



Installation Instructions for CorkSport 2006-up Mazdaspeed 6 Downpipe

Tools Required

- 8mm wrench
- 13mm wrench or socket
- 8mm socket ¼ drive
- 12mm socket ¼ or 3/8 drive
- ¼ drive ratchet
- Torque wrench
- Varying length ratchet extensions both ¼ and 3/8
- WD40 or similar
- Pliers
- Safety glasses
- 10mm wrench
- 17mm wrench
- 10mm socket ¼ drive
- 14mm semi deep socket (swivel type works best 3/8 drive
- 3/8 drive ratchet
- Anti Seize
- Large flat screwdriver
- O2 sensor socket
- Floor Jack
- Jack stands

Contents

- 1 CorkSport Downpipe
- 1 80mm Exhaust Donut
- 4 Spacers
- 22 Page Installation Instructions
- O2 Spacer

Installation of this product acknowledges that you are using this part for racing only and accept all responsibilities for the installation and use of this product.

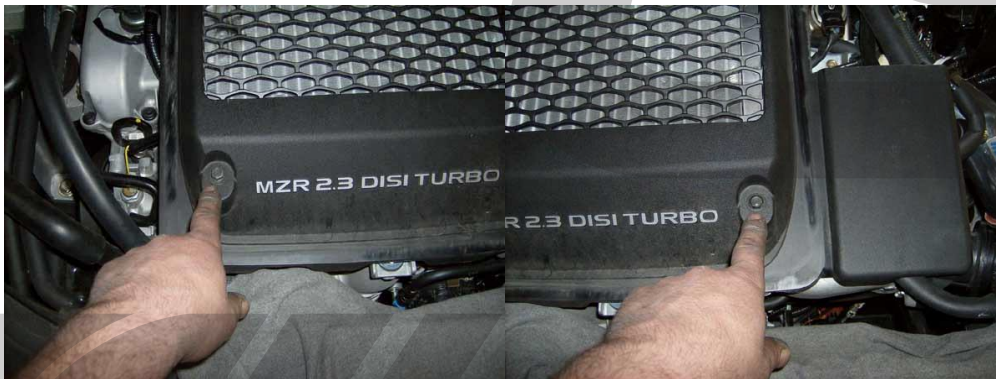
By removing the factory downpipe you are removing a catalytic converter from your car and thus affecting emissions.

Installation of this product is difficult. It requires a good working knowledge of cars to remove the original part and install the new part. Read through the installation instructions **before** attempting the work to make sure you are comfortable with the job. If you are not competent, take it to a professional.

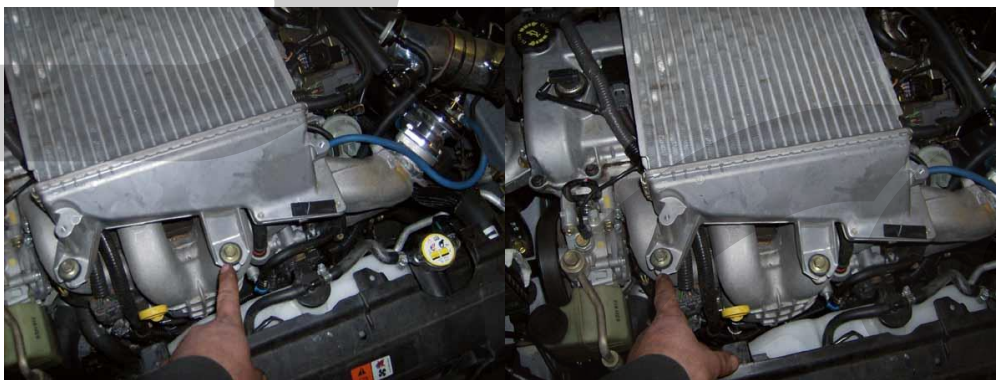
Before starting make sure the vehicle is cooled down and on a flat hard level surface.

Step 1: Disconnect the negative battery cable.

Step 2: Remove the two 10mm headed bolts that hold the stock intercooler cover on. The cover then slides to the back and lifts off.

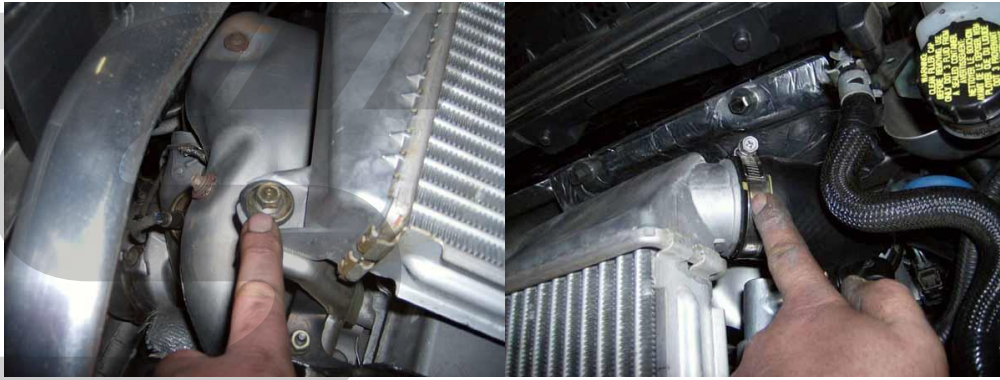


Step 3: Remove the three 12mm nuts that hold down the intercooler. Two of them are located on the front of the intercooler and one is located at the back. Disconnect the two intercooler hoses located on either end of the intercooler with the 10mm socket to remove the clamps. The rear clamp is also shown in the pictures below.

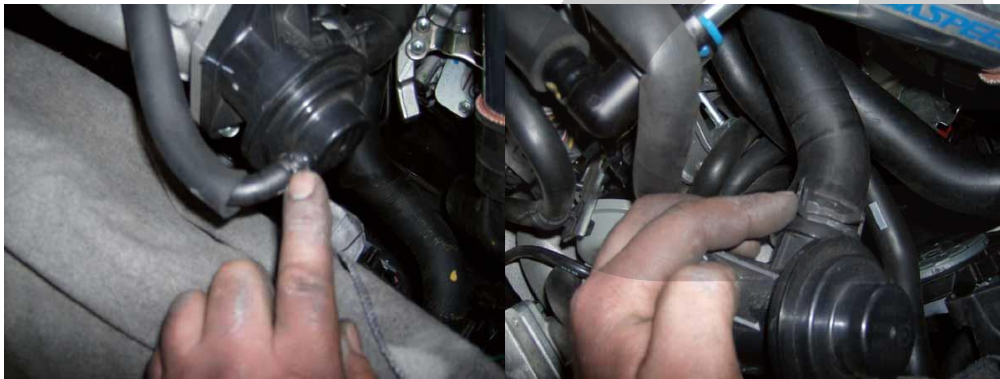


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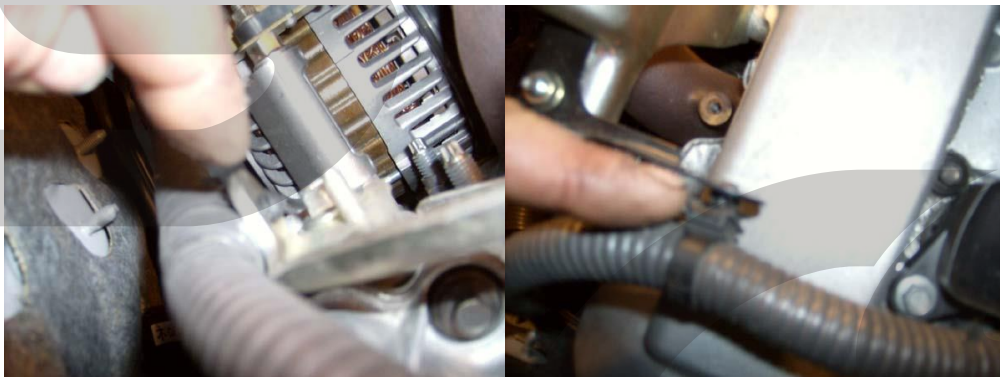


Step 4: Remove the vacuum hose to the bypass valve using the pliers to pinch the clamp open on the tabs. Remove the hose clamp on the large hose which connects to the bypass valve. Some effort may be required to remove the hoses once the clamps are removed.



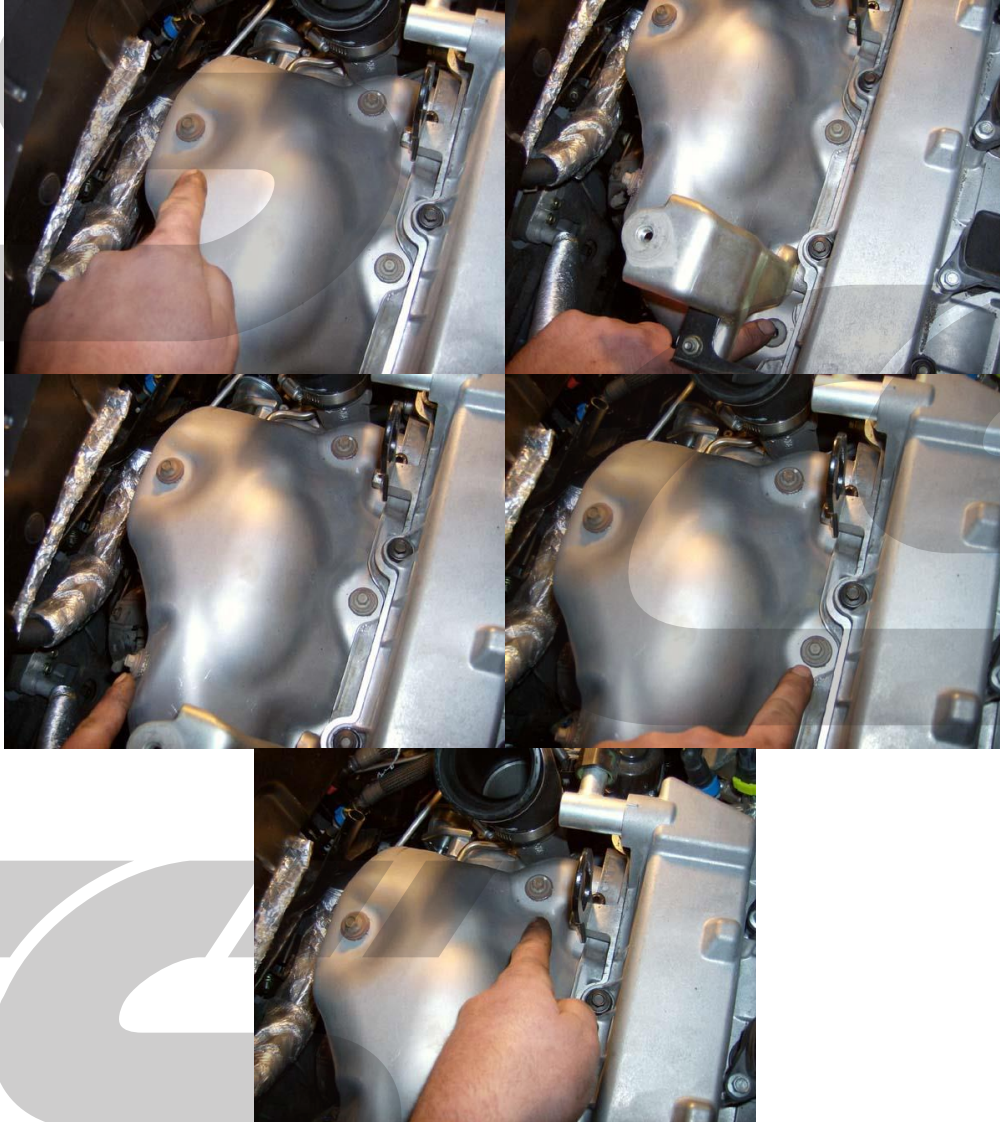
Step 5: Once the hoses are all loose carefully lift out the intercooler. Be careful not to damage the fins on the intercooler and set it aside in a safe place.

Step 6: Gently remove the wire harness clips that is secured to the bracket on top of the valve cover and on the back side of the engine.



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Step 7: Remove the five 8mm headed bolts that secure the exhaust manifold heat shield to the exhaust manifold. Slide the heat shield back.



Step 8: Remove the two 13mm headed bolts that hold the intercooler mounting bracket shown in the pictures below to the engine. Remove the bracket and upper heat shield from the engine.



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Step 9: Using the penetrating spray, spray around the base of the O2 sensor where it meets the stock downpipe. Let the fluid soak for several minutes. Un-plug the O2 sensor Using the O2 sensor socket loosen the O2 sensor a few turns. Spray more of the penetrating spray onto the threads of the O2 sensor. Thread the sensor back in. The sensor should be easier to remove.

Step 10: Remove the three 10mm headed bolts from the downpipe heat shield. Remove the heat shield.



Step 11: Remove the three 8mm headed bolts from the lower exhaust manifold heat shield and remove the heat shield.

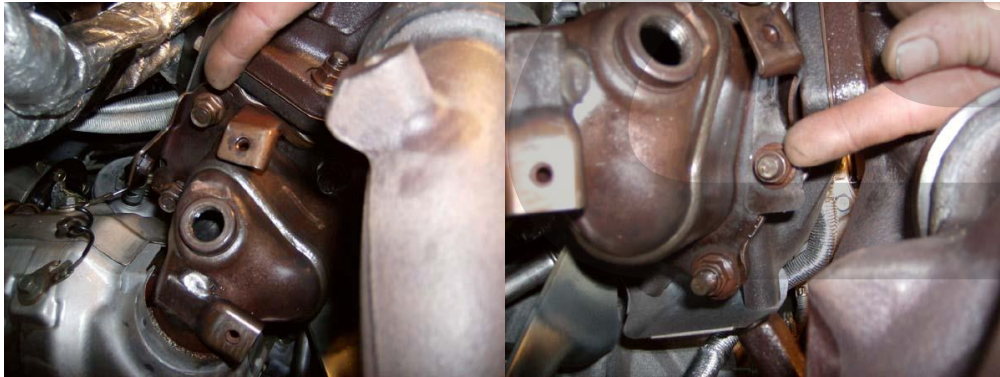


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Step 12: Spray the penetrant on the five 14mm headed nuts that hold the factory downpipe to the turbocharger. Let them soak for several minutes then remove the nuts. They are a factory locking style nut so they may be difficult to remove.



Step 13: Jack up your vehicle and place it on the jack stands securely.

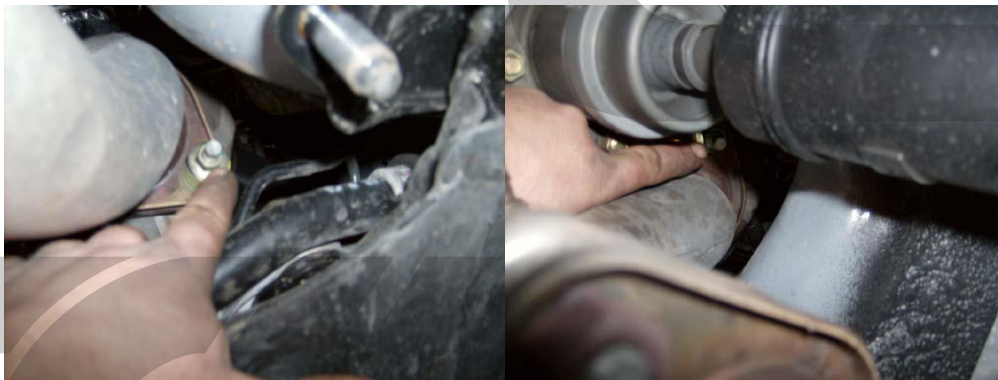
Step 14: Remove the four 17mm headed nuts from the cross support brace shield and remove from the vehicle.



Step 15: Remove the two 14mm headed nuts and springs from the exhaust system to the mid pipe.



Step 16: Remove the two 14mm headed nuts from the factory downpipe to mid pipe.



Step 17: For easy of removal take the two studs out of the catalytic converter and remove the mid pipe.



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Step 18: Unplug both O2 sensors from the main harness. The upper O2 sensor is a 2 plug style with one black and one grey connector. The lower O2 sensor is a single grey plug. Once the lower O2 sensor is unplugged remove it from the factory downpipe. Make sure the O2 wires are completely free before removing them from the vehicle.



Step 19: Remove the passenger side wheel/tire from the vehicle. Remove the four 8mm/Phillips headed bolts from the lower part of the inner fender liner from the bottom of the bumper.



Step 20: Remove the six (6) Phillips headed screw type fasteners from the plastic engine shield. Two (2) of the clips are located behind the inner fender liner. To access them pull the lower part of the inner fender liner back towards the axle. Once they are out remove the engine shield.



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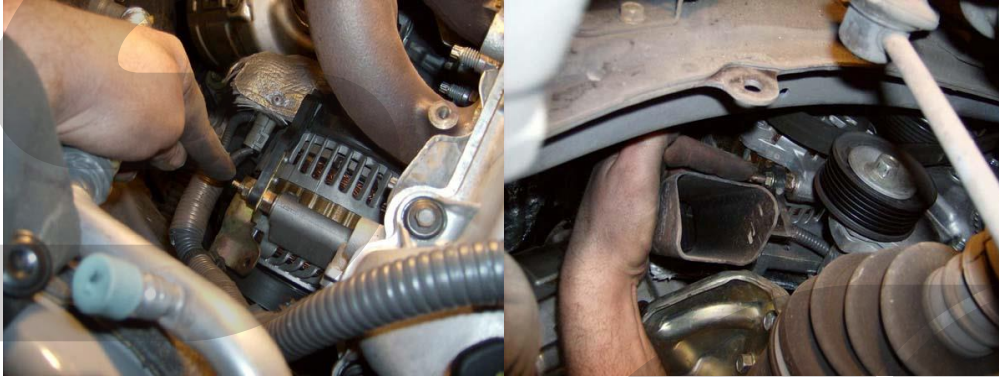


Step 21: Note how the belt is routed on the engine before removal to aid in re-installation. Take the 14mm wrench and turn the belt tensioner clockwise to release tension on the belt. Remove the belt.



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Step 22: Remove the two 10mm headed nuts from the plastic alternator cooling duct. Once the nuts are loose it comes out the bottom easiest.



Confirm the battery has been disconnected. If has not been disconnected do so now.

Step 23: Remove the 12mm headed nut from the main wire on the alternator.

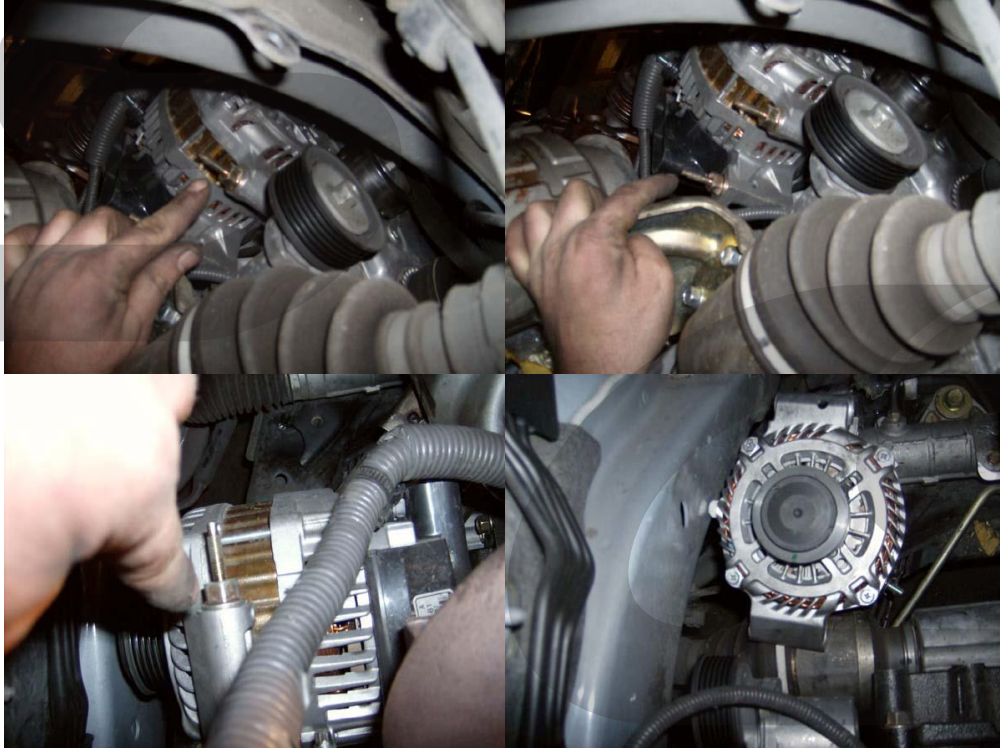


Step 24: Disconnect the alternator plug.



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Step 25: Remove the three 14mm headed studs that hold the alternator to the engine. Allow the alternator to sit down on the frame rail.



Step 26: Remove the two 14mm headed bolts from the factory downpipe to engine mounting bracket.

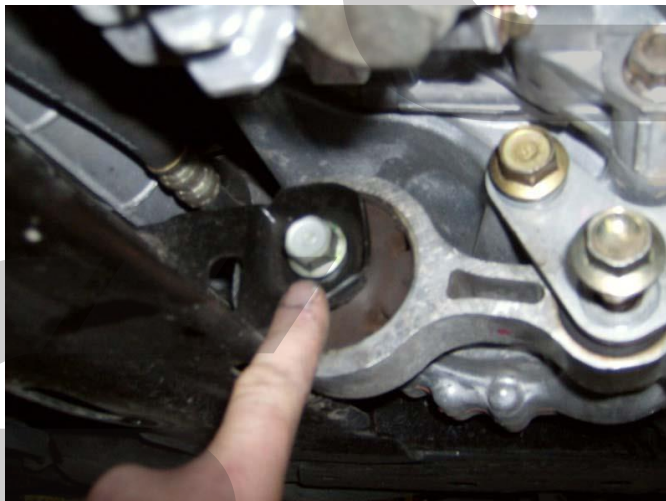


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Step 27: Remove the two 14mm headed bolts which hold the bracket to the engine. Remove the bracket from the vehicle.



Step 28: Loosen the 17mm headed bolt from the rear of the lower engine torque mount.

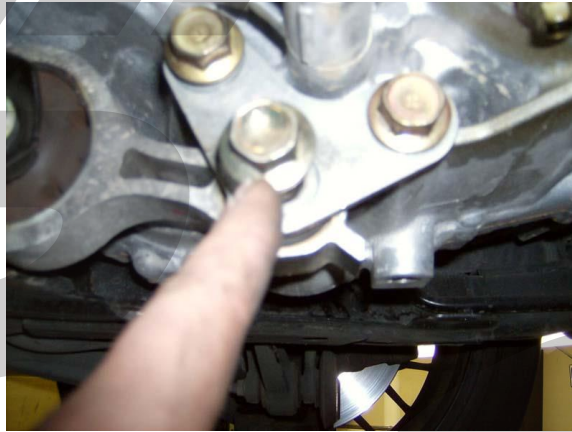


Step 29: Loosen the two 19mm headed bolts at the bracket to engine lower torque mount.



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Step 30: Remove the 17mm headed bolt and let the mount swing down.



Step 31: Place the floor jack under the passenger side of the oil pan and remove the 17mm headed bolt from the top engine mount.



Step 32: Use the jack to raise the engine some and remove the downpipe from the top of the engine bay between the engine and the firewall. This may require you to rock the engine towards the front of the vehicle to get the downpipe out.

Step 33: Once the stock downpipe is removed let the engine down with the jack and re-install the 17mm headed bolt into the mount and torque to 55-76 ft-lbs.



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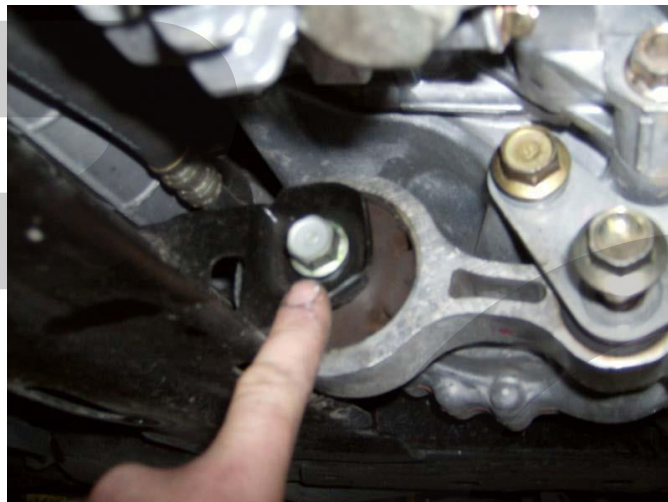
Step 34: Re-install the 17mm headed bolt into the lower torque mount and tighten to 49-68 ft-lbs.



Step 35: Tighten the two 19mm headed bolts on the lower torque mount bracket to 49-68 ft-lbs.



Step 36: Tighten the 17mm headed bolt on the lower engine torque mount to 55-76 ft-lbs

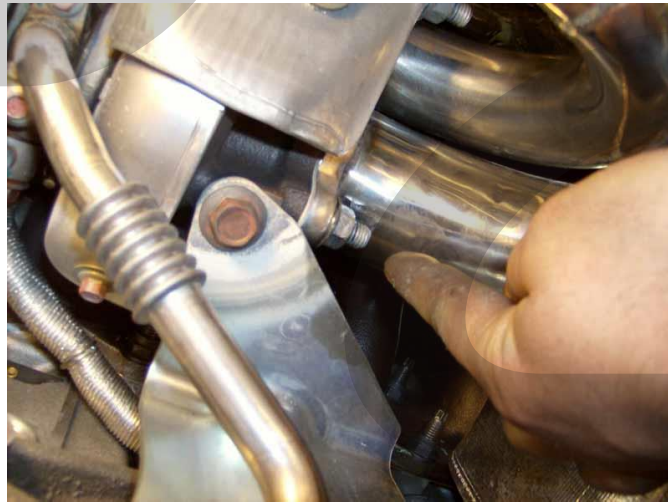


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Step 37: Install the supplied exhaust donut onto the downpipe.

Step 38: Check and make sure the stock turbo to downpipe gasket is in good shape. If it has damage or looks like it has been leaking replace it.

Step 39: From the bottom or top of the car install the new CorkSport downpipe onto the studs of the turbo with the original or new gasket. Put some anti seize on the studs to make installation of the nuts easier. Once the downpipe is on the studs install one nut on the lowest stud. Tighten to 39-46 ft/lbs.



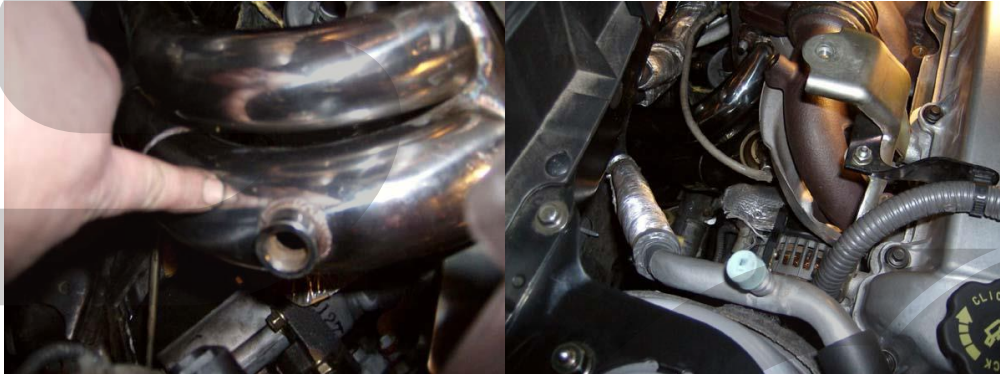
Step 40: Install the remaining four 14mm headed nuts and tighten in a criss cross pattern to 39-46 ft/lbs.

Step 41: Install the O2 sensor extension into the lower O2 sensor port. Put small amount of anti seize on the threads of the O2 sensor. Install the lower O2 sensor into the extension. Reconnect the lower O2 sensor to the stock plug. Make sure the wire is away from anything moving parts.



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Step 42: Put a small amount of anti seize on the upper O2 sensor threads and re-install the upper O2 sensor. Route the wires along the same path as when they were originally at the firewall.



Step 43: Re-install the two studs into the catalytic converter. Re-install the catalytic converter to the new downpipe using the original springs and nuts. Do not over tighten the springs. There should be a small amount of gap between the spring coils.



Step 44: Re-install the lower cross bar with the four 17mm headed nuts and tighten them to 55-79 ft-lbs. **(Install option)** Install two (2) of the supplied washers to each of the 4 studs on the cross bar if you need a little bit of extra clearance between the bar and the downpipe.



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Step 45: Re-install the alternator with the three 14mm bolt and tighten them to 16-22 ft-lbs.



Step 46: Re-connect the electrical plug into the alternator.

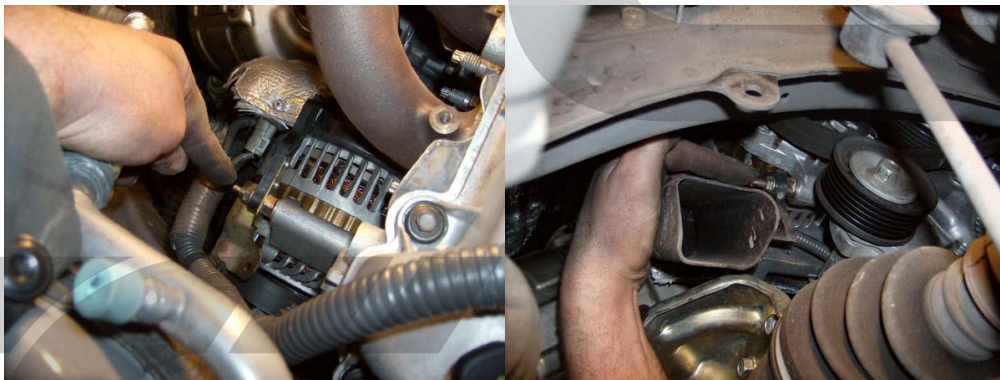


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Step 47: Re-connect the main wire with the 12mm headed nut.



Step 48: Re-install the alternator cooling duct with the two 10mm headed nuts.



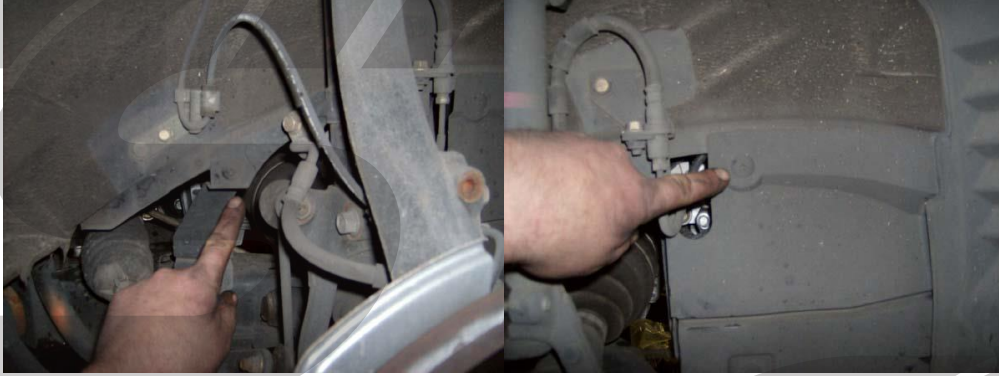
Step 49: Re-install the accessory drive belt on its original path.

Step 50: Re-install the engine cover in the passenger side wheel well.



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Step 51: Re-install the passenger side wheel liner and under tray.



Step 52: Replace the wheel back on the vehicle and lower to the ground. Torque the wheel to 65-80 ft-lbs.

Step 53: Re-install the lower exhaust manifold heat shield with the three 8mm headed bolts.



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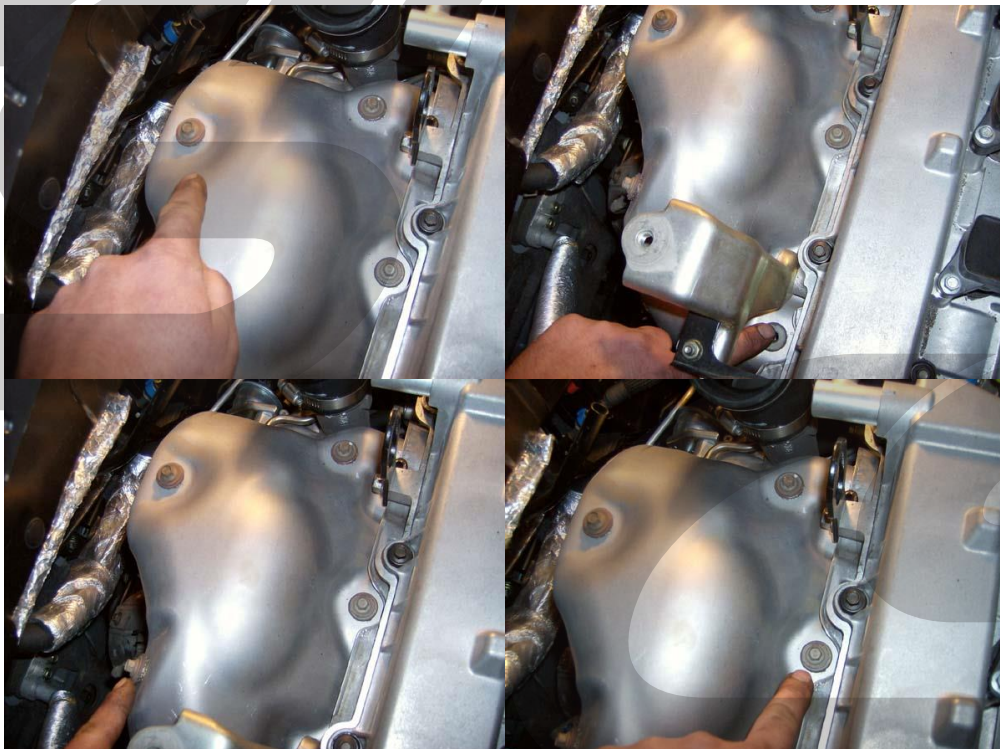
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Step 54: Install the stock intercooler mounting bracket with the two 13mm headed bolts.

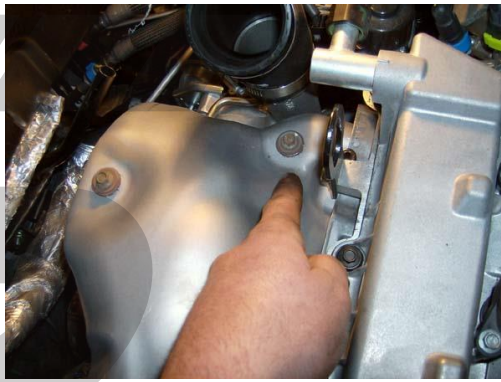


Step 55: Re-install the upper exhaust manifold heat shield with the original five 8mm headed bolts.

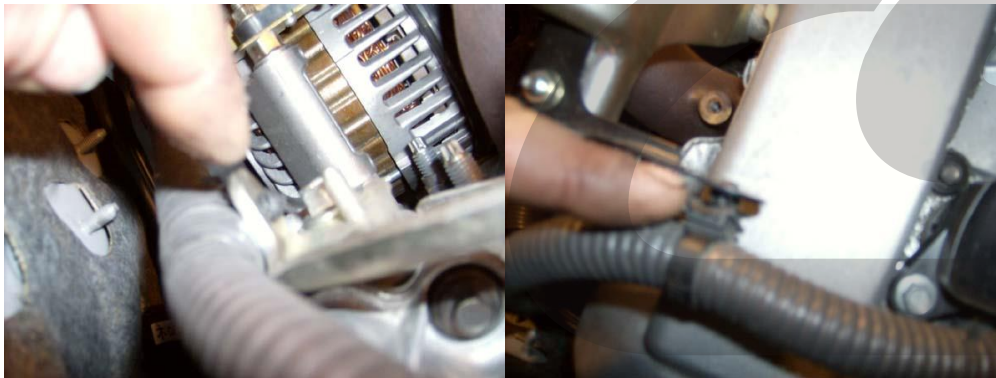


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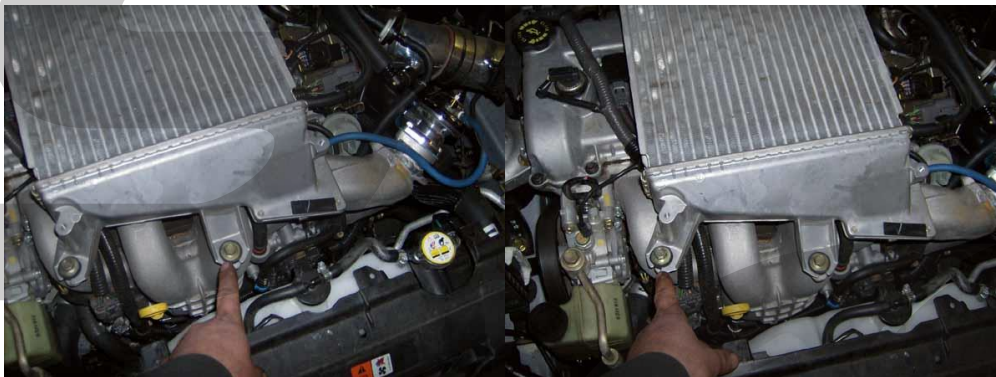


Step 56: Mount the 2 wiring clips to the bracket.



Step 57: Set the intercooler carefully back onto the motor. Reconnect the inlet and outlet hoses and secure with the 10mm headed hose clamps. Reconnect the vacuum hose and clamp to the bypass valve. Reconnect the large hose and clamp to the bypass valve.

Step 58: Secure the intercooler with the three 12mm nuts and tighten to



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Step 59: Re-install the intercooler cover and re-install the two 10mm bolts.

Step 60: Reconnect the battery.

Step 61: Start up vehicle and check for intake or exhaust leaks. If any leaks are found correct them and check again.