



BLUE BIRD

February 09, 2010

Dear Blue Bird Owner,

You will find enclosed a copy of Service Bulletin S10RD regarding the radiator internal transmission oil cooler on certain 2008 through 2010 model year Blue Bird "Vision" model buses equipped with 2007 emission engines and Allison 3000 PTS transmission.

The radiator internal transmission oil cooler located on the bottom of the radiator on affected units may crack or burst due to fatigue from high-pressure cycling. In the event this occurs, the mixing of engine coolant and transmission oil will result in eventual engine and/or transmission damage. The radiator internal transmission oil cooler (lower tank) must be removed and replaced according Service Bulletin S10RD. Copy attached.

Your buses affected by Service Bulletin S10RD are identified by Blue Bird body number on the enclosed cover sheet.

Time allowed to replace the radiator internal transmission oil cooler (lower tank), engine coolant and transmission oil is 3 hours per bus.

You will need to contact your Blue Bird dealer to obtain parts specified in Service Bulletin S10RD.

You should contact your Blue Bird dealer to arrange to have Service Bulletin S10RD performed. Or, if you prefer, you may perform Service Bulletin S10RD yourself or have it performed by a qualified repair facility convenient to you. A qualified technician must perform this bulletin. Blue Bird recommends that the actual disassembly/reassembly of the radiator/transmission cooler be performed by a qualified and appropriately equipped radiator repair facility.

Service Bulletin S10RD ends one (1) year from date of issue.

Should you have any questions concerning this bulletin, please contact your Blue Bird dealer.

Sincerely,

Bill Coleman
Engineering Services
Blue Bird Corporation
478-822-2242



Vision Transmission Oil Cooler

MODELS AFFECTED: 2008 through 2010 Blue Bird Vision

Equipped with Allison PTS 3000 Transmission Built February 1, 2007 through May 17, 2009

ISSUE

On affected buses, high pressure cycling may cause the internal transmission oil cooler of radiator assembly 00115577 to fatigue, resulting in transmission oil / engine coolant contamination.

CORRECTIVE ACTION

This procedure removes and disassembles the radiator assembly and replaces the internal transmission oil cooler with a new oil cooler (10016104).

PROCEDURE ALWAYS READ THE ENTIRE PROCEDURE BEFORE PERFORMING

WARNING Always follow all federal, state, local, and shop safety standards and use proper safety equipment when performing this procedure.

1 Secure the vehicle and prepare it for radiator removal:

- 1.1 Park vehicle on level surface. Apply the parking brake. Remove key and chock the wheels. Disconnect both positive and negative battery cables. Allow the engine to cool.

WARNING When disconnecting batteries, remove the negative cable first. When re-connecting batteries, connect the negative cable last.

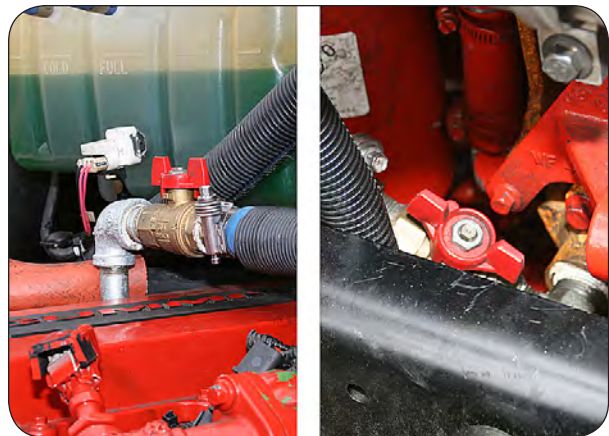
CAUTION Cover all openings in the engine, transmission, and radiator as they are opened. Plug all removed tubing, hoses and piping to prevent contamination.

- 1.2 Remove the drain plug from the bottom of the transmission and drain the transmission oil into a suitable container.
- 1.3 Disconnect the two transmission cooler hoses at the bottom of the radiator. Be prepared to contain oil leakage from the transmission cooler and hoses. Cap the open ends of the transmission hoses to prevent contamination of the hoses. Support disconnected hoses out of the way. Remove the 45° and 90° elbows and retain for reinstallation.

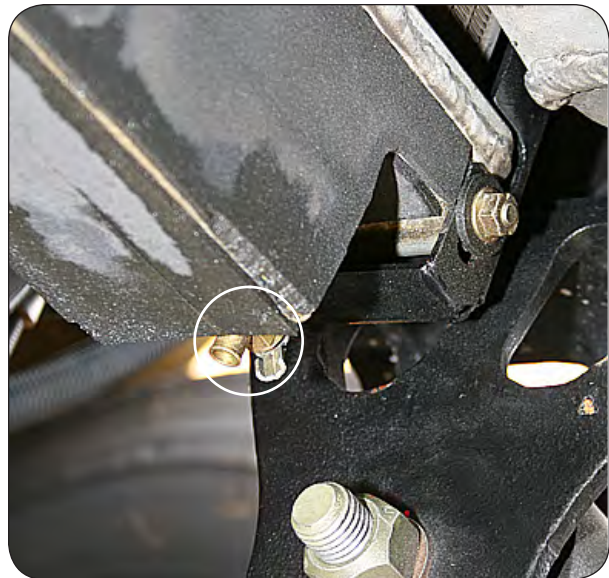


Transmission oil hoses

2 Open both heater circuit valves.

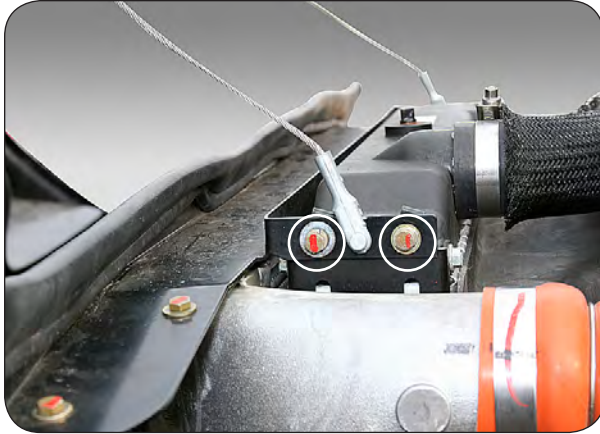


3 Drain the coolant from the petcock at the bottom of the radiator into an appropriate receptacle.

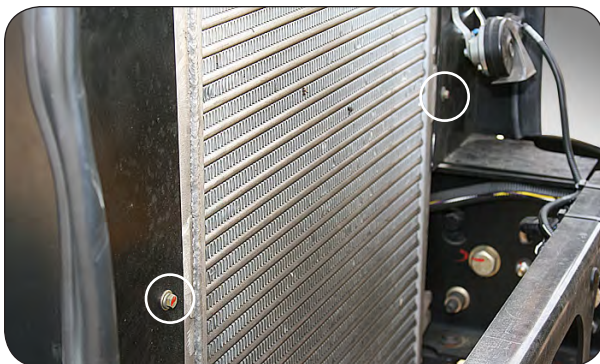


4 Remove the radiator assembly, as follows:

- 4.1 Open the engine hood to its fully upright position and support it securely so as to avoid damage to the shell when the stop cables are removed.
- 4.2 Remove the four bolts which mount the top radiator baffle to the top of the radiator.



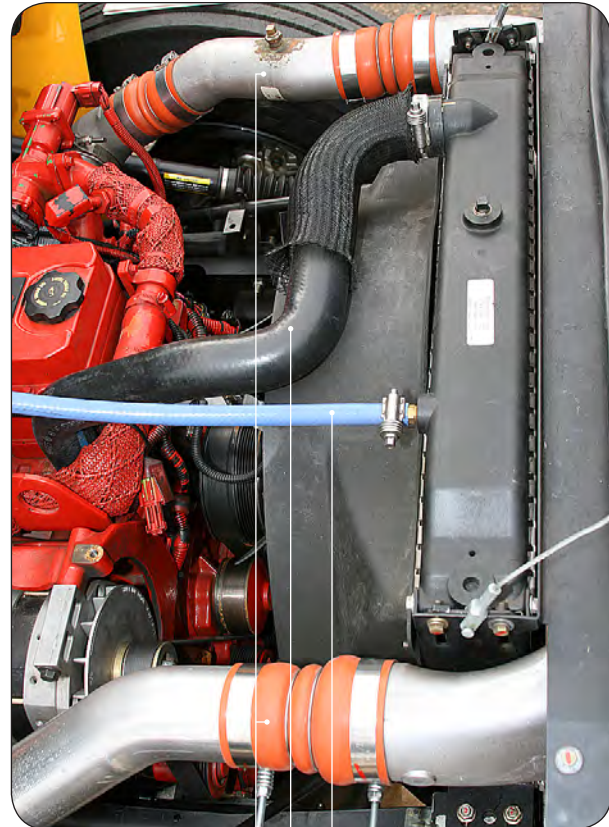
- 4.3 Remove the two bolts which mount the left and right radiator baffle panels to the front of the radiator.



- 4.4 Carefully lift the three radiator baffle panels (still assembled) out of the way.

- 4.5 Loosen the clamps of the right and left charge air cooler tubes and remove the tubes.

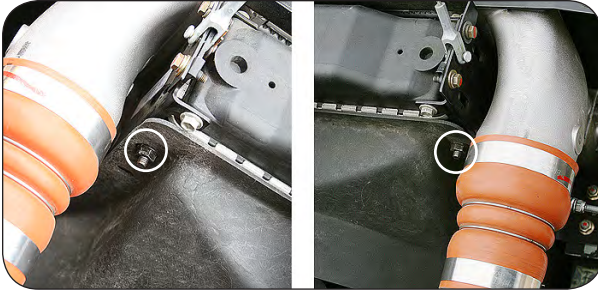
CAUTION Cover the ends of all open ports and tubing ends of the CAC system to prevent contamination.



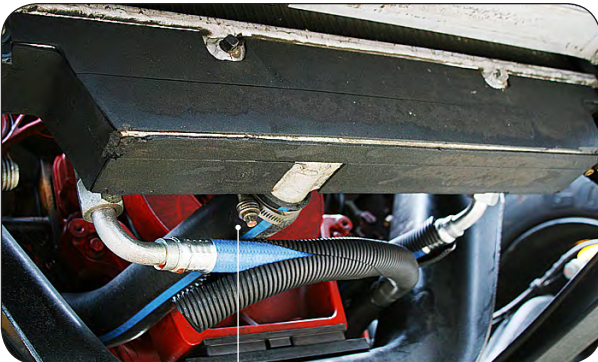
Charge air tubes
Top radiator hose
Vent hose

- 4.6 Disconnect the top radiator hose and the small vent hose from the top of the radiator. Secure the disconnected hoses out of the way.
- 4.7 If the vehicle is equipped with shutters, disconnect the shutter actuator air or oil line from the shutters actuator.

4.8 After removing all the hoses and piping, remove the four hex nuts at the corners of the fan shroud. Pull the shroud as far rearward (over the fan) as possible. Allow the shroud to hang over the fan blades.



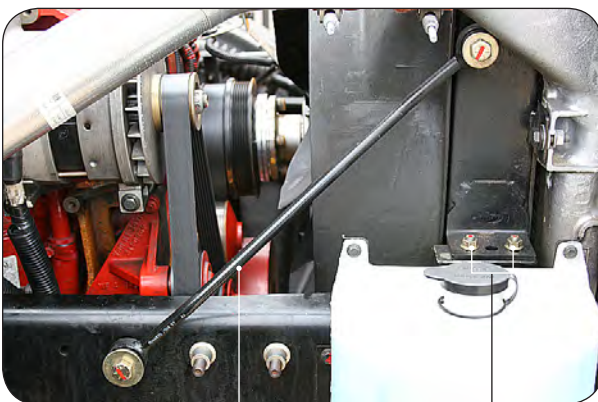
4.9 Remove the bottom radiator coolant hose.



Lower Coolant Hose

4.10 On each side of the radiator, remove the diagonal radiator support strut.

4.11 On each side of the radiator, remove the two nuts which secure the radiator to the rubber isolator blocks.

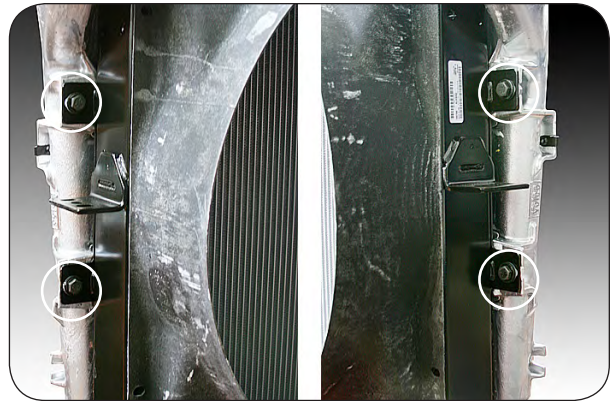


Diagonal Support Strut

Isolator Block Nuts

4.11 Using an overhead hoist, carefully lift the radiator clear of the frame rails. Ensure the fins on the radiator and charge air are protected.

4.12 On each side of the radiator, remove the two bolts which fasten the charge air cooler to the radiator. Set the charge air cooler aside in a safe place.



4.13 If the radiator is equipped with shutters, remove the shutters assembly.

5 Blue Bird recommends that the actual disassembly/reassembly of the radiator / transmission cooler be performed by a qualified and appropriately equipped radiator repair facility. Remove the lower tank from the radiator as follows:

5.1 Mount the radiator core and tanks carefully in a radiator assembly fixture.



- 5.2 Position the radiator with the bottom tank upward. Starting near the middle of the radiator's width and working toward the ends, use Johnson Tab Tool 414-01W to bend the crimp strip tabs upward approximately 90°.



- 5.3 Remove the two crimp strips and dispose of them. New crimp strips will be used for reassembly.



- 5.4 Carefully separate the plastic tank from the core. The fit is tight and may require some effort to remove. Avoid prying that may damage the sealing groove.



- 5.5 Remove and dispose of the sealing gasket.



- 5.6 Using a wire brush, clean away accumulated debris from the sealing groove and cooling tube ends.



- 5.7 Lubricate the new gasket with ethylene glycol, and set it carefully in place. Be careful to avoid twisting, cutting or otherwise damaging the gasket.



5.8 With the radiator core securely mounted in the assembly fixture, seat the new plastic tank against the gasket. The fit is tight. Use caution to avoid damage.



5.9 Install a new crimp strips to each side of the radiator sealing flange. Partially bending one or two tabs to help hold the strip in place is acceptable.

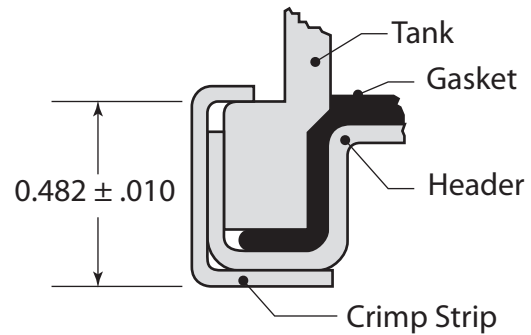


5.10 Using a plastic tank radiator repair fixture, apply uniform pressure to the tank to seat the tank and compress the gasket. Use extreme caution to distribute the clamping force evenly to avoid damage to the tank.

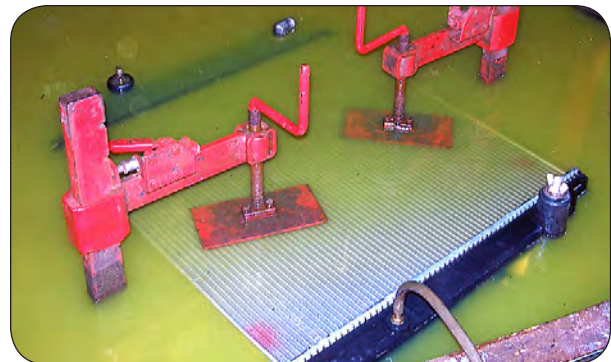


5.11 Starting at the center and progressing toward the ends, pre-crimp the tabs around the tank by partially bending each tab. This helps ensure uniform clamping while avoiding excessive localized stress.

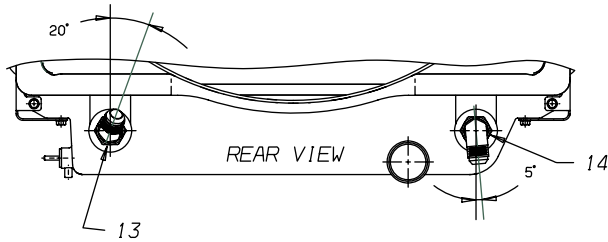
5.12 Bend each tab firmly against the plastic sealing flange. While proceeding, take measurements to ensure the crimping strip's height is within the tolerance indicated in the drawing below. Do not attempt to compress the gasket further; doing so risks cracking of the tank.



5.13 Test for leaks using air under water at 18 PSI.



6 Reinstall the radiator by reversing the removal procedure described in step 4. When reinstalling the transmission hose elbow fittings, orient them as shown below:



7 Refill the transmission with new Transynd fluid.

8 Referring to Service Update S1003 (included) perform the complete cooling system and heating system drain and refill procedure for the appropriate engine. Chemical flush is neither required by this procedure, nor is its cost covered by this Bulletin. Perform the chemical flush only if otherwise required.

TOOLS REQUIRED

- Johnson Tab Tool 414-01
- Radiator service fixture

PARTS

| PART NUMBER | QUANTITY | DESCRIPTION |
|-------------|--------------|--|
| 10016104 | 1 | Tank, Lower, Radiator ITOC, Service Part, BBCV |
| | 12.5 gallons | Coolant |
| 00102736 | 3 gallons | Fluid, Trans, Synthetic, Transynd |