



INSTRUCTION TO SERVICE

ITS: 5396	
SECTION:	405 Artic Joint
WRITTEN BY:	Jermie Marasigan
SUBJECT:	Remove and replace Artic Joint A/C Hoses

ITS5396


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PROCEDURE:

COACH PREPARATION

1. Park the coach on a flat surface with parking brake applied before proceeding with the rework of the Artic Joint A/C hoses.
2. Turn the main battery disconnect switch to the "OFF" position.
3. If required, evacuate Freon from the A/C compressor discharge and suction service valve. Recover the Freon from the system using a recovery machine to transfer Freon to recovery tank.

 **NOTE:** Have a certified HVAC Technician pump down refrigerant out of the system prior to removing of Articulated joint A/C hoses. Ensure that the HVAC Freon system was completely pumped down before removing A/C hoses.

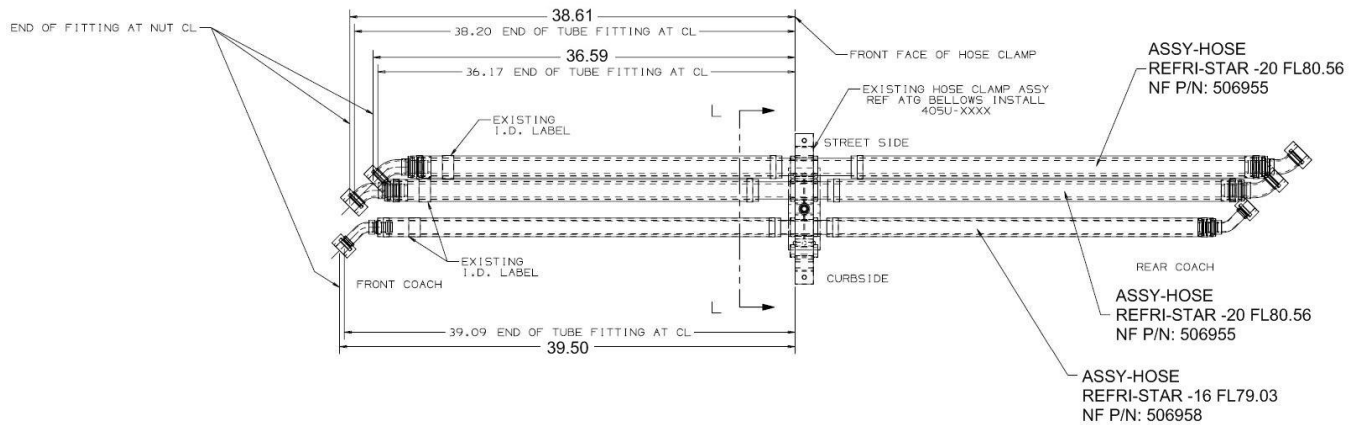
4. Remove the interior ceiling bellows from the Articulation Joint.
5. Remove the bellows support cross brace.

 **WARNING:** TEE nuts located in the slots on the cross brace extrusion have to be secured to prevent them from falling out.

6. Suitably masked off the interior of the articulation joint with plastic sheeting to prevent refrigerant oil spill on the coach seats.
7. Remove the large flat steel hose support plates from the bulkhead on the front and rear coaches.
8. Remove the black plastic wear plate from the spider hose assembly.
9. Open the artic joint hinged interior close-out access panels.
10. Mark the hoses and harness current position with paint marker or equivalent before disassembly. This will serve as a reference during re-assembly.
11. Remove the two long M8 bolts on the outside ends of the artic hose hanger mount bracket, the hose hoop support and M12 center bolt lock nut and then remove the lower part of hose clamp assembly.
12. Remove the existing -20 A/C hoses Discharge and Suction hoses NF P/N: 428671 and -16 Liquid line hose NF P/N: 275016. Discard all 3 old A/C hoses.

NEW A/C HOSES AND AIR LINE 45° ELBOW INSTALLTION

13. Measure and mark the new A/C hoses clamping location as per Figure 1. Marked lines will be positioned on the front side of the hose clamp assembly during installation.
14. Wrap the middle of all the A/C hoses on the clamping location with Strip-Hose Spacer NF P/N: 436098 and secure wrap using electrical tape NF P/N: 5962260.



A/C HOSE INSTALLATION

Figure 1: NEW A/C HOSES FRONT SIDE DIMENSION SETTINGS

15. Position all the new A/C hoses Re-assemble the hoses and harness on the center clamp making sure that the marked lines are positioned on the front side of the clamp. See Figure 2 for reference.

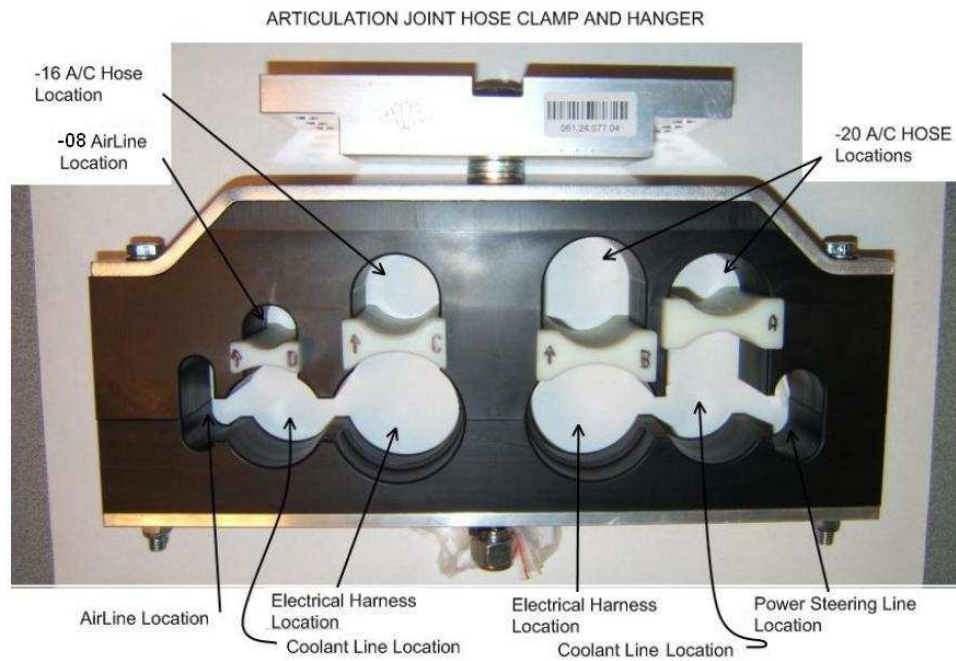


Figure 2: HOSES AND HARNESS POSITION

16. Install hose hoop support bracket. See Figure 3.

- a. Secure the support bracket to the hose clamp assembly using the existing M8 X 125 LG bolts, washers and lock nuts. Torque to 20 ± 2 Ft-lbs.

⚠ WARNING: Make sure that the hoses have not moved from their original marked position in the plastic clamp assembly.

- b. Torque the M12 locknut to 15 ± 5 Ft-lbs. (The hose clamp assembly must rotate freely on the center pivot bolt).



Figure 3: HOSE SUPPORT HOOP INSTALLATION

17. Install the new A/C hoses Discharge and Suction hoses NF P/N: 506955 and Liquid line hose NF P/N: 506958 on front and rear bulkhead as shown in Figure 4.

- a. Clean both of the existing -20 ORFS and -16 ORFS bulkhead fittings on the front and rear bulkhead.
- b. Use new O-rings NF P/N: 010629 on the -20 hoses and O-rings NF P/N: 010630 on the -16 hoses.
- c. Lubricate the O-rings with compressor oil.

☞ NOTE: Ensure to apply clean compressor oil of the same type used inside the system to O-ring.

- d. Connect the swivel fittings on the front and rear bulkhead and **torque the -20 hose fittings to 125 to 140 Ft-lbs and -16 hose to 92 to 100 Ft-lbs.** Use back-up wrench to avoid twisting of hoses when tightening.

☞ NOTE: The -20 hoses NF P/N: 506955 should be installed on the “Front” bulkhead slightly angled 10° upward and the -16 hose NF P/N: 506958 should be installed slight angled 10° downward. See Figure 5.

☞ NOTE: The -20 hoses NF P/N: 506955 should be installed on the “Rear” bulkhead slightly angled 10° downward and the -16 hose NF P/N: 506958 should be installed slight angled 10° upward. See Figure 6.

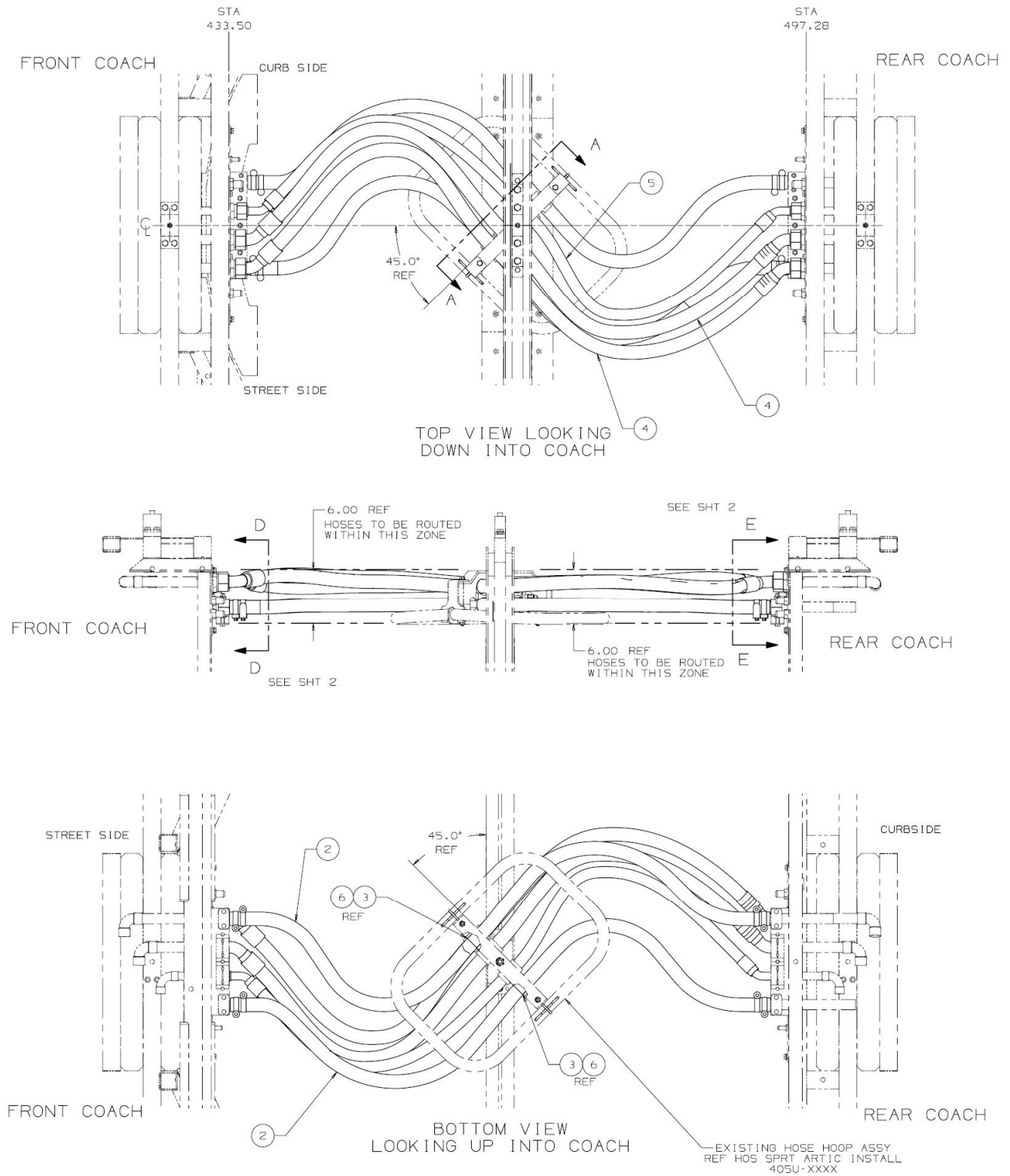


Figure 4: NEW A/C HOSES INSTALLATION

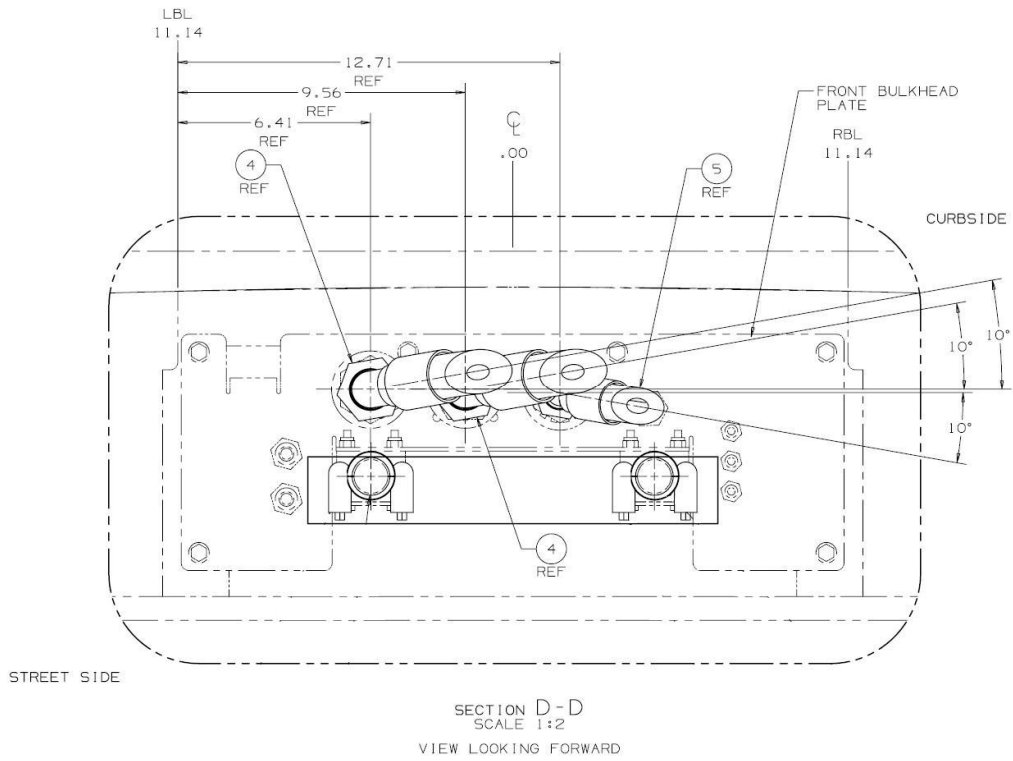


Figure 5: NEW A/C HOSES INSTALLATION FRONT BULKHEAD

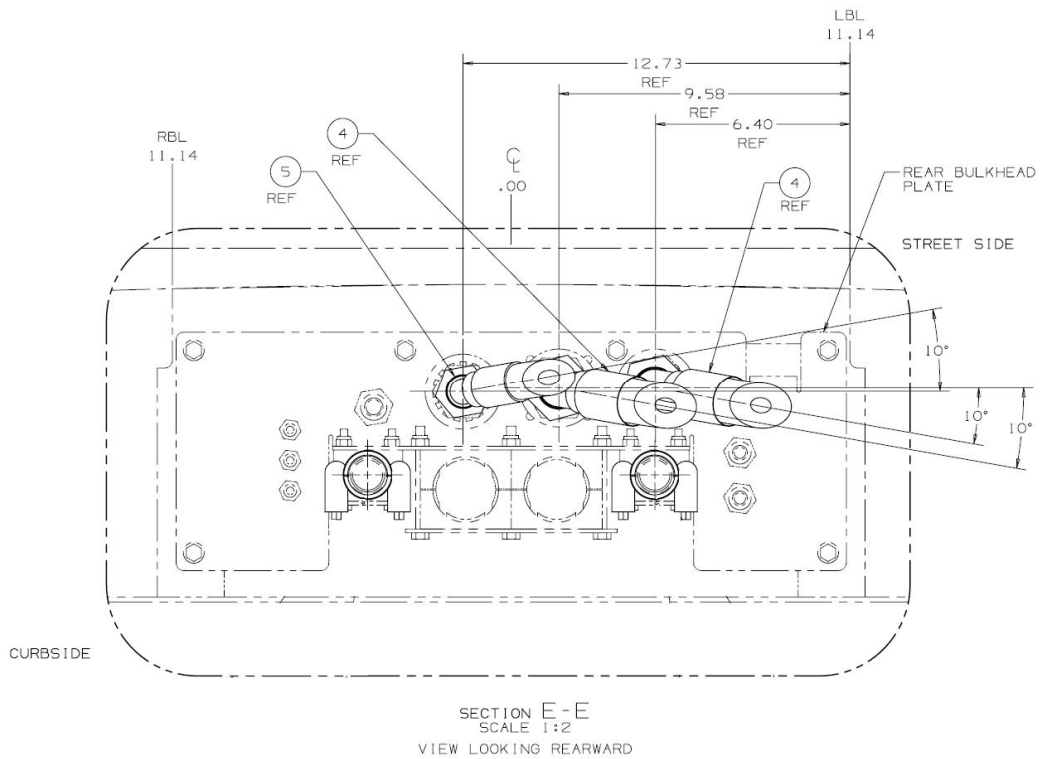


Figure 6: NEW A/C HOSES INSTALLATION REAR BULKHEAD

⚠ WARNING: Ensure to drain all air tanks prior to disconnecting air lines. High pressure air can cause serious injury.

18. Disconnect air line fitting only on the front bulkhead and install additional 45° elbow NF P/N: 507263 and then re-install air line as shown in Figure 7. Torque fittings to 57 to 62 Ft-lbs.

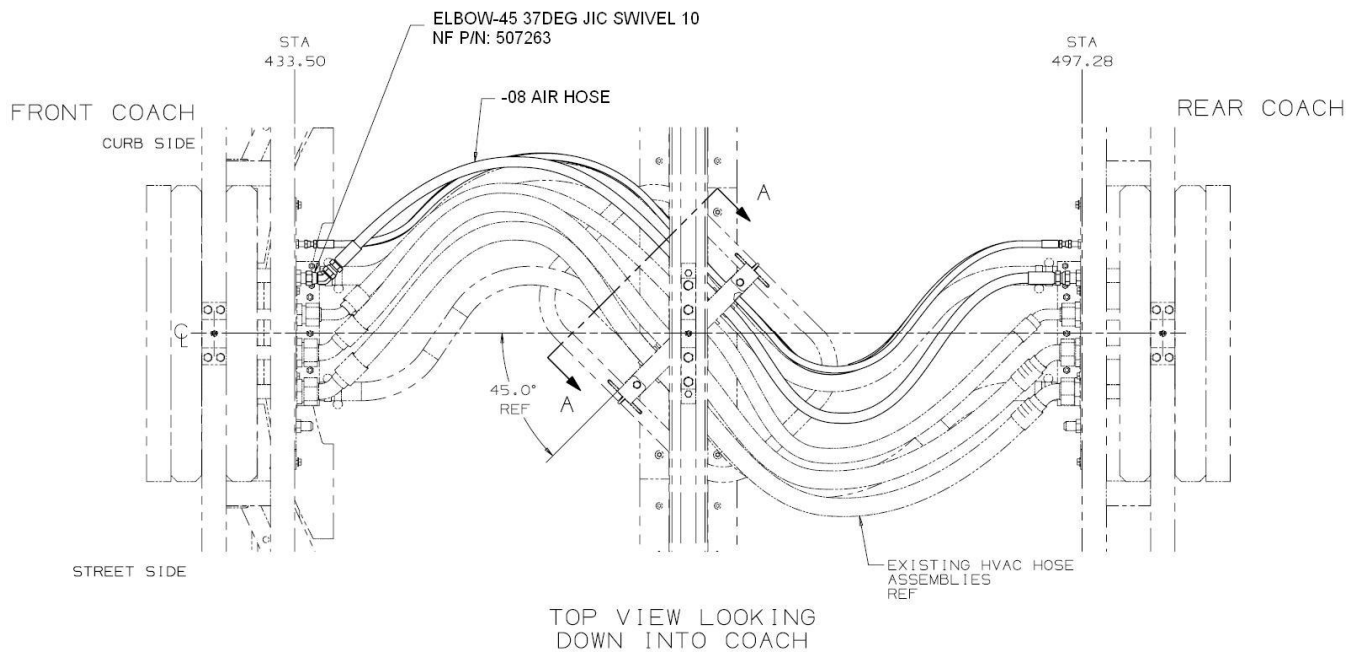


Figure 7: AIR LINE ADDITIONAL 45° ELBOW FRONT BULKHEAD

RECHARGE A/C SYSTEM WITH REFRIGERANT

🔧 NOTE: Have a certified HVAC Technician recharge the system with refrigerant.

19. Evacuate the whole A/C system. Once the proper vacuum level is attained (500 microns), continue the evacuation for another 30 minutes. Isolate the vacuum pump and monitor the vacuum level. If the vacuum level remains below 1500 microns for 5 minutes, the system is ready to be charged.
20. Recharge HVAC system with specified refrigerant to appropriate level.
21. Turn the main battery disconnect switch to the "ON" position.
22. Run the system, verify that the line sight glass is free of bubbles and perform unit pre-trip to ensure that it is operating properly.
23. Turn the main battery disconnect switch to the "off" position.
24. Install the two large flat stainless steel plate on the front and rear bulkhead using the existing 5/16" bolts, washer, and lock nuts.

25. Install the black plastic wear plate using tywraps. See Figure 8.

 **NOTE:** Locking part of zip tie should be oriented on the top of the wear plate.



Figure 8: BLACK PLASTIC WEAR PLATE INSTALLATION

26. Re-position plastic protective looms.

27. Re-install the bellows support cross brace.

28. Re-install the interior ceiling bellows on the Articulation Joint and close the artic joint hinged interior close-out access panels.

29. Turn the main battery disconnect switch to the "ON" position.

30. Return the coach back to service.



NEW FLYER

LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Remove and replace Artic Joint A/C Hoses	1	8.0	8.0

PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	010629	-20 O-RING	4	EA	
2	010630	-16 O-RING	2	EA	
3	436098	STRIP-HOSE SPACER 5.0 LG	5	EA	
4	506955	ASSY-HOSE REFRI-STAR-20 FL80.56	2	EA	
5	506958	ASSY-HOSE REFRI-STAR-16 FL79.03	1	EA	
6	5962260	TAPE-ELECTRICAL, .75 WIDE	0.01	EA	
7	507263	ELBOW-45 37DEG JIC SWIVEL 10	1	EA	
8	6316018	DEHYDRATOR	1	EA	