

Installation Instructions Miata Header

Read these installation instructions before starting:

- It is best to work on a “cold” car. Removal of the securing nuts may be very difficult on a “warm” car.
- Place the front of the car on jack stands. Never work on a car supported only by a floor jack.
- Spray the front pipe-to-connecting pipe nuts with a penetrating spray. Let these nuts “soak” while you continue to work on the removal process.

Refer to the diagram for part locations

• If the car is equipped with the factory shock tower brace, remove the indicated mounting bracket bolts/nuts, and remove the cross brace to allow access to the exhaust manifold (See Figure 1). Remove the heat shields from the stock manifold (The heat shields will not be reused). If your car is equipped with anti-lock brakes, it may be necessary to remove the windshield washer tank, with the tank connector attached, before removing the heat shields. Remove the securing bolts that retain the stock air intake box to the chassis. Loosen the clamp that secures the air meter to the plastic intake tube and separate the two pieces (See Figure 2). Cover the open ends of the air meter and intake tubes. Re-position the intake to allow access to the exhaust manifold.

• Remove the EGR pipe fitting that connects to the rearward portion of the engine-to-header flange (A). If necessary, the EGR tube may be repositioned to aid in the installation of the header by loosening the tube retaining bolt (B) on the back of the engine.

Exhaust Manifold Removal Tips

- We strongly recommend that you unbolt the exhaust manifold from the front pipe prior to removal. Access to this connection can be improved if the front left wheel is removed from the vehicle.
- Removing the oxygen sensor from the front pipe may be difficult while the stock manifold assembly is on the car. We recommend unplugging the wiring harness and removing the front pipe and the sensor at the same time. When removing the front pipe be careful not to damage the wires extending from the top of the sensor unit.

Removal

- 1) Work the front pipe-to-connecting pipe nuts off the studs slowly and carefully. If the nuts are difficult to remove, spray with a penetrating spray and slowly work the nuts off the studs. If a stud should break, the stud can be replaced or drilled out and a new stud substituted. Note: The two (2) nuts at the front of the connecting pipe look the same as the header-to-engine nuts but they are coarse thread - do not mix!
- 2) If the vehicle is equipped with the factory mid-chassis brace (crossmember component), remove the unit from the vehicle.

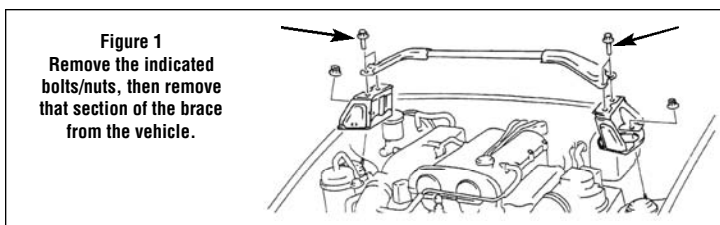
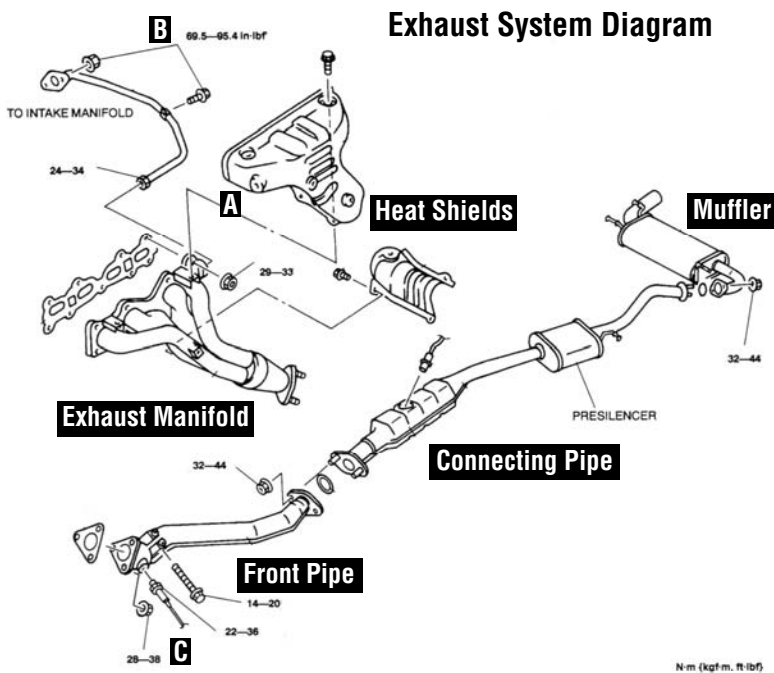


Figure 1
Remove the indicated bolts/nuts, then remove that section of the brace from the vehicle.

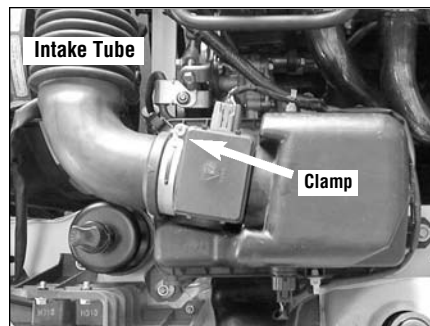
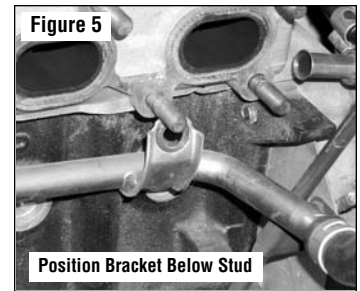
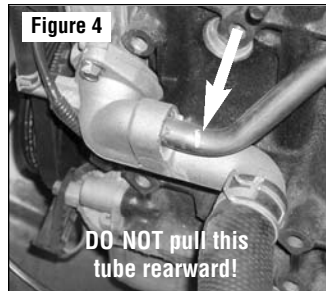
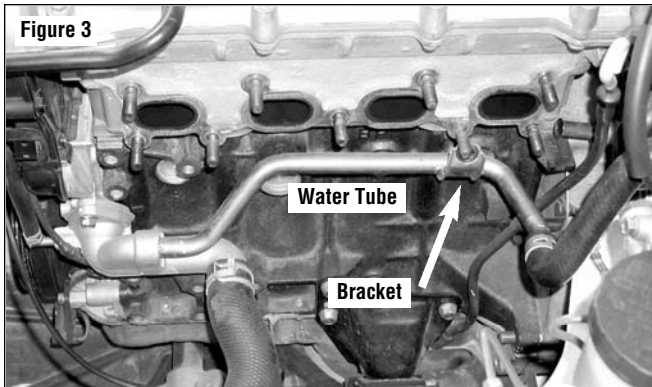


Figure 2. Loosen clamp and separate intake tube from air meter.



3) Unbolt the bell housing bracket that supported the stock exhaust manifold/front pipe assembly and remove it along with the front pipe. If this is not possible, unbolt the front pipe from the bracket (the bolt head is located on the driver's side of the bracket and may be difficult to reach), remove the pipe, then remove the bracket from the bell housing. This bracket will not be re-used on the Racing Beat header.

4) Unbolt the stock exhaust manifold from the engine. (Spray the nuts with a penetrating spray. Let these nuts "soak" while you continue to work on the removal process.) Positioned under the exhaust manifold is a water heater tube secured by a small bracket placed over one of the lower mounting studs. This bracket is hidden from view by the exhaust manifold (see Figure 3 for the location of this bracket). As you pull the exhaust manifold off the studs, carefully let this bracket fall away. (DO NOT allow the tube to be pulled rearward as this will cause the rigid metal water tube to slide out of the forward casting (see Figure 4). Position the bracket below the studs to allow for the removal of the exhaust manifold (see Figure 5). Next, remove the manifold assembly up through the engine compartment.

Installation

5) Carefully remove the oxygen sensor (C) from the front pipe. Spray the threads of the sensor with a penetrating spray before attempting to remove the sensor. Continue to spray the threads while the sensor is being removed, being careful not to contaminate the end of the sensor. Before installing the header, apply a small amount of "never-seize" material to the sensor threads (again, do not allow this material to contact the end of the sensor), and place the sensor in the Racing Beat header. Tighten the sensor to 22-36 ft/lbs. Do not attach the wiring harness at this time.

6) Place a small amount of "never-seize" material on all stud threads before re-assembly. The original gaskets can be re-used if they show no signs of failure, i.e. black streaks, cracking, etc... Place the engine-to-header gasket on the car (the convex side of the gasket is faced to the exhaust manifold side). Place the supplied "donut" gasket on the header flange. A small piece of tape or silicone sealant may be used to hold the gasket in place during installation.

7) Place the header into the car and onto the cylinder head studs. Replace the water heater hose bracket over the mounting stud, being careful not to pull the hose rearward. Tighten the engine-to-header nuts to 29-33 ft/lbs. Tighten the header-to-connecting pipe nuts to 32-44 ft/lbs.

8) Reconnect the oxygen sensor to the connector in the engine compartment. Using the supplied tie wraps, position the wiring away from the exhaust to prevent damage to the wiring.

9) Reconnect the EGR tube to the exhaust manifold. Tighten the connector to 24-34 ft/lbs, and if necessary, tighten the retaining bolt on the back of the engine.

10) Reinstall the mid-chassis brace (crossmember component) on the vehicle. Tighten to the torque settings as specified in Figure 6.

10) Reconnect the air intake assembly and windshield wiper tank (if necessary). If necessary, reconnect the factory shock tower brace .

- Start the engine and check for any exhaust gas leaks. After running the engine through several "heat cycles", re-torque the engine-to-header nuts.

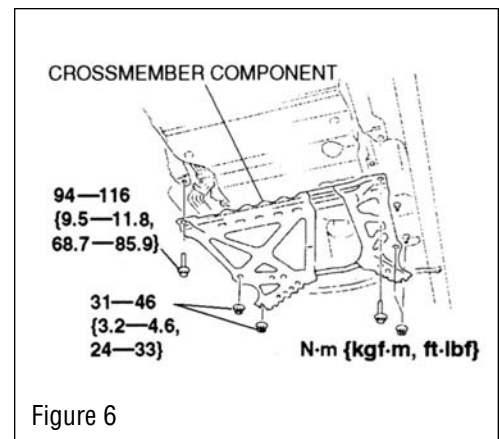


Figure 6