

ARP-K-DG-HEMI5

4TH GEN RAM HEMI 5.7

INSTALLATION GUIDE



QUALITY AMERICAN MADE SUPERCHARGERS



Installation Instructions

4TH GEN RAM TUNER KIT

ARP-K-DG-HEMI5



STEP 1

Disconnect battery.

*Unplug the iat sensor and remove
factory airbox or CAI.*

Drain the coolant.

*The drain plug is located on the drivers
side lower half of the radiator.*



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STEP 2

Only if your Truck is equipped with thermostatically controlled transmission cooling.

Remove upper radiator hose from the thermostat housing. As well as the lower transmission coolant hose on the thermostat housing.

Remove the (2) bolts that mount the thermostat housing. Replace with the new supplied housing.



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STEP 3

Remove factory balancer. These are pressed on. You will need a special puller, found at your local parts supplier. For this 2016 we used 13450 from SP Tools.



Press on new ATI balancer using proper tool, can be rented or purchased online.



Installation Instructions

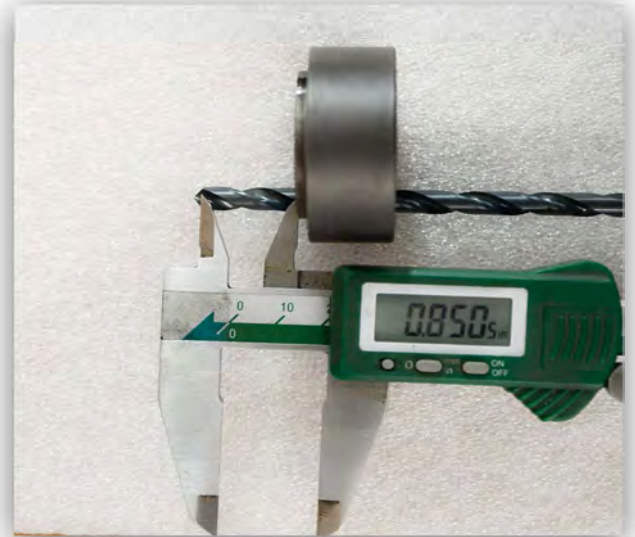
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STEP 4

Measure the drill bit through your alignment tool. Make sure it is through .850" from the end of the taper of the drill bit to the inside face of the tool. Wrap a piece of tape around the back side of the tool on the drill bit.



STEP 5

Slide the bit out of the tool. Check your measurement. From the end of the taper to the tape should be 1.650".



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STEP 6

Install the pin tool with supplied bolt.

Snug down so tool is locked in position while drilling.

STEP 7

Install drill bit into your drill of choice, a 90 degree air drill works well for fitting into tight areas. Make sure you drill in till the tape hits the surface of the tool. Repeat process for the other hole.

Clean shavings from area.



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STEP 8

Install pins into drilled holes. Verify the pins are both flush or below the surface of the Bolt/Washer surface of the pulley.



STEP 9

Apply red loctite and install supplied bolt
Tighten to factory torque specs
Chrysler 130 ft lbs



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STEP 10

*Install the supercharger crank pulley
using (3) 3/8 SHCS and washers.*

Torque to 29 ft. lbs.



Installation Instructions

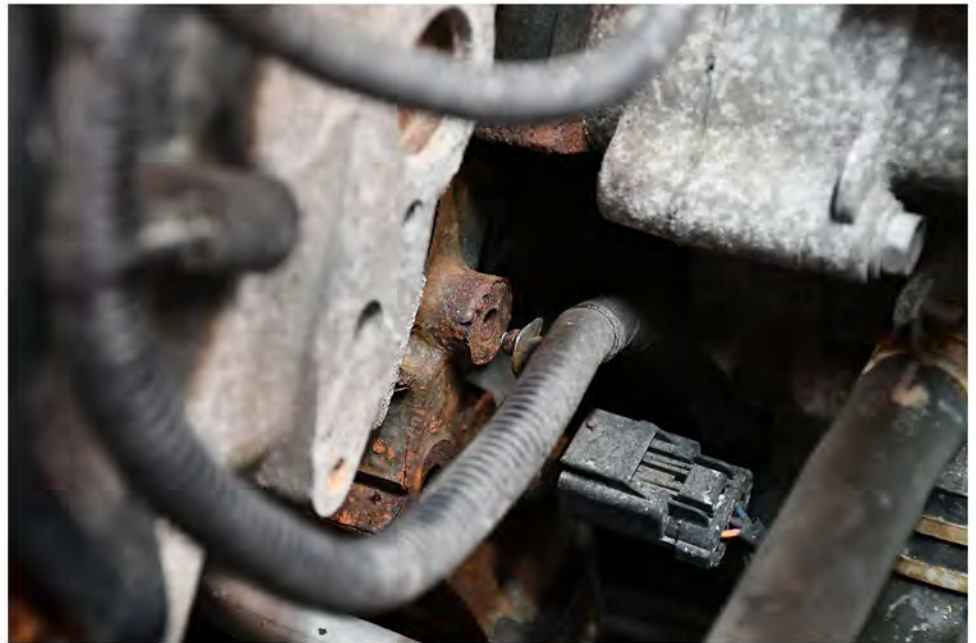
4TH GEN RAM TUNER KIT

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STEP 11

On the passenger side of the engine, below the head. Slide the wire retaining clip out of the block to allow harness to be adjusted to fit the supercharger plate.



STEP 12

Next to that hole, find the corner bolt hole in the block. This will likely be corroded, chase the hole with a M10x1.5 tap.



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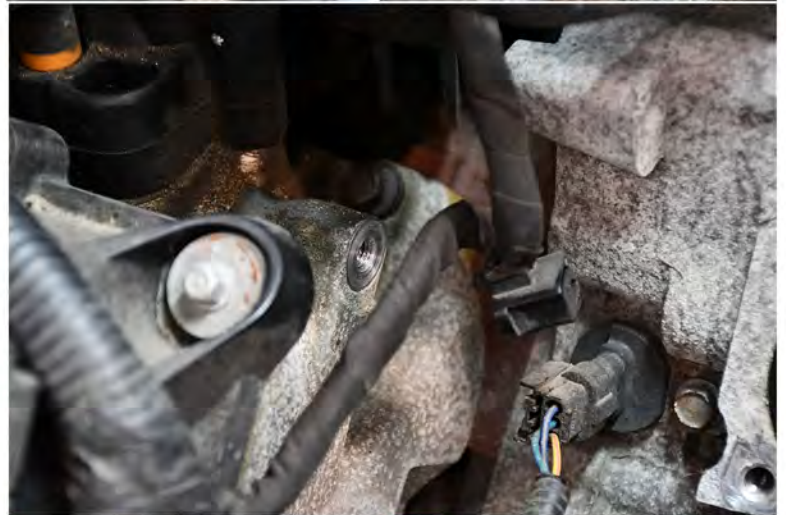
STEP 13

Remove ground bolt from head.



STEP 14

Carefully drill the hole for the plug mount to accept a 10mm bolt. This will be re-attached to the head plate later.



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STEP 15

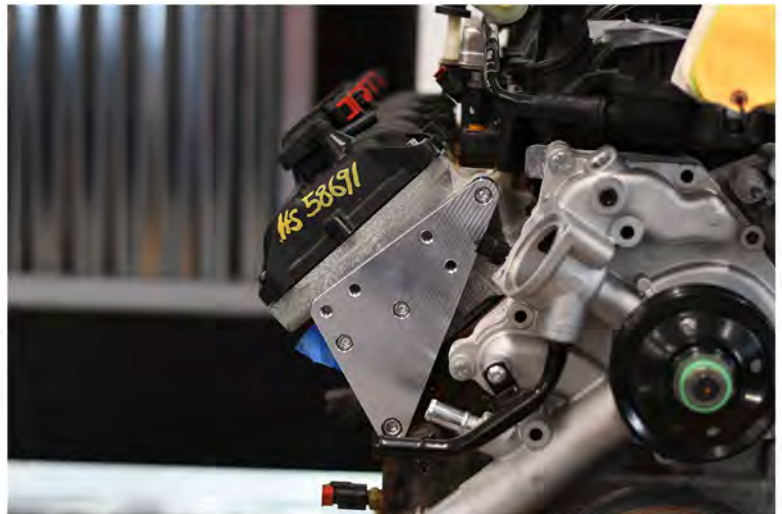
Install the head plate ARP-DG10034.

Loosely install (2) M8 x 25mm bolts in the center holes of the plate as pictured.

In the upper right hole use

(1) M8 x 30mm bolt and .420" spacer.

Install the drilled out ground plug between the head and back side of the spacer. If you do not have this plug here, use the .450" spacer.



STEP 16

In the lower left hole on the block install

(1) M10 x 30mm bolt and .485" spacer

between the bracket and head.

Torque bolts

M8 to 19 ft lbs

M10 to 29ft lbs



Installation Instructions

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STEP 17

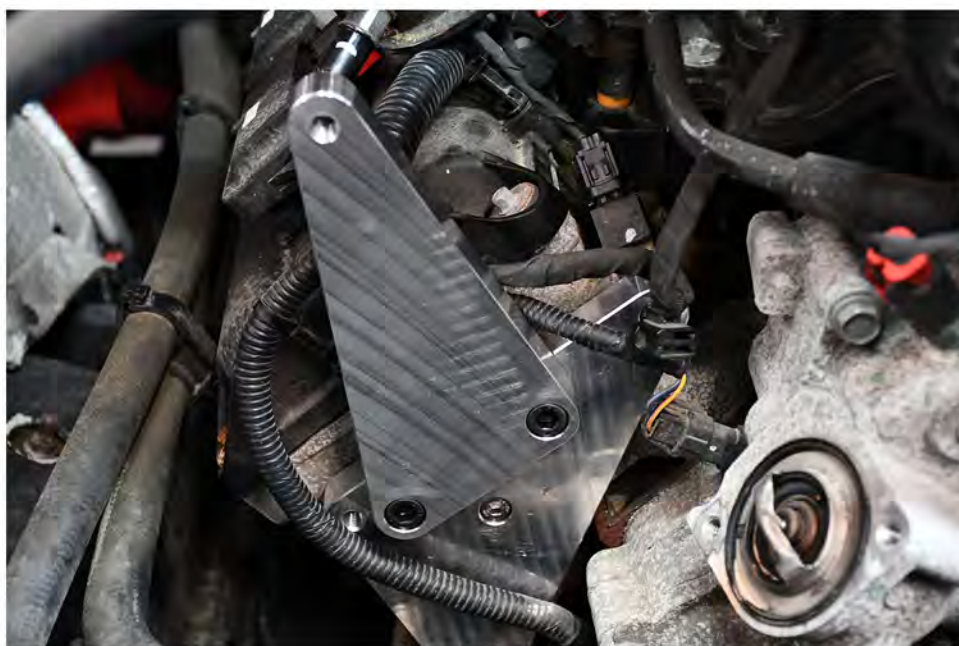
Install intermediate plate

ARP-DG10034 using

(2) M10x25mm bolts

Torque to 29 ft lbs

*Make sure to route the wires
safely behind the plate.*



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STEP 18

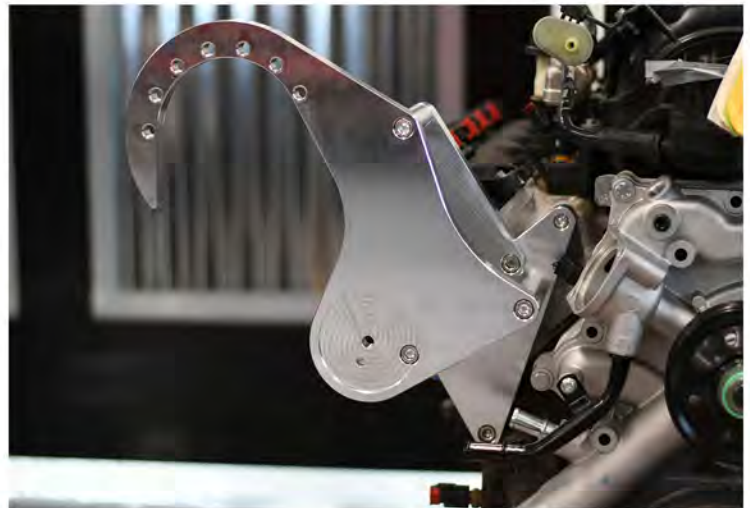
Rotate the clamps down on the coolant hoses to clear for the supercharger plate

ARP-DG10036.

(1) M10 x 100mm bolt in the top with a 2.725" spacer into the intermediate plate.

Next (2) M10 x 120mm bolts and 3.475" spacers in the lower two holes. You will need to remove the belt tensioner from the bracket to access one of the bolt holes.

Torque to 29 ft lbs



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STEP 19

Re-Install the tensioner
tighten 15mm nut on the back.

*Make sure the locating pin is
setting in the correct location.*



STEP 20

Install the supercharger head
unit using (7) 3/8 x 1 1/4" bolts
and washers.

Torque to 29 ft lbs



STEP 21

Install the supercharger belt. Slide the belt on the crank pulley first, then over supercharger pulley. Release tension of the tensioner with a long 15mm wrench turning clockwise from below. Allowing the belt to slide over the pulley and under the idler pulley.



STEP 22

For trucks with thermostatically controlled transmission cooler

If your Ram has a lower coolant line ran to the transmission. Remove and replace the rubber hose with the supplied line (Long side facing up). Cut upper radiator hose roughly 3" after the curve as seen in photo. Mock it up before making your cut. Re-use clamp for smaller lower hose. Insert supplied coolant t-pipe. And supplied clamps for the upper radiator hose.



STEP 23

Slide filter over back of compressor housing and tighten clamp.



Setting up your Ram for Torqstorm

In order to supercharge your Ram, you will need to increase your fuel supply. As well as cool the air charge using a type of intercooler.

And finally the truck will need to be tuned. Please consult with your tuner before selecting parts for your build. This next section of this instructions is merely suggestions on what we used on our prototype truck. Accelerated Racing Products is not responsible for any improper installed or setup aftermarket parts. These are intended for offroad use, and may not comply with your area's highway regulations.



Fuel

Injectors

For this project we chose to use factory Chrysler Hellcat injectors.

Part # 68170238AB. QTY 8

Fuel Pump

To feed these larger injectors we went with a Holley Sniper 340lph fuel pump.

Part # 19341

In order to get this pump to work, we had to disconnect the venturi system.

The fuel pump is a touch taller than the factory pump, so we shaved retaining ring a little to get the fuel pump to set in the bucket like factory. We drilled holes in the bucket to help feed it since the venturi is no longer plumbed in.



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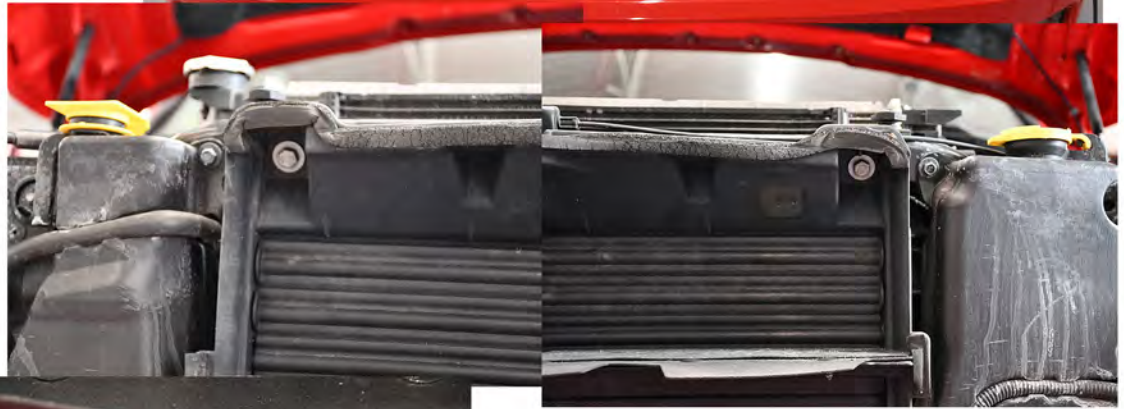


Intercooler

Grill removal

Carefully remove the grill from your truck.

Remove the grill shutter mechanism. (4) 10mm bolts. Unplug shutter from harness and remove.



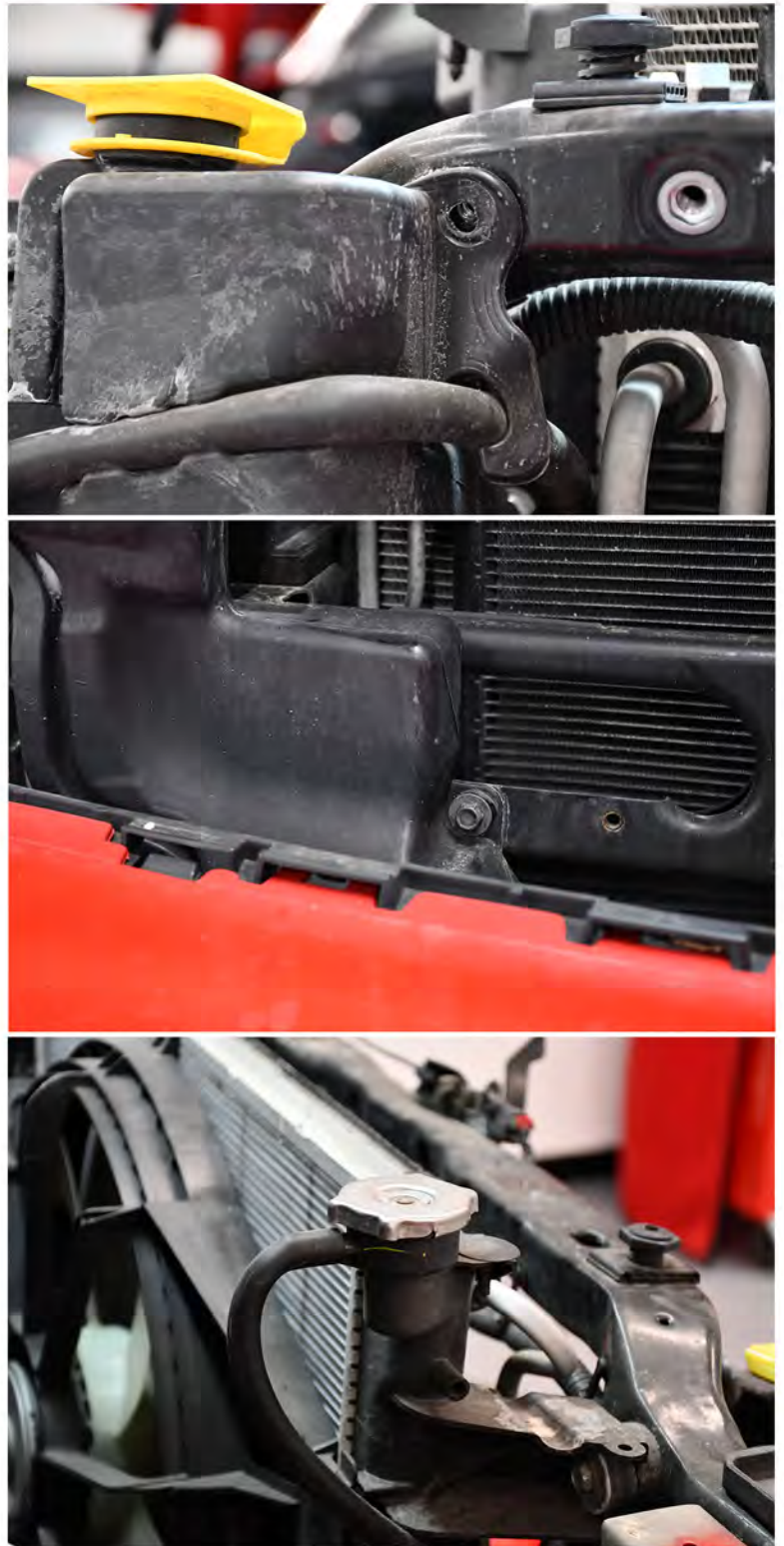
Intercooler

Coolant tank

To make room for the intercooler piping we gained access through where the factory coolant overflow tank is mounted.

Remove the tank, there is (2) 10mm bolts holding it in.

Remove the hose from the radiator. Save for later use with new container.



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Intercooler

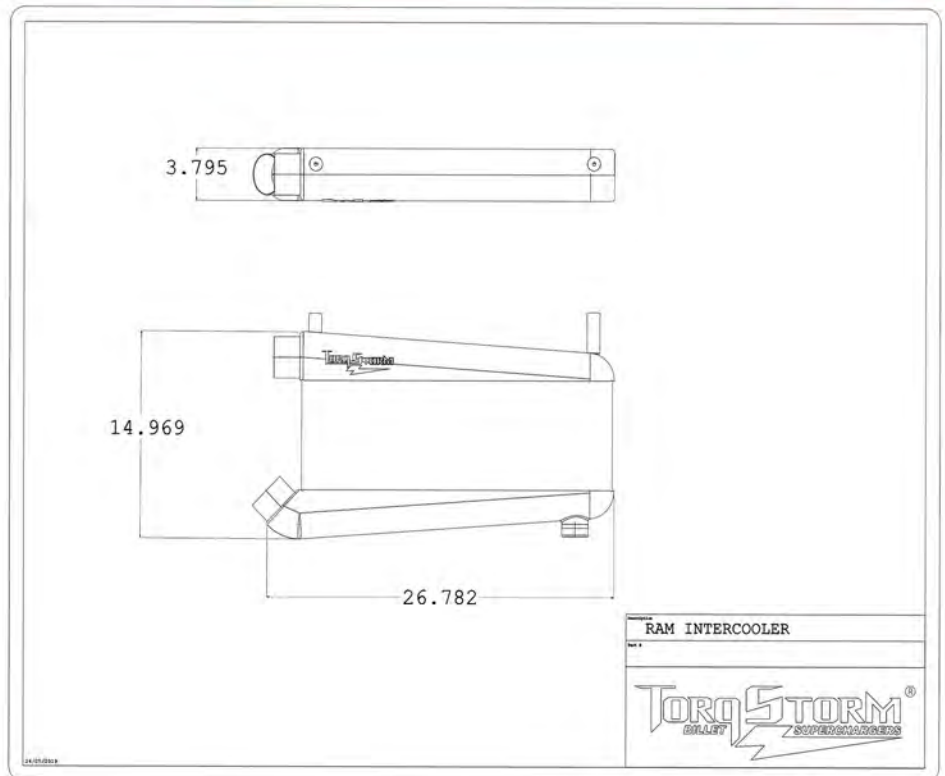
Intercooler options

For our Ram we built a custom intercooler.

Here is a dimensional drawing.

There are several different options available on the web.

To mount the intercooler we drilled holes through the top of the radiator support. Bolting to the bungs we welded to the intercooler.



Intercooler

Intercooler Piping

Once the intercooler is mounted we fit the truck with some 3" aluminum intercooler tubing. This can be purchased on the web from a number of different retailers. For the bottom pipe, we have a 90 deg silicone coupler on the supercharger that connects to a straight 3" pipe. (On this pipe is where we put our blow off valve.) The pipe will exit the hole where the factory coolant overflow was. We then connected to the straight pipe with another 90 deg silicone coupler which connected to the intercooler. For the return side we exited the intercooler with a 45 deg aluminum tube to a straight silicone coupler. Then to another 45 deg aluminum pipe that angles up towards the throttle body. Following that is another long neck 45 deg pipe. To connect these two you can add another straight coupler, or weld the pipes together. Lastly end with a 90 deg 3"-3.5" coupler attaching to the throttle body. Install clamps and tighten.



Coolant overflow

Moroso Part # 710-63657

To keep the coolant system working as factory we replaced the oem coolant overflow tank with a universal tank from Moroso.

We located an existing hole in the radiator support (as seen in pic) and bent up a piece of 1" flat stock and drilled some holes to attach the tank.

Use the hose we kept from the factory tank, trim to fit and attach to brass fitting on the new tank. Make sure drain is closed and you are finished.



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Tuning

Flashing your pcm and installing MAP sensor

In order to run a supercharger on your vehicle you have to make calibration changes to your PCM. Contact your tuner and see what their procedure is to have this done. For our build the PCM had to be sent out to be unlocked before it could be tuned. Your MAP sensor will need to be changed to Part #5033224AB. Located at the back of the intake as seen in pic. The outside rib needs to be shaved. (See pics) using our adapter



*to fit in the intake manifold adapter part # **ARP-LXH-MAP-ADP***

Lastly, the air temp sensor will need to be installed in your intercooler piping. The factory is just a push style that sets in a rubber grommet. In the kit we include a weld in bung for a threaded iat sensor. Above is a pic of the recommended sensor part #56027872 for you to purchase.

Installation Instructions

4TH GEN RAM TUNER KIT

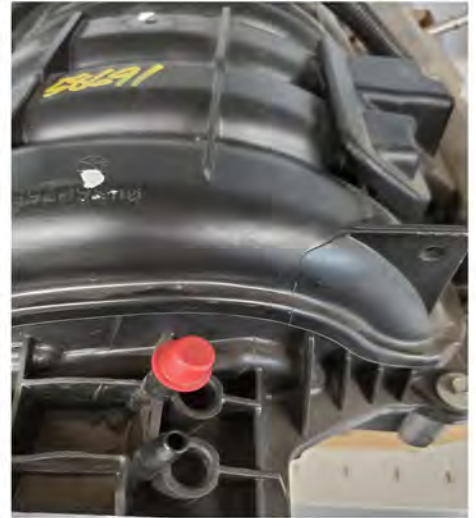
ARP-K-DG-HEMI5



BOV Install

Installing your Blow off valve

Behind your tb on the intake there are two small ports that you can tee off of and run the supplied 7/32 vacuum line to your Bov. As mentioned earlier we welded the supplied Bov bung to the straight section of the lower charge pipe.



Re-assemble

Carefully re-install your grill, checking for clearance issues.

*Install radiator cover. Carefully read the next two pages and
you are ready to test drive.*



Installation Instructions

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ARP-K-DG-HEMI5



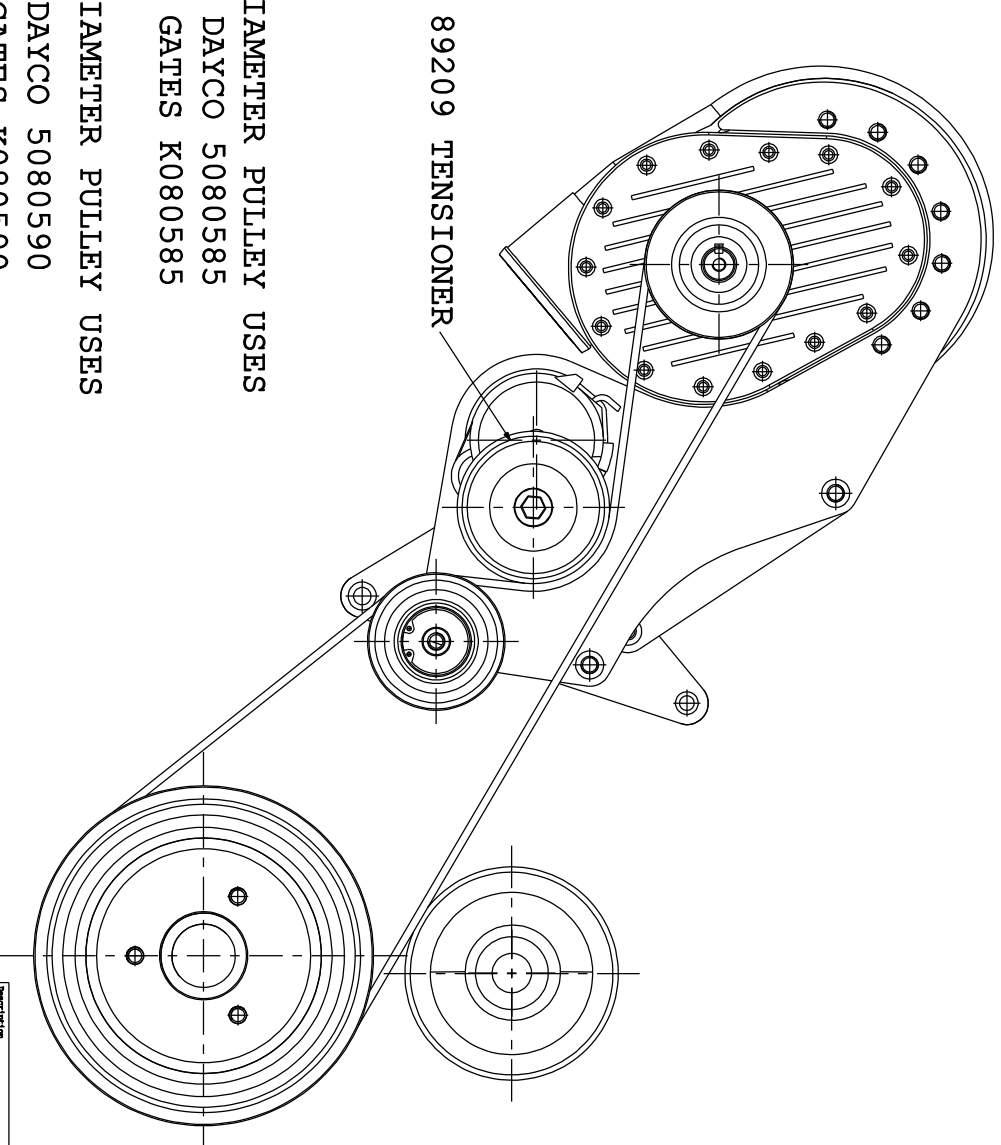
- Replace all spark plugs with one or two heat ranges cooler.
- Fuel/ Ignition managment system must be tuned when installing Torqstorm Supercharger.
- Reconnect battery
- Double check all fittings, bolts, clamps. Make sure all wires and lines are properly secured with clamps or wire ties .
- Make sure fuel tank is filled with 91 octane or higher fuel.
- Start engine and allow to idle a few minutes then shut down.
- Recheck to be sure that no hoses, wires, ect are near the exhaust, headers, or supercharger components.
- Recheck tune before commencing test drive.
- After test drive examine all bolts, belts and check for leaks or running issues before finishing with the vehicle.
- Order direct from Torqstorm Part NO ARP-OIL-MTL

Your TorqStorm Supercharger will have a 1 year limited warranty from the date on your paid invoice.

Additional information for Boost

- It is suggested to run a wideband o2 sensor to monitor correct air/fuel ratio. 11.5 is ideal for 91 octane or higher pump gas.
- *PLEASE TAKE SPECIAL NOTE: Operating the vehicle without all the sub assemblies completed and properly installed and working may cause FAILURE OF MAJOR ENGINE COMPONENTS.*
- If you have any questions or concerns contact us at sales@torqstorm.com
- *Torqstorm superchargers come from the factory filled with 6 oz of ARP-OIL-MTL*
- *Supercharger is ready to run*

BELT ROUTING



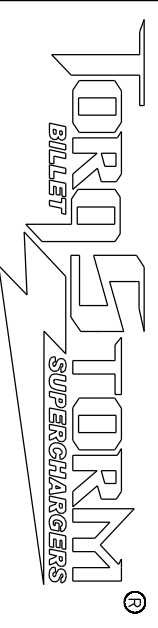
3.100" DIAMETER PULLEY USES
BELT = DAYCO 5080585
GATES K080585

3.250" DIAMETER PULLEY USES
BELT = DAYCO 5080590
GATES K080590

3.500" DIAMETER PULLEY USES
BELT = DAYCO 5080595
GATES K080594

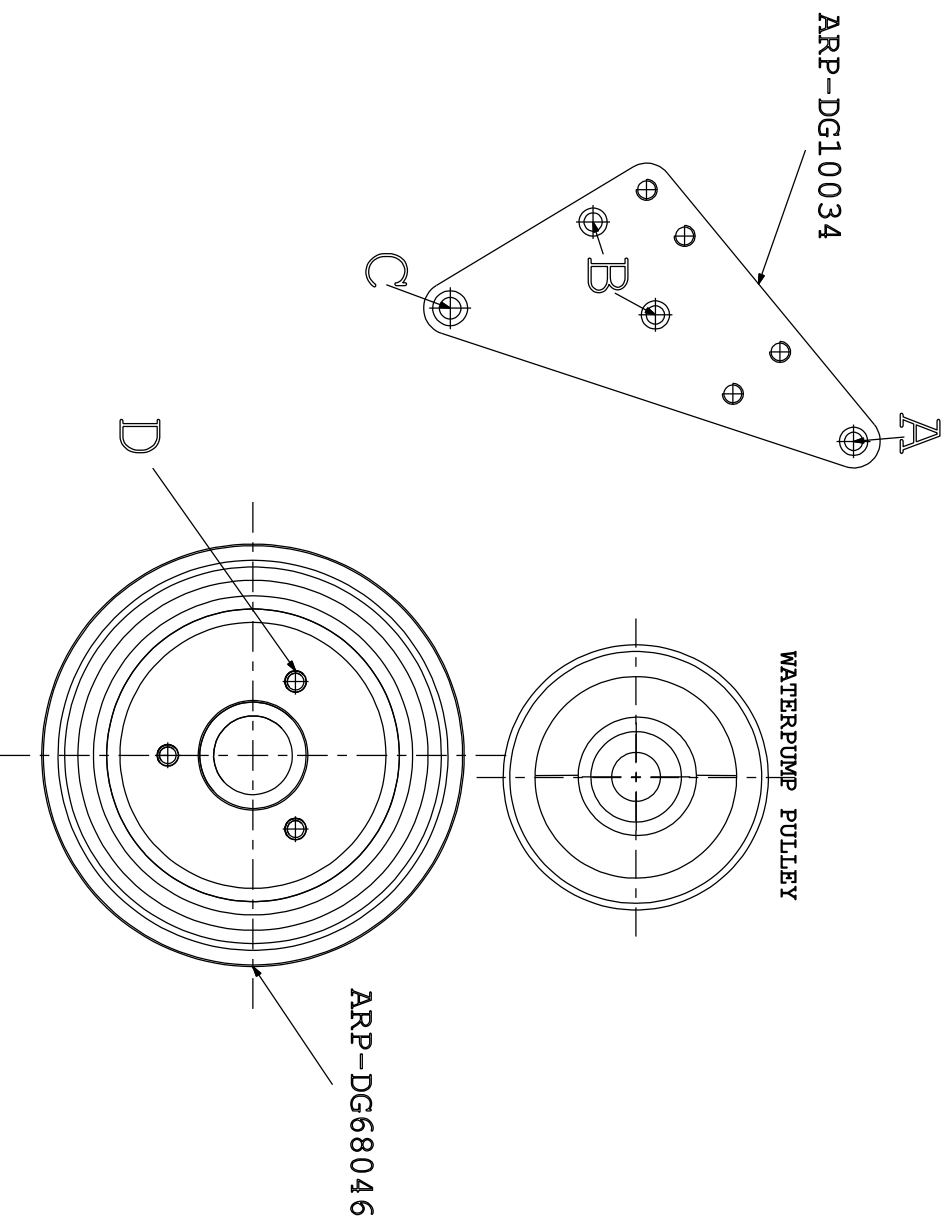
Description
BELT ROUTING

Part #
ARP-K-DG-RAMVVT



HEAD BRACKET LAYOUT

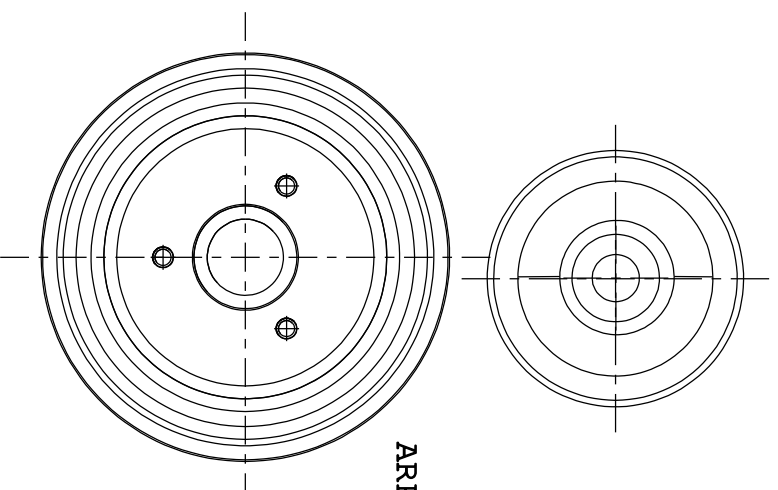
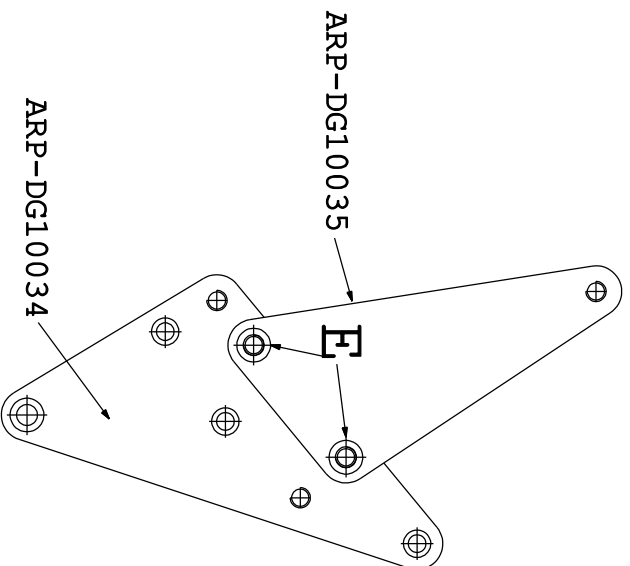
FRONT VIEW



- A = 1 @ M8x1.25 x 30mm SS SHCS
- A = 1 @ ARP-S-100-0420 OR ARP-S-75-0450 SPACER
- A = SEE INSTRUCTIONS FOR CORRECT SPACER TO USE
- B = 2 @ M8x1.25 x 25mm SS SHCS
- C = 1 @ M10x1.5 x 30mm SS SHCS
- C = 1 @ ARP-S-10-0485 SPACER
- D = SUPPLIED WITH ATI DAMPER

INTERMEDIATE BRACKET LAYOUT

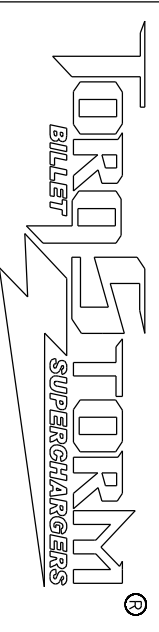
FRONT VIEW



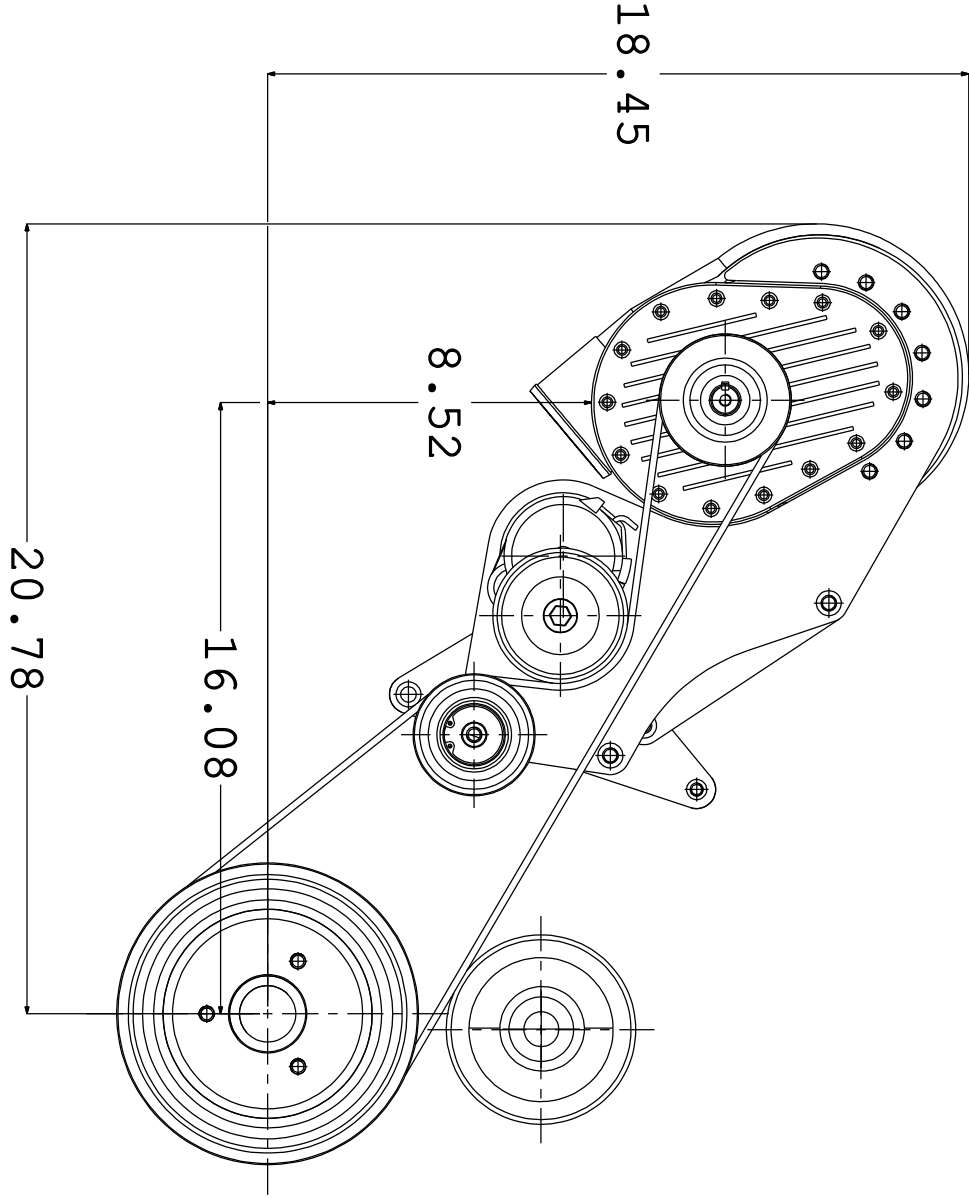
ARP-DG68046

E = 2 @ M10x1.5 X 25mm SS SHCS

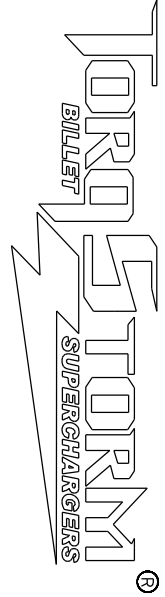
Description
INTERMEDIATE BRACKET LAYOUT
Part #
ARP-K-DG-RAMVVT



KIT DIMENSIONS

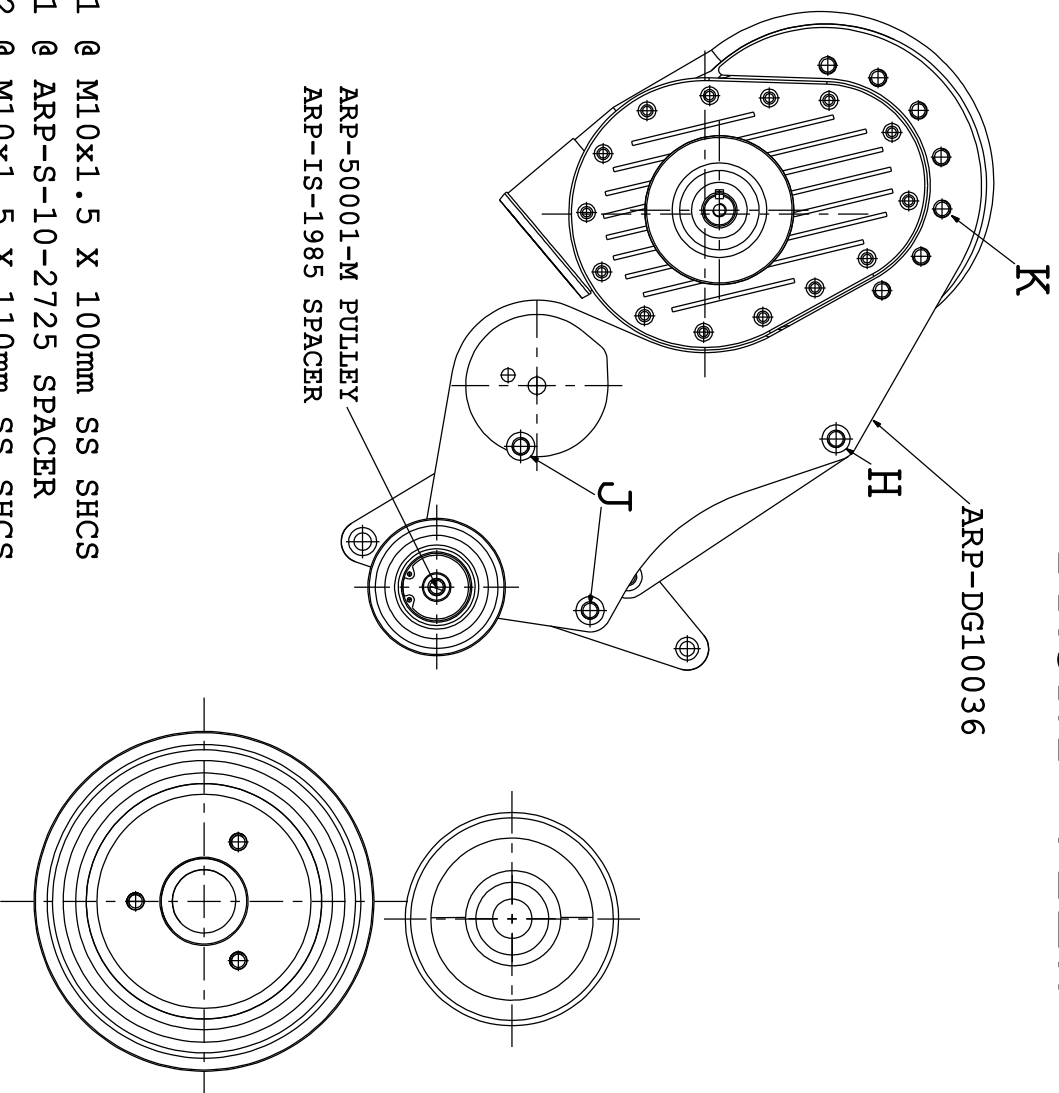


Description	
KIT DIMENSIONS	
Part #	
ARP-K-DG-RAMVVT	



SUPERCHARGER BRACKET LAYOUT

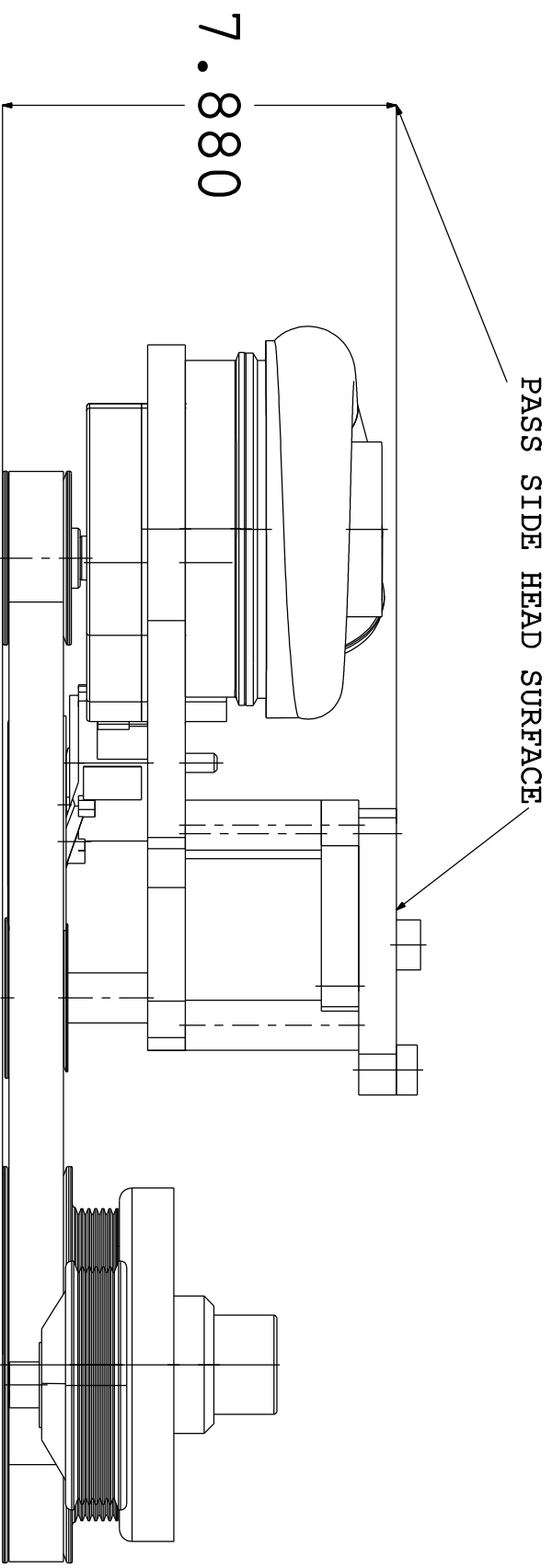
FRONT VIEW



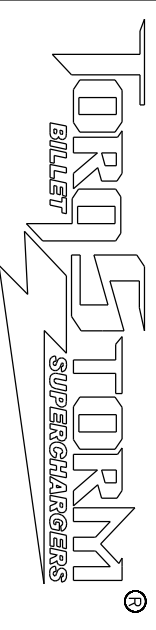
- H = 1 @ M10x1.5 X 100mm SS SHCS
- H = 1 @ ARP-S-10-2725 SPACER
- J = 2 @ M10x1.5 X 110mm SS SHCS
- J = 2 @ ARP-S-10-3475 SPACER
- K = 7 @ 3/8-16 X 1-1/4 SS SHCS

Description
SUPERCHARGER BRACKET LAYOUT
Part 1
ARP-K-DG-RAMVVT

KIT DIMENSIONS



Dimension KIT DIMENSIONS
Part # ARP-K-DG-RAMVVT



OIL CHANGE MUST BE PERFORMED EVERY 10,000 MILES OR ONCE A YEAR, WHICHEVER COMES FIRST.

FAILURE TO DO SO WILL VOID YOUR WARRANTY.

YOU CAN PURCHASE OIL

FROM US DIRECTLY AT

TORQSTORM.COM

PART # ARP-OIL-MTL

STEP 1

Remove your supercharger from your car and flip over to backside to access the drain plug.

STEP 2

Remove drain plug with a 1/4" allen and drain oil.



STEP 3

*Pour in your Torqstorm specific oil,
6oz into the same hole you drained
from.*



STEP 4

*Replace the drain plug.
Torque to 15 ft lbs*



STEP 5

*Re-install the supercharger on your vehicle.
Take note of the mileage on your odometer.*

In many cases your vehicle is exposed to harsh weather and road debris. Regular maintenance is important in order for your mechanical pieces to function properly. BOV inspection every oil change interval.

STEP 1

You can leave the body of the BOV attached to your plumbing as long as your able to remove the lid from your BOV. Remove the lid, counter clockwise, there is a strong spring beneath it.



STEP 2

Remove the spring and brass piston. Clean and inspect the piston and spring for any abnormal wear or defects.



STEP 3

Using Silicone paste apply a modest amount inside the body of the BOV.

STEP 4

Install the brass piston into the body of the BOV, checking to make sure it goes in and out smoothly.

STEP 5

Install the spring into the piston, making sure it is seated flat in the “Cup”



STEP 6

Install the BOV cap. Make sure the spring is seated properly. Be careful not to cross thread it. A little wd-40 on the threads will help it to assemble easier.



STEP 7

Attach your vacuum line and check operation.



Accelerated Racing Products, LLC

Billet Supercharger Limited 1-Year Warranty

Accelerated Racing Products, LLC ("we," "our" or "us") warrants only to the original consumer purchaser ("you" or "your") that your new Billet Supercharger head unit (referred to herein as your "supercharger") shall be free of defects in workmanship and materials for 1 year, from the date of purchase. This Limited 1-Year Warranty (this "Limited Warranty") does not extend to any subsequent owner or other transferee of your supercharger and shall terminate upon any transfer of your supercharger. This Limited Warranty is effective for superchargers purchased on or after 1/01/2023.

Our authorization must be obtained before you return the supercharger for warranty inspection. Superchargers that we authorize to be inspected must be shipped freight prepaid, at your expense. Additional warranty procedures are set forth below.

Subject to the other limitations set forth in this Limited Warranty, we will, in our sole discretion, either repair or replace the supercharger or portion thereof subject to warranty free of charge. No refunds or credits will be allowed.

Superchargers will not qualify for warranty if (i) the supercharger pulley or impeller has been removed or changed, (ii) the pulley or impeller warranty seal has been broken or tampered with and/or (iii) the kit parts have been altered or improperly installed.

Further, this Limited Warranty does not cover any defects or damage due to: (i) transportation; (ii) storage; (iii) improper installation or use; (iii) failure to follow the product instructions; (iv) alterations or modifications without our prior written consent; (v) use of a component or accessory not approved by us; (vi) unauthorized repair; (vii) normal wear and tear; or (viii) external causes such as accidents, abuse, misuse or other actions or events beyond our reasonable control.

Superchargers that we repair or replace will be returned to you with ground transportation charges prepaid by us, within the continental United States, or to the point of embarkation within the continental United States, via UPS ground (or similar) service. You will be responsible for any charges associated with expedited delivery or freight charges outside the continental United States.

Superchargers authorized to be returned and inspected but which do not qualify for warranty, and which are not repaired at your expense, will be subject to a US\$100.00 inspection fee and returned to you, at your expense.

Warranty Procedure

Go to the website and fill out the Warranty/Repair form at: <https://torqstorm.com/warranty-repair-form/>

1. Serial number of the supercharger.
2. Description of the problem.
3. Make, Model, and Year of the vehicle.
4. Your name, shipping address (No PO Boxes allowed), and your daytime telephone number.
5. A copy of your original purchase invoice.
6. A clear picture of supercharger mounted in the vehicle.

Upon receipt of the above, if warranty service is appropriate, an Accelerated Racing Products Return Authorization Number will be assigned. You should then send the supercharger or other defective part, with all of the above information to:

Accelerated Racing Products LLC
2909 Buchanan Ave SW
Wyoming, MI 49548

The return authorization number must be included on the package. Freight collect shipments will be refused and returned to the sender at the sender's expense.

Disclaimers

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

WE HEREBY LIMIT THE DURATION AND REMEDIES OF ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO ONE YEAR.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

OUR RESPONSIBILITY FOR DEFECTIVE SUPERCHARGERS IS LIMITED TO REPAIR OR REPLACEMENT AS DESCRIBED ABOVE IN THIS LIMITED WARRANTY.

Limitation of Liability

THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES AND OUR ENTIRE LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY. OUR LIABILITY SHALL UNDER NO CIRCUMSTANCES EXCEED THE ACTUAL AMOUNT PAID BY YOU FOR THE DEFECTIVE SUPERCHARGER, NOR SHALL WE UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT (INCLUDING, WITHOUT LIMITATION, ENGINE DAMAGE).

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.