



**Upgrade Front Intercooler
'03- Dodge Cummins**

P/N 2-477





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. Turbonetics, Inc 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 Turbonetics' technical support staff at 805-581-0333, between the hours of 8:00AM and 5:00PM 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 page 3 to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact Turbonetics' customer service staff.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Turbonetics reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

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 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.

- Dodge 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
- The ability to securely lift the vehicle at least a few feet off the ground

PARTS LIST

<i>Part Number</i>	<i>Description</i>	<i>Quantity</i>
5-3XX	Heat Exchanger Assembly	1
31058	Bolt, M10-1.50 x 100mm	4
30804	Flat Washer – M10	4
	Rubber Bushing	2
30805	Lock Washer – M10	4
30566	Bolt, ¼-20 x 0.5"	4
30588	Flat Washer – ¼"	4
30687	License Plate Frame – Spearco	1
21287	Bracket, Bottom Support – Left	1
21288	Bracket, Bottom Support – Right	1

TOOLS REQUIRED

- 1.) 18mm Wrench
- 2.) 10, 11, 13, 18mm Deep Socket
- 3.) Torque Wrench
- 4.) Ratchet



INSTALLATION:

Removing the front bumper

- 1.) Using a 18mm socket or a Gear Wrench, remove the six bolts that holds the front bumper (SEE FIGURES 1 & 2)

FIGURE 1

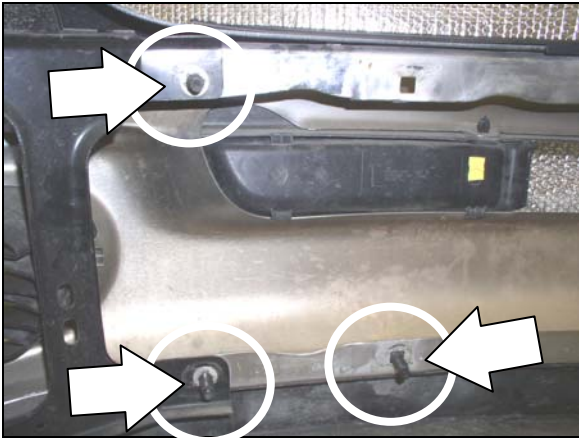
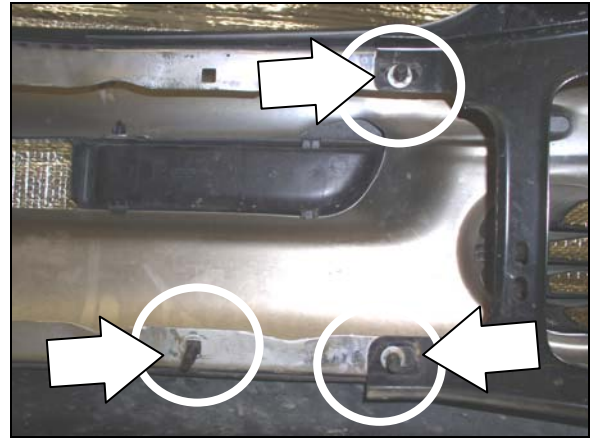


FIGURE 2



- 2.) Once all the bolts are removed, lift up on the bumper and pull towards the front of the truck. Caution, the front bumper is heavy; it is recommended to have another person help you.

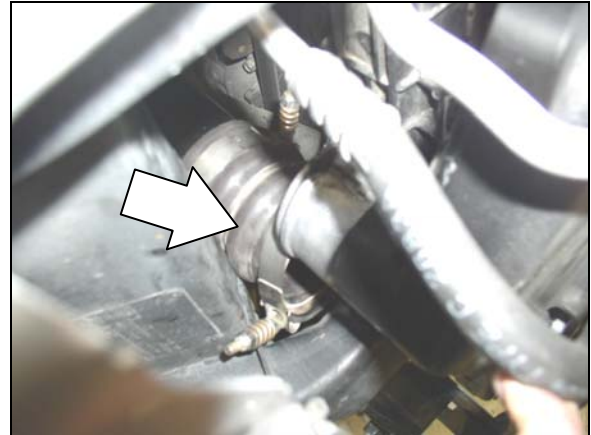
Removing the intercooler

- 1.) Loosen the hose clamps on the hose that connects the intercooler pipes to the intercooler with a 11mm socket (SEE FIGURES 3 & 4)

FIGURE 3



FIGURE 4





- 2.) Slide the hoses toward the rear of the vehicle, away from the intercooler
- 3.) Remove the four bolts that mounts A/C condenser to the intercooler using a 13mm socket (SEE FIGURES 5 & 6)

FIGURE 5

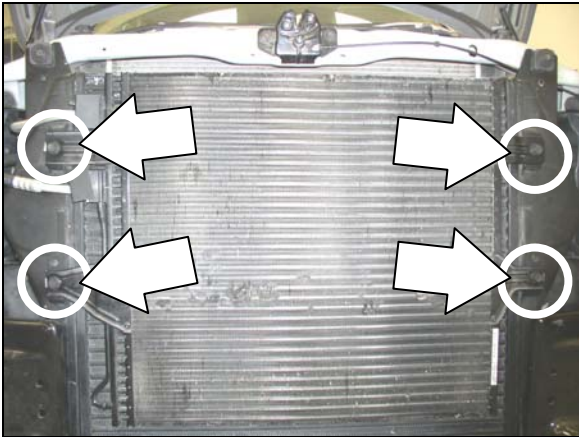


FIGURE 6



- 4.) Carefully lift the condenser out and rotate the condenser clockwise. Use caution when rotating and lifting the condenser out of the vehicle so you do not damage the A/C lines. You may use a small table and rest the condenser on top of it or have a buddy hold the condenser for you while you replace the intercooler
- 5.) Remove the two bolts on the top of the intercooler that bolts the intercooler to the radiator support using a 10mm socket (SEE FIGURES 7 & 8)

FIGURE 7



FIGURE 8



- 6.) Tilt the intercooler forward and remove the driver's side intercooler hose
- 7.) Gently lift the intercooler out and set it aside



- 8.) Remove the two rubber grommet on the top mount of the factory intercooler and install them on the new intercooler (SEE FIGURES 9 & 10)

FIGURE 9

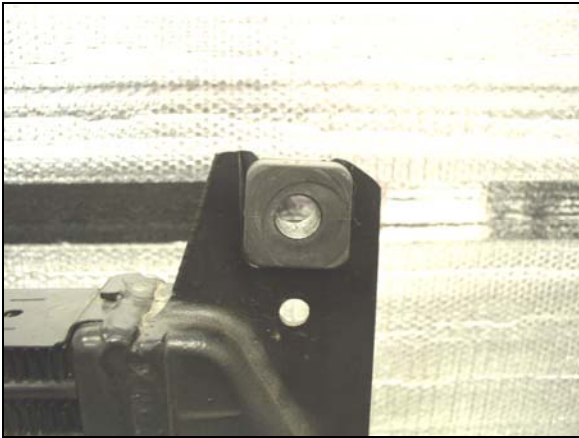


FIGURE 10



Installing lower intercooler support brackets

- 1.) Using fine point marker or a scribe, trace the location of the bumper support brackets to the vehicle's sub frame to insure proper bumper location later
- 2.) Using a 18mm socket, remove the four bolts that hold the bumper support bracket to the frame (SEE FIGURES 11 AND 12)

FIGURE 11

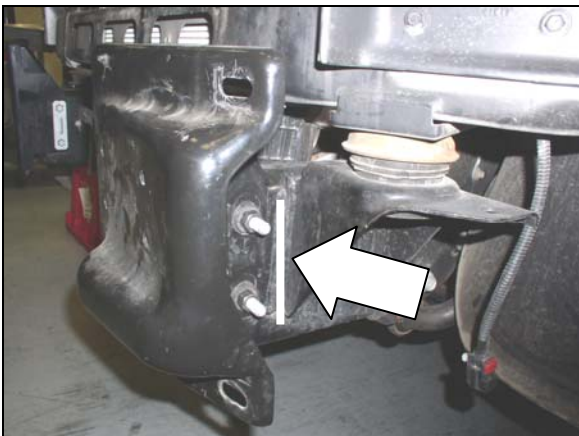


FIGURE 12





- 3.) Install the new supplied lower intercooler support bracket in front of the factory bumper support bracket and the vehicle's frame using the factory bolts. Make sure the factory bumper support bracket matches the outline you traced earlier to insure proper location of the bumper (SEE FIGURES 13 & 14)

FIGURE 13



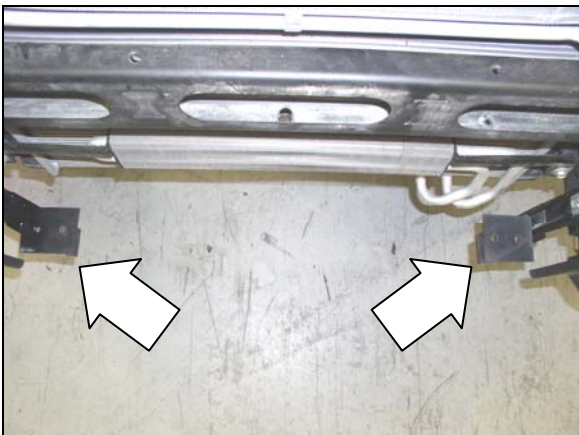
FIGURE 14



Installing the new Spearco intercooler

- 1.) Place the two supplied rubber mounting / isolator pad on the flat portion of the lower intercooler support brackets (SEE FIGURE 15)

FIGURE 15



- 2.) Make sure the holes on the pad lines up with the two holes on each support bracket



- 3.) Thread the four supplied M8x1.25 bolt with a lock washer and then a flat washer through the lower support bracket and the rubber isolator. Just slightly protruding out of the rubber isolator (SEE FIGURES 16 & 17)

FIGURE 16

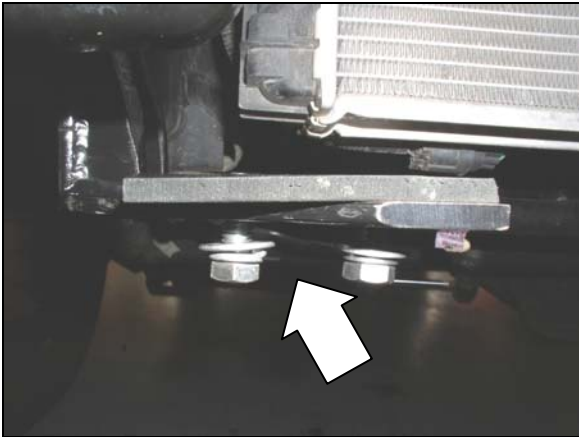
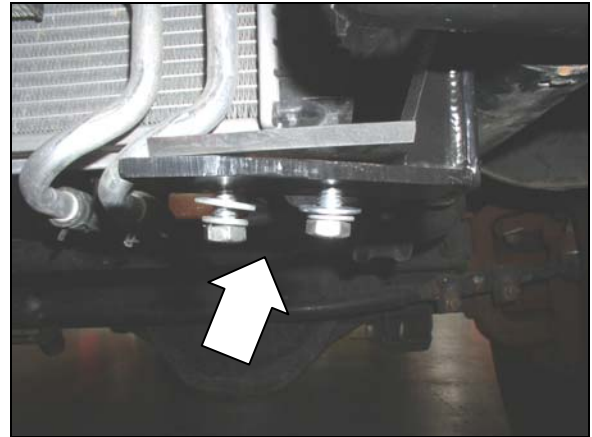


FIGURE 17



- 4.) Gently set the new Spearco intercooler into place and slide both intercooler hoses on to the hose connection of the intercooler
- 5.) Tighten the four bolts on the bottom of the intercooler finger tight
- 6.) Install the two upper intercooler mount bolts and tighten to 10 ft./lbs (SEE FIGURES 18 & 19)

FIGURE 18

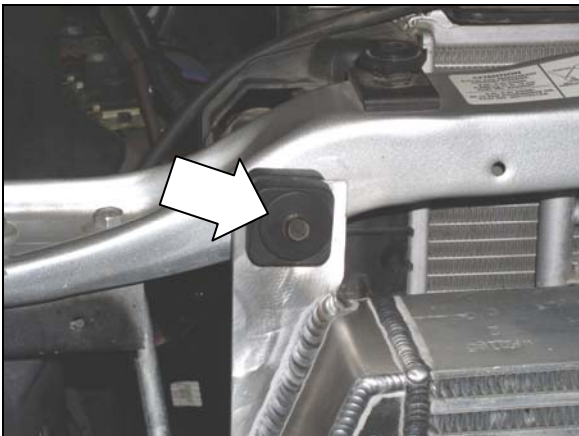
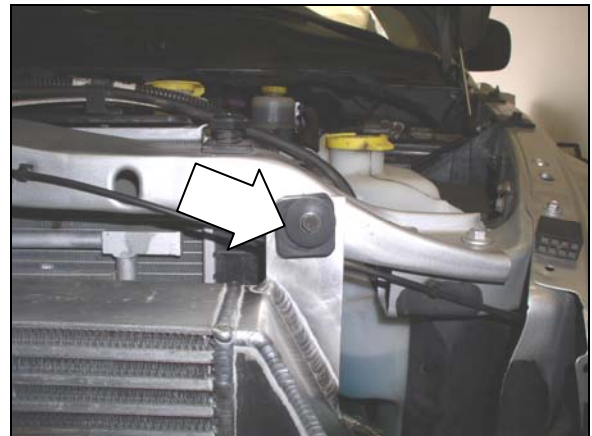


FIGURE 19



- 7.) Tighten the four bottom intercooler mount bolts to 25 ft./lbs



- 8.) Re-install the factory condenser back on the front of the intercooler and tighten the four supplied 1/4-20 bolts and washers using a 11mm socket. Torque bolts to 10 ft./lbs (SEE FIGURES 20 & 21)

FIGURE 20

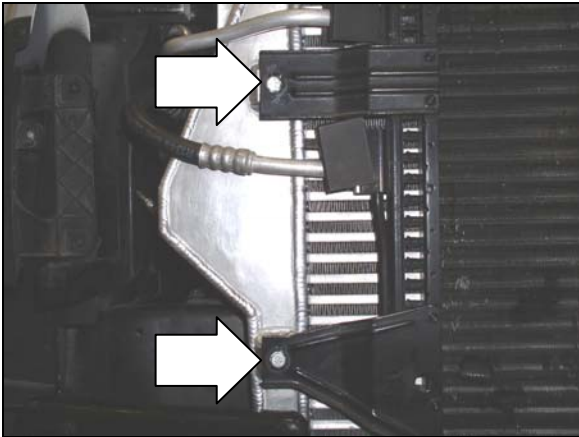
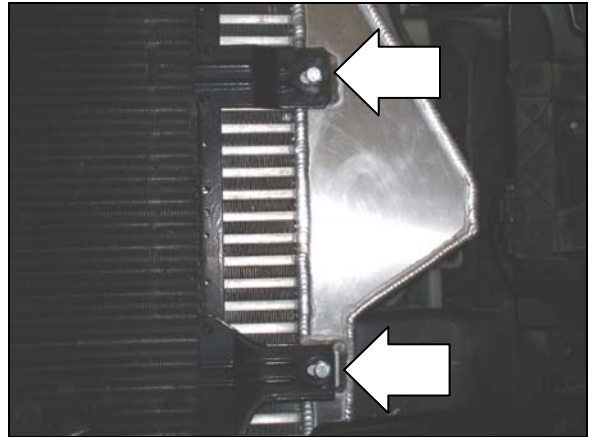


FIGURE 21



- 9.) It may be necessary to bend the A/C lines slightly so it does not contact the grill when the hood is closed (SEE FIGURE 22)

FIGURE 22

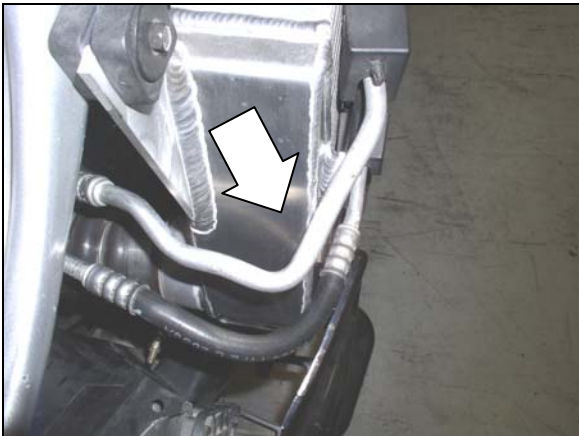


FIGURE 23



- 10.) Be sure all hose clamps are tight, to ensure no boost leaks
Note: You want to make sure the hose clamps are tight especially if you are boosting 25+ psi
- 11.) Re - install the bumper in reverse order. It is necessary to turn the carriage bolts around for it to clear the new Spearco intercooler (SEE FIGURE 23)
- 12.) Check all nuts, bolts, and clamps for tightness



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.

“NO FAULT / NO HASSLE” WARRANTY PROGRAM:

TURBONETICS will repair or replace, at our expense, any new TURBONETICS / Spearco products that fail, including products used in racing or competition applications, for a period of one year from the original date of purchase. All turbocharger and cartridge assemblies have a factory installed inline oil filtration device. This filter device must remain in place if any warranty is to be considered under the No-Fault / No-Hassle program. Electrical components that fail due to misuse are not covered under the No-Fault / No-Hassle Warranty Program.

Warranty is limited to TURBONETICS products and does not include progressive or subsequential damage and does not cover removal or installation labor or associated parts. No warranty is made for any other claims for special, indirect or consequential damages including but not limited to component removal or installation equipment downtime, prospective profits or other economic loss.

Warranty will not be granted for recurring damage, malfunction, or failure due to improper installation, misuse, unauthorized repair or alterations, or externally induced physical damage.

Warranty is non-transferable and must be processed via the original purchaser from TURBONETICS.

Remanufactured units, performance upgraded units, and O.E.M. replacement units are covered by a 90-day warranty or the O.E. warranty period.

TURBONETICS highly recommends that the installation of mechanical or electrical parts be performed by trained professionals. Improperly installed products may lead to unsafe and unreliable conditions.

RETURN POLICY:

Only unused and complete merchandise may be accepted for return subject to inspection and acceptance by TURBONETICS. No goods will be accepted without prior return authorization from TURBONETICS. Call for approval and RGA (Returned Goods Authorization) tracking number. No returns will be accepted without an RGA tracking number. No returns will be accepted after ninety (90) days from the original shipping date from TURBONETICS unless approved. All approved returns are subject to a 15% restocking charge – NO EXCEPTIONS. The original invoice must accompany the return. Accepted warehouse / distributor and open account returns will be issued credit only.

RETURNED GOODS AUTHORIZATION TRACKING NUMBER:

TURBONETICS will only accept product returns, repair orders / upgrades, and warranty requests that have been approved and are returned with a corresponding RGA (Returned Goods Authorization) tracking number.

Contact TURBONETICS for approval and the RGA number. Write the RGA number clearly on the outside of the package and include it inside the package. This is very important in allowing us to properly identify and process your request. Failure to comply with this requirement will result in the delay of processing or the product being returned to you.