BLUE BIRD

March 09, 2007

Dear Blue Bird Owner,

You will find enclosed a copy of Service Bulletin S07LJ regarding the engine cooling fan and shutter operation on your Blue Bird All American or "Vision" model bus(es) equipped with Cummins ISB-2 engines.

The current engine cooling fan and shutter operation permits the engine fan and shutters to operate simultaneously. This results in excessive cycling of the engine cooling fan and shutters. Service Bulletin S07LJ provides for the installation of thermo switches in the cooling system and charge air system to independently control the shutters.

Your buses affected by Service Bulletin S07LJ are identified by Blue Bird body number on the enclosed cover sheet.

Time required to perform Service Bulletin S07LJ is 2.hours per bus. A qualified repair technician should perform Service Bulletin S07LJ. Parts required are available from your usual Blue Bird Service Parts source.

Service Bulletin S07LJ expires one (1) year from date of issue.

Should you have any questions concerning this bulletin, please contact your Blue Bird distributor or factory service representative.

Sincerely,

Bill Coleman

Bill Coleman
Blue Bird Corporation

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BLUE BIRD

Shutter Operation BULLETIN

MODELS AFFECTED: *A3FE, BBCV, and BCCV with Cummins ISB02 Engines and Radiator Shutters*

S07LJ

SERVICE BULLETIN

ISSUE

The radiator shutters open at the same time the cooling fan engages, causing excessive fan run time and driver annoyance.

CORRECTIVE ACTION

This procedure installs a new sender and performs wiring changes to cause the shutters to open before fan engagement.

PROCEDURE FOR A3FE

WARNING ***Always follow all federal, state, local, and shop safety standards and use proper safety equipment when performing this procedure.***
Allow engine coolant to cool before performing this procedure.

CAUTION ***Engine coolant disposal is regulated by federal environmental policy. Dispose of used coolant properly.***

1 Secure the vehicle and prepare it for access to the needed areas:

1.1 Park vehicle on level surface. Apply the parking brake. Remove key and chock wheels. Disconnect the battery.

1.2 Remove the engine hood.

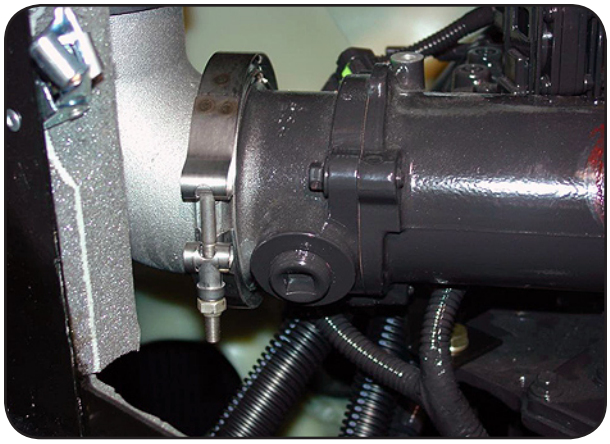
2 Drain approximately 3 gallons of engine coolant:

2.1 Close both heater cut-off valves.

2.2 Drain approximately 3 gallons of engine coolant into a clean container approved for coolant.

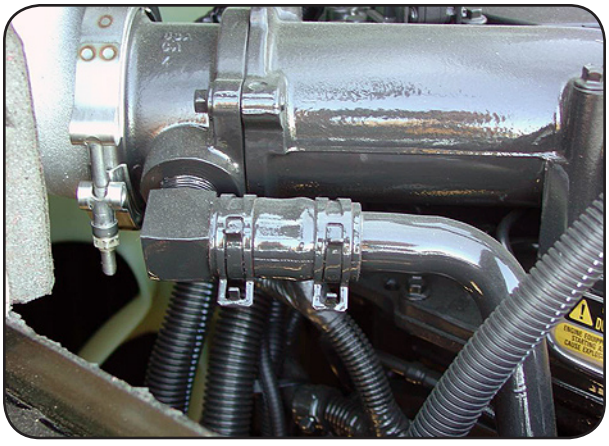
CAUTION ***If the drained coolant becomes contaminated it must be properly disposed of and replaced with 50/50 premix. Reuse of contaminated coolant can damage the cooling system and void the warranty.***

2.3 If the bus is equipped with hydraulic brakes, remove the pipe plug, and proceed to step 3.3.



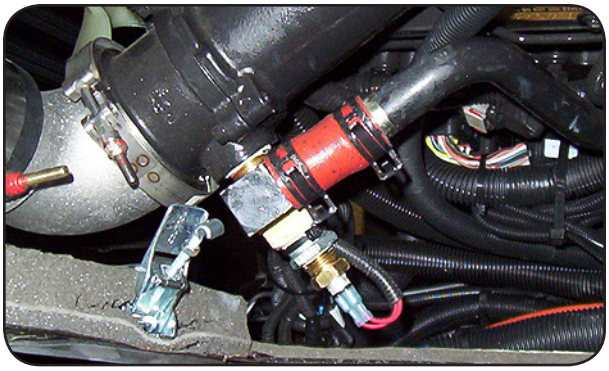
3 Install the provided fittings in the charged air cooler intake adapter:

3.1 Locate the charged air cooler intake adapter .



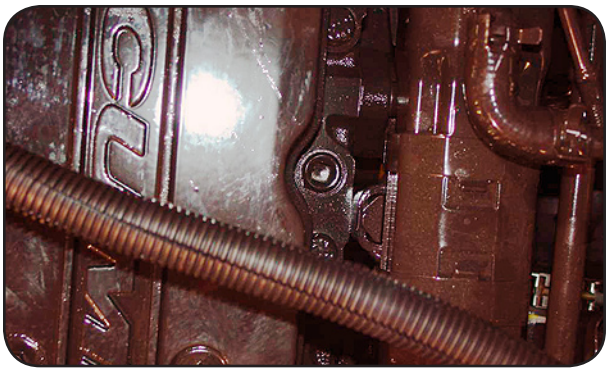
3.2 Remove the hose from the 90° elbow fitting on the intake adapter. Remove the 90° elbow fitting. Install in its place tee fitting 1640317. Install the removed 90° elbow fitting into the top side of the tee. Reconnect the hose.

3.3 Install bushing 2009074 into the side of the tee fitting. Install switch 0115376 into the bushing.

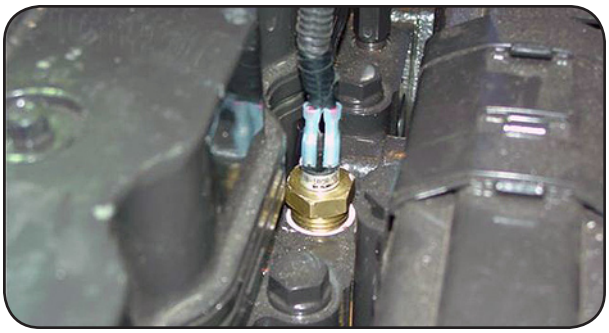


4 Install coolant temperature switch 0115375:

4.1 Locate the frontmost water jacket plug on the top right side of the engine.



4.2 Remove and discard the plug. Install coolant temperature switch 0115375, using Teflon pipe sealant tape.



5 Install the wiring for the new circuit. All wires added must be enclosed in .25" wire loom 1510775. Apply Glyptol to all the spade terminal connections made in the following steps:

5.1 On the engine harness, locate the Pink/Black wire 1133, which leads from PDU connector P15-J. This wire will serve as the ignition signal source for the new circuit.

5.2 Splice a Red 18 gauge wire into the Pink/Black wire 1133. Only splice into the wire. Do not disconnect either of its ends.

5.3 Cover the Red 18 guage wire with 1/4" wire loom. Lead it to the coolant temperature switch installed in step 4. Install a .25" female spade terminal onto the wire, and connect it to either of the switch's male terminal spades. Apply Glyptol to the connection.

5.4 Install a .25" female spade terminal onto another length of 18 gauge wire. Connect the terminal to the remaining spade of the coolant temperature switch, applying Glyptol to the connection. Cover the wire with .25" loom and route it to the charged air cooler temperature switch installed in step 3. Install a .25" female spade connector and connect to either of the spades of the switch. Apply Glyptol to the connection.

5.5 Install a .25" female spade terminal onto another length of 18 gauge wire. Connect the terminal to the remaining spade of the charge air cooler temperature switch, applying Glyptol to the connection. Cover the wire with .25" loom and route it to the existing connector on the shutter solenoid. To make the connection, remove the 2232 Yellow 16 gauge wire from cavity A. The yellow wire will not be used. Cap its terminal end with heat shrink tubing. Install a Packard terminal 1460930 onto the Red wire and connect it to cavity A.

6 Complete the installation:

6.1 Use cable ties to secure all the new wires and bundle any excess. Ensure that all new wires are securely attached to prevent their contacting any moving parts.

6.2 Replenish coolant with the uncontaminated coolant removed in Step 2, or with new 50/50 premix. Check for and correct any leaks. Perform bleed operation according to the instructions provided with this Bulletin.

6.3 Reinstall the engine cover assembly. Reconnect the battery. The procedure is complete and the bus may be returned to normal service.

PARTS FOR A3FE

PART NUMBER	QUANTITY	DESCRIPTION
1588607	4	Insulated spade terminal
1460930	1	Packard Terminal
0024076	10	Tie strap
(obtain locally)	12′	Red 18 gauge GXL wire
0036507	1	Heat shrinkable butt splice
0009737	1″	Heat shrink
0115375	1	Switch, Temperature, 180 deg
0115376	1	Switch, Temperature, 140 deg
0115373	1	Tee
2009074	1	Bushing, Reducer
1510775	12′	.25″ wire loom

PROCEDURE FOR BBCV AND BCCV

WARNING ***Always follow all federal, state, local, and shop safety standards and use proper safety equipment when performing this procedure.***
Allow engine coolant to cool before performing this procedure.

CAUTION ***Engine coolant disposal is regulated by federal environmental policy. Dispose of used coolant properly.***

1 Secure the vehicle and prepare it for access to the needed areas:

1.1 Park vehicle on level surface. Apply the parking brake. Remove key and chock wheels. Disconnect the battery.

2 Drain approximately 3 gallons of engine coolant:

2.1 Close both heater cut-off valves.

2.2 Drain approximately 3 gallons of engine coolant into a clean container approved for coolant.

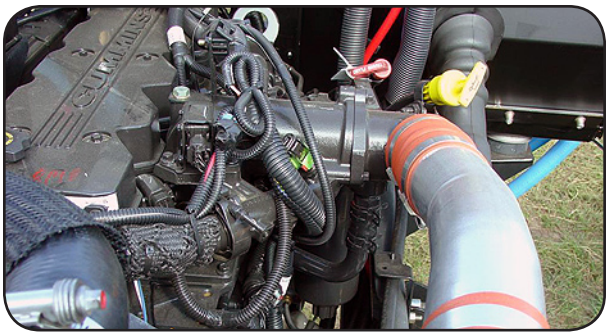
CAUTION ***If the drained coolant becomes contaminated it must be properly disposed of and replaced with 50/50 premix. Reuse of contaminated coolant can damage the cooling system and void the warranty.***

2.3 Open the engine hood.

3 Install the provided fittings in the charged air cooler intake adapter:

3.1 Locate the charged air cooler intake tube. Remove it, and replace with a new CAC tube 0116007. Torque spring clamps to 5 ft lb.

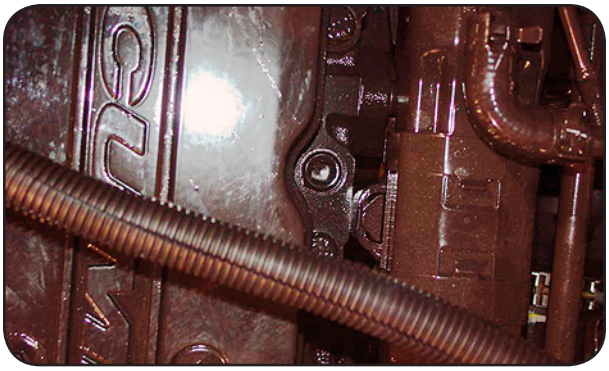
CAUTION ***Check installation of the charge air tube, hump hoses, and clamps carefully to ensure air tightness. Infiltration of air borne contaminates can severly damage the engine.***



4 Install charge air temperature switch 0115376 into the threaded fitting of the CAC tube, using Teflon pipe sealant tape.

5 Install coolant temperature switch 0115375:

5.1 Locate the frontmost water jacket plug on the top right side of the engine.



5.2 Remove and discard the plug. Install coolant temperature switch 0115375, using Teflon pipe sealant tape.

6 Install the wiring for the new circuit. All wires added must be enclosed in .25" wire loom 1510775. Apply Glyptol to all the spade terminal connections made in the following steps:

6.1 Install a 3/16" ring terminal onto a length of Red 18 gauge wire. Connect the ring terminal to the alternator exciter post, applying Glyptol to the connection. Cover the wire with .25" loom and route it to the coolant temperature switch installed in step 5. Install a .25" female spade connector and connect to either of the spades of the switch. Apply Glyptol to the connection.

6.2 Install a .25" female spade terminal onto another length of 18 gauge wire. Connect the terminal to the remaining spade of the coolant temperature switch, applying Glyptol to the connection. Cover the wire with .25" loom and route it to the charge air cooler temperature switch installed in step 4. Install a .25" female spade connector and connect to either of the spades of the switch. Apply Glyptol to the connection.

6.3 Install a .25" female spade terminal onto another length of 18 gauge wire. Connect the terminal to the remaining spade of the charge air cooler temperature switch, applying Glyptol to the connection. Cover the wire with .25" loom and route it to the existing connector on the shutter solenoid. To make the connection, remove the wire labeled B2-103 (BBCV) or AA-103 (BCCV) from cavity A. The removed wire will not be used. Cap its terminal end with heat shrink tubing. Install a terminal 1460930 (Packard 12077411) onto the Red wire and connect it to cavity A.

7 Complete the installation:

7.1 Use cable ties to secure all the new wires and bundle any excess. Ensure that all new wires are securely attached to prevent their contacting any moving parts.

7.2 Replenish coolant with the uncontaminated coolant removed in Step 2, or with new 50/50 premix. Check for and correct any leaks. Perform bleed operation according to the instructions provided with this Bulletin.

7.3 Reinstall the engine cover assembly. Reconnect the battery. The procedure is complete and the bus may be returned to normal service.

PARTS FOR BBCV & BCCV

PART NUMBER	QUANTITY	DESCRIPTION
1588607	4	Insulated spade terminal
1460930	1	Packard Terminal
0024076	10	Tie strap
(obtain locally)	12'	Red 18 gauge GXL wire
0009737	1"	Heat shrink
	1	3/16" Insulated ring terminal
0115375	1	Switch, Temperature, 180 deg
0115376	1	Switch, Temperature, 140 deg
0116007	1	Tube, CAC to Intake w/ shutters
1510775	12'	.25" wire loom

PROCEDURE FOR BLEEDING THE HEATER SYSTEM

WARNING ***Always follow all federal, state, local, and shop safety standards and use proper safety equipment when performing this procedure.***
Allow engine coolant to cool before performing this procedure.

CAUTION ***Engine coolant disposal is regulated by federal environmental policy. Dispose of used coolant properly.***

1 With the bus secured against movement, engined stopped and cooled, remove the radiator cap.

2 Start the engine and operate at 1800 to 2000 RPM.

3 Locate the .25" black tube with a bleed valve. Place the open end of the bleeder tube into the filler neck of the deareation tank. Open the bleeder valve.

4 Add 50/50 premix coolant as required during this process to maintain normal operating coolant level. Operate the engine with the bleeder valve open until all air has been purged from the system.

5 When the air has been purged, a solid stream of coolant flows from the bleeder tube. Close the bleeder valve, and return the bleeder tube to its storage position.

6 Reinstall the radiator cap. Operate the engine until the thermostat opens. Stop the engine and let it cool. Re-check the coolant level and top off if needed using the approved 50/50 premix.