



INSTRUCTION TO SERVICE

ITS: 5229	
SECTION:	231 Cooling System
WRITTEN BY:	Mike Pearson
SUBJECT:	Replace surge tank steel fittings with brass

ITS5229

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PROCEDURE:

1. Turn the main battery disconnect switch to the “OFF” position.
2. Open side surge tank access door and locate surge tank pressure relief valve.
3. Before proceeding either let the bus cool down so the surge tank is warm to the touch or use the existing pressure relief valve to drain all the built up pressure from the surge tank.
4. Remove the p-clips (2 places) that support the hose assy from between the surge tank and the remote radiator cap and set aside for reuse. Cut and discard any tyrapts that are securing the hose assy to other hose assemblies or frame structure. See Figure 1.
5. Remove existing hose assembly (NF p/n 431607) from between the surge tank and the remote radiator cap and discard, See Figure 1.
6. Remove existing hose assembly (NF p/n 427005) from between the surge tank and the coolant site glass gauge and discard. See Figure 1.
7. Remove existing 90° elbow (NF p/n 6400125, 2 places) and 45° elbow (NF p/n 8410370) from the top of the surge tank and discard. See Figure 1.

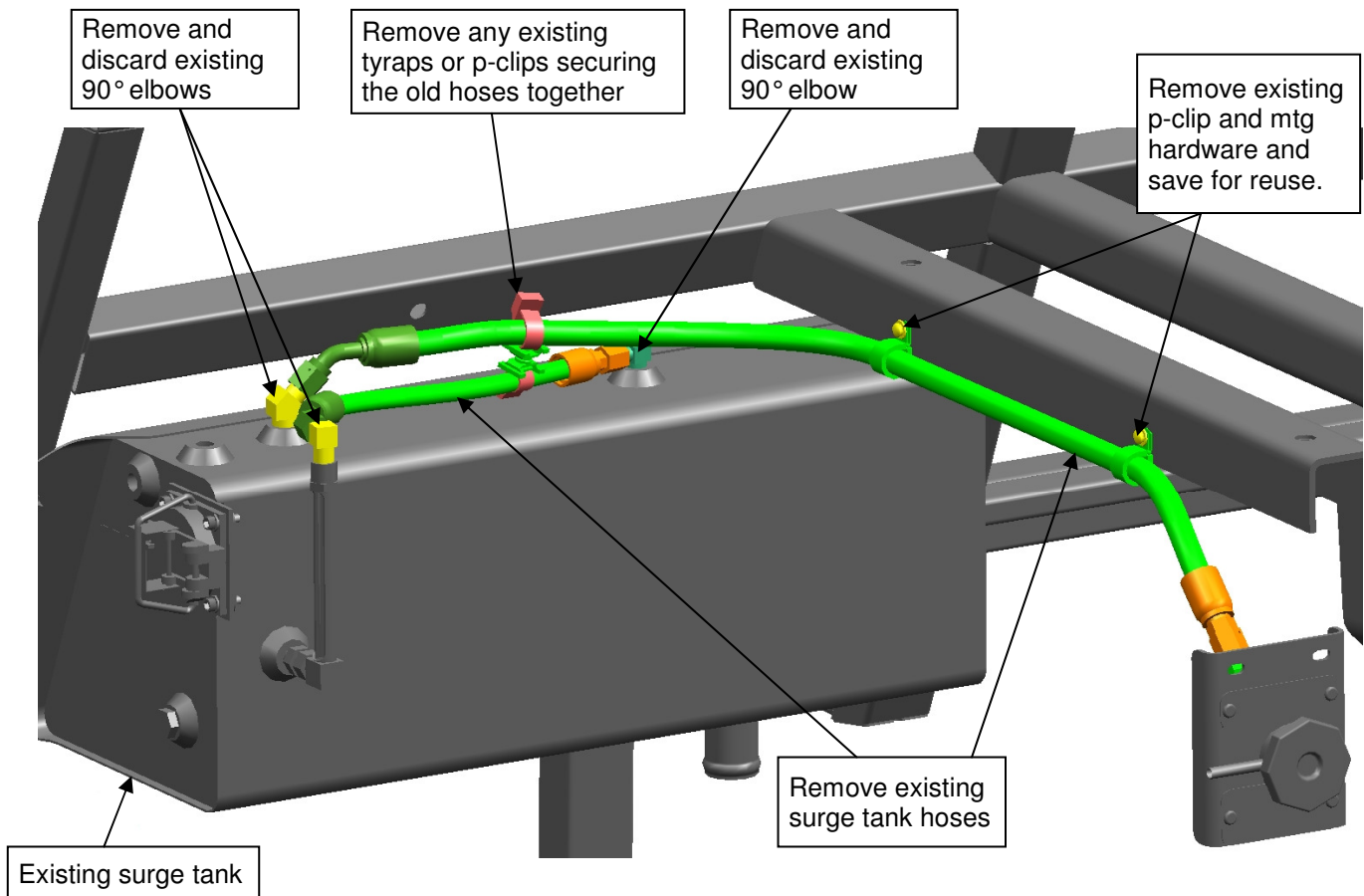


Figure 1: Remove Surge Tank Hose Assemblies



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8. Remove existing 90° elbow (NF p/n 434955) and 45° elbow (NF p/n 215210) from the remote radiator cap assembly and discard. See Figure 2.

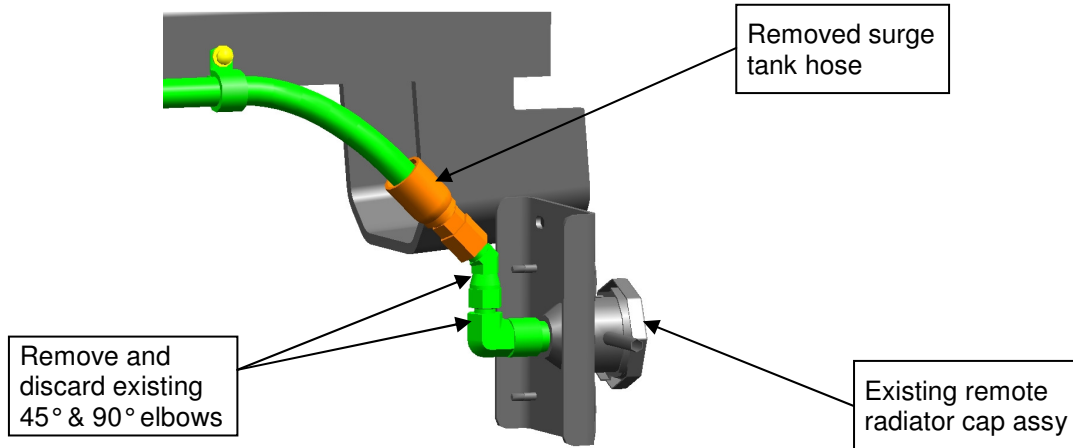


Figure 2: Remote Radiator Cap Fittings

9. Fitting installation:
 - a. Inspect the threads to be sure they are not damaged or contain slivers, burrs, dirt or other contaminants.
 - b. Apply thread sealant p/n 8110442 evenly, without air pockets, around the circumference of the thread, leaving the first 1/2 to 1 1/2 threads unpasted and extend to completely cover a minimum of the next three threads. **Note: Threads supplied with Vibra-Seal coating (red dry seal) do not require additional thread sealant.**
 - c. Install the fitting finger tight.
 - d. Apply two full turns past finger-tight.
10. Install new 90° elbows (NF p/n 216632, 2 places) as per Step 9, into the threaded surge tank ports. Locate and orient as shown, See Figure 3.

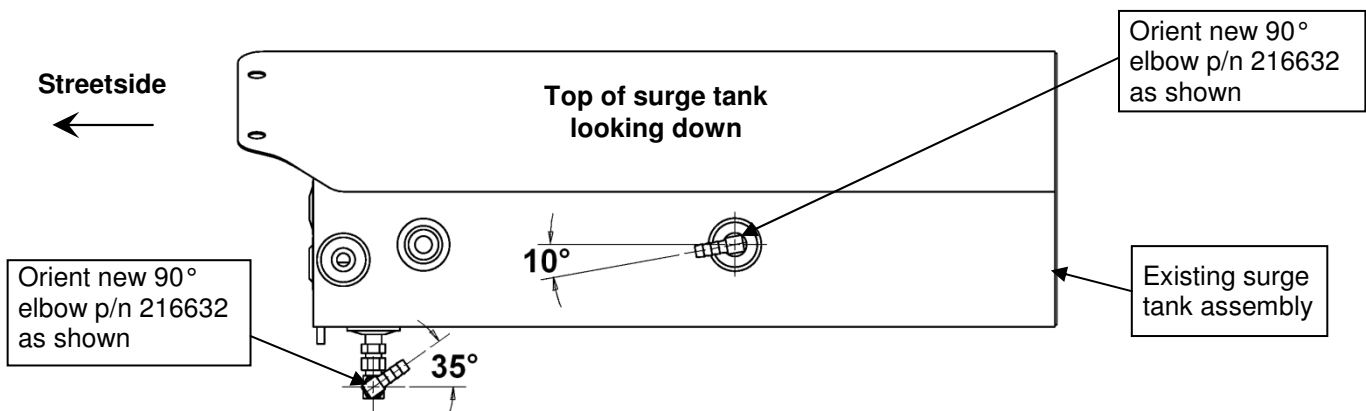


Figure 3: Surge Tank Fitting Installation

11. Measure and cut (approx. length 13") new hose (NF p/n 376677) and install between 90° elbows installed in Step 10. Secure using clamps (NF p/n 131322, 2 places), torque to 10-15 in*lbs. See Figure 3.

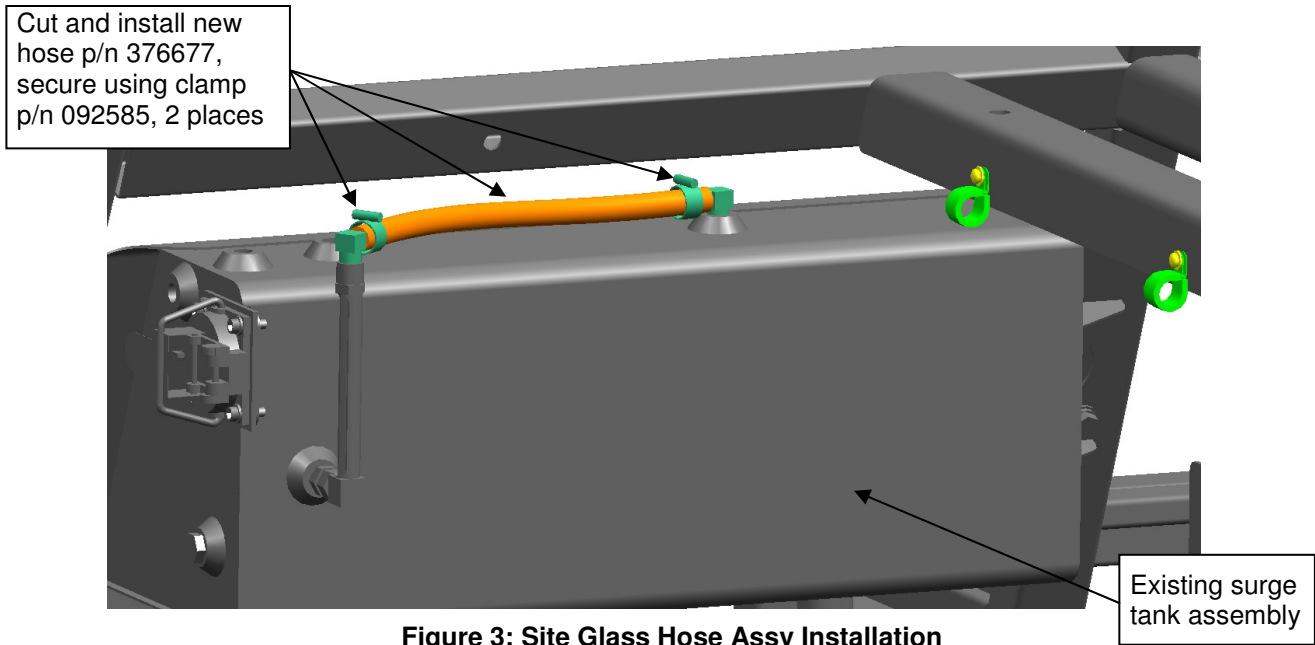


Figure 3: Site Glass Hose Assy Installation

12. Install new 90° elbow (NF p/n 269553) as per Step 9, into the threaded surge tank port. Locate and orient as shown, See Figure 4.

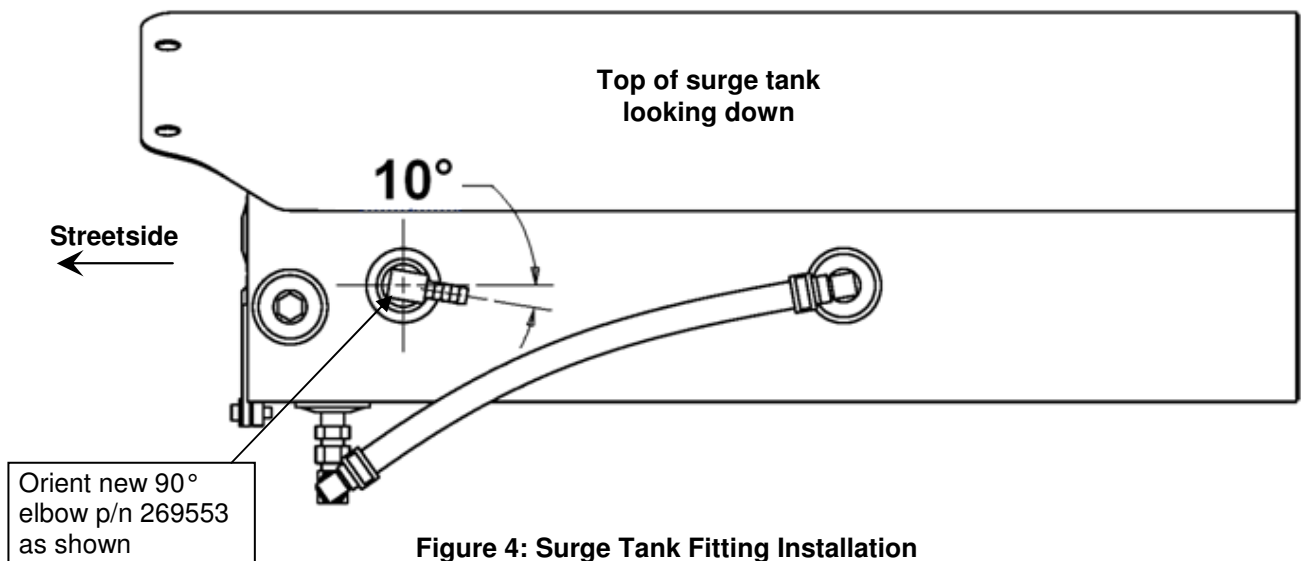


Figure 4: Surge Tank Fitting Installation



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13. Install new 90° elbow (NF p/n 269553) as per Step 9, into the threaded remote radiator plate assembly port. Locate and orient straight up (12 o'clock), See Figure 5.

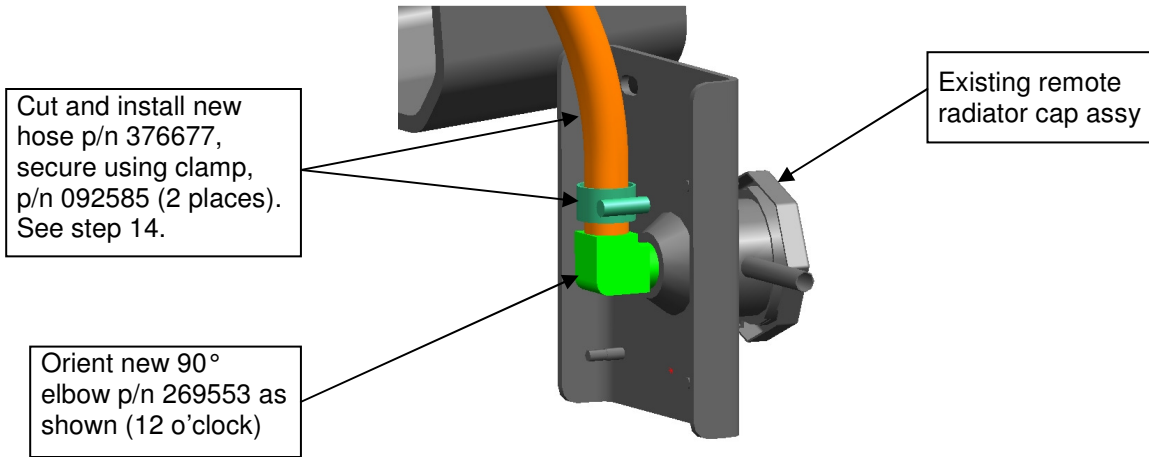


Figure 5: Remote Radiator Fitting & Hose Installation

14. Measure and cut (approx. length 40") new hose (NF p/n 376677) and install between 90° elbow on the top of the surge tank installed in Step 12 and the 90° elbow installed into the remote radiator plate assembly installed in Step 13. Secure using clamps (NF p/n 131322, 2 places), torque to 10-15 in*lbs. Wrap 24" of Therm-L-Wrap (NF p/n 165544) around the hose starting from the remote radiator cap end. Secure hose and wrap to frame at the same locations and using the same hardware that was removed in Step 4. See Figure 6.

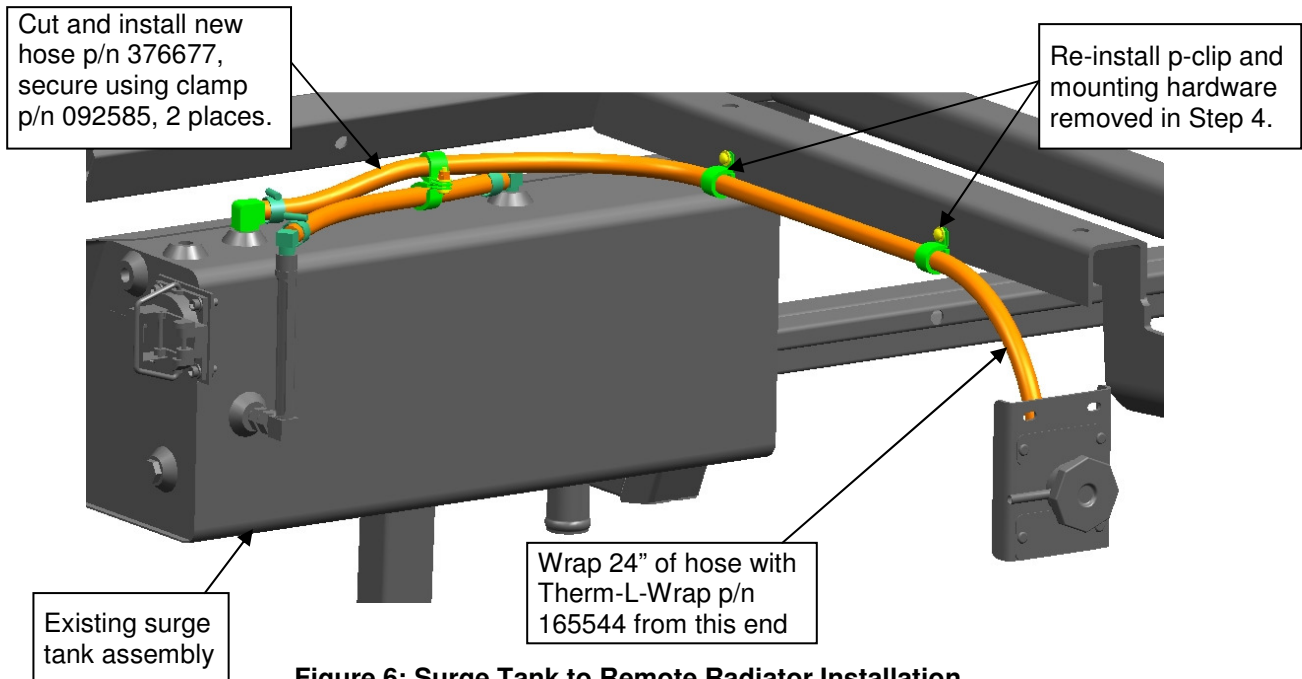


Figure 6: Surge Tank to Remote Radiator Installation



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15. Secure the new hoses together using p-clip (NF p/n 092585, 2 places), Flat Washer (NF p/n 10W00000, 2 places), Screw (NF p/n 14S00012) and Lock Nut (NF p/n 40N00000). See Figure 7.

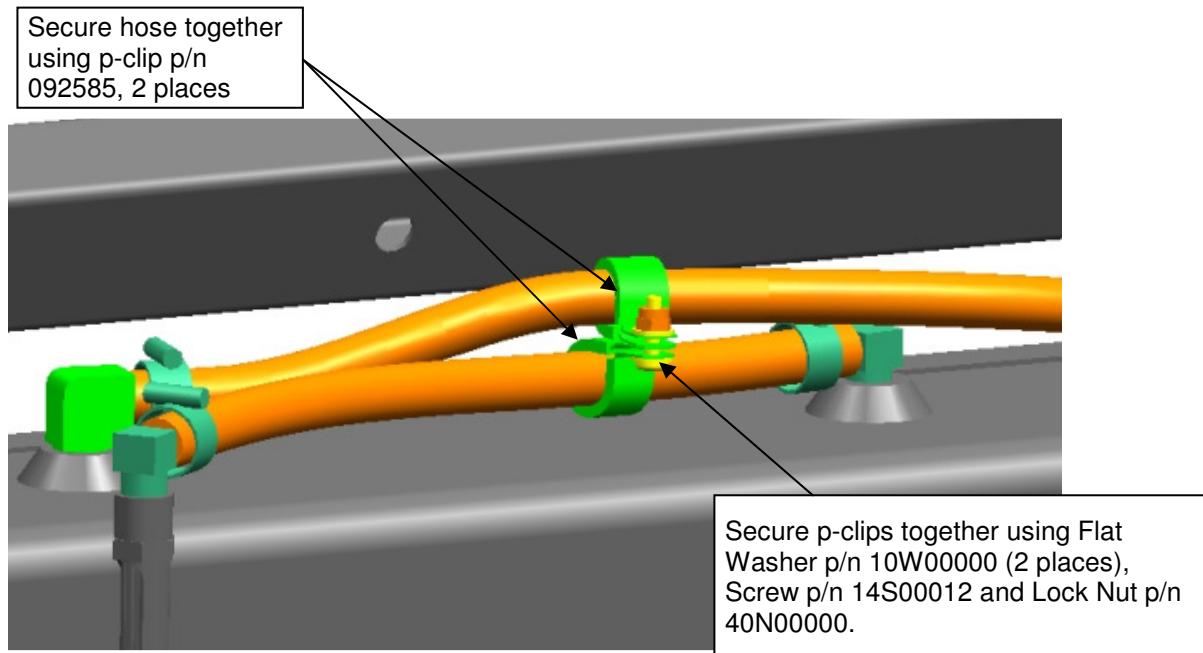


Figure 7: P-Clip Hoses Together To Secure

16. Close side surge tank access door.
17. 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	Replace surge tank steel fittings with brass	1	1.0	1.0

PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	216632	Barb-Hose 1/4 x 3/8 ID	2	EA	
2	376677	Hose-EH225-06 Silicone	4.5	FT	
3	131322	Clamp-Breeze .44 x .78	4	EA	
4	269553	Elbow-3/8 Barb x 3/8 NPT	2	EA	
5	092585	Clamp-P 0.625	2	EA	
6	10W00000	Washer-Flat #10	2	EA	
7	40N00000	Locknut-Hex #10	1	EA	
8	14S00012	Screw-PH 10-24unc x 3/4	1	EA	
9	165544	Loom-Therm-L-Wrap 1"	.5	EA	
10	8110442	Loctite 567 - Thread Sealant	.02	EA	

SPECIAL TOOLS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	N/A	N/A	N/A	N/A	