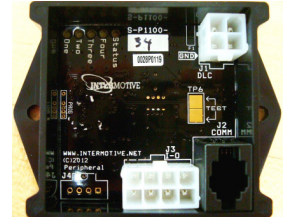


# **AFIS530/532**

## **Fast Idle System**

**2005-2011 Ford Crown Victoria**  
**2013-2015 Ford Interceptor Sedan and Utility**  
**2016-2017 Ford Interceptor Utility (B-AFIS530/532\*)**



**\*Uses the Ford 24-pin Data Link Harness**

## **Introduction**

The AFIS530/532 is a Fast Idle system that elevates engine idle RPM based on a number of “triggers”. The vehicle must be in Park for Fast Idle to engage. There are three different engine RPM settings which can be selected by grounding different control inputs. The three different RPM values can be independently set during installation.

## **Installation Instructions**

**Disconnect vehicle battery before proceeding with installation.**



It is the installer’s responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers.

It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna’s or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

## **AFIS530/532 Module**

Remove the lower dash panel below the steering column area and find a suitable location to mount the AFIS530/532 module. Do not actually mount the module until all wire harnesses are routed and secure. The last step will be to mount the module.

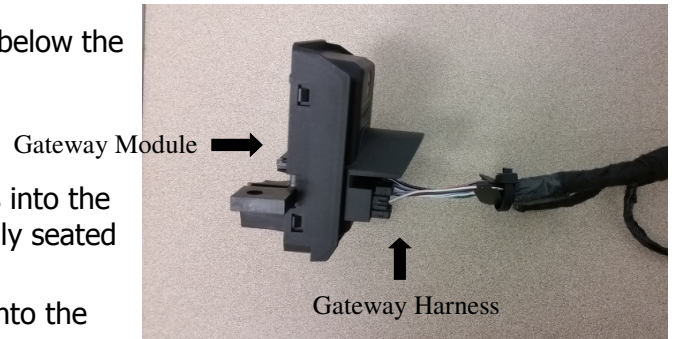
## **AFIS530/532 “T” Data Link Harness**

1. Locate the vehicle OBDII Data Link Connector. It will be mounted below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the Red connector from the AFIS530/532 Data Link Harness into the vehicle’s OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
3. Mount the Black pass through connector from the AFIS530/532 Data Link Harness in the former location of the vehicle’s OBDII connector.
4. Secure the AFIS530/532 Data Link harness so that it does not hang below the lower dash and plug the 4-pin connector from the Data Link Harness into the 4-Pin connector on the AFIS530/532 module.



## Ford 24-pin Data Link Harness (4-pin connector)

1. Locate the vehicles Gateway Module. It will be mounted below the lower left dash panel.
2. Remove the harness behind the Gateway module by pressing the locking tab and pulling outward.
3. Plug the Female side of the Intermotive Gateway Harness into the back of the Gateway module. Ensure the connection is fully seated and secured by the locking tab.
4. Plug the Male side of the Intermotive Data Link Harness into the Gateway harness.
5. Secure the Gateway harness so that it does not hang below the lower dash panel and plug the 4-pin connector from the Data Link Harness into the 4-Pin connector on the AFIS530/532 module.



## AFIS Harness (8-Pin Connector)

### Fast Idle Engage Inputs

#### Engage Input 1

- Attach the AFIS Harness connector Pin #8 Green wire to any equipment that provides a ground signal when the fast idle needs to be engaged. (PTO, pump, etc....)

**Note:** The "sense" of the Green wire can be programmed (see below). This alternatively allows equipment which provides a 12V "active" signal to be connected to this input.

#### Engage Input 2 (AFIS530 only)

- Attach the AFIS Harness connector Pin #7 White wire to any equipment that provides a ground signal when the fast idle needs to be engaged. (PTO, pump, etc....)

#### Engage Input 3 (AFIS530 Only)

- Attach the AFIS Harness connector Pin #5 Yellow wire to any equipment that provides a ground signal when the fast idle needs to be engaged. (PTO, pump, etc....)

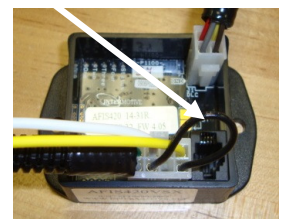
If multiple engage inputs are active, the lower number has priority. Auto triggers will have the lowest priority and will only trigger if none of the inputs are active.

### Engage Input 1—Fast Idle Pin-8 Trigger, Active: Ground or 12V signal Enable/Disable

The module is configured from the factory for an active ground fast idle trigger. To change this to an active 12V trigger, turn the key on, place the transmission in neutral, apply the Service Brake, pull out on the Park Brake release and apply the Park Brake four times within 5 seconds. Upon successful reprogramming, the LEDs will flash as a confirmation. The user must cycle the key for the change to take affect. Repeat to reverse back to a ground trigger.

### VBAT Low Fast Idle Trigger Disable, Black wire loop

The system is configured from the factory for Fast Idle to be triggered when the battery voltage (VBAT) drops below 12.5V. If the VBAT Low Fast Idle Trigger is not needed, it can be disabled by cutting the Black wire (loop) on the 8-Pin connector between Pin #1 & Pin #3.

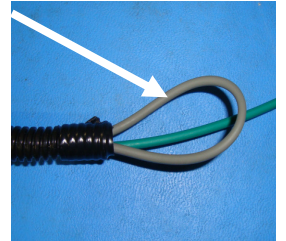


### **Configurable Idle Speed (Gray wire)**

The AFIS530/532 allows the user to change the fast idle RPM for each fast idle input during installation. Any speed can be selected between 900 RPM and 1700 RPM in 50 RPM increments when reconfiguring. The default speeds are as follows:

- Input 1—1500 RPM
- Input 2—1700 RPM (AFIS530 only)
- Input 3—950 RPM (AFIS530 only)

1. Locate the Gray wire Pin 4 in the 8 pin Molex connector.
2. Pull the wire out of the loom to expose the bare copper end.
3. Place the vehicle in Fast Idle by grounding the selected Engage Input wire. Only the active idle input will be adjusted. NOTE: With the engine in Fast Idle, momentarily grounding the Gray wire (RPM Configuration input) increases the idle speed by 50 RPM. When the idle speed reaches the maximum allowable speed for the particular engine, it will roll back to approximately 900 RPM. Wherever the user stops, this RPM becomes the new default Fast Idle speed, even through key cycles.
4. Repeat this operation for each of the three Engage Input wires as desired.
5. After the vehicle is set to the desired fast idle speeds, insert the end of the Gray wire into the harness tubing and use tape to secure.



All Auto Triggers (VBAT and PB) share the same idle speed configuration as Input 1. Input 1 idle speed can also be reconfigured when in one of these triggers.

### **Park Brake Fast Idle Trigger Enable/Disable (2013 Interceptor only)**

The AFIS530/532 module is configured from the factory for Fast Idle **not** to be triggered when the Park Brake is applied. If the Park Brake Fast Idle trigger is needed, it can be enabled (or disabled) by the following procedure:

1. With key on, place the transmission in neutral.
2. Apply the Park Brake and press the Service Brake three times within 5 seconds.

Upon successful reprogramming, the on-board LEDs will briefly flash as a confirmation. Cycle the key for the change to take affect.

## Post Installation System Operation Test

Perform the following tests before mounting the module, to allow viewing of the diagnostic LED's, if needed.

1. Place transmission in Park and start the engine. **Note:** Vehicle may enter Fast Idle if Battery Voltage (VBAT) is low. Either wait to see if the battery charges and Fast Idle stops, or place a charger on the vehicle to disable the VBAT low trigger to allow testing of other triggers.
2. If the Parking Brake Fast Idle trigger is enabled, apply the Parking Brake. The engine speed will increase to the set RPM level. Release the Parking Brake. Verify the system comes out of Fast Idle
3. One at a time, manually engage all three Fast Idle Inputs by having aftermarket vehicle equipment ground the Input wires. Engine speed will increase to the set RPM level.
4. If this does not occur, check harness connections. Also, see diagnostics below.
5. While Fast Idle engaged, keep the Input wire grounded, and depress the Service Brake for 1 second. Fast idle will temporarily disengage anytime the Service Brake is depressed, but will automatically reengage after approximately 2 seconds once the Brake pedal is released.
6. Place transmission shift lever in the "Neutral" position. (Input wire still grounded). The system must not activate Fast Idle.

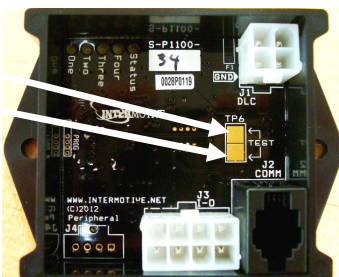
The AFIS530/532 is properly installed only if it passes all of the above steps.

## Module Mounting

Ensure all harnesses are properly connected and routed, and are not hanging below the dash area. Mount the AFIS530/532 module using screws or double sided tape and reinstall all removed panels

## Diagnostics

Diagnostic mode is entered by momentarily shorting the two gold "Test" pads together on the module. The module provides diagnostic LEDs which illuminate according to the following table. To exit this mode, cycle the key or momentarily ground the "Test" pad again.



## Fast Idle Status Codes

Status Codes provide the current status of the Fast Idle system. The on-board "Status" LED will flash a 2-digit code as shown in the table. The first digit will flash, wait half a second, flash the second digit, then wait one second before the next code. The Status Codes continue to flash until the module is reset (cycle key), or the test input is momentarily grounded again.

AFIS Status Codes	
Status Code	Description
1-1	Ready for fast idle
2-3	Triggered: Parking Brake
2-4	Triggered: VBAT Low
2-5	Triggered: A/C (AFIS532 only)
2-7	Triggered: Engage Input 2
2-8	Triggered: Engage Input 1
2-9	Triggered: Engage Input 3
3-1	RPM > 2800
3-2	RPM < 200
3-3	TR not = to PARK
3-4	VSS not = to 0 MPH
3-5	Service Brake applied
3-7	Unsafe; Need to cycle TR
3-8	ECT > 230°F

LED #	Diagnostic Mode LED Descriptions
1	On when fast idle is engaged
2	On when any input trigger wire is active
3	On when Gray RPM set wire is grounded
4	On when the Parking Brake is applied with the parking brake trigger enabled
STATUS	Continuously flashes two digit status codes. See Status Code table

**LEAVE IN VEHICLE**  
**Operating Instructions**  
**AFIS530/532**  
**2005-2011 Ford Crown Victoria**  
**2013-2015 Ford Interceptor Sedan and Utility**  
**2016-2017 Ford Interceptor Utility (B-AFIS530/532)**

**System Operation**

The Advanced Fast Idle System (AFIS) elevates engine idle speed in response to a number of triggers in order to assist electrical or mechanical systems on the vehicle.

Fast Idle may be initiated by either a manual trigger (Input wire being grounded), a low battery voltage (low VBAT) condition, or if enabled, by setting the Park Brake.

Fast Idle will only occur when the required preconditions are met, as listed below. Fast Idle operation will be terminated by a loss of any of the preconditions, or removal of the trigger(s).

<b>Fast Idle Triggers</b>		
<b>Trigger Name</b>	<b>Trigger Conditions</b>	<b>Disable Conditions</b>
Manual Engage	Fast Idle Engage Green wire grounded <b>Or</b> 12V input enabled (based on setting)	Fast Idle Engage Green wire not grounded <b>Or</b> not 12V (based on setting)
VBAT Low	VBAT < 12.5V	Precondition Violation
Parking Brake	Parking Brake applied (If Enabled)	Parking Brake Released
A/C On (AFIS532 Only)	A/C turned On	A/C turned Off

**Fast Idle Preconditions**

All of the following preconditions must be met prior to initiating Fast Idle operation.

- Vehicle speed zero
- Transmission in Park
- Accelerator pedal not applied
- Engine Coolant temperature must be less than 230°F
- Engine RPM must be greater than 200 and less than 2800
- Service Brake not applied

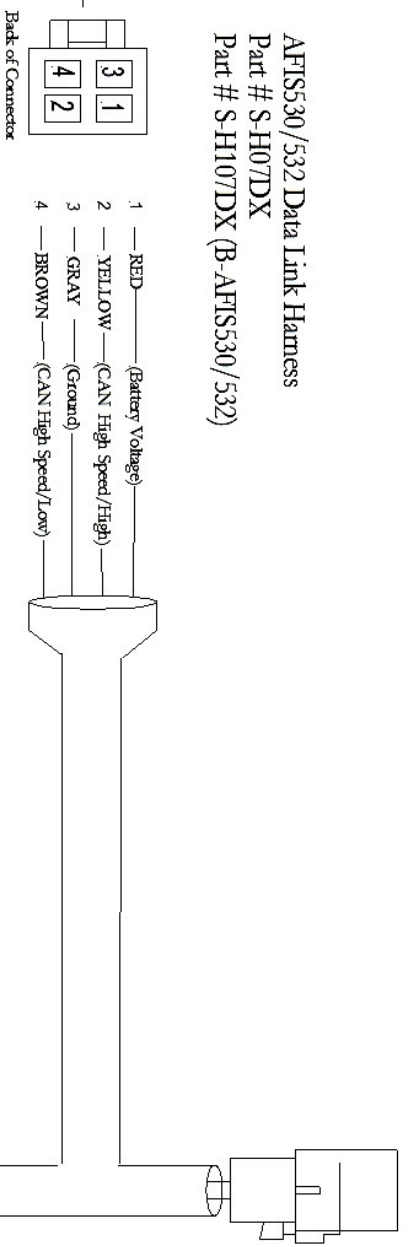
**Note:** During Fast Idle, the battery voltage should slowly increase until it reaches the upper set point (13.0V). Fast Idle will continue for 5 more minutes with the battery voltage at or above 13.0V before shutting off. This ensures the battery is fully charged.

**Factory Options** - The following are configurable at the factory for OEM customers. The default values

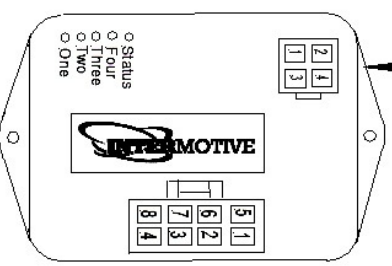
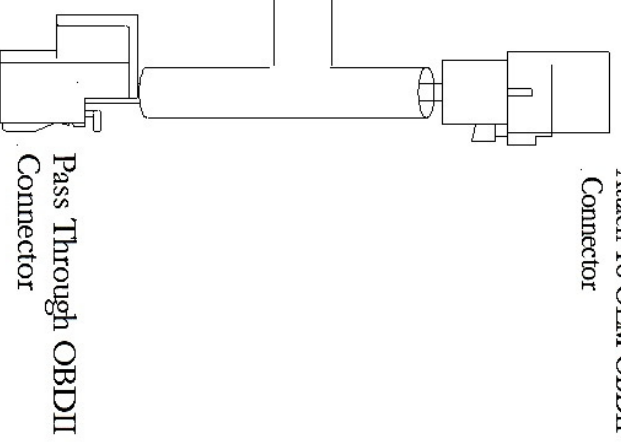
Input 1: 1500 RPM  
 Input 2: 1700 RPM (AFIS530 only)  
 Input 3: 950 RPM (AFIS530 only)  
 VBAT Low: 12.5V  
 Parking Brake Trigger: Disabled  
 A/C Trigger: Enabled on AFIS532

Data Link Harness-  
Attach To OEM OBDII  
Connector

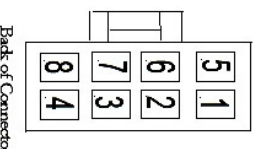
AFIS530/532 Data Link Harness  
Part # S-H07DX  
Part # S-H107DX (B-AFIS530/532)



Harness Part # S-H38BX - AFIS530  
S-H38AX - AFIS532



AFIS530 Part # S-M1100-30  
AFIS532 Part # S-M1100-31



- 1 — BLACK ————— VBAT Low Trigger
- 2 — N/C
- 3 — BLACK ————— RPM Configuration (ground input)
- 4 — GRAY ————— Fast Idle Engage Input 3 (active ground input)(default)
- 5 — YELLOW ————— Fast Idle Engage Input 2 - AFIS530 Only (active ground input)(default)
- 6 — N/C
- 7 — WHITE ————— Fast Idle Engage Input 1 - AFIS530 Only (active ground input)(default)
- 8 — GREEN

**Submit product registration at [www.intermotive.net](http://www.intermotive.net)**

If the AFIS530/532 fails any step in the Post Installation Test, review the installation instructions and check all connections.  
If necessary, call

**InterMotive Technical Supportat (530) 823-1048.**