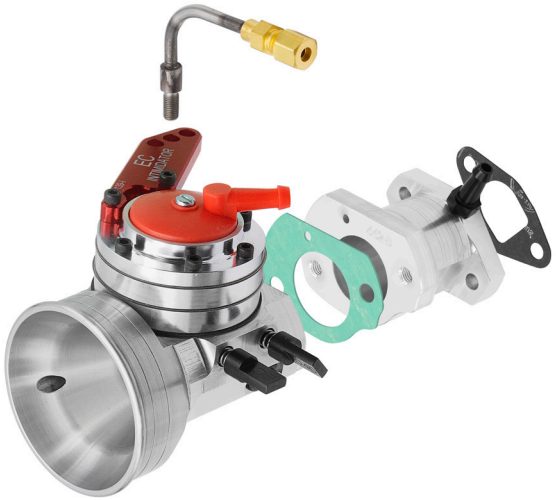
XINTIMIDATOR

Model	Engine	Class
XR-28-1	GX200/Predator	Open

Pop-Off	Fulcrum Height	Fuel
8.5-10lbs	.065"	Methanol

High Side Needle	Low Side Needle
1 Turn	2.5 Turns



Installation

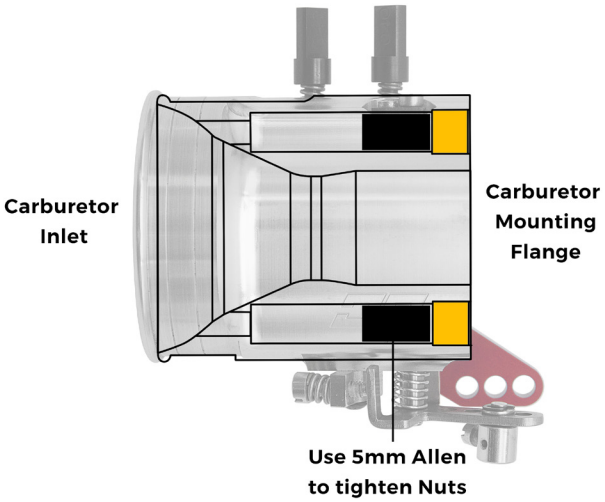
Intake Manifold: Use only EC Built intake manifolds or adaptors. Our intakes are designed with tapered solid pulse ports. This allows a better signal to the carburetor's pulse hole which controls the pump inside the carburetor. Do not use manifolds that are only notched for the pulse port. They do not provide good signal nor do that match the carburetor gasket. Your engine will often have a specific manifold that is designed to bolt to your cylinder head with minimal change in port size and angle.

Carburetor Gasket: Make sure you are using the correct carburetor gasket that matches the bore of the carburetor and the intake manifold. When installing the gasket make sure the 1/8" pulse hole is clear and it matches the hole on the intake and carburetor. If the hole is not open or partially closing off the pulse port then the carburetor's pump will not function properly causing erratic tuning problems.

Carburetor Mounting: Slide the carburetor over the studs. The mounting nuts are located inside the carburetor. Using a 5mm allen through the inlet of the carburetor tighten the nuts on the studs on the intake manifold.

Air filter: Attach our recommended air filter on to your carburetor. Always use an air filter cleaner. This filter has more than enough capacity not to restrict airflow. There is no gain by not running an air filter. That would only damage your expensive carburetor and engine.

Linkage: When running your throttle cable make sure you have a throttle pedal stop that will prevent the throttle from over pulling resulting in damaging the throttle shaft and or butterfly and carburetor body. Check our website for throttle cable installation guides.



Fuel Systems and Related Service Information

Fuel Tanks: Make sure your fuel tank is properly vented. Vented fuel caps may not vent well enough becoming clogged or covered causing a restriction to fuel flow to the carburetor simulating a carburetor tuning problem. Poor venting causes a vacuum in the fuel tank the fuel pump can't overcome causing the carburetor to go lean. The engine will usually not turn rpm and goes flat like it's on a soft rev limiter.

Fuel Pump: Only use our recommended fuel pumps. 4-cycle pumps differ from 2-cycle pumps and many knock-offs do not flow enough fuel for racing applications especially running methanol.

Fuel Filter: To keep the trash out of your fuel pump and more importantly your carburetor, we recommend that you use a Walbro In-line fuel filter(Part# 125-512). As it ages the fuel flow through it will be restricted. Inspect and replace regularly as needed.

Fuel Line: We recommend methanol or a chemical resistant fuel line. Just like the fuel filter over time your line will wear out so replace when needed. Check for kinks in the fuel line to make sure fuel flow is not restricted.

Tuning Instructions

For a better racing experience with your new carburetor please study these instructions thoroughly.

Idling: DO NOT MOVE THE IDLE SCREW IN SO THE CARBURETOR WILL IDLE. Only turn the idle speed screw in just enough to cushion the shutter from hitting hard against the throttle bore. If you set the carburetor where it will idle, the carburetor could have a bad flat spot when it comes off the turn. This makes tuning very difficult and ultimately ineffective. In your class of racing its difficult to find an advantage if you idle your carburetor. Do not idle! Keep it running with your foot.

Starting Position: Refer to these tuning sheets enclosed with your carburetor for on-track performance. Set the needle 1 turn(s) out on the high side and 2-1/2 turns out on the low side for a starting position. Again be sure that the carburetor idle screw is set where it just cushions the throttle plate when it closes but not open enough so that the engine can idle. Start the engine and pull onto the track. Give the engine a couple of easy laps to warm up. Be sure in these warm-up laps that you are running the engine in a spot where it is running clean.

4-Cycle Carburetor Tuning: Using our starting positions you should only need to tune the high side needle but we will go through the process of tuning both needles for your education.

First: Now with the engine under full throttle it should run clean all the way to the end of the longest straightaway. If the engine shuts off then comes back on by itself before you get to the end of the longest straightaway, this is more than likely due to the fact the carburetor is set too rich on the high side needle. The cure here is to take the high side needle in 1/8 turn increments (leans out) until the engine pulls clean the full length of the straightaway.

Second: Now bring your engine down to parade lap speed. Accelerate hard as you would for the starting line break. If you have a flat spot or a bogging condition this could be due to the carburetor being lean on the low side needle. Come out 1/8 of a turn on the low side needle and try again. Keeping coming out on the low side needle until the engine pulls hard with no bog or flat spot. Now try the same test coming off the turn. You should be satisfied once the acceleration pulls hard and clean. We have the low side started at 2.5 turns out you not need to turn this needle in any more than a 1/8 or if you are tuning the low side by riching the fuel mixture do not go further than 3 turns out, the needle could back out and fall out of the carburetor. You will need to contact us to diagnose a problem or have the low side circuit recalibrated.

Third: Once you have this basic setup you repeat the first and second steps to fine-tune even further. As you lean in the high side needle for the best top-end power you are also leaning out the bottom a touch. So to assure yourself of good cornering speed and no flat spots of the bottom you need to go back now and check this under a pull once more. As you can see, the tuning of a Tillotson/EC Carburetor on a 4/Cycle engine is a fine balance between the high and low side needle adjustments plus the pop-off pressure of the carburetor.

Maintenance

The following information is to help you in your racing efforts by educating you more in the workings of your carburetor and how to service it to keep it peak performance. Many pain-staking hours have gone into this unit to increase air and fuel flow. Race service to your carburetor is straightforward and can easily be done by you.

Flushing your Carburetors: All engines… Methanol fuel is a very high corrosive type of fuel and should never be left in alloy fuel tanks or the carburetor when the day or night of racing is over. Be sure to flush the tank, fuel pump, and carburetor with gas. For a gas flush, we like a mixture of 16oz Marvel Mystery Oil and 1-gallon non-ethanol gas. You do this by draining the methanol out of your tank and replacing it with your flushing gas mixture(Note: Flushing an alloy tank our with gas could get you DQ'd with a water test.) As far as fuel tanks go, a plastic fuel tank if our choice for methanol fuel. If you have a plastic tank or fuel cell then just pull the fuel line off the fuel inlet fitting and have a can of your flushing gas mixture with a piece of fuel line and attach it to the fuel inlet of the fuel pump. Next, start the engine and let it run long enough to use at least 3-6 oz of your flushing gas mixture or until the engine starts to stumble. Now, the carburetor and fuel pump have the methanol flush out of it.

Fuel Inlet Cap: Look for cracks and wear. Take care of it because it can't stand to take a lot of abuse.

Main Metering Diaphragm (Black): This needs to be replaced after every three to five races. You know when the main the diaphragm is deteriorating if the throttle response on your carb gets lazy beyond tuning.

Fuel Pump Diaphragm: Located above the demand diaphragm. For peak, the clean and crisp performance of your carburetor this diaphragm/skin should be replaced every race day.

Fuel Strainer Screen: Remove and clean after each race to assure ample fuel flow.

Fuel Strainer Cover Gasket: Replace when showing signs of shrinkage.

Inlet Needle: Replace every 5 to 6 races when you can't hold pop-off pressure

Pop-Off Pressure: The pop-off pressure of your Tillotson Carburetor is a very critical tuning factor and will have a direct bearing on the pressure level of the carburetor. Here at the shop, we have set the pop-off pressure where we feel it will be very close to your track needs.

Here are some helpful hints on pop-off pressure changes. The higher the altitude racetracks have less usable air to burn so in turn the pop-off pressure needs to be set higher to cut down on the amount of fuel for the carburetor to mix with the usable air. The lower altitude racetracks and good heavy air will let you run lower pop-off pressure. To raise the pop-off pressure from where we have set it, add shims. To lower the pop-off pressure, remove shims from under the pop-off spring or change the spring. For the spring chart and other information go to our website: eccarburetors.com.

Under no circumstances stretch a pop-off spring or cut one off enough where it has one leg standing down. If for some reason you can't get the carburetor to pop-off and hold, this is a sign that the needle seat or inlet needle has foreign material/trash on it. To solve this try replacing the inlet needle and clean the inside of the seat with WD40 and a Q-tip. If this does not resolve the problem you may need to send in your carburetor to us for a service.
Carburetors are like any mechanical device. The user needs to have an understanding of the unit and the proper tools to maintain and service it to ensure maximum performance levels. In the Tillotson Service Kit you will find the following tools and what they do (also have Walbro and Mikuni)

Pop-off Pressure Gauge: This is a must-have tool for the Tillotson Carburetor owner. With this tool, you can check the inlet pressure of the needle and seat assembly and leak down the amount for proper performance. This tool is also used to adjust the pop-off pressure of the inlet needle for the proper amount of fuel to the wet side of the carburetor. (POPG1 15PSI) (POPG2 30PSI)

Fulcrum Arm Gauge: With this tool, you can adjust the proper arm height of the fulcrum arm for the amount of fuel delivery needed.

Needle and Seat Socket: This is a specially machined socket to remove the needle and seat for cleaning.

Diaphragm and Rebuild Kits: This Carburetor uses a P6-MDG as a gasket kit and a P8-MRK as a rebuild kit. The rebuild kits come with a seat and seat gasket, we do not advise using these parts on your rebuild unless in the extremely rare circumstance the seat gasket is leaking (We highly recommend you send your carburetor in for us to fix it at that point). Replacing the seat can strip the threads and ruin your carburetor if not handled properly. Flange Gaskets are sold separately.

Our techs are here to help you get the most from our carburetors but we are no way responsible for any damage to your carburetor once it leaves our workbench. There are no warranties or returns on any carburetors or parts.