AEROMOTIVE
Part # 16302
INSTALLATION INSTRUCTIONS

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris. If the vehicle must be raised to obtain access to the undercarriage, make sure the vehicle is supported by jack stands on a hard, level surface. Set the vehicle parking brake and use wheel chocks as necessary.

WARNING!

Disconnect the vehicle negative battery cable before beginning this installation. Observe all routine safety precautions when working on or near the vehicle battery.

Note: If you have a force induction application which implements an FMU (Fuel Management Unit) in the fuel system, the system fuel pressure will be affected, in most cases, as the PSC switches from running the fuel pump at a lower speed to running at normal operating speed. Addition tuning of the FMU may be required in these applications.

Note: If using the PSC on a distributorless ignition system, i.e. Ford modular motors or GM LS series motors. The use of a Tach driver, MSD p/n 8913 or equiv., will be required

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

<u>This kit contains the following parts</u>:

1ea Fuel Pump Speed Control Module
3ft 10 ga. Black Wire
20ft 10 ga. Red Wire
4ft 16 ga. Black Wire
6ft 16 ga. Red Wire
15ft 16 ga. Yellow Wire
15ft 16 ga. Green Wire
1ea SPST Toggle Switch

1ea Blue Wire Splice Connector
2ea Blue #10 Stud Ring Connector
1ea Blue ¼" Stud Ring Connector
6ea Blue Female Blade Connector
2ea Yellow Female Blade Connector
2ea Yellow #10 Stud Ring Connector
2ea Yellow 1/4" Stud Ring Connector
12ea Wire Ties

The following steps are typical of most installations:

1. Find a suitable place on the vehicle chassis, within a few feet of your fuel pump, to mount the Aeromotive Pump Speed Control (PSC). Make sure the location will accommodate the PSC mounting bolts and will position the PSC clear of any suspension, drivetrain or exhaust components. Position the PSC clear of any possible road obstructions or debris.

Note: The PSC is weatherproof, <u>but not water tight</u>! Be sure to locate the PSC such that it will never become immersed in water!

2. Using the attached wiring schematic, determine which type of supply wiring you have going to your existing fuel pump. If you currently have a relay controlling power to the pump, via the ECM or a switch, remove the relay so that your electrical hookup resembles that shown in the schematic.

3. Drill two mounting holes, using the PSC as a template, for #10 mounting screws. Securely attach the PSC to the vehicle using two #10 screws.

Note: Route all wires as instructed before making any electrical connections to the PSC. Attach blade connectors and connect the PSC last. Be sure to route all electrical wires clear of any suspension, drivetrain or exhaust components! Protect wires from abrasion and road obstructions or debris.

4. Locate a 12-18V, 20 Amp fused, supply for powering the fuel pump. You can use either a fused supply from the alternator charging stud or a pigtail from the starter solenoid. For maximum circuit protection ensure that the fuse or circuit breaker is installed as close to the power source as possible. Using the enclosed #10 red wire, route the wire from the 20 Amp circuit breaker or fuse supply to the PSC, but do not make any electrical connections yet.

5. Referring to the attached wiring schematic, locate your existing Fuel Pump Supply/Control Wire or Fuel Pump Switch. Using the enclosed #16 red wire and crimp type butt connector, route a lead from your existing Fuel Pump Supply/Control Wire or Fuel Pump Switch to the PSC.

6. Using the enclosed #16 black wire, route the wire from the PSC “GRD” terminal to the pump “-“ terminal.

Note: The PSC may be activated by either engine RPM and/or an external switch, only one of these is necessary to activate the PSC, but both are recommended.

7. Locate a 12VDC positive tach signal, this is usually found on the “-“ terminal of the ignition coil. If you are using any kind of aftermarket ignition control you must use the tach signal terminal on the controller. Some newer vehicles will require a tach adapter available through your local speed shop. Using the enclosed #16 yellow wire, route the wire from the tach signal source to the PSC “PNT” terminal.

Note: If using the PSC on a distributorless ignition system, i.e. Ford modular motors or GM LS series motors. The use of a Tach driver, MSD p/n 8913 or equiv., will be required

Note: Connecting the Manual Override Switch is not mandatory, but is recommended. This switch will allow you to have full pump speed on demand.

8. Find a convenient location in the passenger compartment for mounting the Manual Override Switch. Drill a ½” diameter hole and mount the switch.

9. Using the enclosed #16 green wire, route the wire from the PSC “SWT” terminal to the Manual Override Switch. Make sure the switch is in the “OFF” position.

10. Using the enclosed #16 green wire, route the wire from the Manual Override Switch to a clean chassis ground. The override function will allow the pump to run at maximum voltage overriding both the ignition switch and tach signal trigger.

11. Using the enclosed #10 red wire, route the wire from the fuel pump “+” terminal to the PSC.

12. Make sure the fuel pump “-“ terminal is connected to the battery “-“ terminal or a clean chassis ground via a #10 wire.

13. Using the attached wiring schematic as a guide, recheck all wires for proper routing. Again, make sure all wires are routed clear of all moving parts and exhaust components. Protect wires from cutting and abrasion as necessary.

14. Using the enclosed wire ties, secure all wires to the vehicle chassis. Do not secure any wires to any suspension or moving drivetrain components!

15. Using the enclosed crimp type electrical connectors, complete all wire connections. Make sure you follow the PSC connection layout shown on the wiring schematic.

16. Reattach the negative battery cable.

17. Depending on which setup you are using, do one of the following:

- If you are using an ECM to control the fuel pump, turn the ignition key to “ON”. The fuel pump should run at full speed for several seconds, then shut off.
- If you are using a toggle switch to control the fuel pump, switch it to “ON”. The fuel pump should run for about six seconds at full speed, then go to low speed and stay there until the PSC is activated via the tach signal or manual switch.

If the fuel pump does not run as described above, recheck all wires and connections for proper installation. Make sure the Manual Override Switch is in the “OFF” position.

18. Once the fuel pump runs properly at initial system startup, start the fuel pump and vehicle engine. Approximately six seconds after starting, the fuel pump should switch to low speed.

19. Once the pump switches to low speed, switch the manual override switch (if installed) to “ON”. The pump should immediately go to full speed. The green LED labeled SWT should be lit. Switch the manual override switch to “OFF”.

20. While the engine is running, the yellow LED labeled PNT should be flashing, indicating the PSC is getting a tach signal.

21. With the vehicle transmission in “PARK” or “NEUTRAL” and the parking brake set, have someone carefully rev the engine to 3000 rpm. The pump should go to full speed and the green LED labeled FST should be lit, while the engine is revved up. Allow the engine to go back to idle. The pump should go back to low speed.

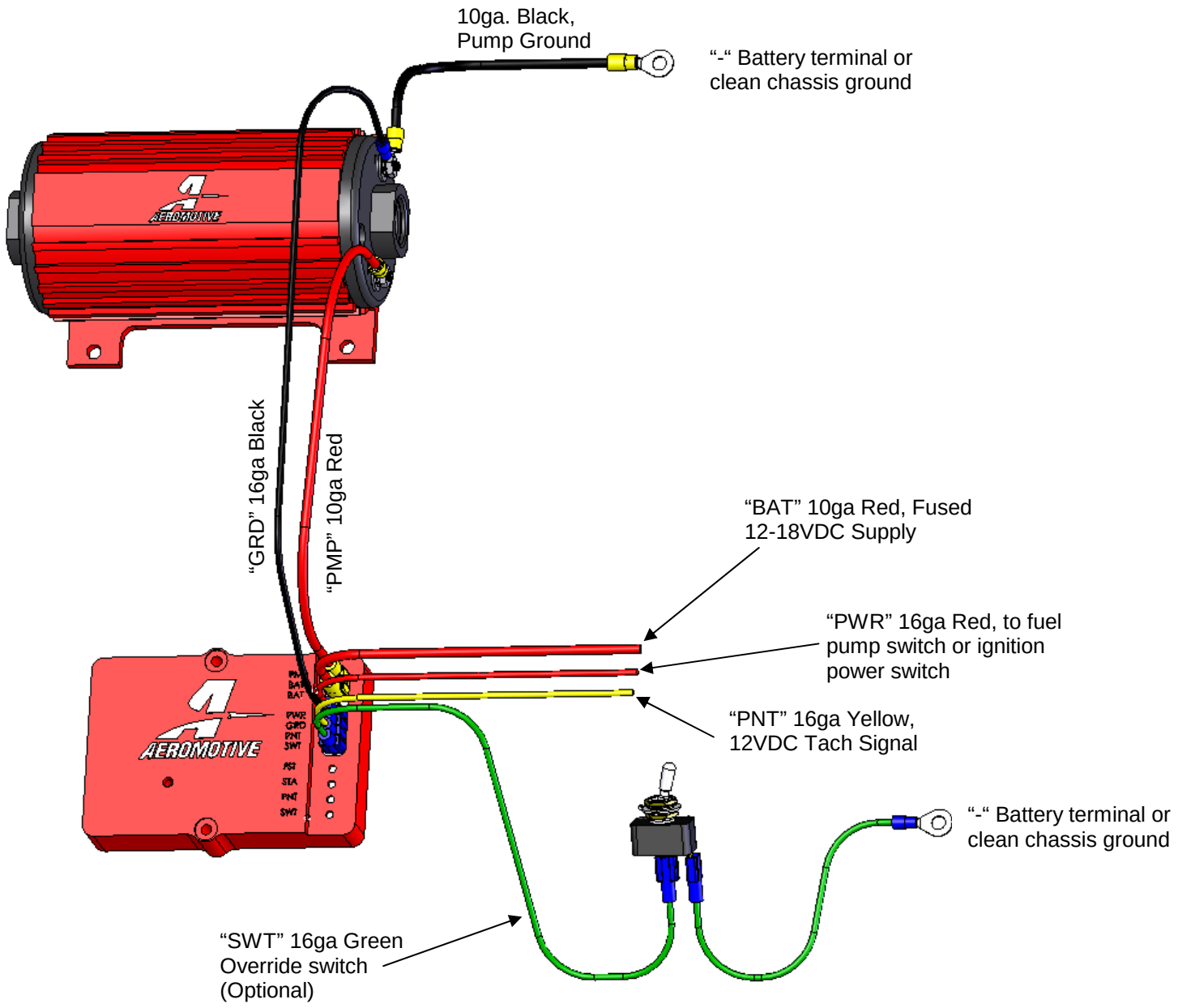
22. Shut the engine and fuel pump off. The pump should slow down and stop within a few seconds.

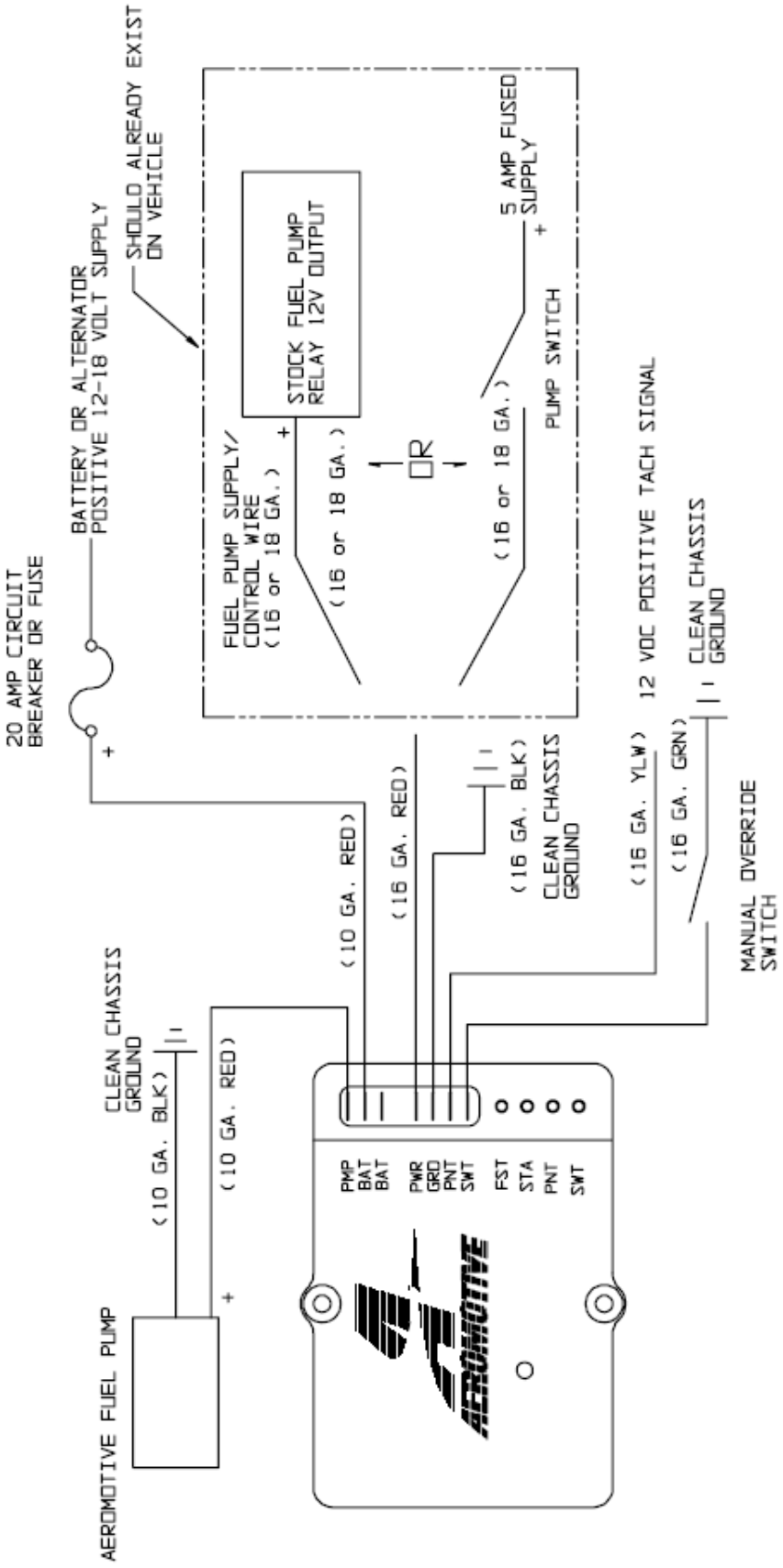
23. Once the PSC is working properly, the rpm threshold at which the pump goes to full speed can be adjusted. To adjust the threshold, bring the engine up to the speed at which you want the fuel pump to go to full speed. Turn the screw on the front of the controller CCW to get the pump to go to low speed, then turn the screw CW just until the pump goes to full speed. Fully insert the enclosed hole plug into the screw access hole. This adjustment screw has a 15-turn range turning the screw CCW will lower the RPM set point, and turning the screw CW will increase the RPM set point.

The PSC is now ready for use. Upon pump startup, the PSC will cause the pump to go to full speed for about six seconds. After the initial six seconds, the PSC will slow the pump down, unless the engine rpm is raised above the threshold value or the Manual Override Switch is activated. As long as the engine rpm is above the threshold value or the Manual Override Switch is activated, the pump will run at full speed.

If you experience problems with the PSC, the following diagnostics can be performed.

- Using a test light, make sure positive battery power is being supplied to the PSC terminal PWR and the top BAT terminal.
- Using a test light, make sure the PSC terminal marked GRD is connected to ground.
- Using a test light, make sure the PSC terminal marked SWT is connected to ground, through the Manual Override Switch.
- With the engine running, make sure the PNT light is flashing. If it is not, check the tach signal wire and connections.


10ga. Black,
Pump Ground
"-" Battery terminal or
clean chassis ground
"GRD" 16ga Black
"PMP" 10ga Red
"BAT" 10ga Red, Fused
12-18VDC Supply
"PWR" 16ga Red, to fuel
pump switch or ignition
power switch
"PNT" 16ga Yellow,
12VDC Tach Signal
"-" Battery terminal or
clean chassis ground
"SWT" 16ga Green
Override switch
(Optional)



AEROMOTIVE, INC.
7805 Barton Street, Lenexa, KS 66214
913-647-7300 fax 913-647-7207
www.aeromotiveinc.com

WARNING: This product can expose you to chemicals, including chromium, which is known to the State of California to cause cancer or birth defects or other reproductive harm. For more information, visit: www.p65Warnings.ca.gov

AEROMOTIVE, INC. LIMITED WARRANTY

This Aeromotive Product, with proof of purchase dated on or after January 1, 2003, is warranted to be free from defects in materials and workmanship for a period of one year from the original date of purchase. No warranty claim will be valid without authentic, dated proof of purchase.

This warranty is to the original retail purchaser and none other and is available directly from Aeromotive and not through any point of distribution or purchase.

If a defect is suspected, the retail purchaser must contact Aeromotive directly to discuss the problem, possible solutions and obtain a Return Goods Authorization (RGA), if deemed necessary by the company. Please call 913-647-7300 and dial option 3 for the technical service dept. All returns must be shipped freight pre-paid to the company and with valid RGA before they will be processed.

Aeromotive will examine any product returned with the proper authorization to determine if the failure resulted from a defect or from abuse, improper installation, misapplication or alteration. Aeromotive will then, at it's sole discretion, return, repair or replace the product.

If any Aeromotive product is determined defective, buyer's exclusive remedy is limited in value to the sale price of the good. In no event shall Aeromotive be liable for incidental or consequential damages.

Aeromotive expressly retains the right to make changes and improvements in any product it manufactures and sells at any time. These changes and improvements may be made without notice at any time and without any obligation to change the catalogs or printed materials.

Aeromotive expressly retains the right to discontinue at any time and without notice any Aeromotive product that it manufactures or sells.

This warranty is limited and expressly limits any implied warranty to one year from the date of the original retail purchase on all Aeromotive products.

No person, party or corporate entity other than Aeromotive shall have the right to: determine whether or not this Limited Warranty is applicable to any Aeromotive product, authorize any action whatsoever under the terms and conditions of this Limited Warranty, assume any obligation or liability of any nature whatsoever on behalf of Aeromotive under the terms and conditions of this Limited Warranty.

This Limited Warranty covers only the product itself and not the cost of installation or removal.

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