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Saito 120/150/180 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.

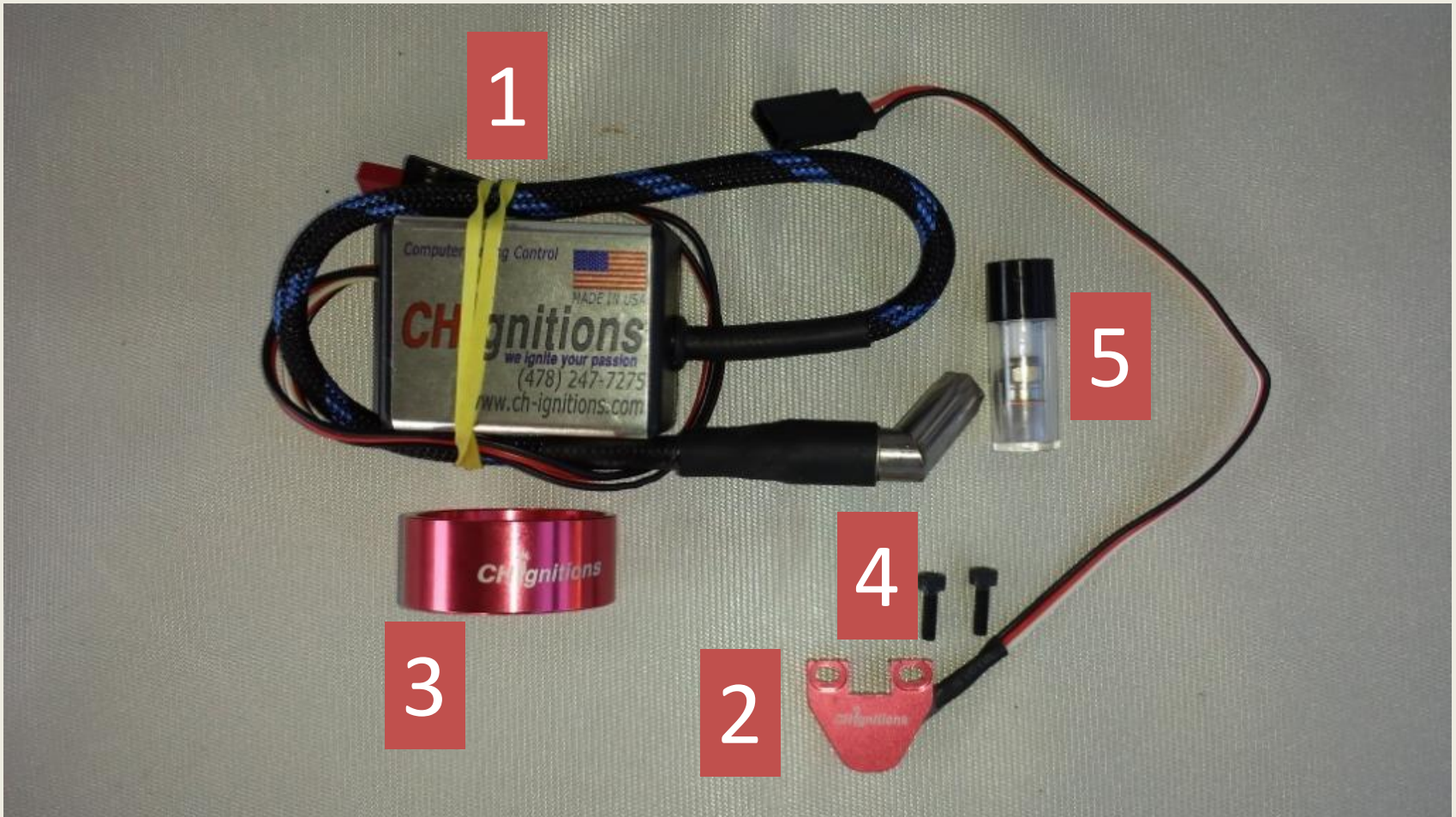
CH Ignition systems are assembled in the USA with US and worldwide manufactured components to bring you the best quality and value.

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

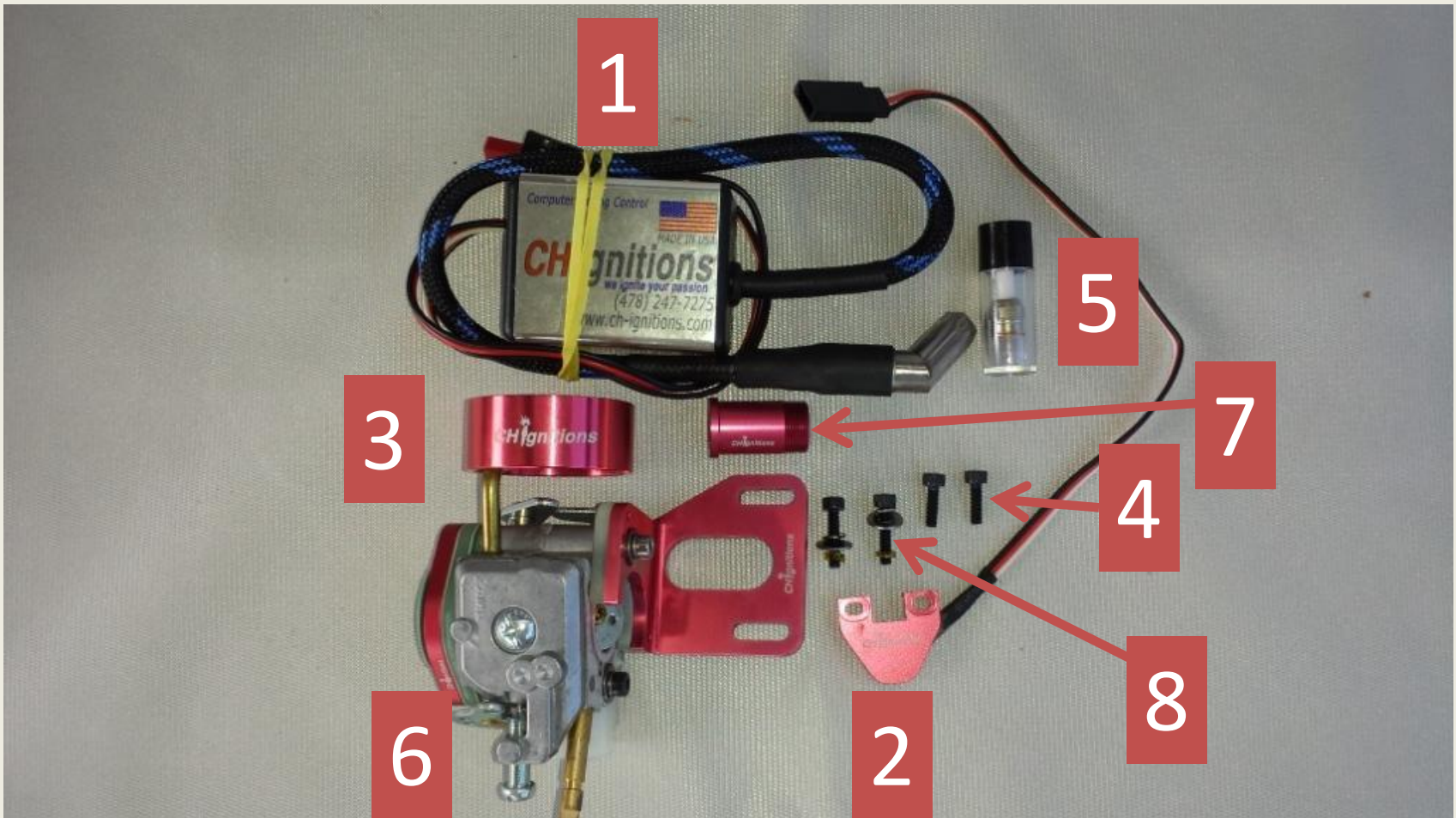
Glow to CDI Ignition: Your engine should run more reliably with lower, more stable idle. RPMs may increase in many cases top end RPM will increase requiring a larger prop to stay within the manufacturer recommended RPM range. This will depend on altitude and temp where you fly. You can expect to see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

CH GLOW CDI KIT



CH GASOLINE CDI KIT



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 10mm 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.
7. Intake manifold tube replacement.
- 8 Cap screw bolts; 2 x 14mm to replace the bottom engine back cover.

Step By Step Installation

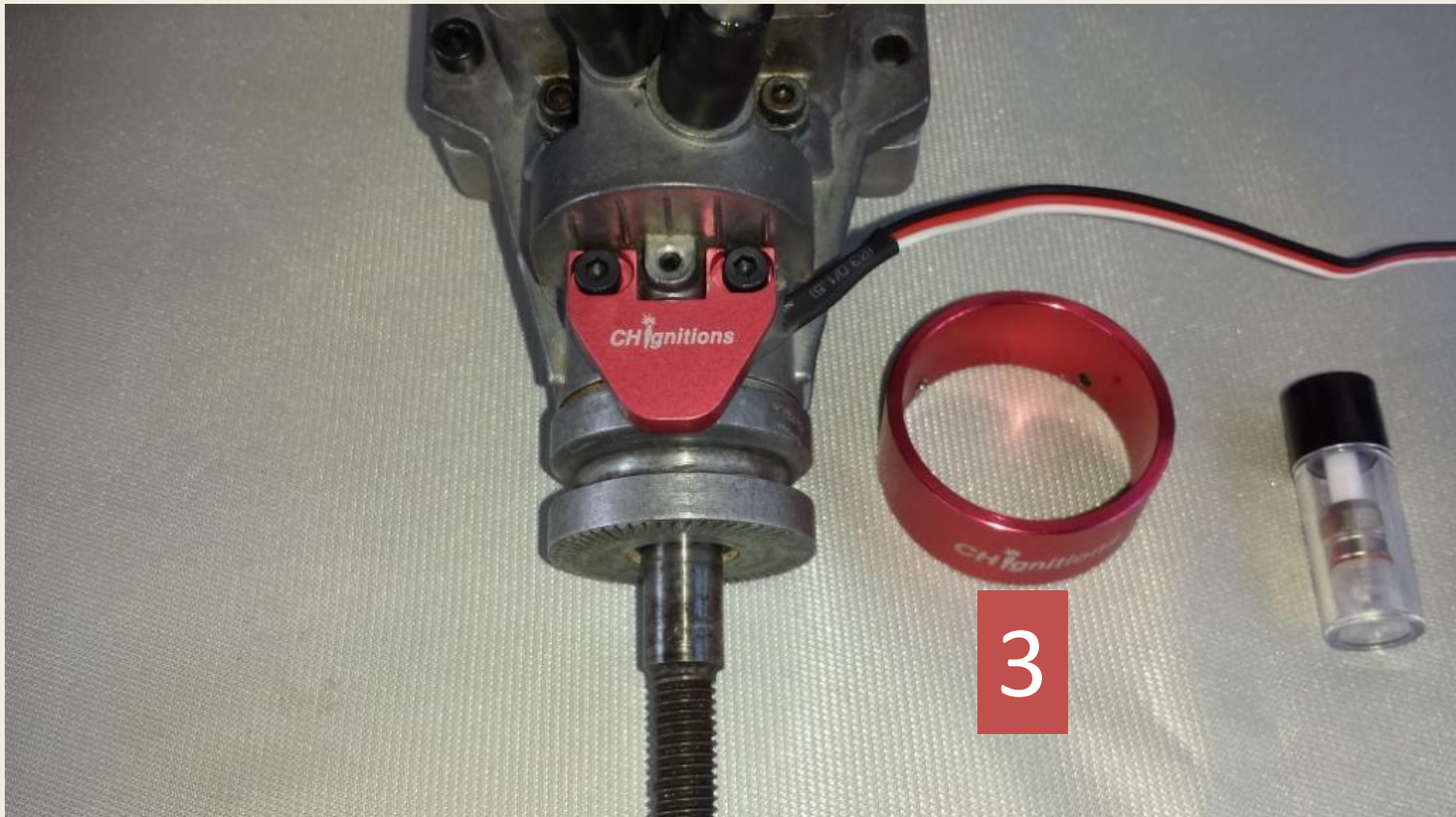
The next 5 steps are common for both glow conversion and conversion to gasoline.
“Please refer to the following photographs for part description and location”

- 1 Install part numbers 2 & 4 - sensor holder
 - a. Remove the two front cam cover cap screws



Step By Step Installation

1. Install part numbers 2 & 4 - sensor holder
 - b. Install the sensor using the two 2 mm x 10 mm cap bolts



Step By Step Installation

2. Install part number 3 - magnetic ring

- 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



Step By Step Installation

3. TIME THE ENGINE 30 BTDC

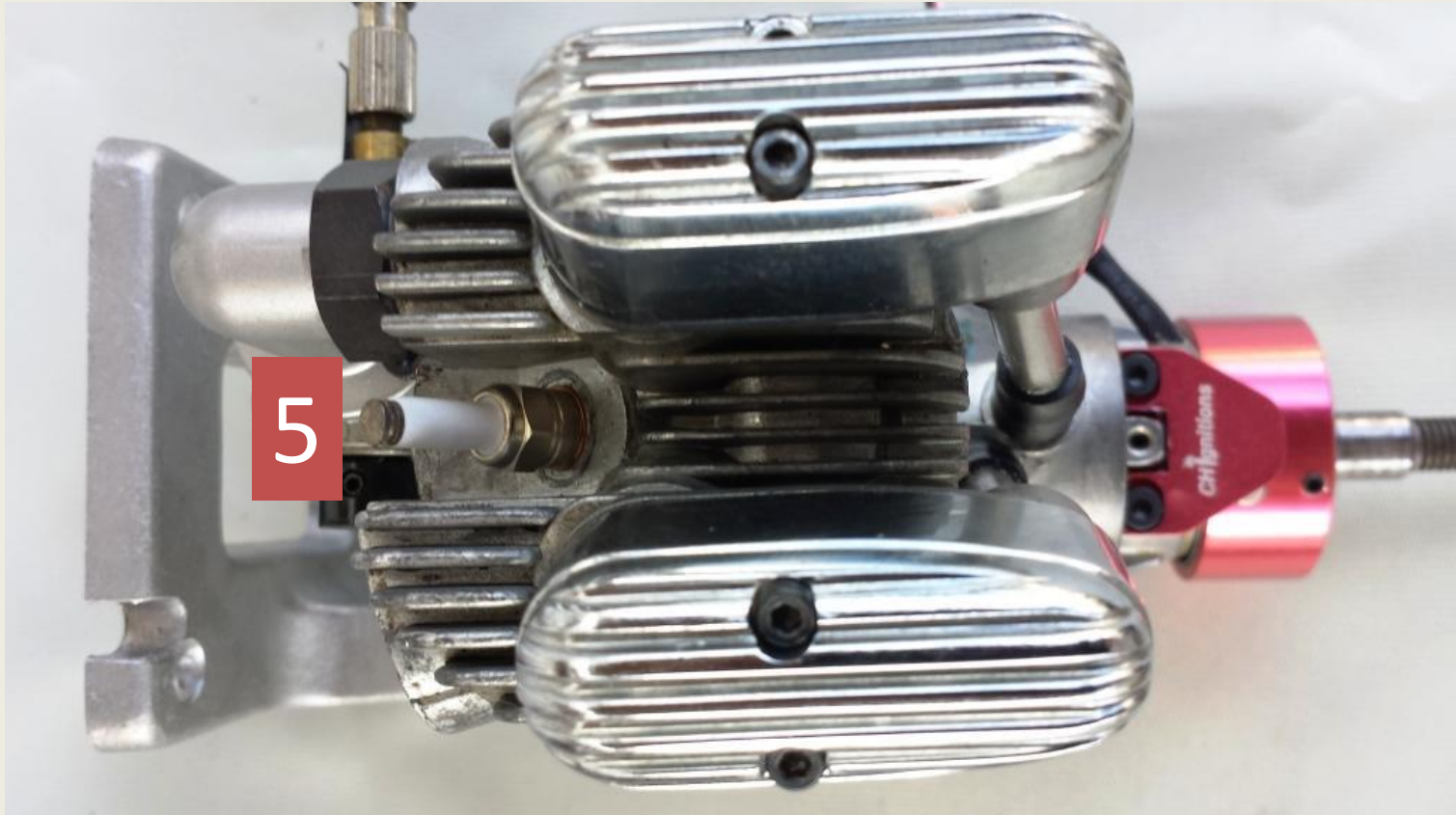
Using the supplied degree wheel, follow the timing instructions that came with your kit. Remove the glow plug. We suggest you use a piston stop for accurate timing. Turn the ring around the prop drive and adjust the spark to 30 degrees BTDC (Before Top Dead Center). Spark should occur just as the magnet passes 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.



Step By Step Installation

4. Install item number 5 ¼-32 spark plug

- In step 3 you removed the glow plug and set the engine timing to 30 degrees BTDC.
- 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.

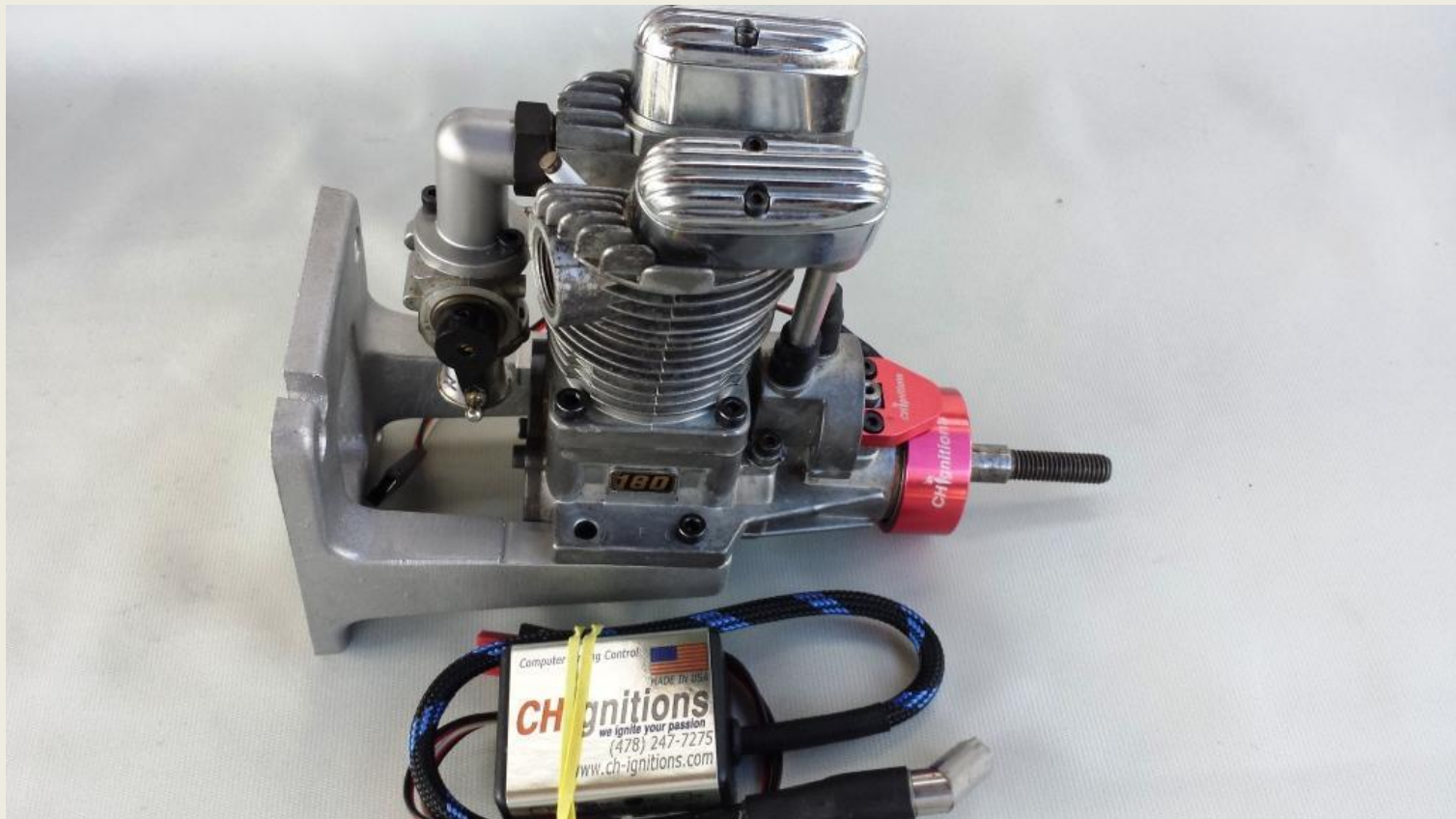


Step By Step Installation

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

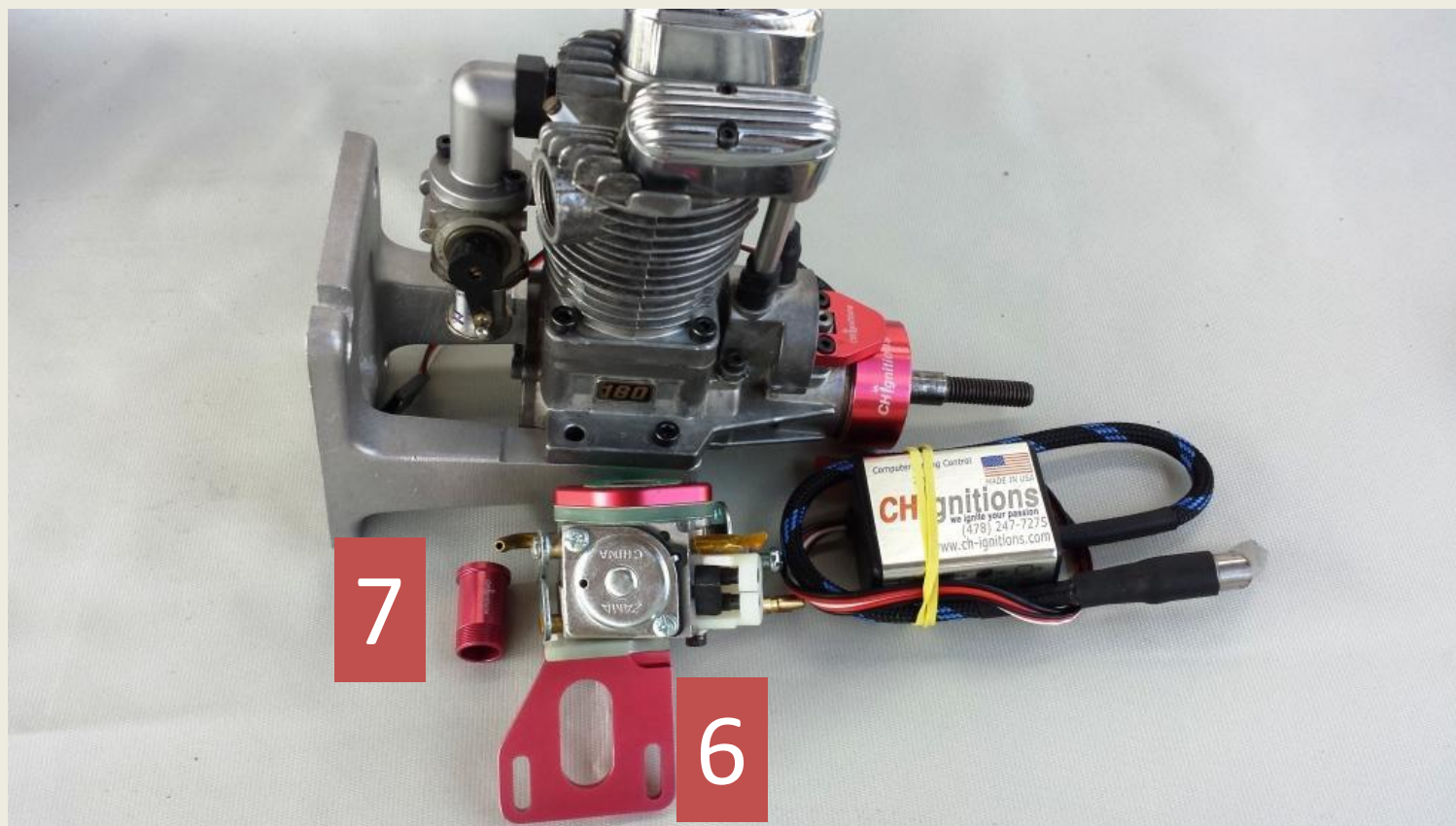
CH CDI installation If you got to this point and your installation looks like the picture below, congratulations your engine is almost ready to run.

- a. Install the ignition lead by pushing down firmly and twisting slightly. You will feel 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.



Step By Step Installation

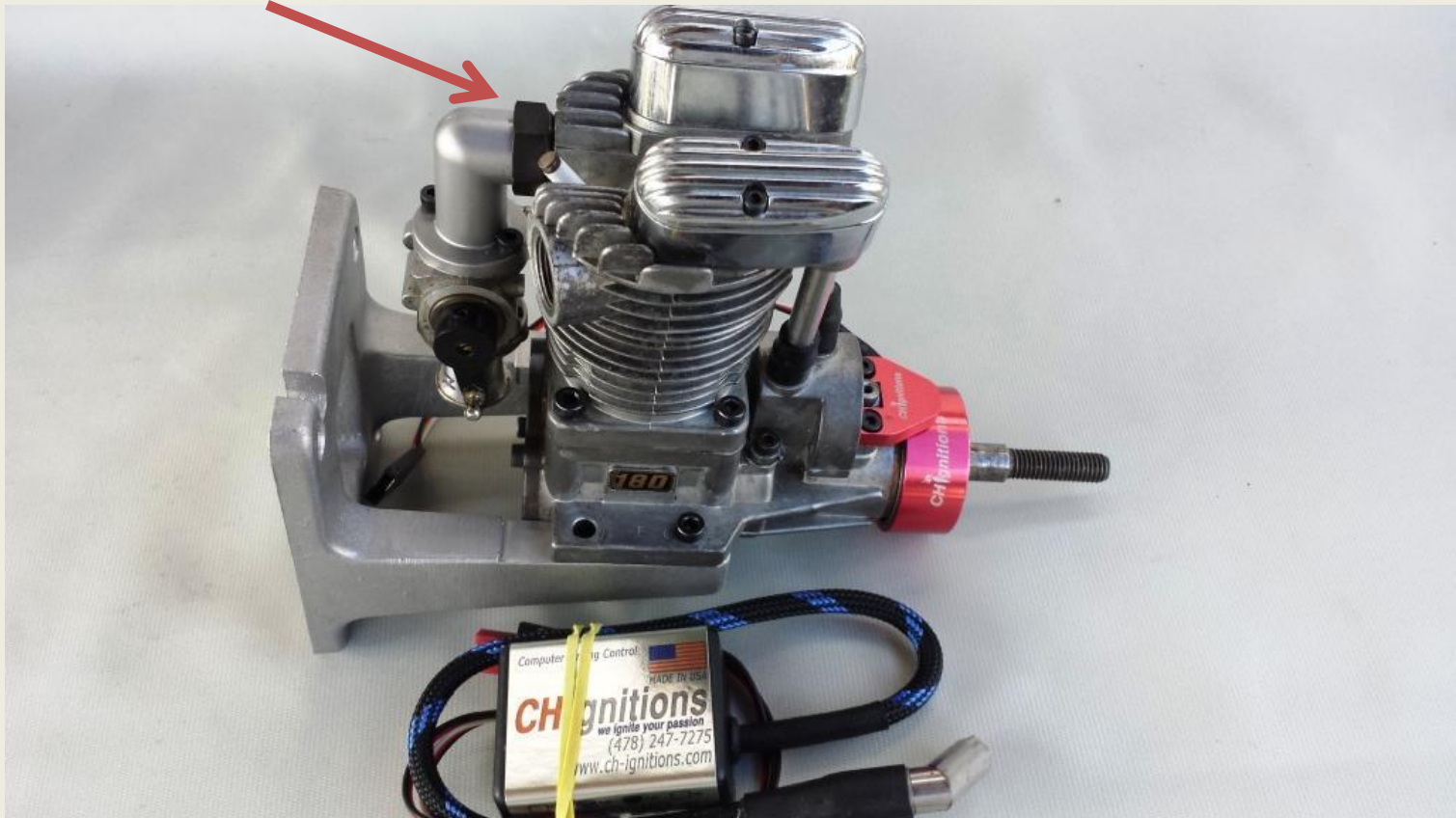
These last steps are for converting you engine to gasoline. You will be able to use the Saito aluminum mount as shown in the picture below. It is recommended that if you are using other than a Saito mount that you do use an aluminum mount, it helps aide in cooling by drawing heat away from the engine. Next you will be installing parts #6&7.



Step By Step Installation

6. Remove Intake Manifold

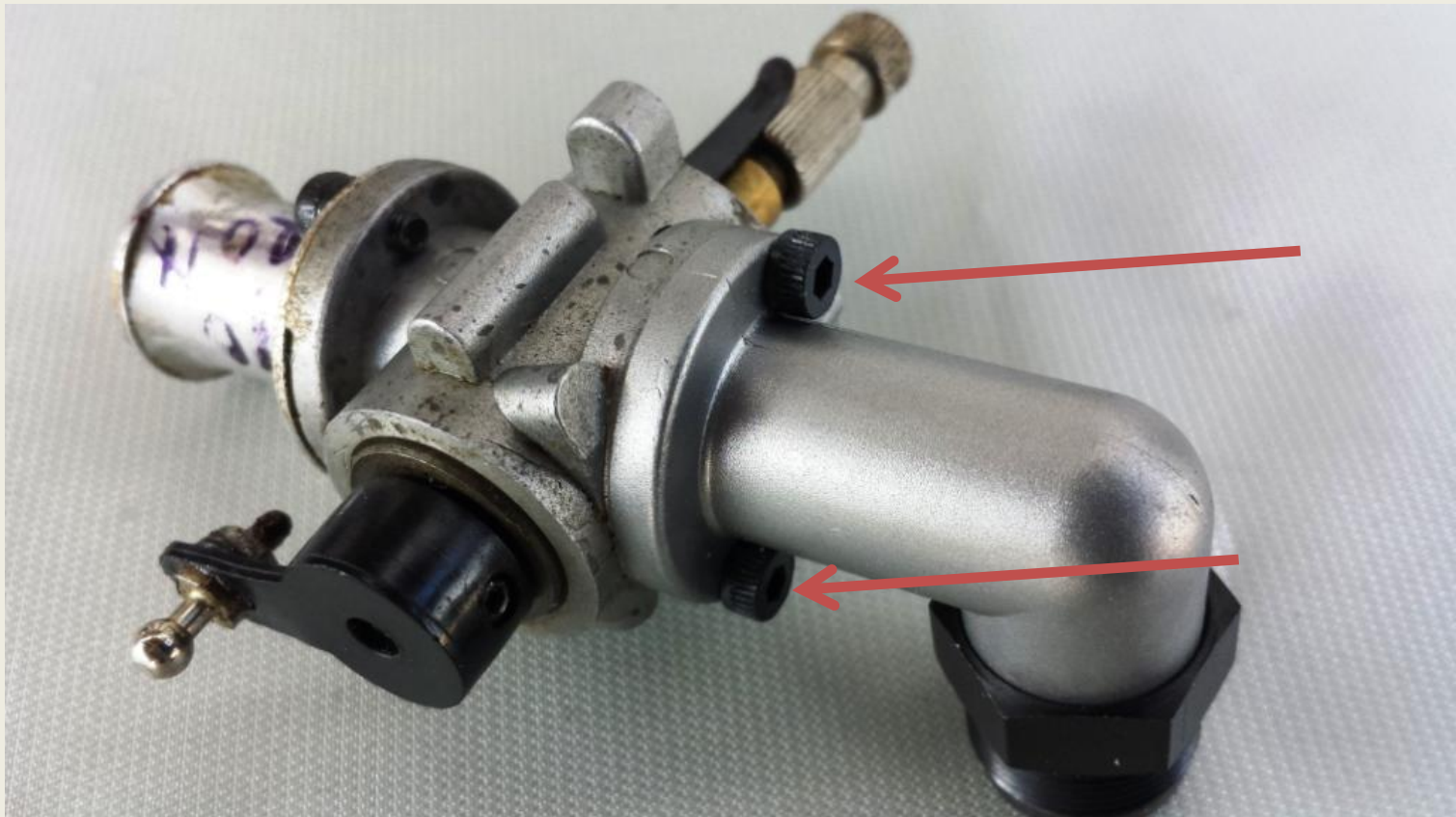
Use a 17mm wrench or a good adjustable for removing the nut from the cylinder head. If you use pliers you might distort the nut and damage the threads. (Don't chance it.) You will also need a quality set of metric hex wrenches. The wrenches that came with your engine will work fine.



Step By Step Installation

7. Remove Original GLOW Carburetor

Remove the original glow fuel carburetor from the intake pipe by removing the two cap screws using a 2.5 mm wrench. Retain the cap screws for later use. (step 11)



Step By Step Installation

8. Remove Original Intake Tube

- Gently apply heat to the area marked with the arrow using a heat gun or small touch.
- Using a good pair of gloves and a some pliers carefully unscrew the tube without damaging the threads on the nut. You may want to use some sand paper around the tube to allow removal without damaging it. You may want to retain it.

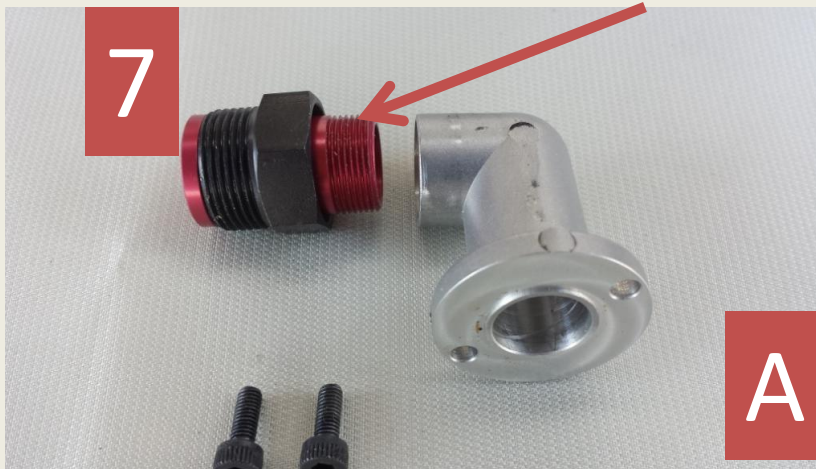
Attention these parts are made of an aluminum alloy and can be damaged by temps above 600 to 650 c. Apply just enough heat to break the thread lock seal.



Step By Step Installation

9. Install CH Intake Tube

Insert the tube through the nut as you see in picture A. Apply thread lock on the threads of the replacement tube (See Below) and screw it into the air intake tube. When finished your assembly should look like picture B.

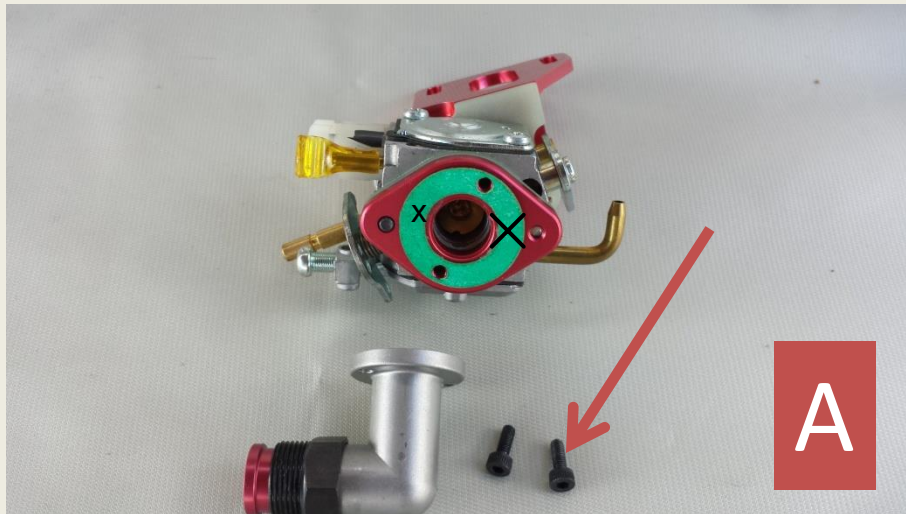


Step By Step Installation

10. Install Intake assembly to the Item # 6, Carburetor Assembly

Install the gas carburetor on to the intake assembly using the cap screws you saved from step 7. Put some thread lock on these screws before assembly. Be careful not to damage the gasket between the carburetor and intake assembly. Damaging this gasket will cause erratic running. When you are finished your assembly should look like picture B.

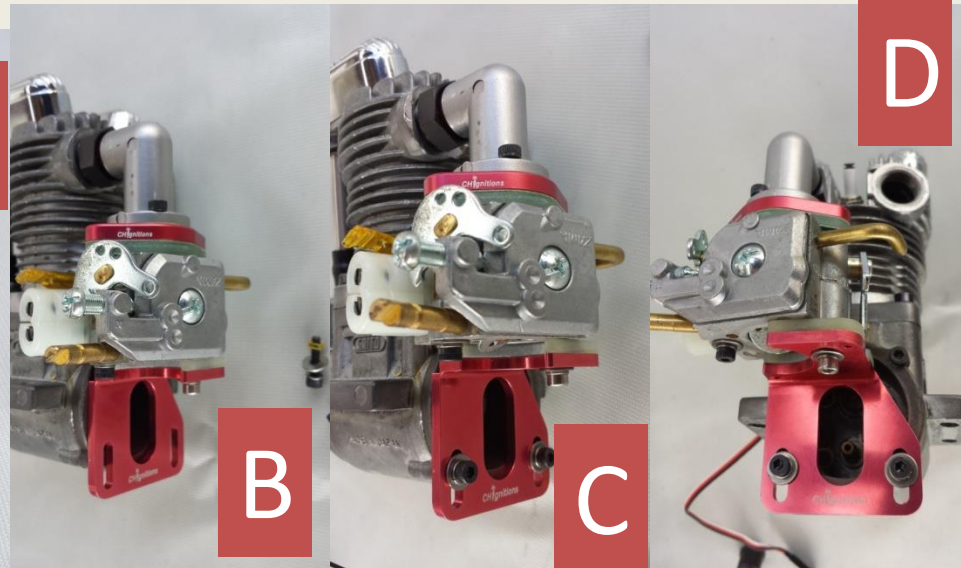
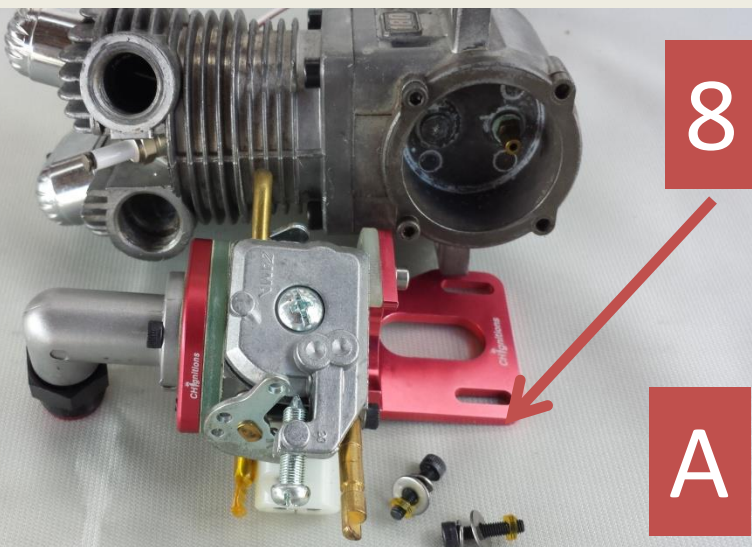
Due to many gaskets damaged into the installation process...this is no longer supplied. Customers suggested to use RTV or Lock tight to seal it. Both options will work.



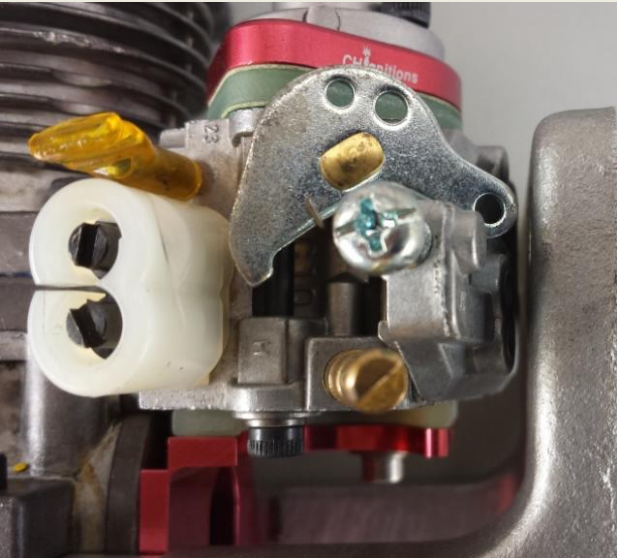
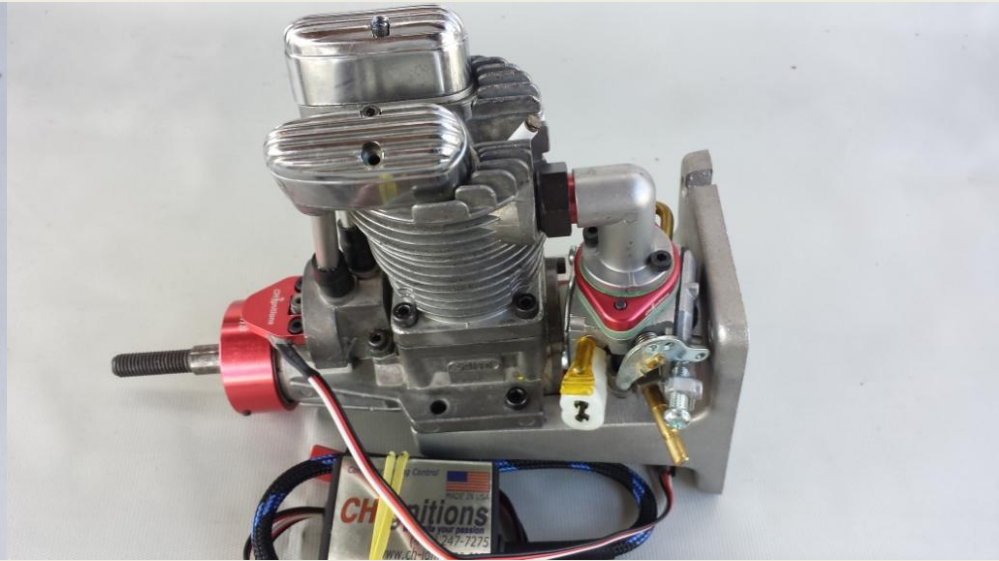
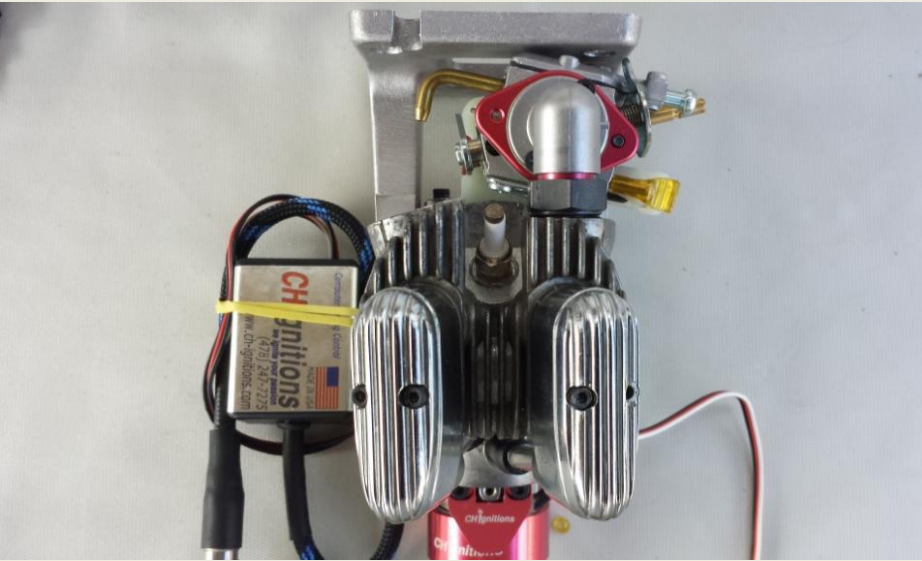
Step By Step Installation

11. Install Intake /Carburetor Assembly to the engine

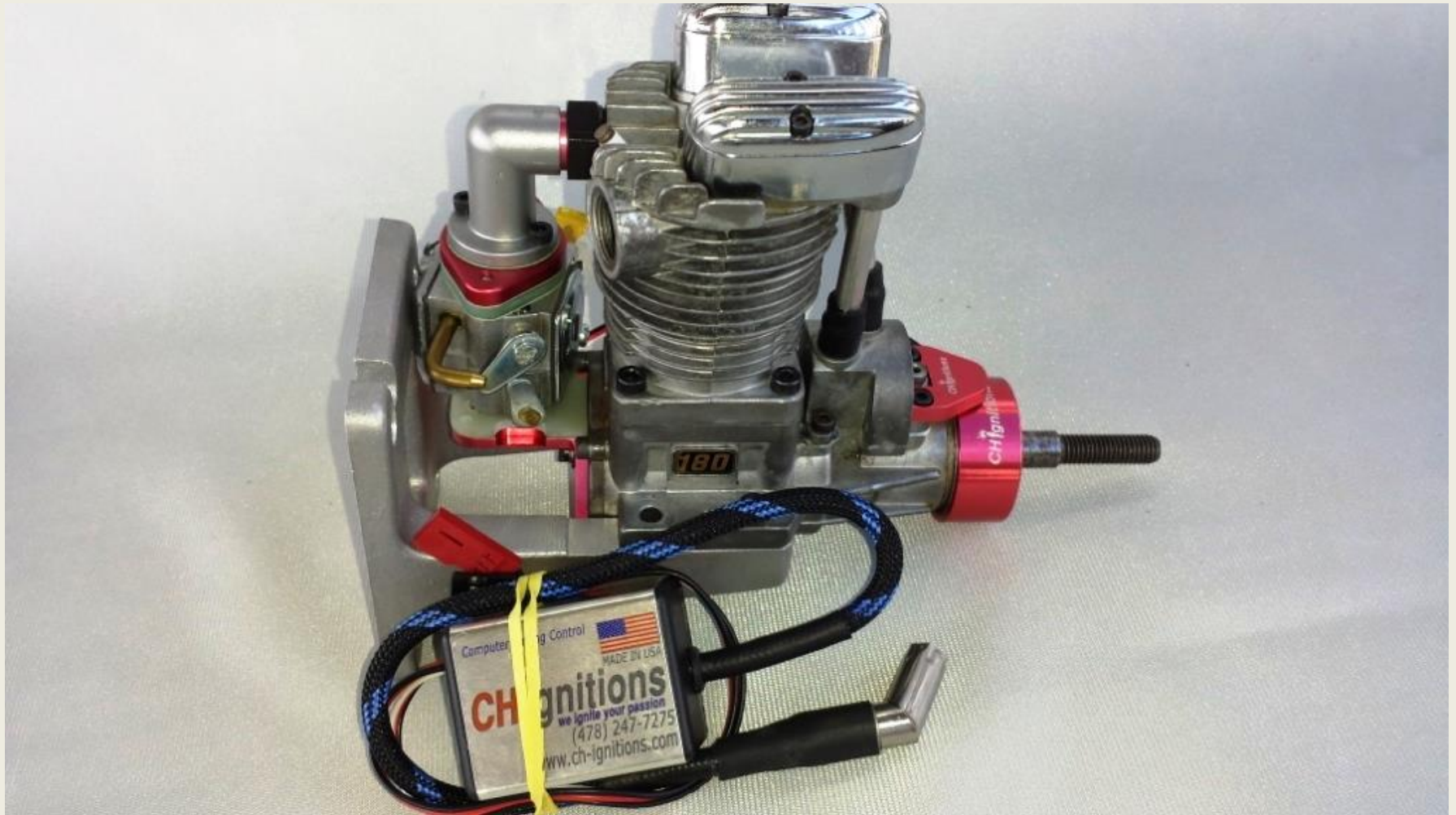
Screw easy the nut in to the cylinder head but do not tighten, let some movement. PIC B
Use the 2 bolts item #8 (3x14mm) See picture A. And use them like in the picture C & D
Apply some Lock Thread on the threads and then tighten down ,ONLY after you adjusted the position of the carburetor to fit on to the original mount or...your custom that come with your airframe. Check All the other pages that will show you the complete assembly.



Reference Pictures



Reference Pictures



All conversion hardware is designed by CH Ignitions and Property of CH Ignition, Duplication of any parts and/or unauthorized use granted by Adrian and/or Camelia @ CH Ignition will be subject to the court of justice.