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Saito 450 R CH Ignition Glow CDI & Gasoline Conversions Kit Install Instructions

By converting your engine you may void the manufacture warranty and cause possible mechanical failures. If you choose to make the conversion you do so at your own risk and assume all liability. CH Ignition will not be liable for any mechanical failures or voided warranty.

CH Ignition systems are assembled in the USA with US and worldwide manufactured components to bring you the best quality and value.

Now that we have gotten the legal stuff out of the way, let's have some FUN!

<u>Glow to CDI Ignition</u>: Your engine should run more reliably with lower, more stable idle. RPMs may increase in many cases top end RPM will increase requiring a larger prop to stay within the manufacturer recommended RPM range. This will depend on altitude and temp where you fly. You can expect to see an increase of fuel economy of up to 25%.

Gasoline Conversion: Your engine will run hotter. Proper cooling and airflow inside the cowling must be maintained. The ratio of 3 to 5 times exit area to intake area is usually considered acceptable for proper engine cooling. Again this will depend on engine installation, altitude and the temp where you fly. You can expect a reduction in engine power to be between 10 and 15 percent, "500 to 1000 RPM drop". I suggest high quality synthetic oil with a mixture of 20 to 1. (A mixture of 6.5 oz. per gallon or 50 ml per liter.)You can expect improved fuel economy; in some ground tests fuel consumption was close to 10 ml or 1 oz. per fuel per min. Carburetors are shipped as received from the manufacturer. In some instances you may need to start using the following mixture settings. 1 ¼ turns out for the low speed needle. 1 ½ turns out on the high speed needle.



Saito R450 Cylinder Number



Match the CDI Leads with the numbers you see on to the picture.



CH GASOLINE CDI KIT Installed





CH GLOW & GASOLINE CONVERSION KITS DESCRIPTION

GLOW & GASOLINE COMMON PARTS:

- 1. CH CDI Ignition ,1/4-32 sparkplug cap 120 degree.
- 2. Sensor Holder with mounted sensor.
- 3. Magnet ring 2 x 3mm set screws, use 1.5mm hex wrench.
- 4. Cap screw bolts; 2 x 12mm to fasten the sensor holder on the front cover.
- 5. Spark plug (1/4-32 to replace the original Glow Plug, direct replacement) GASOLINE PARTS :
- 6. Pumped Gasoline carburetor assembly.



The next 5 steps are common for both glow conversion and conversion to gasoline. "Please refer to the following photographs for part description and location"

- 1 Install sensor holder
 - a. Remove the two front cam cover cap screws





- 2. Install Magnet Ring , This ring has 4 magnets. Black Magnet = Cylinder #1
 - a. Slip the ring over the prop drive , make sure you loosen off the 2 x 3mm set screws by using the 1.5mm hex wrench





3. TIME THE ENGINE 30 BTDC

Using the supplied degree wheel, follow the timing instructions that came with your kit. Remove the glow plug. We suggest you use a piston stop for accurate timing. Turn the ring around the prop drive and adjust the spark to 30 degrees BTDC (Before Top Dead Center). Spark should occur just as the BLACK magnet first meet with the sensor. Then tighten the set screws, and do not use excessive force. After you are sure the timing is set at 30 degrees you can use some thin super glue on the edge of the timing ring and prop drive. Take one set screw out at a time and apply thread lock to each screw and reinstall.



Black Magnet = CYL #1

This Edge of the Black Magnet to be timed @30 BTDC Check first that magnet and sensor duty is at list 13 degrees ... IMPORTANT ! When magnet passes under the sensor from one edge to the other edge to be at list 13 Degrees. If less, give a little tap and close the gap between sensor and magnet ring.



4. Install ¼-32 spark plug

a. In step 3 you removed the glow plug and set the engine timing to 30 degrees BTDC.
b. Install the spark plug. You can use the supplied plug or a Rimfire or NGK-M8 plug. Your kit is supplied with a standard Rcxel plug. The Front Glow Plug <u>MUST BE A BURNED PLUG</u> <u>AND NO FILAMENT INSIDE !!!</u>





5. CH CDI Installation...Now it is time to enjoy your new CH CDI Conversion and go fly.

CH CDI installation If you got to this point and your installation looks like the picture below, congratulations your engine is almost ready to run.

a. Install the ignition lead by pushing down firmly and twisting slightly. You will fell the lead lock into place.
b. Mount the CDI unit with some foam rubber to dampen the vibration transferred from your air frame. Check the battery and voltage marked on you CDI unit. Install the proper battery.



This is a Saito R 170 GLOW CDI, Also Available for 200R. Did not have a R450 Glow CDI Picture



These last steps are for converting you engine to gasoline.





6. Install Intake /Carburetor Assembly to the engine.

First remove your GLOW carburetor.

Shorten <u>the fuel inlet</u> as need, screw the carb assembly in the same place where Glow carb was mounted. Check your desired position and if that will be the best position for your set-up. Recommended is that the metering is on top ...but you can try a different position as well. Mount the supplied Throttle Levers. If you found the positions and all will be as you want, then now is the time to LOCK everything in place. Clean good the parts, engine threaded flange where Glow carb was mounted.







6. Install Intake /Carburetor Assembly to the engine.

Use a good Permanent LOCK THREAD or JB Weld, Apply it on the Threaded tube and screw it in to the carb flange first. Then screw the whole assembly in to the motor flange. Make it as tight as possible and let it to set in to the same position you have it fitted before for the amount of time that your bonding agent require full strenght.





Reference Pictures





Reference Pictures



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