Installation Instructions
SUPERCHARGER

88-91 CIVIC, CRX-SI, SOHC 1.6

Part # 989-000
C.A.R.B. E.O. D-344-8

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SPECIAL NOTE: Because of so many years, makes and models, we are unable to supply a new intake manifold gasket and throttle body gasket with your kit. We recommend buying these new gaskets from your local Honda dealer before starting the installation. If you don't have a shop manual, we would strongly suggest you buy one now! It's good to have for any repairs. This Supercharger kit is designed to be used ONLY with a stock computer. If any alteration has been done to the stock computer, serious engine damage will probably result!!!!!!!!

Tools needed: 10, 12, 14 mm sockets and wrenches, a 5-mm allen wrench, 3/16" allen wrench, 22 mm wrench or adjustable wrench capable of 22 mm opening, a drill motor with a 21/64" drill bit, Phillips and straight blade screwdrivers, 1/8" NPT pipe tap, and a coolant drain pan. Most of these tools are available at your local hardware or auto parts stores.

***Refer to Step 2 on page 3 (Installation Section) at this time!!**
Our supercharger kits are designed to be easily installed by mostly anyone with good mechanical sense and with the proper tools*. **Use your best discretion**! Jackson Racing superchargers do not require a break-in or warm-up period. However, to help prolong engine life, it is recommended that the engine be properly warmed-up before using maximum supercharger boost.

READ THESE INSTRUCTIONS THOROUGHLY! Follow the instructions STEP-BY-STEP and your installation will be trouble free. Do not leave ANY parts or operations out. There is a reason for every operation and part. If in doubt, CALL! 1-888-888-4079 / ASK FOR TECH. SERVICE

WARNING: Once installation is completed, CHECK AND RE-CHECK ALL Fuel system connections for possible leaks before operating the vehicle!

***92 octane gasoline (or higher)is necessary to use with the supercharger.**

REMOVAL:
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 vehicle not supported by jack-stands or proper ramps!!**

3. From under the front of the car, remove the plastic belly pan to gain access to the belt and alternator area.

4. Remove the large brace that supports the intake manifold. Reinstall the two lower mounting bolts. The large support brace will not be reinstalled.

5. Loosen the coolant system cap and drain the cooling system into the drainpan as you will be replacing hoses as well as the intake manifold.

6. From above the engine compartment remove the hose connecting the stock air box to the throttle body.

7. You will find labels included in the instruction bag for each sensor and it's corresponding plug. We strongly suggest that they be used properly. Label and remove all hoses connected to the throttle body and unplug the throttle position sensor (TPS) from the throttle body. Remove the #12 hose from the throttle body and MAP sensor. This hose will be replaced later **(illustration #1&2).**

8. Remove throttle cable-bracket bolts and downshift cable-bracket screws (Auto/Trans 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 intake runner (closest to the transmission). Follow that tube to the other end and disconnect it at the throttle body. Remove the vent hose from the valve cover. You can now remove the metal coolant/ vent tube assembly as you will not be reusing these parts **(illustration #1).**

10. Label and remove the small coolant hose that runs to the EACV valve on the back of the throttle body. Unplug the EACV valve electrical connector **(illustration #2)**. DO NOT CUT OR MODIFY this wiring harness! It is often confused with the air

'88-'91 COOLANT HOSE POSITIONING

Illustration #1

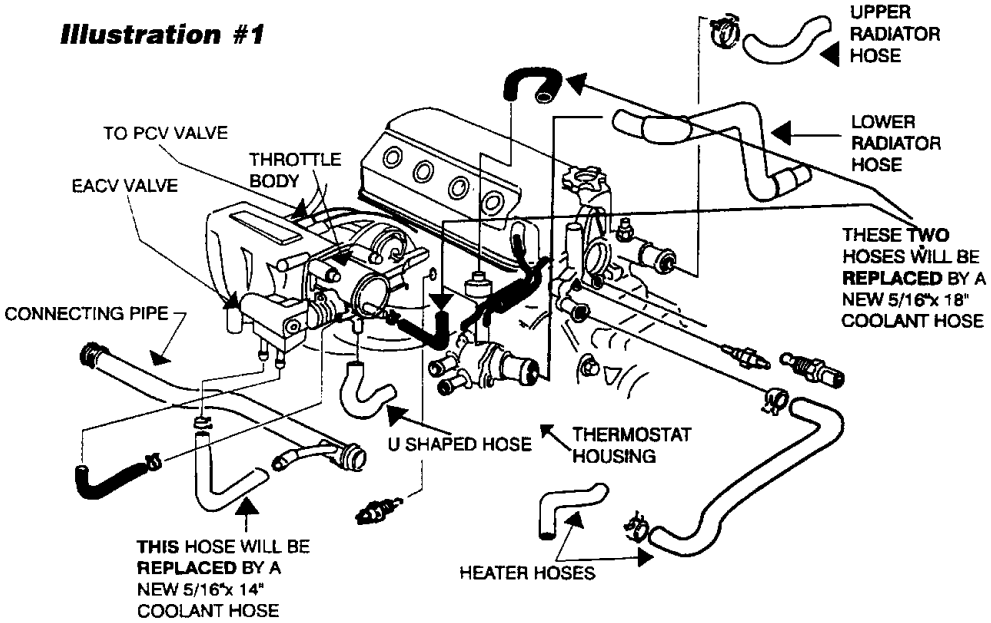
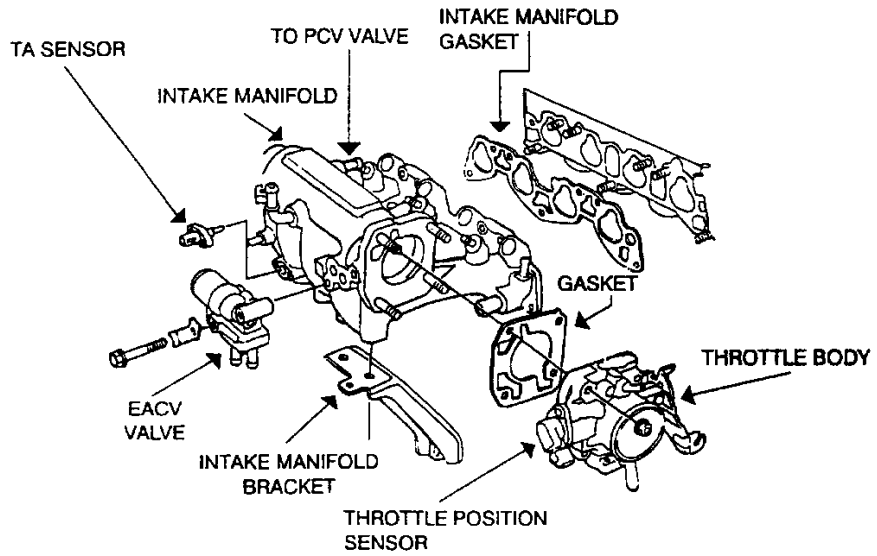


Illustration #2

INLET MANIFOLD & ATTACHMENTS



temperature (TA) harness, which will be modified later in this section.

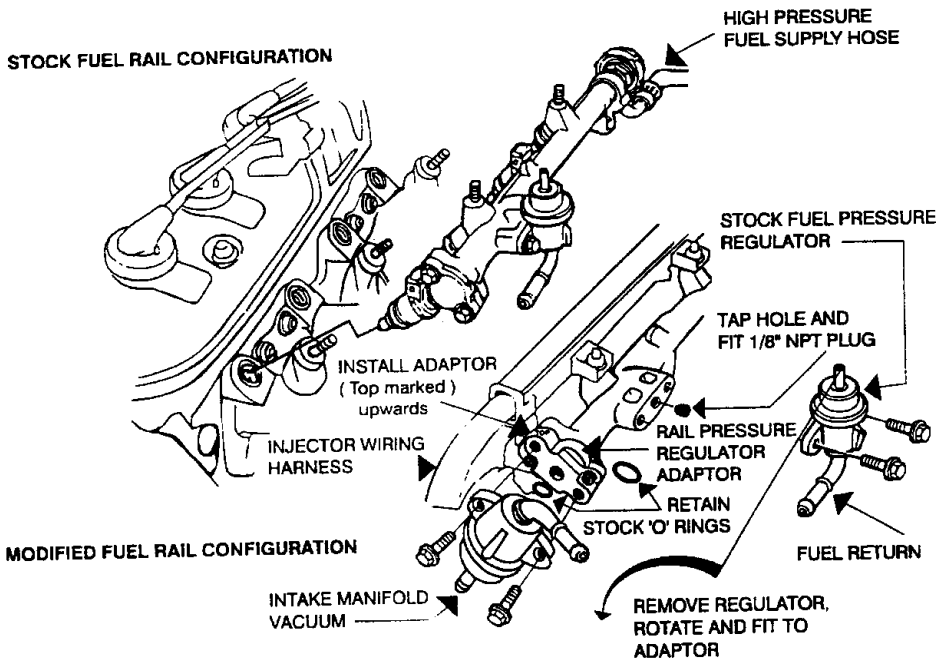
11. From the driver's inner fender you will find two brackets that hold the fuel injection wiring harness out of the way. One bracket is mounted to the inner fender and the other is mounted to the fuel return bracket, which is mounted to the intake manifold. Remove bolts and keep for future use. You will be re-using the one that mounts to the inner fender. You will not be reusing the one that mounts to the top of the fuel return bracket.

12. Carefully pull back the wire clips that hold the 2-pin connector to the fuel injectors. Unplug the two fuel injection plugs that are located directly below the windshield on the driver's side shock tower. Unplug the air temperature (TA) sensor plug from the air temperature sensor on the driver's side of the intake manifold. You will be installing an idle compensator extension harness to this wiring harness. Squeeze the plastic clip that holds it to the fuel return bracket. Carefully remove the injector harness as mentioned above and lay on the passenger fender out of harms way.

13. **<u>Use extreme caution</u>** when removing the 22-mm nut that connects the fuel supply

Illustration #5

FUEL RAIL / REGULATOR ADAPTOR



line to fuel rail. The fuel system is under pressure and can spray fuel. Do not work near sparks or flames! Do not smoke during this procedure! Open your gas cap to remove any residual pressure from the gas tank before removing the 22mm nut **(illustration #5)**.

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

15. Unbolt the stock fuel pressure regulator from the fuel rail before removing the fuel rail. Remove the three nuts that hold the fuel rail on to the intake manifold. Remove the fuel rail and the injectors **(illustration #5).**

16. Unplug the power brake hose from the intake manifold.

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

18. Remove the top of the U-shaped cool-ant hoses that connects the intake manifold with the thermostat housing **(illustration #1)**.

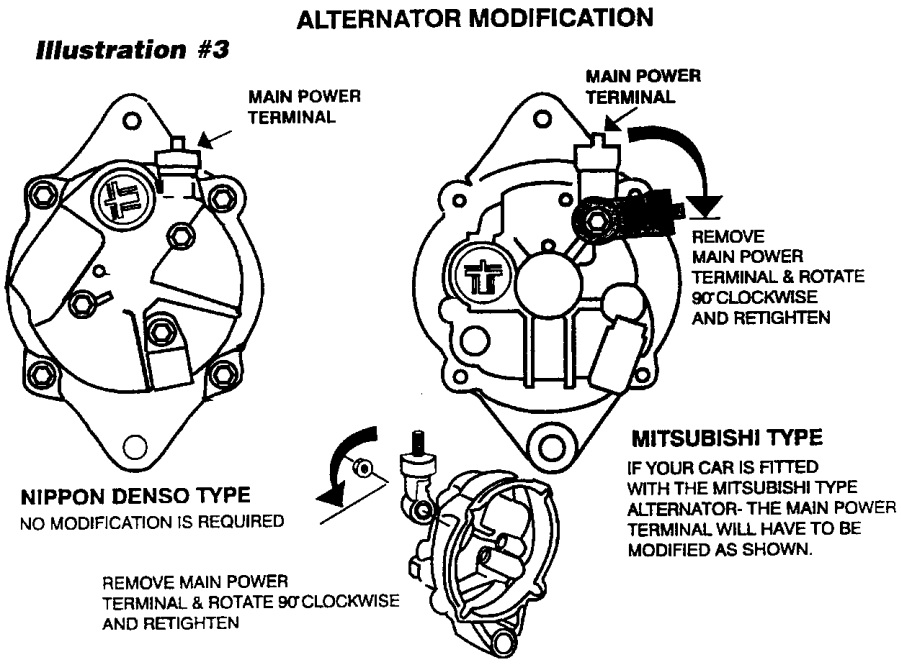
19. Remove the bolt that fastens the upper alternator bracket to the engine block. This bolt will not be reused. Remove the bolt and washer from the adjustment side of the bracket and save just the bolt. The large washer and bracket will not be reused.

20. Remove the 7-nuts that hold the intake manifold to the cylinder head and remove the intake manifold assembly.

ALTERNATOR WIRING HARNESS RELOCATION

Nippon Denso Type (illustration #3)
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. Lay the alternator back against the firewall temporarily. REMEMBER: the negative battery terminal is supposed to be disconnected during this procedure.

Illustration #3



Mitsubishi Type (illustration #3)
If you have this type of alternator you will have to remove the plastic cap from the main power insulator, remove the nut from under the plastic cap and carefully pry the insulator off the alternator assembly. Rotate the insulator 90^{o} until it points towards the engine block. This will move the main power supply away from the supercharger and out of harms way. Reinstall the nut and tighten carefully, so you don't break the insulator

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

22. Carefully remove the TA (air temp) sensor from stock intake manifold and install on to Jackson Racing Supercharger manifold **(illustration #2)**. You will be installing an extension harness for this sensor later in the fuel injection installation section.

23. '89-'91 cars will have a Fast Idle Valve mounted to the back of the stock intake manifold. Remove this valve and install it on the Jackson Racing Supercharger manifold. Mount the Fast Idle Valve upside down for clearance. You will be installing an extension harness for this wiring. DO NOT install the TA wiring in this harness. The two harnesses look similar, but they are indeed different.

— Do not mix them up! —

INSTALLATION
24. With the intake manifold out of the way, replace the old EACV coolant hose with a new 5/16" x 14" coolant hose supplied with the kit and lay it on the passenger side for future connection to the EACV valve. You can reuse the stock clamps.

25. **Special note:** The clearance between the fuel filter assembly and the throttle body inlet tube is very important. Be sure to have the fitting on the high-pressure fuel lines facing the air box assembly on the passenger side of the motor compartment. **If the fuel filter has not been changed in 15,000 miles. please replace it at this time.**

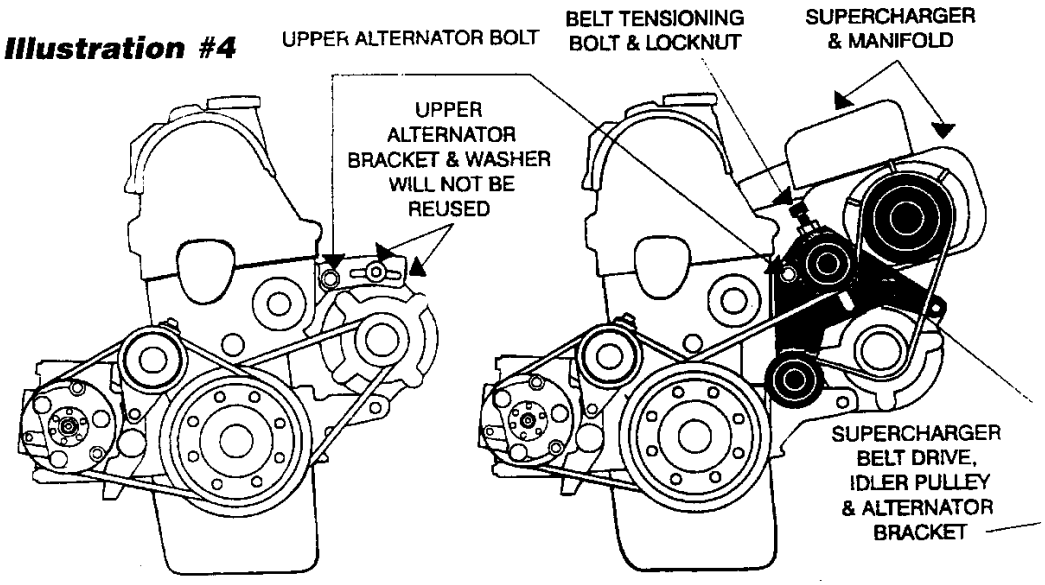
26. Connect the new 3/8"X 15" PCV hose supplied with kit to the stock 90^{o} PCV valve fitting and secure it with two plastic ties provided, then route it toward the distributor. Tie the PCV valve hose to the water pipe using one of the plastic ties provided. This will make installing the supercharger intake manifold easier **(illustration #4).**

27a. Install the new belt drive bracket, attaching it to the original location on the engine block using the 10mm flanged bolt, and attach to the alternator using the stock bolt saved from step #19 of the removal section.

27b. Special Note: The supercharger drive belt will need to be changed, as do all drive belts, periodically. The uni-body design of the Civic/CRX allows for a large tolerance in the frame rail position, from car to car, that 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 belt drive bracket in place. You should have at least 5-mm clear-

BELT DRIVE ASSEMBLY

Illustration #4



ance. If 5mm is not there, put a mark on your frame rail where the lack of clearance exists. Remove your belt drive bracket, and move the alternator up and out of the way. Then gain clearance by using a mallet or hammer and 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 mock-up installation as the supercharger pulley clearance is also important. This will allow the drive belts to be replaced in the future, without removing the supercharger.

28. It is now time to do a test installation 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 in-take manifold nuts onto the new manifold to hold it in place. Following instructions outlined in installation #27b check for proper clearance at the frame rail. Remove the supercharger assembly and make any necessary modifications at this time.

29. 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, reusing all 7 nuts.

30. 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.

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

32. Reconnect the stock U-shaped hose

from the thermostat housing to the lower intake manifold fitting.

33. Connect a new 5/16” x 18” coolant line from the vertical 5/16” hose fitting, on the passenger side of the intake manifold, to the throttle body. You can reuse the original clamps.

34. ORIGINALLY ADDRESSING LOWER SUPPORT BRACKET. ELIMINATE THIS STEP - BRACKET HAS BEEN DISCONTINUED.

35. Thread the 1/4” tension bolt down against the ‘T’ nut until proper belt tension is achieved. Approximately 90ft-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. Take caution not to over-tighten the belt, as it will reduce the life of your supercharger nose bearings and your idler pulley bearings. Tighten the 3/8” bolt, using a 9/16 wrench, and the 1/4” locking nut. Supercharger belt tension is complete. You will need to re-check your belt tension after 500 miles or so as the belt will stretch over time.

REINSTALLING FUEL INJECTION

36. Reinstall the fuel injectors and seals removed from your stock intake manifold in removal #15, to the supercharger intake manifold. Inspect the fuel injector seals at this time for cracking/splitting. Replace the seals as necessary. 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 bolts supplied with 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.

37. Directly above oil filter is the main wiring harness for the engine. From this harness comes the TA(air temperature) subwiring harness. You will be adding a wire harness extension (with resistor) to the TA sensor wires. Cut the stock green wire and red wire approximately two inches back from the connector and splice the Jackson Racing extension harness in line. This harness must be installed as it carries special resistance for idle and high speed compensation.

Do not attempt to extend the T. A. wiring with any other type of harness than the correct one as serious engine damage will probably result!!

FUEL PRESSURE REGULATOR ADAPTER INSTRUCTIONS.

38. You will need to tap the return hole that the original fuel pressure regulator was bolted to and thread in a 1/8” NPT plug.

39. You will also need to remove the cap on the end of the fuel rail. Using the supplied O-ring in with the new regulator adapter, install the regulator adapter in place of the end cap, using the 6mm alien bolts provided. The adapter must be installed with the letter ‘T’ facing up so that you can read the letter. Then bolt the stock fuel pressure regulator to the new adapter using the original bolts. The outlet fitting should face back towards the firewall and down.

AUXILIARY FUEL PRESSURE REGULATOR

40. Mount the auxiliary fuel pressure regulator to the threaded boss that is part of the

left side (from the inside of the car looking out) motor mount, using the 'P' shaped bracket provided. You will be reusing the 6mm bolts from your stock wiring harness brackets that are left on your stock intake manifold. Have the fittings facing rearward towards the shock tower/engine.

41. You will be connecting the original fuel return hose to the CENTER fitting of the auxiliary fuel pressure regulator using the factory fuel line clamps.

42. 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.

43. 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 the fitting next to the auxiliary rail pressure regulator.

44. 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 (removal #13) using an aluminum crush washer on each side of the high-pressure banjo fitting. Make certain to see that no fuel leaks from this or any other fuel connection (i.e.- fuel rail, regulator(s), and injectors) once the engine is running again.

45. Using the original bracket and clamp that held the main wire harness to the drivers shock tower, (removal #11) reinstall the bracket and clamp so the wire harness is safely away from all moving parts.

46. Reinstall the remaining factory belt(s) at this time.

47. Reconnect the throttle cable, automatic transmission cable (if equipped),TPS wiring and all labeled vacuum hoses removed in removal #7 to throttle body assembly. You will be replacing the #12 hose with a supplied 13" piece of vacuum hose. Connect this vacuum hose to the backside of the supercharger next to the vacuum connection for the actuator valve. This fitting will supply vacuum to the dashpot/ purge cut solenoid valve on the throttle body assembly. You should have already installed a 13" vacuum hose from the throttle body to the MAP sensor mounted on the firewall. Reinstall the EACV valve electrical connector. You may have to open the plastic wire harness protector to extend the wiring harness to make it reach the new EACV location.

48. 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 a 1/8" NPT x 3/8" barb fitting into the air box lid. Reinstall air box lid and 3/8 X 15"vent hose from the new fitting to the valve cover vent.

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

50. Reinstall the plastic belly pan using original hardware.

51. Re-check all fuel line fittings, clamps, vacuum hoses and wiring. Be sure to check for adequate clearance for all wiring and fuel lines that pass near moving parts.

52. Check radiator, top up and bleed all the

air from the cooling system. Failure to properly fill and bleed (burp) the cooling system can lead to engine failure.

53. Start engine and check for fuel or coolant leaks. Stop engine and repair any leaks at this time. Start engine again and check all repairs.

54. Reset ignition timing by referring to the factory manual for the location of the 2 pin ignition timing by-pass connector plug for your model, before moving the distributor. On '88-'91 models the 2 pin connector will be located on the drivers side (US) inner fender. There should be a yellow cover over the top of the plug. Connect a paper clip into the connector before you start to reset the timing. This will cause the 'check engine' light to be illuminated on the instrument panel. After the timing has been set, remove the paper clip and the 'check engine' light will go out and the computer will compensate for your timing adjustments. Reset your ignition timing to 10º BTDC. The better the fuel the better it will run. If your fuel is below 92 octane, purchase a good octane booster and install it in your fuel system and continue to drive the car until the tank is near empty. Then refill with good Premium grade fuel (minimum 92 octane). Test drive your car carefully at first, listen for any pinging (detonation) 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 SuperFlow 901 computerized engine dyno and a Dyno-Jet Computerized chassis dyno to give you absolute horsepower readings. All of our 41 National Championships have been developed using these state-of-the-art dynamometers.

Each and every part that we sell has a dyno sheet that proves its worth. We have dyno tested literally thousands of after market parts. We have tested almost every ignition system known 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 included 136 different computer chips. If you have been 'chipping away' at performance, go back to stock. Our supercharger system has been engineered to work perfectly with all stock ignition components and fuel system parts. If you have any modified or after market engine, fuel, or ignition components, we cannot guarantee the performance or the reliability of your system. If you have question regarding any modifications that you may have made to your system, please call for advice. 1-888-888-4079 X 3019 - TECH SUPPORT DIVISION@ J/R

SUPERCHARGER INSTALLATION IN-STRUCTION IMPORTANT NOTICE

Connectors which can be confused during installation:

Air temp sensor(TA)	(1) Red/Yellow (1)Green/White
EACV	(1) Black/Blue (1) Yellow/black
Purge control valve	(1) Yellow/Black (1) Red/Yellow
MAP sensor	(1) White/Red (1) Green/White (Long exposed lead) (1) White
Throttle position switch (TPS)	(1) Red/Blue (1) Green/White (Short exposed lead) (1) Yellow/White

First color refers to outer sheath (insulation).
Second color refers to strip.