

PERFECT **HI VELOCITY**

PERFECT HI-VELOCITY 62MM THROTTLE BODY



Installation Instructions

Part # 65302 – 2005-2006 Jeep 4.0L

**All Jeep 4.0L Engines in Cherokee, Grand Cherokee,
Wrangler and Rubicon.**

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We have provided you with as accurate instructions as possible, and are always concerned about corrections or improvements that can be made.

If you have found any errors, omissions, or if you simply have comments or suggestions concerning these instructions, please write us at the address on the cover and let us know about them. Or, better yet, send us a fax at (817) 244-4024.

For Technical Questions

E-mail address: tech@painlessperformance.com

Tech Line: (800) 423-9696



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1.0 INTRODUCTION

Please read all instructions prior to install. Use these instructions as a guide to install the PERFECT HI VELOCITY THROTTLE BODY onto your Jeep engine. NOTE: THIS THROTTLE BODY MAY BE USED ON STOCK APPLICATIONS WITH LIMITED PERFORMANCE INCREASES. IT IS BEST UTILIZED ON AN ENGINE WITH SLIGHT MODIFICATIONS SUCH AS CAM CHANGE ECT.

2.0 TOOLS AND PARTS NEEDED FOR INSTALLATION

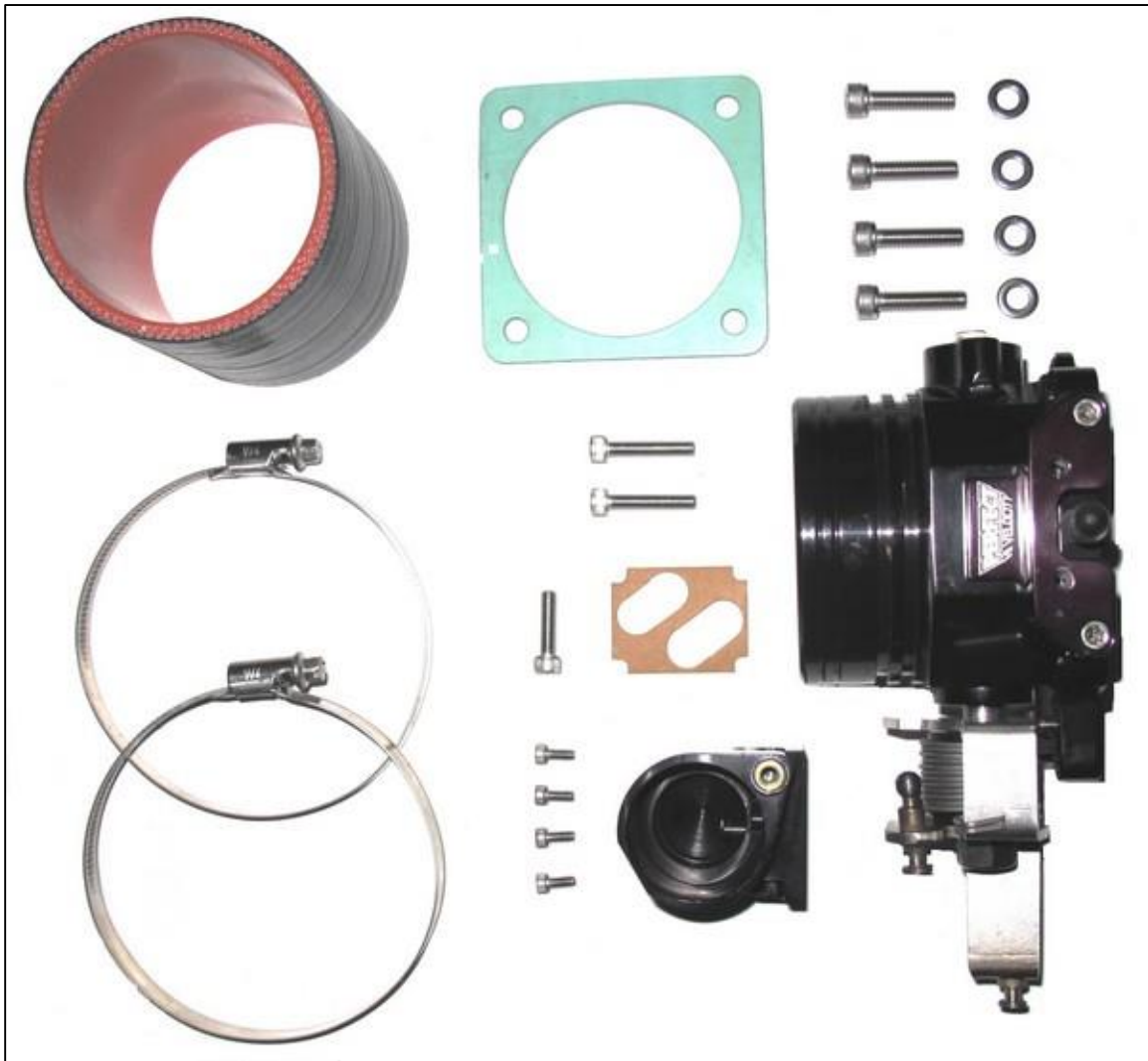
You will at least need the following tools:

- Allen wrenches or hex sockets: 4mm, a 10mm socket and wrench
- Flat screwdriver
- Tool for scraping off the old gasket.
- Can of Carburetor cleaner
- Needle nose pliers
- T20 Torx socket



Contents of kit

- Check to make sure your kit came with :
- Perfect Hi Velocity throttle body and gasket for same.
- IAC adapter housing and gasket (this may be bolted on the throttle body already)
- (4) 1/4-20 X 7/8" Throttle Body (early model) hold down bolts.
- (4) 6mm X 20mm throttle body (later model) hold down bolts and washers.
- (4) #6-40 X 3/8" bolts for attaching IAC housing (if not already attached)
- (1) #10-32 X 1/2" bolt for securing the IAC to the new housing.
- (2) #10-32 X 3/4" bolts for securing TPS
- (1) #10-32 X 1-1/4" bolt for securing the old MAP sensor to the new throttle body.
- (1) 3 X 3" Adapter hose for securing the old air intake tube to new throttle body.
- (2) 3-1/4-3-1/2 Worm Clamps for adapter hose.



3.0 INSTALLATION GUIDELINES



(Figure 3-1) Disconnect Intake Air Temperature Sensor (IAT).



(Figure3-2) Remove factory air intake tube from throttle body.



(Figure 3-3) Air Filter and Intake Tube Removal



(Figure 3-4) Carefully pry off the ball-type throttle cable linkage with a pair of needle nose pliers.



(Figure 3-5) Disconnect the electrical connector attached to the Idle Air Control Motor as shown above.



(Figure 3-6) Disconnecting the Throttle Position Sensor (TPS)



(Figure 3-7) Disconnecting the Manifold Absolute Pressure MAP sensor



(Figure 3-8) Using a 10mm socket on a 6" extension, remove the (4) Throttle Body bolts and remove the throttle body from intake manifold.



(Figure 3-9) Remove the Throttle Position Sensor (TPS) from the Throttle Body using a T20 Torx wrench or socket.

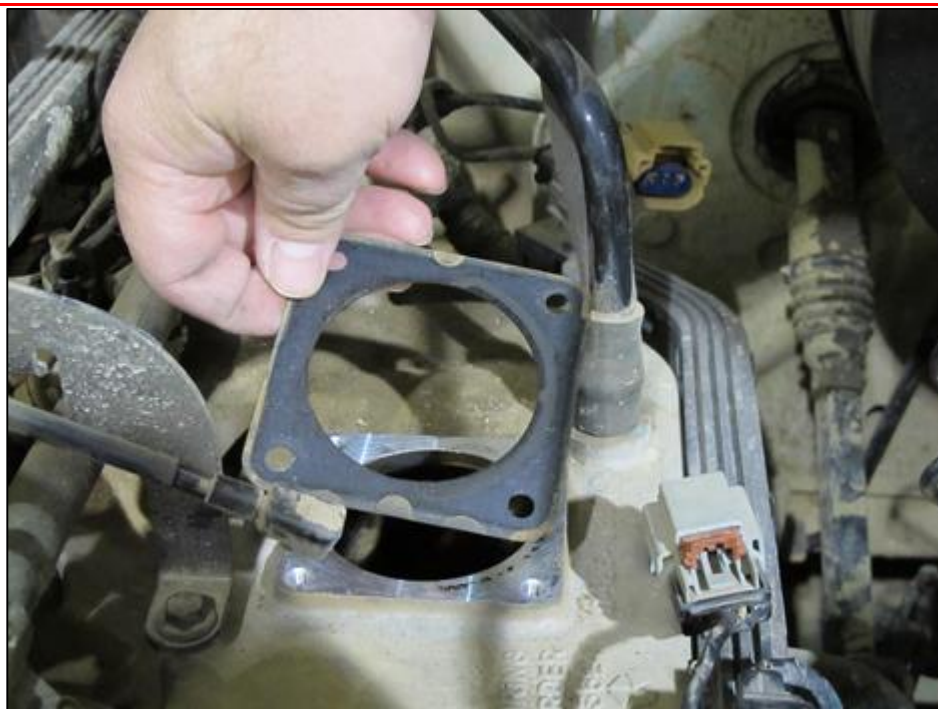


(Figure 3-10) Remove IAC motor, this is a good opportunity to clean it.



(Figure 3-11) Remove MAP Sensor inspect vacuum tube for damage replace if necessary.

BE CAREFUL NOT TO DROP ANYTHING DOWN THE INTAKE MANIFOLD.



(Figure 3-12) Remove the old gasket from the intake manifold.



(Figure 3-13) Clean the IAC motor by spraying carburetor cleaner on it carefully wiping it clean.

DO NOT USE THE ORIGINAL FASTENERS TO RE-MOUNT THE IAC OR TPS!



(Figure 3-14) Install the new TPS onto the new throttle body using the new #10-32 X 3/4 fasteners provided.



(Figure 3-15) Install the Idle Air Control (IAC) motor on the new Throttle Body, using the new #10-32 X 1/2" fastener provided.



(Figure 3-16) Install the (MAP) Sensor on the new Throttle Body lining up the groove with the MAP sensor protrusion using the new #10-32 X 1-1/4" fastener provided.



(Figure 3-17) After cleaning the gasket surface place the new throttle body gasket on intake to make ready for the new throttle body.



(Figure 3-19) Use a cross pattern to torque the new 8mm X 30mm mounting screws and washers to **10in/lbs.**



(Figure 3-18) Attach Throttle Cable to the new Throttle Body



(Figure 3-20) Reconnect the TPS connector as shown above.



(Figure 3-21) Reconnect the IAC connector as shown above.



(Figure 23) Reconnect the MAP Sensor connector as shown above .



(Figure 3-22) Re-install the air intake tube using the adapter provided. You will clamp the upper part of the adapter to the hard plastic section of the factory tube for a good seal. You must trim the factory clamp position locator as shown above.



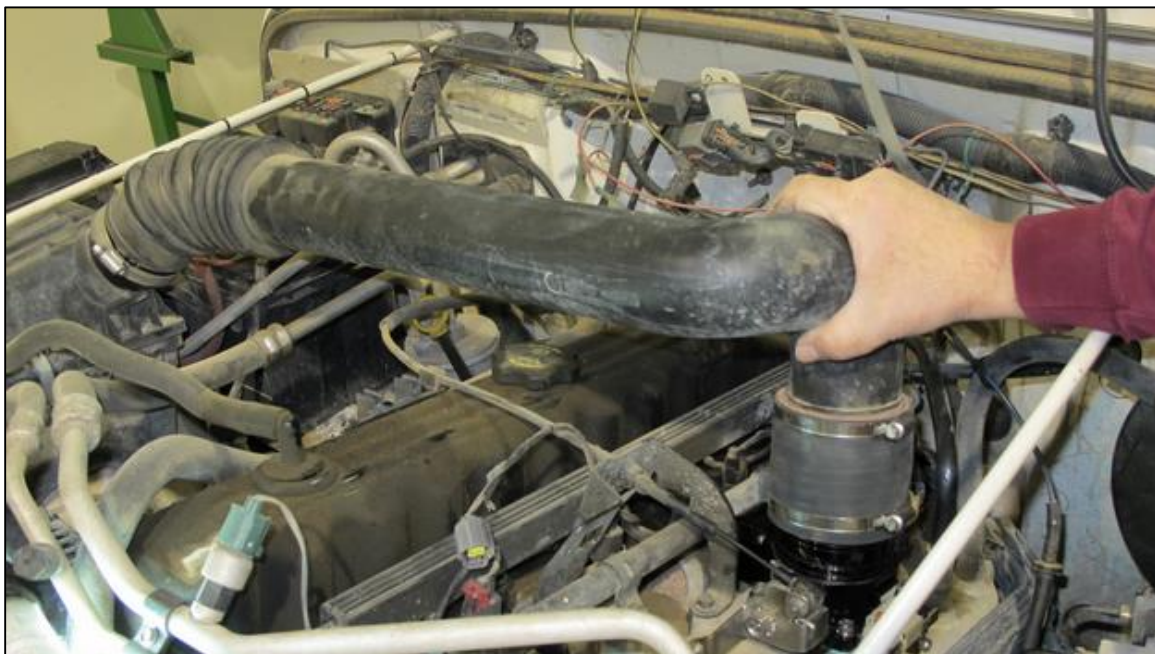
(Figure 3-24) Secure the new clamp above the 2 ridges on the hard plastic portion of the factory air tube as shown in figure 3-25.



(Figure 3-25) You will clamp the adapter onto the hard plastic section of the factory air intake tube for a good seal as shown above. **Do not over tighten and damage the tube.**



(Figure 3-26) Refit the air intake tube as shown above and secure clamp to Throttle Body.



(Figure 3-27) refit air tube back onto the factory air box cover and tighten clamps.



(Figure 3-28) Reconnect the Intake Air Temperature Sensor (IAT) as shown above.

Important Items to Consider and Understand

- 1. While installing the new Throttle Body look for old worn or cracked vacuum hoses and replace them. This will insure a smooth running engine after the installation has been completed. A leaking hose or a hose that has become detached from its vacuum source can cause a ruff idle and a miss and might be misinterpreted as a problem with your install if over looked.**
- 2. Some modifications may be needed to reconnect the factory intake air tube to the new throttle body.**
- 3. It's always a good idea to make sure your engine is in peak operating condition. In this case, plugs, fuel and air filters play a large role in the performance of your engine. In some circumstances it may be necessary to clean the fuel injectors if the vehicle has a high millage and this maintenance has not been performed according to your owner's manual.**

Painless Performance Limited Warranty and Return Policy

Chassis harnesses and fuel injection harnesses are covered under a lifetime warranty against any factory defects.

All other products manufactured and/or sold by Painless Performance are warranted to the original purchaser to be free from defects in material and workmanship under normal use. Painless Performance will repair or replace defective products without charge during the first 12 months from the purchase date. No products will be considered for warranty without a copy of the purchase receipt showing the sellers name, address and date of purchase. You must return the product to the dealer you purchased it from to initiate warranty procedures.

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