE ROOF PANEL OF THE VEHICLE.

DIAGNOSIS:
NOTE: IF THE VEHICLE WAS BUILT BETWEEN OCTOBER 1, 1998 (MDH 1001XX) AND DECEMBER 14, 1998 (MDH 1214XX), PROCEED TO THE EXPANSION THERMAL VALVE REPAIR PROCEDURE (PAGE 3).

1. Measure the ambient air temperature of the repair area. DO NOT proceed unless the ambient temperature is at least 21°C (70°F).
2. Connect a tachometer.
3. Set the heater-A/C mode control switch knob to the MAX A/C position. Set the temperature control knob to the full cool position. Set the blower motor switch knob of both the front A/C and rear overhead A/C systems to the high speed position.
4. Start the engine and hold the engine speed at 1,000 rpm with the compressor clutch engaged. Operate the engine until the engine temperature reaches its normal operating range.
5. Position a thermometer inside the center inlet of the rear overhead A/C system approximately 19 mm (3/4 in.) ahead of the evaporator and measure the temperature of the air entering the evaporator (Figure 1).

NOTE: DO NOT ALLOW THE TEMPERATURE PROBE TO CONTACT THE EVAPORATOR.
6. Position a thermometer approximately 19 mm (3/4 in.) in front of the center inlet of the rear overhead A/C system and measure the temperature of the air coming into the rear A/C system through the center inlet (Figure 2).
7. If the temperature of the air directly ahead of the evaporator in the rear overhead A/C system is 2° C. (4° F.) greater than the air in front of the rear overhead A/C system's center inlet, perform the Expansion Thermal Valve Repair Procedure (Page 3) and the Rear A/C Evaporator Seal Repair Procedure (Page 7).

**PARTS REQUIRED:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>55056017AA</td>
<td>Seal, Rear A/C Front Foam</td>
</tr>
<tr>
<td>1</td>
<td>55056018AA</td>
<td>Seal, Rear A/C Side/Bottom Foam</td>
</tr>
<tr>
<td>AR (1)</td>
<td>55055773AF</td>
<td>Valve, Front Thermal Expansion</td>
</tr>
<tr>
<td>AR (1)</td>
<td>55055876AB</td>
<td>Valve, Rear Thermal Expansion</td>
</tr>
<tr>
<td>AR (1)</td>
<td>55055728AD</td>
<td>Label, Refrigerant Charge</td>
</tr>
<tr>
<td>AR</td>
<td>04886129AA</td>
<td>Oil, SP-20 PAG Refrigerant</td>
</tr>
<tr>
<td>AR</td>
<td>82300101</td>
<td>Refrigerant, R134-A</td>
</tr>
<tr>
<td>AR (1)</td>
<td>05015797AA</td>
<td>Clip, Electronic Cycling Clutch Switch</td>
</tr>
</tbody>
</table>

**REPAIR PROCEDURE:**

**EXPANSION THERMAL VALVE REPAIR PROCEDURE**

1. Follow the Refrigerant Recovery procedures identified in the 1999 Durango Service Manual (Publication No. 81-370-9116), pages 24-28 and 24-29 and evacuate the A/C system.

**NOTE:** IT IS EXTREMELY IMPORTANT THAT YOU RECLAIM AND WEIGH ANY REFRIGERANT OIL FROM THE REFRIGERANT AFTER IT IS RECOVERED FROM THE A/C SYSTEM.

2. Remove the liquid refrigerant line that is routed between the filter/drier and the front expansion valve. Refer to the 1999 Durango Service Manual (Publication No. 81-370-9116), page 24-38 for information regarding Liquid Line - Rear removal procedures.

**NOTE:** ALL REFRIGERANT OIL THAT IS DRAINED FROM THE LIQUID REFRIGERANT LINE MUST BE MEASURED TO ENSURE THAT THE APPROPRIATE AMOUNT OF OIL IS ADDED TO THE SYSTEM AFTER ALL COMPONENTS HAVE BEEN ASSEMBLED.

3. Unplug the wire harness connector from the electronic cycling clutch switch near the expansion valve (Figure 3).
4. Remove and discard the fastener that secures the electronic cycling switch to the outboard side of the expansion valve.
5. Pull the electronic cycling clutch switch away from the expansion valve far enough for the thermistor probe capillary tube to clear the well in the expansion valve. The washer bottle may have to be removed.

**NOTE:** THE CAPILLARY TUBE WELL IN THE EXPANSION VALVE IS FILLED WITH SPECIAL THERMALLY-CONDUCTIVE GREASE. THIS GREASE SHOULD BE REMOVED FROM THE EXPANSION VALVE AND REUSED ON THE NEW EXPANSION VALVE P/N 55055773AF.

6. Remove the two screws that secure the expansion valve to the evaporator tube mounting flange (Figure 4).
7. Remove the expansion valve from the evaporator tube mounting flange.

**NOTE: THE EVAPORATOR TUBE MOUNTING FLANGE SHOULD BE PLUGGED UNTIL THE NEW EXPANSION VALVE IS READY TO BE INSTALLED.**

8. Remove the caps, then install the new expansion valve p/n 55055773AF onto the evaporator tube mounting flange and secure with two screws. Tighten the mounting screws to 11.4 N•m (100 in. lbs.).

9. Ensure that the capillary tube well is filled with the thermally-conductive grease removed earlier then, insert the thermistor probe capillary tube of the electronic cycling clutch switch into the well.

10. Install the electronic cycling clutch switch onto the expansion valve and secure it with a new fastener p/n 05015797AA.

11. Plug the wire harness connector into the electronic cycling clutch switch.


**NOTE: ALL REFRIGERANT OIL THAT IS DRAINED FROM THE UNDERBODY REFRIGERANT LINE OR THE LINES GOING TO THE REAR OVERHEAD A/C EVAPORATOR MUST BE MEASURED TO ENSURE THAT THE APPROPRIATE AMOUNT OF OIL IS ADDED TO THE SYSTEM AFTER ALL COMPONENTS HAVE BEEN ASSEMBLED.**

13. Disassemble the bolt from the forward section of the underbody refrigerant line assembly to the expansion valve (Figure 5). Install plugs in or tape over the open refrigerant fittings.

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**FIGURE 5**
14. Disassemble the two bolts attaching the expansion valve to the rearward (shorter) section of the underbody refrigerant lines.

**NOTE: THE REARWARD SECTION OF THE UNDERBODY REFRIGERANT LINES SHOULD BE PLUGGED UNTIL THE NEW EXPANSION VALVE IS READY TO BE INSTALLED.**

15. Remove the caps, then install the new expansion valve p/n 55055876AB onto the rearward section of the underbody refrigerant line mounting flange and secure with two screws. Tighten the mounting screws to 11.4 N•m (100 in. lbs.).

16. Remove the tape or plugs from the forward section of the underbody refrigerant lines. Install new o-rings onto the mounting flange then, align the expansion valve ports and stud with the block fitting on the forward section of the underbody refrigerant lines. secure the lines with the mounting bolt.

17. Install the underbody refrigerant lines. Refer to the 1999 Durango Service Manual (Publication No. 81-370-9116), page 24-44 for information regarding Underbody Refrigerant Line installation procedures.

18. Install the liquid refrigerant line that is routed between the filter/drier and the front expansion valve. Refer to the 1999 Durango Service Manual (Publication No. 81-370-9116), page 24-39 for information regarding Liquid Line - Rear installation procedures.


20. Weigh all compressor oil that was reclaimed from the A/C refrigerant and/or drained from the A/C components during this repair procedure. Add this amount of new refrigerant oil (SP-20 PAG oil) p/n 04886129AA to the A/C system.

**NOTE: IF THE RECYCLING STATION IS NOT EQUIPPED WITH A DEVICE TO ADD OIL TO AN EVACUATED SYSTEM, OIL COULD BE ADDED TO THE A/C SYSTEM BY REMOVING THE SUCTION AND DISCHARGE LINES AT THE COMPRESSOR AND INSTALLING THE OIL DIRECTLY INTO THE COMPRESSOR.**

21. After the A/C system has been evacuated and tested for leaks, add 32 oz. of R134a refrigerant to the A/C system. A R134a refrigerant recovery/recycling/charging station that meets SAE Standard J2210 must be used to charge the A/C system. Refer to the operating instructions supplied by the equipment manufacturer for the proper care and use of this equipment.

22. Clean all dirt and debris from the A/C underhood label then, install new label p/n 55055728AD over the existing label.

REAR A/C EVAPORATOR SEAL REPAIR PROCEDURE

1. Disconnect the battery negative cable.
2. Using a small flat-bladed screw driver, carefully pry the trim plugs from the A-Pillar grab handle on the passenger side A-Pillar.
3. Remove the screws that attach the grab handle to the A-Pillar, then separate the handle from the A-Pillar (Figure 6).

![Figure 6](image1)

4. Remove the screws from the cowl trim cover, then remove the cowl trim cover.
5. Grasp the A-Pillar trim and pull outward to disengage the clips that attach the A-Pillar trim to the A-Pillar, then separate the trim from the A-Pillar.
6. Remove the screws that attach the sunvisor arm support bracket to the headliner and the roof panel (Figure 7).

![Figure 7](image2)
7. If equipped, disengage the vanity lamp connector.
8. Detach the sunvisor from the sunvisor supports and separate the sunvisor from the headliner and roof panel.
9. Grasp both sides of the sunvisor support base and firmly pull outward to disengage the sunvisor support cover from the base (Figure 8).

**NOTE:** A TRIM STICK SHOULD BE USED TO DISENGAGE THE SUNVISOR SUPPORT COVER FROM THE BASE.

![SUNVISOR SUPPORT BASE](image)

**FIGURE 8**

10. Lift and rock the sunvisor support upward to disengage it from the roof panel.
11. Grasp both sides of the coat hook base and firmly pull outward to disengage the coat hook cover from the base (Figure 9).

**NOTE:** A TRIM STICK SHOULD BE USED TO DISENGAGE THE COAT HOOK COVER FROM THE BASE.

![HEADLINER COAT HOOK](image)

**FIGURE 9**
12. Lift and rock the coat hook upward to disengage it from the roof panel (Figure 10).

13. Remove the screws attaching the overhead assist handle to the roof panel and separate it from the roof panel (Figure 11).

14. Perform Steps 4 - 13 to the other side of the vehicle.

15. If the vehicle is equipped with an overhead console, perform Steps 16 through 20. Proceed to Step 21 if the vehicle is not equipped with an overhead console.

16. Remove the screw that secures the front of the overhead console to the front of the overhead console bracket (Figure 12).

17. Insert the fingertips of both hands between the headliner and the sides of the overhead console housing in the area between the garage door opener storage bin and the sunglasses storage bin.

18. Pull downward on the sides of the overhead console housing firmly and evenly to disengage the two snap clips that secure the rear of the unit from their receptacles in the overhead console bracket.

19. Lower the overhead console from the headliner far enough to access the wire harness connector and disconnect the connector.

20. Separate the overhead console from the headliner.
21. Remove the front seat belt turning loop cover and turning loop from the driver and passenger side B-Pillars (Figure 13).

22. Grasp the upper B-Pillar trim and pull outward to release the B-Pillar trim.
23. Using a trim stick or another suitable wide flat-bladed tool, gently push and pry the release tab located above the two indentations at the outer perimeter of the rear blower motor switch to release it from the headliner (Figure 14).
24. Pull the rear blower motor switch away from the headliner far enough to access and unplug the wire harness connector from the back of the switch, then separate the switch.

**CAUTION:** TO PREVENT DAMAGE TO THE HEADLINER, THE HEADLINER MUST NOT BE ALLOWED TO DROP OR HANG UNSUPPORTED. A WIRE CAN BE FABRICATED TO ACT AS A HANGER TO SUPPORT THE FRONT PORTION OF THE HEADLINER DURING THE NEXT STEPS OF THE REPAIR PROCEDURE.
25. Disengage the outlet bezel from the rear air conditioner by pulling outward on the bezel and prying the bezel loose using a trim stick.
26. Lower the headliner just enough to be able to install the foam seals.
27. Clean the surface where the seals will be attached (Figure 15) with isopropyl alcohol.
28. Apply the side/bottom seal by peeling a portion of the adhesive protective strip from the end of the seal p/n 55056018AA. Then, apply the end of the seal to the area shown in Figure 15 and continue by peeling and applying the remainder of the foam seal.

NOTE: ON SOME MODELS, A SMALL STRIP OF FOAM TAPE MAY BE PRESENT ON THE BOTTOM OF THE REAR A/C UNIT (FIGURE 15). APPLY THE FOAM TAPE ON TOP OF THE EXISTING FOAM STRIPS IF EQUIPPED.

29. Apply the front seal by peeling a portion of the adhesive protective strip from the end of the seal p/n 55056017AA. Then, apply the end of the seal to the roof bow approximately one inch outside of the position of the side/bottom seal as shown in Figure 15 and continue by peeling and applying the remainder of the foam seal to the roof bow.

30. Push the headliner back into place and install the rear air conditioner outlet bezel.
31. Connect the wire harness connector to the rear blower motor switch.
32. Tuck the wiring harness for the rear blower motor switch back through the rear blower motor switch mounting hole in the headliner.
33. Gently press the rear blower motor switch into the mounting hole in the headliner until the switch snaps into place.
34. Position upper B-Pillar trim onto vehicle and press the trim inward to engage the spring clip retainers. Then, install the B-Pillar trim to the other side of the vehicle.
35. Install the front seat belt turning loop. Tighten the turning loop bolts to 39 N•m (29 ft. lbs.). Then, install the front seat belt turning loop to the other side of the vehicle.
36. Install the turning loop cover. Then, install the turning loop cover to the other side of the vehicle.
37. If the vehicle is equipped with an overhead console, perform Steps 38 through 43. Proceed to Step 44 if the vehicle is not equipped with an overhead console.
38. Position the overhead console near the mounting location on the headliner.
39. Reconnect the roof wire harness connector to the overhead console wire harness connector.
40. Align the locating pin on the rear of the overhead console housing with the receptacle in the rear of the overhead console bracket.
41. Align the two snap clips on the overhead console housing with their receptacles in the overhead console bracket.
42. Push upward firmly and evenly on the sides of the overhead console housing over both of the snap clip locations until each of the two snap clips are fully engaged with the receptacle in the overhead console bracket.
43. Install and tighten the screw that secures the front of the overhead console housing to the overhead console bracket. Tighten the screw to 1.9 N•m (17 in. lbs.).
44. Position the overhead assist handle onto the roof panel and secure the handle with the attaching screws.
45. Position the coat hook into the roof panel.
46. Push the coat hook cover inward and secure the coat hook to the roof panel.
47. Position the sunvisor support into the roof panel.
48. Push the sunvisor support cover inward and secure the sunvisor support to the roof panel.
49. Position the sunvisors into the sunvisor supports and align the arm support bracket holes with the headliner holes.
50. Engage the vanity lamp if equipped.
51. Install the screws that attach the sunvisor arm support bracket to the headliner and the roof panel.
52. Position the A-Pillar trim at the A-Pillar, align the spring retaining clips, then press into place.
53. Install the cowl trim cover.
54. Perform Steps 44 - 53 to the other side of the vehicle.
55. On the right side of the vehicle, position the grab handle onto the A-Pillar.
56. Install the screws attaching the grab handle to the A-Pillar.
57. Install the trim plugs into the A-Pillar grab handle.
58. Connect the battery negative cable and reset the clock.

**POLICY:** Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**
Labor Operation No:
24-65-24-90 Install Rear Overhead A/C Housing Seals............................... 0.9 Hrs.
24-35-20-91 Remove And Install Front And Rear Expansion Valves
   (Includes Recover And Recharge The A/C System)....................... 0.8 Hrs.

**FAILURE CODE:** P8 - New Part