High Flow Performance Intercooler
GM 2001 - 2005 (1150400)
GM 2006 - 2010 (1150410)

Installation Guide
DISCLAIMER OF LIABILITY

This is a performance product which increases horsepower above factory specifications. Additional horsepower creates more stress on your vehicle’s drivetrain components which may result in drivetrain failure. Note: Legal in California only for racing vehicles which may never be used on the highway.

This agreement sets forth the terms and conditions for the use of this product. The installation of this product indicates that the Buyer has read and understands this agreement and accepts the terms and conditions.

Pacific Performance Engineering Inc., its distributors, employees, and dealers (the "Seller") shall not be responsible for this product’s improper use and service. The Buyer hereby waives all liability claims.

The Buyer hereby acknowledges no reliance on the Seller’s skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof, and the Buyer hereby waives all remedies or liabilities expressed or implied, arising by law or otherwise (including without any obligation of the Seller with respect to fitness, merchantability and consequential damages), or whether or not occasioned by the Seller’s negligence.

The Seller disclaims any warranty and expressly disclaims any liability for personal injury or damages. The Buyer acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the Buyer agrees to indemnify the Seller and to hold the Seller harmless from any claim related to the item of equipment purchased. Under no circumstances will the Seller be liable for any damages or expenses by reason of use or sale of any such equipment.

The Seller assumes no liability regarding the improper installation or misapplication of its products. It is the installer’s responsibility to check for proper installation and if in doubt, contact the manufacturer.

The Buyer is solely responsible for all warranty issues from the manufacturer.

LIMITATION OF WARRANTY

The Seller gives Limited Warranty as to description, quality, merchantability, and fitness for a particular purpose, productiveness, or any other matter of Seller’s product sold herewith. The Seller shall not be responsible for the products proper use and service and the Buyer hereby waives all rights other than those expressly written herein. This warranty shall not be extended, altered or varied except by a written instrument signed by Seller and Buyer.

The Warranty is limited to one (1) year from the date of sale and limited solely to the parts contained within the products kit. All products that are in question of Warranty must be returned prepaid to the Seller and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Seller.

Under no circumstances will the Seller be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product or any other contingent expenses.

Under no circumstances will the Seller be liable for any damage or expenses incurred by reason of the use or sale of any such equipment.

In the event that the Buyer does not agree with this agreement; the Buyer may promptly return this product, in a new and unused condition in its original packaging, with a dated proof of purchase to the place of purchase within ten (10) days from date of purchase for a full refund.

The installation of this product indicates that the Buyer has read and understands this agreement and accepts its terms and conditions.
READ THIS FIRST:

STUDY THESE INSTRUCTIONS COMPLETELY BEFORE PROCEEDING. ENGINE AND / OR TURBOCHARGER DAMAGE MAY OCCUR IF ANY COMPONENT WITHIN THESE INSTRUCTIONS IS IMPROPERLY INSTALLED. PPE OR ANY OF ITS DISTRIBUTORS CANNOT BE HELD RESPONSIBLE FOR DAMAGES AS A RESULT OF NEGligENT OR IMPROPER INSTALLATION. THIS COMPLETE TURBOCHARGER SYSTEM CAN BE INSTALLED USING COMMON TOOLS AND AUTOMOTIVE PROCEDURES, BUT INSTALLER MUST HAVE A THOROUGH KNOWLEDGE OF AUTOMOTIVE ENGINE OPERATION AND FEEL COMFORTABLE WORKING ON THE VEHICLE.

IF IN DOUBT, CONTACT PPE’S TECHNICAL SUPPORT STAFF AT 714-985-4825, BETWEEN THE HOURS OF 8:00AM AND 6:00PM PST, MONDAY THROUGH FRIDAY.

REMOVE THE HEAT EXCHANGER FROM ITS CARTON AND INSPECT FOR ANY OBVIOUS PHYSICAL DAMAGE. ALL KIT COMPONENTS ARE THOROUGHLY INSPECTED AND CAREFULLY PACKAGED PRIOR TO SHIPMENT FROM THE FACTORY. IF ANY SHIPPING DAMAGE IS EVIDENT, CONTACT YOUR SUPPLIER AND REQUEST THAT THEY PROCESS A CLAIM WITH THE SHIPPER INVOLVED. BE SURE TO REVIEW THE PARTS LIST ON TO VERIFY THAT YOU HAVE ALL NECESSARY SYSTEM COMPONENTS TO PROCEED. IF ANY COMPONENTS IN THE PARTS LIST ARE MISSING, CONTACT PPE’S CUSTOMER SERVICE STAFF.

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SAFETY REQUIREMENTS:

IT IS RECOMMENDED TO FOLLOW THESE PRECAUTIONS.

• ALWAYS WEAR SAFETY GLASSES & GLOVES.
• TURN THE IGNITION SWITCH TO THE OFF POSITION & DISCONNECT THE BATTERIES.
• ALWAYS USE PROPERLY RATED JACK STANDS WHEN LIFTING AND WORKING UNDER THE VEHICLE.
• PREVENT UNEXPECTED VEHICLE MOVEMENT BY USING WHEEL CHOCKS AND/OR PARKING BRAKE.
• OPERATE THE VEHICLE ONLY IN WELL VENTILATED AREAS.
• DO NOT SMOKE OR USE FLAMMABLE ITEMS NEAR OR AROUND THE VEHICLE’S FUEL SYSTEM.
• KEEP HANDS, CLOTHING AND OTHER OBJECTS AWAY FROM MOVING PARTS WHEN ENGINE IS RUNNING.

SUPPLIES:

IT IS RECOMMENDED TO HAVE THE FOLLOWING ITEMS BEFORE BEGINNING INSTALLATION.

• GM FACTORY SERVICE MANUAL, FOR YOUR MODEL YEAR
• A LARGE TABLE OR BENCH, AND PLENTY OF ADJACENT AVAILABLE WORKSPACE
• STANDARD SELECTION OF AUTOMOTIVE TOOLS, PRIMARILY METRIC SIZES
• A/C SYSTEM DISCHARGING AND CHARGING COMPONENTS

Parts List:

1 - Duramax Intercooler
3 - Bracket, Fan Shroud - Lower
2 - Bracker, Radiator Secure
2 - Bolt, M8 - 1.25 by 15mm, Hex Hd.
2 - Washer, Flat, 5/16” or M8
2 - Washer, Lock, 5/” or M8
3.5’ - Polyurethane Foam, Adhesive Bk
4 - Washer, Flat, M6
10 - Screw, Self Tap, #10 by 3/4
4 - M6 - 1.0 by 45mm, Hex Hd.
2 - Badge, Polydome - Jelly Top
2 - License Frame - Spearco
Installation:

REMOVAL

1) Evacuate the A/C system. Consult a GM service manual for the correct procedure.

2) Using an 8mm socket loosen the hose clamp holding the air intake arm to the intake manifold.

3) Unplug the MAF sensor from the wiring harness. The MAF sensor is located on the outlet of the air box.
4) Pull the plastic intake arm off the intake manifold. Pull up on the sir box to free it from the rubber gromments in the metal air box support. Remove the box and intake arm from the engine bay.
5) Using a 10mm socket remove the 5 bolts securing the metal air box support tray.
6) Using a flat head screw driver remove the plastic fasteners securing the plastic protective covering. The covering stretches between the front grill and the upper cross-member. Remove the cover.
7) Remove the front grill by carefully pulling it away from the truck. It should pop out. Trucks of years 2001 – 2002 will need to remove 4 ¼ turn fasteners and one 10mm bolt by the hood latch before the grill will come off.
8) Remove the metal pin(s) securing the driver side headlight. The pictures show the multiple headlight configurations offered on the Duramax trucks.
9) Disconnect the two headlight bulbs. The plugs are located on the back of the headlight assembly. Remove the headlight assembly.

10) Remove the bulbs from the lower assembly light by twisting their bases. Remove the lower light assembly. It should pop free.
11) Repeat removal steps (8 – 10) for the passenger side.
12) Remove the metal clips from the plastic covering on either side of the intercooler. The clips are located near the lower cross-member. Do this on both the driver and passenger sides.
13) Separate the plastic liner that runs behind the front bumper from the plastic covering by the lower edge of the intercooler. The tab on the liner pops out of a hole on the cover. Do this on both the driver and passenger sides.
14) Using a 10mm socket remove the 6 bolts holding the plastic drier light assembly mount in place.

A) Two bolts are located in the middle of the mount’s lower section.

B) One bolt is located at the top right corner of the intercooler.

C) One bolt is located on the outside edge between the upper and lower portion mount.

D) One bolt is located on the lower right corner of the mount, behind the bumper.

E) One bolt is located on the lower left corner of the mount near the lower corner of the intercooler.
15) Remove the two T25 Torx bolts from the plastic headlight mount. The Torx bolts are found on the upper portion of the mount, in the area originally occupied by the headlight.

16) Remove the hood latch cable from the plastic holder on the lighting assembly mount.
17) Unhook the plastic bumper tab from the bottom of the lighting assembly mount.

18) Remove all of the plastic lighting assembly mount from the drivers side.
19) Repeat removal steps (14 – 18) for the passenger side.
20) Using a 10mm socket remove the four bolts securing the upper portion of the radiator shroud to the cross-member. The bolts are located on the backside of the shroud.
21) Slide the TCM computer up out of its seat. Set the computer on top of the radiator hose so that it is out of the way. The TCM computer is located on the driver side portion of the radiator shroud.
22) Using a flat head driver remove the plastic fasteners from both sides of the radiator shroud. There are two fasteners located on each side of the shroud at the lower corners.
23) Remove the A/C hose from the plastic clamp on passenger side of the radiator shroud.

24) Remove the upper portion of the radiator fan shroud from the engine bay.
25) Using a 13mm socket remove the upper and lower A/C condenser connections. The connections are located on the passenger side of the A/C condenser.
26) Using a 10mm socket remove both of the upper A/C condenser mounting bolts. There is one bolt at each upper corner of the condenser.
27) Using a 10mm wrench remove the bolts that secure the hood latch/transmission cooler brace to the upper cross-member.
28) Free the plastic transmission cooler lines from the plastic clips located just behind the bumper towards the passenger side of the A/C condenser.
29) Using a 10mm socket remove the four bolts securing the transmission cooler brace to the lower cross-member support beam. There are two bolts on the passenger side and two on the driver side of the A/C condenser.
30) Bring the support brace with the transmission cooler and hood latch forward. Remove the A/C condenser.
31) Using a 10mm socket remove the bolt holding the small support bar to the driver side of the upper cross-member. The support bar extends to the cross-member from the side of the engine by directly above the battery.
32) Using a 13mm socket remove the two bolts securing the factory intercooler to the upper cross-member. There is one bolt on each side of the intercooler. The bolts are on the backside of the cross-member.
33) Using a 10mm socket remove the 6 bolts holding the upper cross-member in place. There are three bolts at each end of the cross-member.
34) Remove the upper cross-member.

35) Using a 10mm socket remove the bolt securing the coolant reservoir to the metal air box support tray bracket in the engine bay. The bolt is located near the outlet at the bottom of the coolant reservoir.
36) Using a 10mm socket loosen the two bolts holding the metal bracket to the backside of the passenger side frame support structure.

37) Free the A/C line from the plastic clip on the front side of the metal bracket.
38) Remove the metal bracket from the engine bay.
39) Using an 11mm deep socket loosen the hose clamps and remove the couplers from the passenger and driver side of the intercooler.
40) Using a 13mm socket remove the 4 bolts holding the radiator to the intercooler. There are two bolts located on each side of the intercooler.
41) Lift the radiator out of the brackets on the intercooler.
42) Remove the intercooler from the engine bay.

43) Pull the two rubber grommets off the bottom of the factory intercooler.
44) Pull the two rubber pads off the radiator support brackets on the factory intercooler.

45) Pull the two rubber bushings with the metal retainers out of the top brackets of the factory intercooler.
INSTALL

1) Place the two rubber pads from the factory intercooler onto the two U-shaped brackets on the intercooler.
2) Slide the two rubber brushings with the metal retainers into the slotted upper brackets on the intercooler.
3) Set the two lower intercooler grommets into the holes in the lower cross-member just underneath the ends of the radiator.
4) Set a big piece of the cardboard between the fan and the radiator to protect the radiator fins from damage during intercooler installation. The intercooler box is a good source of cardboard.

5) Insert the intercooler in front of the radiator.
6) Secure the radiator to the intercooler with the factory bolts. The radiator sits on the brackets with rubber pads. The upper sides tabs on the radiator mate to the side brackets on the intercooler.
7) Using a 13 mm socket secure the two included 2” lone 90°metal brackets to the square bosses on the intercooler. Secure with the two included M8 – 1.25x15mm bolts, two M8 flat washers and two M8 washers. The brackets should be positioned so that they push down on the radiator.

8) Install the upper cross-member back in place. Use the six factory bolts to secure. Each end requires three bolts. Tighten with a 10mm socket.
9) Using a 13mm socket and the two factory bolts secure the top intercooler brackets to the upper cross-member.
10) Using a 13mm socket and the factory hardware reattach the support bar to the upper cross-member. The support bar extends from the driver side of the engine bay to the cross-member and goes over the battery.
11) Using a 15mm socket remove the four bolts securing the skid plate underneath the front of the truck.
12) Using six of the included #10×3/4” long self tapping screws and a 5/16” socket attach the three new lower shroud mounts. The mounts attach to the bottom of the lower cross-member. The long ends of the mounts rest on the bottom of the cross-member while the shorter ends fold over the edge. Orient the mounts as shown in the following figures. It may be necessary to drill pilot holes to help start the self tapping screws. The mounts are intended to hold the bottom portion of the radiator fan shroud against the bottom of the radiator.
13) Attach the boost tubes to the new intercooler inlet and outlet.
14) Reinstall skid plate using the factory hardware.

15) Carefully bend the edges of the lower A/C condenser support brace away from the fins of the intercooler.
16) Using the factory hardware bolt up the top of the hood latch/transmission cooler brace to the upper cross-member.

17) Set the A/C condenser in place. Temporarily leave out the rubber pads from the lower support brace.
18) Once the A/C condenser is properly aligned between the two lower support beams insert the rubber pads under the bottom edges of the condenser.
19) Using a 10mm socket bolt the A/C condenser to the upper cross-member using the factory hardware.
20) Using a 13mm deep socket reattach the A/C lines to the condenser.
21) Using a 10mm socket and the four factory bolts secure the bottom of the hood latch/transmission cooler brace.

22) Insert the upper portion of the radiator fan shroud into the engine bay.

23) Slide the TCM computer back into its stock position.

24) Re-secure the sides of the radiator fan shroud with the factory plastic pine. Be sure that the bottom portion of the shroud slides between the installed mounts and the radiator.
25) Re-install the air box support tray and bracket, air box and intake arm. Follow the removal steps in reverse order for installation.

26) Re-install the plastic cover over the front of the engine bay. Use the factory plastic tabs to secure.

27) Install the 1” foam spacer between the backside of the upper cross-member and the radiator fan shroud. Use four M6 – 1.0x45mm bolts and four M6 flat washers to secure the top of the radiator fan shroud and the foam spacer to the upper cross-member.
28) Re-install the lighting assembly mounts, headlights, and grill. Follow the steps used to disassemble the components in reverse order for reinstallation.

29) Recharge the A/C system. Consult a GM manual for the correct procedure.

FINAL CHECKLIST:

• REVIEW THESE INSTRUCTIONS TO MAKE SURE THAT ALL FASTENERS, CLAMPS CONNECTIONS HAVE BEEN INSTALLED CORRECTLY.

• CHECK THAT ALL HOSE ROUTINGS ARE FREE OF ANY KINKS OR NEAR ANY HOT OR ABRASIVE SURFACES THAT MAY CAUSE WEAR OVER TIME. ADJUST OR REROUTE AS NECESSARY TO PROVIDE ADEQUATE SLACK FOR ENGINE MOVEMENT.