Throttle Circuit

Table of Contents

Sub-Headings

Tables

Schematics

Throttle

Safety
The purpose of this safety summary is twofold. First, it is to ensure the safety and health of individuals performing service on this Blue Bird product. Second, it is to help ensure the protection of equipment. Before performing any service on the All American Series bus, individuals should read and adhere to the applicable warnings and cautions located throughout this service manual.

Warnings
Warnings refer to a procedure or practice that, if not correctly adhered to, could result in serious injury or death.

Cautions
Cautions refer to a procedure or practice that, if not properly adhered to, could result in damage to or destruction of equipment.

Notes
Notes are generally used to explain, clarify or otherwise give additional insight for a given subject, product or procedure. Please note that on occasion, notes, too, may be used to advise of potential hazards.

Introduction
The accelerator position sensor is attached to the underside of the accelerator pedal. The accelerator position sensor sends a signal to the Electronic Control Module (ECM) when the driver pushes down on the accelerator.

Note
The connector pin designation shown for the accelerator wiring harness in these troubleshooting steps are examples of a typical speed sensor circuit. Connector pin position may vary slightly with different manufacturers.

Warning
The three wires in the harness that connect to the position sensor must be twisted together.

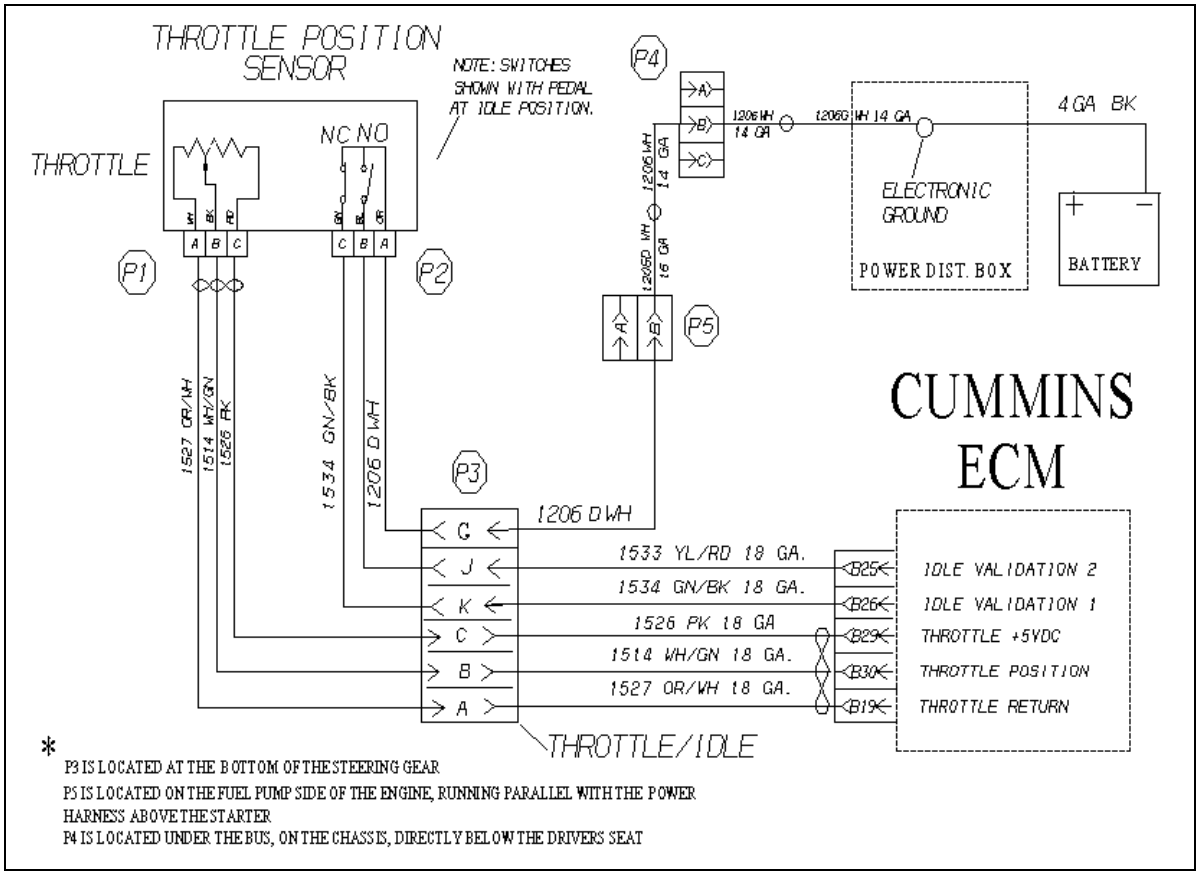
Description of Operation
The wiring harness to the accelerator pedal may have six wires. The accelerator position circuit uses three of them.

- +5 volt supply wire (pin 29)
- Return ground (pin 19)
- Signal wire (pin 30)

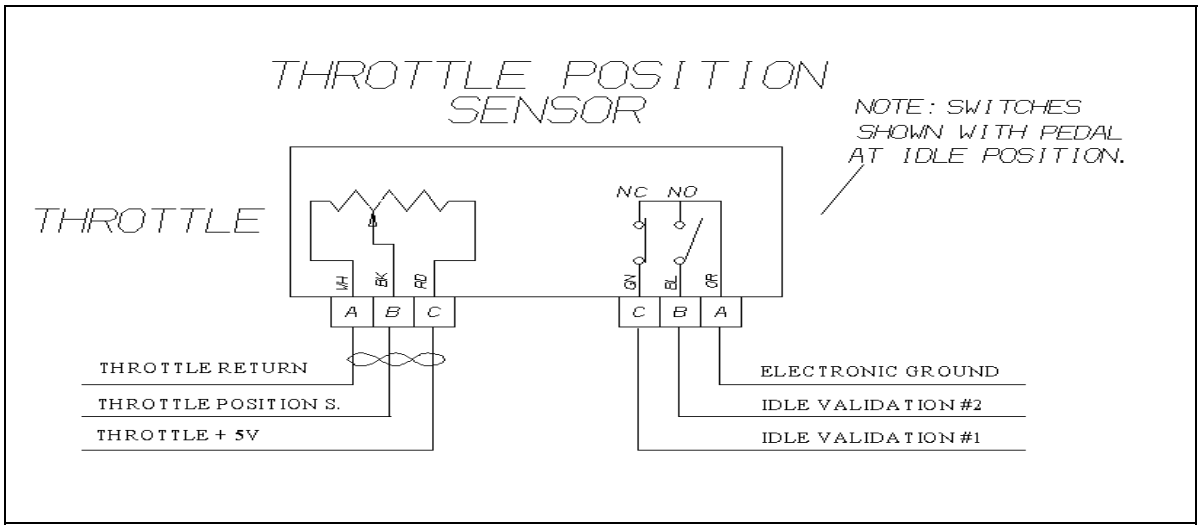
Notes
*See **Schematic 2**.*

*The remaining three wires are part of the engine idle validation circuit. **Schematic 1.***

*See **Tables 1 through 5** for troubleshooting.*



Schematic 1: Throttle Circuit



Schematic 2: Throttle Position Sensor

Troubleshooting

Warning

To avoid damage to pins and/or harness, use only the proper test leads.

- **Part Number 3822758 – male Deutsch/Metri-Pack test lead**
- **Part Number 3823995 – male Weather-Pack test lead**
- **Part Number 3823996 – female Weather-Pack test lead**

Note

If the accelerator fails to meet specifications, the entire accelerator panel will need to be replaced.

Steps	Checks/Inspection
1	Check the accelerator position sensor.
1A	Disconnect the OEM harness from the accelerator harness. Inspect the OEM harness and the accelerator position sensor connector pins.
	Accelerator Pedal (IVS, ISS and APS)
	Idle Validation Circuit Resistance:
	For ON and OFF-IDLE states
	ISS-MAX Closed Circuit Resistance < 125Ω
	ISS-MIN Open Circuit Resistance > 100kΩ
1B	Accelerator Position Sensor Coil Resistance:
	Between Supply and Return Wires
	2000 to 3000 ohms
	Between Supply and Signal Wires (released pedal)
	1500 to 3000 ohms
	Between Supply and Signal Wires (depressed pedal)
	200 to 1500 ohms
Note: *Released resistance minus depressed resistance must be > 1000 ohms.*	

Table 1: Troubleshooting (Step 1) Accelerator Position Sensor

Steps	Checks/Inspection	Specifications
2	Check OEM harness.	
2A	Inspect the harness and the ECM connector pins.	No damaged pins.
2B	Check for an open circuit in the supply, signal and return wires of the OEM harness.	Less than 10 ohms.
2C	Check for a short circuit between the +5 volt supply wire and any other wire in the OEM harness.	More than 100k ohms.
2D	Check for a short circuit between the accelerator position signal wire and any other wire in the OEM harness.	More than 100k ohms.
2E	Check for a short circuit between the +5 volt supply and return wires. (Fault Code 132 only.)	More than 100k ohms.
2F	Check for a short circuit to ground in the accelerator position sensor +5 volt supply circuit. (Fault Code 132 only.)	More than 100k ohms.
2G	Check for a short circuit to ground in the accelerator position sensor signal circuit. (Fault Code 132 only.)	More than 100k ohms.

Table 2: Troubleshooting (Step 2) OEM Harness

Steps	Checks/Inspection	Specifications
3	Clear the fault code.	
3A	Disable the fault code.	Fault Code 131 or 132 inactive.
3B	Clear the inactive fault codes.	All faults cleared.

Table 3: Troubleshooting (Step 3) Clear the Fault Code

Condition:
• Key switch in the **OFF** position. • Disconnect the OEM harness from the accelerator position sensor.

Table 4: Condition

Action	Specification/Repair	Next Step
Inspect the OEM harness and the accelerator position sensor connector pins for the following: • Bent or broken pins • Pushed back or expanded pins • Corroded pins • Moisture in or on the connector • Missing or damaged seals	OK No damaged pins.	1B
	Not OK Repair the damaged pins. Repair or replace the OEM harness or sensor, whichever has the damaged pins. • Repair the OEM harness. Refer to Procedures 019-203 or 019-206. • Replace the OEM harness. Refer to Procedure 019-071. • Replace the accelerator position sensor. Refer to equipment manufacturer's troubleshooting and repair manual.	3A

Table 5: Troubleshooting Step 1 Accelerator Position Sensor and Step 2 Harness and Pins

Installation of Accelerator Pedal

Installation of the repaired accelerator pedal in the reverse order of the removal, listed above.

Note

When assembling the wiring harness to the sensor plug, use a small amount of rubber cement to seal the connection from dirt.

Troubleshooting the Position Sensor

1. Pull the top of the accelerator up and out (toward you).
2. Remove the cross-head screw to release the wiring harness clamp.
3. Remove the "E" clip from the hinge pin at the heel of the pedal.
4. Remove the hinge pin from the pedal.
5. Turn the pedal over, being careful with the wiring harness.
6. Carefully remove the wiring harness plug from the accelerator sensor.
7. Continue with the tests as outlined. See **Tables 1 through 5**.

Back to Top