



Installation Instructions

SUPERCHARGER

'92-'95 CIVIC SI, EX, DX, LX, CX DEL SOL SOHC 1.6

Part# 989-100

C.A.R.B. E.O. D-344-8

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SPECIAL NOTE: Because of so many years, makes, models, and serial number identification problems, we are unable to supply a new intake manifold gasket and throttle body gasket with your kit. Typically, the gaskets can be reused, but for safety reasons we recommend buying new ones from your local Honda dealer before starting the installation. If you don't have a shop manual, buy one now! It's an important tool to own for any repairs, now and in the future!

Tools needed: 10, 12, 14, 17 mm sockets and wrenches, a 5mm allen wrench, a 3/16" allen wrench, a drill motor with a 21/64" drill bit, phillips and straight blade screwdrivers, 1/8"NPT pipe tap, timing light, and a coolant drain pan. Most of these tools are available at your local hardware or auto parts stores.

Refer to Step 37b on page 7 (Installation Section) at this time! IF YOU ARE NOT A COMPETENT MECHANIC, DO NOT ATTEMPT THIS INSTALLATION!

READ THESE INSTRUCTIONS THOROUGHLY! Follow the instructions STEP-

BY-STEP, and your installation will be trouble free. Do not leave any parts or steps out! There is a reason for every part and step! If in doubt, CALL! 1-888-888-4079.

REMOVAL SECTION:

1. **VERY IMPORTANT!** Remove negative battery cable. If you have a coded alarm on your radio, retrieve the code before removing the negative cable.
2. Put your car on jack stands. Never work under a car not supported by iackstands!
3. From under the front of the car, remove the plastic belly pan to gain access to the belt and alternator areas.
4. Remove the large brace that supports the intake manifold. Reinstall the two lower mounting bolts. The large brace will not be reinstalled.
5. Drain the cooling system as you will be replacing some hoses and the intake manifold. If extracted coolant appears dirty (orange or brown color indicates rust in the

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system), it may be a perfect time to flush-clean and reinstall new coolant and distilled water.

6. From the top of the engine compartment, remove the hose connecting the stock air box to the throttle body.

7. Remove all hoses connected to the throttle body. Label and unplug the throttle position sensor (TPS) from the throttle body. Label and unplug the manifold absolute pressure (MAP) sensor from the top of the throttle body (**illustration #1 & 2**).

8. Remove the throttle cable bracket bolts and downshift cable bracket screws (automatic transmission only) and lay the cable/bracket assemblies out of the way.

9. Remove the small coolant hose from the intake manifold directly above the number 4

(closest to transmission) intake runner.

Follow that tube to the other end - disconnect it at the throttle body's Fast idle Valve. Remove the vent hose from the valve cover. Remove the metal coolant/vent tube assembly as you will not be reusing this part.

10. Remove the small coolant hose that runs to the EACV valve, on the back of the throttle body. Label and unplug the EACV valve electrical connector. (**illustration #2**)

11. From the driver's inner fender you will find two brackets that hold the fuel injection wiring harness out of harms way. One of the brackets is mounted to the inner fender and the other is mounted to the top of the alternator adjustment bracket. Remove these 10mm headed bolts for future use. You will be reusing the one that mounts to the inner fender. You will not be reusing the one that mounts to the top of the alternator (**illustra-**

Illustration #1
Coolant Hose Position

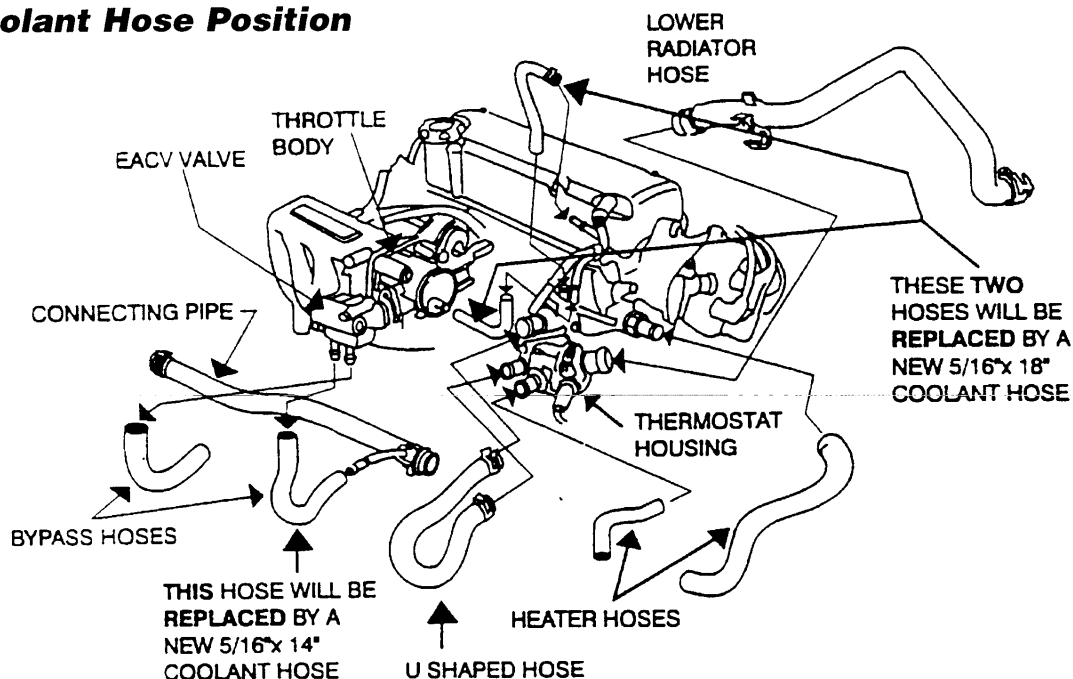


Illustration #2 Inlet Manifold & Attachments

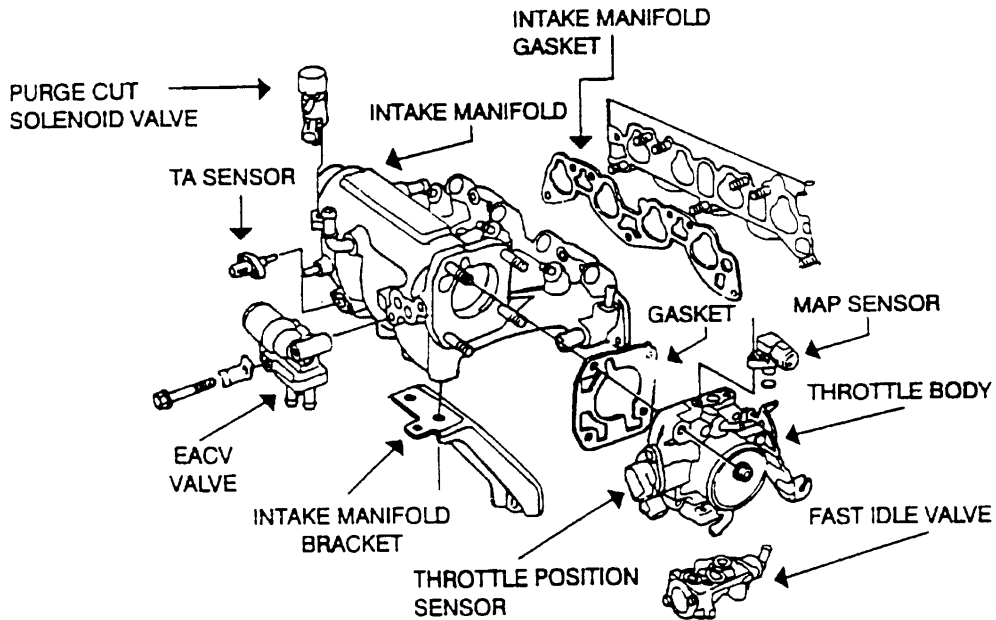
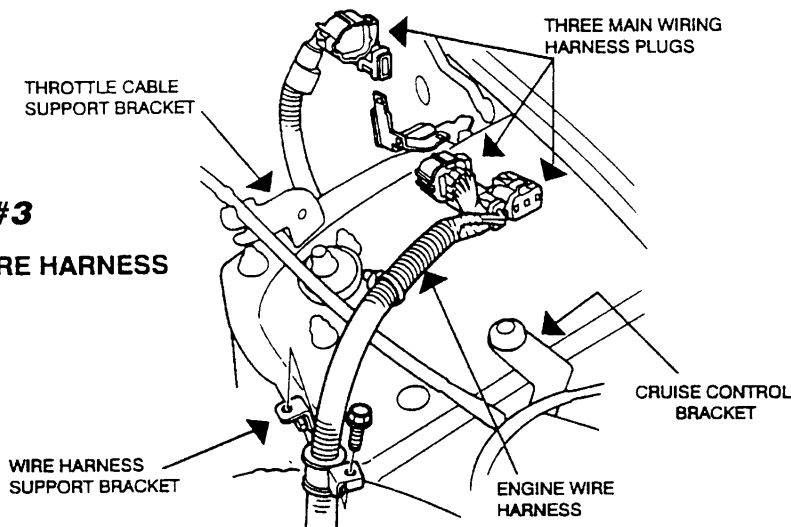


Illustration #3 ENGINE WIRE HARNESS



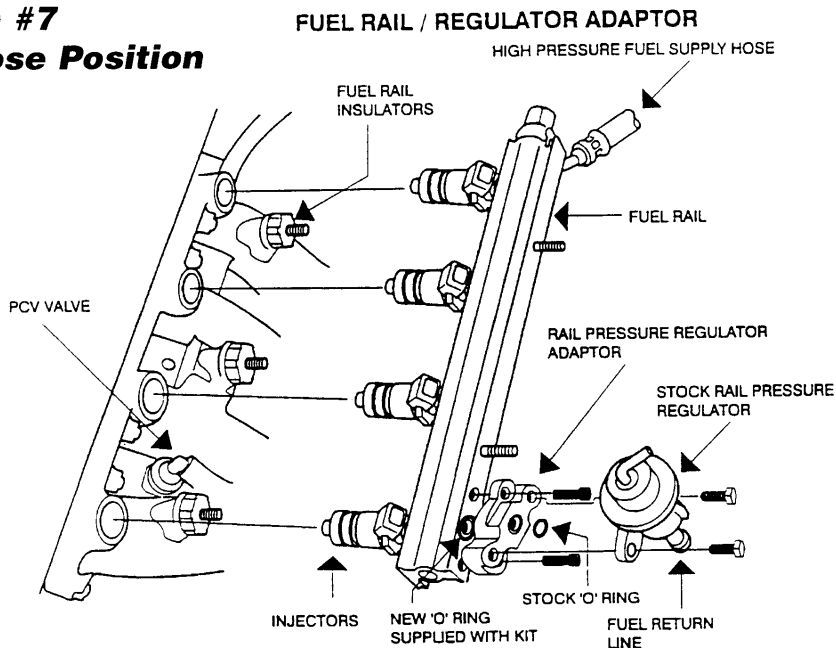
tion #3).

12. Carefully pull back the wire clips that hold the 2-pin connector to the fuel injectors. Remove the fuel injection wiring harness from the injectors and lay the harness out of the way.

13. **Use extreme caution** when removing the nut that connects the fuel supply line to fuel rail. The fuel system is under pressure and can spray fuel when the fitting is loosened/removed. **Do not work near sparks or flames! Do not smoke during this procedure!** Open your gas cap to remove any

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Illustration #7
Coolant Hose Position



residual pressure from the gas tank before removing the nut. **(illustration #7)**

14. Remove the fuel return line from the stock fuel pressure regulator on the driver's side of the fuel injection rail.

15. Unbolt the stock fuel pressure regulator from the fuel rail before removing the fuel rail. Remove the 3 X 10mm head nuts that hold the fuel rail on to the fuel injectors. You will be reusing one of them in the transfer section #3. Remove the fuel rail and the injectors.

16. Unplug the power brake hose, air temperature (TA) sensor and the purge cut solenoid valve (if equipped) from intake manifold. **(illustration #1)**

17. Remove the PCV valve from the intake manifold between the #1 and #2 cylinder runners. Push the rubber connector out of

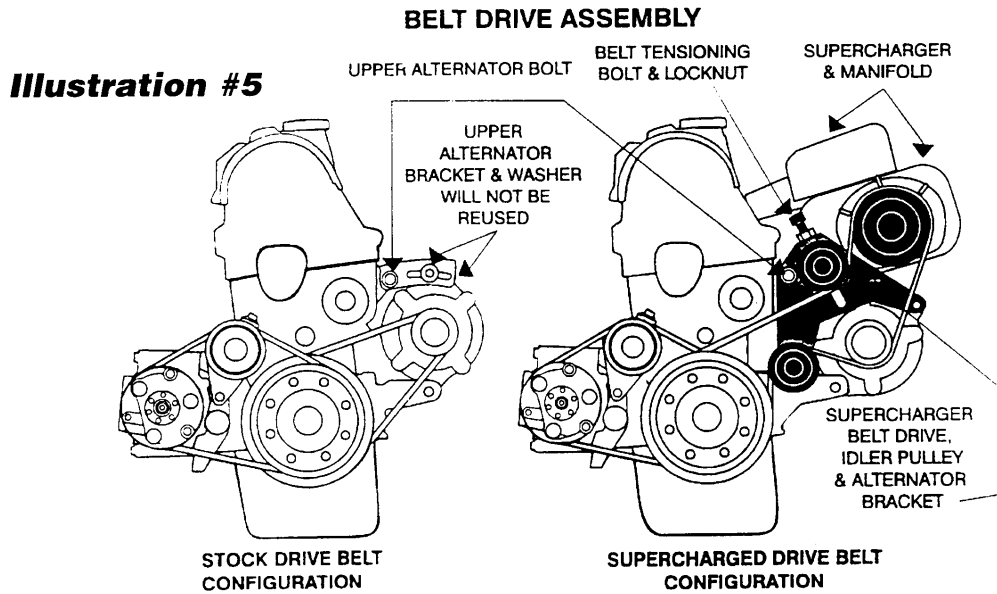
the intake manifold at this time.

18. Remove the top of the U-shaped coolant hose that connects the intake manifold with the thermostat housing from the intake manifold **(illustration #1)**.

19. If equipped with power steering, clamp off the supply line from the power steering reservoir to prevent fluid from leaking and remove the 2 X10mm head bolts that connect the power steering hose to the pump. You will need to wrap a protective cloth around the end of the power steering hose and push it up against firewall out of the way.

20. Remove the upper alternator bracket bolt (14mm head x 10mm thread) at the cylinder head. This bolt will not be reused. Remove the 12mm head bolt and washer from the adjustment side of the bracket and save just the bolt. The large washer and

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bracket will not be reused (**illustration #5**).

21. Remove the seven 12mm head nuts that hold the intake manifold to the cylinder head and remove the intake manifold

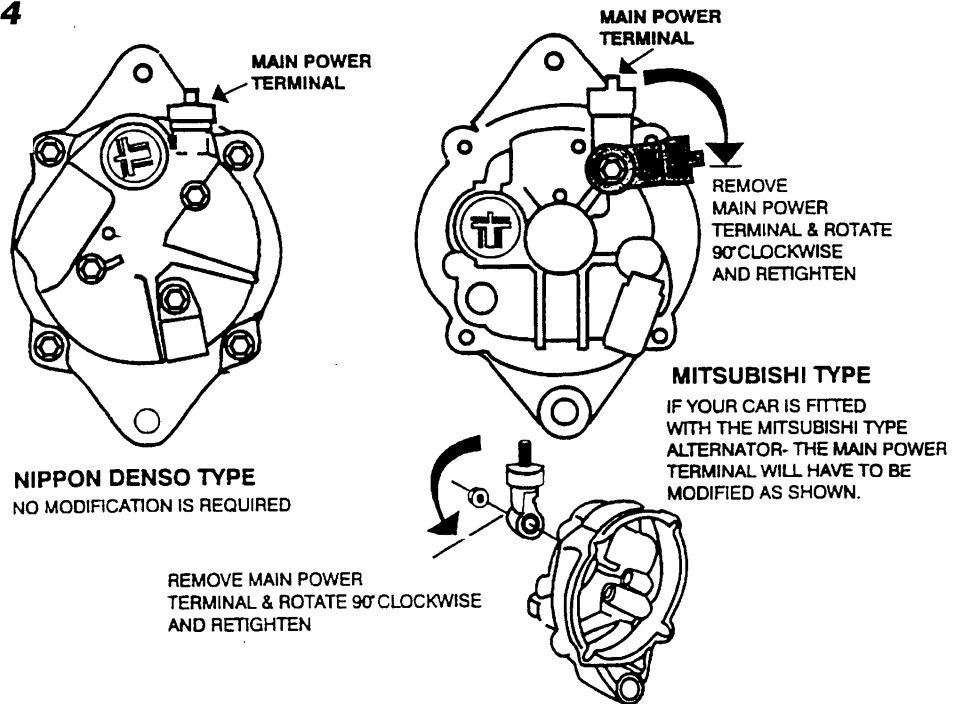
assembly. Clean cylinder head thoroughly preparing for the new intake gasket.

WIRING HARNESS RELOCATION

Nippon Denso Type (**illustration #4**).

Illustration #4

Alternator Modification



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22. Unbolt the main white wire from the top of the alternator and rotate it to the opposite side of the insulator. This will allow the supercharger to set down low in the motor compartment without fear of shorting out the main wire harness. When you test fit the supercharger assembly pay particularly close attention to this main lead and mounting hardware to insure that it does not touch the supercharger when all hardware is tight. REMEMBER: the negative battery is supposed to be disconnected during this part of the procedure.

Mitsubishi Type (illustration #4)

23. If you have this type of alternator you will have to remove the plastic cap from the main power wire insulator (Large white wire). Remove the 10mm head nut from under the plastic cap and carefully pry the insulator off the alternator assembly. Rotate the insulator 90° until it points towards the engine block. This will move the main power supply away from the supercharger and out of harms way. REMEMBER: the negative battery is supposed to be disconnected during this part of the procedure. Reinstall the 10mm head nut and tighten carefully, so you don't break the insulator.

24. Unplug and label the three main wiring harness connectors next to the driver's fender. Unbolt the throttle cable support bracket, on the top of the driver's shock tower. Remove the four plastic ties that hold the lower sub-harness, mounted directly above the power steering lines. This sub-harness is on the lower shock tower, across from the alternator. Re-route the harness under and past the throttle cable bracket removed above, over the top of the shock tower, instead of under and around the

shock tower. Utilize the empty slot in the windshield washer hose bracket at the top of the shock tower to hold the wiring harness and reconnect the harness back together at the driver's fender. Bolt the throttle cable support bracket back in place on the shock tower (**illustration #3**).

25. Lay the alternator back towards the fire-wall temporarily.

POWER STEERING MODIFICATION

26. Label and unplug the power steering pressure switch plug from the high-pressure hose removed during #19. Reroute the power steering pressure switch wiring harness back against the firewall, behind the lower metal brake line and tie out of the way using plastic ties supplied with the kit.

27. Lay the alternator all the way back against the firewall to gain access to the metal power steering lines as they go under the driver's side shock tower. Bend these lines back against the inner fender/shock tower to allow room for the supercharger belt-drive (app 25mm). Replace the large bolt and nut type clamp with the #6 worm gear clamp provided in kit. You will need to bend the steel brake line, that comes through the fender-well, up and out of the way of the power steering lines to allow the power steering lines to be moved all the way back against the shock tower.

28. If equipped with anti-lock brakes (ALB), unplug the ALB harness above the alternator and re-route behind the shock tower and tie out of harms way using the plastic tie supplied with the kit.

29. Remove the air conditioning and power

steering belts if equipped. Remove and discard the stock alternator drive-belt as it will be replaced by the new supercharger drive belt.

TRANSFERRING PARTS SECTION: (illustration #1)

30. Remove the throttle body and EACV valve from the stock intake manifold and install them on the new intake tube using the 8 x 40mm bolts provided. You will be reusing the EACV bolts.

31. Carefully remove the TA (air temp) sensor from stock intake manifold and install on to Jackson Racing Supercharger manifold.

32. You will have to remove the Purge Control Solenoid Valve from the stock intake manifold and bolt it to the 'L' bracket supplied with the kit. Bolt the bracket to the 6mm threaded stud sticking through the firewall and tighten in place using one of the nuts that held the fuel rail in place from disassembly #15.

INSTALLATION SECTION:

33. With the intake manifold out of the way, now is a good time to replace the old EACV coolant hose with a new 5/16" x 14" coolant hose supplied in the kit, from the water pipe and lay it over near the charcoal canister on the passenger side for future connection to the EACV valve. You can reuse the stock clamps.

34a. Install a new 1/4" x 17" fuel return line, supplied with the kit, from the steel pipe near the drivers feet and route it up between the firewall and the steel brake lines, out of the way for future connection to the CENTER fitting of the Auxiliary Rail Pres-

sure Regulator. Use two (2) number 4 (#4) worm gear clamps provided with the kit.

34b. If the fuel filter has not been changed in 15,000 miles, please replace it at this time.

35. Connect a new piece of 3/8" x 15"PCV hose, supplied with kit, on to the stock 90° PCV valve fitting and secure it with two plastic ties provided, then route it over towards the distributor. Tie the PCV valve hose to the water pipe using one of the plastic ties provided. This will make installing the new intake manifold/supercharger assembly much easier.

36. Install the new belt loosely around the crankshaft and alternator pulleys.

37. Install the new belt drive/alternator stay bracket (ASB) using the 10 x 50 x 1 .25mm thread bolt (supplied) in the top-left part of the ASB and into the cylinder head. Using the bolt removed from the top of the alternator, without the flat washer, thread the bolt through the ASB and into the alternator **(illustration #5).**

37b. **Special Note:** The supercharger drive belt will need to be changed periodically, as will all drive belts (timing belt included). But the uni-body design of the Civic/ Del Sol allows for a large tolerance in the frame rail clearance from car to car which may restrict the installation of your supercharger drive belt during routine belt replacement. Check your car for proper clearance between the alternator pulley and the frame rail with the new stay bracket (ASB) in place. You should have at least 5mm clearance. If 5mm is not there, put a mark on your frame

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rail where the lack of clearance exists. Remove your belt drive/alternator stay bracket, move the alternator out of the way, and using a mallet or hammer, put a small concave recess in the frame rail until you have the proper clearance. You will want to repeat this procedure during your initial supercharger/intake installation, as the supercharger pulley clearance is also important. This will allow the drive belts to be serviced in the future without completely removing the supercharger.

38. Now is the time to do a test installation (mock-up) of the supercharger/intake manifold assembly. Carefully lower the supercharger/intake manifold assembly into the engine compartment and onto the cylinder head studs while slipping the drive belt over the supercharger pulley. Hand tighten two upper intake manifold nuts onto the new manifold to hold it in place. Following instructions outlined in **installation #37b**, check for proper belt and pulley clearance at the frame rail. Remove the supercharger assembly and make necessary modifications at this time. Put the new intake gasket in place, ready to receive new manifold.

39. Carefully lower the supercharger assembly back onto the cylinder head studs, while slipping the supercharger drive belt over the driven pulley, and tighten the assembly to the cylinder head, re-using all 7 nuts. The lower main wiring harness should fit between the engine and the supercharger assembly, if not, the fuel injection harness will be too short to reach up around the intake runner and up to the fuel injectors.

40. Connect the 5/16" x 14" coolant hose from the water pipe (installation #1) to the

empty hose connection on the EACV valve, next to the throttle body (**illustration #1**).

41. Connect the new PCV hose to the fitting on the side of the throttle body inlet tube.

42. Reconnect the stock U-shaped hose from the thermostat housing to the lower intake manifold fitting.

43. Connect a new 5/16" x 18" coolant line from the 5/16" hose fitting on the passenger side of the intake manifold, to the throttle body Fast Idle Valve. You can reuse the original clamp (**installation #40**).

44. Install pressure switch from electrical parts bag into 1/8" NPT hole in firewall side of intake manifold.

BELT TENSIONING (illustration #5)

Thread the 1/4" tensioner bolt down against the 'T' nut until proper belt tension is achieved. Approximately 90 ft. lbs. of belt tension is required. If you hear the sound of your belt 'squealing' when you start your car, you don't have enough tension. The section of belt between crankshaft pulley and tensioner pulley is the longest straight section of belt between two points. With your thumb and forefinger at the middle of this section, move belt up and down (deflection). There should **ONLY** be 3/8" - 1/2" of total movement. Take caution not to overtighten the belt as it will reduce the life of your supercharger nose bearings and your idler pulley bearings. Tighten the 10mm tensioner-pulley bolt, using a 17mm wrench, as well as the 1/4" locking nut. Supercharger belt tension is now complete. You will need to recheck belt tension after 500 miles or so, as the belt will stretch over time.

REINSTALLING FUEL INJECTION

45. Reinstall the fuel injectors and seals removed from your stock intake manifold in removal #15, to the supercharger intake manifold. Check the injector seals for any splitting/cracking. Replace as necessary. Put a small dab of lube on each injector seal before installing. Insert the three fuel rail insulators in their proper position, between the intake manifold and the fuel rail, and install the new 6 x 25mm and 6 x 30mm bolts supplied in your kit. Torque to 7 ft. lbs. Reconnect your stock fuel injection wiring harness back onto the stock fuel injectors. Connect all the connectors to their original position. Be sure to route all harnesses out of harms way. You must trim the plastic harness cover where it bends down towards the new supercharger intake manifold.

46. Connect the Jackson Racing Fuel Enrichment Relay supplied with the kit. (see illustration page 9). Locate the wiring harness and plug that was plugged into the TA (air temperature) sensor. Cut the red wire with the yellow stripe approximately 2 inches from the plug. Connect the two new wiring harness' red/yellow wires to the original red wire with yellow stripe that was cut in half. Route the remaining wires and relay to the inner fender on the passenger side of the engine compartment. Use a plastic wire tie to secure the relay to the positive battery cable where it is secured to a wiring bracket mounted on the passenger side inner fenderwell. Route the loose wire, with the female spade connector, to the pressure switch which you have previously installed in the intake manifold. Route the remaining yellow/black wire, up to the Purge Cut Solenoid Valve wire harness. Using a "T-

Tap," connect it to the yellow wire with a black stripe.

FUEL PRESSURE REGULATOR ADAPTER INSTRUCTIONS.

Install the new regulator adapter to the fuel rail where the stock regulator was, using the 6mm threaded allen bolts provided and then bolt the stock fuel pressure regulator to the adapter using the original bolts. Be sure to install the new 10 x 2.5mm O-ring packaged with the fuel components, between the aluminum adapter and the fuel rail. Look for the 'groove' in the adapter.

AUXILIARY FUEL PRESSURE REGULATOR

47. Mount the auxiliary rail pressure regulator to the firewall directly behind the supercharger assembly using one of the existing 6mm threaded holes in the firewall and the 'P' shaped bracket provided. Use one of the 6mm bolts that originally held one of the power steering line brackets or the fuel line brackets to the stock intake manifold. Have the hose fittings facing the driver's fender.

48. Connect the fuel return line that was installed in #2 of the install procedures, to the CENTER fitting of the auxiliary rail pressure regulator.

49. Connect a new fuel line from the OFF-CENTER fitting of the auxiliary rail pressure regulator to the outlet of the stock fuel pressure regulator. Clamp with two new #4 worm gear clamps.

50. Install an 8" vacuum hose from one of the two vacuum fittings on the supercharger intake manifold to the stock fuel pressure regulator. Install the 18" vacuum hose from

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the fitting next to it to the auxiliary fuel pressure regulator mounted to the firewall.

51. Route the high-pressure fuel supply line from the stock fuel filter, under the throttle body intake tube and reconnect the high pressure fuel supply line removed (removal #13) using an aluminum crush washer on each side of the high pressure banjo fitting. Check for fuel leaks once fitting is tightened.

52. Using the original bracket and clamp that held the main wire harness to the driver's shock tower (removal #11) reinstall the bracket and clamp so the wire harness is safe from all moving parts (**illustration #3**).

53. Reinstall the remaining factory belts at this time. If your belts (including your timing belt) have not been replaced in 60,000 miles, consider new ones at this time. Inspect them for cracking/splitting and even 'glossing', which is when the contact surface is worn and shiny. Replacing them now may avert major problems to come!

54. Reinstall all vacuum hoses removed (removal #7) to the throttle body assembly. Connect a new 10" vacuum hose from the Purge Cut Solenoid Valve, mounted to the firewall, to the vacant vacuum fitting (capped off) on the firewall side of the superchargers by-pass valve. This fitting is between the supercharger and the intake tube. Reinstall the EACV valve electrical connector. You may have to open the plastic wire harness protector and extend the EACV wiring harness to reach. Reconnect the throttle cable, automatic transmission cable (if equipped), MAP sensor wiring, TPS wiring, and all.

55. Route the power steering line over the nose of the supercharger, and over the main wiring harness. Before reconnecting the power steering hose to the power steering pump, wrap the steel crimp, half way down the hose, with a piece of split rubber hose, that is left unused on the power steering hose, and tie the protective hose with plastic ties provided. This will keep the steel crimp from rubbing against the nose of the supercharger. Reconnect the power steering hose and remove the clamp from the power steering pump supply hose. The system is self-bleeding and should not need any other attention. Check the level of fluid in the reservoir and ONLY fill with genuine Honda Power Steering Fluid.

56. Remove the air box lid and mark a spot 1" forward of the air box outlet tube. Drill a 21/64" hole and tap the plastic cover with a 1/8" NPT tap. Thread the 1/8" NPT x 3/8" barb fitting into the airbox lid. Reinstall air-box lid and 3/8" x 15" vent hose from the new fitting to the valve cover vent.

57. Install the connector hose from stock air box to throttle body and tighten clamps.

58. Reinstall the plastic belly pan using original hardware.

59. Recheck all fuel line fittings and clamps, vacuum hoses and wiring. Be sure to check for adequate clearance for all wiring and fuel lines that pass near each other and/or other moving parts.

60. Check radiator, top off and bleed (burp) all the air from the cooling system. Failure to properly fill and bleed the system completely will lead to engine failure. Take your

time!

61. Start your engine and check for fuel or water leaks. Repair any leaks immediately.

62. Reset your ignition timing by referring to the factory manual for the location of the 2-pin, ignition-timing adjuster, bypass connector plug for your model, before moving the distributor. '92-'95 models will find the 2-pin connector under the passenger side of the dash assembly (**illustration #6**). Connect a paper clip into the connector before you start to reset the timing. This will cause the 'check engine' light to illuminate on the instrument panel. After the timing is set, remove the paper clip and the 'check engine' light will go out. The computer will then compensate for your timing adjustments. '92-'95 year models need the ignition timing to be retarded and reset to 10° BTDC. 92 octane fuel is now mandatory. The better the fuel, the better it will run! If your fuel is below 92 octane, carefully drive the car until the tank is near empty. Then, refill with good Premium grade fuel, (minimum 92 octane) from a known name supplier. Test drive car carefully at first. Listen for any pinging

sound from the engine area. If any pinging is audible, let off the throttle. Re-check the fuel quality and/or the ignition timing setting.

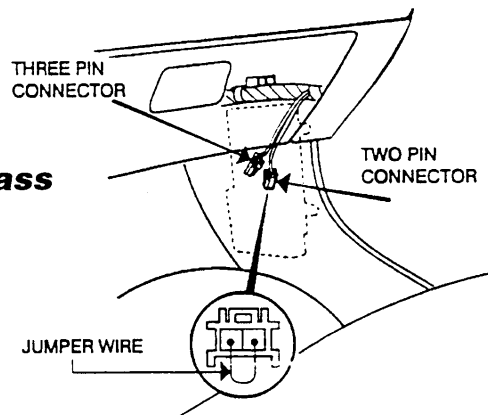
RECOMMENDATIONS

Jackson Racing has been in the high performance Honda/Acura business for over 20 years. In that time, we have won more national championships than all the other Honda/Acura specialists combined. We use a Super-Flow 900 computerized engine dyno and a DynoJet computerized chassis dyno to give you absolute horsepower readings. All of our 41 National Championships have been achieved using these state-of-the-art dynamometers. Each and every part that we sell has an accompanying dyno sheet that proves it's worth. We have dyno tested literally thousands of after market parts. We have tested almost every ignition system know to man, every spark plug that mankind has ever thought of, and God only knows how many cone-style air filters. To date, we have found absolutely no increase of any kind with all of these 'widgets.' This includes 51 different computer chips. If you have been 'chipping away' at your performance, GO BACK TO STOCK! Our super-

charger systems have been engineered to work perfectly with stock ignition components and fuel system parts. If you have modified or after market engine, fuel, or ignition components, we cannot guarantee the performance or the reliability of your system. If you have questions regarding any modifications that you may have made, please call for advice.

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Illustration #6
Ignition Timing Bypass



Relay Switch Wiring Schematic

