



## INSTALLATION INSTRUCTIONS EXHAUST MANIFOLD / HEADER and/or DOWNPIPE 1985-1989 Toyota MR2

**WARNING! RISK OF ELECTRIC SHOCK AND/OR FIRE.  
DISCONNECT BATTERY NEGATIVE CABLE BEFORE PROCEEDING!**

**A NOTE ON SAFETY:** YOU are responsible for safely and correctly installing and using any items purchased. Please read and follow these installation instructions carefully. Observe all safety precautions. Use eye protection, protective gloves, and common sense. Make sure the rear of the car is safely supported on ramps or an overhead lift. Chock the wheels so that the car cannot roll. **NEVER WORK UNDER A CAR SUPPORTED ONLY BY A JACK.**

**PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING ANY WORK.  
ALLOW ENGINE AND EXHAUST SYSTEM TO COOL BEFORE WORKING ON THE CAR.**

**NOTE:** Exhaust system hardware is susceptible to damage by rust, extreme heat, age, and the use of incorrect tools. Proceed carefully to avoid causing further damage. You may need to spray all fasteners in penetrating oil and come back after they have been allowed to soak for a period of time.

**OVERVIEW:** These instructions cover the replacement of the car's original exhaust manifold and/or downpipe with SV3Power Products replacement components.

**COMPONENT CHECKLIST:** This operation normally requires the following parts, typically included with new SV3Power Products components:

- 1x SV3Power exhaust manifold gasket EG140S and 2x Toyota gasket 90917-06039
- 1x Toyota gasket 90917-06044 for NA cars, 90917-06054 for SC
- For SV3Power header: 1x SV3Power Oil Cooler Delete Kit EL900K
- 1x SV3Power Exhaust Manifold Hardware Kit EX941K
- For OEM manifold or 20V header: 3x M10-1.25 studs with locking nuts
- For SV3Power header: 3x M10x1.25 bolts with locking nuts
- 2x M10x1.25 bolts with locking nuts for downpipe outlet flange
- 2x M8x1.25 bolts with locking nuts for muffler brace
- M8 studs and nuts, M18 threaded plugs as required for oxygen sensor fittings

In addition, anti-seize compound and Permatex Ultra Copper sealant (not included) are recommended.

**NOTE:** Apply anti-seize compound to all fasteners to prevent corrosion and ensure ease of removal.



### **DO NOT USE EXHAUST WRAP!**

Wrapping any part of the exhaust system in thermal wrap or header tape is **NOT NECESSARY**. It may result in warping, cracks, or other premature failure. Don't do it!

#### **BEFORE INSTALLING HEADER or MANIFOLD:**

**1. Remove existing exhaust manifold and/or downpipe** as applicable.

**2. Make sure downpipe inlet flange slips over header / manifold outlet studs (if applicable).** If downpipe does not fit over outlet studs, one or more studs is bent (very common on OEM 20V headers); remove bent stud(s) and replace with new M10-1.25 studs before installing header.

**3. For supercharged engine (4A-GZE) only:** If installing SV3Power stainless header or SV3Power modified 20V header, trim the exhaust manifold gasket and header flange in order to clear the alternator bracket. Cut away the material surrounding the unused bolt hole, closest to the nose of the engine, leaving a full circle of material around the inner bolt hole. This can be done with an ordinary hacksaw.

**4. If installing SV3Power header EX140S:** Following the instructions provided with oil cooler bypass kit EL900K, delete the oil filter bracket and bypass the OEM oil cooler, then return to these instructions and proceed with step 5.

**NOTE:** If you are not replacing the exhaust manifold (header), please skip to step 8.

### **INSTALL HEADER OR EXHAUST MANIFOLD:**

**5. Install M10-1.25 exhaust manifold studs** (kit EX941K) into cylinder head. The shorter threaded section on each stud goes into the head. If studs are difficult to install, chase threaded holes with an M10-1.25 tap, clear all debris from holes, and install studs.

**NOTE:** Do not tighten or torque studs in cylinder head. Use only enough torque to bottom the non-threaded shank of the stud against the head. If any original exhaust manifold studs are still present and in good condition, you may leave them in place. It is not usually necessary to replace them with new studs.

**6. Slip exhaust manifold gasket EG140S or EG141S onto studs**, making sure that the raised sealing rings on the gasket face away from the engine, then **slide the header or exhaust manifold onto the exhaust manifold studs**. Loosely thread one M10-1.25 nut (kit EX941K) onto each exhaust manifold stud.

7. If applicable, **install lower header brace and EGR feed pipe**, leaving all fasteners finger-tight.

### **INSTALL DOWNPIPE:**

**9. Unbolt vibration isolating downpipe mount from vehicle** (located under trunk floor, directly behind the transmission and over the downpipe) and slip into place on hanger of new downpipe. The hanger goes into the oval hole in the rubber portion of the downpipe mount.

**10.** (SV3Power header: insert three M10-1.25x35 JIS flange bolts from above into bolt holes in outlet flange of header.) Place gaskets EG901 over tubes on downpipe inlet flange, then **attach downpipe inlet flange to header/manifold outlet with supplied M10-1.25 nuts**, leaving all fasteners finger tight. Bolt downpipe mount to vehicle.

**11.** Place downpipe gasket in groove on outlet flange. Gasket is 90917-06044 for NA cars, 90917-06054 for SC. Gasket sealant is not required, but it can help hold gaskets in place during installation. **Bolt downpipe outlet to catalytic converter or test pipe inlet** with two each M10x1.25 bolts and locking nuts; bolt downpipe brace to muffler brace with two M8x1.25 bolts and nuts. Leave all fasteners finger tight.

**12. Install oxygen sensor(s) and/or plug(s)** and route wires away from hot and moving parts.

### **FINAL ASSEMBLY:**

When system is properly aligned and all parts are in place, torque all fasteners.

- Header to engine nuts: begin at CENTER stud and work OUTWARD. Torque all nuts to 18 lb-ft, then to 25 lb-ft
- EGR pipe to exhaust manifold/header: 51 lb-ft
- Downpipe to header nuts: 46 lb-ft
- Cat/test pipe and muffler flange nuts, downpipe mount to body bolts, muffler mount bolts: 32 lb-ft
- Flanged oxygen sensor nuts/bolts, muffler brace nuts/bolts: 14 lb-ft
- Threaded oxygen sensor: 32 lb-ft

**NOTE:** Due to the embossed sealing rings on the exhaust manifold gasket, there will be a visible gap between the header flange and gasket even after the header is properly torqued. This is not a defect and does not need to be corrected. A gap at the flange does not indicate an exhaust leak at the port.

**SAFETY CHECK:** Make sure all components are mounted securely. Verify that all hoses, shift cables, throttle cables, wires, insulation, etc., are kept safely away from any part of the exhaust system. If necessary, suspend shift cables away from header with zip ties, safety wire, or other secure method. Remove any spilled oil.

**Reconnect battery negative cable.** Start the engine and verify that there are no exhaust leaks, rattles, or unusual sounds before test driving the vehicle.

**SUPPORT:** Most questions can be answered by reviewing the FAQ and/or the product installation instructions included with your order. Please contact SV3Power Products via [www.sv3power.com](http://www.sv3power.com) with any other installation questions or concerns. Please share any questions or suggestions you have to help improve this product and/or other products you would like to see developed for the first generation MR2.

**Thank you for your purchase and for supporting the MR2 community!**