

OPERATORS MANUAL



RH-01 Petrol Propulsion Unit

AS FITTED TO THE ROTARY RANGE OF POWER ASSISTED BIKES

PLEASE READ & UNDERSTAND BEFORE USING YOUR
ROTARY POWER-ASSISTED BICYCLE

CONTENTS

1. IMPORTANT MESSAGE
2. BEFORE FIRST START & RIDE
 - a. pre-ride inspections
 - b. support items required
 - c. bedding in your new motor
 - d. general usage
3. ENGINE OPERATION
4. CARE & MAINTENANCE
5. IMPORTANT SERVICE INFO
6. PRODUCT INFO
7. WARRANTY

FUEL REQUIREMENT 50:1

Always use clean fresh unleaded petrol mixed with good quality 2-stroke oil at a ratio of 50:1 (50 parts petrol : 1 part oil) or 1 litre of petrol to 20mls of oil. Failure to do so will result in engine damage not covered by Warranty.

!!! FLAMMABLE !!!

!!! WARNING !!!

Read & understand owners manual before using this bicycle.

Check bicycle before each ride for obvious defects.

Always wear a bicycle helmet & obey traffic rules.

Congratulations on the purchase of your Rotary product, the first step to long & safe use of your product is to have an understanding of its operation and care, this manual provides all the information and warnings required to operate the product safely and perform simple maintenance.

PLEASE READ THIS MANUAL IN FULL BEFORE USING YOUR NEW BIKE

PLEASE TAKE NOTICE OF WARNINGS THAT APPEAR THROUGHOUT THIS MANUAL

This product is classified under Commonwealth Legislation as a category 'AB' Vehicle.
(power assisted bicycle with less than 200watts engine output).

Non-standard alterations may mean the product no-longer complies with category AB.
All replacement parts must be same specification as originally supplied with the product.

The National Transport Commission (Road Transport Legislation- Australian Road Rules) Regulations 2006 has a clear definition of 'bicycle'. If an auxiliary motor is fitted, it must not be more than 200 Watts OUTPUT.

As laws change from time to time without notice you are advised to keep yourself up to date with rules regarding the use of this product in public. Interpretations can differ between states.

You may not be insured when riding your bike, please check with your insurance company if applicable.

If you have not ridden a bicycle for some time, or never ridden a bicycle it is recommended that you practice first without the power-assist function, in order to familiarise yourself with the dynamics of bicycle control.

Your Rotary power assisted bicycle has much less power than the average person is capable of producing through manual pedalling, so power-assistance does not mean you can go any faster than pedalling an ordinary bicycle.

Correct sizing is important, if your bicycle is too large or small, this will seriously affect your control over the bicycle. Please check with your retailer if you have any questions regarding this matter.

RULES GOVERNING THE USE OF POWER ASSISTED BICYCLES IN PUBLIC VARY IN EACH STATE AND COULD CHANGE WITHOUT NOTICE. ITS YOUR RESPONSIBILTY TO UNDERSTAND THESE RULES.

ENGINE KIT INSTALLATION WARNING

If you have been supplied this manual with a Rotary Engine Kit (sometimes called DIY Kit), this manual is not meant to be an installation manual. Rotary Engine Kit installation is required to be carried out by reasonably mechanically skilled persons that can negotiate minor modifications to the host bicycle.

Most Rotary Engine Kits are fitted by experienced bicycle mechanics.

Your bicycle as supplied from your retailer should come with all adjustments performed, however all bicycle components have a 'settling in' period after which, further adjustments may be required.

Before your FIRST ride it is recommended to perform the following ;
(see care & maintenance page 4 for normal pre-ride checks)

A :- PRE-RIDE INSPECTION OF FRAME & CONTROLS

- 1 :- Check both brakes for correct adjustment, ensure brake cables have no visible fraying. Your rear brake performance will not be good until full bed-in of the brake shoes has occurred.
- 2 :- Check tyres for correct pressure (indicated on tyre) and at the same time ensure wheels are tight.
- 3 :- Check for obvious loose components, do not ride until rectified.
- 4 :- Ensure the seat is secure & set to correct height.
- 5 :- Check operation of twist throttle unit for smoothness & full return to '*closed throttle*' with engine off.
- 6 :- Ensure choke lever has obvious '*detent*' function and '*clicks*' at each position.
(see page 3 for choke lever explanation)

B :- SUPPORT ITEMS

- 1 :- Have a clean container to store your fuel in, mix the oil in this container not in the bikes fuel tank.
- 2 :- Only use good quality 2-stroke oil, synthetic is preferred. **Fuel : Oil Mixture Is 50:1**
- 3 :- Obtain a bicycle tyre pump and keep this handy.

C :- BEDDING-IN PROCEDURE

Your new RH-01 power unit has been manufactured to ensure good component tolerances after an initial bed-in period, this means when brand new some engine components are '*tight*'.

As a result of this it is important to read the following;

Because bedding-in also applies to the carburettor internals as well (throttle slide etc..) you will notice that engine operation will become smoother with time.

FOR THE FIRST FULL TANK OF FUEL

Never :- Rev the engine to maximum R.P.M.

Never :- Exceed 20 km/h.

Never :- Use full throttle for any longer than a few seconds.

Ensure :- Fuel is correctly mixed

Avoid :- Idling for long periods of time, the engine may 'oil up' if let idle for more than approx' 1 minute

D :- GENERAL USAGE

The life of your RH-01 power unit will be heavily influenced by your usage style & maintenance habits.

Careless fuel mixing & running at high RPM all the time will wear the motor out very quickly. Dirty fuel will cause carburettor blockage, poor performance, cutting out and difficult starting. Blocked & dirty air cleaner will result in a rich mixture, poor power and premature carbon accumulation in the exhaust system. Avoid idling the engine for long periods of time, turn off the engine unless you're riding.

The engine is rev-limited to approx 5000rpm (25Km/h on bike & 15Km/h Trike), the engine provides "*No Assistance*" above this speed. As you approach this point, the motor will start to 'miss' & eventually appear to '*cut out*' until the rpm reduces. This will happen if you attempt to 'power' down hill, rev with no load or pedal & power above 26Km/h.

This function is also part of compliance with vehicle category 'AB' and must not be altered.

The product was designed for recreational use only, many users do successfully use the motor for commercial purposes but unfortunately the product is not warranted for commercial use.

A :- COLD STARTING

Consider your motor cold if it has not been running for more than 1/2 hour.

- 1 :- Turn Fuel Tap to "On" or "Reserve" (see diagram bottom of page)
- 2 :- Move "Choke Lever" to "Full Choke", this position only to be used for cold start (see picture below).
- 3 :- Apply a small amount of "Twist Throttle", being ready to release when engine starts.
- 4 :- Take up slack in the "Pull Starter" then pull abruptly, being ready to control engine speed with the "Twist Throttle". You may have to reduce from "Choke" to "Half Choke" quickly after starting.
- 5 :- After approximately 30 seconds, move the "Choke Lever" slowly across to position "I" which is the normal running position.

B :- HOT STARTING

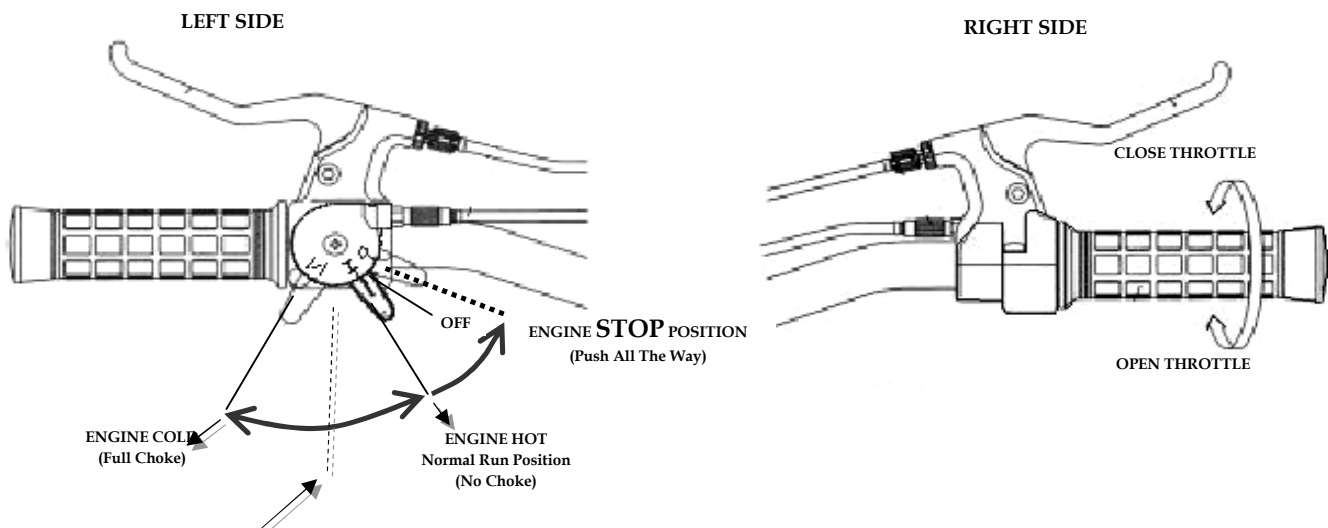
Consider your motor hot if it has been running in the last 1/2 hour.

- 1 :- Turn the Fuel Tap to "On" or "Reserve" (see diagram bottom of page)
- 2 :- Move the "Choke Lever" to position 'I' which is the normal running position.
- 3 :- Apply a small amount of "Twist Throttle", being ready to release when engine starts.
- 4 :- Take up slack in the "Pull Starter" then pull abruptly, being ready to control engine speed with the "Twist Throttle". If engine does not start, try 'half choke'.

C :- STOPPING THE ENGINE

- 1 :- Push the "Choke Lever" to the "Right" - past the position '0' and continue to push until the engine stops.
- 2 :- Turn off the fuel tap.

EXPLANATION OF CONTROLS



You can use a 'half choke' position, many engines start & run better at 'half choke'.

<p>Fuel Tap (Some Models)</p> <p>Run your bike in the 'on' position.</p> <p>Should you run out of petrol you can then switch to the 'reserve' position for an additional 15 minutes running.</p>	<p>FUEL TAP POSITIONS</p> <p>The diagram shows a fuel tap with three positions: 'OFF' (top), 'ON' (bottom), and 'RESERVE' (middle). Arrows indicate the rotation between these positions.</p>
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- Always :-** Use fresh unleaded petrol mixed with quality 2-stroke oil (preferably full 'synthetic') at a ratio of 50:1.
- Always :-** Perform a general inspection of your bicycle before each ride.
- Always :-** Use a Bosch **WR10FC** sparkplug. Failure to do so will damage the ignition system and is 'Not Covered' by warranty.
- Always :-** Pedal-assist the bicycle from a stand-still, then engage throttle, the clutch system in the motor is 'Not' designed to accelerate the bicycle from a standing start. A burnt out clutch is 'Not' covered by Warranty.
- Always :-** Have your bicycle regularly serviced/inspected as outlined below. Do not attempt to dismantle/repair your engine within the warranty period.
- Never :-** Remove the axle shaft from the engine 'Or' loosen the nuts on the axle shaft that are closest to the engine.
- Never :-** Put more than 5kg on the fuel tank rack of the Ladies or Mens bikes.
- Never :-** Carry adults / children on the fuel tank rack of the Ladies or Mens bikes.
- Never :-** Lay the bike flat on its side of upside down, it may leak petrol or oil from breather points.

ROUTINE MAINTENANCE

The schedules set out below refer to care & maintenance of the RH-01 power unit & its controls.

A :- PRE-RIDE INSPECTION :- ('Do Not' ride until all 'Defects' are rectified)

- 1 :- **Brakes :-**
Check by individually applying brake levers firmly & attempting to move the bike. It should 'Not Move'. The brake levers should 'Not' touch handle bar grips. Once released, the bike should be free to move.
- 2 :- **Tyres, Wheels, Mud Guards :-**
Ensure tyres have correct pressure (30<60psi) & no defects such as cuts, cracks, or lack of tread. Inspect wheels for damage & that mud guards & stays are secure. Rotating wheels should 'Not' rub/touch any mud guard or component.
- 3 :- **Fuel System :-**
Inspect fuel tank, shut off tap, filter & fuel lines for leaks. Rectify any leaks before use.
- 4 :- **Engine Controls :-**
Ensure accelerator operation is smooth with full return to idle. Engine kill switch 'Must' stop engine.
- 5 :- **General :-**
Ensure all cables are secure & do not touch 'Any' moving/rotating parts.

B :- THREE (3) MONTHLY SERVICE / INSPECTION.

- 1 :- Perform all items listed above under 'PRE-RIDE INSPECTION'.
- 2 :- **Engine :-**
Check muffler bolts are tight (4off) - Starter Cover bolts (3off) - Axle nuts (2off)
- 3 :- **Tricycle Only :-**
Check that mounting bolts - Rear axle to frame are tight (4off)

C :- SIX (6) MONTHLY SERVICE / INSPECTION.

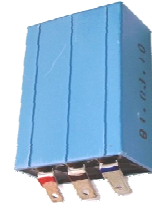
- 1 :- Perform all items listed above under 'THREE (3) MONTHLY SERVICE INSPECTION'.
- 2 :- **Fuel System :-**
Drain/Flush & re-fill petrol tank with a fresh mixture of fuel/oil (50:1). Replace fuel filter.
- 3 :- **Engine Controls :-**
 - Replace spark plug & air filter. These are routine replacement items, not 'On Condition' items.
 - Check rear wheel for any 'Free Play' (Up to 3mm at the rim is acceptable)
 - Inspect rubber damper & plate (front of torque rod from muffler) A small amount of movement is normal.
 - Metal to metal contact or clunking is 'Not'. Rectify as required.
 - Inspect gear oil level. Add only if required. Replacement is not required during normal service.
 - Check choke lever & cable for correct adjustment. Ensure detent function is discernable.
 - Adjust idle speed to 'As fast as possible' without the back wheel turning whilst held off the ground.
- 4 :- **Frame :-**
 - Perform full inspection of frame & components for correctness of operation & tightness.
 - Ensure the Yellow Warning Decal (On head tube) & Orange Flammable Warning Decal (On/Near fuel tank) are present & legible.
- 5 :- - Road Test to ensure >200watts compliance. Top speed does not exceed twenty six (26) kph on level ground.

Time taken to typically perform the above Service / Inspection (Excluding Work Arising)

Pre-Ride Inspection	Two (2) Minutes
Three (3) Monthly Service / Inspection	Fifteen (15) Minutes
Six (6) Monthly Service / Inspection	One (1) Hour

A :- SPARK PLUG

- 1 :- Whenever replacing the spark plug, always use a BOSCH WR10FC.
- 2 :- Failure to do so will result in damage to the ignition system not covered by warranty.
- 3 :- Spark Plug Gap 0.5mm



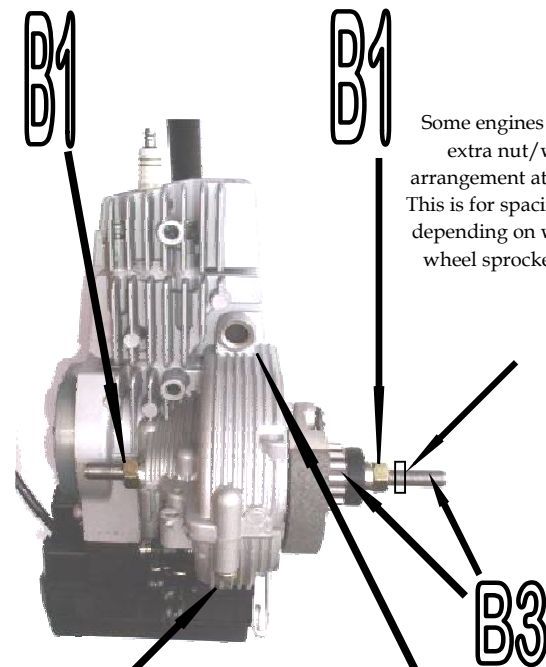
If any other sparkplug is used, failure of the C.D.I unit will result.
This part rarely fails for no reason.

Fitting A New C.D.I ?

- 1 :- If fitting a new C.D.I. always replace the spark plug with a new Bosch WR10FC.

B :- INNER AXLE NUTS PAINTED RED

- 1 :- Never tamper "Or" attempt to remove inner axle nuts closest to the engine as indicated by the arrows on the picture to the right.
- 2 :- Tampering with these nuts will cause problems not covered by warranty.
- 3 :- Never remove axle shaft OR splined spindle
- 4 :- IF you remove the axle, the engine requires a full dismantle to re-insert .



Some engines will have extra nut/washer arrangement at this point. This is for spacing purpose depending on which free-wheel sprocket is used.

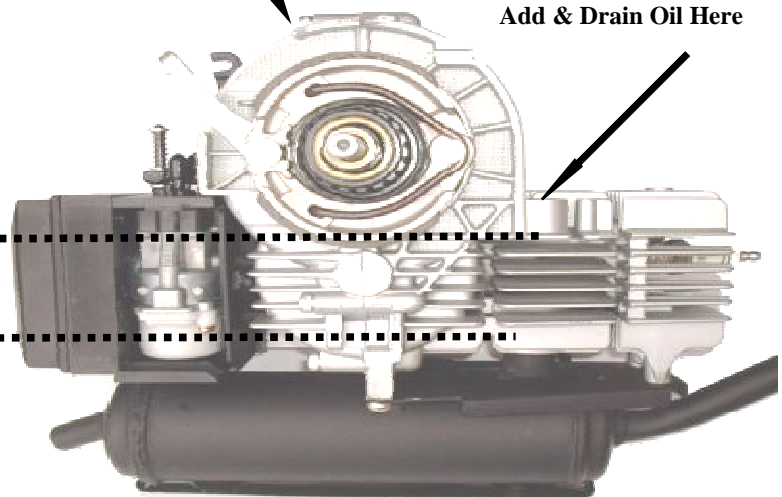
(C) GEARBOX OIL

- 1 :- Generally the gearbox oil should "Not" need attention.
- 2 :- If oil is to be added to the gearbox, fill to the line indicated with SAE 85W-140 gear oil

Breather For Gearbox (Under This Bolt)

Add & Drain Oil Here

FULL
80mls (Dry Fill)
EMPTY



Over filling "Or" turning the engine upside-down will result in excess oil being expelled out of the breather giving "The Impression Of A Leak"

PRODUCT INFORMATION SHEET

Please Read And
Understand Before Use

(A) PRODUCT DESCRIPTION:

Rotary Petrol Engine Power Assisted Bicycle, all models, 'the product'.

(B) INTENDED USE:

Standard bicycle with petrol engine to provide power assistance of not more than 200watts.

To be used as would a standard bicycle be used.

Not to be used for stunt or off road riding. For one rider only, the luggage rack *is not* to carry person's. It is the owner/users responsibility to ensure they operated this product in accordance with the relevant Road Traffic Rules that apply where the product is being used, and stay current with any changes.

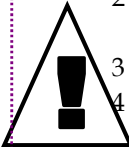
Appropriate insurance is the responsibility of the owner/operator of the bicycle.

(C) USER SPECIFICATION:

The recommended minimum user age is 18 yrs. Maximum rider/load weight not to exceed 100kg. The rider is to have a thorough understanding of the road rules, **that might change without notice**.

(D) PRODUCT WARNING/S:

In addition to normal bicycle safety awareness issues (approved helmet & appropriate clothing etc.) the product has some extra precautions to be considered to assist in its safe operation.

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- 1 :- **Burn Warning**, some external components may become very hot & could create a burn hazard.
 - 2 :- **Flammable Liquid Warning, Hazardous Vapor Warning**, your power assisted bicycle carries petrol, so all procedures regarding the safe storage & handling of petrol should be undertaken, eg. well ventilated storage.
 - 3 :- **Exhaust gas** is poisonous and may kill without warning if inhaled. Always operate in well ventilated area.
 - 4 :- **Safety Checks**, Immediately after assembling the bicycle, a thorough maintenance / safety check is to be carried out which is to include a **full brake & derailleur adjustment before first ride**.
 - 5 :- **Rider confidence**, your petrol engine assisted bicycle is heavier than a similar bike without a motor. The rider **should not continue use** if they feel their ability to control or competency level is inadequate. The use of any bicycle may result in injury or death of persons, by continued use of the product after this warning, the user accepts all responsibility for such an event.
 - 6 :- The **luggage rack** on the gents & ladies frame is **Not** designed to carry more than 5kg **or people**.

(E) WARRANTY INFORMATION:

- 1 :- The Rotary Petrol Engine Assisted Bicycle is warranted against faulty parts / manufacture to the original owner for a period of 6 months (re-built OR repaired engines 3 months) after purchase date, proof of purchase is required in the event of any claim.
- 2 :- The product must **not be modified or disassembled** in anyway as this will void the warranty and could mean the product no longer complies with government regulations.
- 3 :- The product must be fitted / used / maintained in accordance with supplied manual (if present)
- 4 :- The product is **NOT** warranted for commercial use.
- 5 :- All faulty products must be returned to Rotary Australia Powered Bikes for assessment. Faulty components will be repaired or replaced at the discretion of Rotary, such action **"Does Not"** extend the original warranty period.
- 6 :- Many external environment factors can influence the operation of your Bicycles Petrol Engine, eg.. petrol quality, oil / fuel mixture ratio, intake air quality, routine service & checking. No claims will be accepted where any of these factors were at fault of motor failure.
- 7 :- Damage caused by incorrect adjustments/lack of maintenance or continued use whilst known to be faulty is **"NOT"** covered under warranty.

(F) GENERAL INFORMATION:

- 1 :- Spark plug, **always use a Bosch WR10FC**, the use of any other spark plug can damage the ignition system.
- 2 :- It is critical that fresh unleaded petrol, mixed with quality 2-stroke oil at a ratio of **50:1** is used. Do not attempt to mix oil & petrol within the bikes fuel tank, always mix in a separate container first.
- 3 :- Always pedal your bicycle from a standing start, then engage some throttle, the drive transmission within the engine is not designed to move the bicycle away from a standing start. The clutch is a wearing component similar to tyres & brake pads, premature wear & glazing from overheating is **"NOT"** covered under warranty.
- 4 :- Only use as much choke as required to keep the engine running.
- 5 :- **Never** remove the axle shaft from the engine, **it cannot be successfully re-installed** without complete engine disassembly.
- 6 :- **ALWAYS** have your bicycle inspected / serviced every 6 months.