



**RACINE
RAILROAD
PRODUCTS**

Ultra Kut II

Premixed and Oil Injected Saws

Operating and Maintenance Manual

910080 Ultra Kut II 16-inch Premixed Saw

910081 Ultra Kut II 14-inch Premixed Saw

910082 Ultra Kut II 14-inch Oil Injected Saw

910083 Ultra Kut II 14-inch Oil Injected Saw



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Ultra Kut II

910080

Record of Changes

Rev No.	Date	Description of Changes
Rev 2	6.2013	Updated list of illustrations
Rev 3	6.2015	Added model and updated list of illustrations
Rev 4	9.2018	Engineering updates new manual format / branding

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Ultra Kut II Saw Overview

RRP designs and manufactures equipment primarily for the repair and new construction of rail and railroad tie track maintenance.

Our product line focuses on rail fastening application/removal/adjustment equipment, other tie material (OTM) reclamation, wood and concrete railway tie repair, and tie plate handling/distribution.

The Racine Railroad Products Ultra Kut II saw is a portable, gasoline engine powered, single blade saw designed for vertical on track rail cutting. The Racine Ultra Kut II has an over-center, screw-type rail clamp that accommodates 80 lb. to 175 lb. rail.

Cutting position is set with clamp and spring loaded articulating pivoting arms with an adapting rail clamp and a manual screw with T- handle. The Racine Ultra Kut II saw uses ANSI approved abrasive cutting disc blades.

Safety Information

For safe installation and operation of this equipment, carefully read and understand the contents of this manual. Improper operation, handling, or maintenance can result in equipment damage and personal injury.

Only trained and authorized personnel should be allowed to operate this machine. In addition, all personnel at the worksite (gang) should be aware of the safety concerns and their individual responsibilities prior to working this machine.

Please read and comply with all the safety precautions in this manual **before** operating this machine. Your safety is at risk.

Safety Terms



DANGER indicates a hazardous operating procedure, practice, or condition. If the hazardous situation is not avoided death or serious injury will occur.



WARNING indicates a hazardous operating procedure, practice, or condition. If the hazardous situation is not avoided death or serious injury could occur.



CAUTION indicates a potentially hazardous operating procedure, practice, or condition. If the hazardous situation is not avoided moderate or minor injury could occur.



Machine Use and Safety Precautions



WARNING Failure to follow safety precautions when operating this equipment can result in serious injury or death to the operator or other persons in the area. Observe the following precautions whenever you are operating, working on or near this equipment.

Do not use this machine for other than its intended purpose.

Do not make any modifications without authorization or written approval from Racine Railroad Products. Replace all Racine Railroad Products and OEM parts with genuine Racine Railroad Products and OEM parts. Using non-OEM parts may compromise the safety of the machine.

Do not wear loose clothing, jewelry, radio belts, etc., when operating, working on or near this equipment. They can be caught in moving parts and may result in severe injury.

Always wear appropriate personal protective clothing when operating this equipment: e.g. Orange safety vest, hard hat, safety glasses with side shields, hearing protection, steel-toed safety boots, leather gloves, dust respirator, etc.

Always lift heavy objects with the knees and legs, not the arms and back.

Always keep hands, arms, feet, head, clothing, etc., out of the operating area and away from all rotating or moving components when operating, working on or near this machine.

Always make sure that all guards, covers, belts, hoses and operating components are in good working order and that all controls are in the appropriate position before starting the engine.

Always make sure that all safety equipment (e.g. fire extinguishers, first aid kits, locking and safety devices) are installed properly and are in good working order. **Do not operate the machine until unsafe conditions have been corrected.**

Always operate the engine only in a well-ventilated area and make sure that the air filters, air filter covers, and muffler are in good condition.

Always keep the machine clean and free of debris. Operate the machine in a safe and responsible manner. Exercise caution when fueling, working on or near rotating or moving components, hot components and fuel systems. Be aware of potential fire hazards and prevent sparks, exhaust, etc., from starting fires on the machine and/or work area.

Always comply with all instructions provided on any decals or placards installed on the machine and with any relevant amplifying information provided in this manual or other general operating procedures.

Always shut off the engine. Make sure that all controls are in a safe position and install all appropriate locking and safety devices before doing any of the following:

- Lubricating
- Adjusting
- Installing Tooling
- Making Repairs
- Performing Service

Always comply with all Lock Out / Tag Out Procedures and other safety procedures established for the local work environment.

Inspect safety decals and replace when they become unreadable or are damaged.

Warranty Terms and Conditions

Warranty Period

Each new machine and new parts of our manufacture are warranted against defects in material and workmanship for one year from the date of shipment from our factory.

When contacting customer service for factory parts, service or warranty support please provide the:

- Racine Railroad Products Model
- Serial Number
- Any locally assigned identification

Vendor Parts Warranty Period

Other equipment and parts used, but not manufactured by Racine Railroad Products, Inc., are covered directly by the manufacturer's warranty for their products.

Warranty Parts and Service

We will repair or replace, without charge, F.O.B. factory, Racine, Wisconsin, USA, any part Racine Railroad Products manufactures which is proven to be defective during the warranty period.

Material claimed defective must be returned, if requested, to the factory within 30 days from the date of the claim for replacement. Ordinary wear and tear, abuse, misuse and neglect are not covered by this warranty. Depending upon the circumstances, we may provide technical assistance and/or technical service support, without charge, to assist in the correction of warranty related problems.

Non-Warranty Parts and Service

Material damaged through normal wear and tear, abuse, misuse and/or neglect are not covered by our warranty and should be ordered directly from our Customer Service.

Note: Parts for models that are no longer in production may not be available.

Non-Warranty Parts Orders

When placing a parts order please provide the following information:

- Company Name and Billing Address
- Purchase Order Number and Issuing Authority
- Shipping Address
- Special Handling Instructions
- Contact Phone Number
- Machine Model and Serial Number
- Part Numbers and Quantities Being Ordered

Note: *Please use Racine Railroad Products part numbers when ordering parts.* Racine Railroad Products part numbers are shown in the parts lists and drawings of this manual and have only six (6) numbers.

Any part number with other than six numbers (e.g. contains alpha-numeric characters) is a Vendor Part Number and **not** a Racine Railroad Products part number.



Unauthorized Modifications and Parts

Racine Railroad Products is not responsible for any modifications made without authorization or written approval. Replace all Racine Railroad Products and OEM parts with genuine Racine Railroad Products and OEM parts. Using non-OEM parts may compromise the safety of the machine.

Inspection and Warranty Registration

The warranty period begins on the date of shipment from our factory. Upon delivery by the carrier, inspect the machine and shipping materials for damage. Make sure that all items indicated on the packing list have been received. Address items lost or damaged in shipment with the freight carrier.

Removing Packing Materials / Delivery Inspection

Remove the packing materials and inventory the contents of the packing list. Make sure that the Operating and Service Manuals, tool kits and any other materials sent with the machine are in good condition.

Ultra Kut II Recommended Spare Parts

910080	Ultra Kut II 16-inch Premixed Saw
910081	Ultra Kut II 14-inch Premixed Saw
910082	Ultra Kut II 16-inch Oil Injected Saw
910083	Ultra Kut II 14-inch Oil Injected Saw

Description	RRP Part #	Saw
Engine Air Filter – Primary	464619.....	910080 – 910083
Engine Air Filter – Secondary	464620.....	910080 – 910083
Spark Plug.....	462254.....	910080 – 910083
Filter Spray Cleaner (15 oz)	462614.....	910080 – 910083
Oil Filter - Spray (13 oz)	462615.....	910080 – 910083
Oil Filter - Liquid (16 oz)	462371.....	910080 – 910083
Oil, 2-Cycle Premix (Pint).....	462984.....	910080 & 910081
Oil, 2-Cylce Oil Injection (Quart)	462967.....	910082 & 910083

Ultra Kut II 14-inch Saws (910081 and 910083)

Description	RRP Part #	Saw
Drive Belt – 14-inch diameter blade saw	465102.....	910081 & 910083
Cut-Off Wheel 14” PREMIUM	463541.....	910081 & 910083
Cut-Off Wheel 14”	459642.....	910080 & 910082

Ultra Kut II 16-inch Saws (910080 and 910082)

Description	RRP Part #	Saw
Drive Belt – 16-inch diameter blade saw	462156.....	910080 & 910082
Cut-Off Wheel 16-inch Premium	460832.....	910080 & 910082
Cut-Off Wheel 16-inch.....	460831.....	910080 & 910082



Specifications

Powerhead

Length:38 in. (~0.965 m)

Width:24 in. (~0.61 m)

Height, Work Mode:20 in. (~0.51m)

Weight:46 lbs. (~20.7 kgs)

Mechanical Data

Engine2-Stroke, Single Cylinder, Air Cooled, Oil Injected 7.8 hp @ 9750 rpm
(2500 +/-250 rpm @ idle) / Husqvarna Model No. 3122K

StarterManual Recoil

Fuel TypeRegular Unleaded Gasoline, Minimum 90 Octane

Fuel Capacity2.65 US pints (1.25 Liters)

Fuel FilterTank Strainer & Carburetor

Fuel Consumption0.41 lb/hph (186g/kWh)

Oil TypeMust meet 2-cylce air cooled engine oil ISO GD requirements

Oil Capacity1.5 US pints (.70 liter)

Oil FilterNone

Air FilterOiled Multi-Layered Foam / Dry-Type Replaceable Element

IgnitionSolid state electronic w/ rpm limiter

Spark PlugResistor Type, Champion RCJ-7Y/NGK BPMR 7A

Spark Plug Gap020 in. (.50-.60mm) Air Gap

Coil Gap012 in. (.3 mm)

DriveCentrifugal Clutch/Sheaves & Belt Performance Data:

Production Rate1.75 minutes/cut @ 4800 R.P.M. / 16" dia. wheel using generic brand
blade on 132 lbs. rail.

Special Tools Needed

Spanner WrenchUsed on the 910080

Initial Assembly

The Ultra Kut II was tested after assembly at our factory. Flammable liquids were removed for shipping and must be reinstalled.

After assembly, perform a thorough In-Service inspection before initial operation. If you do not feel qualified to perform this In-Service work yourself, contact a competent mechanic or the Racine Railroad Products Service Department for technical support.

After unpacking and inspecting the Ultra Kut II, prepare it for service by:

- Fill the engine fuel tank.
- Check and/or fill the engine oil injection tank.
- Check all aspects of the engine, arm and rail clamp.
- Check the controls for proper operation.
- Install a cutting blade.

Operating Parameters

Engine

Idle Speed	2750 RPM
Governed Speed	9750 RPM \pm 750 RPM.
Cutting Blade Speed	14-inch diameter blades are rated for 5400 RPM maximum.
Maximum 14-inch Speed	4800RPM \pm 400RPM.
Cutting Blade Speed	16-inch diameter blades are rated for 4800 RPM maximum.
Maximum 16-inch Speed	4200RPM \pm 400RPM.

Production Rate

Typical rail cutting time for 16-inch saw against a 132 lbs. rail is approximately two minutes.

Normal Start Up

Before starting the engine, perform a daily inspection.

Note: Depending on temperature, let the engine warm up before applying full load.

Note: See the provided Husqvarna engine operator's manual for detailed starting instructions.

- Short web link:
<https://bit.ly/2OptN31>
- Long web link:
http://service.webec.husqvarna.net/documents/HCP0/HCP02012_EUenAPenUSenEUesLAesEUdeEUfrCAfrEUitAPzh/HCP02012_EUenAPenUSenEUesLAesEUdeEUfrCAfrEUitAPzh_1154352-20.pdf



Do Not use pressurized starting fluids.

1. Slide the Stop Switch left (opposite the indicating arrow).
2. Pull the Choke Out (blue button handle) to choke position.
3. Press in the throttle control catch pin
4. Push the Decompression Button In (blue button on right side of cylinder head.
5. Grasp the rope handle and pull slowly until resistance is felt and then pull rapidly to start engine and avoid kickback.
6. If the choke is used, rev Throttle Trigger slowly to RUN as engine warms up.
7. Reset the choke after engine is warm and idles without stopping.
8. Operate the engine at full throttle position when cutting rail.

Rail Cutting

Note: The Rail Clamp assembly has a T-handle screw in the rail clamp fixture that is used to clamp the rail clamp onto the rail ball. **The T-handle must be secure to prevent the clamp from moving during cutting use.**

1. Place and clamp the Ultra Kut II on the rail and all adjustments as needed.
2. Start the engine and advance to full speed.
3. Start the cutting at the top of rail head.
4. Work the blade in an arc swinging motion using the arms and pivot shaft.
5. Continue cutting through the rail web and rail base.
6. Release the engine throttle once the blade completely cuts the rail.
7. Shut the engine off before unclamping and moving the rail saw to the next location.
8. Set the rail saw onto the track rail designated work area and clamp securely.
9. Restart engine and repeat the operation.

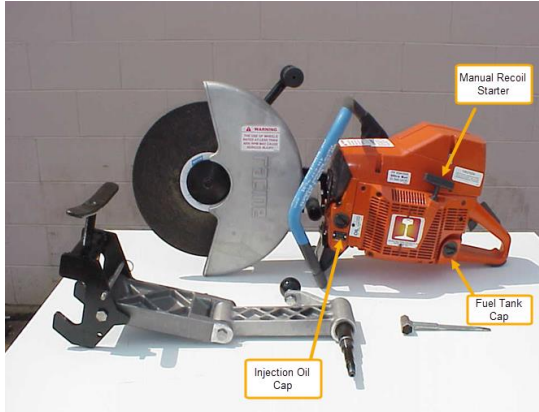
Engine Shut-Down

To safely transport and store the Ultra Kut II perform a normal shut down.

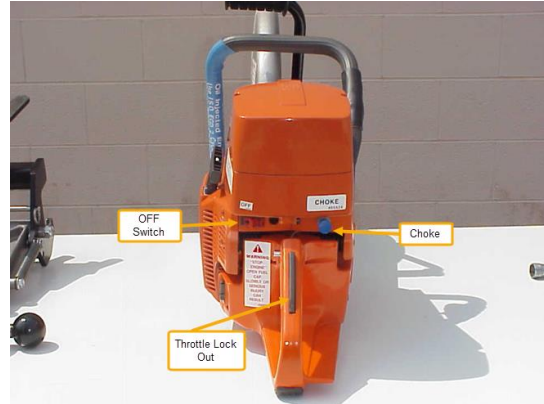
1. Stop the engine with the control lever and allow sufficient time for the engine to cool off.
2. Disengage the rail clamp and remove index and support bars.



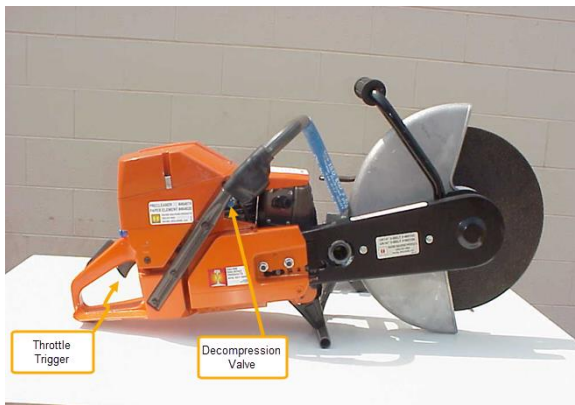
Setup and Adjustments



Ultra Kut II Saw – Left Side View



Ultra Kut II Saw Controls



Ultra Kut II Saw Right Side View



Ultra Kut II Proper Hand Position



Inner & Outer Wheel Flanges



Wheel with Blotters



Mounting the Rail Clamp and Ultra Kut II Saw



Rail Clamp Installed

Rail clamp tensoning screw with T-Handle.



Mounting the Ultra Kut II Saw

Rail clamp shaft shown being inserted into mounting receptacle.



Cutting Position Outside View

Pivot shaft and thread engaging tightening crank.



Cutting Position Inside View

Rail Top and Rail Side Cutting

Rail Top Cutting



Top Rail Cutting



Top Rail Close Up View

Rail Side Cutting



Rail Side Cutting View



Side Close Up View



**Rail Side Cutting with Operator's Position
Adjacent to Clamp Tensioning Screw**
Stop Pin is inserted on operator's side.



**Rail Side Cutting with Operator's Position
Opposite of Clamp Tensioning Screw**
Stop Pin is inserted on operator's side.



Daily Inspection, Fueling and Lubrication

At a minimum, perform the following routine daily maintenance on the Ultra Kut II saw to keep it in good working condition.

- General condition of the machine.
- All guards and safety devices are installed and operable
- All controls are operable
- Rail clamp device is operable.
- Engine fuel and oil levels are full
- Engine air filter element is clean and serviceable

Engine Fuel

The engine mounted fuel tank holds 2.65 US pints. **Use clean, fresh regular unleaded gasoline with a minimum of 90 octane.**

Fresh fuel prevents gum from forming in the fuel system or the essential carburetor parts. Purchase fuel in quantity that can be used within 30 days.



Fill fuel tank outdoors or in a well-ventilated area, away from sparks, open flames, pilot lights, heat and other ignition sources.

If fuel spills, wait until it evaporates before starting the engine.

Turn the engine OFF and let it cool at least two minutes before removing the gas cap. Replace the gas cap before starting.



Some fuels, called oxygenated or reformulated gasoline, are gasoline blended with alcohols or ethers. Excessive amounts of these blends can damage the fuel system or cause performance problems.

If any undesirable operating symptoms occur, use gasoline with a lower percentage of alcohol or ether.

Do not use gasoline that contains Methanol.

Engine Injection Oil

The engine holds approximately 0.66 US quarts (0.70 liter) of oil. Use ACC-YS00-00-12 (S-2) oil.

Check the engine oil injection reservoir level as shown in the Husqvarna engine's owner's manual and fill as required. Husqvarna P/N: 31ZH9603.

- Short web link:
<https://bit.ly/2OptN31>
- Long web link:
http://service.webec.husqvarna.net/documents/HCPO/HCPO2012_EUenAPenUSenEUesLAesEUdeEUfrCAfrEUitAPzh/HCPO2012_EUenAPenUSenEUesLAesEUdeEUfrCAfrEUitAPzh_1154352-20.pdf

The engine manufacturer recommends cleaning of residue, dirt or contaminated oil every 6 months / 100 hours thereafter.

Grease Type and Locations

Permanently sealed bearing and self-lubricating bushings are used extensively on the Ultra Kut II saw to reduce daily maintenance. Make sure all bearings and moving parts are properly lubricated.

Maintenance

Maintenance of the Ultra Kut II saw can be performed without any special maintenance related safety devices. Before operating the Ultra Kut II, perform a daily inspection of the machine.

Make sure all general safety precautions are observed and that proper personal protective clothing is worn.



Do not perform maintenance on the Ultra Kut II while the engine is running.

Engine Maintenance

Maintain the engine in accordance with the engine operator's manual.

Safety Devices

After performing maintenance on the saw, make sure the following safety devices are installed:

- Fuel tank and injection oil tank caps are properly installed.
- Rail clamp is secure.
- Rail saw blade is installed properly.



Trouble Shooting

Problem	Possible Cause	Remedy
Starter fails to crank engine.	Broken recoil assembly.	Replace recoil assembly.
	Engine seized.	Remove engine and test for cranking replace engine if required.
	Broken lanyard.	Replace lanyard.
Engine starts hard or fails to start.	No fuel in fuel tank.	Fill fuel tank with fresh, clean fuel.
	Fuel lines or filter clogged.	Clean fuel lines or replace filter.
	Engine flooded.	Open choke and crank until engine starts.
	Spark plug fouled.	Clean / replace spark plug.
	Solid state ignition malfunction.	Replace solid state module.
	Contaminated / stale fuel.	Thoroughly clean fuel tank, lines, replace all fuel filters and refill with fresh, clean regular unleaded gasoline. Replace reformulated (low emissions) fuels after 30 days.
	out of adjustment.	Readjust carburetor.
	Low oil in injection oil reservoir.	Refill engine oil to within 0.50 inch of fill opening.
Engine stops suddenly.	No fuel in fuel tank.	Fill fuel tank with fresh, clean fuel.
	Fuel lines or filter clogged.	Clean fuel lines or replace filter.
	Low oil in injection oil reservoir.	Refill injection oil to within 0.50 inch of fill opening.
Engine misses or runs rough.	Contaminated / stale fuel.	Thoroughly clean fuel tank, lines, replace all fuel filters and refill with fresh, clean regular unleaded gasoline. Replace reformulated (low emissions) fuels after 30 days.
	Carburetor out of adjustment.	Readjust carburetor.
	Spark plug fouled.	Clean / replace plug.
	Low oil in injection reservoir.	Refill injection oil to within 0.50 inch of fill opening.
Engine lacks power or stalls under load.	Air Filter clogged.	Replace air filter element.
	Fuel lines or filter clogged.	Clean fuel lines or replace filter.
	Carburetor out of adjustment.	Readjust carburetor.
	Spark plug fouled.	Clean / replace spark plug.
	Fuel tank vent inoperative.	Replace with proper fuel tank cap.



Trouble Shooting Continued

Problem	Possible Cause	Remedy
Engine noisy or knocking.	Loose flywheel.	Tighten flywheel nut.
	Worn bearings or loose connecting rod.	Overhaul or replace engine.
Saw cuts incorrectly or out of squareness.	Rail clamp may be out of alignment.	Refer to rail chart for rail size.
	Clamp bearings may be worn.	Replace clamp bearings.
	Reverse blade on spindle.	
Breaks saw blades.	Mis-aligned blades with rail.	Reposition accordingly.
	Worn or poor grade of blades.	replace worn or bad blades.
	Engine is running too slow.	Set throttle to maximum required R.P.M.'s
Will not clamp to rail	Clamp mechanism loose or damaged.	Replace clamp.
	Tensioning screw point worn.	Replace tensioning screw.
Blade will not Rotate under Power.	Check belt tension.	Replace belt if needed.
	Clutch wheel worn (broken).	Replace clutch / sheave.
	Clutch springs worn/broken.	Replace springs.