evoluzione cyclesports

installation instructions

fuel pressure modifier kit for can-am spyder

part number 98201

this **evoluzione cyclesports fuel pressure modifier kit** has been engineered for high performance street and racing conditions on the can-am spyder.

note: this kit is designed for use with the evoluzione cyclesports race airflow system. this kit will *not* work with the stock air box.

this kit allows the user to accurately adjust fuel flow (and hence fuel pressure) in response to engine modifications. by increasing fuel pressure (on a fuel injection system), fuel flow increases. the formula for calculating flow increase based on fuel pressure is:
f1 = injector flow (cc/min)
p1 = current fuel pressure (psi)
f2 = new injector flow (cc/min)
p2 = new fuel pressure (psi)

$$p2 = p1 \times \left(\frac{f2}{f1}\right)^2$$

example:
we added a high flow exhaust and air filter that increases airflow 8%. what pressure should the system be set to?

f1 = 270 cc/min
f2 = 292 cc/min (270 + 8%)
p1 = 51 psi

$$\textbf{p2} = 51 \text{ psi} \times \left(\frac{292}{270}\right)^2$$

or
p2 = 60 psi

we recommend that you read through the instructions completely before beginning the installation, so you can familiarize yourself with the installation procedure and tools required. check the tool list at the end of these instructions for the tools required to install your **evoluzione cyclesports fuel pressure modifier kit.** Installation can be accomplished by anyone with minimum mechanical experience. it is however, important to closely follow the instructions.

introduction

the **evoluzione cyclesports fuel pressure modifier kit** is easy to install by carefully following the instructions. read all instructions first to familiarize yourself with the parts and procedures.

installation

it is suggested that the bike be allowed to cool off for an hour or two since you will be working around the fuel system.

caution: the fuel system contains fuel under high pressure even when the engine is not running. before disconnecting a fuel line, wrap the fitting with a rag to prevent fuel spray.

step 1. disconnect the negative battery cable.
step 2. remove the vacuum line from the fuel pressure regulator.
step 3. caution: the fuel system contains fuel under high pressure even when the engine is not running. carefully place plenty of shop towels underneath the fuel pressure regulator. wrap another towel around the regulator body. using a t-30 torx wrench, remove the two bolts holding the fuel pressure regulator to the throttle body. note that the m.a.p. (manifold absolute pressure) sensor is attached

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with the front bolt - be careful not to damage the small vacuum lines. gently pull and remove the fuel pressure regulator assembly from the throttle body. inspect the regulator o-ring for tears. replace if damaged).

step 4. disconnect the pressure regulator return line from the top of the fuel tank.

step 5. carefully mount the regulator body in a vise. using a hacksaw, cut off the top of the regulator "hat" and vacuum pipe just below where the vacuum pipe attaches to the "hat." **be careful:** the top is under pressure from the spring inside! remove and discard the top and spring (please see photo one).

step 6. using a file, remove the sharp edges from the top of the fuel pressure regulator.

step 7. on the underside of the fuel pressure modifier body, carefully insert the supplied o-ring into the machined groove.

step 10. screw the supplied nut onto the supplied 10-24 x 1/2" set screw but do not tighten. insert the nut/screw assembly into the top of the fuel pressure modifier body until the tip of the screw is flush with the inside boss (screw should not protrude).

step 8. position the supplied piston and spring into the fuel pressure modifier body, making sure to fully seat the brass piston. without dropping the spring, install the fuel pressure modifier body onto the stock fuel pressure regulator. place a drop of thread locker on each of the four supplied 6-32 bolts then carefully attach the fuel pressure modifier base (use caution when installing the screws to avoid stripping out the base). once the base is attached, align the fuel pressure modifier assembly as shown (please see figure one).

step 9. using a 7/64" allen wrench carefully tighten each of the four bolts until the base and body come together. do not over tighten!

step 10. reattach the assembly to the throttle body. using the t-30 torx wrench, carefully tighten the two bolts (be careful not to damage the m.a.p. sensor).

step 11. put a couple drops of oil on the return fuel line o-ring. carefully slip the return fuel line back onto the fuel pressure regulator return line connection on the top of the fuel tank until it "snaps" together.

step 12. from the right side of the bike, carefully place plenty of shop towels underneath the fuel inlet line connection. wrap another towel around the connection. using a 17mm wrench, gently loosen, remove and discard the banjo bolt and two crush washers.

step 13. slip one of the supplied 12mm crush washers onto the supplied fuel gauge banjo bolt and slip it through the fuel inlet line fitting. install the other supplied crush washer and gently reattach the line to the throttle body using a 11/16" wrench (please see photo two).

step 14. reinstall the negative battery cable. turn the key to "on" (do not start the bike) - repeat this three times. check that the fittings/connections do not leak. if there is evidence of a leak, repair before proceeding. note: the fuel pressure modifier does not directly connect to the fuel side and thus will not cause the regulator to leak.

step 15. connect a suitable pressure gauge to the banjo bolt fitting (such as an accurate tire guage). using a 3/32" allen wrench, turn the fuel pressure modifier set screw in until it is flush with the top of the jam nut. cycle the key to "on" (don't start bike) and check for any fuel leaks (if any are found, immediately shut the key off and correct). while observing the fuel pressure while fuel pump is running, adjust the set screw until you reach the desired pressure. while holding the set screw in place, tighten the jam nut using a 3/8" wrench. turn off the key.

step 16. reconnect the vacuum line to the fuel pressure regulator.

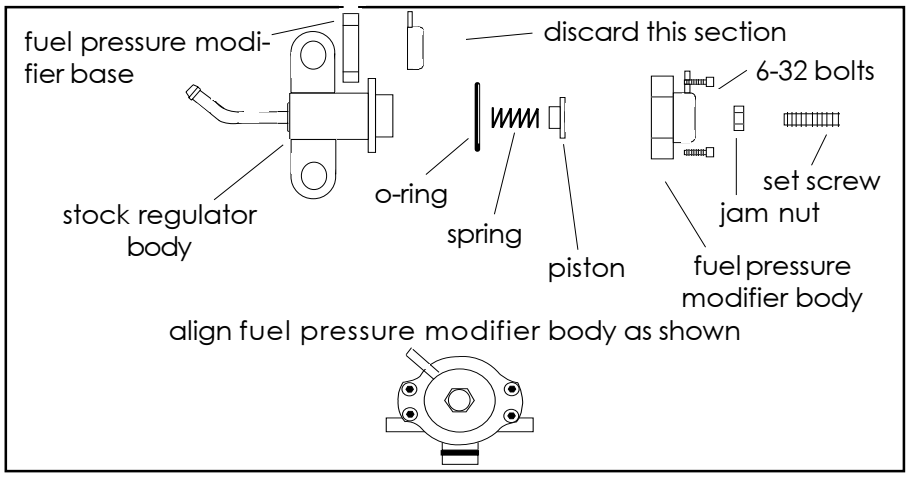

figure one

parts list

fuel pressure modifier body
fuel pressure modifier base
brass piston
spring
o-ring
6-32 bolts (4)
jam nut
10-24 x 5/8" set screw
brass valve assembly
12mm crush washers (2)

tools required

10mm &17mm wrenches
3/8" & 11/16" wrenches
7/64" & 3/32" allen wrenches
t-30 torx wrench
hacksaw & file
shop towels

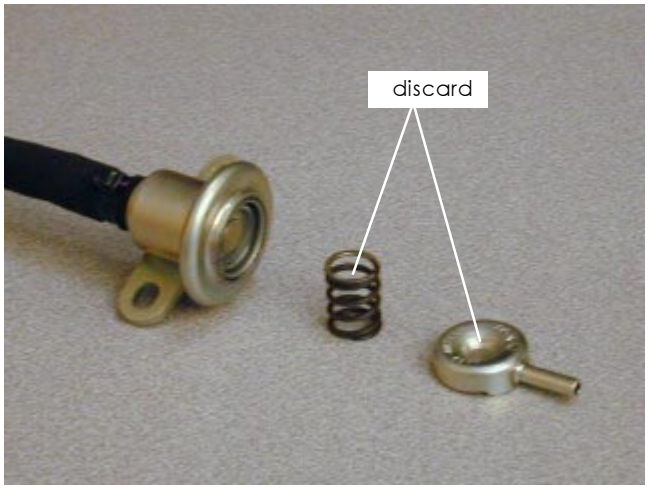

photo one

photo two