



COLD AIR SYSTEM

Installation Instructions for:
Part Number 21-474
2002-2005 Subaru Impreza WRX
2004-2005 Subaru Impreza WRX STi
2004-2005 Subaru Forester XT
2004-2005 Saab 92X

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Instructions Part Number: 10-314

2002-2004 Subaru Impreza WRX 2.0L Turbo C.A.R.B. E.O. #D-392-24
2004 Subaru Impreza WRX STi 2.5L Turbo C.A.R.B. E.O. #D-392-24
2004-2005 Subaru Forester XT 2.5L Turbo C.A.R.B. E.O. # Pending
2005 Subaru Impreza WRX 2.0L Turbo C.A.R.B. E.O. # Pending
2005 Subaru Impreza WRX STi 2.5L Turbo C.A.R.B. E.O. # Pending
2004-2005 Saab 92X 2.0L Turbo C.A.R.B. E.O. # Pending

Cold Air Intake Systems that are pending C.A.R.B. approval are illegal in California except for racing vehicles which are never to be used on public highways.

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Congratulations! You have just purchased the finest Air Induction & Filtration system for your car at any price!

The **AEM** Cold Air Intake System is the result of extensive development on a wide variety of cars. It is the most advanced Cold Air Intake System on the market. Each system is specifically engineered for its application. All **AEM** Cold Air Intake Systems deliver maximum performance gains through lightweight, all-aluminum, mandrel-bent tubing that is tuned in both length and diameter. The aluminum will not crack in extended use like plastic. The tube length and diameter are matched for each specific engine to give power over a broad RPM range. Unlike plastic systems that use a continually diverging cross-section, we take advantage of the acoustical energy in the inlet duct to promote cylinder filling during the intake valve-opening event. Every intake is coated with a high-gloss, heat-reducing Zirconia based powder coating. This special blend of powder coating helps reduce heat penetration, which in turn reduces the temperature of the inlet air charge. The cooler inlet air temperature translates to more power during the combustion process because cool air is denser than warm air. The filter element has also been extensively developed. An integral part of all our filter elements is a built-in velocity stack. This velocity stack is specifically engineered to improve the aerodynamic efficiency of the intake system. We have seen airflow gains on a flow bench of 12-15% by using this velocity stack. The air mass flow to the engine is increased because of the increased airflow and reduced inlet temperature, which translates to more power.

Bill of Materials for: 21-474

1	2-545	Upper Inlet Pipe
1	2-546	Lower Inlet Pipe
1	21-203	3.00" AEM Filter
1	5-273	3.00" to 2.75" Reducer Hose
1	5-575	2.75" Hump Hose
3	103-BLO-4420	2.75" Hose Clamp
1	103-BLO-4820	3.0" Hose Clamp
1	103-BLO-5220	3.25" Hose Clamp
1	1-127	Zip Tie, 8" Tree Push-Mnt
1	1-3022	10mm x 20mm x 2mm Washer
15"	8-111	Rubber Edge Trim
1	10-314	Instructions
1	10-922E300	Emblem, CAS/SRS 3.00R
2	10-922S	AEM Large Decal - Silver
1	10-400W	Lic Plate Frame - White
1	10-905	Warning Decal
1	10503	24" x 12" x 8" Box

Read and understand these instructions **BEFORE** attempting to install this product.

Note: This inlet pipe kit may require the removal and reinstallation of emissions related components. If you are not familiar with the installation and/or the operation of these components then please refer this installation to a qualified professional.

1) Getting started

- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) Disconnect negative battery terminal.
- d) If engine has run within the past two hours let it cool down.

2) Removing the stock air inlet system

- a) Above the air box, remove the two twist locks and plastic cover.
- b) Remove the two mounting bolts holding the air inlet scoop and remove the scoop from the vehicle. **(Fig. 1)**
- c) Loosen the two hose clamps on the stock air inlet tube and remove it. Note: *The cable for the cruise control unit is held in place by a clip that is molded in to the stock air inlet tube. Be sure to remove the cable from this clip before removing the tube from the vehicle.*
- d) Unplug the harness from the MAF sensor. Remove the Coolant hoses from the clips molded into the top of the air box.
- e) Down on the frame rail, on either side of the air box, are the bolts that hold the air box in place. Remove the two bolts and the air filter box assembly. **Note: Reinstall the bolts after removing the air box. (Fig. 2)**

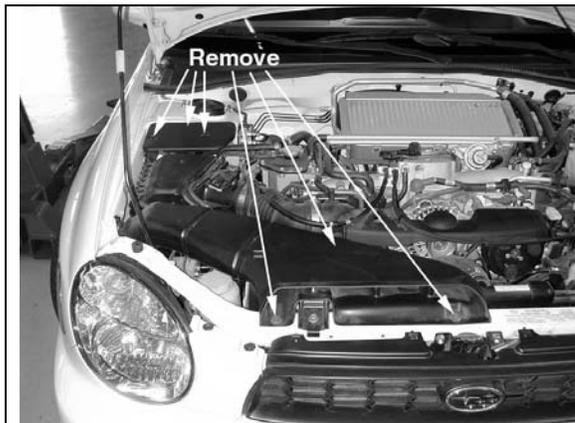


Fig. 1

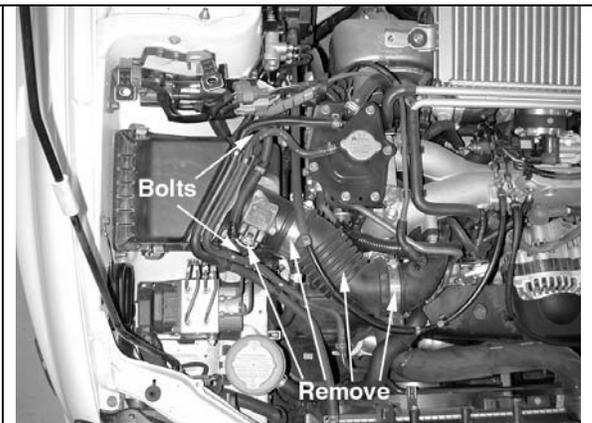


Fig. 2

- f) Remove the two plastic clips holding the wheel well liner to the underside of the vehicle's passenger side bumper. **(Fig. 3)**
- g) With the front wheels turned all the way to the right, locate the plastic clips just forward of the suspension holding the liner to the passenger side wheel well and remove them. **(Fig.4)**

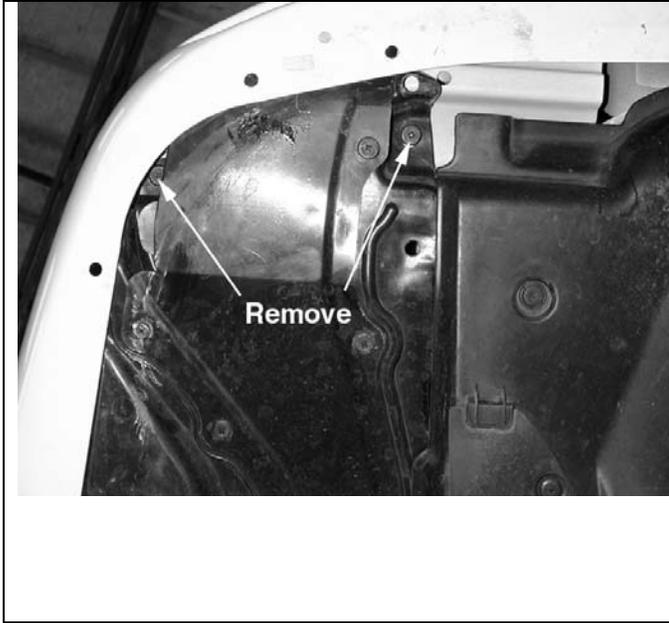


Fig. 3

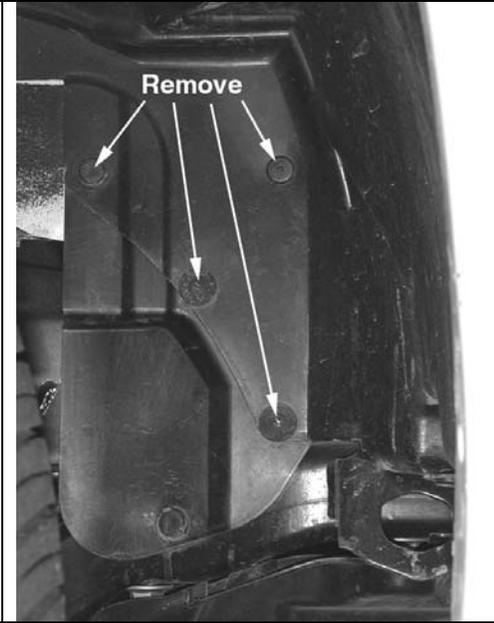


Fig. 4

- h) Remove the nut holding the resonator box to the inner fender. **(Fig. 5)**
- i) Pull the wheel well liner down and towards the back of the car. Locate the bracket, just behind the driving light, holding the resonator box on the underside of the passenger's side bumper cavity. Remove the nut and the resonator box from the vehicle. **(Fig. 6)**

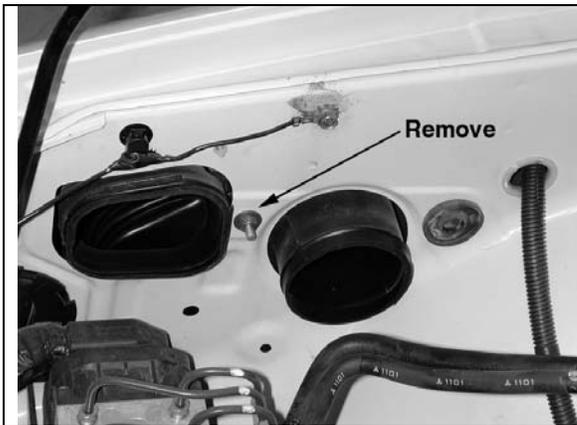


Fig. 5



Fig. 6



**Note: Forester XT Model Only:
Loosen and remove bolt. Remove
bracket. This bracket will not be reused.**

3) Installing the Cold Air Intake System

When installing the Cold Air Intake System, DO NOT completely tighten the hose clamps or mounting tab hardware until instructed to do so later in these instructions.

- a) Check to see that the inside of the **AEM** inlet pipe and air filter are clean and free from any debris or obstructions.
- b) Install the 2.75" Hump hose onto the turbo inlet tube using a 2.75" hose clamp. **(Fig. 7)**
- c) Place the other 2.75" hose clamp onto the other end of the coupler.
- d) Install the rubber edge trim around the edge of the hole that passes through the fender. Note: *The edge trim will need to be cut to size.* **(Fig. 8)**

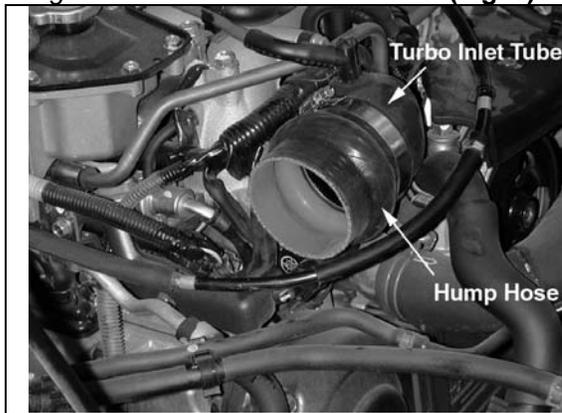


Fig. 7

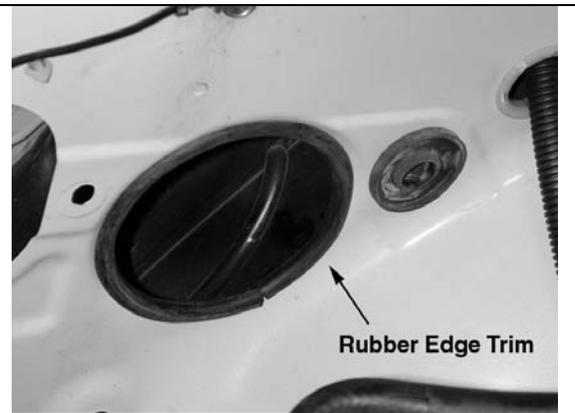


Fig. 8

- e) In the bumper cavity, locate the nut holding the ABS unit to the fender well and remove it. **(Fig. 9)**
- f) Place the supplied washer on to the stud coming through the fender well. **(Fig. 10)**

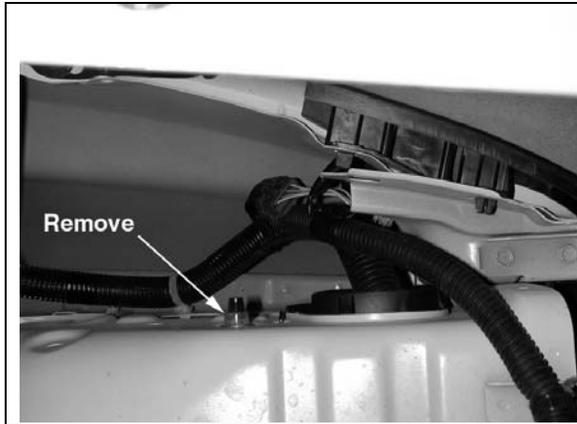


Fig. 9

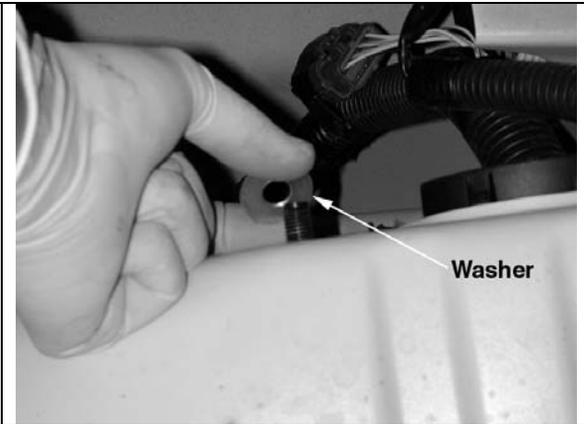


Fig. 10

- g) From underneath the car, install the **AEM** lower inlet pipe into the passenger side bumper cavity. The end bent to 90° should pass through the hole in the fender well. (**Fig. 11**)
- h) Align the mounting bracket on the **AEM** inlet pipe to the threaded stud coming through the fender well. Reinstall the nut removed earlier onto the stud, holding the inlet pipe in place. Do not tighten the nut at this point.
- i) Install the **AEM** Air filter using a 3.00" hose clamp. (**Fig. 12**)

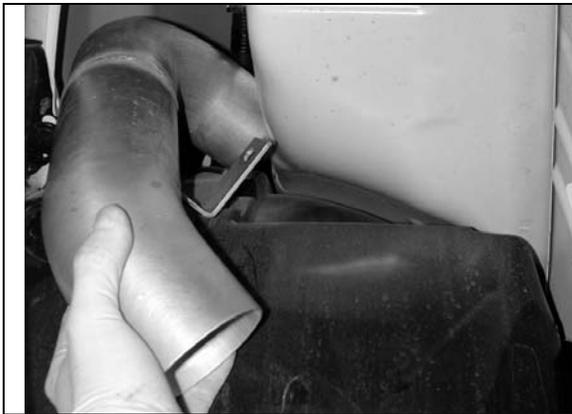


Fig. 11



Fig. 12

- j) Remove the MAF sensor from the stock air box assembly. (**Fig. 13**)
- k) Using the screws removed in (j), install the MAF sensor on to the **AEM** upper inlet pipe. The connector for the MAF sensor should be pointing up, as in step (l).
- l) Install the reducer hose on the end farther from the MAF sensor using a 2.75" hose clamp. The end of the pipe should not protrude past the step inside of the reducer hose. (**Fig. 14**)

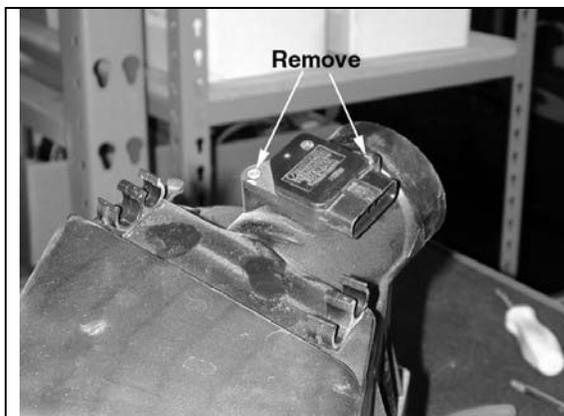


Fig. 13

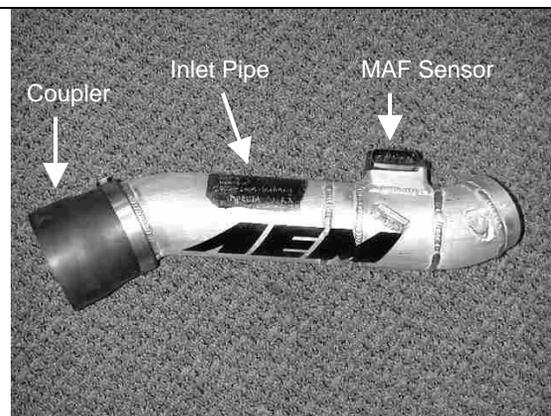


Fig. 14

- m) Place a 3.00" hose clamp onto the other end of the reducer hose.
- n) From the engine compartment, install the upper Inlet tube. Note: *The coolant hoses and cruise control cable should be above the **AEM** air inlet pipe.*
- o) Slide the lower inlet pipe into the reducer hose first. The MAF sensor plug should be towards the front of the car. Angle the hump hose and slide the other end of the upper inlet pipe in to it.
- p) Plug the harness back into the MAF sensor.
- q) Your **AEM** Cold Air Intake System's installation should look similar to **Fig. 15**.
- r) Secure the cruise control cable if applicable to the tab on the inlet pipe with the provided zip tie. This is not necessary for the STi.



Fig. 15



Your AEM CAS for the STi should look like this.

4) Re-assemble the vehicle

- a) Align the upper and lower inlet pipes so that they offer a smooth transition to each other. The lower inlet pipe should not have any contact with the hole in the fender well.
- b) Ensure that the inlet pipe is centered in the hole.
- c) Check that the **AEM** inlet pipes and filter are not touching any part of the vehicle.
- d) Check for proper hood clearance.
- e) Tighten all hose clamps and mounting bracket bolts.
- f) Re-adjust pipes if necessary.
- g) Re-install the wheel well liner. Refer to **Fig. 3 & 4** for proper placement of the plastic clips.
- h) Inspect the engine bay for any loose tools and check that all fasteners that were moved or removed are properly tight.
- i) Start engine and perform a final inspection before driving the vehicle.

This Kit is NOT suitable for use with the AEM Bypass Valve.

**For Technical Inquiries
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