



TAYLOR RC

80 Supreme Operating
Instructions

TAYLOR 80 Supreme Engine USER MANUAL AND IMPORTANT INFO

Congratulations, and thank you for purchasing your new TAYLOR engine.

This is a high-performance, two-stroke engine which produces multiple times the power of a standard large-scale, RC car/buggy engine. Please be prepared for the insane increase from your RC! Drive with care while you are getting used to this.

We strongly recommend fitting a **remote kill switch** to your engine, as should be the practice with all large-scale cars. All normal 1/5-scale kill switches work properly with this engine; it is also supplied with a standard kill button.

Important Safety Note:

Because of the performance potential of this engine in a vehicle, such as the HPI Baja, it is necessary to operate the vehicle in a suitable, controlled environment. It should not be operated in a public space where people are engaged in other activities, such as a public park. Do not operate in an area where there are children playing, near pets or other animals. Do not operate on a public highway.

Loss of control of such a vehicle could result in serious injury to another person, family pet, or other animal.

Be aware that the engine silencing is minimal, so do not run the engine in an area where this could cause a nuisance. You and those around you should always use ear protection during operation.

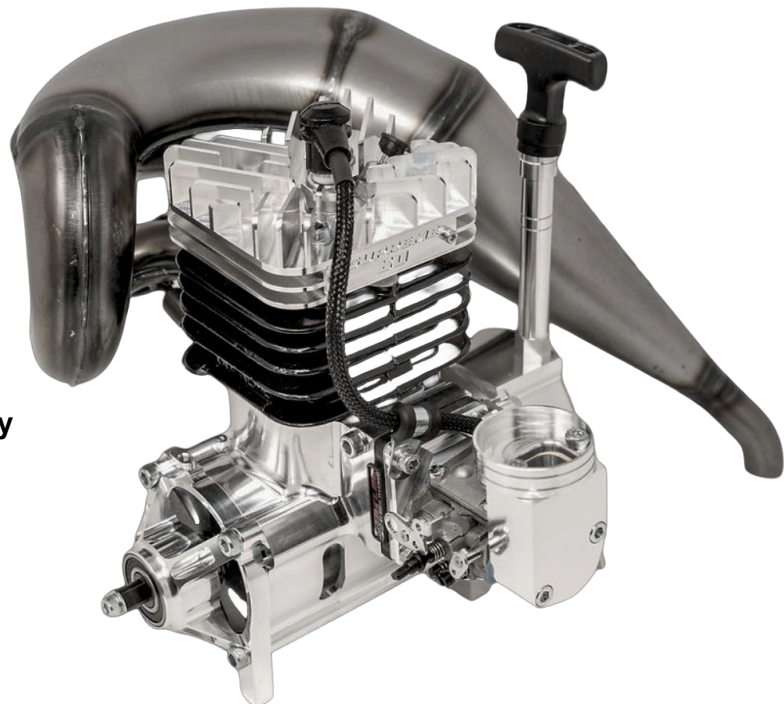
Please note: All of the manufacturer's safety instructions for the operation of the vehicle in which the engine is fitted must be followed.

Fuel Safety Guidelines

Fuel is highly flammable. Never operate the vehicle near open flames. Do not smoke while handling fuel. Always operate the vehicle in a well-ventilated area. Model car engines produce carbon monoxide fumes.

Hot Engine surfaces

DO NOT at any time when running or within 30 minutes of running touch any metal surfaces on the engine. Only the pull start handle, carburetor, and stop buttons can be considered safe to touch when hot.



Engine Fitment

Installation in Losi 5ive-T

Installation in the Losi is pretty much the same as a standard engine with the exception of the expansion chamber. This is supplied with a bracket to attach to the rear differential housing. It is connected to the engine using an "O" ring sealed joint and a retaining spring. First slide the stub through the retaining plate, this bolts to the cylinder and seals metal to metal. Tighten till plate bows. The 'O' rings fit inside the header of pipe. Then then push the pipe over the exhaust stub (oil helps slide), attach the spring, and bolt to the bracket.

Throttle/Carb/Intake

A Walbro WJ146 Carb is fitted as standard on the TAYLOR 80. This carb has had the stock throttle shaft drilled and a quick release fitting can be fitted for easy adjustment and installation to the throttle servo arm. An intake system is provided with brings the filter inline with the vents on the body.

Gearing

A higher ratio is required for the main drive gears, these are made for us by Blackbone and we keep a full range in stock. See below our recommendations based on engine size for 5T (~190mm tall) tyres (Genesis). A full range of pinion gears and spur gears can be found on our website: **[Pinion Gears](#)** - **[Spur Gears](#)**

Losi 5IVE-T 1.0 gearing:

Taylor 80 Supreme: 30T Pinion with 50T Spur Gear

Losi 5IVE-T 2.0 gearing (Minimum of 84 teeth total)

Taylor 80 Supreme: 32T Pinion with 52T Spur Gear

Drivetrain

Because of the considerable performance difference over a standard engine it is necessary to upgrade the drivetrain with heavy duty parts. We suggest the use of Heavy Duty driveshafts, **[Taylor RC Billet Diff housings](#)**, and **[Taylor 7075 Diff Cups](#)**. For additional chassis prep, consider the Taylor RC **[Billet Losi 5IVE Chassis](#)**. The differentials should be filled with a heavier diff fluid. We would suggest starting with 1M weight oil or thicker in the centre, 500K weight in the rear and 300K in the front. This will allow for good distribution of power from front to rear and give considerable traction.



Installation in Losi 5ive-TG 3.0

Installation of this engine package into the new 3.0 truck is very similar to the 2.0 package. You must trim a small amount of the chassis side guard to clear the exhaust pipe stinger. A key difference is the gearing choice to account for the new tyre size and the new front and rear differential ratios. Total tooth count must equal 88 teeth with this new truck and the Taylor RC Big Bore Engine sets. You will want to purchase a set of **ALX adjustable sliding engine mount inserts** for correct fit.

Throttle/Carb/Intake

The 80 Supreme includes the WJ146 high performance carb paired to the Taylor RC Billet Reed valve .

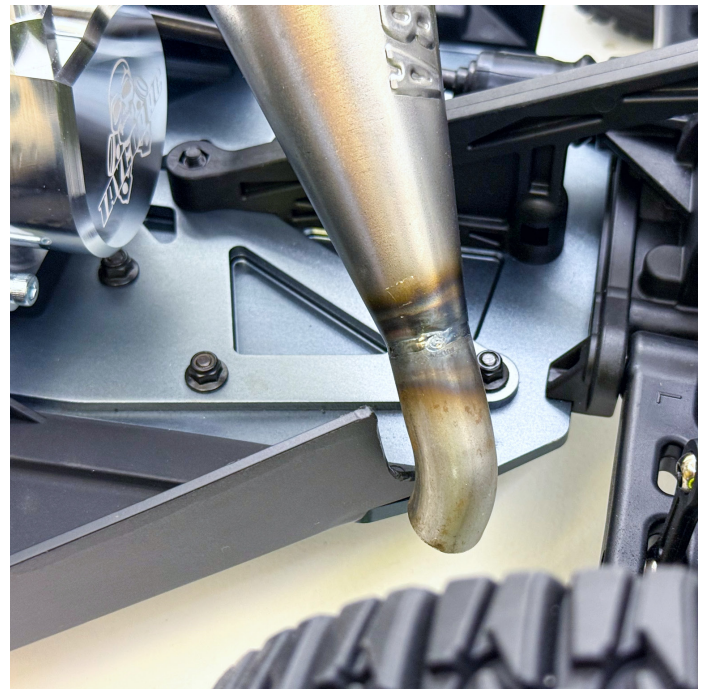
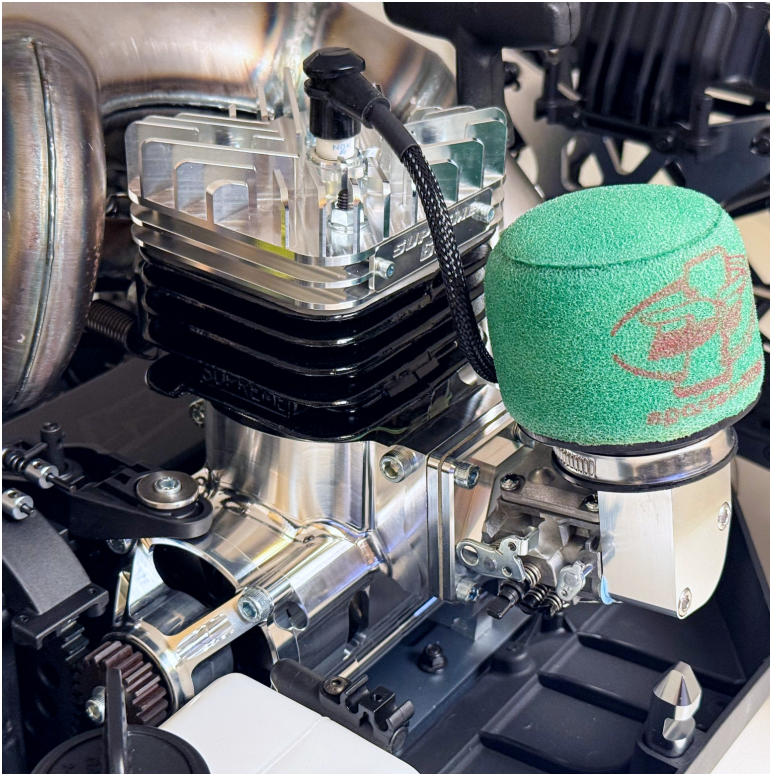
Gearing

A full range of pinion gears and spur gears can be found on our website: **Pinion Gears - Spur Gears**
When using the **original** 3.0 tyres and wheels we suggest the following:

Taylor 80 Supreme: 32T Pinion with 56T Spur Gear

When using the Genesis or similar ~**195mm size tyres** and we suggest the following:

Taylor 80 Supreme: 34T Pinion with 54T Spur Gear



Installation in the HPI Baja

Installation in the vehicle is straightforward. The engine is designed to make use of existing mounting points with the exception of the left side of the chassis. Two brackets are supplied as part of the engine package, which replace the original parts.

An upgraded Detroit RC Linkage is included with full engine packages to give proper adjustment for the larger engine. The TAYLOR exhaust mounts to the engine with an 'O' ring sealed joint and to the chassis via the supplied brackets and rubber support mounts. Thus it is quick and easy to release if you need access to your radio gear, etc.

It is recommended that you fit a Kraken or Team Chase style roll cage to your vehicle to protect the engine and exhaust pipe in the event of a roll over.



Primary drive gear (Baja 5B Sized Tyres)

Taylor 80 Supreme: 27/47 or 28/46 depending on tyre size. For 190+mm tyres start at 26/48 gears.

If you are using larger truck sized tires we suggest using a gear set 1 to 2 teeth smaller. You can find gears for the Baja on our website here: [Baja Gears](#)

Due to the considerable increase in power over the standard engine it is advisable to replace the standard drivetrain parts, such as gears and drive shafts, with heavy duty, upgrade parts. We also suggested a wheelie bar to maintain control. See below list of useful parts

Taylor RC V2 Billet Gearbox: [TAY6020](#)

Blackbone HD Transmission Gear Set: [BBR6026](#)

ALX Godzilla HD Dog bone set: [ALX6020S](#)

Taylor RC 7075 HD Gear Backplate: [TAY6029](#)

Taylor RC Transmission Top Plate: [TAY6006](#)

Taylor Titanium Baja Layshaft: [TAY6025](#)

[Bonehead RC](#) or [Bebop Wheelie Bar](#)

High performance [wheels and tires](#) from Taylor RC, Genesis, BRP or Mad Max.

Installation in the Kraken VEKTA

Installation in the Vekta is pretty much the same as a standard engine with the exception of the tuned exhaust pipe. This is supplied with new brackets to attach to the car securely. It is connected to the engine using a gasket and header piece, then the main pipe attaches via a slip joint and retaining springs. A small length of tubing is supplied to fit to the end of the outlet and ensure no oil residue from the smoke is left inside the car.

Roll cage modification

As shown on the picture below, there are small mods required to the cage and panels which are in the way of the TAYLOR WJ velocity stack. Simply trim the cross bar and circle section from the cage, then cut a circle hole in the side panel for the stack to poke through. The right front cage bar that comes down on the front window also needs to be removed to allow for correct clearance of the cylinder head.

Throttle/Carb/Intake

A Walbro WJ146 carb is fitted as standard on TAYLOR 80 Supreme. This is supplied with throttle arms prepared to take the supplied quick release fitting, we also supply a new link rod which is bent to fit the large crankcase. Unlike smaller engines, the 71+cc engines we supply a velocity stack and require that the cage and panels be cut to allow for the DT1 Dome filter to be fitted. This means much better power with better supply.

Gearing

A higher ratio is required for the main drive gears. A 24 tooth pinion and 17 tooth step gear should provide a good starting point. Suitable gears for the Vekta are made by Vertigo and we offer their system. This ratio should give the car good acceleration and a reasonable top speed so it can be used in a reasonably sized space. Lots of other gear combinations are available too. Please bare in mind tyre size, if you run Trepadors then stage 1 gears (21/20) will be plenty as a baseline.

NOTE - LARGER GEAR (23T) GOES ON THE CLUTCH BELL

Drivetrain

Because of the considerable extra performance of the engine it will be necessary to upgrade the drivetrain with heavy duty parts. We would recommend using the TAYLOR VEKTA front billet diff housing (**TAY5003**). We also advise to use **1M oil** in the rear and **300k** in the front diff. In this way you will always have a good spread of the power and the engine should not be able to overcome the oil too easily.



Installation in the Primal Raminator Monster Truck

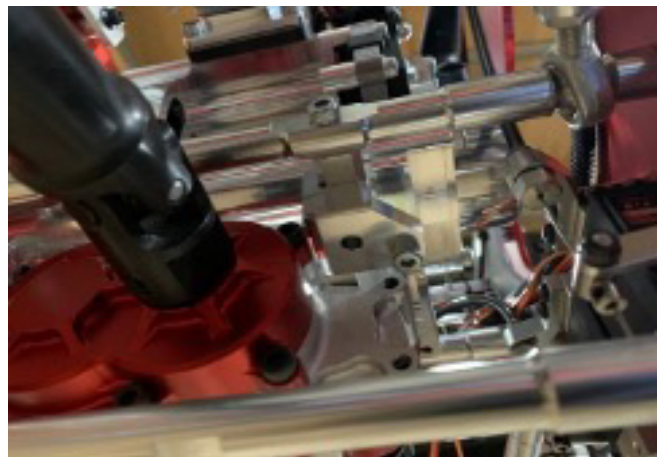
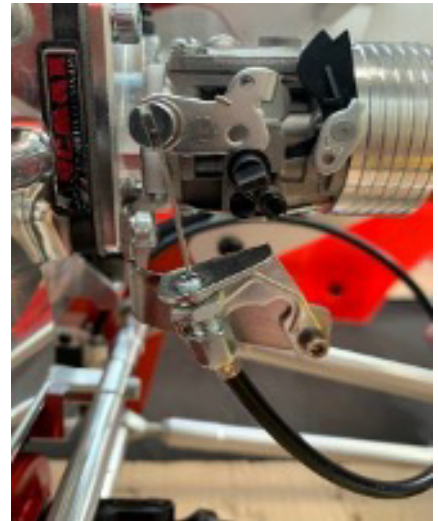
Fitment into the Primal Raminator is fairly straightforward. Once you have removed the stock engine and pipe, also remove the centre top cross over link bar between the two side chassis plates.

While the stock engine is out, we highly recommend cutting out a section of the side chassis plate next to the pull starter so that you can fit the engine (or even the stock engine) Without having to remove the pull starter or remove the side chassis plate itself. (see photo above with section cut out around the pull starter).

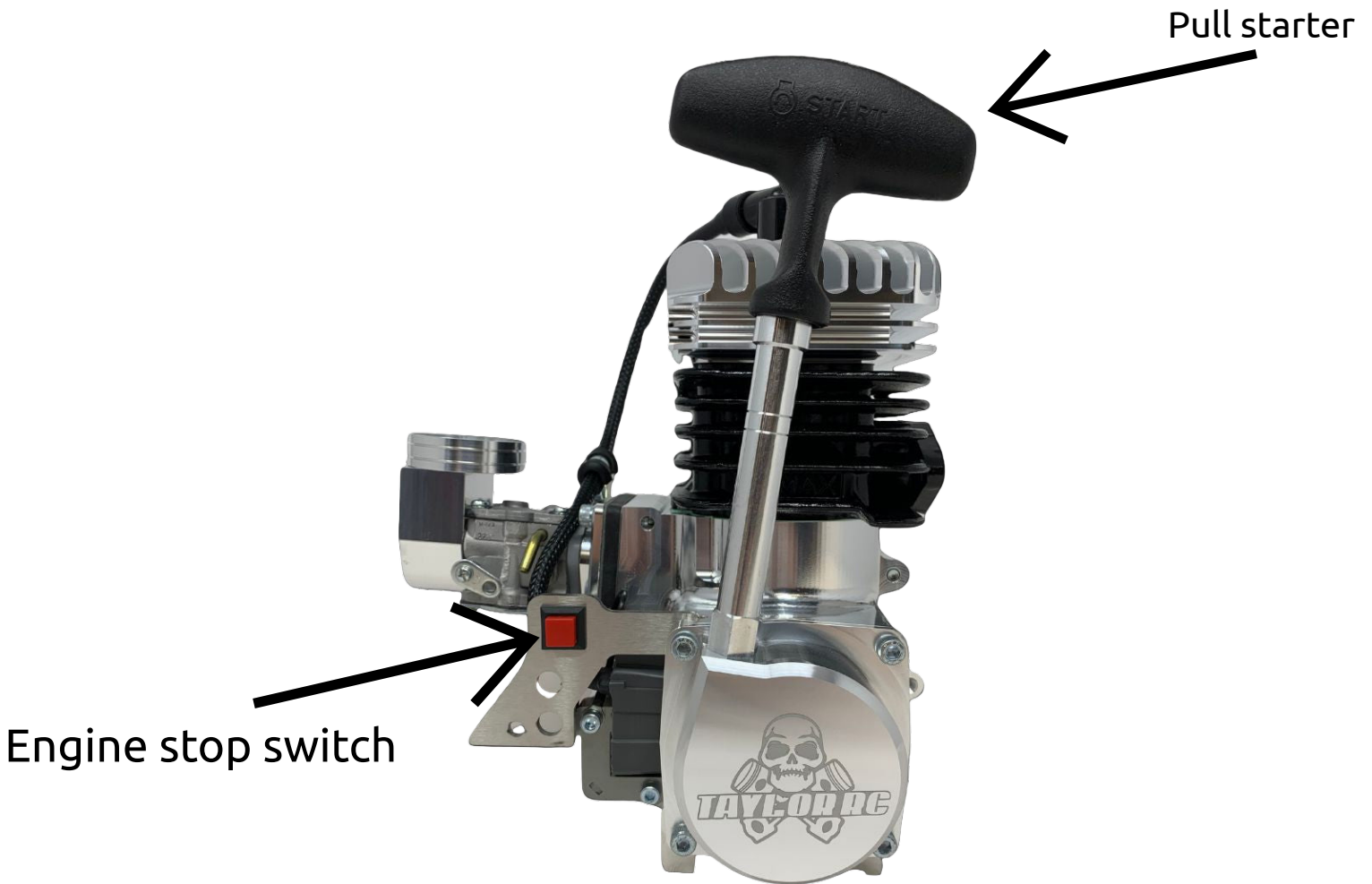
Next you can begin to fit your new Taylor billet transmission housing in the place of the stock one (direct swap). Then swap the gears and chain over onto the 110mm clutch bell also. Then the engine itself can drop in and bolt up with the supplied engine brackets (fitment shown in pics).

As mentioned, if you cut your chassis it will drop in. If not, remove the pull start side chassis plate and then there is room to fit. Fit all the engine mounting bolts supplied. Next you can hook up the throttle linkage cable onto the big bore WJ carb. Simply remove the linkage cable hole from the stock carb by popping the bracket off and removing the E clip. Then put this piece onto the Hole cut out in the WJ Carb arm as shown in photos.

Finally you can fit the cable to the supplied holder bracket and adjust to suit. (again see photos) The last step is to fit the exhaust mounting bracket to the car ready to support the pipe. (the main belly section of the pipe fits to the car AFTER the body has been fitted - slide in through the gap at back of the roll over bar and into place). Then its as simple as two retaining springs and the one nut on the rubber mount!



Engine Starting/Break-in Procedure



First Time Engine Starting.

Make sure that your air filter has been oiled. When starting for the first time following engine installation, it will be necessary to draw the fuel from the fuel tank up to the carburetor. Prime the carb several times until you can see the fuel passing into the carb from the line so you know the carb is full. (via primer bulb on the top of the carb). If using the WJ carb it will prime itself when the choke is on.

Next turn on the choke (if you have one) and pull the starter at full speed until you hear the engine fire. After this turn off the choke and try to start the engine. sometimes a little throttle will help get the engine started.

Once the engine has been started it should not require priming or choking unless a long time has passed since you last ran the engine. We have a video for starting big bore engines with the WJ carb on [YouTube](#).

Engine Break-In.

After starting the engine make sure it is fully up to operating temperature before driving the vehicle.

For initial break in during the first 5 minutes, allow the engine to idle with intermittent blips of the throttle; then cool.

For the first 2-3 tanks of fuel operate the vehicle in a mechanically sympathetic manner at medium speeds with a nice rich

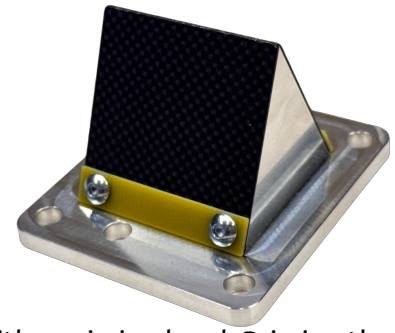
safe tune. This ensures there is lots of fuel/oil mix going through the motor to lubricate it with air flow over the cylinder head.

From this point on you can dial in the tune and let her true potential be unleashed as the motor loosens up!

Safety note: We suggest always using ear protection during engine operation.

Taylor RC Billet High RPM Reed Valve Carb Settings

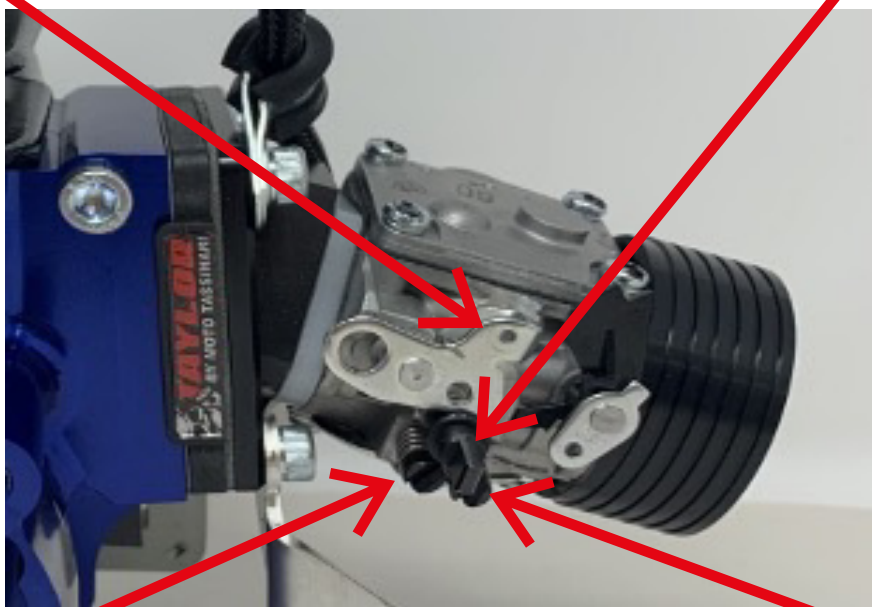
Beginning in September of 2025 all Taylor RC Big Bore engines began to include the billet High RPM Reed Valve as standard. This is a departure from the VFORCE 3 Tassinari reed block. Base needle settings for the billet reed can be viewed below. For the Tassinari reed see the following page.



The Walbro WJ146 carb as standard on Supreme engines. It does not come with a priming bowl. Priming the engine is simple. Pull the engine over with the choke on a few times in order for the fuel pump within the carb to pull the fuel up the line into the carb itself. Its ideal to use a clear fuel line so you can watch this process and see when the fuel reaches the carb. Then you can expect the engine to fire up, sometimes with the aid of a small amount of throttle and choke.

Throttle Lever

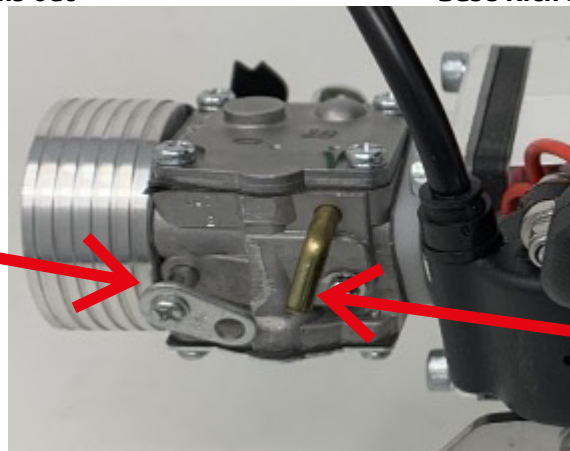
Idle Speed adjustment screw



Low Speed mixture adjustment screw
Base Rich Setting = 2 1/4 turns out

High Speed mixture adjustment screw
Base Rich Setting = 1 1/8 turns out

Choke lever shown in OFF position



Fuel feed connection

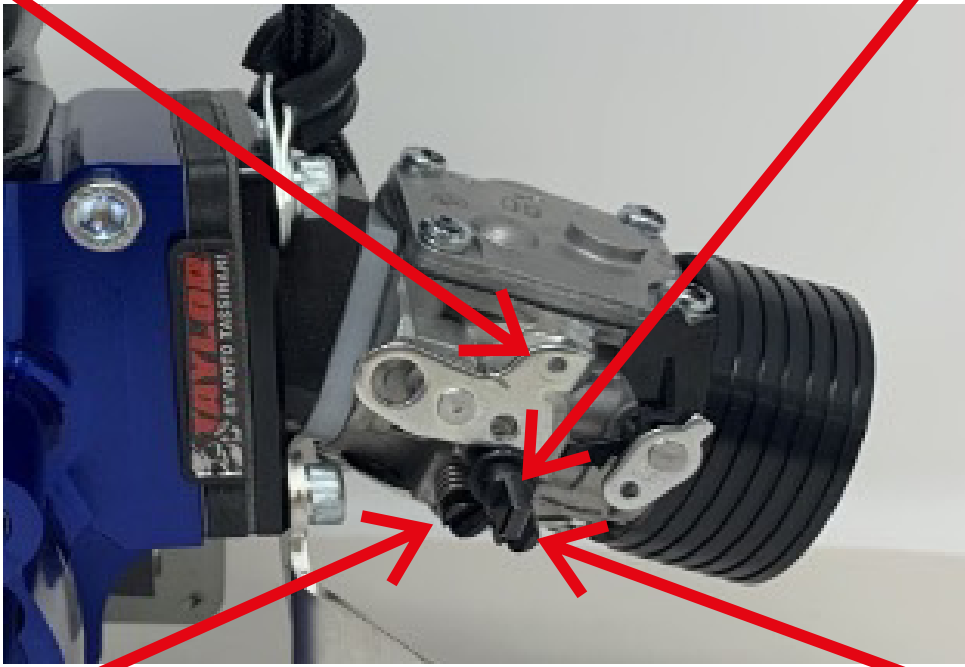
The base settings of the mixture screws may need some adjustment to suit your local atmospheric conditions e.g. temperature, humidity. If so adjustments should be made 1/16 of a turn at a time, with a test run after each adjustment. Do not exceed 1/3 turn in from the factory setting or it may result in engine damage. This carburetor has only one connection to the fuel tank. This is the fuel feed tube which must have an in tank filter fitted. There is no fuel return tube required so this should be removed and the hole blanked off using a suitable sealing plug as long as your tank has a breather, if not then fit a MX style non return breather valve in the second unused line.

Walbro WJ Carburetor Info and Settings

Make sure you complete the run in of the engine on a rich setting before considering leaning it out for optimal performance. Please remember your climate and altitude could result in the requirement for different settings, so as with any two stroke, start with caution and care.

Throttle Lever

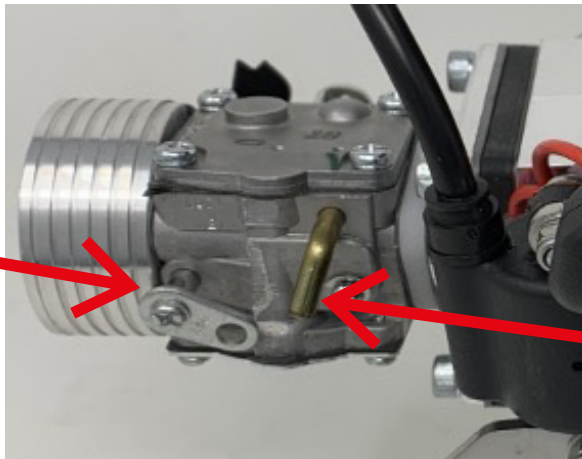
Idle Speed adjustment screw



Low Speed mixture adjustment screw
Base Setting = 1 1/2 turns out

High Speed mixture adjustment screw
Base Setting = 1 3/8 turns out

Choke lever shown in OFF position



Fuel feed connection

The base settings of the mixture screws may need some adjustment to suit your local atmospheric conditions e.g. temperature, humidity. If so adjustments should be made 1/16 of a turn at a time, with a test run after each adjustment. Do not exceed 1/3 turn in from the factory setting or it may result in engine damage. This carburetor has only one connection to the fuel tank. This is the fuel feed tube which must have an in tank filter fitted. There is no fuel return tube required so this should be removed and the hole blanked off using a suitable sealing plug as long as your tank has a breather, if not then fit a MX style non return breather valve in the second unused line.

Taylor RC V3 62mm Clutch system

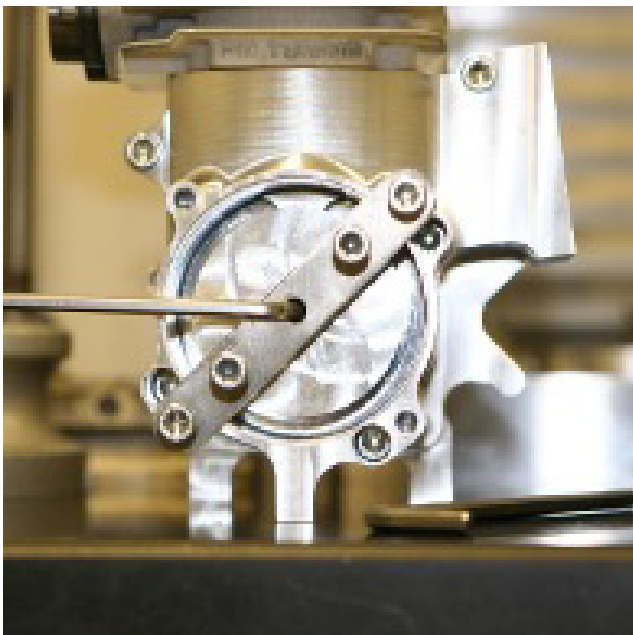
With the step up into Big Bore engines, we also need to increase the performance and durability of the clutch system. After a massive amount of investment and research, we have now developed/refined our own sintered steel clutch. The TAYLOR V3 Clutch combined with our new TAYLOR Clutch springs. This clutch is now an extremely durable and reliable big bore clutch system, requiring no maintenance or regular adjustment. Just fit and forget.

The fitment of the clutch is simple, once you have the spring fitted to the shoes, which fits like all 1/5 scale clutches (line up and then snap together), you simply attach the clutch via the two mounting bolts.



The TAYLOR V3 clutch is designed for normal Zenoah style 8mm 1/5th scale clutch hardware. Simply fit the bolt into the shoe with the spring washer between head of the bolt and shoe then fit the flat washer behind the shoe. Then bolt onto the clutch mounting backplate on the engine.

When fitting the clutch shoes, check that the TAYLOR brand name is facing outwards there is also a directional arrow for double checking



Clutch Removal/Replacement

Tools are available on the market called "piston stoppers" which are screwed into the spark plug hole and stop engine rotation by physically stopping the piston from moving in the cylinder. WE DO NOT ADVISE THE USE OF SUCH TOOLS. Instead simply insert some pull start cord in through the plug hole (with the piston past exhaust port closure and then gently turn the engine to TDC to pinch the cord between piston and head to lock.

Included with the engine is a tool designed to make clutch backplate removal easy if required for servicing.

This picture shows how to hold the clutch back plate while the centre retaining bolt is loosened.

Then simply wind the bolts which are threaded into the clutch backplate evenly in, turning them a fraction of a turn each in sequence so that they pull against the clutch tool and pop the backplate off the taper on the crankshaft. This then allows inspection of the crank seal and further stripping of the engine.

Taylor RC 110mm Clutch system

This fully adjustable clutch offers a huge range of tuning but requires minimal maintenance. To increase the engagement RPM simply add pre-load tension via the 3x adjuster nuts to compress the springs. To decrease your engagement RPM, simply remove some tension on the springs.

The stock settings for the 3 fibre shoes on Raminator/GOPED = **21.80mm** compressed spring length (blue springs)



Always adjust the 3x nuts evenly and check the spring lengths after clutch adjustment to make sure they are all the same length. A proper set of measuring calipers are required to take measurements.

Clutch Removal/Replacement

Your engine will be supplied with a custom 110mm clutch pulling and service tool.

You can watch a tutorial on how to remove the 110mm clutch on the Taylor RC YouTube Channel [**HERE**](#).

Fuel, Oil and Maintenance Recommendations

To ensure that you get the maximum enjoyment from this product and a good service life, TAYLOR recommends that you take a little time to clean the engine and vehicle after use. It is easy to spot a little problem such as a loose bolt on an engine mount before it becomes a much bigger problem!

It is absolutely essential that only the best quality fully synthetic two-stroke oil is used. **We recommend Putoline RS959 or Motul 800 oil but there are lots of great products on the market.**

This must be mixed at a **fuel/oil ratio of 25:1**. Only good quality **93+ Octane must be used** to prevent the possibility of detonation or seizure. Lead additive or a race fuel like VP C12 is our top suggestion

Taylor Coil Air Gap Working Range: 0.3-0.9mm, ideal setting is 0.35-0.4mm, use a **Zenoah air gap tool**.

A minimum of a dual stage air filter is very important for protecting your engine, we use **RAM Air** and the **DT1 Filters**. Proper oiling through the layers of foam is just as if not more important than the filter itself to protect in dusty conditions. Regular cleaning and re-oiling is required to keep air filtration at its best. The use of a water resistant Outerwears protective element is recommended for filtering out large debris.

Please ensure that your fuel equipment, and fuel system of the vehicle is kept in a clean condition. Dirt can play havoc with carburetors leading to much frustration and little fun. Please make sure your vehicle in-tank fuel filter is in good working order.

Due to the size of these engines, they tend to offer a longer service life from the piston and ring than you may be used to with traditional tuned RC engines. This will depend on how you use it and look after it but its not unusual for a well maintained TAYLOR Engine to go years between rebuilds.

A full range of replacement service parts is available to keep your big block powerhouse in top condition. You can view those on our website **HERE**.

If you are unsure about carrying out a rebuild, we are more than happy to do it for you for a small charge plus parts.

Please contact your dealer for advice, or service, if you are in any doubt.

Limited Warranty

What this Warranty Covers

TAYLOR RC warrants that the product purchased will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

What is Not Covered

This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the product, (iv) attempted service by anyone other than TAYLOR or their appointed agent, or (v) products not purchased from TAYLOR or their appointed agent. (vi) the product if aftermarket components, which are not specifically approved by TAYLOR are used with the product, e.g. exhaust system.

OTHER THAN THE EXPRESS WARRANTY ABOVE, TAYLOR MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE

Purchasers Remedy

TAYLOR's sole obligation and purchasers sole and exclusive remedy shall be that TAYLOR, will, at its option, either (i) service, or (ii) replace, any product determined by TAYLOR to be defective. TAYLOR Reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of TAYLOR. Proof of purchase is required for all warranty claims.

SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASERS SOLE AND EXCLUSIVE REMEDY.

Limitation of Liability

TAYLOR SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF RCMAX HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Further in no event shall the liability of TAYLOR exceed the individual price of the Product on which the liability is asserted. As TAYLOR has no control over use, set-up, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, set-up or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law

These terms are governed by the laws of England (without regard to conflict of law principals). This warranty gives you specific legal rights. TAYLOR reserves the right to change or modify this warranty at any time without notice.