



- Remove the Entire Factory Exhaust System.

The header, muffler, and the catalytic converter can all be removed as a unit. Remove the clamps around the muffler, the oxygen sensor, and heater connections, and then unbolt the system from the cylinder heads. Be sure to have the system supported as it comes loose so you do not damage any studs. Consult your factory service manual when necessary.

- Check all the Exhaust Studs.

After you check all the exhaust studs, clean the gasket surface on the cylinder heads. Remove the muffler bracket. At this time, if you have a twin outlet muffler, go ahead and remove the valance panel now.

- Remove Oil Lines.

The factory rubber oil cooler hose and thermostat line will have to be replaced in order to install your new Billy Boat Exhaust system. Remove these in the following order:

- 1.Drain oil from oil tank. Be sure to use a clean pan and/or change oil filter at this time. Be sure to re-install the drain plug!

- 2.Remove the factory rubber "S" hose that runs from the oil tank to the engine oil cooler.

- 3.Factory oil line B runs from the bottom of the engine case, around the back of the car, and up in the right rear fender well to the thermostat housing. At the thermostat, the fitting for this line is on the inside of the housing. In order to remove this line, you must first take the outside fitting off in order to be able to get a wrench on the inside fitting. It may be helpful to soak these fittings in WD40 to help loosen them up.

Remove both fittings from the thermostat, and then remove factory line B from the bottom of the engine case. Leave these lines off until after the headers are installed.

- Install Billy Boat Exhaust Headers.

Using the supplied gaskets, copper nuts, and stainless washers, bolt the Billy Boat Exhaust headers to the cylinder heads. It is suggested that you use a ¼" drive 12mm wobble socket with a 12" extension to reach the nuts. Use the supplied Billy Boat Exhaust wrench to reach any nuts that are difficult to get at. Be sure to tighten all nuts sufficiently and evenly. Check to be sure that the flanges on the headers have clearance against the side of the cylinder head. Any interference may cause an exhaust leak.

- Muffler Bracket.

It is easy to install the muffler straps and bracket to the muffler before you put the muffler on to the car. Position the straps and bracket on the muffler and tighten the straps to form them to the muffler, and then loosen them in order to position the bracket on the engine. The muffler bracket is adjustable and should lie flat against the muffler.

Bolt the muffler to headers using the supplied 3-bolt gaskets and 8mm Allen Head bolts lock nuts. Bolt the muffler bracket to the two bolts on the engine cover. Tighten the bracket and straps.

- Install Heater Connections.

On the 911 Carrera, all factory heater connections will hook-up as before. On the 911 SC or earlier, you will want to use the 90-degree steel connector off your old heat exchangers, and some flexible heater ducting in order to most effectively hook up the heater.

- Install Oxygen Sensor. (for 1974 and newer vehicles)

The oxygen sensor wire will have to be extended in order to reach the port on your new headers. If you have a 3-wire oxygen sensor use the supplied extension, which will plug into the factory connectors. If

you have a single or two-wire oxygen sensor, extend this wire using the supplied wire, connectors, and heat shrink tubing.

#### Re-Install Oil Lines.

1. The supplied oil scavenge line with your Billy Boat Exhaust headers is a steel unit with two short rubber hoses on each end. Double-check the tightness of the clamps prior to installation.

2. After checking this, install the oil line with a short 1" section of hose to the tank and the other hose to the engine. Tighten the clamps securely.

Important: You must make sure you have at least a ½" minimum clearance between the oil line and the headers. If this is not the case, try to reposition this line in order to obtain clearance. Do not run the car without sufficient clearance on this line.

Oil Line B. This oil line consists of the following components:

- Steel 90-degree adapter 30 mm female to –12 male aeroquip
- 57" stainless oil line with a 30-mm female fitting on one end and a 90-degree –12 female fitting on the other.

Start by screwing the 90-degree end of the oil line to the bottom of the engine case. You may want to use some oil or anti-seize on the threads.

This adapter will point to the front of the car. This oil line will be routed under the flywheel area of the transmission, into the fender well, and to the thermostat.

Connect the line to the thermostat block in order to secure the line. The factory clamp may be used in the wheel well, and you may want to use cable ties to secure it in a couple of other locations.

#### • Fill and Check Oil Levels.

After installing the oil lines and securing them tightly, refill the car with oil. Start the car and let the oil get up to temperature, then recheck the oil level.

#### • Check for Leaks and Problems.

After starting your car, check for any exhaust leaks or oil leaks, or for any clearance problems. It is also a good idea to recheck the exhaust nuts on the cylinder heads after getting the engine up to temperature, then letting it cool off.

#### • Enjoy the quality and performance of your new Billy Boat Exhaust

With proper installation, your Billy Boat Exhaust Headers will provide unmatched performance, durability, and beauty.

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#### Billy Boat Exhaust Safety

SAFETY: Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personal injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place the ignition switch in the OFF position.
- Always apply the parking brake when working on the vehicle.
- Block the front and rear tire surfaces to prevent unexpected vehicle movement.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around the fuel system.
- Use chemicals and cleaners only in well-ventilated areas.
- Batteries can produce explosive hydrogen gas which can cause personal injury. Do not allow flames, sparks or flammable sources to come near the battery.

- Keep hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewelry that can be caught in rotating or moving parts.

VEHICLE SUPPORT WARNING: Should the purchaser decide to install this exhaust product at home, be warned that car or light duty truck/van "bumper" jacks are intended for emergency use only. The use of frame contact jack stands in conjunction with a floor jack as main support is highly recommended to minimize accidental dropping of a vehicle while the installation proceeds. We recommend the use of a shop hoist if possible. Please use caution!