

HST DIESEL



**LBZ, LMM MAX FLOW BRIDGE &
COLD-SIDE BEHIND THE ALT.
INSTALLATION INSTRUCTIONS**

ABOUT THE HOT-SIDE INTERCOOLER TUBE

Increase performance and flow with our upgraded 3" Max Flow Bridge and Cold Side Kit. Our precision cast and CNC machined bridge section allows for maximum efficiency, as well as, a perfect fit every time. Our two-piece design allows for a much easier installation than the other kits on the market. Two M8 studs, 12-point nuts, and a high-strength O-ring locate and hold the 3" bridge together to eliminate the possibility of boost leaks. Our bridges have been pressure tested to over 100 PSI to ensure your truck can perform to its highest potential. The mandrel bent 3" cold side tube complements the y-bridge for the ultimate efficiency, flow, and maximum performance capabilities of your truck. This cold side tube in combination with the max flow bridge is best suited for factory or drop in replacement chargers, as it resembles the factory intercooler routing.

COMPATIBILITY

- LBZ: 06-07 VIN Code 2 or D
- LMM: 07.5-10 VIN Code 6

BENEFITS

- Increase performance and spool up
- Port matched CNC machined billet bridge section
- Better fitment over hand fabricated bridge section
- Powder coat option to dress up engine bay
- Two piece bridge design for easier install than other Y-bridge kits
- Cold-side routes in a factory location for a seamless look

INCLUDED COMPONENTS

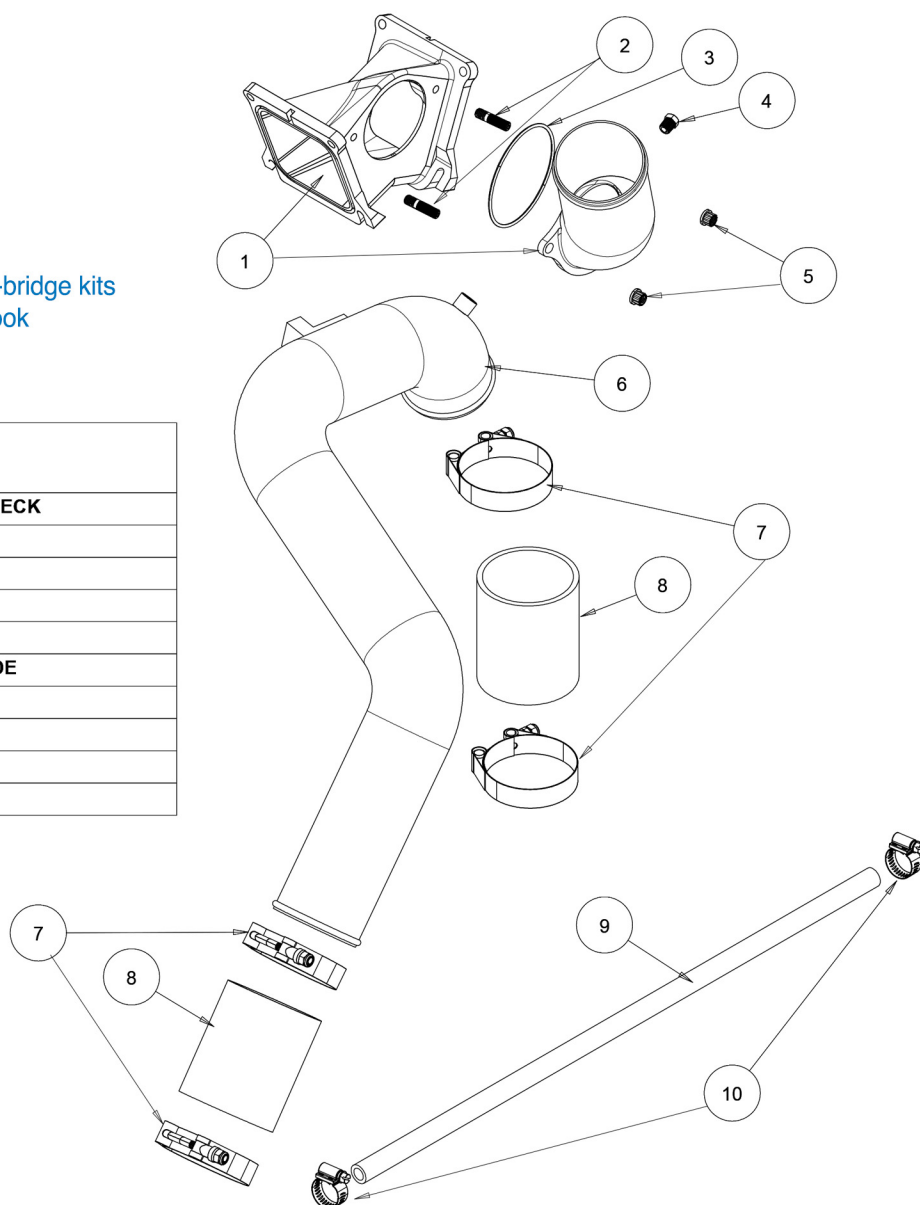
NUM.	PART NUMBER	QTY	PART DESCRIPTION
1	LBZ-204-1	1	LBZ-LMM MAX FLOW BRIDGE/NECK
2	902-RFAB	2	BRIDGE NECK STUDS
3	670-RFAB	1	BRIDGE NECK O-RING
4	68612	1	1/8" NPT PIPE PLUG
5	903-RFAB	2	12 POINT NUT
6	LBZ-222-1	1	LBZ-LMM BEHIND ALT COLDSIDE
7	422-RFAB	4	3" T-BOLT CLAMP
8	430-RFAB	2	3"x4" boot
9	401-RFAB	1	24" 5/8" HEATER HOSE
10	403-RFAB	2	5/8" WORM GEAR CLAMP

REQUIRED TOOLS

3/8" METRIC SOCKET SET
METRIC WRENCH SET
HOSE CLAMP PLIERS
TORQUES BIT SET
1/4" METRIC SOCKET SET
1/4" DRIVE UNIVERSAL
HOSE CUTTERS
FLAT HEAD SCREW DRIVER
HEAVY DUTY WIRE CUTTERS
ELECTRICAL TAPE

NOTE:

FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS AND NOT USING THE PROVIDED HARDWARE MAY DAMAGE THE SYSTEM, TURBO CHARGER AND ENGINE.



STEP 1



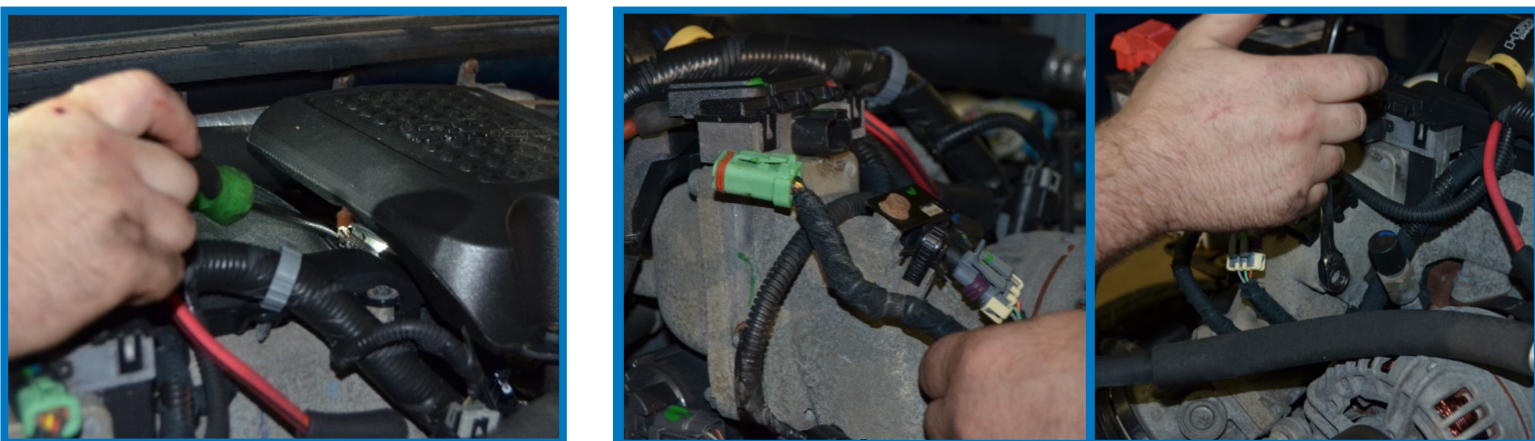
Disconnect both negative terminals on both batteries.



STEP 2



Remove Intake.



STEP 3

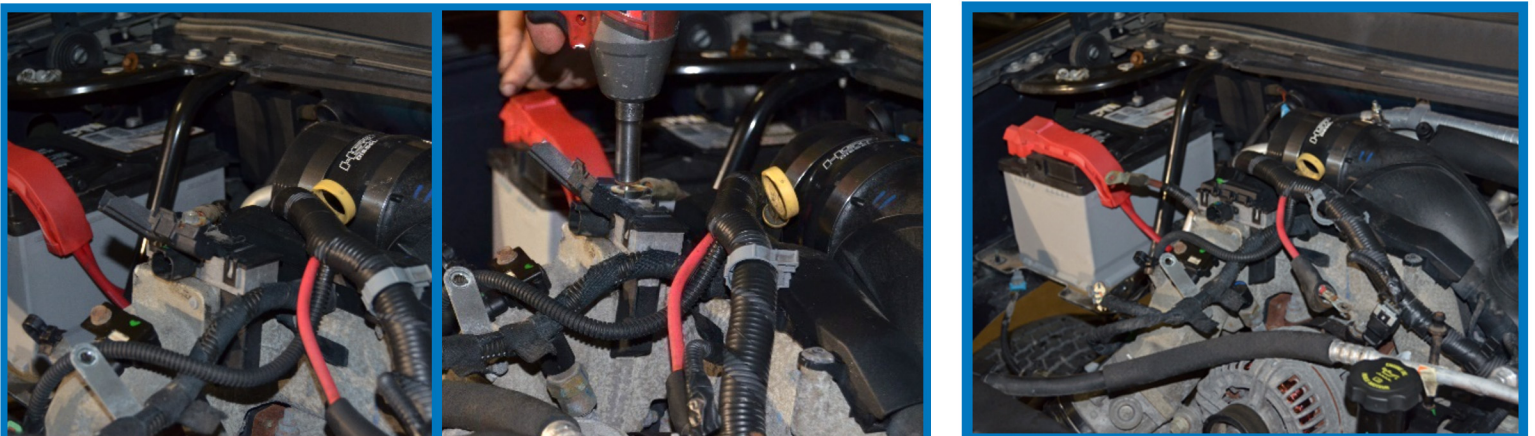


Remove resonator box from intake mouth piece. Use a flat head screw driver and loosen the worm gear clamp.

STEP 4



Unplug the grid heater, MAP sensor, and throttle valve from the factory cold side. Remove the 10mm bolt securing the harness to the side of the cold side.



STEP 5



Open the cover on top of the grid heater and remove the 10mm nut securing the power wire.

STEP 6



Remove the 10mm nut holding the power wire on the alternator.



STEP 7

Using pliers release the clamp holding the PCV hose assembly to the turbo mouthpiece. Loosen the V-band worm gear clamp holding the mouthpiece to the turbo and remove.



STEP 8

Remove the 4 T-30 torques screws holding the plastic wire loom form the top of the cold side.



STEP 9

Tuck the wiring behind the cold side to get it out of the way.



STEP 10

Using a plastic clip removing tool remove the plastic wheel well.



STEP 11

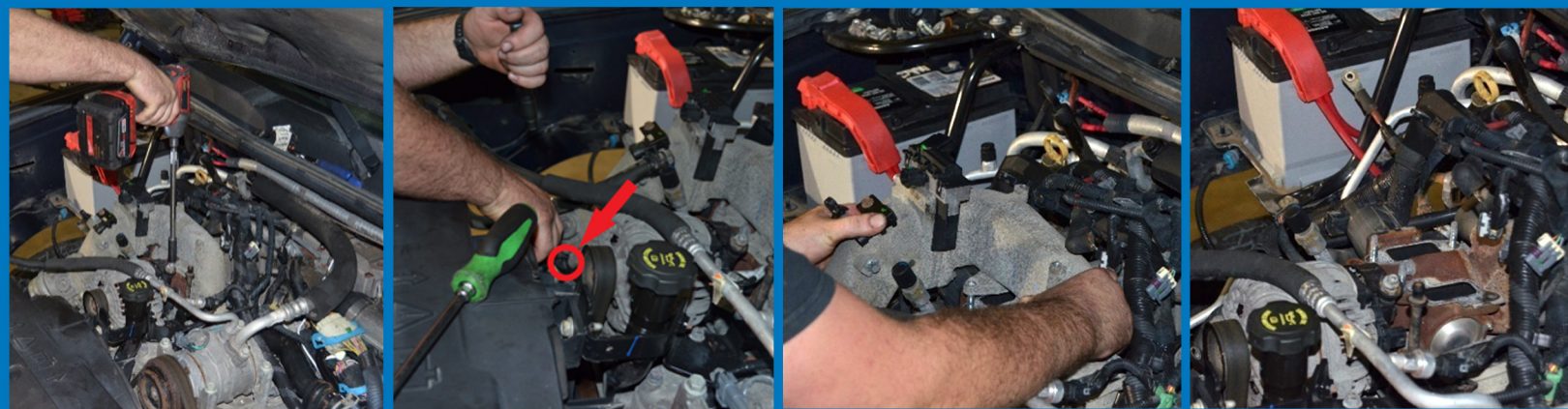
Remove the intake box support bracket form the core support.



STEP 12

Using a pick release the retaining clips from the upper and lower intercooler tube quick connects and remove starting with the intake side first.

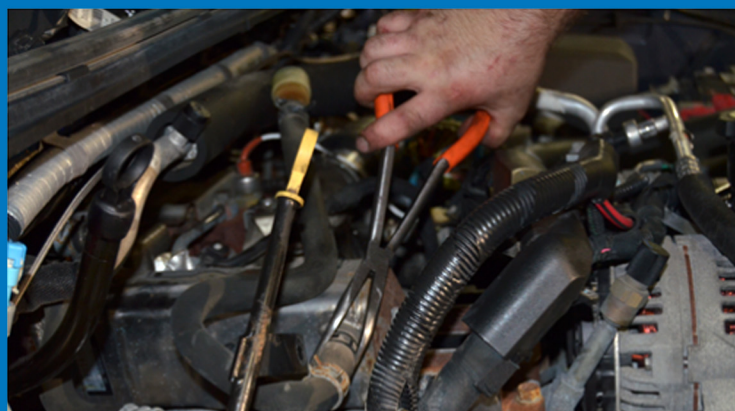




STEP 13



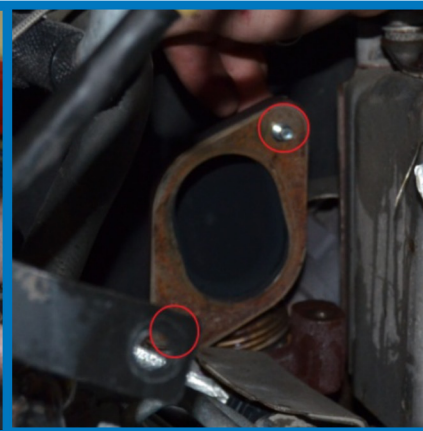
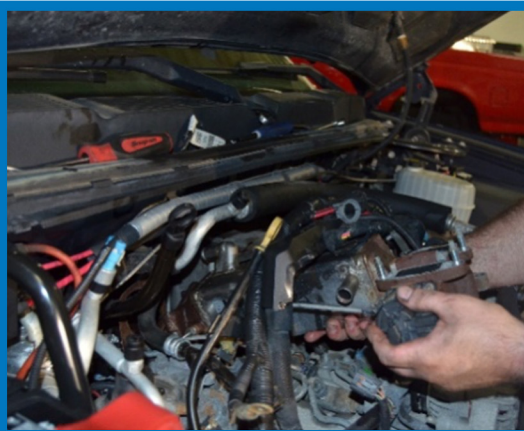
Now remove the (6) 12mm nuts and bolts holding the cold side to EGR valve and bridge neck. There is also a 12mm bolt just in front of the throttle valve that will need to be removed. With the bolts removed rock the cold side back and forth with a lifting motion to remove it from the EGR valve.



STEP 14



Remove the coolant lines from the EGR cooler. If you have not drained the coolant yet you must drain it before removing the coolant lines.

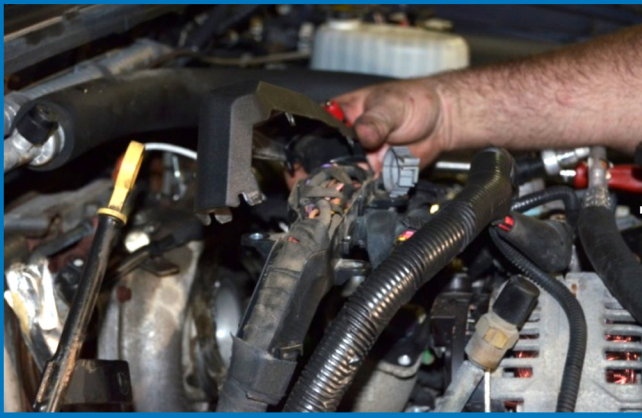


STEP 15



Using a 12mm box end wrench remove the two nuts holding the up pipe to the back of the EGR cooler. With the nuts removed now unbolt the (4) 14mm bolts that secure the cooler to the engine. There are two in the front and two in the rear of the cooler. With these bolts removed the cooler will slide out with some careful maneuvering.

(Here is a picture with the EGR cooler removed. The nuts will be on the back side of the red circles)



STEP 16



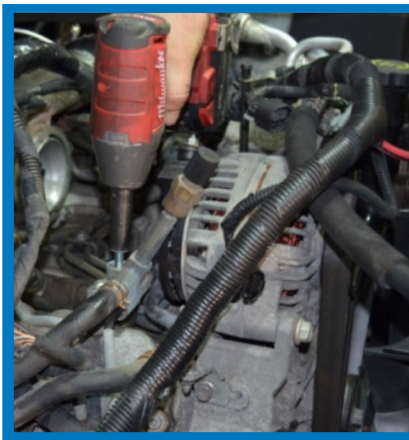
Next remove the plastic cover from the wiring harness that ran over the factory cold side. With the cover removed wrap the wiring harness with electrical tape.



STEP 17



There is also a power wire that needs to be eliminated that went to the grid heater. Cut the end of the cable off and wrap the end of the wire with electrical tape or heat shrink and tuck it into the harness and tape it closed.



STEP 18

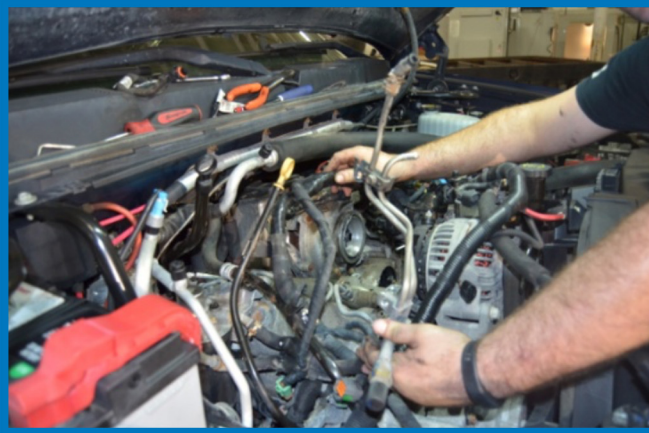


Now it is time to remove the bridge neck. There are no bolts holding the neck in, with a rocking twisting motion remove the neck from the bridge. Be careful not to damage the fuel pressure regulator.

STEP 19

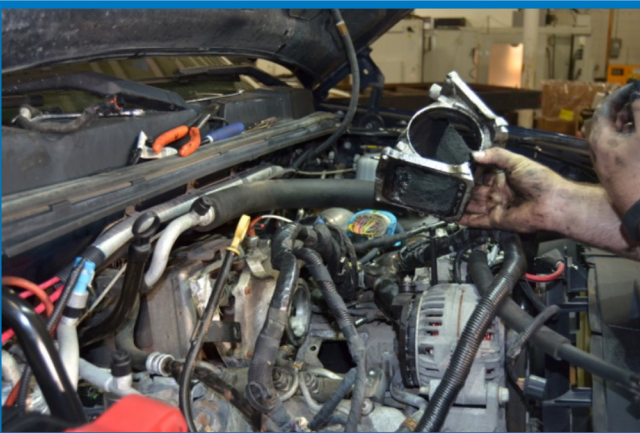


It is best to remove the fuel lines that route over top of the bridge. This can be done by removing the nut and stud on the passenger side intake runner, and also the 12mm bolt located just behind the fuel pressure test port. Also don't forget to disconnect the rubber fuel lines from the steel lines.



STEP 20

With the lines disconnected you can simply swing them out of the way.



STEP 21

Now it's time to remove the (8) 10mm bolts holding the bridge to the intake runners. It is best to use a 1/4" drive 10mm socket with a universal to remove the bolts. The top rear bolt on the passenger side is a little tricky to get out. It is best to use an open end wrench. It may be easier to loosen the three 17mm bolts holding the turbo to the engine block to be able to rock the turbo back to get the bolt out but it can be done without loosening them. You will also need to bend the tab on the coolant line up that runs over the top of the bridge to be able to remove it.

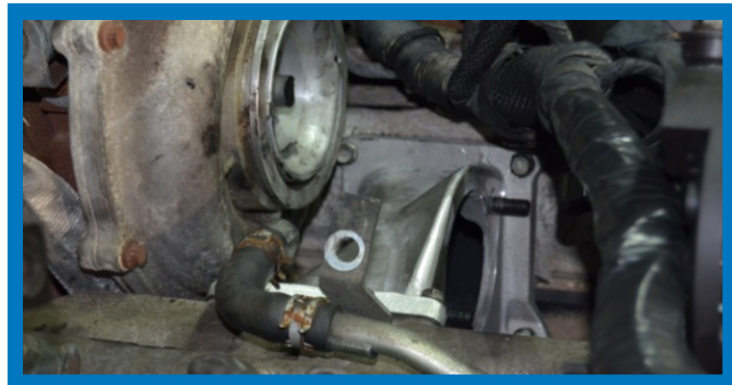
STEP 22

With the old bridge removed clean any debris out of the valley and also clean as much soot build up out of the intake runners as possible. Make sure the sealing surface is as clean as possible. If there is a lot of oxidization on the sealing surface you can use a piece of scotch bright to ensure a smooth sealing surface.



STEP 23

Remove the o-rings from the factory bridge and clean them. Inspect the o-rings for any nicks or tears. We recommend reusing the o-rings to ease installation. Place the o-rings in the new max flow bridge and apply a thin layer of grease to the sealing surface to help the o-ring slide across the sealing surface.



STEP 24

Put the new bridge in place the same way the old one came out. With the new bridge in place first install the lower 4 nuts and begin to tighten them in an X pattern. While tightening look at the top 4 holes once the top holes are lined up install the bolts finger tight then continue tightening in a X pattern to 89inlbs both top and bottom.



STEP 25



Install the new bridge neck on to the bridge using the supplied studs and 12 point 10mm nuts. Make sure the o-ring stays in place. With the nuts installed tighten them with a 10mm boxed end wrench.



STEP 26



Remove the IAT sensor from the top of the old bridge and clean any soot build up off the sensor. With the sensor clean install it into the new bridge neck and tighten.



STEP 27



Reinstall the steel fuel lines and reconnect them to the rubber lines. Make sure to reinstall the hose clamps.

Coolant Routing (06-07)

Using the supplied 5/8" heater hose route the coolant from the heater core to the steel coolant tube next to the alternator. Reuse the factory quick connect fitting. If your quick connect fitting is damaged we do offer a replacement fitting.



Coolant Routing (08-10)

Use the old heater hose removed from the EGR cooler and cut as shown. Install the factory 5/8" quick connect fitting onto the smaller end of the hose and tighten with the supplied hose clamp.



Install routing it from the heater core to the steel bypass tube that comes up behind the turbocharger.

Blocker Plate Installation

Begin by installing the supplied bolts into the up pipe riser and slide the gasket over the bolts. Now install the blocker and tighten the bolts finger tight. Now install the long bolts removed from the EGR cooler into the support plate and tighten. With the support bolts tight now tighten the bolts from the riser to the plate.



Modified Up Pipe Installation



STEP 1



Using an 11mm socket remove the v-band clamp that holds the factory down pipe to the front pipe. With the nut removed use a flat head screw driver to release the v-band.



STEP 2



Remove the bolt holding the down pipe to the up pipe support plate using a 14mm socket.

STEP 3



With a 13mm box end wrench remove the nuts that secure the transmission dipstick tube to the bell housing studs.

STEP 4



Remove the transmission dipstick from the tube and set in a clean safe place.

STEP 5



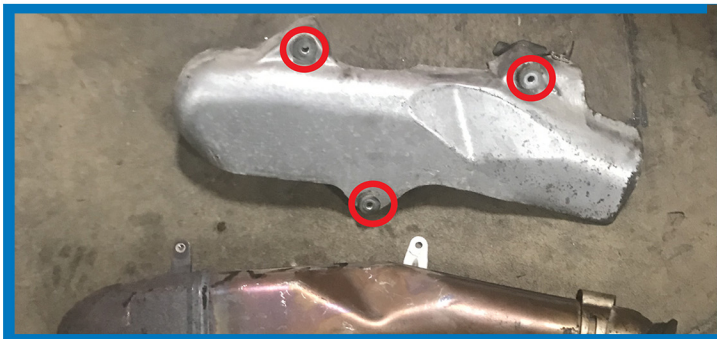
Remove the dipstick tube from the transmission. The tube must slide out the bottom between the transmission and exhaust front pipe. Be sure not to bend or damage the tube while removing.



STEP 6



Next remove the turbo heat shield from the top of the turbocharger. To do this you must remove the three 10mm bolts from the top of the exhaust housing. On 08-10 trucks it will also be necessary to remove the 10mm bolt in the back of the heat shield supporting the coolant tube.



STEP 7



The heat shield on the down pipe must also be removed. This is held in place with (3) 10mm bolts.

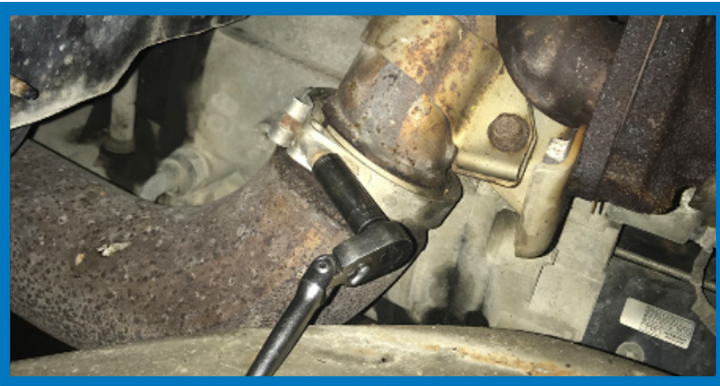
STEP 8

With the heat shield removed you can now remove the 11mm nut from the downpipe to turbo clamp.



STEP 10

Remove the Up pipe bolts from the turbo and exhaust manifold there are 6 total 12pt 12mm bolts. If there is a lot of rust it is recommended to apply penetrating oil and let it sit over night. It may also be necessary to apply heat to the bolts to help with removal.



STEP 13

Connect the down pipe to the front pipe using the factory V-band clamp.

STEP 9

Going through the wheel well rock the down pipe up and down until it comes free from the turbo exhaust housing. Remove the downpipe through the wheel well.



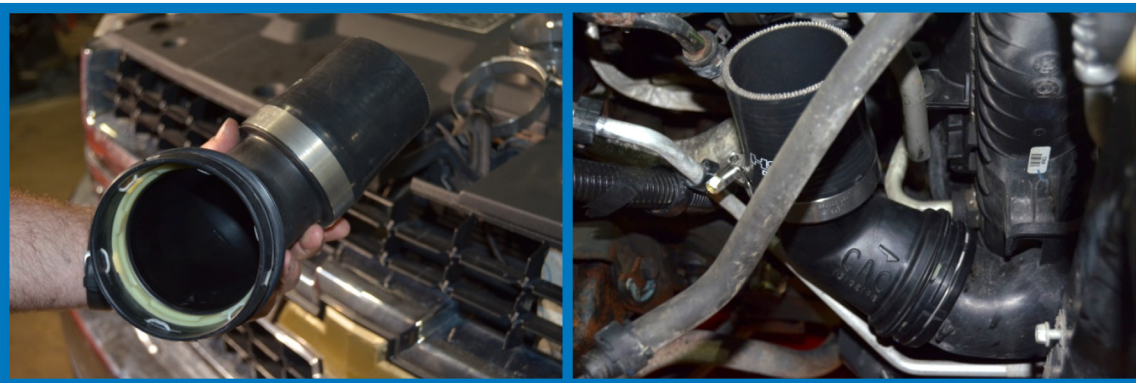
STEP 11

When reinstalling the up pipe it is recommended to apply high temp anti seize to the threads to not only help with installation but also ease removal in the future. Slide the new up pipe into place with the new gaskets in place and tighten to 28ftlbs.

STEP 12

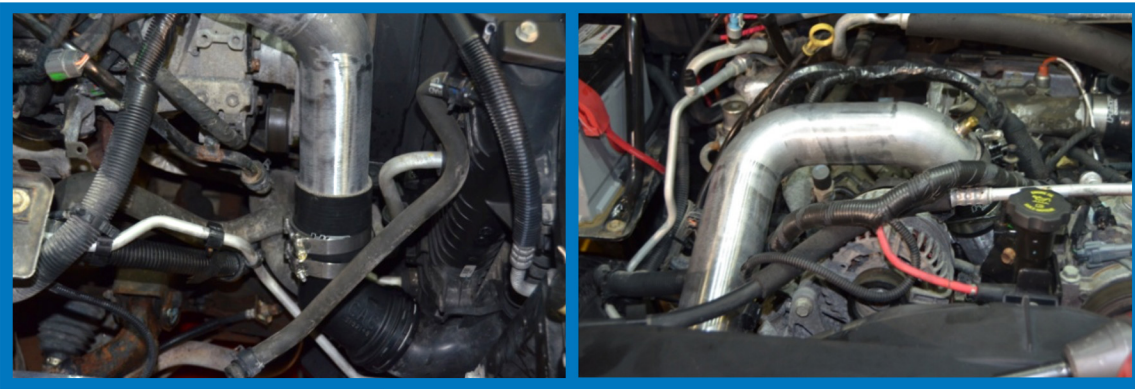
Reinstall the down pipe by sliding it up into place. From the top lift the down pipe and slide it onto the turbo exhaust housing with the factory clamp in place. Snug the clam so the down pipe is held in place but will still rotate.

Modified Up Pipe Installation Complete



STEP 28

Remove the plastic elbow from the factory cold side tube. The end that you will need is labeled CAC. It is recommended to clean the elbow up with engine degreaser and warm water. Install the supplied 3" boot and clamp on the elbow. Reinstall the metal wire clip on to the elbow and slide it onto the intercooler making sure it locks into place.



STEP 29



Slide the 3" boot and clamp onto the bridge neck. Next install the new cold side placing it into the boot at the intercooler first and then into the bridge neck.



STEP 30



Install the MAP sensor in the new cold side using the original bracket and hardware.



STEP 31



Reinstall the turbo mouth piece.

STEP 32



Reinstall the air box support tray.

STEP 33



Install the intake and filter. Be sure to plug in all electrical connectors. Any connectors not being reused we recommend packing the connectors full of dielectric grease to prevent any corrosion. Fill with coolant and check for any leaks.

NOTE:
The installation of These HSP products will require the use of custom tuning.

HSP DIESEL

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