

RX-8 REVi Intake System

PN 18299

Installation Instructions

Tools Required:

- Small/Stubby Phillips head screwdriver
- Small flat head screwdriver
- Medium Phillips head screwdriver
- 10mm socket and ratchet (1/4" drive preferred)
- Pliers (Duck bill preferred)

Estimated time for completion: 1.5 hr

People required: 2 preferred for nose removal and installation



REVi RX-8 Intake

Step 1- RX-8 Nose Removal

1. Raise the hood of the car. Turn steering wheel as far as possible to one side.
2. Remove the upper plastic panel as shown in Photo A. Use a small flat head screwdriver to remove the six (6) plastic clips by prying between the head and body of the fastener. Remove the panel, which now reveals the bumper upper retaining fasteners.
3. Remove the four (4) 10mm head bolts from the top of the bumper. Gently pry up the head of the (2) plastic clips with a small screwdriver, then remove them. See Photo B.
4. Proceed to the wheel wells and using the small Phillips head screwdriver, remove the plastic clips along the edge of the bumper as shown in Photo C.
- 5A. 2004-08 RX-8: Remove the sheet metal screws (1 screw per lamp) that retain the corner lamps (Photo D), then gently pry the lamp away from the nose. (See attachment point as indicated by the arrow in Photo E.) Next, rotate the bulb fixture and remove the fixture from the corner lamp. Carefully push the lamp socket through the opening in the nose.
- 5B. 2009+ RX-8: The joint between the nose and fender has no threaded fasteners. After removing the plastic & metal fasteners in the wheel well, grasp the rear edge of the nose just below the fender/nose split line and PULL gently outwards to separate the two. As you pull outward you will be releasing 2 plastic tabs from a housing secured to the chassis. (See Photo F)
6. Remove the ten (10) sheet metal screws from the front bottom edge of the bumper. Note the sizes of these screws for the later replacement. See Photo G for location of these screws. (If your car is equipped with the factory chin spoiler, do not remove the fasteners that secure it to the chassis.)
7. Disconnect the electrical connectors from the fog lights (if installed) by pulling the bottom plastic panel downward and reaching up under the bumper to access the electrical connectors.
8. Gently remove the bumper by "peeling" the sides away from the chassis (starting with the corners nearest the corner lamps), then pull the bumper forward.

Place the bumper cover on a soft surface to protect the painted surface while completing the following steps.

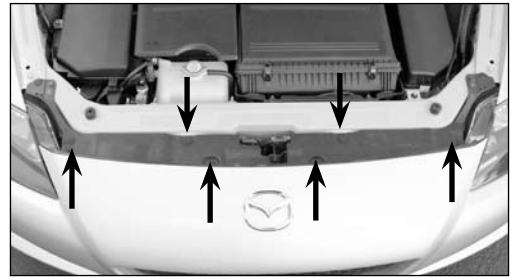


Photo A

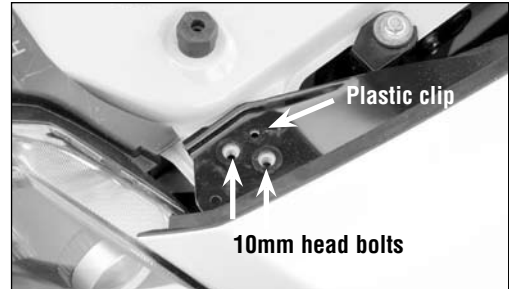


Photo B



Photo C



Photo D

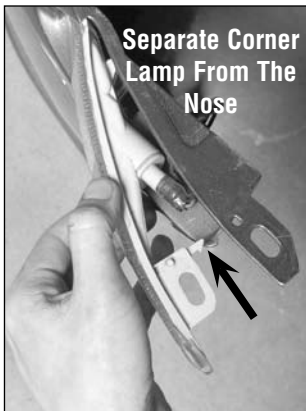


Photo E



Photo F

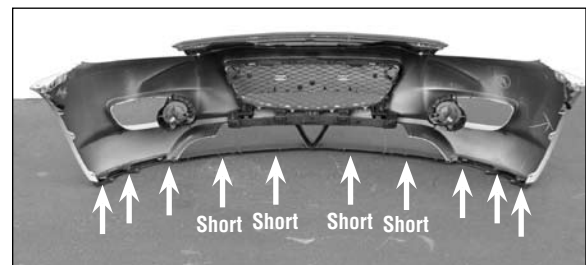
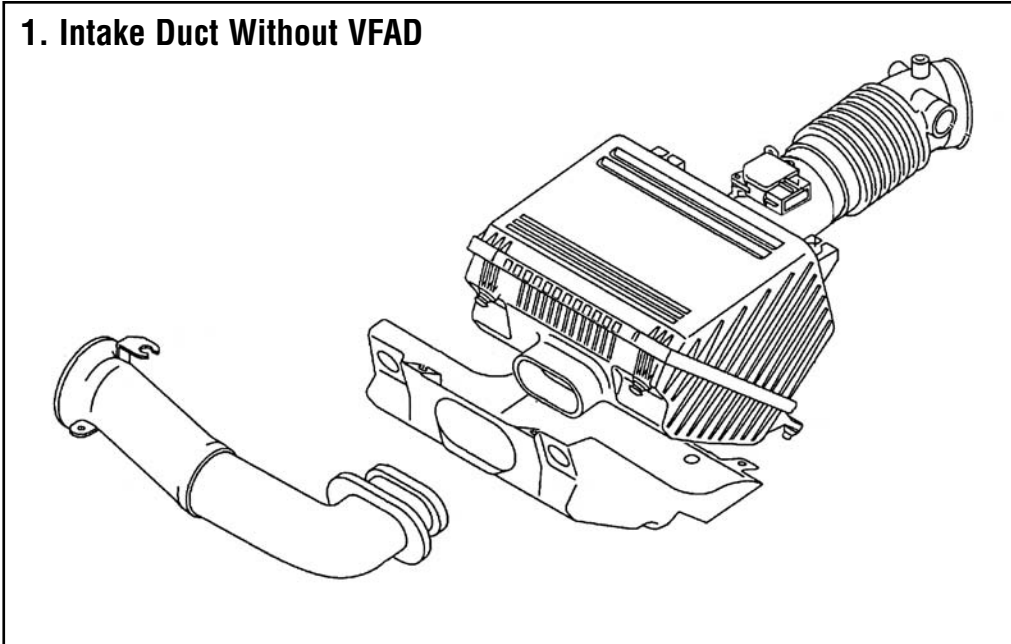


Photo G

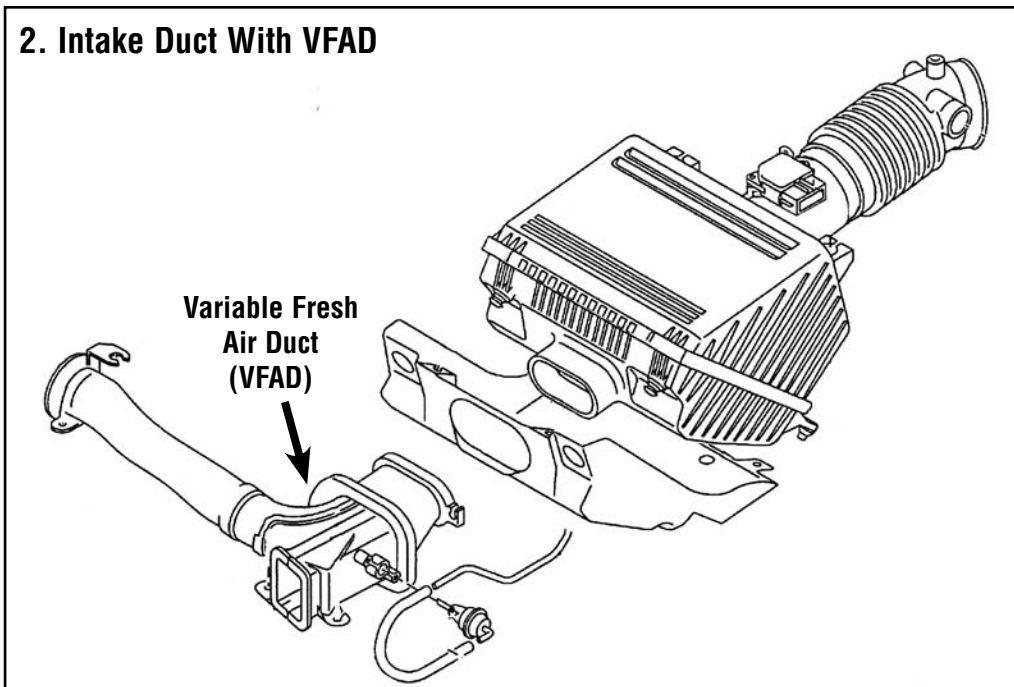
Step 2 - Determine Which Intake Duct Is Equipped On Your RX-8.

Mazda offers two (2) versions of the RX-8 intake duct depending on engine intake type, model year, transmission version, etc... Once the nose has been removed from the vehicle you can easily determine which type of intake duct is equipped on your RX-8. Your findings will be used during the duct removal process in Step 3. Refer to the following illustrations:

1. Intake Duct Without VFAD



2. Intake Duct With VFAD



Step 3- Removal Of The Intake Duct Assembly

Remove the Styrofoam pad, taking note of the orientation, from the front of the bumper bar (2 Phillips head plastic clips), then remove the black plastic nose support panel (3 plastic clips). See Photo H.

With VFAD: Remove the bolt, (3) plastic clips, and vacuum hose connection; then remove the VFAD (Variable Fresh Air Duct) unit. (The VFAD will not be reused.) See Photo H1.

Without VFAD: Remove the retaining bolt, (2) plastic clips, then remove the duct assembly. The duct will not be reused. (See Photo H1 for location of the bolt and plastic clips.)

Hint: Remove the duct by pulling the unit forward while rocking the assembly from side-to-side. Photo H2.

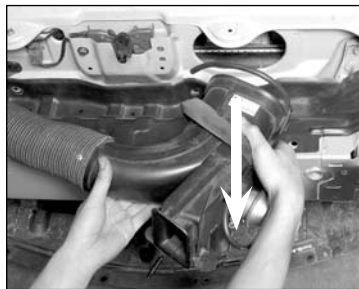


Photo H2 - VFAD unit shown

Step 4- Removal Of The Air Box Assembly

Remove the engine cover by lifting at the forward edge.

With VFAD: From the rear of the stock intake box, disconnect the VFAD and mass air flow (MAF) electrical connectors, (2) hose connections, and (2) wire harness clips from the airbox assembly. (Follow the longer VFAD hose to the position just behind the intake throttle body, and remove the hose.) See Photo I.

As shown in Photo J, secure the VFAD electrical plug to the MAF wiring harness with the two (2) short tie wraps to prevent the plug from being damaged. Install the supplied red plastic cap on the VFAD hose connection port from which the VFAD hose was removed in the previous step.

Without VFAD: From the rear of the stock air box, disconnect the mass air flow (MAF) electrical connector; and (1) wire harness clip from the air box assembly. (See Photo I for location of the MAF connector.)

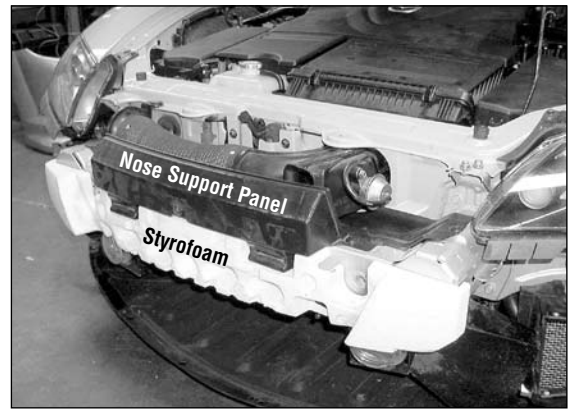


Photo H

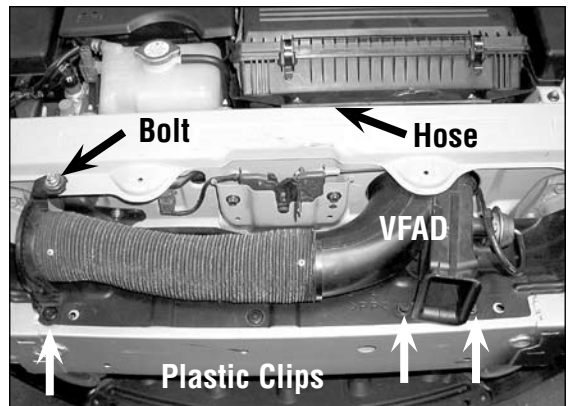


Photo H1 - Intake duct removal (shown with VFAD)

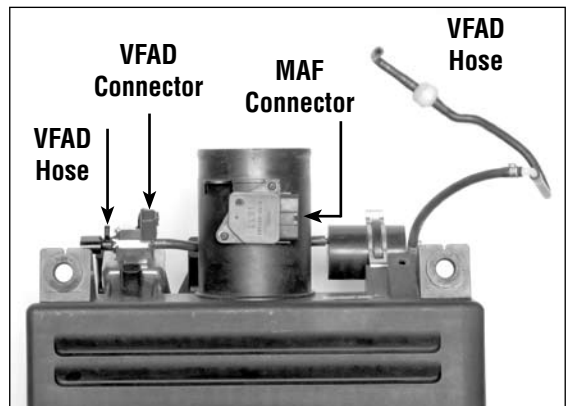


Photo I - Air box removal with VFAD

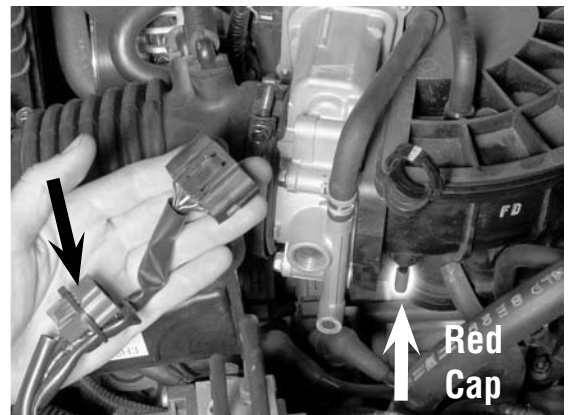


Photo J - Secure the VFAD wiring plug & cap

Loosen the hose clamp that secures the airbox to the rubber intake bellows; push the bellows rearward and lift the intake tube. Lift the airbox from the chassis by pulling up on the box outlet first as shown in Photo K.

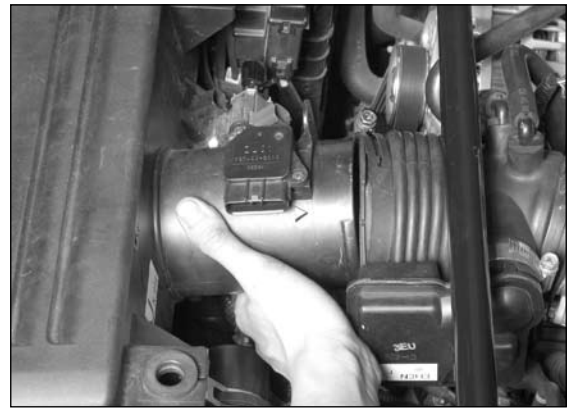


Photo K

Remove the (2) bolts and (2) nuts from the airbox undertray as shown in Photo L. Note the (4) wire harness clip positions that are shown in Photo M. Position the undertray to allow access to the rear of these clips, and release the (4) clips using a pair of pliers as shown in Photo N.

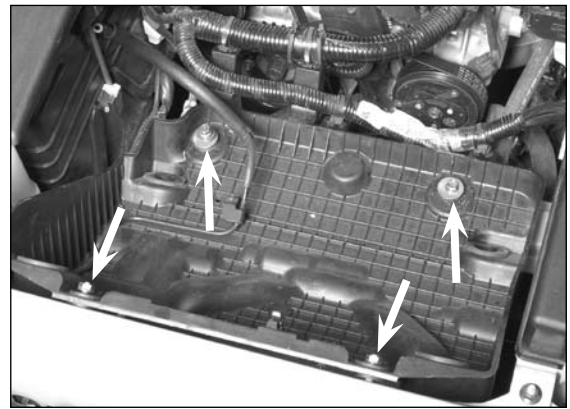


Photo L

Once removed from the car, turn the undertray over and remove (1) rubber grommet and (1) metal spacer from one of the original rear bolt hole locations. Retain (1) of the securing bolts. These components will be used in a later step.

Set the air box undertray aside, this will not be reused. Using the supplied (2) long tie wraps, tie wrap the electrical harness as shown in Photo O.

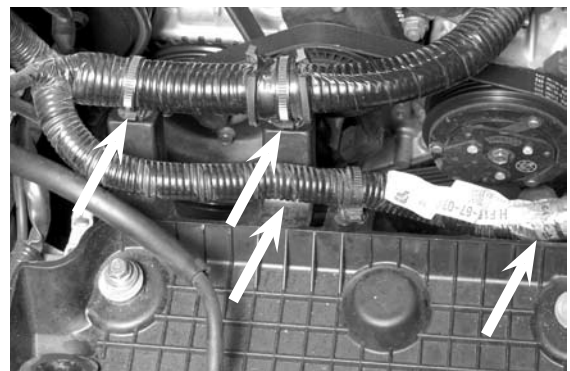


Photo M



Photo O



Photo N

Step 5- Removal Of Components From The Stock Airbox Assembly

Open the airbox and remove the (2) screws that retain the side panels next to the airhorn. (See Photo P) Grasp each panel and pull them firmly outward to remove. Remove the (3) screws that retain the airhorn, then remove it from the airbox.

Remove the (2) screws that retain the MAF sensor to the intake tube and carefully remove the sensor. Also, remove the (2) engine cover rubber grommets on the top rear corner of the airbox as shown in Photo Q.

Extract the metal screen from the recess in the airbox. Roll a section of newspaper to fit into the opening BEHIND the screen. Insert the newspaper roll into the opening and allow the paper to “unroll” to fit the size of the opening behind the screen. Gently push the screen out of the tube with the newspaper roll, taking care not to damage the screen.

NOTE: This screen is fragile, follow these instructions carefully to ensure that the screen is not damaged. Only (1) of the (2) screens is necessary with the Racing Beat airbox, so we suggest you use the one that is easiest to remove. Retain the screen that is not used, you might need it as a spare at a later time. (These screens cannot be obtained as a separate item from Mazda, they are only offered with the complete MAF unit.)

See Photo R for the the original airbox components that will be re-used in the following installation steps.



Photo P

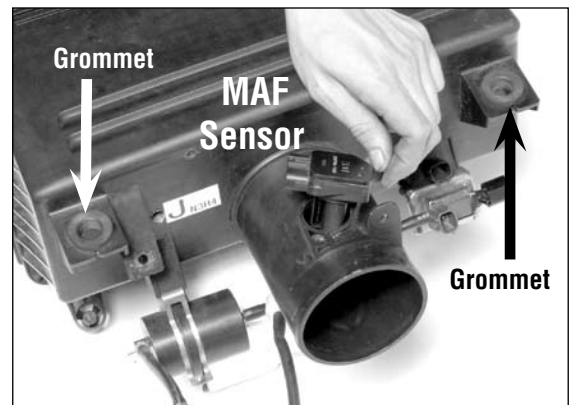


Photo Q

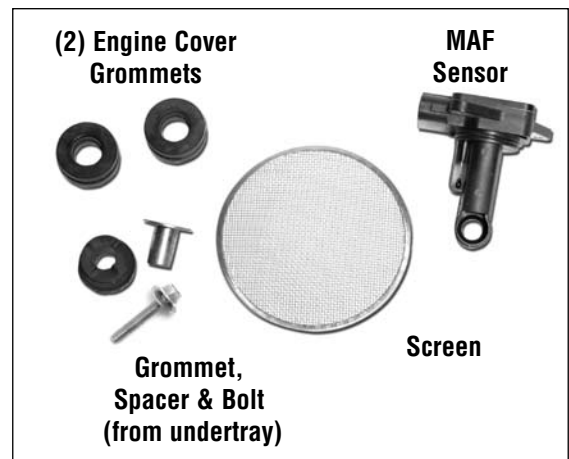


Photo R

Step 6- Assembly Of The Racing Beat Air Box

Using the rubber grommets that were set aside in Step 4, insert (1) each into the L-brackets. Using the (4) supplied bolts, attach each bracket to the rear of the RB airbox as shown in Photo S. Note the correct positioning of the bolts. Note: If you do not want to retain the use of the stock plastic engine cover, you may skip this step.

On the underside of the RB airbox, insert the rubber grommet that was set aside in Step 4 with the thick flange positioned to the outside. Reach inside the airbox and insert the metal spacer into the grommet.

Insert the MAF sensor into the RB MAF aluminum tube and secure with the supplied screws. If needed, lightly lubricate (do not contaminate the sensor) the rubber seal to allow the sensor to fully recede into the opening.

Loosen the outer hose clamp on the filter, and carefully place the metal screen into the filter outlet, then insert the RB MAF tube (as shown in Photo T) into the filter outlet. Tighten the hose clamp with the supplied hex key while making sure the RB MAF tube is fully seated in the filter outlet and the flat upper surface of the MAF sensor is parallel with the top of the airbox.

Install the supplied foam trim with the adhesive backing toward the rear of the car. (See Photo U) Be sure to include the hood release cable under the foam as you go around the upper edge. Remove the backing from the foam trim.

Install the supplied (2) white plastic spacers onto the forward mounting studs. (See Photo V)

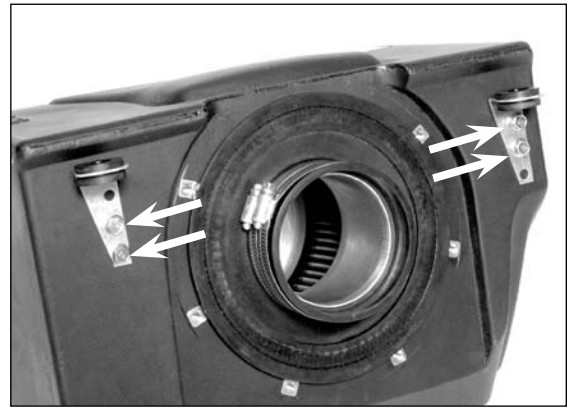


Photo S

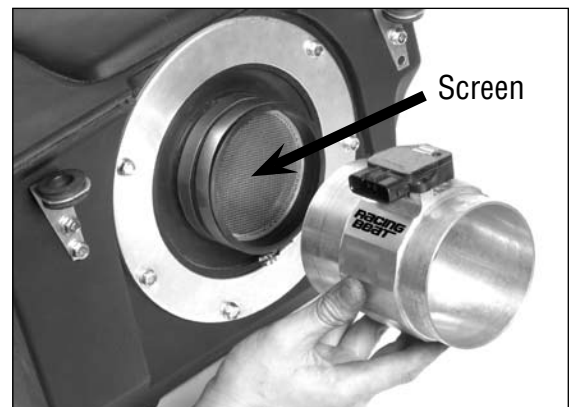


Photo T



Photo U

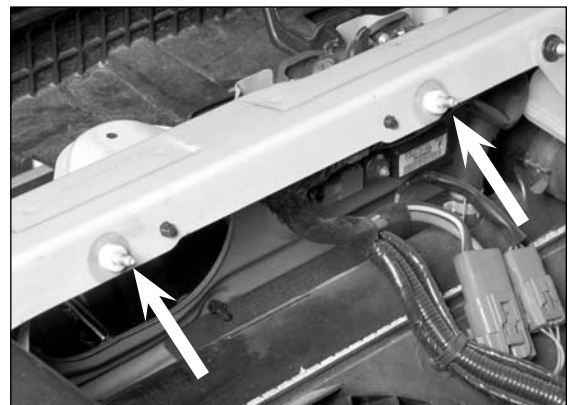


Photo V

Step 7- Installation Of The Air Box

Install the Racing Beat air box by lowering the assembled airbox into place, while hooking the forward edge over the upper studs (with the white plastic spacers), then while pushing the intake bellows hose rearward and upwards, lower the entire assembly into the chassis and slip the intake hose over the RB MAF tube. Make sure the intake hose is up against the shoulder of the RB MAF tube and tighten the hose clamp. Next, re-attach the MAF electrical connection.

The complete assembly should appear as Photo W.

Next install (1) bolt, which was saved in Step 3, through the spacer in the lower rear driver's side corner of the air box, also by reaching in from the inlet of the Racing Beat air box. Note: Lifting the rear of the box slightly might help the bolt engage the threads.

Reach in from the inlet of the Racing Beat air box and install the supplied (2) nuts onto the forward studs (with the white spacers). (See Photo X)

If you are retaining the plastic engine cover, place it into position. If the cover does not slip on easily, loosen the L-bracket attachment bolts on the intake box to allow some positioning adjustments. Tighten the L-bracket attachment bolts after adjustments have been made.

This completes the Racing Beat Air Box installation.

Step 8- Installation Of The Front Bumper

Replace the black plastic panel and the Styrofoam pad onto the bumper support. Install the nose in the reverse order of removal. Note: We suggest you test the operation of the fog lights before the nose is completely fastened to the car.

Installation of the intake kit is complete.



Photo W



Photo X

Filter Removal And Cleaning

Tools Required:

- 12mm wrench or socket set
- 10mm wrench or socket set
- Torque wrench
- Supplied Allen Key (3/16")
- 5/16" Socket & Driver or Flat blade screwdriver

Estimated time for completion: .5 hr

People required: 1

Remove the engine cover. Remove the (4) nuts that secure the shock tower brace, and remove the brace. Unplug the electrical connector from the RB MAF tube, and loosen the filter-to-RB MAF tube, and bellows assembly-to-throttle body hose clamps as indicated in Photo 1.

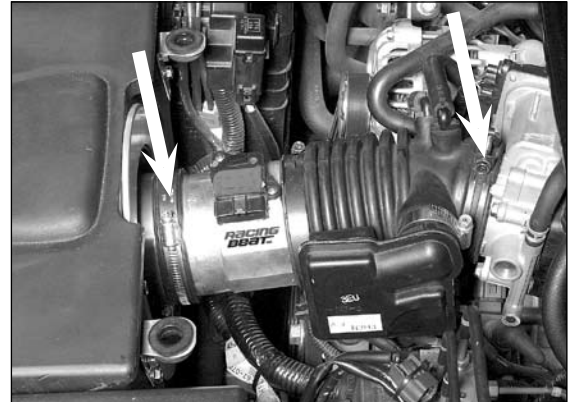


Photo 1

As shown in Photo 2, remove the RB MAF tube and bellows assembly, and reposition this to the side. Take care not to damage the screen that is located inside the filter neck.



Photo 2

Remove the (6) bolts that secure the filter retaining ring on the backside of the airbox. Remove the ring and carefully extract the filter as shown in Photo 3.

Clean the filter per the manufacturer's recommendation, and re-install the filter. (We suggest the use of the K&N FilterCharger Cleaning Kit.) To access the interior of the filter, loosen the hose clamp and remove the large aluminum cap. We do NOT recommend that you remove the air horn or mesh screen when cleaning the filter!

Assemble the components in the reverse order of removal. When installing the RB MAF tube, make certain the MAF tube is fully seated into the filter neck.

Tighten the shock tower brace nuts to 15 ft/lbs.



Photo 3

© Copyright 2008 Racing Beat.