

CorkSport

MAZDA PERFORMANCE



Installation Instructions for the CorkSport MazdaSpeed Miata Front Mount Intercooler

Tools Required

- 8mm wrench or socket
- 11mm wrench or socket
- 13mm wrench or socket
- Floor Jack
- Two Jack Stands
- Torque wrench with in-lb
- 10mm wrench or socket
- 12mm wrench or socket
- 14mm wrench or socket
- Philips screwdriver
- Flat screwdriver
- Pliers

Contents

- 18x11x3 Intercooler
- Air Filter
- Four Intercooler Pipes
- Two Intercooler Mounting Brackets
- Air Inlet/Charge Pipe
- Seven 2.25" T-bolt Clamps
- Two 2.25" to 2.5" Silicone Reducers
- Two M8 Lock Washers
- Two Self Drilling Screws 3/4" Long
- 38 Page Installation Instructions
- Two 2.25" Silicone Couplers
- One 2.25" to 3" Silicone Reducer
- One 3" T-bolt Clamp
- Two 2.50" T-bolt Clamps
- Two M8 x 1.25 12mm Long Bolts
- 12" Long M8 ID Silicone Hose
- 12" Long M20 ID Hose
- Two M8 Flat Washers

Before you get started make sure the car is cooled off and disconnect the negative battery cable. Also make sure there is no residual oil in the new intercooler piping. If there is oil rinse out the pipes with warm soapy water until clean.

WARNING: This kit will raise boost level approximately 1-2 psi on an otherwise stock car. It may be necessary to check air/fuel ratio after installation.

CAUTION: Installation of this kit takes 6-7 hours for experienced mechanic. Installation of this kit is fairly complex and requires more than a basic auto repair skills. Read the instructions completely before starting installation. It is best to have the Mazda factory service manual for reference.

NOTE: The vehicle used in these installation instructions was a stock 2004 Mazdaspeed Miata.

TIP:

When installing the intercooler leave the bubble wrap on the pipes to keep from scratching them. Once you have the pipes installed remove the bubble wrap.

Major Components Pictures

Intercooler



Air Filter



Intercooler Pipe #1



Intercooler Pipe #2



Intercooler Pipe #3



Intercooler Pipe #4



Air Inlet Pipe



Intercooler Mounting Brackets



Step 1: Remove the large hose from the strut tower bar on the driver's side.



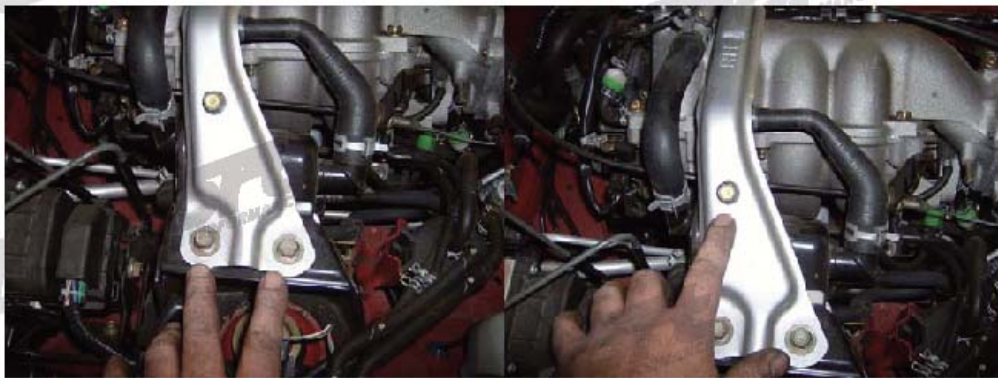
Step 2: Remove the hose from the valve cover.



Step 3: Remove the two hoses from the passenger side of the strut bar.



Step 4: Remove the three 12mm headed bolts from the passenger side of the strut bar.



Step 5: Remove the two 12mm headed bolts from the driver's side of the strut tower bar and remove the bar from your Miata.



Step 6: Loosen the two Phillips headed hose clamps on the rubber pipe between the air flow meter (AFM) and the turbo inlet pipe.



Step 7: Remove the 10mm headed bolt from the airbox inlet/silencer pipe and remove the pipe.



Step 8: Remove the 12mm nut and 12mm bolt from the airbox and remove the air box.



Step 9: Remove the one 10mm headed nut and one 10mm headed bolt from the relay bracket. Remove the three 10mm headed nuts and bolts from the relays to the bracket and remove the bracket.



Step 10: Remove the two 10mm headed bolts from the airbox bracket



Step 11: Remove the two 12mm headed bolts and one wires harness clip from the washer bottle bracket. Unplug the electrical connector and remove the washer bottle.



Step 12: Remove the rubber inlet pipe from the metal pipe.



Step 13: Remove the 10mm headed bolt and 14mm headed bolt from the intercooler pipe brackets.



Step 14: Gently remove the three plastic hose clips from the metal bypass line



Step 15: Loosen the pinch style hose clamp from the small boost control line and the one pinch hose clamps from the bypass valve line.



Step 16: Remove the 2 T-45 headed bolts from the turbo outlet flange.



Step 17: Loosen and move up on the pipe pinch style clamp on the turbo inlet pipe.



Step 18: Remove the pinch style clamp from the turbo outlet pipe and remove the pipe assembly.



Step 19: Place the factory pinch style clamp on the air inlet pipe supplied in the kit.



Step 20: Position the air inlet pipe as shown into the factory turbo inlet elbow and bypass valve. Replace the factory pinch clamps as well as the plastic hose clips.



Step 21: Install the turbo outlet pipe and intercooler pipe #1 onto the turbo using the factory bolts. Tighten the bolts to 100-126 inch/lbs



Step 22: Remove the four 10mm headed bolts from the bumper



DANGER: Follow instructions that came with your jack/stands. Death and or significant property damage could result if you do not.

Step 23: Jack up the front of the Miata and place it securely on jack stands.

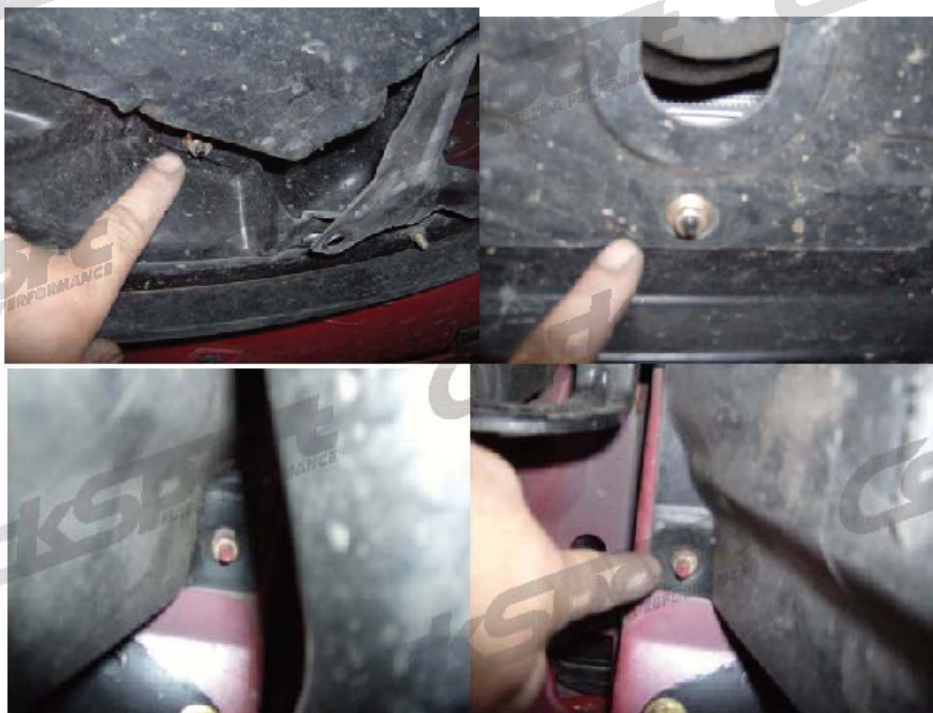
Step 24: Remove the ten Phillips headed plastic clips (5 per side) from the inner fender liner.



Step 25: Remove the six 8mm headed/Philip from the lower section of the fender liners.



Step 26: Remove the five 10mm headed nuts and six 10mm headed bolts from the engine/bumper under tray. Remove the under tray and inner fender liners.



Pictures Continued on Next Page



Step 27: Unplug the fog light and side marker electrical connectors.



Step 28: Remove the six Philips head clips (3 per side) from the liner.



Step 29: Remove the two 8mm headed/Phillips headed screws from the corner of the bumper. There is one per side of the car.



Step 30: Remove the two plastic clips from the mouth of the bumper. Remove the bumper.



Step 31: remove the 10mm headed bolt from the drivers side intercooler pipe bracket



Step 32: Using pliers slide the lower clamp up the hose.



Step 33: Remove the upper intercooler pipe from the Miata.



Step 34: Using pliers squeeze the clamp on the intercooler and remove the lower intercooler pipe from the Miata.



Step 35: Remove the two 10mm headed bolts from the passenger side intercooler pipe bracket.



Step 36: using pliers slid the hose clamp up the intercooler pipe.



Step 37: Using pliers squeeze the hose clamp on the intercooler and remove the intercooler pipe from the Miata



Step 38: Remove the 10mm headed bolt and three 10mm headed nuts from the factory lower intercooler-mounting bracket.



Step 39: Remove the two 10mm headed bolts from the top left and right of the intercooler.



Step 40: Remove the two 10mm nuts from the lower intercooler mounting bracket to intercooler. Remove the intercooler from the car.



Step 41: Remove the two 10mm headed bolts from the power steering cooler line bracket.



Step 42: Remove the two 10mm headed bolts from the brackets on the bumper crash bar.



Step 43: Remove the 10mm headed bolt that secures the horn and disconnect the electrical plug. Remove the horn.

Step 44: Disconnect the airbag sensor electrical connector and remove the three 10mm headed bolts



Pictures Continued on Next Page



Step 45: Install the supplied intercooler-mounting bracket on the intercooler with the 12mm headed bolts supplied as shown. The front of the intercooler is shown in the picture below.



Step 46: Install the intercooler into the vehicle as shown using the two 10mm headed bolts as shown. You may have to flex the power steering cooler lines to have clearance to clear the intercooler opening.

NOTE: We have provided longer bolts and some washers to use as shims if your intercooler hits your hood latch.

NOTE: After you have the intercooler installed, place your power steering cooler lines into their original position and mark the location of the bracket holes onto the back of the crash bar. Remove the intercooler and using the supplied self drilling screws, attach the power steering cooler lines to the back of the crash bar where marks were made. Reinstall intercooler and proceed to next step.

Pictures continued on next page.



Step 47: Reinstall the factory lower intercooler bracket with the three 10mm headed nuts and one 10mm headed bolt.



Step 48: Remove the rubber isolator from the factory intercooler pipe and install on the bracket on pipe #2



Step 49: Install the straight silicone coupler on the intercooler pipe #1 with two 2.25 hose clamps as shown.



Step 50: Install intercooler pipe #2 with the factory 10mm headed bolt and 10mm headed nut as shown.



Step 51: Remove the rubber isolator from the factory intercooler pipe and install on intercooler pipe #3 bracket.



Step 52: Install a straight silicone coupler and two 2.25 hose clamps as shown below.



Step 53: Install a reducer silicone coupler with a 2.25 hose clamps as shown.



Step 54: Put a 2.75 hose clamp on the other end of the silicone reducer and install the intercooler pipe #3 onto the intercooler. Make sure intercooler pipe #3 is as shown using the factory 10mm headed bolt on the intercooler pipe bracket. Tighten hose clamps.



Step 55: Using pliers squeeze the clamp on the throttle body elbow to remove the hose and the metal sleeve.



Step 56: Place a 2.25 to 2.5 silicone reducer and a 2.25 hose clamp on the end of the intercooler pipe #4. Insert the other end of intercooler pipe #4 into the throttle body elbow. Put a 2.75 hose clamp on the other end of the silicone reducer and fit it onto the intercooler.

NOTE: The fit is very tight for our pipe into the rubber elbow, but it will go on.



Step 57: Install the two 10mm headed long bolts through the bracket using two 10mm headed nuts as shown.



Step 58: Tighten all of the hose clamps.

Step 59: Replace the airbag sensor using a 10mm nut and bolt as shown.



Step 60: Replace the horn in a position not to interfere or come in contact with the intercooler. If you have aftermarket horns installed you will need to relocate them.

Step 61: Carefully replace the bumper on your Miata. Install the two 8mm headed/Phillips headed screws, one in each corner.



Step 62: Reconnect the fog light and side marker electrical connectors.



Step 63: Replace the 6 Phillips headed plastic clips (3 per side) in the liners



Step 64: Reinstall the inner fender liner using six of the Phillips headed plastic clips; there are three per side.



Step 65: Re-install the factory under tray with the five 10mm headed nuts and six 10mm headed bolts.



Pictures continued on next page.



Step 66: Reinstall the remaining four plastic clips (two per side) in each fender liner.

Step 67: Reinstall the six 8mm headed/Phillips headed screws in the bottom of the bumper to fender liner.



Step 69: Reinstall the two plastic clips in the mouth of the bumper.



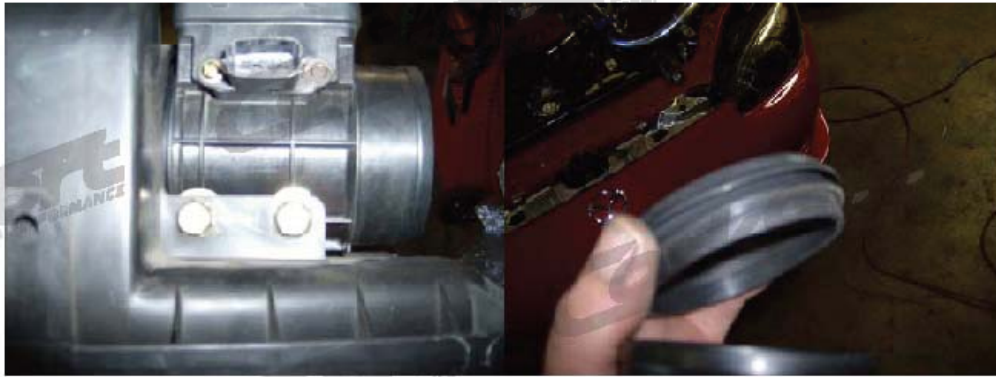
Step 70: Reinstall the four 10mm headed bolts in the top of the bumper.



Step 71: Reinstall the factory washer bottle to the factory location with the two 12mm headed bolts. Reconnect the factory pump motor and wire harness clip.



Step 72: Remove the two 10mm headed bolts from the Air Flow Meter (AFM) to airbox and remove the AFM. If the rubber seal stays on the AFM remove it. Note which direction the AFM was oriented.



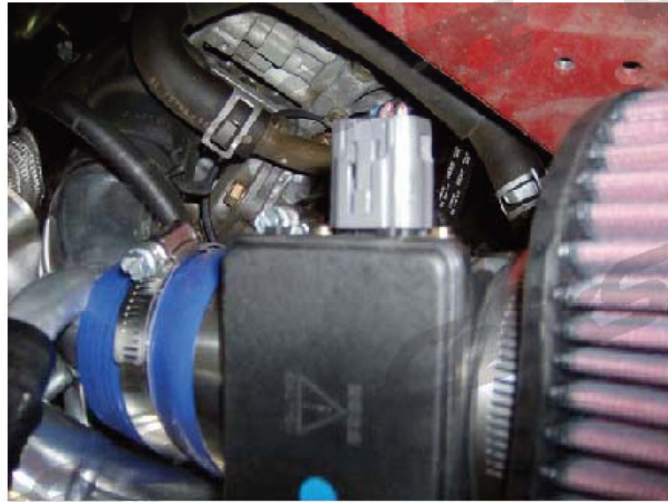
Step 73: Install the 2.25 to 3 inch reducer style silicone coupler on the end of the AFM as shown.



Step 74: Slide a hose clamp on the intake pipe and install the AFM on the intake pipe.



Step 75: Install the air filter on the AFM and tighten clamps.



Step 76: Reconnect the AFM plug and install temperature sensor into the air filter base.



Step 77: Install the supplied 8mm ID hose between the inlet pipe and boost control solenoid.

Step 78: Reinstall the strut tower bar with the five 12mm headed bolts.



Pictures Continues on the Next Page



Step 79: Reconnect the two hose on the passenger side of the strut bar.



Step 80: Reconnect the hose from the strut bar to the valve cover.



Step 81: Connect the supplied 19mm ID hose between the air inlet pipe fitting and the strut tower bar and clamp.



Step 82: Start up vehicle and check for air leaks. To check for air leaks start your car and check for running issues or hard starting. If any hard starting or running issues occur then check for air leaks. This can be done with a spray bottle of water by spraying the silicone connectors and joints. If the idle changes when spraying connections then check the hose clamps for tightness and the fitment of the silicone couplers. After finding a connection leak re-start your car and repeat if necessary.

Step 83: Lower from jack stands and test drive.