



Advanced Fast Idle System Diagnostics

**Ford Econoline – Gas/CNG Engines
2003→2004
(AFIS501G-XXX or AFIS502CNG-XXX)**

Before beginning diagnostics make sure the technician has thoroughly reviewed the AFIS installation instructions as well as the AFIS operating instructions. Both are available by contacting InterMotive at 530-346-1801.

LED's don't proveout on initial start-up.

Ensure LED harness is fully seated in AFIS module.
Ensure 12 Pin connector is fully seated in AFIS module.
Ensure proper connection of 42 pin connector under hood.

LED's flash continuously, engine has low idle speed

Check for a short to ground in the harness connected to the Idle Air Control Solenoid.

Vehicle enters Fast Idle mode, but does not maintain proper RPM

Verify proper part # of AFIS Module.
AFIS501G-**54** – Ford 5.4L engine.
AFIS501G-**68** – Ford 6.8L engine.
AFIS502CNG-**54** – Ford 5.4 CNG Engine
Use of the incorrect module for the vehicle application will cause incorrect RPM.

LED's proveout but vehicle will not enter, or does not complete Fast Idle mode

Verify all safety conditions are met.
Check for Diagnostic Trouble Codes.
To display Diagnostic Trouble Codes on the Fast Idle (green) LED, the technician must turn off the vehicle ignition, continuously press the manual engage switch while turning the ignition back on. Keep the switch pressed until the red and green LED's turn on and then off. The switch can now be released and codes can be retrieved. A code is displayed by flashing the first digit, waiting one second, flashing the second digit, and then waiting four seconds before another code is displayed. For example if the Diagnostic Trouble Code was 52, the green LED would flash five times, be turned off for one second, flash two more times, and then remain off for four seconds. The codes and their descriptions are displayed below.

| Code | Description |
|------|--|
| 11 | Safety Conditions Met, ready for Fast Idle Operation |
| 12 | Safety Conditions Met, Fast Idle Operation in Progress |
| 13 | Safety Conditions Met, Fast Idle Operation Complete due to 15 Minute Timeout |
| 14 | Safety Conditions Met, Fast Idle Operation Complete due to TPS Voltage |
| 15 | Safety Conditions Met, Fast Idle Operation Complete due to Park Brake |
| 16 | Safety Conditions Met, Fast Idle Operation Complete due to RPM |
| 17 | Safety Conditions Met, Fast Idle Operation Complete due to Park Signal |
| 18 | Safety Conditions Met, Fast Idle Operation Complete due to Service Brake |
| 22 | RPM Value too Low |
| 24 | RPM Value too High |
| 33 | Park Signal Incorrect |
| 35 | Service Brake Signal Incorrect |
| 37 | Park Brake Signal Incorrect |
| 44 | TPS Voltage too Low |
| 47 | TPS Voltage too High |

If codes are received check all connections in the AFIS system.

Vehicle intermittently drops out of Fast Idle mode, but works properly now

Check for Fast Idle Stop Codes.

To aid in troubleshooting intermittent concerns, the AFIS system stores the last five Fast Idle Stop Codes in non-volatile memory. Thus if a Fast Idle operation terminates unexpectedly, the technician can determine the cause. To initiate this feature, turn on vehicle ignition, wait until LED's proveout, and then press and hold the manual-engage switch continuously for at least five seconds. The red and green LED's will flash after 5 seconds. Release the switch and the five most recent stop codes will be read sequentially from the most recent to the oldest. A code is displayed by flashing the first digit, waiting one second, flashing the second digit, and then waiting four seconds before another code is displayed. For example if the Fast Idle Stop Code was 18, the green LED would flash one time, be turned off for one second, flash eight more times, and then remain off for four seconds. After the codes have been displayed, the LED's flash and normal operation resumes. The Fast Idle Stop Codes and their descriptions are listed below.

| Code | Description |
|------|--|
| 13 | Fast Idle Operation Complete due to 15m Timeout |
| 14 | Fast Idle Operation Complete due to TPS Voltage |
| 15 | Fast Idle Operation Complete due to Park Brake |
| 16 | Fast Idle Operation Complete due to RPM |
| 17 | Fast Idle Operation Complete due to Park Signal |
| 18 | Fast Idle Operation Complete due to Service Brake |
| 19 | Fast Idle Operation Complete due to Idle Air Control Short to Ground |

If codes are received check all connections in the AFIS system.

Vehicle "Service Engine Soon Lamp" is illuminated.

Verify all connections are fully engaged.

Ensure that AFIS Auxiliary module is plugged into AFIS harness.

Verify AFIS connections were not disconnected with vehicle ignition on.

If further assistance is required, contact InterMotive at (530) 346-1801. Be sure to write down any Diagnostic Trouble Codes or Fast Idle Stop Codes received so that you can provide them to the InterMotive Engineer.