

## **TAYLOR DIABLO 88 Installation and Operation**

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

This is a high performance, two stroke engine which produces 8-9 times the power of a standard largescale, RC car/buggy engine. Please be prepared for the transformation of 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 largescale cars. Most normal 1/5 scale kill switches, plug straight in to the two coil terminals. On this engine we didn't leave a place for a stop button. As most experienced users just stop their engine via the remote anyway, it allowed a much more compact and clean looking engine with less to go wrong.

### **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 manufacturers 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.**



## **Installation in Losi/Baja Hybrid**

The DIABLO is at perfect home in a Hybrid build. That's really what we made the engine for to be honest!

A Yamadude linkage is required for proper throttle and brake control with this engine

The DIABLO exhaust mounts to the engine with a Flanged Manifold + Gasket. Then the pipe mounts via o-ring sealed Socket joint plus mounting springs to hold it tight.

The exhaust then mounts onto the Throttle servo relocation plate as with most other big bore pipes. Just drill a hole and fit the supplied rubber mount into the plate where it lines up on exhaust.

Of course you will have to cut the Losi/30N etc Roll cage as with most Big bore hybrid builds. The top rear section of the cage needs to be mostly cut away and then reinforced with an SRC Hybrid Basher bar or another brand that will fit this monster pipe. Then you will also need to cut a hole on the inside of the front wheel well for the stinger to poke through forwards.

## **OUTLAW HYBRID BUILDS**

The DIABLO was designed and tested all around the Outlaw platform seeing as it's the pinnacle of Hybrids within 5th scale RC. Therefore fitment very easy and just like any other smaller engine (zen or Taylor) The engine is secured via the same 3 holes underneath, the rear LH bracket and the RH Clutch side brace.

The only area that requires a change or mod is the Rear shock tower. We have an off the shelf custom made Diablo fitment Outlaw Rear Shock Tower. Or you can simply remove the top bar of the tower and a little material at the bottom of the V shape of the tower to give exhaust clearance. See photo below of where the pipe sits.

## **DIY HYBRID BUILDS**

Any DIY Hybrids that are therefore using a Complete Baja rear end and baja shock tower, need to use the custom Diablo Baja Rear shock tower that we have created for pipe clearance. Please tell us you have a DIY when ordering your engine so we send the correct exhaust.

## **OCBAJA and Other Brand BUILDS**

Any other brands of Hybrid kit may use a mixture Baja or Losi style rear shock towers for their design. Just note that you will need to modify the Rear shock tower to allow room for the Huge Diablo exhaust to have clearance incl ex springs.



## Installation in a HPI BAJA

Installation in the vehicle is straightforward. The Diablo makes use of all normal Baja mounting positions just like a Zenoah or Smaller TAYLOR RC Big Bore engine.

A Yamadude linkage is required for proper throttle and brake control with this engine

The DIABLO exhaust mounts to the engine with a Flanged Manifold + Gasket. Then the pipe mounts via o-ring sealed Socket joint plus mounting springs to hold it tight.

**NB: For DIABLO Baja Fitment, you MUST use a Custom Billet Diablo Rear shock tower to give clearance**

The pipe then mounts to the chassis via a rubber mount which drops into an existing hole on the top chassis rail. Strongly recommend you to fit a **Team Chase** roll cage to your vehicle to protect the engine and expansion chamber in the event of a roll.

The Team Chase cut does require a little cutting (fairly normal for big bore) and then re-strengthening with a Steel Basher bar (SRC make one that is designed for the Diablo). See pics below.



You will have to shorten the Front Right (ex side) body cage pin to make sure it doesn't hit the pipe. We have just left you enough room to get the pipe through and get a clip into the closest pin hole. The cut off all extra length beyond this pin hole.

Due to the considerable increase in power over the standard engine it is essential to replace the standard drivetrain parts, such as gears and drive shafts, with heavy duty, upgrade parts. We would recommend using the TAYLOR Billet HD Gearbox with Backbone HD tranny hears, TAYLOR Hex-Locker and IRC UHD Driveshafts for maximum reliability. A Titanium layshaft is also strongly recommended.

Primary drive gears should only be from Backbone Racing, which we stock a full range of sizes. We would 28/46 with 195mm Tyres for lots of grunt. Or go to 29/45+30/44 to increase top speed.

To make control of the vehicle easier it is essential to fit a wheelie bar (Bonehead RC is our preferred) on the rear of the chassis. This, together with heavy oil in the diff (500K-2M), helps to make the vehicle more driveable on the throttle. The ideal solution is the RCMAX HEX-LOCK KIT to forget diff failures for good!

Finally a good set of wheels, BRP or GENESIS wheels will be required to prevent constant foam blow outs!

## Engine Starting Procedure

**NOTE: Your Air Filter requires oiling before use - We are cautious with the fumes from the oil causing issues during shipment.**



Coil with the two terminals for remote kill switch hook up. (zen style)

Easy starter handle

### **First Time Engine Starting.**

We fit the Walbro WB37 carb as standard which does not come with a priming bowl. However priming the engine is simple. Pull the engine over with you hand or similar over the Velocity stack to block the air flow and force the carb to draw fuel fast into itself. (use clear line and watch this process) You should get a pop where it tries to start then floods. Then you can expect the engine to fire up on the next proper pull, sometimes with the aid of a small amount of throttle and choke.

### **Engine Starting.**

The Diablo is very easy to start compared to other big bore engines, once the carb is primed and especially if the engine has been run already that day. Just give her one or maybe 2 good strong pulls. The Sprung loaded easy starter system will do the rest. No decomp, no worried of kick back etc. If she is not starting easily, there is something wrong. Check your spark, check the engine has fuel, (make sure its primed via blocking intake to carb if cold or not started for while etc)

### **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 1-2mins, allow the engine to idle with intermittent blips of the throttle then cool. For the 1-4th Tank of fuel, operate the vehicle in a large open space at good car speeds with a nice rich crackley tune so that there is lots of fuel going through the motor. Don't be afraid of full throttle for short bursts. Full Throttle with a rich tune means lots of nice air and fuel going into the engine to cool and plenty of cold air going over the cooling fins on engine top.

**Safety Note:** Because of space limitations within the vehicle, the silencing of the exhaust system is not possible. Always wear ear protection when running the engine.

## Walbro 28mm Carburettor Setting

Your engine has already been checked and tested at the factory and the carb is set at base 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.

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### Location of carburettor controls

Throttle lever (drilled for linkage)

Idle Speed adjustment screw



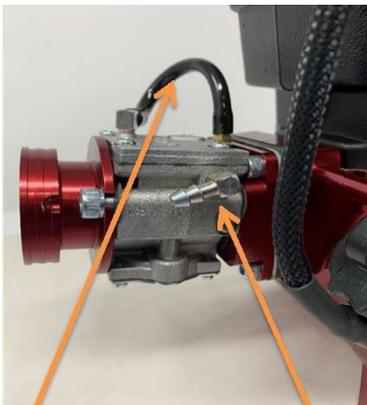
Low Speed mixture adjustment screw

**Base setting:- 1 3/8 turns out**

High Speed mixture adjustment screw

**Base setting:- 1 1/2 turns out**

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.



Pulse feed pipe (do not remove)

Fuel feed connection

**Note: This carburettor 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.**

## DIABLO 78mm clutch system

The Diablo project was all about bringing power, ease-of-use and reliability into one insane new engine. So the clutch choice was very important. We heard your feedback that adjustable clutches are not worth the hassle, so we used our Go-Ped market experience to end up with the cost-effective CY 78mm Clutch.

This clutch is an extremely durable fibre pad (no heat) big bore clutch system, requiring no maintenance or regular adjustment. Just fit and forget.

The fitment/replacement of the clutch is simple, the whole clutch is one single replaceable unit, so it's just held on by the single central bolt. You can check the wear on your clutch by measuring the OD of it.



A New 78mm fibre clutch will measure around 75.9mm outside diameter. You can wear this down until the fibre pads are almost down to the metal before you'll need to replace it.

NOTE: There is a small hard steel taper adaptor pressed inside the clutch. Most commonly it will stay on the crank when you remove it. But if not, you will need a new one if you buy a new clutch from DDM etc.

## Clutch Removal/Replacement

Firstly remove the centre clutch bolt with a hammer gun etc, do NOT use a piston stopper instead just curl a circle of pull cord through the plug hole around the squish band to create a soft stop.

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

The picture below shows how to hold the clutch with the puller (once you remove the 3x torx screws)

Make sure you put the washer supplied between the puller and engine to give clearance to pop the clutch.

The 3x M4 bolts supplied with the puller should be screwed in by hand fully on each one till snug.

Then simply wind the Central M8 bolt against the end of the crank to press the clutch off of its taper.

### Clutch removal via the supplied tool.



M6 bolts screwed into crankcase with M6 washer behind for spacing

3X M4 Bolts screwed into clutch hub

Main M8 puller bolt

## **Maintenance**

To ensure that you get the maximum enjoyment from this product and a good service life, TAYLOR RC 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 (25:1).** We recommend Putoline RS959 or Motul 800 but there are lots of great products on the market. (please ask if you are unsure)

This must be mixed at a fuel/oil ratio of 25:1. Only good quality 95+ Octane must be used to prevent the possibility of detonation or seizure. We recommend using an additive called Tetraboost with your fuel for the ultimate in reliability. (or run a two-stroke friendly leaded race fuel such as VP C12.)

The best type of air filter to use with the engine is the quality dual stage RAM-AIR filter and should be kept oiled for best performance. The filter is very effective at keeping the engine clean internally even when run in dusty conditions. Regular cleaning and re-oiling is required to keep air filtration at its best. The use of an 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 carburettors 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.

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 TAYLOR RC for advice, or service, if you are in any doubt.**

Contact details are as follows:

Main Contact: Mike Taylor  
Contact E-mail: [mike@taylorrc.co.uk](mailto:mike@taylorrc.co.uk)

## **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 RC MAX 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.