Subject 22288CeeLoHow To: Install Blitz SBC ID and Powermeter UnitsI rescued this article from http://www.z32.org
Whoever wrote it deserves the credit, I just added in some photos.

Installing the Blitz SBC-iD & PowerMeter-iD

What are the Blitz SBC-iD & PowerMeter-iD?

Simply put, the Blizt SBC-iD is an electronic boost controller which is loaded with advanced features and a unique display/interface. In addition to 4 boost presets it also has an easily readable display which can log boost response, peak boost, and all this in almost any conceivable unit you'd like to read your boost in. The folks at Blitz have also saw fit to throw in scramble boost as well as safety boost should you ever overboost (build boost beyond what the user sets).

The Blitz PowerMeter-iD basically does what it says. It measures a vehicle's drivewheel horsepower as well as logs acceleration to various distances (1/4 mile, standing kilometer, 0-100mph just to name a few). It accomplishes this by taking the vehicle weight, including occupants and other miscellaneous factors which the user must input, and does a bit of math (which we won't get into) and fairly accurately computes horsepower. In the case of measuring the time to distance it simply takes an input from the vehicle's speedometer sending unit and utilizes it to fill in the necessary blanks to do a fairly simple calculus problem.

When paired together (via infrared signal) the boost controller can utilize its 4 presets to do speed based boost. Simply put, you can control how much boost you have at any given speed. Common sense tells us we want all the power we can get, but what good is 500hp going to do you if at any speed below 40mph for instance, you can't put down more than 250hp without spinning the tires.
In this case, lowering the boost, and consequentially the horsepower, gives the vehicle better acceleration. Once the car hits 40mph (in our hypothetical example....presets can be greatly varied by the user) the car can go to a higher boost setting and then at some other speed even higher. It's basically a method of allowing the driver to floor it and let a computer keep him from smoking his tires.

Installation

NOTE : Installation of this boost controller is not difficult, however improper installation/use can destroy your engine within seconds of use. If you have any doubts about your ability to install or use such a device seek professional assistance and installation.

Necessary Tools:
10mm wrenches / sockets (possibly others depending on your choice of installation)
wire cutters
electrical tape

phillips screw driver

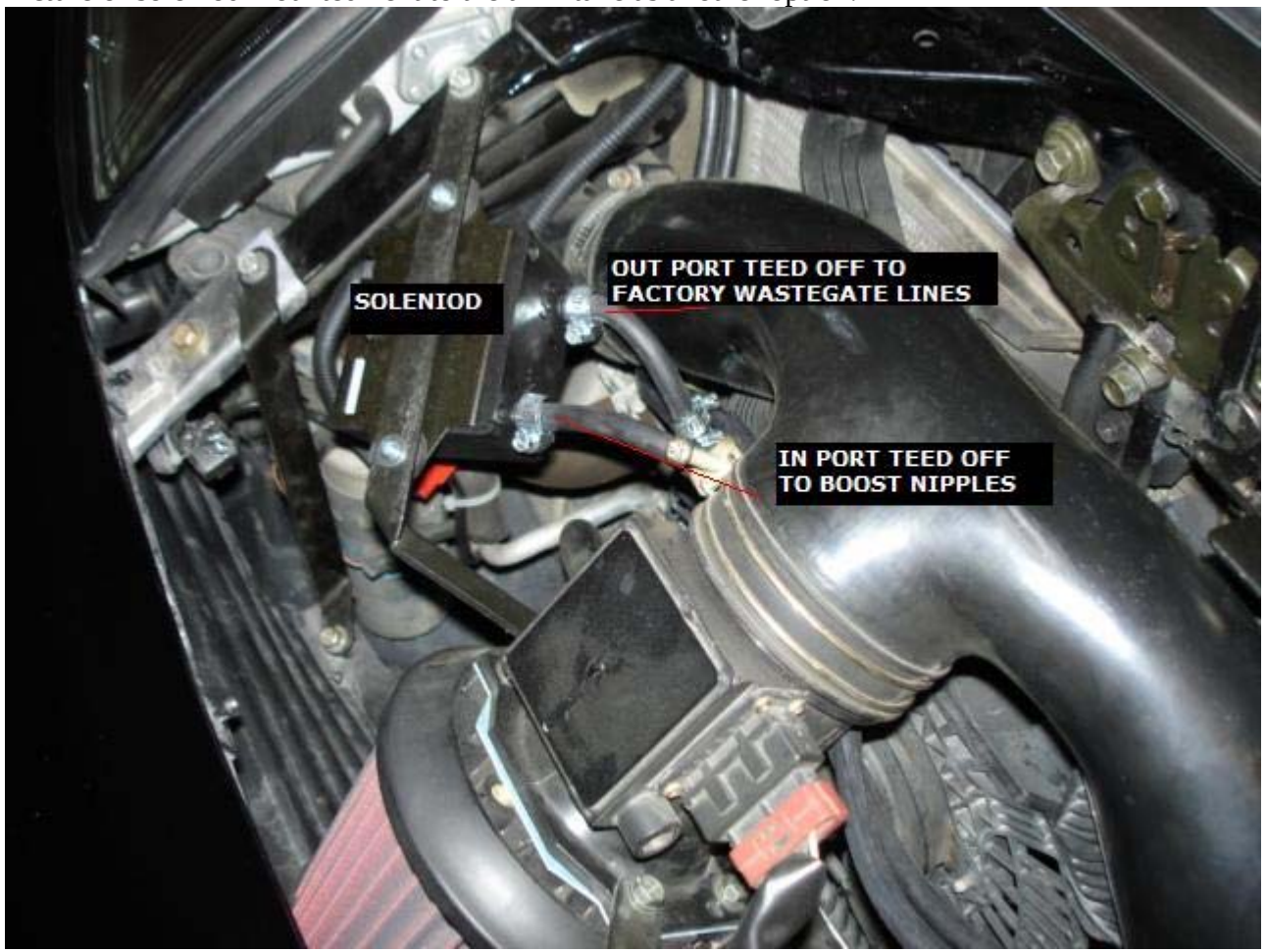
Other tools/supplies which might be useful
Dremel tool with cutting wheel
scissors
epoxy
spray paint

We'll start with installing the boost controller itself.

1. Take a look at the SBC-iD box to ensure it is complete. Included in the box should be the instruction manual (in Japanese, don't worry, english instructions are available HERE), the display unit, a solenoid, a bag full of miscellaneous hose clamps, hose couplings, and other things, a long wiring harness, and underneath the display should be a silver rectangular box (the brain). The included vacuum hoses are in a false bottom.

2. The next step will be to decide where to mount the boost controller solenoid. The Blitz solenoid is large and finding a suitable

place for it in a Z32 is tough. In this install we decided to put it to (driver's left) of the battery. This location is far enough from the turbos/exhausts to keep from melting while maintaining short hose lengths for the wastegate hoses. This avoids boost overshoot and maintains good response as long hose lenthgs will cause boost spiking, slow response and headaches in general. Be wary of how deep you drill these holes as you may not want to go to deep and potentially damage something on the other side of the firewall.
Picture of soleniod mounted next to the air intake as another option.



3. The next step will be routing the wiring and vacuum hose for the unit and locating a space for the brain of the system.
The brain of the SBC-iD is relatively small and can be mounted almost anywhere (and comes with enough wire to literally locate it anywhere in the car) but we chose to put it in the footwell with the factory ECU as this location was right next to where we routed the wiring into the car. As you can see in the picture, there is a lot of extra wire if you choose to mount the unit elsewhere. In this install we simply bundled it up, zip tied it, and tucked it away while using the supplied velcro to mount the brain.

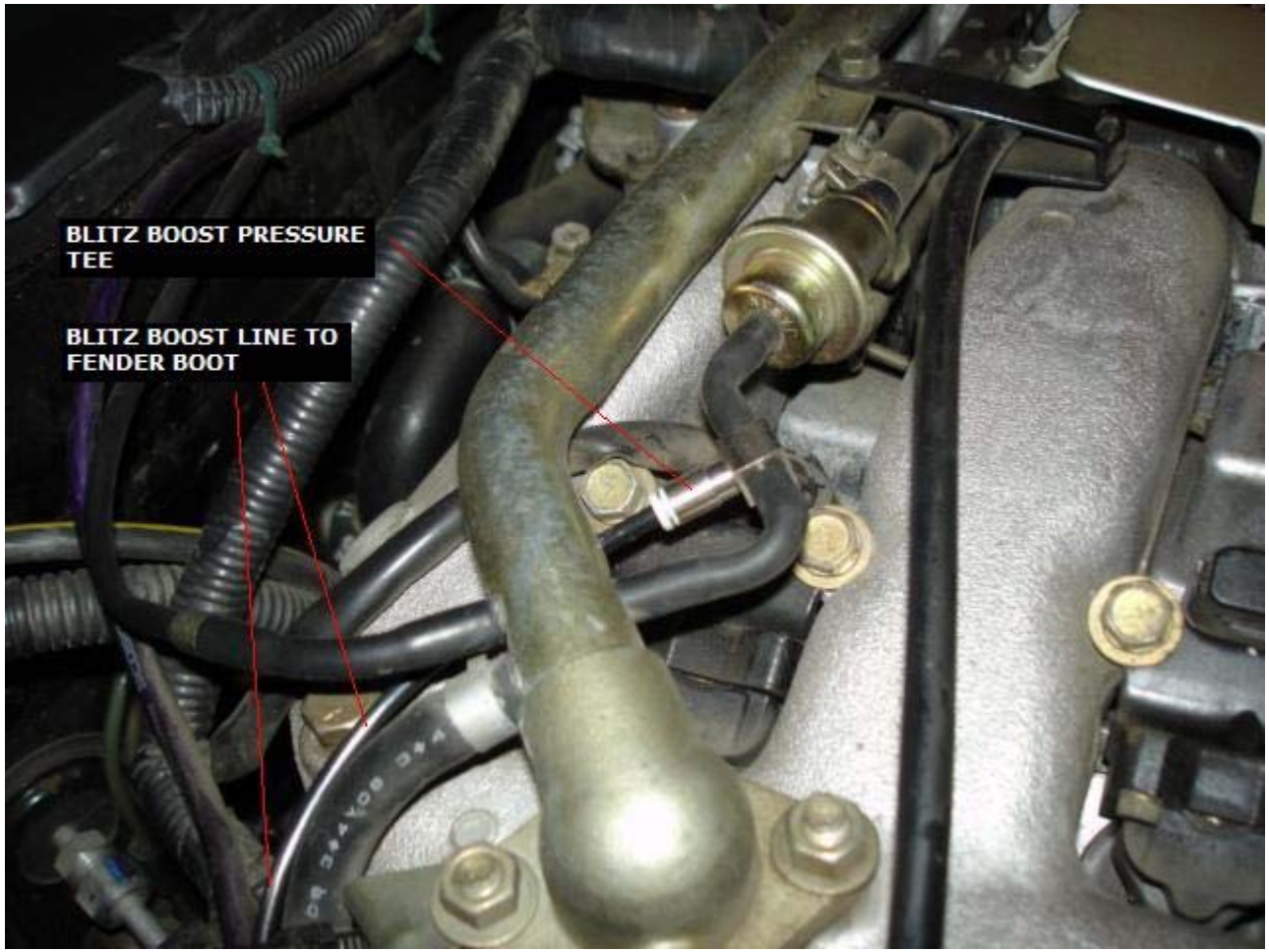
Of course, the solenoid and vacuum hose needs to be connected and to do this you'll need to pass the two through the firewall into the engine compartment. To accomplish this you can use the same holes that already exist for the factory ECU wiring. To gain access, you'll need to remove the battery and locate a black plastic cover on the fender side of the engine compartment. Remove this plastic piece and set aside. [Note: now would be a good time to clean your battery tray.]

The next step is to get access to the fenderwell behind the front passenger side tire. The liner is removed with a few simple screws and needs not be completely removed, You should see a large plug sticking out of the firewall with electrical cable coming out [heavily wrapped], that's the one you need to use for running your cable.

In order to get the cable from the solenoid down, insert the porttion of the wiring harness which will plug into the SBC's brain into the hole by the battery and let it go in a few inches. The plug should now be visible in the fenderwell, go ahead and pull a substantial amount through.

Now you'll need to pull the boot out of the firewall and cut a hole in it or slot it to fit the Blitz's wiring harness. Once this is done force the Blitz's plug through the hole and keep feeding through. The plug will appear above and to the right (when sitting in the seat) of the ECU so you'll probably need to be on your back with a light looking up to find it. Once you see it, pull the harness through while remembering to leave enough wire inside the engine compartment to reach the Blitz solenoid.

The Blitz SBC-iD needs a vacuum source to get a reference signal in order to control boost. This is accomplished via a pressure sensor in the brain which will require you to run a vacuum hose(included) from the brain up to a vacuum/boost source on the intake manifold. Routing of this hose should be the same as for the solenoid's wiring harness. Route this hose to a convenient vacuum line, such as the fuel pressure regulator vacuum source and splice into it (again, utilizing included hardware).



Plug the boot back into the firewall (this can be tricky but be patiet) and reattach the fenderliner. Before reinstalling the plastic cover for the hole you may want to trim a piece off for the harness to go through. Reinstall the battery and remember not to set it on the Blitz harness. For appearance purposes, routing the wiring behind the battery keeps things looking clean.

4. Perhaps the most difficult step in installing the SBC-iD and PowerMeter-iD is mounting the displays. This installation puts them in the din space below the head unit. To make the mounting plate for the units we used a small piece of lexan plastic and painted both sides flat black (in case the front ever gets scratched it will be less noticeable). We traced a pattern which would slide into the back side of the center panel, test fitted the iD units to it, measured necessary hole sizes for the plugs to pass through and drilled the holes. Once this was done we epoxied the lexan to the back side of the center panel, allowed it to set, then passed the plugs for the iD units through the holes. We mounted the units together with the piece of plastic which Blitz supplies and then used double sided tape (also supplied with the Blitz units) to attach the units to the painted Lexan. The wiring harness which comes off the SBC-iD's display easily passes through the dashboard and over to the brain while remaining concealed.

5. At the same time as we were handling step 4 we would also be able to take care of the wiring for the PowerMeter-iD. Its installation is very simple as it only has 3 wires. You'll need to find a 12v source (radio +12v works fine) and a ground (again, the radio's ground is fine). The remaining wire on the PowerMeter is for the vehicle's speedometer sending unit signal. See the image to get an idea of where the wire is on the vehicle's ECU. Use the included wire-tap to clamp on and wiring for this portion should be complete. To get to the

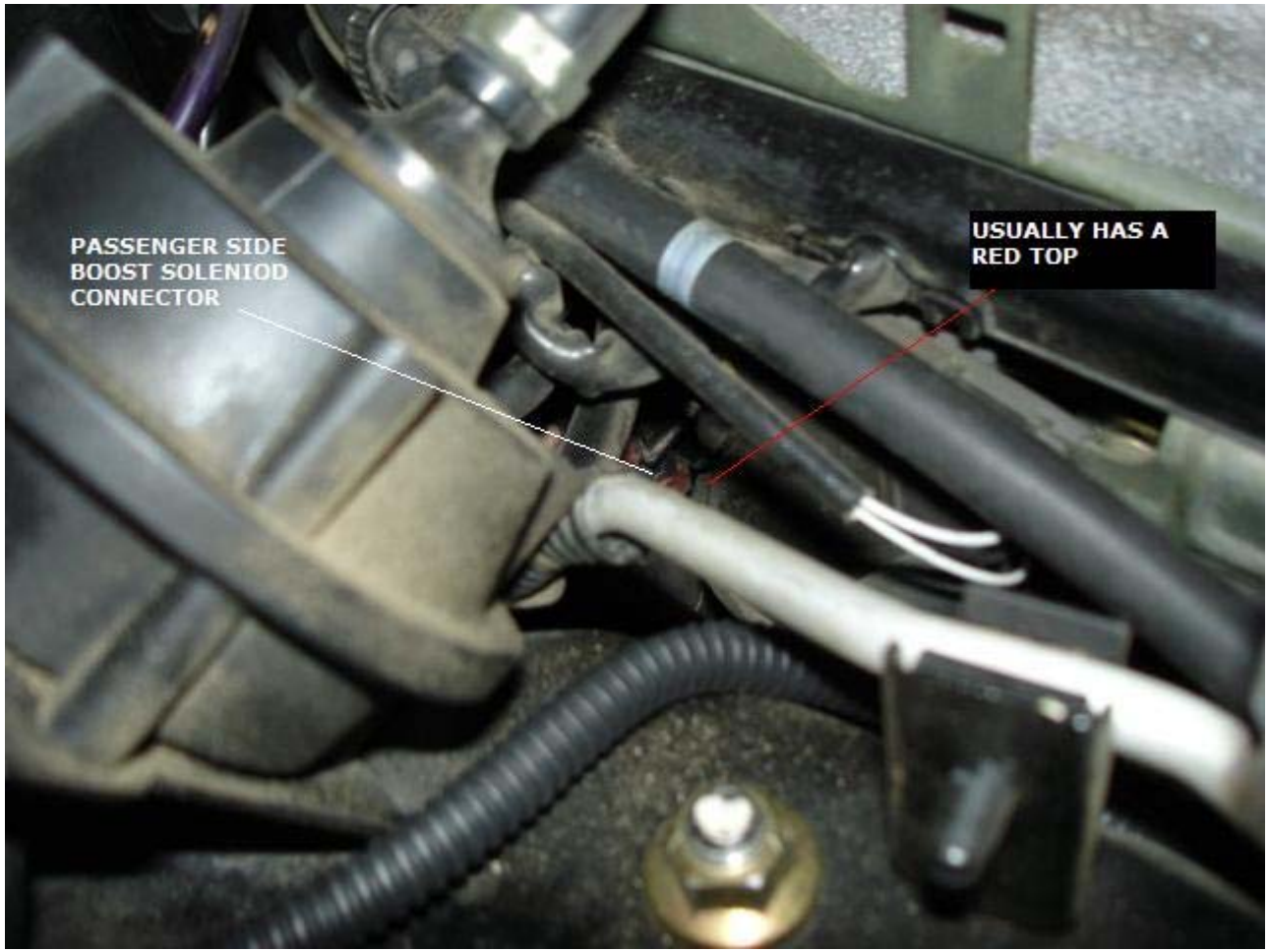
ECU simply lift the carpet up in the passenger side footwell, remove the screws which hold the wood down and you will have access. In the case of the SBC-iD the only wire you'll be interested in is for the speedometer, the others in the image are used for the Apexi AVC-R. Image from TwinTurbo.net

6. The only electrical wiring necessary to install the Blitz SBC-iD will be for power to the unit which is simply +12v and ground (we used same source as we found for the PowerMeter-iD). +12v can be found in your stereo's wiring harness. (Note: If this step is difficult for you then seek help)

7. The following step, while not being terribly hard is extremely critical. There are two options so read and understand both before continuing.

7a. Ideally, you want to run new vacuum hoses directly from the solenoid to the wastegate actuators. This will bypass the factory boost solenoids all-together and allows a more efficient set-up. To route hoses to the wastegate actuators you'll need to have access to the underside of the car (or remove the boost hardpipes from the side of the engine) and route them upwards towards the Blitz solenoid. You'll also need to remove the vacuum hoses leading to the factory solenoids and cap them off at their source (consult a service manual for information on this). Since the factory boost solenoids are now useless you could go ahead and remove them. Route the wastegate hoses to a location near the Blitz solenoid and T them together. Use a short length of hose to attach the T to the OUT port on the solenoid. For the input signal you'll need to create a T near the solenoid and attach it to the factory wastegate hoses. These are the long vacuum hoses (wrapped with extra insulation) that run to the front of the car and tap into the stock intake pipes.

7b. Alternatively, you can make the install much simpler by unplugging the stock boost solenoids' electrical connectors(see images) and using the vacuum hoses which run from the intake pipes to the wastegate actuators(see images for boost port locations). The source for these hoses are under the uppermost intake hose in front of the engine and you'll need to remove the factory intake hoses to get to them. Be careful to mark or remember where they went to avoid confusion when you go to reinstall them. Once you locate the correct hoses (refer to the images) you can reroute them to the back of the engine towards the Blitz solenoid and use a T to put them together. If routed correctly these hoses will look like they were routed that way from the factory, albeit you may have to add some length to one of the hoses in order to T them together, there is more than enough hardware included to extend the hose. From this T cut a length of vacuum hose and route it from the OUT side of the solenoid to the T. You'll now need to route hose to the IN port on the solenoid. The source will be from the same boost ports you removed the previous hoses. Attach these hoses to the intake pipes and run the vacuum hose to the solenoid (being careful to route it in a way which looks clean and won't get tangled in anything). T these two hoses together and attach the T to the IN port with a suitable length of vacuum hose. To clarify, the IN port should be getting its signal from the boost ports at the front of the car, and the OUT port should have factory hose running down to the wastegates.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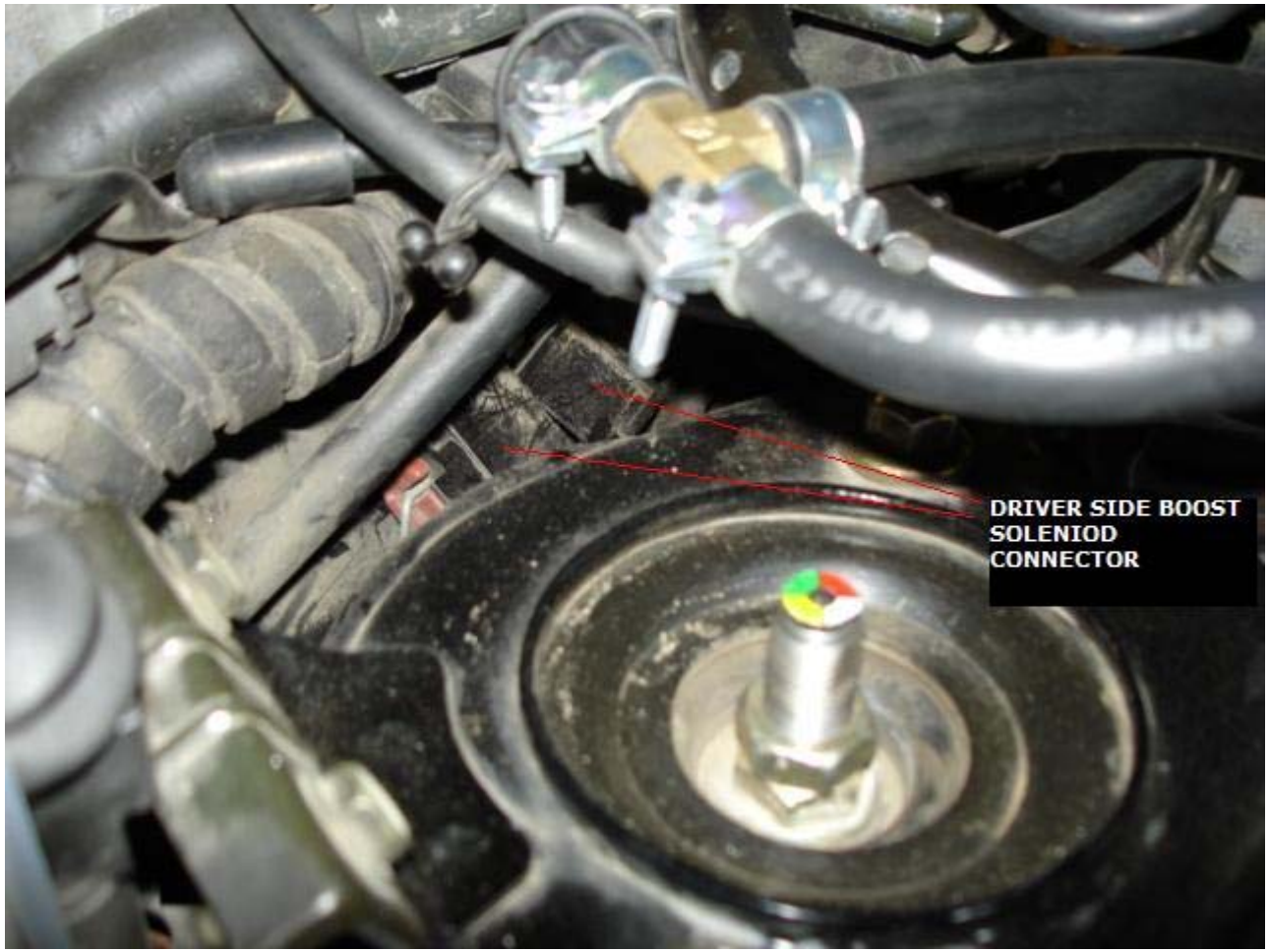
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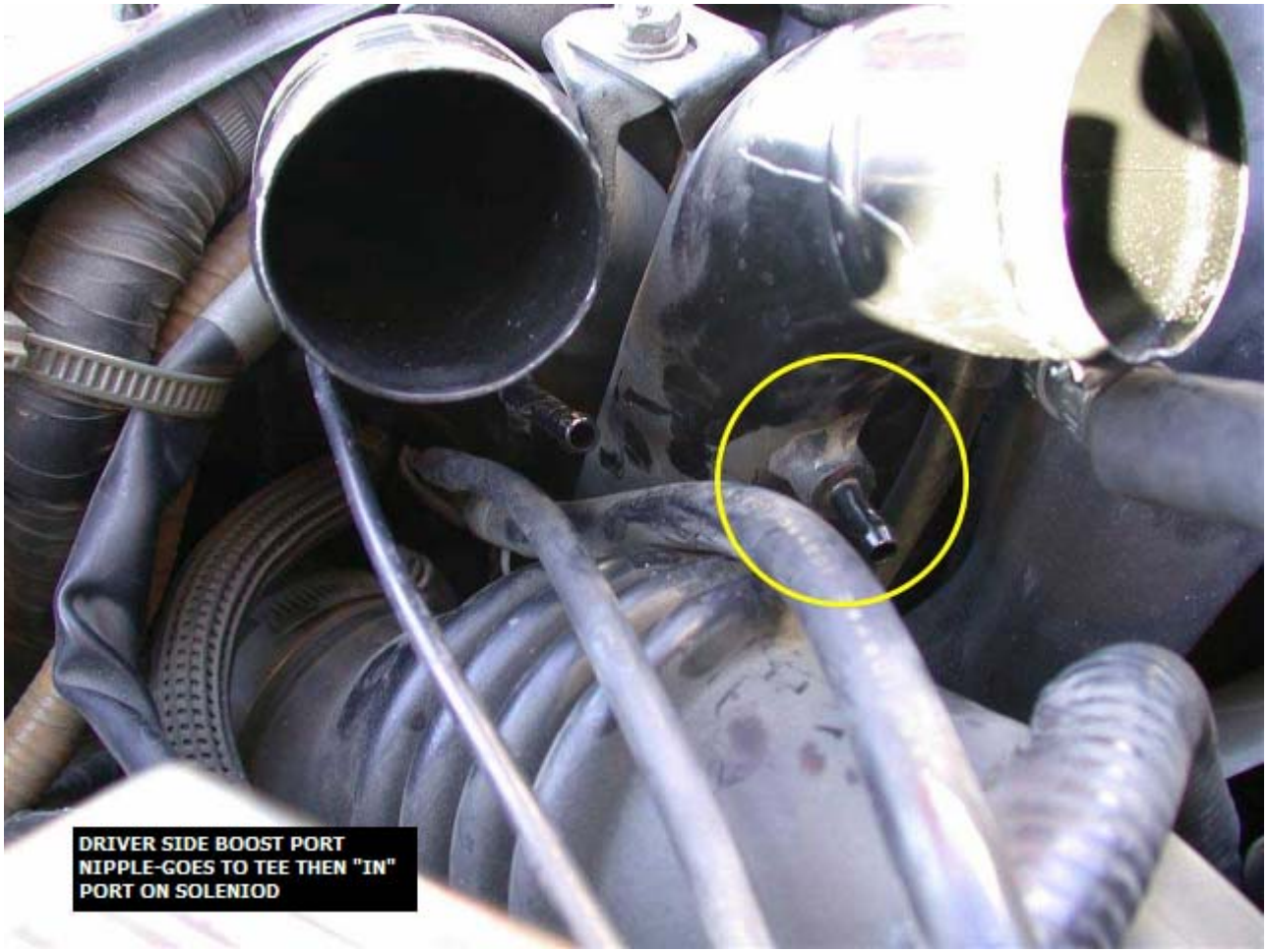
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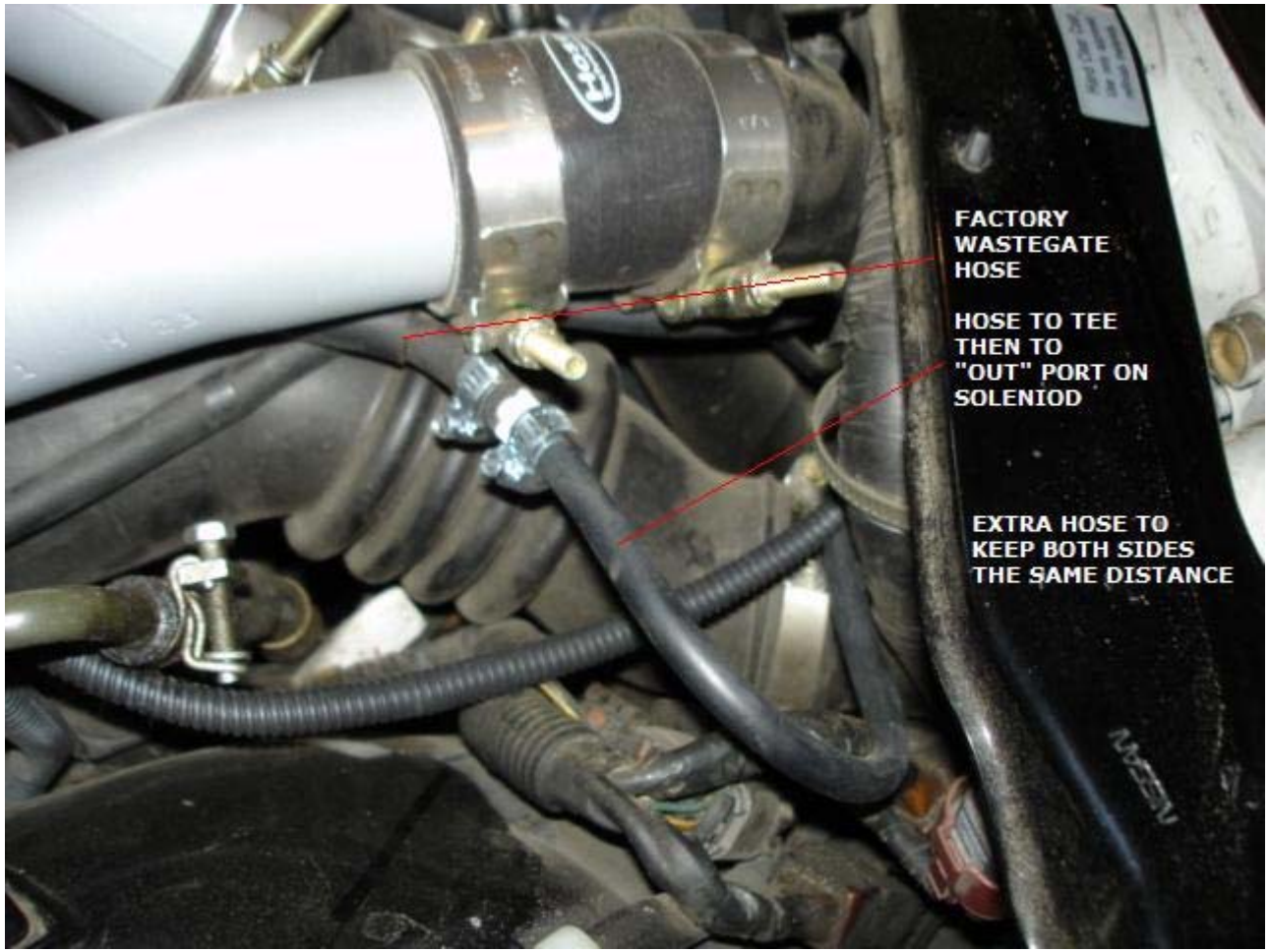
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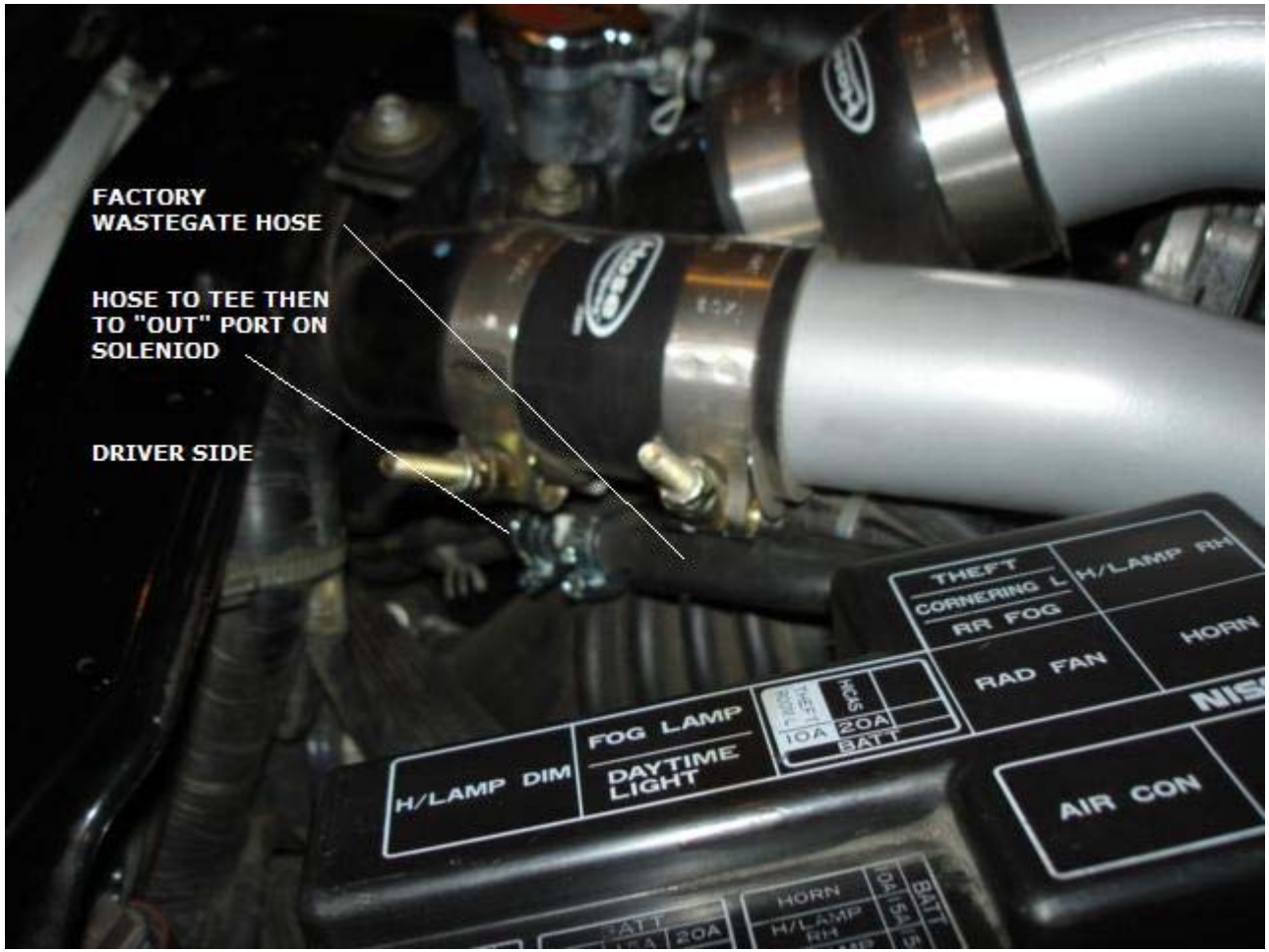

Posted by [CeeLo](#) on June 27, 2006 at 12:41 AM

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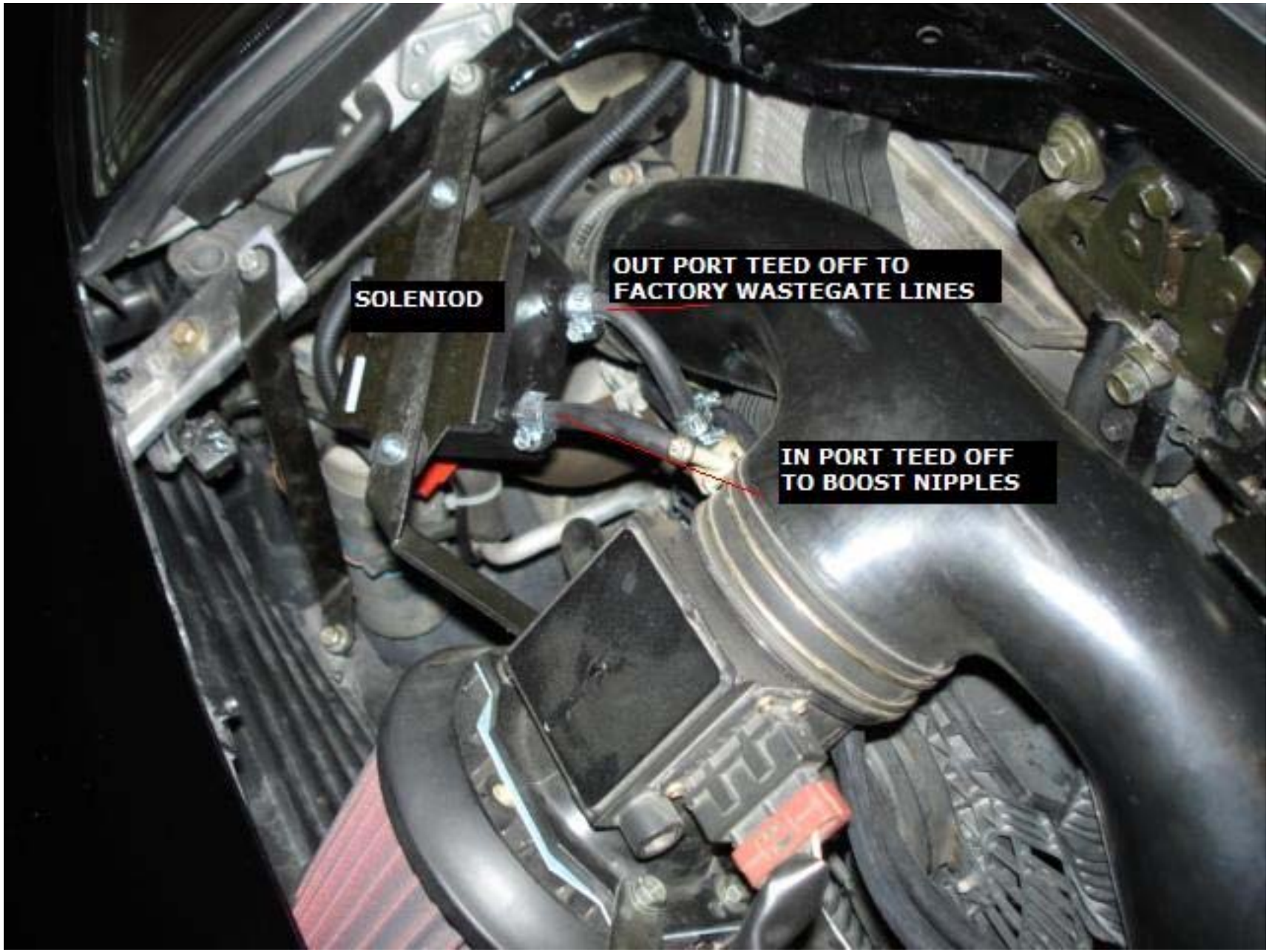

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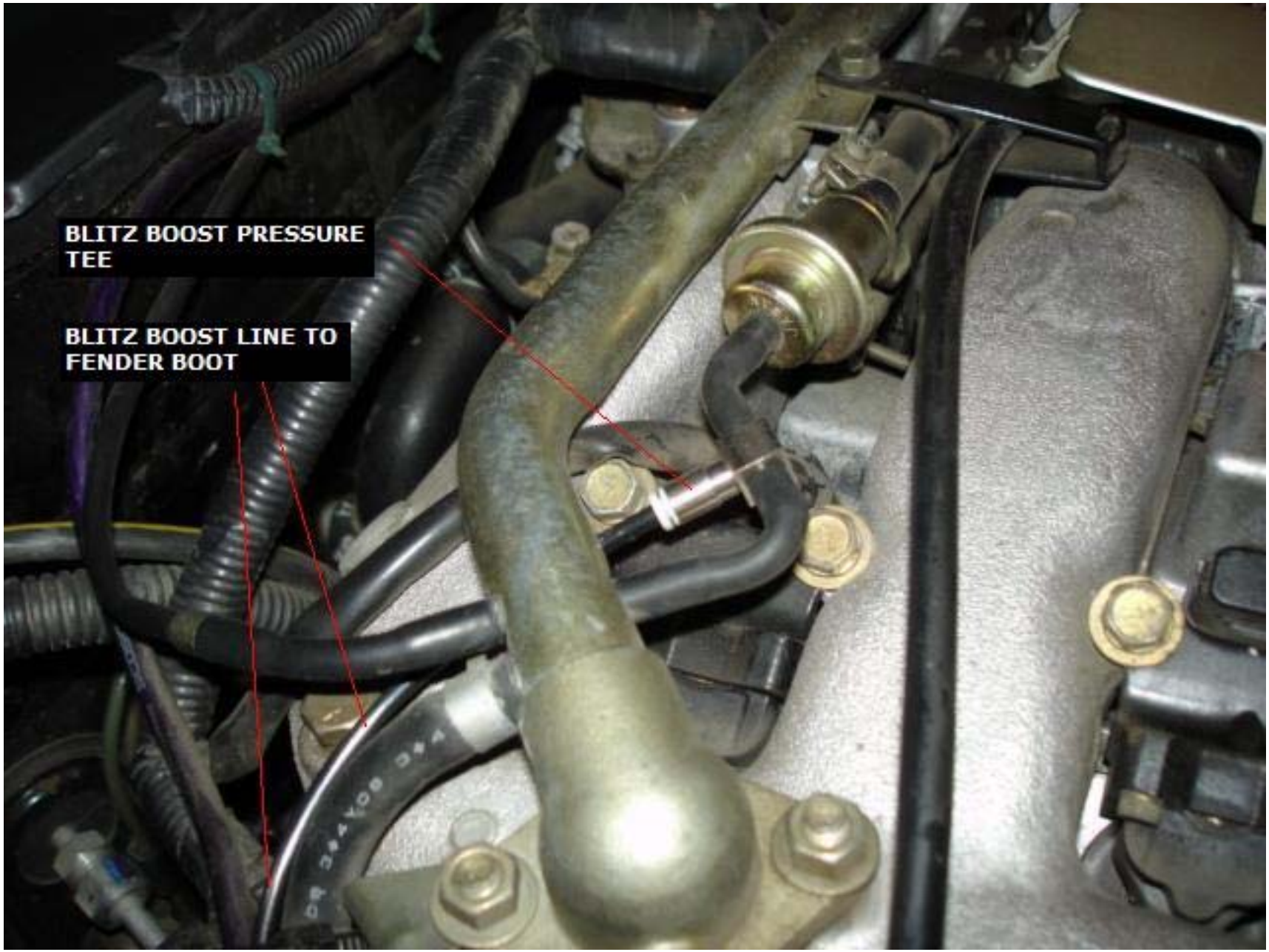

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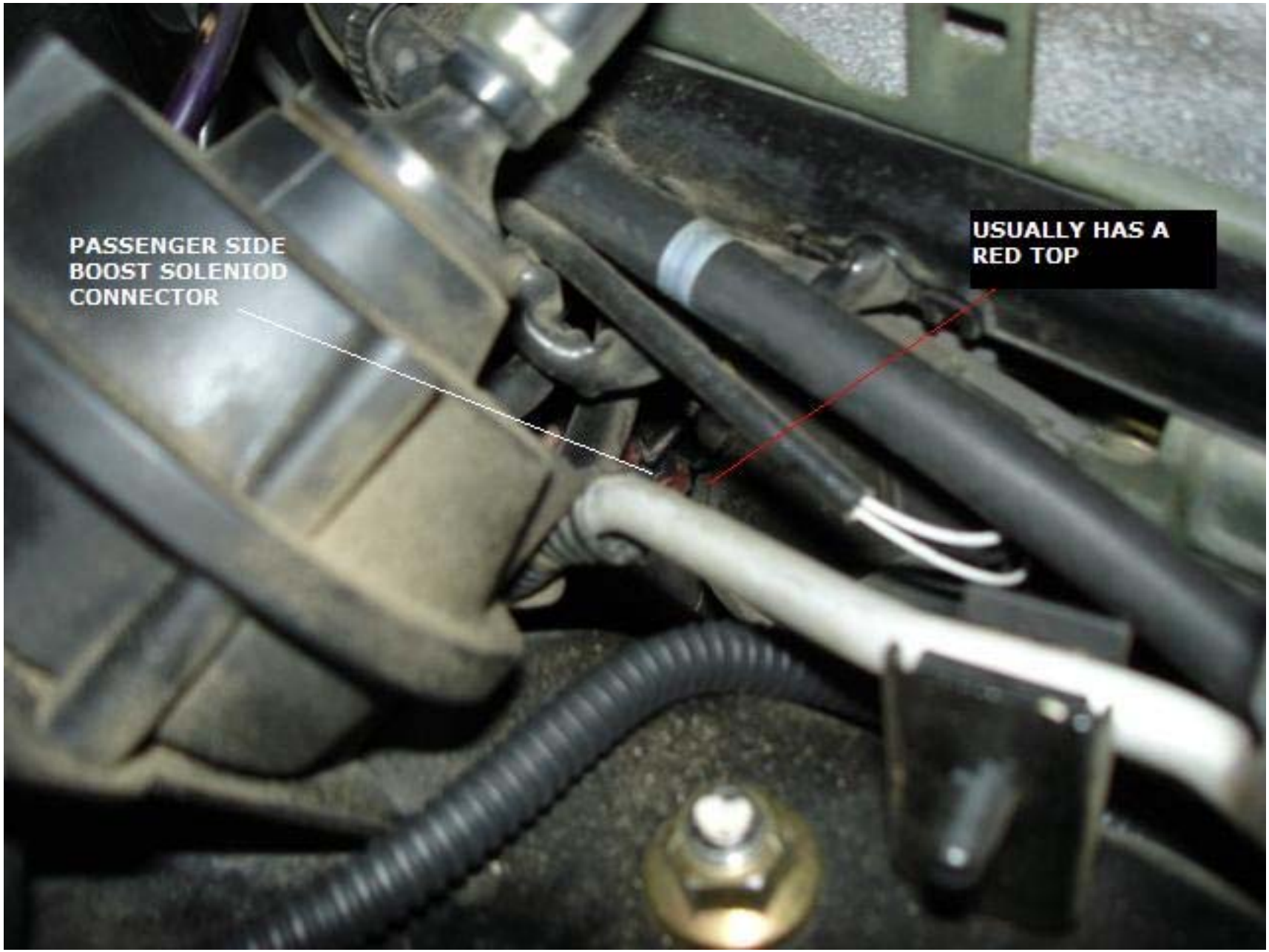
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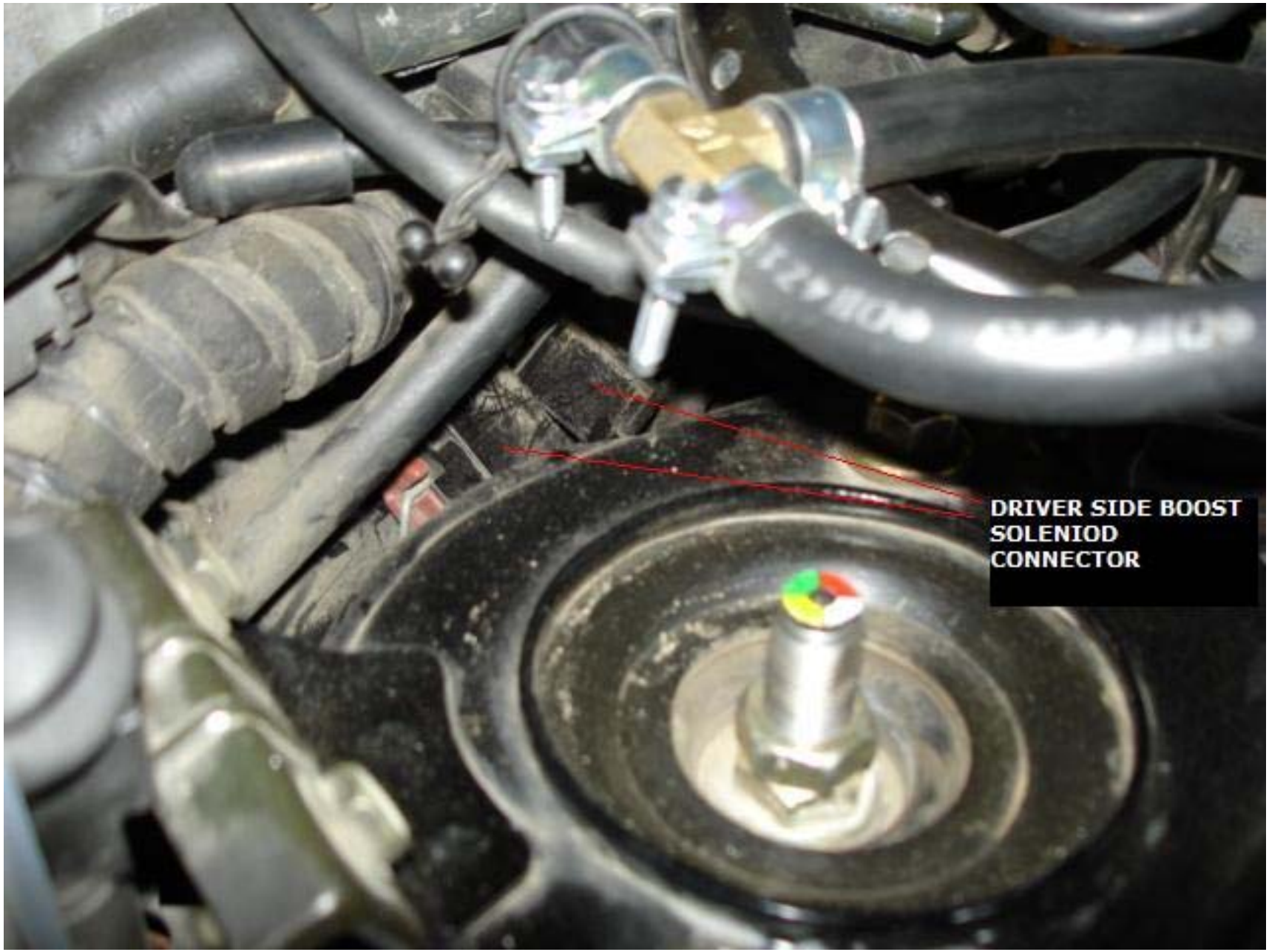
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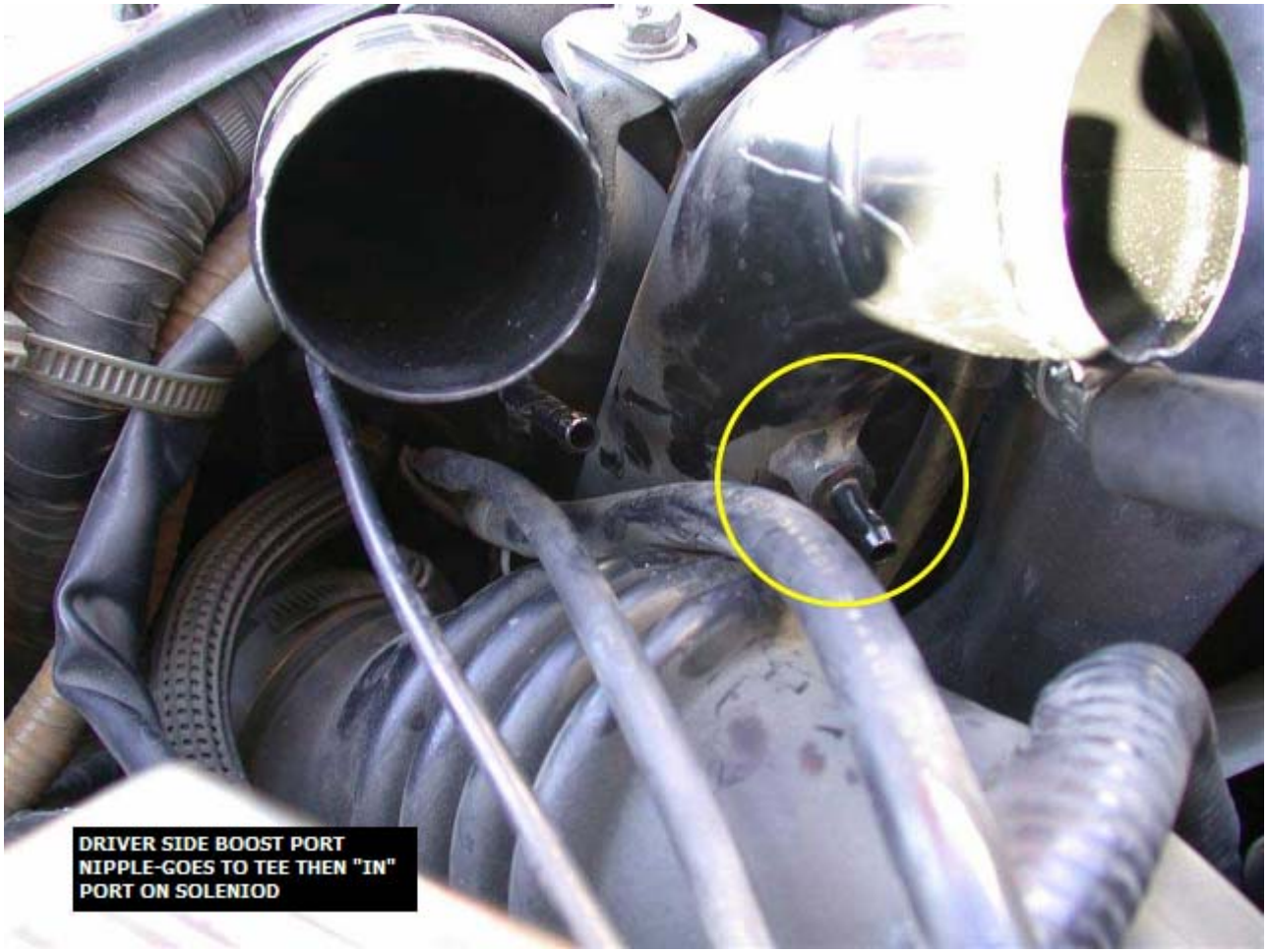
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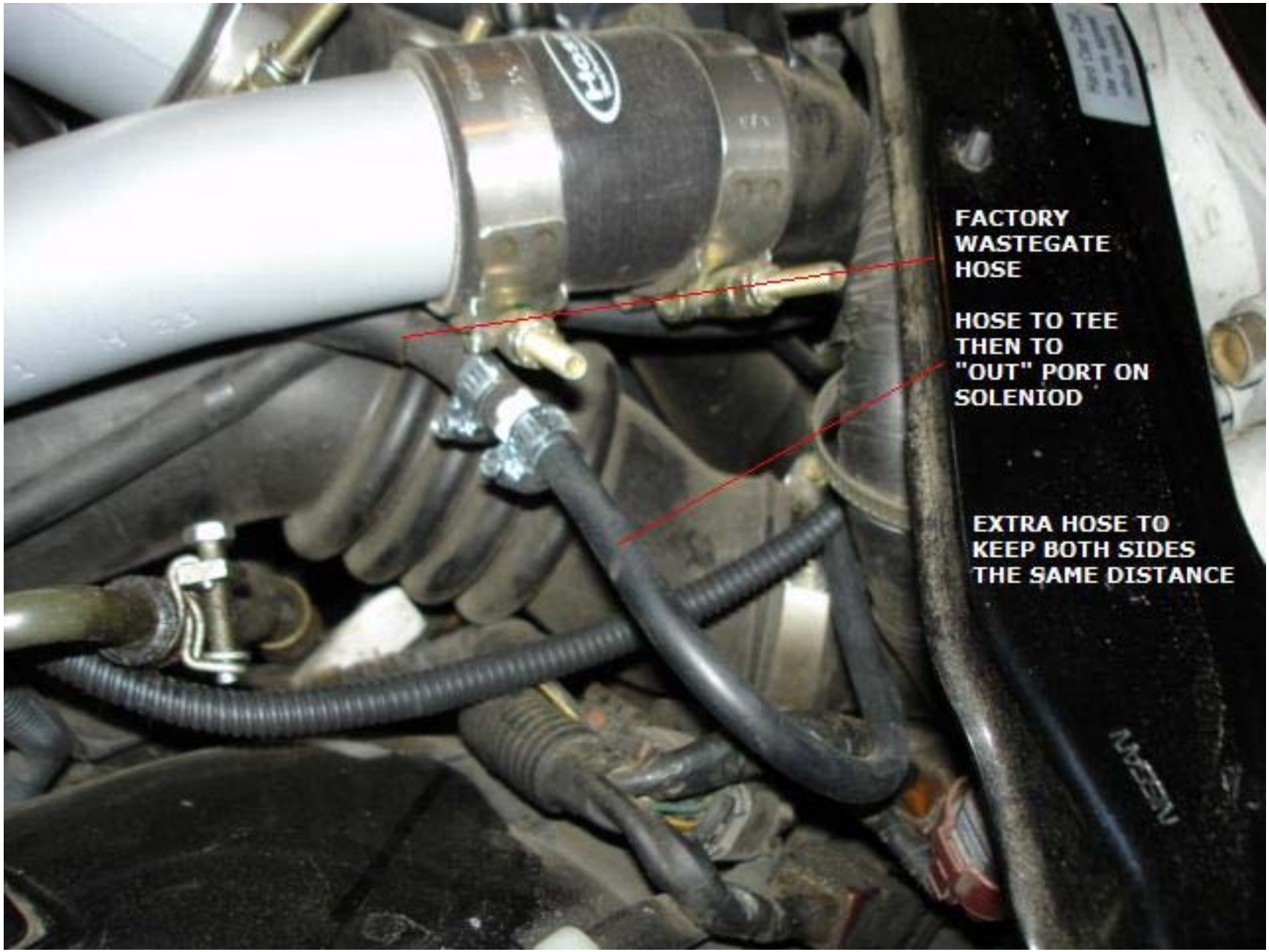
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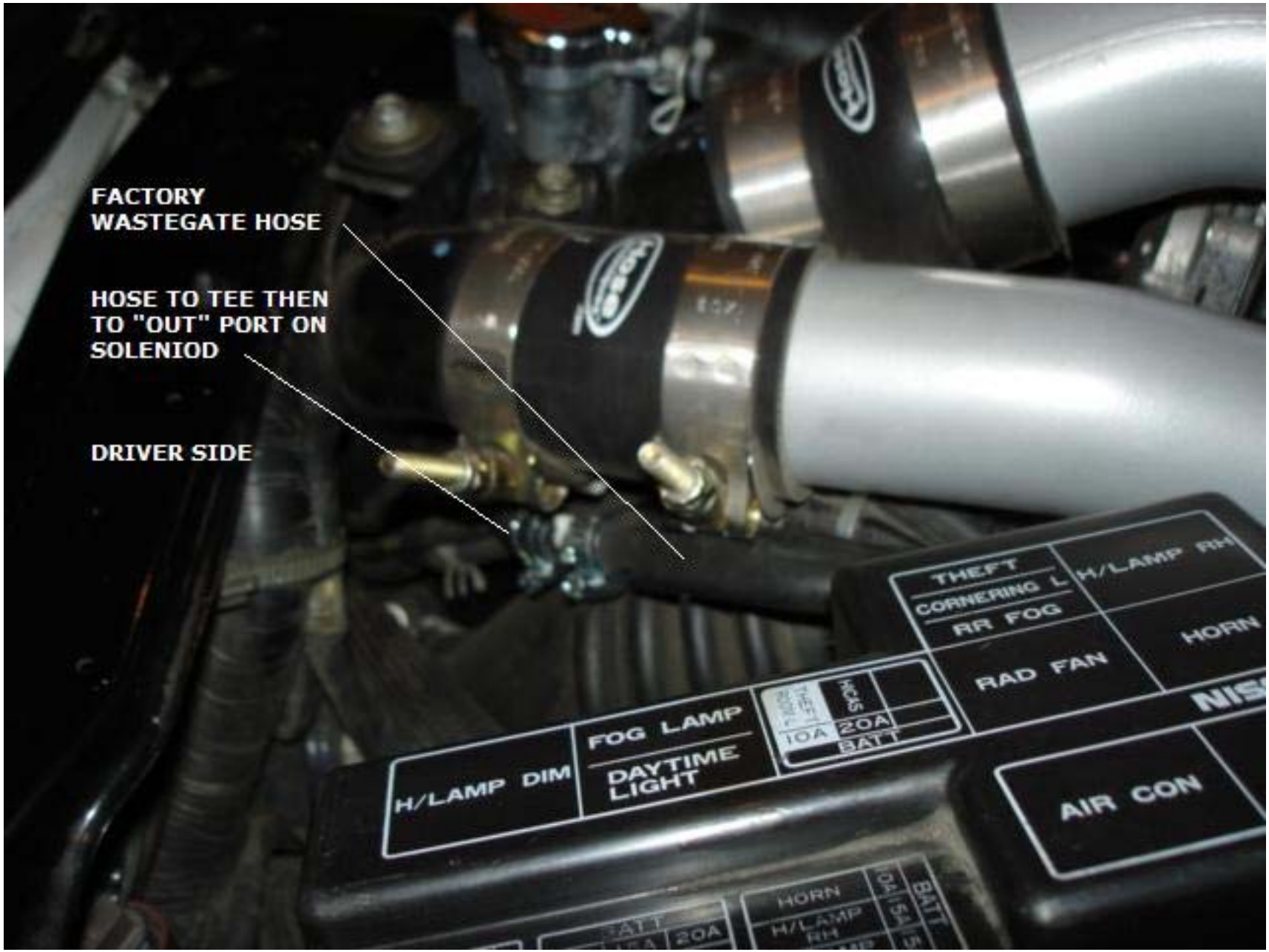
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