

Honda S2000 Supercharger Aftercooler Kit Installation Instruction (2000-2005 models)

INS-113

VERSION: 7.22.2008

Thank you for purchasing CTe's Supercharger Aftercooler kit for the Honda S2000. All components have been designed and manufactured utilizing the latest in technology and materials. All CTe products are designed to blend with the original vehicle design to improve performance, without modifying the original vehicle's integrity or emission certification. We are sure you will be pleased with the look, fit, dependability and performance this kit will provide. Should you have any questions, please call us at: 916-635-4550.

Before starting:

- **Installing the CT S2000 aftercooler kit requires a copy of the CT Engineering S2000 supercharger kit installation instructions (Part#: INS-072). If you no longer have a copy, please contact CTe or download a copy at <http://www.ct-engineering.com> Thoroughly read *both* these instructions and appropriate sections of Honda S2000 factory manual before installation.**
- We reference and recommend the factory service manual to supplement these installation instructions. Any reference to the factory manual will be made in the following format: **Reference: Section Title, Page #.**
- All photo references will be in **bold type**.
- All Part Numbers corresponding to parts list will be in brackets as follows (###-###).
- **We recommend that only a competent and qualified mechanic perform this installation.**
- Thoroughly check the enclosed parts list to insure that all components are included in this kit **before** proceeding with the installation.
- Many factory parts are reused for installation, use caution not to damage or discard any parts, small or large.
- Always use jack stands to support the vehicle when a car lift is not available.
- Always work in a clean environment and use the appropriate safety equipment and tools.



Step #1: Battery disconnection

- Locate and record radio code & all preset stations.
- Disconnect negative (-) battery terminal.

Step #2: Inner Fender Removal

- Raise car.
- Remove front wheels to access inner fender wells.
- **Reference: Fender Well, 20-83**
- Remove forward most plastic retainers securing inner fender (retainers ahead of front shock assembly). This will allow front half to be folded back for access.

Step #3: Front Bumper, Undercover, and Splash Shield Removal

- **Reference: Bumper, 20-70 and Fenderwell, 20-83.**
- Remove assorted hardware securing bumper bottom.
- Remove and set aside front undercover.
- **Reference: Stabilizer Bar Replacement, 18-17**
- Remove Front Splash Shield and set aside.

Step #4: Front Bumper Removal (topside)

- **Reference: Bumper, 20-70**
- Remove front bumper upper stiffener and set aside.
- Remove all remaining bumper fasteners.
- Once hardware is removed, bumper cover may be unsnapped from hooks. This requires pressing down on outer ends of bumper to disengage corner pins, then pull bumper forward and out until remaining snaps disengage.
- Set front bumper cover and foam absorber aside.

Step #5: Aftercooler Radiator Installation

- **Reference: radiator and fan Replacement, 10-11**
- Remove upper engine radiator bracket and cushion. This allows engine radiator to be lifted slightly.
- Lift and support engine radiator so it clears cross member (supporting the engine radiator can be done with a screwdriver as seen in **Photo A-2**).
- Align supplied template, butted against bottom of lip (top) and welded edge of radiator support upright (left) to locate position of two mounting holes **Photo A-1**. Center punch and drill holes to 0.25" Dia. These holes shown in **Photo A-2**.
- From parts provided, locate pair of mounting screws (800-2012), washers (804-0013), spacers (354-149), rubber mounts (806-057) and flange nuts (803-1008).
- Pass mounting screw thru washer, then rear of cross member. Slip a spacer over screw and thread on rubber mount. Tighten to 50 in-lbs. Repeat with second mounting assembly. Remove screwdriver supporting engine radiator and refit upper engine radiator cushions and brackets.
- Fit upper aftercooler radiator support as shown in **Photo B**. Do not tighten screws yet.
- Install aftercooler radiator.
- Install lower mounting flange nuts and torque to 50 in-lbs.
- Rotate upper support to obtain a snug fit on aftercooler radiator and tighten mounting screw to 8 ft-lbs.

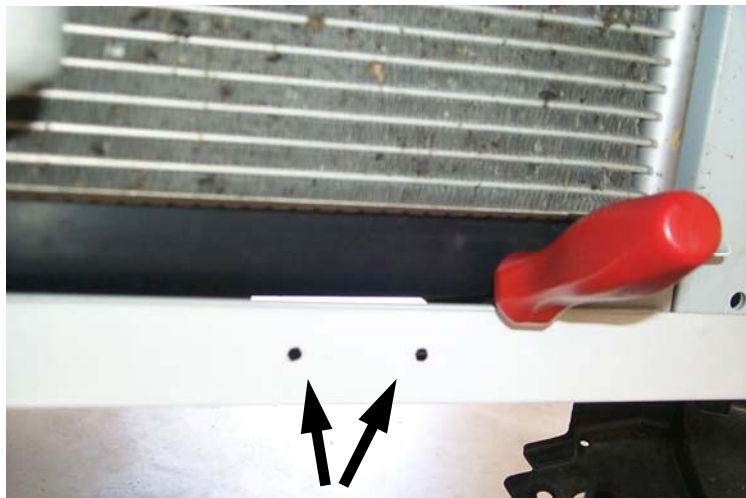
Photo A-1



Photo B



Photo A-2



Step #6: Mounting Coolant Pump

- **Reference: Air Pump, 11-149**
- Remove lower nuts (2) securing air pump. Discard plate under nuts. See **Photo C**.
- To facilitate installation of coolant pump, remove from support clamp. Remove hardware securing side of clamp without ground lug. Slide pump from clamp, taking care not to damage pump wires.
- Install pump and bracket assembly as shown in **Photo D** and replace nuts from prior step and torque to 50 in-lbs.
- Slide pump into mounting clamp until body of pump bottoms on clamp. Pump should now be clocked so outlet tube (perpendicular to axis of pump) is parallel with mounting bracket as shown in **Photo E** and **Photo I**.
- Install and tighten mounting hardware for pump.

Photo C

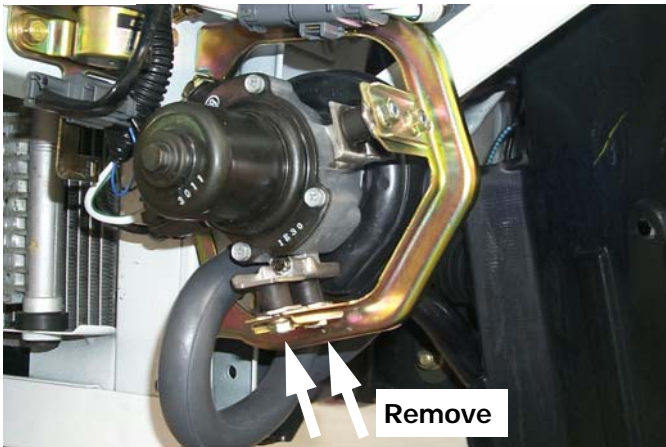


Photo D

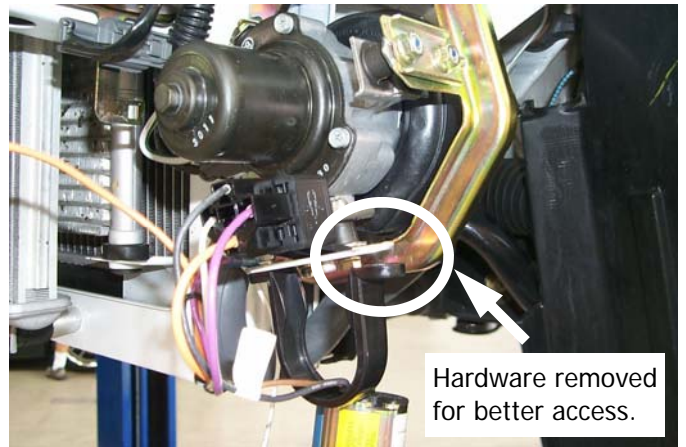
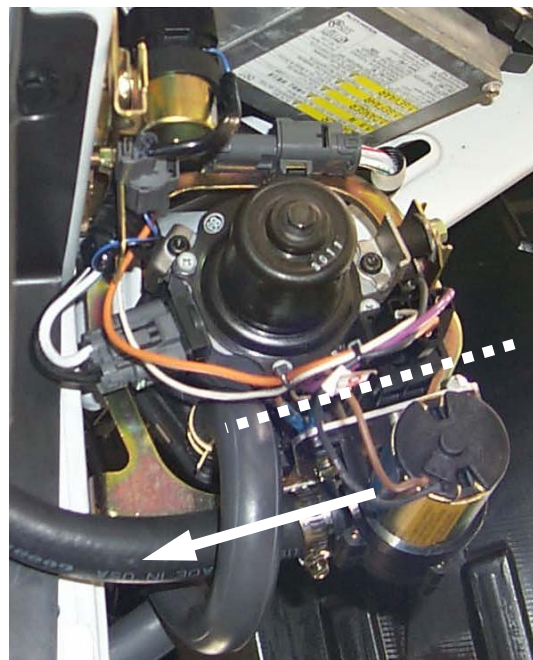


Photo E

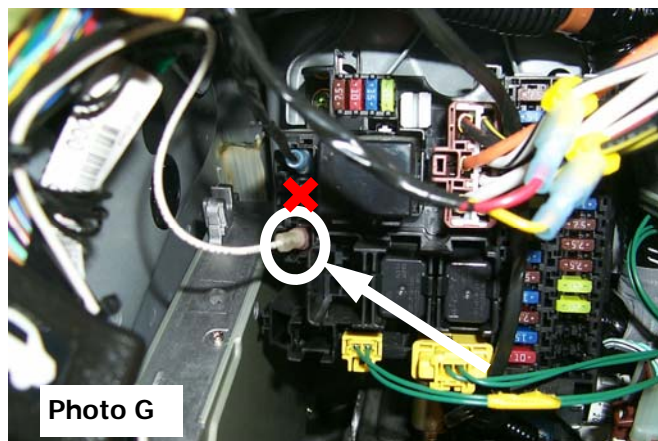
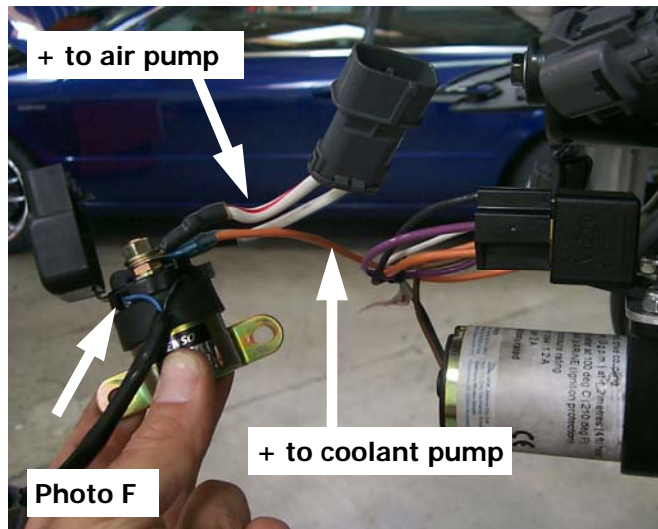


Photo I



Step #7: Coolant Pump Wiring

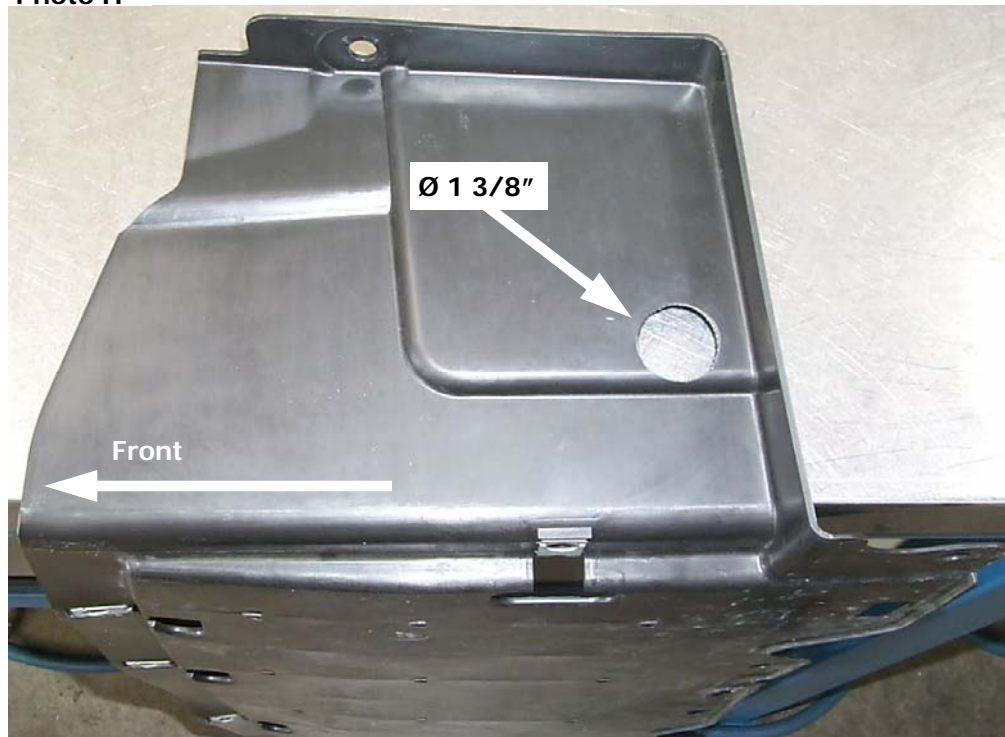
- Ensure battery has been properly disconnected.
- **Reference: air Pump, 11-149**
- Remove air pump relay.
- Unsnap air pump relay terminal cover.
- Determine which relay terminal is positive by checking continuity at chassis side of air pump relay connector. Check continuity between chassis and connector terminals. Terminal with continuity to chassis is ground, remaining terminal is positive (Test vehicle positive wire was white/red, but should always be verified on every vehicle, since wire colors can vary from year to year).
- Remove nut on positive post of air pump relay.
- Place coolant pump relay positive lead (orange wire with ring terminal) on post in addition to air pump lead.
- Reinstall nut, being careful not to damage terminals. See **Photo F**.
- Reinstall air pump relay terminal cover.
- Reinstall air pump relay.
- **Reference: Connectors & Harnesses 22-15, 22-19**
- Long white lead from coolant pump relay provides power to energize this relay. This wire should be routed parallel to factory harness into vehicle cockpit where it will be attached within the fuse box. Route wire parallel to left engine compartment harness and carefully secure it with the supplied ty-wraps to avoid chaffing. Pass wire through firewall alongside engine wire harness by piercing small hole in grommet and feeding wire through.
- **Reference: Trim Removal/Installation-Door Area, 20-48**
- Once wire has been fed into cockpit, remove left side kick panel and doorsill trim.
- **Reference: Under Dash Fuse/Relay Box, 22-33**
- Secure wire to factory harness allowing adequate length to reach Socket C of fuse/Relay box. See **Photo G**.
- Crimp supplied female spade terminal (342-112) on wire, heat shrink insulation, and plug terminal into Socket C (switched Ignition). This will energize coolant pump when ignition is turned on.



Step #8: Front Undercover Modification

- Utilize provided template to locate and drill/cut a 1 3/8" Dia. hole in front undercover. See **Photo H**.
- Install supplied grommet (807-008) in hole. Coolant hose running from pump to heat exchanger will pass through this hole.

Photo H



Step #9: 26" Coolant Hose Installation (Pump out to Aftercooler Radiator)

- Install modified front undercover.
- Locate 26" hose (811-004-28) and (2) spring clamps (812-004).
- Install hose as shown in **Photo I** and **Photo M**. Care should be taken to avoid any chafing or kinks.

Photo M

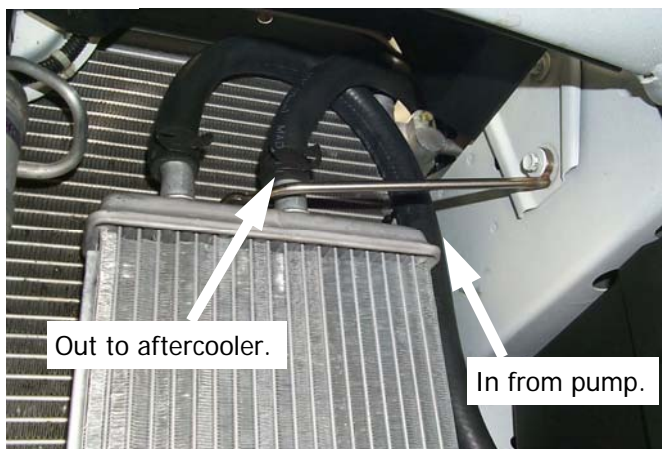


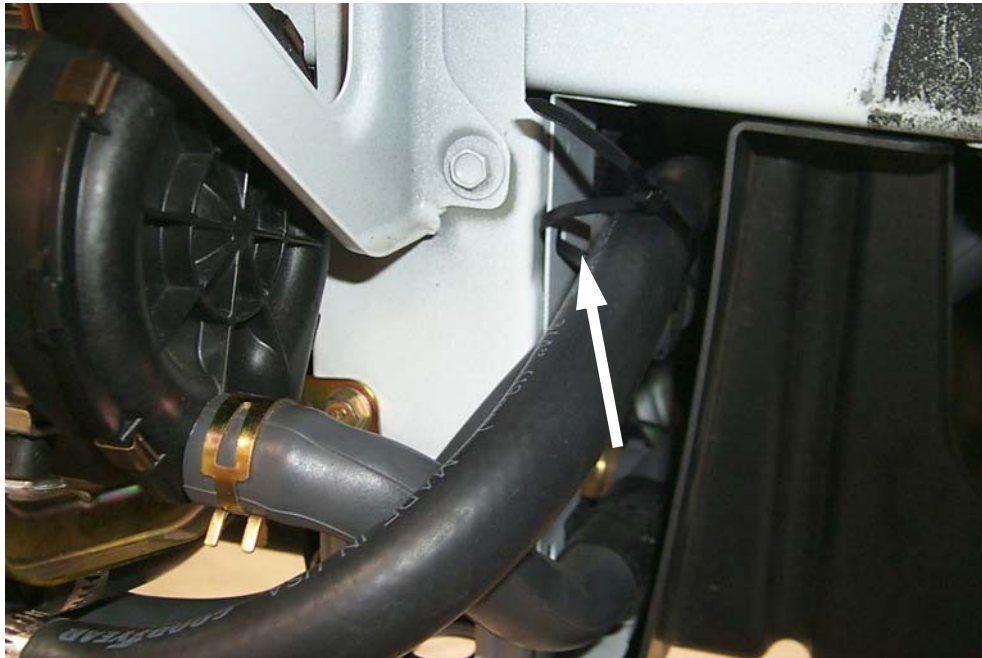
Photo I



Step #10: 25" Coolant Hose Installation (Aftercooler to Pump)

- Locate 25" hose (811-004-22) and (1) spring clamp (812-004).
- Install hose as shown in **Photo J** noting location of tywrap in photo. Care should be taken to avoid any chafing or kinks. Hose end in engine bay will dangle free for now.

Photo J



Step #11: Modifying Cooling Fan Bracket

- **Reference: Radiator and Fan Replacement, 10-11.**
- Remove coolant recovery tank for clearance.
- It is necessary to modify bracket holding cooling fan harness for hose clearance. Remove wire clip and bend tab as shown. See **Photo K** (before) and **Photo L** (after).
- Replace wire clip as shown in **Photo L**.

Photo K—Before



Photo L—After



Step #12: 34" Coolant Hose Installation (Aftercooler Radiator to Aftercooler)

- Locate 34" coolant hose (8111-004-33) and (1) spring clamp (812-004).
- Install hose as shown in **Photo M** and **Photo N**. Care should be taken to avoid any chafing or kinks. Hose end in engine bay will dangle free for now.

Photo M



Photo N



Step #13: CT Air Tube & Air Box Removal

- Once all previous steps have been completed, it is necessary to refer to Honda S2000 Supercharger kit Installation Instructions.
- Remove CT air intake tube; reference Step #12 of S/C kit instructions.
- Remove CT air box; reference Step #11 of S/C kit instructions.

Step # 14: Rotation of Supercharger Housing

- Fitting aftercooler requires rotating supercharger housing. To rotate housing it will be helpful to obtain a 7/16" offset open-end wrench, as seen in **Photo O**. Loosen (6) bolts securing the housing to the compressor. See **Photo O**.
- Rotate housing counter clock wise (faced from inlet) and remove uppermost bolt and triangular washer. See **Photo P**. Set this hardware aside for installation in a future step.
- Remove bottom bolt and washer, located 180° from hardware shown in **Photo P** and discard.
- Rotate housing clock wise until outlet is parallel with crossmember (**Note:** Do not rotate housing closer than 1 1/2" to subframe rail, measured from subframe straight up to bottom inside lip of housing inlet). See **Photo Q**.
- Refer back to **Photo O**. This photo shows *new* location of bolt removed from the top of housing. To install this bolt it is necessary to loosen housing mounting hardware until approx 1/2" of thread is visible. This should allow adequate clearance to install bolt and triangular washer.
- Once housing is aligned per **Photo Q**. tighten (5) mounting screws. It is important to make sure triangular washers are properly aligned during this process for proper clamping.

Photo O

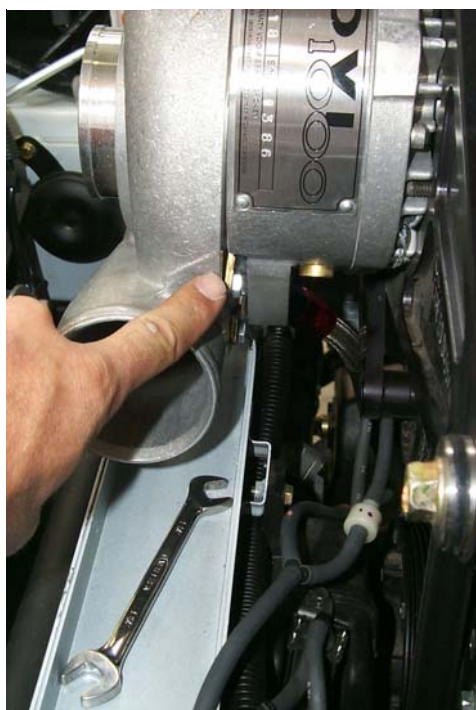


Photo P

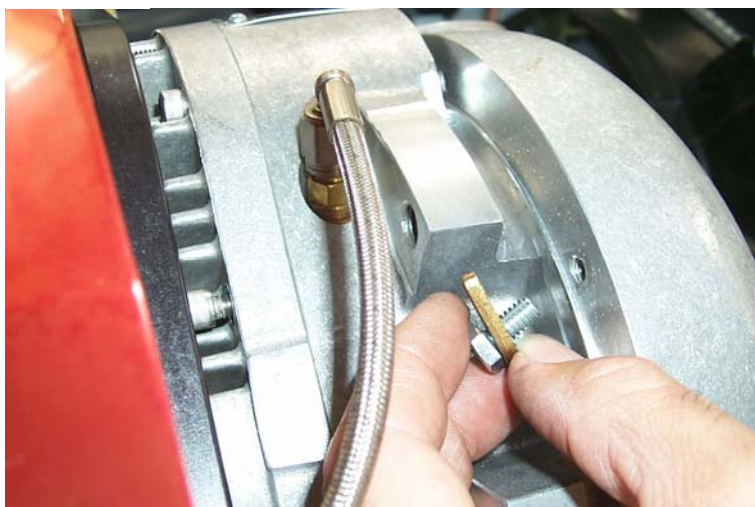
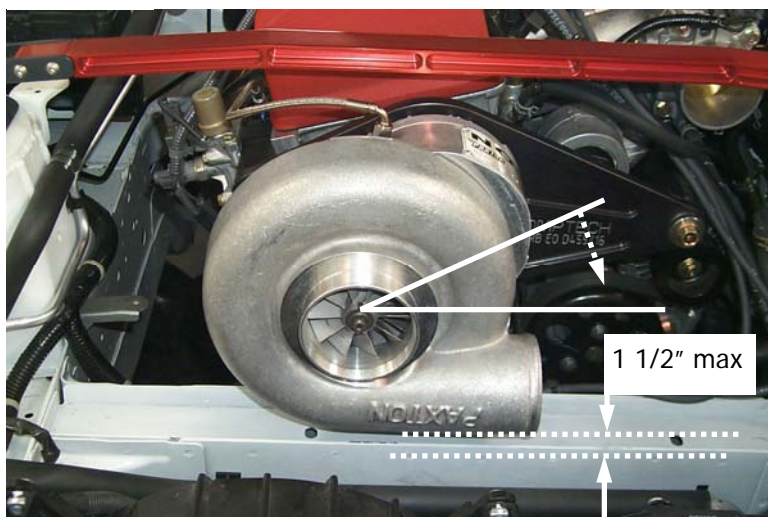


Photo Q



Step #15: Aftercooler Installation

- Remove hoses and clamps from air tube that were removed in step #13.
- Loosely install hoses on aftercooler.
- Place remaining hose clamp on respective hoses and install aftercooler. Important: aftercooler must be aligned properly. Not only should it provide clearance from any strut bars fitted, it must provide room for coolant lines to be attached without kinks. See **Photo R** and **Photo S**.
- Tighten hose clamps.
- Install coolant lines on respective fittings checking for any chafing or kinks. See **Photo R** and **Photo S**.
- Replace coolant recovery tank removed in Step #11. It may be necessary to bend tank bracket slightly to gain adequate clearance for coolant hose.

Photo R

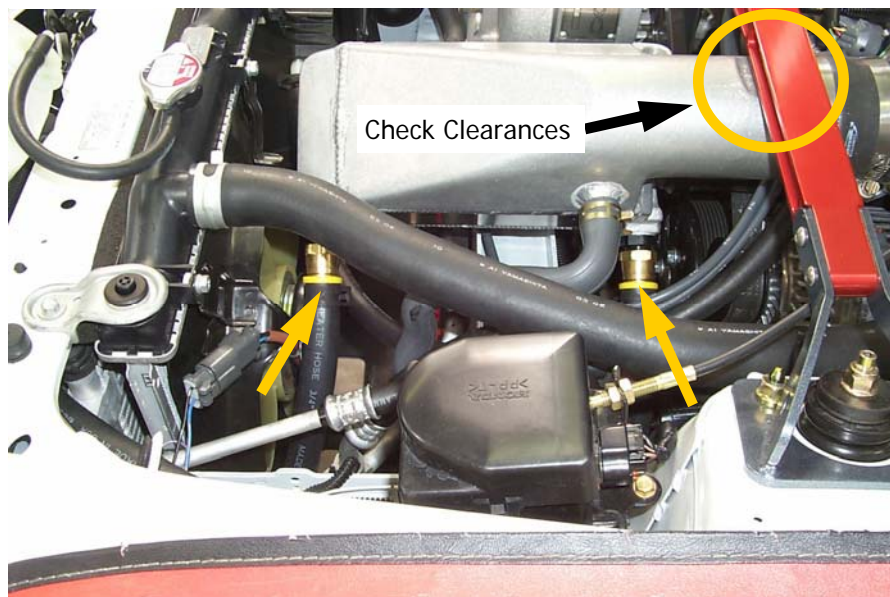
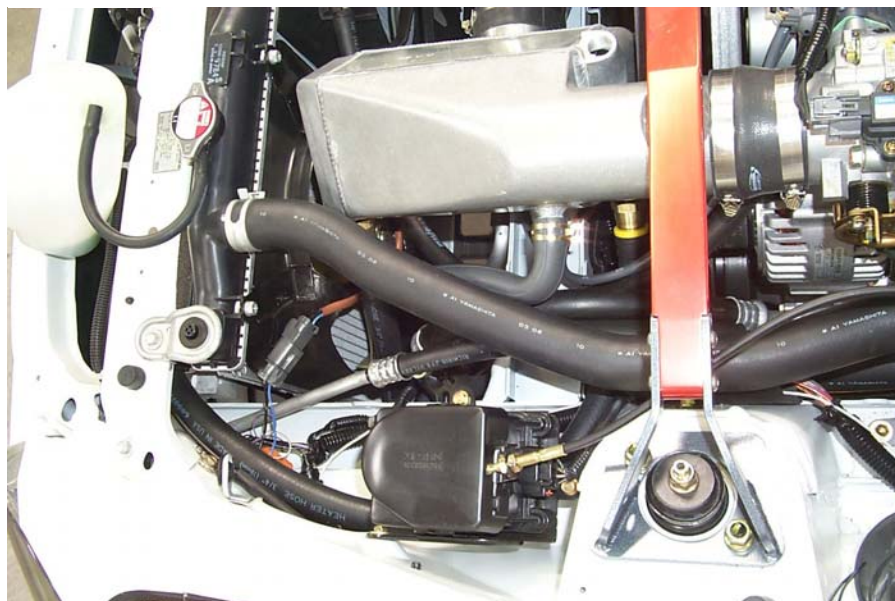


Photo S



Step #16: Trimming Air Bypass Hose

- Trim 4 1/4" from air bypass hose. See **Photo T**.

Photo T



Step #17: Reinstall Air Box and Hose Assembly

- Reinstall Comptech air box and hose assembly per Step #11 in S/C Kit Instructions. It will be necessary to re-clock air bypass valve and install trimmed hose from Step #16.

Step #18: Filling/Bleeding Aftercooler

- Fill the aftercooler with bottled water and Redline Water Wetter (620-028—**Not Included**) to Prevent corrosion. A 50/50 water/antifreeze mixture is also acceptable. (**Note: If unit is to be used in climate where freezing temperatures may occur, it should be filled with a 50/50 water /antifreeze mixture to prevent freezing and subsequent rupture of aftercooler and potential engine damage.**) System uses approx 1/2 gallon fluid.
- Fill cooler. See **Photo U**.
- Cycle ignition switch (runs coolant pump).
- Check level.
- Repeat until coolant level in cooler is consistent and level is 3/4" below filler on level ground. This allows for expansion of fluids at operating temperatures.
- Install 18mm plug and washer, torque to 20 in-lbs.
- Turn on ignition and inspect for leaks.

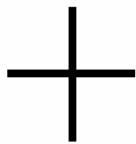
Photo U



Step #19: Bumper, Inner Fender and Splash Shield Installation

- Refer to Steps 2-4 and reinstall front bumper cover, inner fender, and splash shield. During this process, check clearance around coolant pump. If necessary, air pump bracket may be slightly bent or coolant pump may be shifted in mounting clamp.
- This completes installation of Comptech Aftercooler Upgrade.

**Place on inside of panel on
driver's side undercover in
recess for alignment of hole.**



Edge against Radiator Support Upright



UP AGAINST LIP



Lower Aftercooler Radiator Mount Template—S2000