



SPARTAN CHASSIS, INC.

CSB06-270-001

December 2006

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CAMPAIGN SERVICE BULLETIN

SUBJECT: Cooling - System Fill

APPLIES TO: Certain Spartan ME2 Chassis having a VDM (Vehicle Date of Manufacture) of December 2, 2005 through May 16, 2006.

CONDITION: Cooling system fill rate is too slow.

CORRECTION: Reroute system fill line.

**PLEASE READ THE ENTIRE BULLETIN BEFORE PROCEEDING WITH ANY WORK.
CONTACT SPARTAN CHASSIS IF THERE ARE ANY CONCERNS WITH THE PROCEDURES
CONTAINED IN THIS DOCUMENT.**

PART / SERVICE INFORMATION:

Labor Time: 4.0 Hrs.

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	S-1768-001	Kit-Cooling System Filling
As needed	81801 or equivalent	Pipe Sealant w/Teflon

Kit #S-1768-001 Contains:

<u>QTY.</u>	<u>Part Number</u>	<u>Description</u>
1	0716-MM5-P02	Elbow - 1/4" NPT.
1	0716-MM5-RR05	Hose Mender-3/4"
1	S464SSG22	Loop Clamp # 22
1	0260-LL2	Support-Hose
1	0716-MM5-QQ06	Fitting-3/4" hose bead to 1/2" NPT male
1	0716-MM5-VV09	Fitting-90° 3/4" hose bead to 3/4" NPT male
1	0716-MM5-UU04	Cap-1/2" NPT female
5	0182-BB1-001	Clamp, liner 0.56-1.06
5	3504	Clamp, 0.21-0.78
3.0 ft.	0724-MM5-PP03	36" Hose-3/4" ID coolant Nova
20	T-120RO	Cable tie-15"
2	06160100FH8Y	Bolt-3/8"-16 X 1.00" Lg. Flg. Hd. Grade 8 Yel.
2	0616FLN8Y	Lock Nut -3/8" Flg. Grade 8 Yel.
1	0432-FF3-001	Rubber- Masticated
1	CSB06-270-001	Document Instructions

Technical Service Bulletins are intended for use by Professional Technicians only. They are written to guide Professional Technicians in performing service to vehicles of product specific nature in conjunction with industry standards. Professional Technicians are appropriately trained on industry standards and have the tools and equipment to perform procedures safely and properly.



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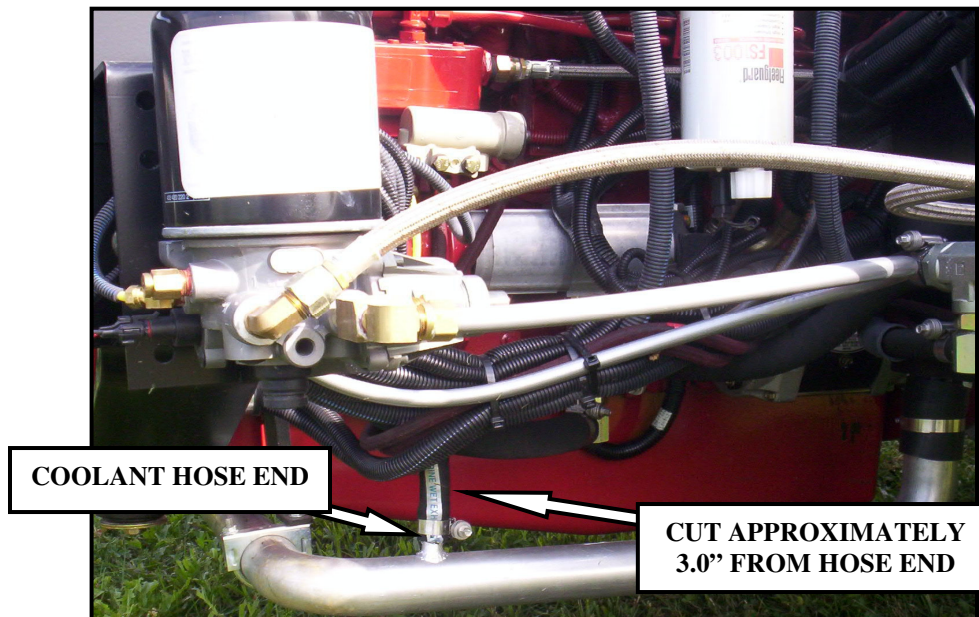
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STEP BY STEP INSTRUCTIONS:

1. Observe all industry standards and secure vehicle for rerouting of coolant fill hose.
2. Drain coolant system and retain to refill cooling system.
3. Refer to FIG. 2-1. Cut coolant hose approximately 3.0" from hose end.



Lower Water Tube

FIG. 2-1

4. Assemble pipe cap to 3/4" hose bead. Tighten cap.
Note: Apply 81801 pipe sealer w/Teflon or equivalent to pipe threads only.
5. Refer to FIG. 3-1. Install one hose clamp onto hose attached to lower coolant tube and insert hose bead/cap assembly from step # 4 into open end of hose on water pipe. Tighten clamp.
6. Refer to FIG. 3-2. Using the 3/8" bolt/nut, attach the hose support to the forward side of the cross member, forward of the engine with the short leg of the support facing toward the engine, using an existing hole in the cross member and secure.

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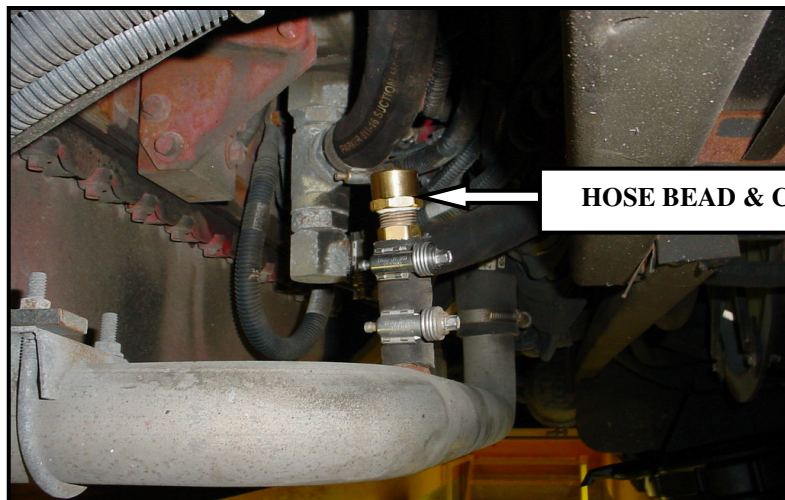
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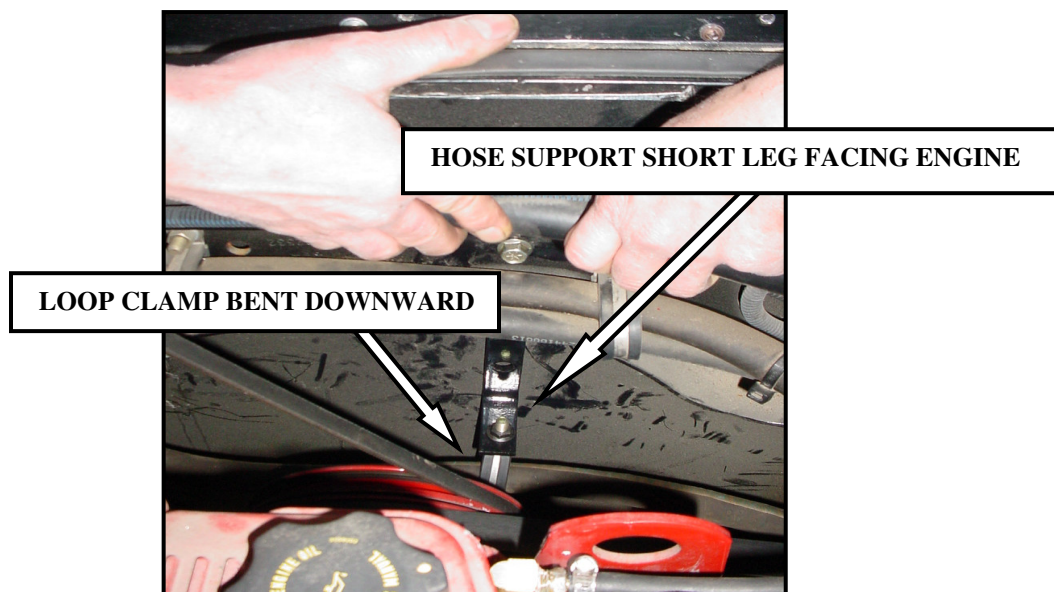
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Water Tube

FIG. 3-1



Installing Hose Support

FIG. 3-2

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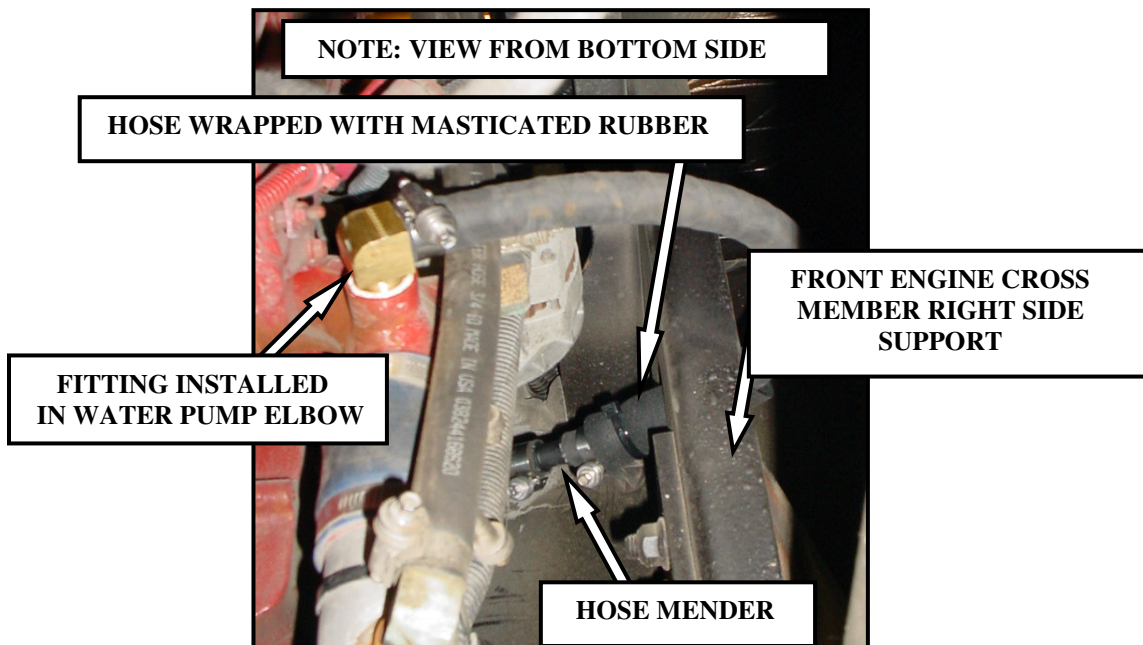
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7. Refer to FIG. 3-2. Route coolant hose (previously cut in step #3) across the front of the engine compartment attaching it by the loop clamp to the bottom side of the short leg of hose support installed in step #6. Secure with a 3/8" bolt/nut.
8. Refer to FIG. 4-1. Remove plug from the rear of water pump inlet elbow and install the 90° 3/4" hose bead to 3/4" NPT male fitting. Point hose bead away from engine and slightly upward as shown.

Note: Apply 81801 pipe sealer w/Teflon or equivalent to pipe threads only.



Hose Shown Routed through Hole in Front Engine Cross Member

FIG. 4-1

9. Refer to FIG. 4-1. From the 3/4" I.D. hose supplied in kit cut a piece long enough to reach from the end of the coolant hose routed in step #6, through the hole in the front engine cross member right hand support, around the rear of the support and into the fitting installed in step # 8 in the water pump elbow.
10. Install a new hose clamp on one end of the new hose and install hose on fitting in water pump elbow. Tighten clamps.

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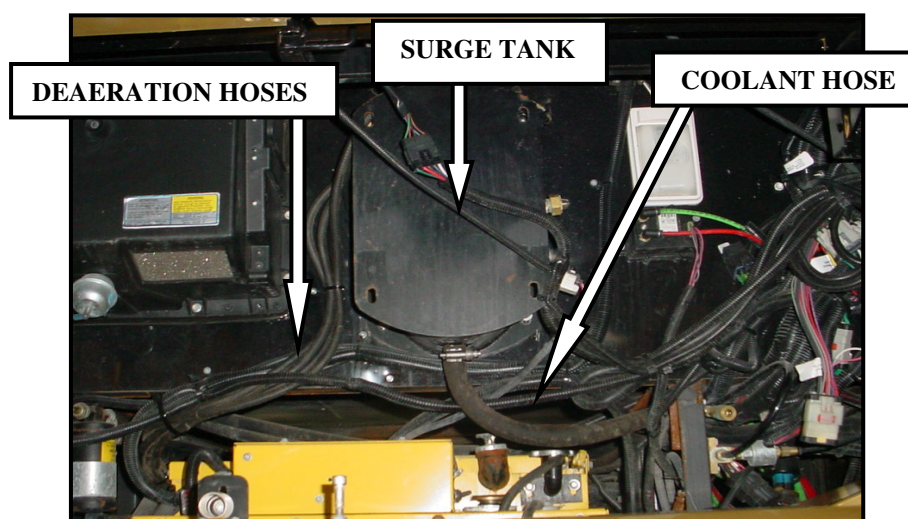
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11. Refer to FIG. 4-1. From the piece of masticated rubber supplied in the kit cut a piece large enough to wrap around the end of the new coolant hose twice. Wrap the rubber around the hose twice and secure with cable ties as shown. Insuring that it is positioned where the hose passes through the hole in front engine cross member support.
12. Attach the new hose to the original coolant hose using the hose mender and two new clamps from kit. Tighten clamps.
13. Refer to FIG. 3-2. Bend loop clamp on hose support down as necessary to gain clearance with engine pulley.

Note: Coolant hose must slope downward from the point where it enters the engine compartment to the water pump elbow.

14. Refer to FIG. 5-1. Disconnect the coolant hose from the bottom of the surge tank and remove the hose from the inside of the passenger side frame rail and cross member above the front axle.



Surge Tank and Deaeration Hoses

FIG. 5-1

15. Refer to FIG. 6-1. Route cooling hose through upper section of driver side frame rail to surge tank. Run hose on the top of existing hose and wiring bundle taking care to avoid humps and dips. Secure hose to bundle with cable ties.

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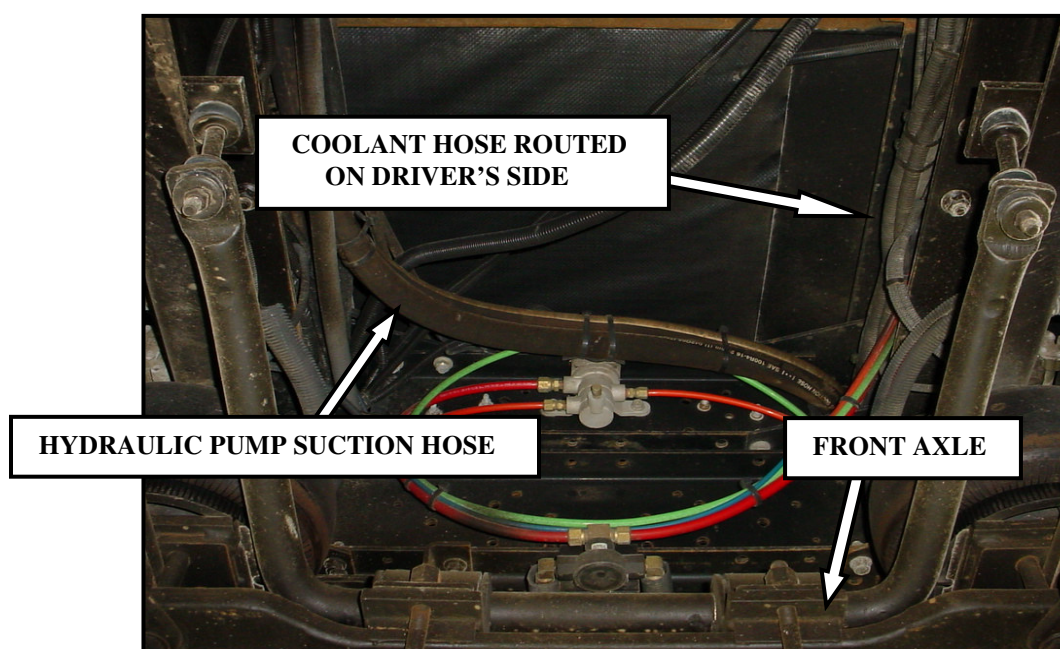
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16. Refer to FIG. 6-1. Secure hydraulic pump suction hose with cable ties insuring that it is not rubbing.
17. Cut coolant hose to length, slide clamp onto hose and connect to the surge tank. Tighten clamp. Use remaining masticated rubber at all chafing points securing with cable ties.



Routing of Coolant Suction Hose Driver's Side / Front
FIG. 6-1

18. Refer to FIG. 5-1. Inspect routing of deaeration hoses to surge tank insuring they are run in an uphill manor to the surge tank. Insuring there are no dips from the point it enters the raceway to the surge tank. If necessary shorten hoses and reattach them to the surge tank using new hose clamps. Tighten clamps. Secure hoses with cable ties provided in kit.
19. Refer to FIG. 7-1. Locate deaeration hose port on head of engine. Disconnect hose from fitting. Remove fitting from port and save for reuse. Install 1/4" NPT elbow fitting into port with female thread pointing sideways between water outlet elbow and engine lifting bracket. Install hose fitting previously removed into female thread of elbow fitting. Shorten deaeration hose and reattach it to hose fitting using new hose clamp. Tighten clamp.

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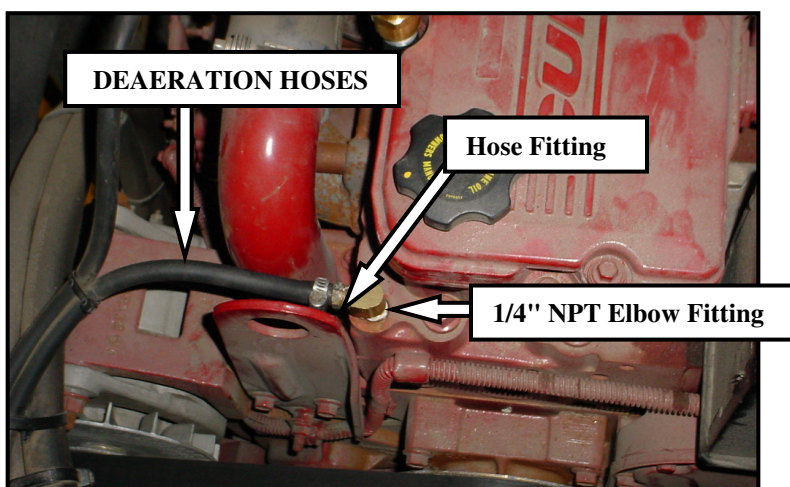
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Note: Apply 81801 pipe sealer w/Teflon or equivalent to pipe threads only.

20. Close drain cock on radiator and refill system. Run engine until thermostat opens while checking for leaks. Top off system.



Deaeration Hose Located on Head of Engine

FIG. 7-1

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