



INSTRUCTION TO SERVICE

ITS: 58480

SECTION:	405 ARTIC JOINT.
WRITTEN BY:	Michael Rooney
SUBJECT:	Inspect & if Necessary Replace A/C Hoses.

ITS58480

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PROCEDURE:

Inspection of A/C Hoses.

1. Turn the main battery disconnect switch to the “OFF” position.
2. Remove the false ceiling inside the articulated joint area of the bus. Refer to Section 7.3 of the Articulated Joint chapter in the Maintenance Manual for removal procedure.
3. Locate hose P/N 435213 and 435287. See Figure #2.
 - a. Inspect the hose end connector fittings on each hose to ensure that they are equipped with crimped fittings. Any P/N 435213 or 435287 hoses found with 2 PC fittings should be replaced with new hoses with crimped connectors. Note that the larger -24 hose adjacent to these hoses does have 2 PC fittings.

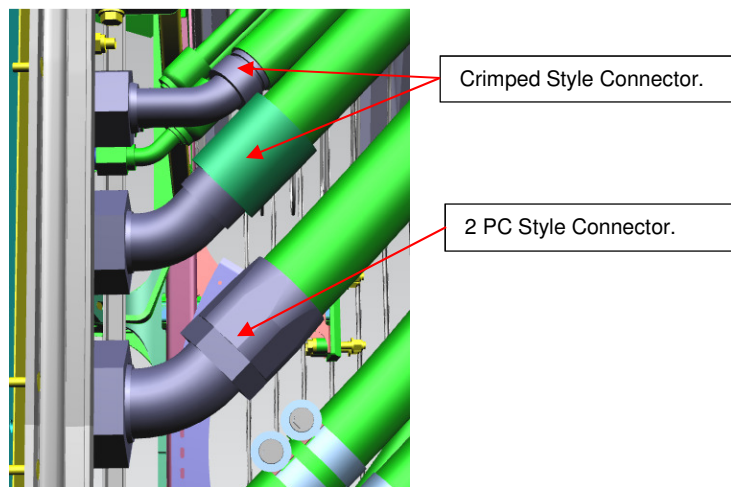


Figure 1: Crimped vs 2 PC Connectors

4. Check that the fittings on hoses 435213 and 435287 line up with the alignment marks that are laser etched on the front and rear bulkheads. It is important that the fittings align with the marks so the hoses nest nicely together and do not pull or bind on each other as the articulated joint moves through its range of motion. If the fittings are not properly aligned with the marks, the fittings should be adjusted to correct the alignment.

⚠ WARNING: Evacuate the A/C lines prior to moving the bulkhead connectors. Refer to the Thermo King Maintenance Manual for procedure. Observe all safety precautions and environmental regulations.

5. If the hose fittings and fitting alignments are correct, re-install the false ceiling inside the articulated joint area of the bus. Refer to Section 7.3 of the Articulated Joint chapter in the Maintenance Manual for installation procedure.
6. Remove all tools and debris and return the bus to service condition.
7. Turn the main battery disconnect switch to the “ON” position.

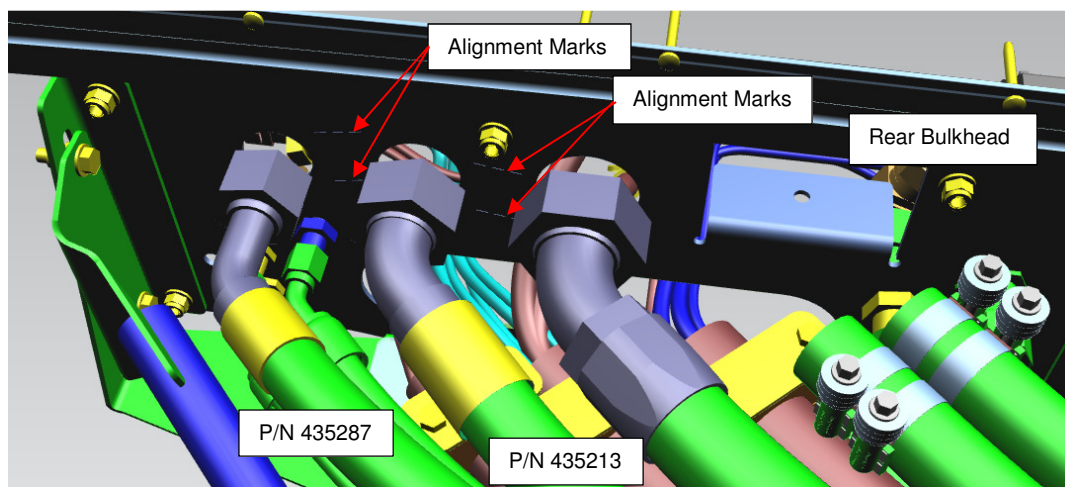
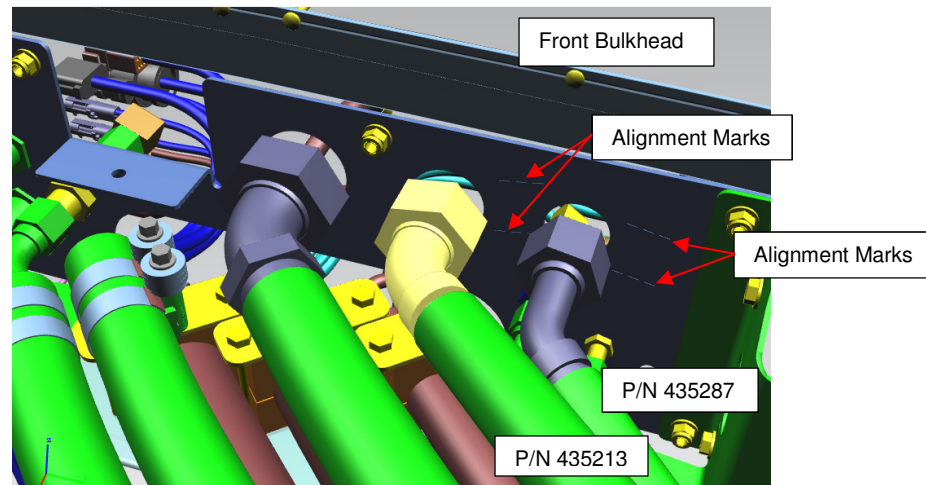


Figure 2A & 2B: Bulkhead Hose Fitting Alignment Marks.

Replacement of A/C Hoses if Necessary.

8. Turn the main battery disconnect switch to the “OFF” position.
9. Remove the false ceiling inside the articulated joint area of the bus. Refer to Section 7.3 of the Articulated Joint chapter in the Maintenance Manual for removal procedure.

⚠ WARNING: Evacuate the A/C lines prior to disconnecting from the bulkhead connectors. Refer to the Thermo King Maintenance Manual for procedure. Observe all safety precautions and environmental regulations.

10. Locate the center clamp that secures the center point of the hoses in the articulated joint. Mark all the hoses at the point where they pass through the clamp at the forward edge to facilitate re-assembly later.
11. Remove the bulkhead covers to access the copper lines behind the bulkheads. Use a backup wrench on the nuts on the copper lines to prevent damage due to twisting when the hoses are being removed.

12. Locate hoses NF P/N 435213, P/N 435287. Disconnect these hoses at the front and rear bulkheads of the articulated joint.
13. Locate the orings inside the connectors at the bulkheads. Replace them with new orings. The -16 oring is NF P/N 010630 and the -20 oring is NF P/N 010629.

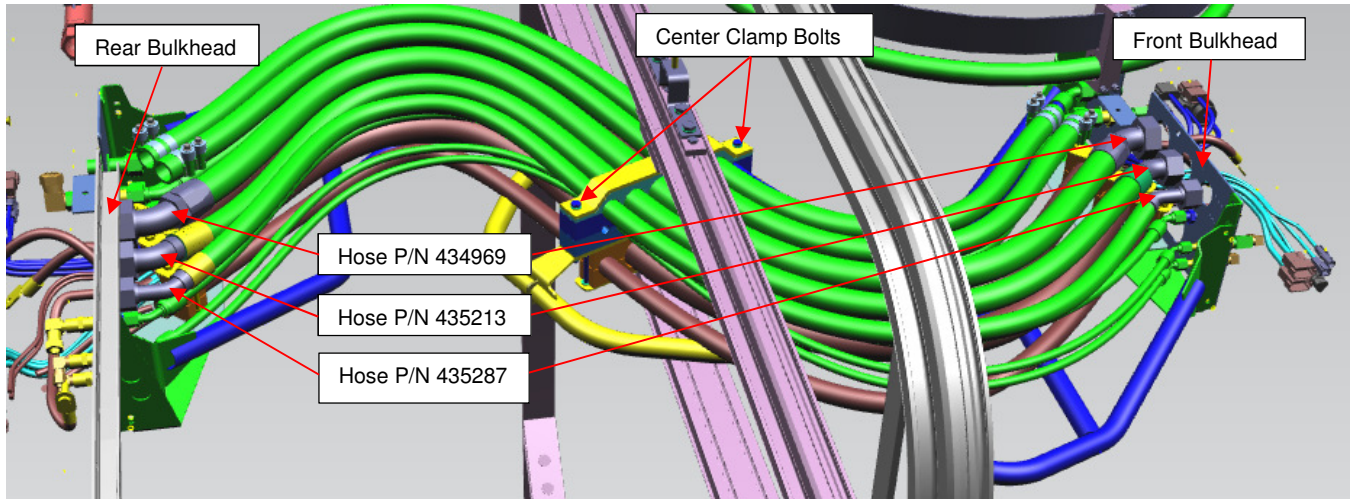


Figure 3: Artic Joint Hoses Viewed from Above.

14. Remove the bolts that secure the two halves of the center clamp and loosen the center bolt so the two hoses can be removed.
15. Lay out the new replacement hoses NF P/N 435213, P/N 435287 on a table and mark the point where the hoses will be clamped by the forward edge of the center clamp.

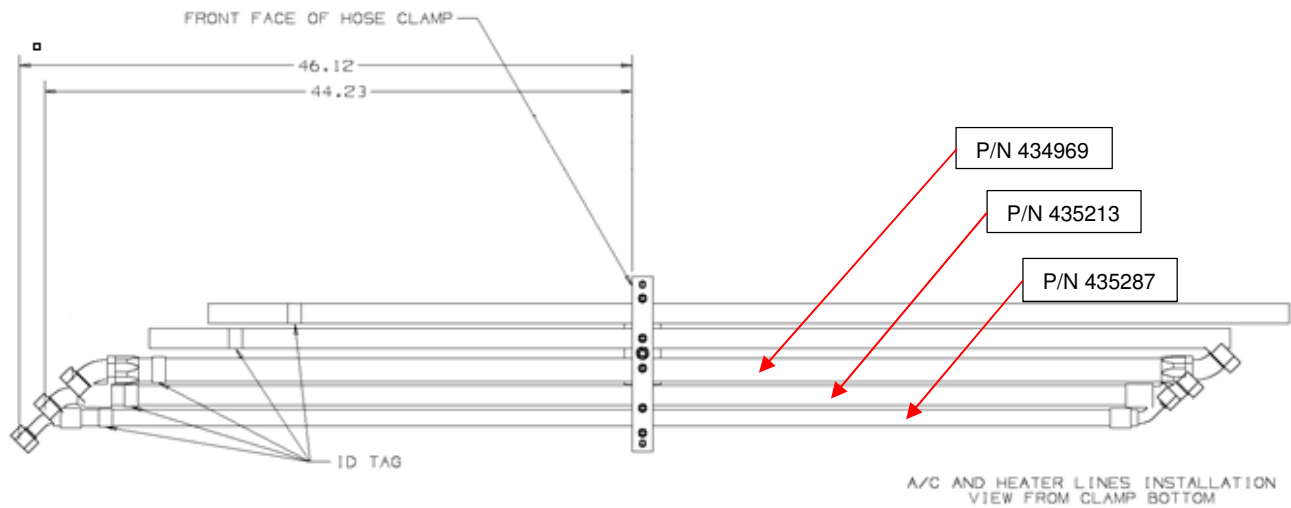


Figure 4: Locations to Mark A/C Hoses.



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16. Install the new replacement hoses in their respective positions in the center clamp, aligning the marks with the forward edge of the center clamp. Reinstall the center clamp end bolt but leave the bolts loose.
17. At the forward bulkhead, reconnect the hoses to their respective connection points. Note that there are alignment marks on the bulkhead for orienting hose P/N 435213 & P/N 435287. Figure 3.
 - a. The alignment marks for hose P/N 435213 are 10 deg upward from horizontal.
 - b. The alignment marks for hose P/N 435287 are 10 deg downward from horizontal.

NOTE: It is important that the hose fittings are oriented correctly to prevent binding and interference of hoses which may result in damage due to pulling and chaffing when the artic joint moves through its range of motion.

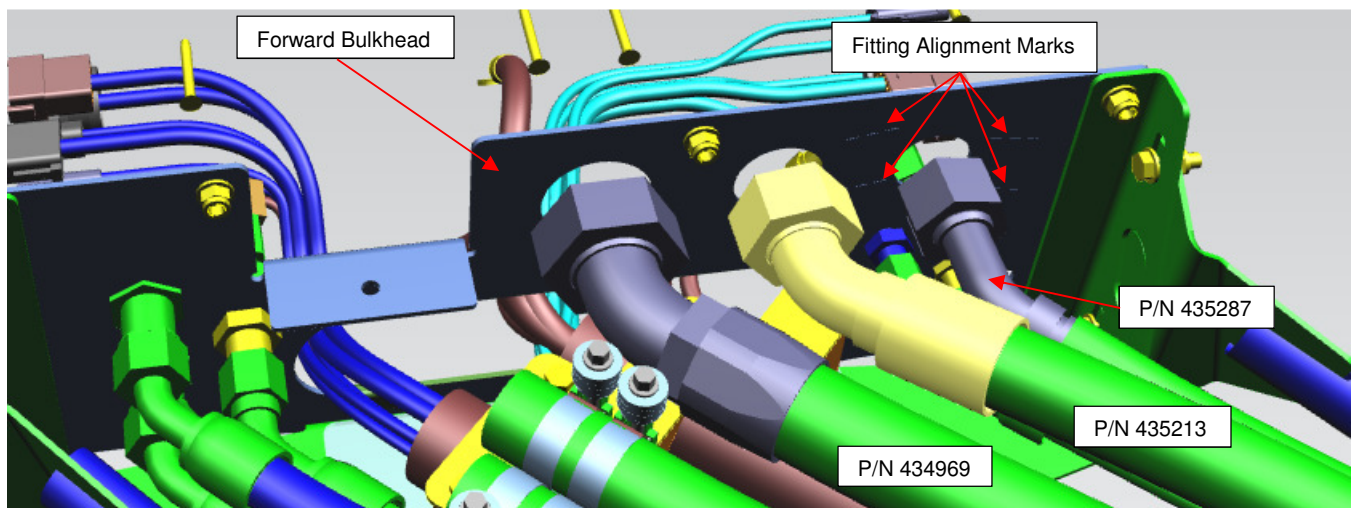


Figure 5: A/C Hoses & Alignment Marks at Forward Bulkhead.

18. At the rearward bulkhead, reconnect the hoses to their respective connection points. Note that there are alignment marks on the bulkhead for orienting hose P/N 435213 & P/N 435287. Figure 4.
 - a. The alignment marks for hose P/N 435213 are 10 deg downward from horizontal.
 - b. The alignment marks for hose P/N 435287 are 10 deg upward from horizontal.

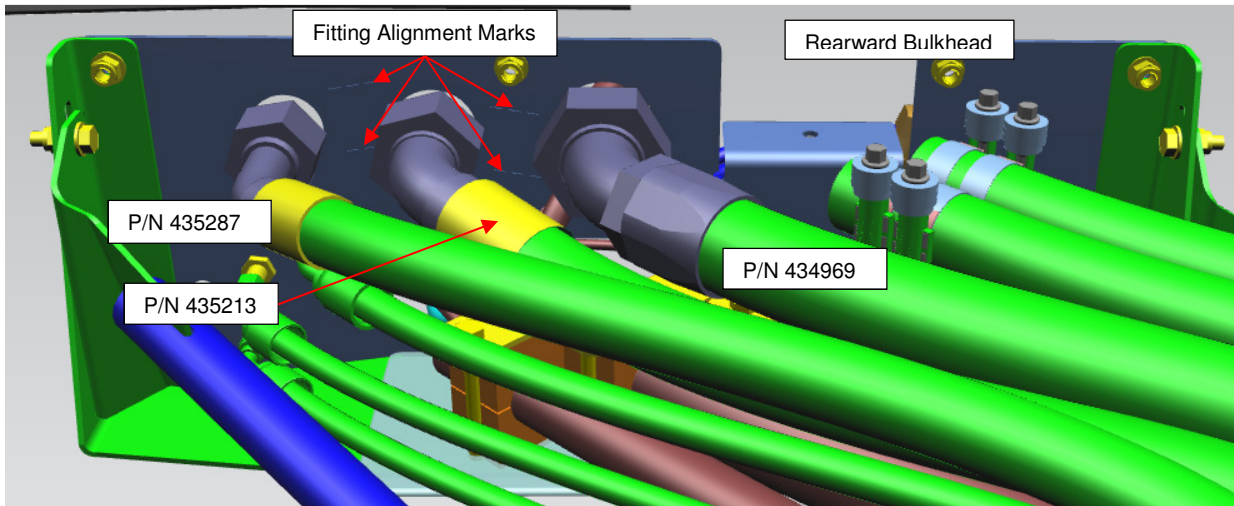


Figure 6: A/C Hoses & Alignment Marks at Rearward Bulkhead.

19. Torque all the hose fitting nuts to spec. Figure 7. Take care that the hose fittings do not rotate and remain aligned with the marks on the bulkheads.

Figure 7: ARTIC JOINT HOSE TORQUE SPECIFICATIONS

DESCRIPTION	TORQUE
P/N 435213	125 – 140 FT - LBS (WET)
P/N 435287	92 – 100 FT - LBS (WET)

20. After installation, cover exposed connections on hose P/N 435213 with Butyl Cork Tape NF P/N 022973.
21. Ensure that all the hoses are correctly positioned at the center clamps using the alignment marks applied previously then torque the bolts on the ends of the center clamp to 15 ft-lb (20 Nm).
22. Replace the dehydrator (drier) unit with a new unit NF P/N 6316018. The Dehydrator is located in the ceiling at the forward end of the front carriage ahead of the condenser. There is an access hatch in the ceiling adjacent to the SDS box. Refer to Thermo King Maintenance Manual for procedure.
23. Recharge A/C system. Refer to Thermo King Maintenance Manual for procedure.
24. Re-install the false ceiling inside the articulated joint area of the bus. Refer to Section 7.3 of the Articulated Joint chapter in the Maintenance Manual for installation procedure.
25. Remove all tools and debris and return the bus to service condition.
26. Turn the main battery disconnect switch to the “ON” position.



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LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Inspect & if Necessary Replace A/C Hoses.	1	5.0	5.0

PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	435213	ASSY – HOSE REFRI - STAR – 16 FL86.77	1	EA	If Necessary
2	435287	ASSY – HOSE REFRI - STAR – 20 FL86.44	1	EA	If Necessary
3	022973	TAPE BUTYL - CORK	2.5	FT	If Necessary
4	6316018	DEHYDRATOR	1	EA	If Necessary
5	010630	ORING 16	2	EA	If Necessary
6	010629	ORING 20	2	EA	If Necessary

SPECIAL TOOLS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	N/A	A/C Refrigerant Recharging Equipment			