

Spec I Exhaust System Installation Instructions

Note: The installation of this system requires basic knowledge of fasteners and hand tools. Read instructions thoroughly before attempting installation. If you are uncomfortable with any part of the procedure contact a professional for installation or call Delorean Performance Industries at 330 573 4129. Manufacture warranty on components and welds does not cover improper installation or damage from improper installation.

Step 1: Prep work

Jack vehicle at specified lifting points and install jack stands underneath vehicle. Do not rely on a hydraulic jack only to support the vehicle. Serious injury or death may occur.

Lift vehicle allowing suitable clearance to roll underneath and work.

Never go under the lift vehicle during the operation of hydraulic jacks, lifting equipment or without suitable safety equipment installed.

Once the vehicle is lifted and secured ABSOLUTELY NO ADJUSTMENTS are required until the system is installed and lowered back onto the ground.

Step 2: Underneath vehicle drivers side

Remove drivers side axle shaft assembly. The shaft is removed to give the required clearance to remove the factory cross over pipe assembly. The shaft is secured to the transmission and hub carrier by twelve (12) bolts with lock washers and flange plates. A 17mm socket is required to remove the axle shaft. It is recommended to use a 1/2 inch impact gun to remove the shaft. If removing by hand, holding the tire will be required to keep the shaft from spinning during removal.

CAUTION!

Do not allow the axle shaft to hang by only one mounting point. This will damage the hub sealing ring and dislodge the axle shaft boot. At this time it is recommended to check the condition of your Constant velocity joint boots (CV axle boots) Check for tearing, dry rotting, broken clamps or grease.

Also check your differential axle flange seal for leaking. This is a common problem and should be addressed while the axle is removed. If the differential seals are leaking on the passenger side as well, axle removal will be required on the passenger side. Follow the same removal procedure recommended for the drivers side to complete this task. For further information on axle shaft refurbishment contact Delorean Performance Industries.

Step 3 Factory muffler removal

Remove the factory muffler assembly from the vehicle.

-Depending on condition cut or remove the factory clamp at the converter to muffler flange mounting point. No fastener size specifications listed due to a variety of replacements installed.

-remove tension from alternator belt by loosening tensioner and upper mounting bracket pinch bolt. (complete removal of the alternator will be completed later on)

-pivot the alternator towards the engine to gain access to the upper mounting bracket adjustment bolts located on the passenger side engine valve cover. The bolt specifications are 8mm 1.25 and will require a 13mm wrench to remove.

NOTE: depending on current modifications to your car. The removal of the stock manifold heat stove or performance cold air intake will be required to gain access to the upper muffler mounting bracket hardware.

-remove 10mm bolts and hardware securing bushing into upper muffler bracket

-remove upper muffler bracket

-remove hardware securing factory asbestos's heat shield to lower muffler mounting brackets. This includes two slotted 10mm bolts and washers and two thread inserts secured by 10mm bolts in the lower muffler brackets. Discard hardware and heat shield

WARNING! Asbestos has been linked to numerous forms of cancer particularly Mesothelioma. Extreme care and caution is required while removing these components. An OSHA dated mask should be worn at all times while removing the factory asbestos's components.

-Unbolt passenger side lower muffler bracket assembly 10mm muffler bushing hardware.

-Unbolt passenger side lower muffler bracket assembly to block hardware. Three (3) 8mm 1.25 mm bolts. (located on lower block case in a triangle pattern) Remove with 13mm socket or wrench.

-Remove drivers side lower muffler bracket bushing mounting hardware 10mm x2

-Remove two (2) 17mm bolts securing drivers side lower mounting bracket to timing cover. Use a 17 mm wrench or ratcheting wrench due to clearance issues.

-With all mounting brackets removed the factory muffler assembly can now be removed. The factory slip joint on the muffler to converter flange is poorly designed. The factory U clamp may have crimped this connection point. The system will slide out by rotating the system back and forth (front to back on the car) while pushing the muffler towards the drivers side of the vehicle.

DISCARD muffler, mounting hardware and lower mounts. While none of these components are reused they should not be thrown away. Save all components minus the asbestos heat shield in case stock system is ever desired for re installation.

Step 4 Remove Alternator

-complete removal of alternator by disconnection harness connections on back of unit. Remove 17mm pivot bolt located on cylinder head mounting point. Remove lower adjustment pivot point. Save all components for re installation.

Step 5 Factory heat stove removal (if equipped)

-Remove factory heat stove from passenger side exhaust manifold. This unit has a very high failure rate due to poor durability. Excessive force may be required to remove rotted mounting hardware. Discard all mounting hardware and heat stove halves.

Step 6 Factory Converter Removal

-From beneath vehicle on passenger side remove four nuts securing the converter flange to cross over pipe. All four nuts will most likely snap off. This is not an issue if broken. Discard broken hardware and store factory converter with muffler and other stock components.

Step 7 Lower converter heat shield removal

-removal lower converter heat shield mounted to engine block lower casing. NOTE this is another asbestos component and the same safety steps noted for rear heat shield removal should be followed. Remove by taking out two (2) 17mm bolts vertically attached into lower case. Discard shield piece and hardware.

PREVENTIVE MAINTENANCE: Engine oil warning light

-Due to the extreme amount of heat transferred from the converter the oil warning light located on the drivers side engine block has an extremely high failure rate. Check condition of sender and replace if leaking. Repair electrical harness if damaged present also.

Step 8: Dipstick removal

-remove engine oil dip stick. Depending on VIN the mounting location may vary from an exhaust stud to drivers side valve cover mounting. The mounting hardware sizes are either a 7mm 1.0 nut (requires a 11mm socket for removal) or a 8mm 1.25 bolt (requires a 13mm socket for removal)

NOTE: it is important to cover the dip stick tube hole located in the engine block once removed. DO NOT allow contamination to fall into the crank case during the rest of the manifold removal/ header installation.

PREVENTIVE MAINTENANCE: Timing cover

-Check your engine for excessive oil leaks. If you timing cover gasket is leaking this is the best time to replace the gasket, crank seal and o ring while the muffler is removed. For more information on this procedure check the workshop manual or contact Delorean Performance Industries.

Step 9 Oxygen sensor removal

-If the oxygen sensor (lambda probe) is to be reused (not recommended) disconnect the harness at the plug located in the pontoon directly in front and slightly to the side of the driver's side rear tire. The sensor is then fed through the engine cradle (not grommets) and installed in the cross over tube. If the sensor is not being reused, leave the sensor installed and remove the cross over tube in the next step and simply disconnect the harness.

Step 10 Manifold cross over tube removal

-remove four (4) nuts mounting the cross over tube to the driver's and passenger side exhaust manifolds. Due to age the hardware will most likely snap. This is not an issue as these components will not be reused.

-rotate the assembly down through the opening around the transmission provided by the passenger side axle shaft being removed.

Step 11 Exhaust manifold removal

NOTE: If studs are currently broken or broken during removal do not attempt drilling out broken fasteners unless you have experience and the proper equipment. Serious damage can occur to your engine if not removed or drilled properly. The header system is equipped with four mounting flange points. If required the opposing two (2) holes can be used in the cylinder heads leaving the broken or sheared studs untouched. Also note a 7mm 1.0 tap is required to clean out the opposing holes before studs can be inserted into the cylinder heads if this method is used.

-Remove passenger and driver's side exhaust manifolds. There are six (6) studs located on each cylinder head with an additional bolt and spacer present for a starter heat shield on the passenger side.

CAUTION! The passenger side manifold has yet another asbestos heat shield attached below for starter solenoid protection. The same precautions are required as used on the other two heat shields regarding removal and disposal.

-once the factory manifolds are removed check the cylinder head mating surface for corrosion issues. On some engines erosion due to dissimilar metals has occurred eating away the mating surface on the manifolds and heads. If an issue is present contact Delorean Performance Industries for further instructions.

Step 12 Stainless header installation

-install left and right header assemblies on the engine utilizing one of the previously mentioned stud configurations. Use the supplied exhaust manifold gasket kit to install the headers. DO NOT tighten 7mm 1.0 mounting nuts yet. Install so that the headers are flush with the cylinder heads but not tight.

Step 13 Install Stainless muffler assembly

-install muffler assembly with pre installed heat shield. CAUTION the heat shield is shipped with a protective adhesive layer attached to the outer surface. Remove this before installation. DO NOT start vehicle with this on.

-mount muffler using supplied left and right lower muffler brackets and upgraded upper muffler bracket.

-install using factory mounting hardware for lower muffler bracket locations

NOTE- Muffler alignment is not crucial at this point and will be fine tuned once the converter sections are installed. Over all fitments is at the owners preference. The system is designed to be installed with extremely close tolerances resulting in a perfect fit. The components are manufactured specifically for this application. The system is test fitted at our facility before shipping and is guaranteed to fit perfectly. The alignment phase takes time and patience and for perfect results will take multiple attempts and checks before everything is tightened to specification.

Step 14: Install Converter pipes

-Install left and right converter pipe assemblies. Install on muffler flanges supplied band clamp units with 15mm nut facing downward allowing tightening from engine side. DO NOT tighten any clamps until muffler alignment has been checked. Once pipes are installed with copper three bolt flange gaskets the system should sit perfectly spaced from the engine and rear fascia. Once satisfactory alignment has been achieved tighten all header to cylinder head mounting hardware first followed by converter flange to header hardware (6) six bolts with copper gaskets.

Step 15: Muffler tip alignment

-Align polished muffler tips taking into consideration spacing up and down and side to side from fascia. Appearance is everything and looking at alignment from eye level is crucial. Additional side to side clearance is available by sliding the tips in and out on the muffler flange.

Step 16: Check all clamps and bolts/ install accessories

**-Recheck entire system at all bolts and connection points
-reinstall dip stick tube (reverse removal step)
-reinstall alternator (reverse removal step)
-install axle shaft**

Step 17: Install oxygen sensor plug (passenger side)

-This kit is equipped with an additional point on the passenger side collector for a secondary wide band O2 sensor. The factory Delorean configuration does not use this point to read emissions. The purpose is for a dual wide band set up or fine tuning EFI kit upgrades for the SPEC series system. If a stock K jet system is currently in use, install the o2 bung plug supplied.

Step 18: Install oxygen sensor

-Install lambda (oxygen) sensor in drivers side header. Route harness along frame to location of factory plug in fiberglass body.

Step 19: Test fire

-After checking to make sure there are no clearance issues or other obstructions tools or limbs start the vehicle.

NOTE: system “bedding” process

-Stainless steel champaign's due to heat. The materials will change color. This is normal and should not cause alarm. If your system begins to glow excessively “red” at idle on the headers or converters shut off the vehicle immediately. This is a sign of fuel of a fuel system concern and should be addressed immediately. Failure to do so will result in extensive converter damage. Also note that at first the sound will seem raspy. After about a half an hour of running depending on conditions the system will “bed” and the tone will change. This break in period is normal, along with a unique burning smell as the metal changes and any chemicals etc burn off from the fabrication process.

For additional technical advice do not hesitate to call Delorean Performance Industries at 330 573 4129. Or email at Deloreanperformanceindustries@gmail.com