RS48 GOLF GREEN ROLLER MANUAL



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SEPARATE HONDA ENGINE OWNERS MANUAL INCLUDED

Congratulations on your investment in the RS48 Roll 'n' Slice Golf Green Roller and your move to smoother, faster, more consistent putting Greens. The following operation and maintenance manual has been prepared for use with the RS48 Roll 'n' Slice Golf Green Roller. It is intended as a guide and supplemental updates to the manual may take place at a future date.

This machine is engineered to be simple to operate and easy to maintain. If you have any questions or concerns that this manual does not address, please feel free to contact your distributor at:

NAME:	
ADDRESS:	
TELEPHONE:	
FACSIMILE:	

MACHINE INFORMATION RS48 Roll 'n' Slice Eaton Golf Green Roller Serial # Engine # Purchase Date:

SAFETY INFORMATION

Safety is of the utmost importance when operating turf equipment. To ensure safe operation of the RS48 Roll 'n' Slice Roller, please follow the following safety guidelines.

- * Always make a pre-operation inspection before you start the engine. If this procedure is not carried out damage to property or personnel may occur.
- * Keep children, pets and inexperienced personnel away from the machine. This machine should only be operated by trained and skilled personnel check with your supervisor if you are unsure.
- * Know how to stop the engine when in motion. Read and understand engine manufacturers manual, as supplied.
- * Never permit inexperienced operators to use the machine. This machine requires certain knowledge and expertise to operate it; you must be a trained person to use this machine. Unskilled persons can harm themselves and others if they operate this machine.
- * Do not use in enclosed areas unless well ventilated. Carbon monoxide gases are dangerous if inhaled, it can cause death; use the machine outdoors.
- * When transporting the roller, make sure the trailer lock down mechanism is secure to prevent premature release. If the trailer lock is not correctly engaged while towing and releases accidentally the front of the roller can dig into the ground, causing the machine to move dangerously in any direction and cause bodily injury. This also applies during normal maintenance procedures make sure the latch is locked and in place. When carrying out maintenance ensure the latch is engaged correctly; if it is not the trailer arm could fly up making contact with a person (s) causing serious injury.
- * When engine is running, always keep hands and loose clothing away from rotating chains and sprockets in transmission area. If hair, clothing or loose objects become entangled on a rotating shaft serious bodily injury could occur. Stop engine before opening safety cover fitted to the transmission area.

OPERATOR, REMEMBER IT IS YOUR RESPONSIBILITY TO BE AWARE OF YOUR SURROUNDINGS. TO AVOID ACCIDENTS, THINK SAFE AND OPERATE SAFE.

WARRANTY

THE WARRANTY PROVIDED SHALL BE THAT AS OFFERED BY TRU-TURF EQUIPMENT INTERNATIONAL AGENCIES. ALL WARRANTY CLAIMS ARE TO BE DIRECTED TO THE SUPPLIER.

- 10.1 Subject as provided below the Supplier warrants to Buyer that the goods will be free from defects due solely to faulty materials or bad workmanship until after the following periods;
 - (a) in respect of whole goods, from date of delivery to the first retail purchaser;-
 - 6 months for federal, state and local government organisations, sporting clubs and agricultural contractors.
 - 3 months for industrial contractors and commercial usage.
 - (b) in respect of spare or replacement parts (whether supplied under the contract or pursuant to a warranty claim) 90 days, or the remainder of the warranty period for the whole goods into which the part is incorporated.
 - (c) In respect to the engine and transmission, the period as offered by that manufacturer through its appointed representative (distributor or agent) in the country in which the machine has been sold.
- 10.2 The Supplier's obligation under 10.1 above shall be to replace at no charge ex-factory to the buyer any part of the goods which is defective in materials or workmanship, or (at the Supplier's option) to grant a monetary credit to Buyer equal to then ex-works price to the buyer of such part.
- **10.3** The Supplier's liability under 10.1 above shall be conditional upon:
 - (a) every claim being delivered in writing to the Supplier within 50 days of the occurrence of the alleged failure, giving full particulars thereof and stating
 - (1) Date of delivery to first buyer
 - (2) Serial number(s) of the goods
 - (3) Hours of operation
 - (4) Date of failure
 - (b) (where requested by the Supplier) the part which is alleged to have failed being returned to the Supplier or otherwise made available for inspection by Supplier or its appointed representative, the cost of carriage of such part to the Supplier being reimbursed to the buyer upon acceptance of the claim.
- 10.4 The Supplier's obligations under this Warranty shall not cover or apply to :-
 - (a) transportation, installation or labour costs or other charges incurred by the Buyer
 - (b) tyres, engine and transmission/drive and other proprietary articles not manufactured by the Supplier of the product, but the Supplier will pass on to Buyer the benefit of any claim made by the Supplier and accepted by the manufacturer of such articles under a warranty given by that component manufacturer.
 - (c) any goods or parts thereof which in the opinion of the Supplier have been affected adversely by methods of assembly and/or incorporation into another product adopted by buyer or its sub-contractor or customer, or have altered, repaired, neglected, used in such a way as to affect adversely their stability or reliability, or have been used in any product or for any purpose for which they were not designed.
- 10.5 Where directed by the Supplier, the Buyer shall lodge any claims under this warranty directly with the duly appointed Supplier distributor in the territory of use of that product.

INITIAL ASSEMBLY

When you receive the crate, the machine will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

List of Components

- (1) Operation, Maintenance & Parts Manual
- (2) Machine Frame/Body

Seat Mounting Components

- (1) Drivers Seat
- (1) Seat Pin
- (1) 12mm External Circlip

Steering Arm Components

- (1) Steering Joystick
- (1) Woodruff Key

Dampener Strut

(1)

Wheel Components

- (2) Tyres mounted on Wheel Rim
- (2) 1" x 1 3/4" Flat Washers
- (2) 25mm External Circlips

Trailer Arm Components

- (1) Left-side Trailer Arm
- (1) Right-side Trailer Arm
- (2) 25mm External Circlips

Tow/Latch Components

- (1) Drawbar Coupling Assembly
- (2) 2.1/4" x 3/8" UNF Hex Head Bolt
- (2) 3/8" UNF Nyloc Nuts

Step 1: MOUNTING THE SEAT TO THE SEAT FRAME

- * Remove the circlip and the 12mm diameter pin from the seat frame
- * Place the seat, with the seat back oriented toward the rear of the machine (the front of the machine is the side where the pedals are located)
- * Replace 12mm diameter seat locating pin through seat frame guides and through the seat guide, replace external circlip on the end of 12mm diameter rod to prevent the seat pin sliding out.

Step 2: MOUNT THE STEERING ARM TO THE MACHINE

- * Select the steering joystick
- * Place the keyed end of the steering joystick into the hole on top of the steering support cylinder (the cylinder is located directly behind the foot pedal and is approximately 12" high. There is a sealed bearing laying flat in the top and bottom of the cylinder.
- * Slide the steering joystick into the hole until it rests against the shoulder. If the steering joystick stops before reaching the shoulder, use emery cloth to polish the shaft. You may also use a light oil on the bearing and shaft to allow the shaft to slide freely.
- * Lift up the smoothing roller side of the machine so that you can get to the underside of the machine. On the opposite side of the machine from the smoothing rollers, there is a trailer pivot pin (25mm in diameter) welded on the top of the body which will prevent the machine from rolling on its side.
- **VERY IMPORTANT**: Brace the machine so that it will not fall over. Secure the machine with a rope or blocks to prevent the machine from falling.
- * Locate the joystick shaft on the underside of the machine (Again, this is toward the front of the machine).
- * Locate the Woodruff Key. The Woodruff Key is a 3/4" x 3/16" thick piece of steel in the shape of a half circle.
- * Place the round-side of the Woodruff Key into the rectangular key slot on the joystick shaft. Hammer or squeeze with pliers into place. When complete, the flat side of the Woodruff Key should be parallel to the steering rod.

MOUNTING THE STEERING ARM TO THE MACHINE CONTINUED

- * Place the steering linkage assembly onto the steering shaft. The "shiny" arm or rod end should be on the ground-side or lower side of the steering arm assembly.
- * Line up the "square groove" on the steering arm assembly with the Woodruff Key with your hand, slide or knock the assembly onto the joystick toward the bearing as far as it will go and tighten the 5/16 Grub screw up against the joystick shaft. Make sure that the steering linkage remains aligned with the Woodruff Key and the Woodruff Key remains parallel to the rod when sliding the steering linkage on the rod.

IMPORTANT Do not reduce the thickness of the Woodruff Key. It is designed to be a no tolerance fit.

Step 3: ATTACHING TRAILER ARMS TO MACHINE BODY

- * Locate the trailer arm support rod which extends out on each side of the machine.

 Slide left side and Right side trailer arms, onto the Rod with the bends facing each other. (The Rod is located between the Transmission and the Engine across the top of the body)
- * Fasten in position with 25mmn external circlip. Ensure circlip is fitted correctly into the groove.
- * Grease both trailer arm support rods.

Step 4: ATTACHING DRAWBAR TO TRAILER ARMS

- * Locate the tow ball coupling assembly
- * Gather the ends of the right and left trailer arms. Locate the two holes in the end.
- * Place the tow ball coupling assembly between the trailer arms and align the holes.
- * Place one 2 1/4" x 3/8" Head Bolt through each hole.
- * Place one 3/8" UNF Nyloc Nut on each bolt and tighten.
- * Test and ensure trailer latch is correctly locking in the down position. This is important when trailing the machine.

Step 5: ATTACHING WHEELS TO TRAILER ARMS

- * Find the two wheels for the left and right side trailer arms
- * Fill the tyres with the appropriate amount of air (to about 18psi). Do not exceed this pressure.
- * Onto one trailer arm, slide a wheel onto the shiny axle-rod. Ensure the rubber air filler valve is facing out from the actual trailer arm.
- * Place the 25mm External Circlip, 25mm Flat Washer on the end of the wheel axle, ensure the circlip is fitted correctly in the axle groove to prevent the wheel from sliding off the axle.
- * Repeat the same procedure for the other wheel.

Step 6: ATTACH DAMPENER STRUT

- * Locate dampener strut. Remove wrapping from unattached end.
- * Screw fitting on end of strut into threaded hole on the trailer arm.
- * When roller is fully assembled, test the operation of the dampener. When it is operating correctly it should allow the roller to lower to the ground gently and the trailer will move up to its locking position, which will hold the wheels off the ground whilst rolling.
- * Coupling assembly should raise slowly. This prevents the operator from being injured.

Step 7: REPLACE ENGINE OIL

- * A tag is placed on the engine's On/Off switch indicating you must fill the machine with oil prior to operation. The fluid placed in the machine is designed to keep the inside of the engine from rusting until it is replaced with engine oil.
- * Replace engine oil as described in the Honda or Briggs & Stratton Manual

Step 8: LUBRICATE ROLLER PIVOT BEARINGS

* There is a grease nipple covered with a plastic cap located on both smoothing head centre ball joint swivels. Apply grease to lubricate fittings.

PRE-OPERATION CHECKS

- * Check engine as per Honda manual
- * Ensure steering joystick has no looseness
- * Check that foot pedal depresses under normal foot pressure.
- * Ensure that the trailer bar locking catch mechanism is securely locked to the main frame bolt when in the trailing position.
- * Check and tighten grub screws fitted to joystick steering arm, and end bearing lock rings on the rubber coated drive roller.
- * Grease lightly smoothing roller heads centre ball-joint swivels. Replace plastic cap.
- * Oil rod ends sparingly
- * Check tyre pressure for proper operating pressure (18psi)
- * Check for oil leaks rectify before using machine.

STANDARD OPERATION PROCEDURES

- * Inspect and check that the roller is serviceable prior to departing from workshop.
- * Use a suitable towing vehicle to move roller from green to green.
- * Do not speed when towing roller or travel across rough terrain at excessive speeds. If you do, damage may occur to the trailer or rubber drive roller. Maximum recommended speed would be equal to a motorised golf buggy. Approximately 4mph/7kph.
- * When approaching the green do not tow roller onto the green to set up; put the roller on the fringe of the green. Put trailer in the up position, start up the roller and drive it onto the green.
- * Greens can be rolled in any direction; take care to ensure there are no crease lines produced on the surface.
- * It is recommended that you place the smoothing head rollers on the high side of the green when rolling. This puts more weight on the rubber drive roller and helps give more traction, thus less slipping or spinning of the drive roller will occur on the green.
- * Whilst becoming familiar with the roller, set the throttle at about 1/2 speed. Press the left or right foot pedal down gently but not suddenly. Be smooth with your action, hold in this

STANDARD OPERATION PROCEDURES CONT.

position until nearing the edge of the green, then take your foot gently off the pedal, the roller will stop. Rest your other foot on the opposite pedal and gently apply the pressure on the pedal. It then starts to move the roller into the opposite direction. Once again be gentle with the pedal, but not sudden. By using the left and right pedal in this manner, will ensure there is no damage to the green, less wear and tear on the equipment and operator.

- * The correct procedure for rolling the green is:
 - (a) Select the correct direction to roll the green
 - (b) Start on one side of the green and work you way across the green in a zigzag fashion, slightly overlapping each lap you roll: this makes sure you miss no part of the green and all of the green is rolled. Avoid coming back across the green to roll missed areas if possible. You should be able to complete the rolling of 18 greens in the same time or quicker than moving using a triplex mover.
- * When the rolling of the green is completed, move the roller onto the fringe, stop the engine, lock the trailer into the trailing position, connect it to the towing vehicle then move off to the next green to be rolled. Do not put the trailer down into the towing position on the green; damage may occur to the green from the roller tyres and body.

POINTS TO REMEMBER

- 1. Make sure the roller is serviceable before rolling.
- 2. Start rolling from the fringe of the green.
- 3. Smooth operation on the foot pedals.
- 4. Pick a point on the other side of the green to roll to.
- 5. Do not look at the green close to the roller; it makes it difficult to steer the roller; look well ahead.
- 6. Use 1/2 throttle until you are proficient at operating the roller.
- 7. Move the steering joystick a little at a time to change direction; excessive movement of the joystick makes it difficult to maintain a straight line.
- 8. Roll in straight lines.

POINTS TO REMEMBER CONT.

- 9. Do not leave the engine running with the roller parked on the green; the engine vibration will cause roller depressions on the green.
- 10. Move off the green when rolling is complete before putting the trailer in the down position.
- 11. When rolling steep greens and the engine stops, check engine oil level. The engine is fitted with a safety switch; when the engine oil level is low the engine will stop.

SLICER

Important to initially engage the slicing head ensure the roller is in motion, once the slicer is engaged it can be left in this position until the slicing operation is completed on that green. Off the green, ensure the cutter is in the raised position before lowering the roller to the ground.

MAINTENANCE

- * Stop engine before performing any maintenance
- * Service the Honda or Briggs and Stratton Vanguard 4HP engine according to the manufacturers maintenance schedule.
- * Check transmission oil level. The oil in the plastic container on top of the transmission should be to the indicated line.

IMPORTANT Do not overfill the plastic container as the oil requires room to expand when hot.

* As a guide to correct transmission oil use Mobil 1 or Penrite 10-10th

STORING

* It is important to store this roller in the towing position. This ensures the trailer strut is in the closed position, protecting the shaft from corrosion, then failure.

SERVICE OF DRIVE SYSTEM

REPLACEMENT - Use only the chain and sprockets recommended.

TENSIONING THE DRIVE CHAIN - No adjustment is required, the chain tension is automatically adjusted.

FAULT FINDING

ROLLER WILL NOT MOVE ONE OR EITHER WAY

Check:

- * Chain is okay
- * Sprockets worn of slipping on shaft
- * Foot control not operating check all arms are secure
- For Sheared Pulley Keys
 - * Transmission neutral handle in the disengaged position (forward)

ROLLER WILL NOT STEER

Check

- Joystick locating grub screw is tight
- * Woodruff Key is in place
- * Rod ends are connected to smoothing roller head and the steering arm
- * Centre swivel bearing on top centre of smoothing rollers has not seized

ROLLER HAS EXCESSIVE VIBRATION

Check:

- Disconnect engine-to- transmission and isolate the drive chain to determine
 - whether the problem is in the engine or into the transmissions
- * If engine is at fault contact your nearest Honda agent for rectification
- * If the transmission is at fault, repair or replace as necessary

SMOOTHING ROLLERS SEIZED

Check:

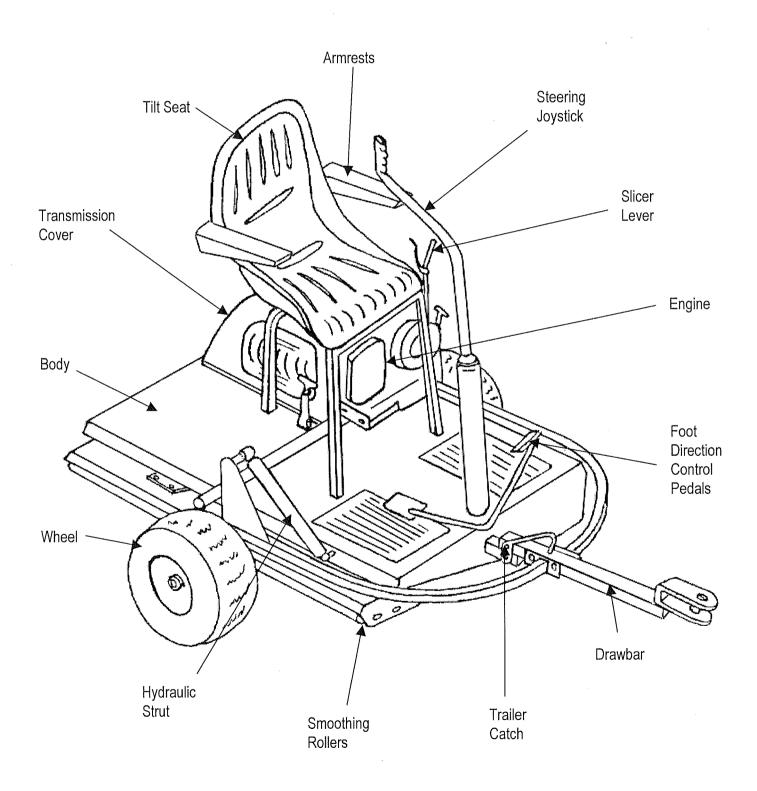
- * End float on rollers is sufficient, Minimum 1/16" (1mm)
- * Bearing has not seized

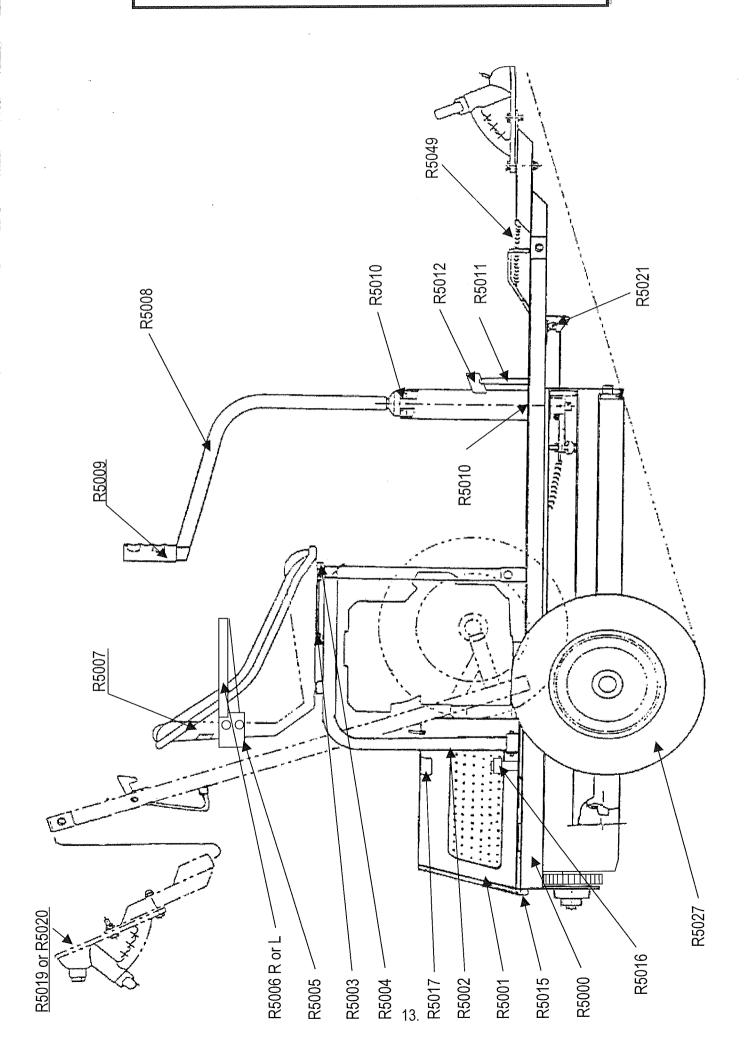
RUBBER DRIVE ROLLER WILL NOT ROTATE

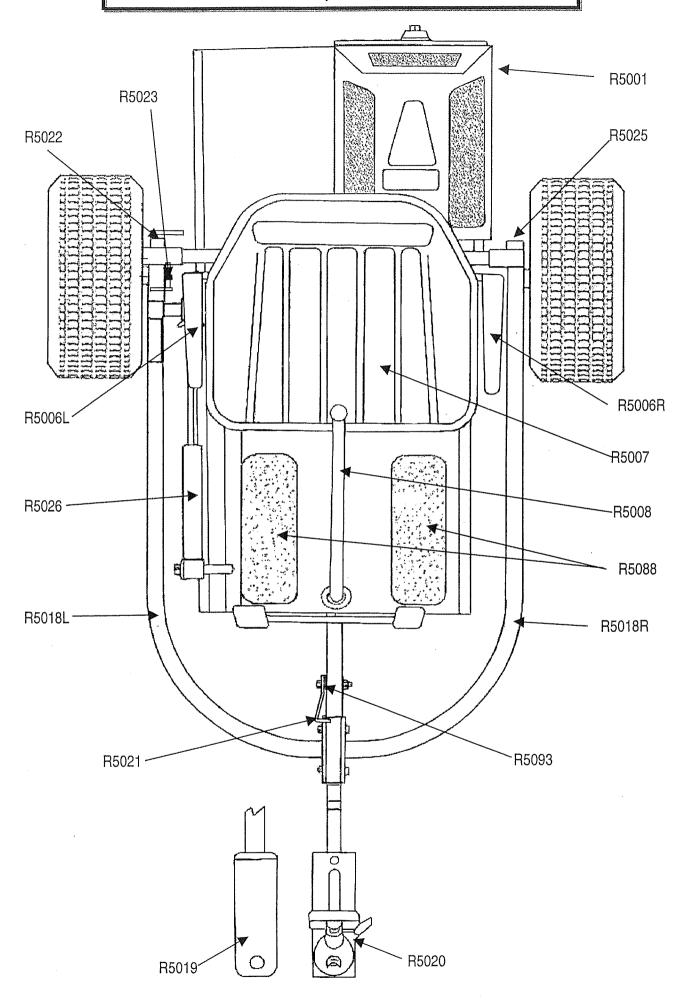
Check:

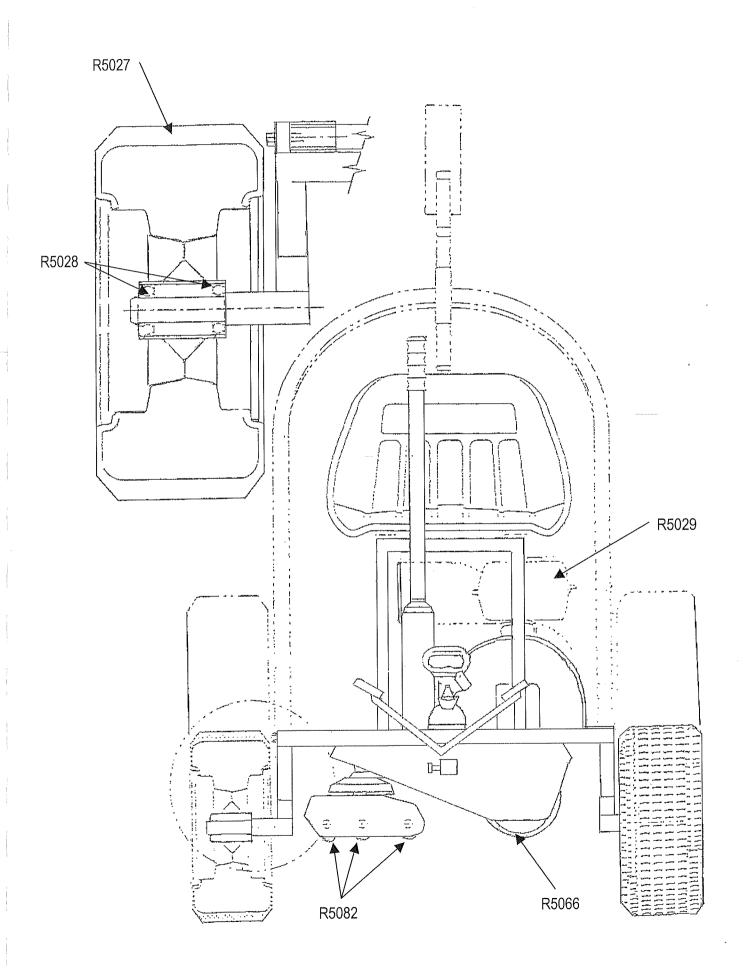
- Roller shaft end bearings have not seized
- * Broken chain
- Slipping sprockets

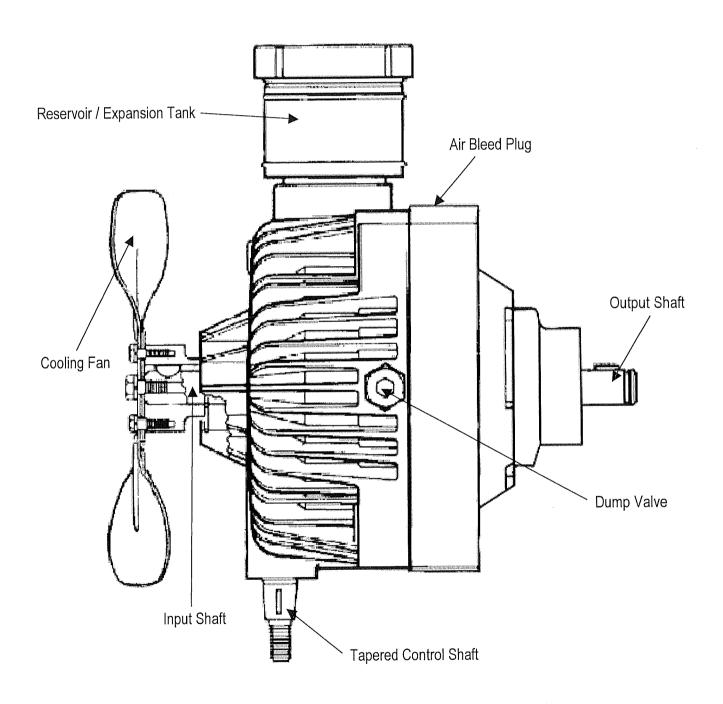
Machine Components

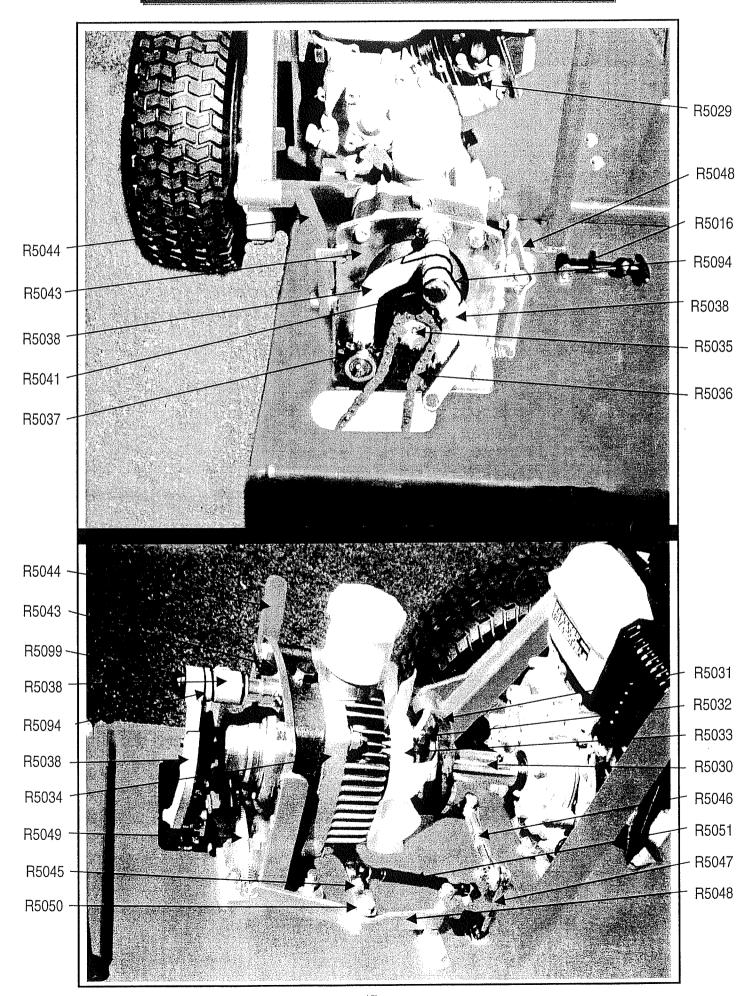


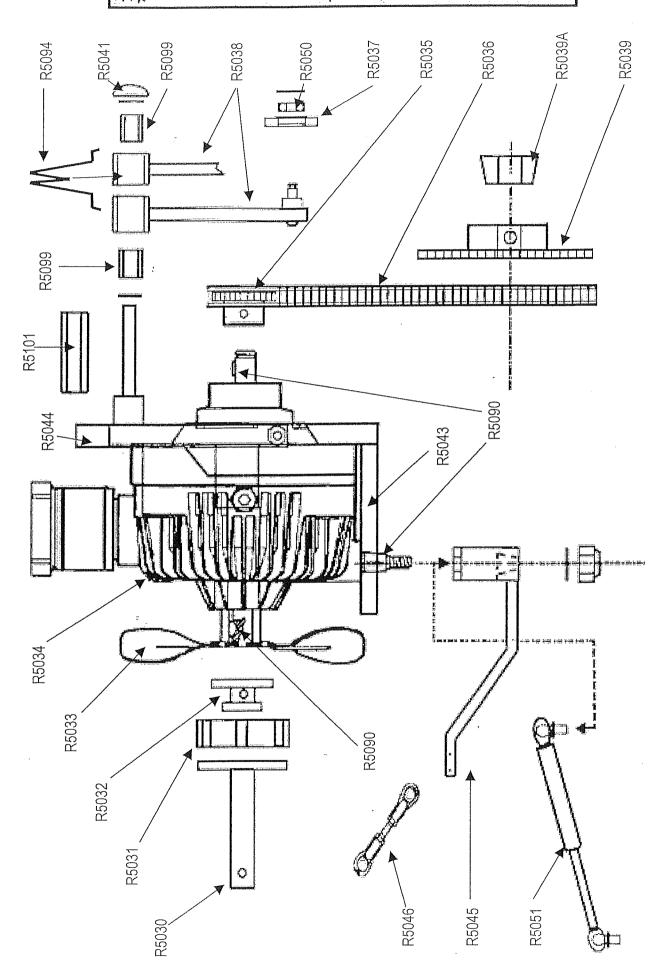


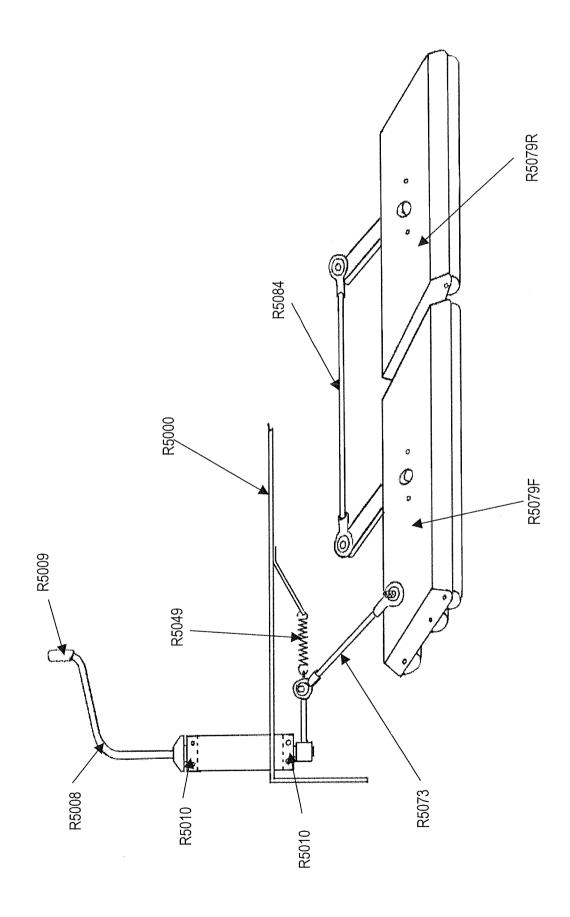


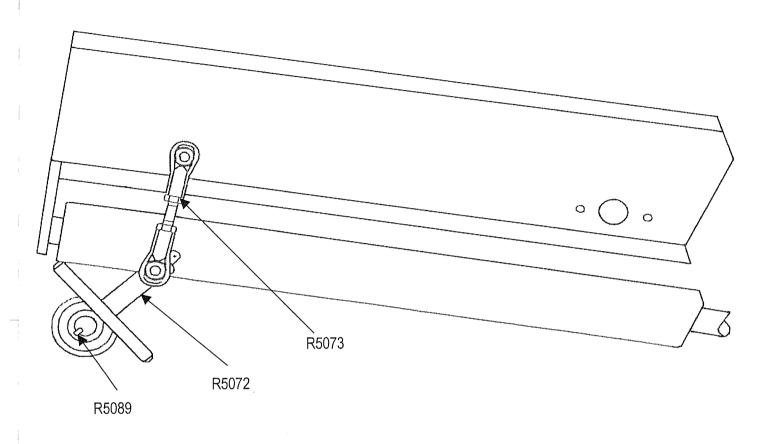


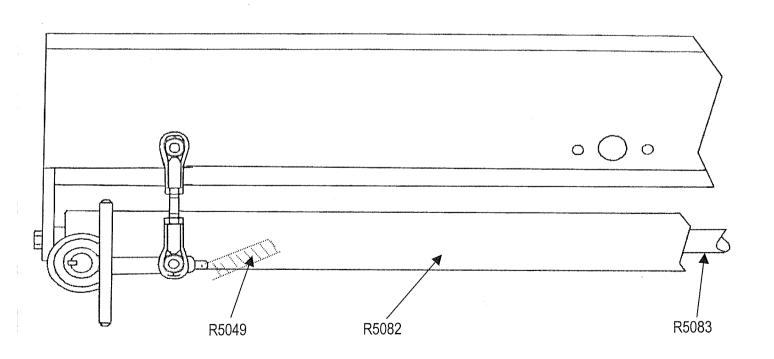


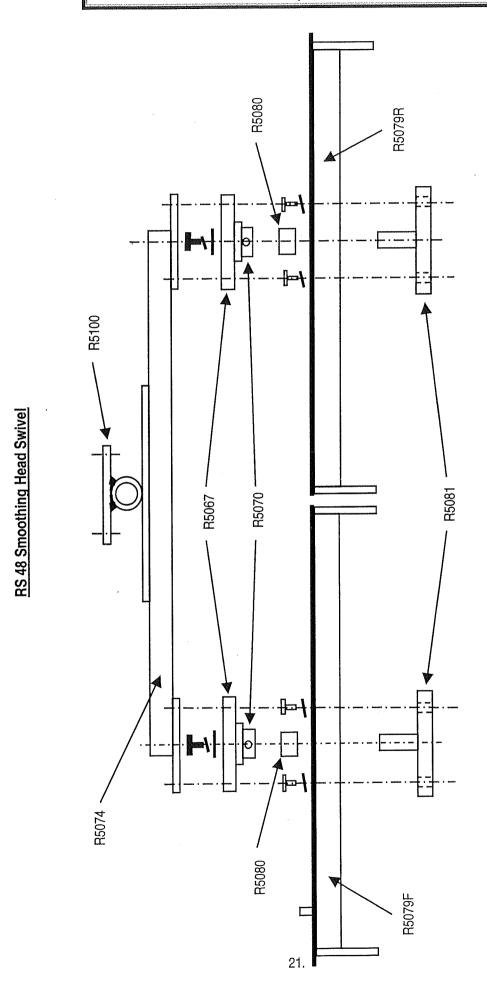


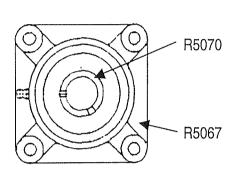


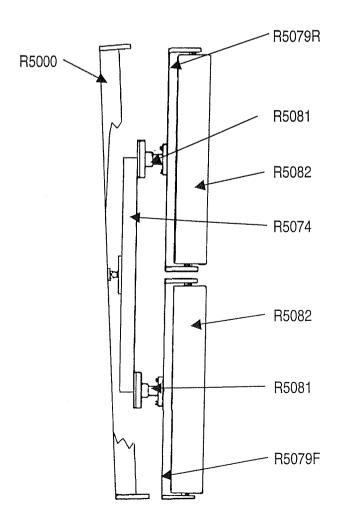


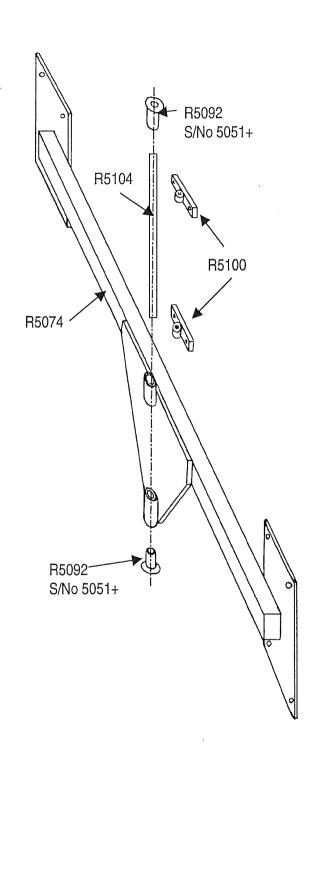


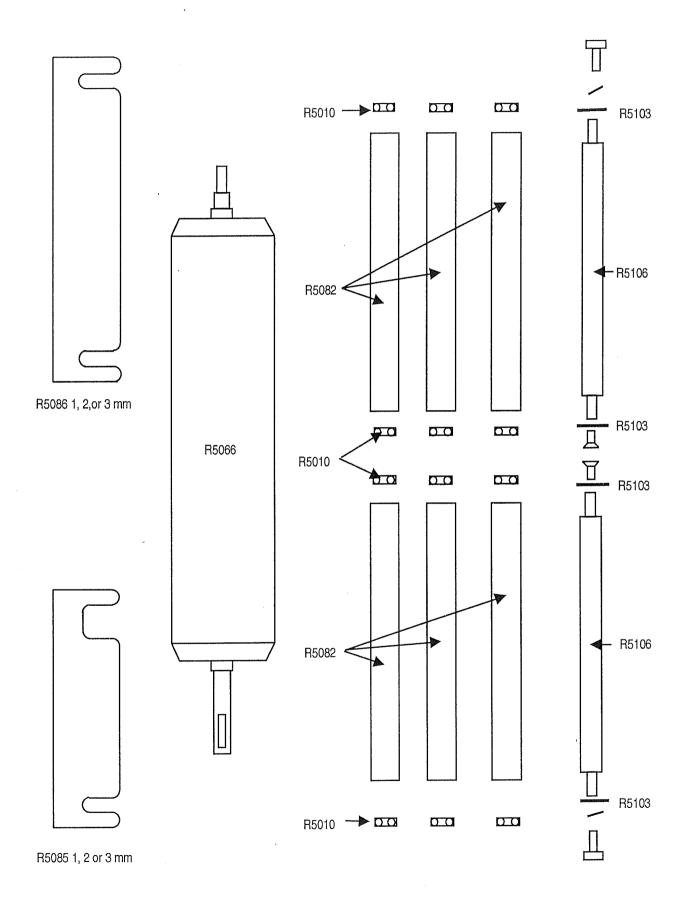


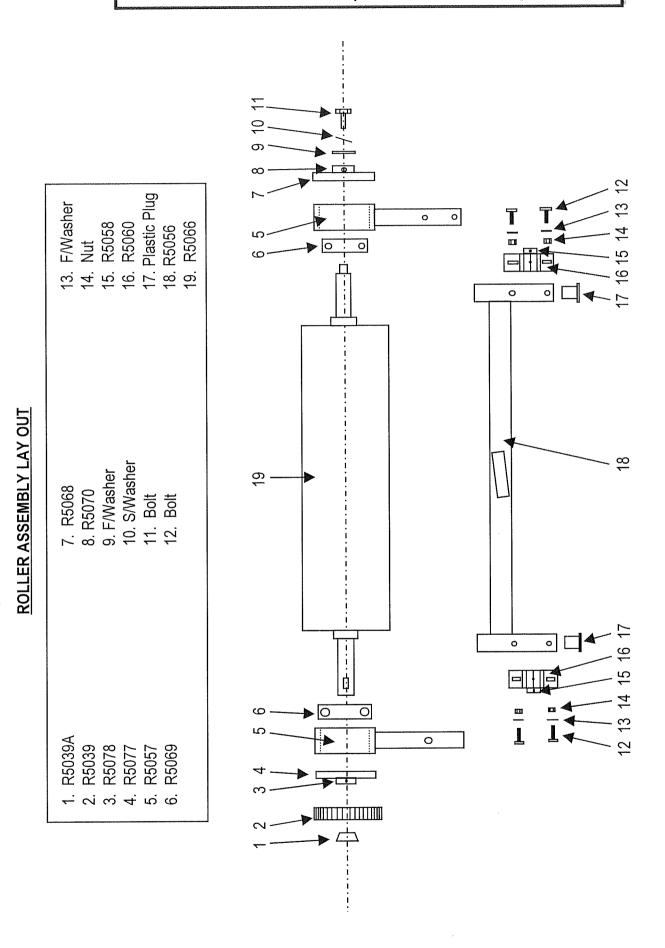


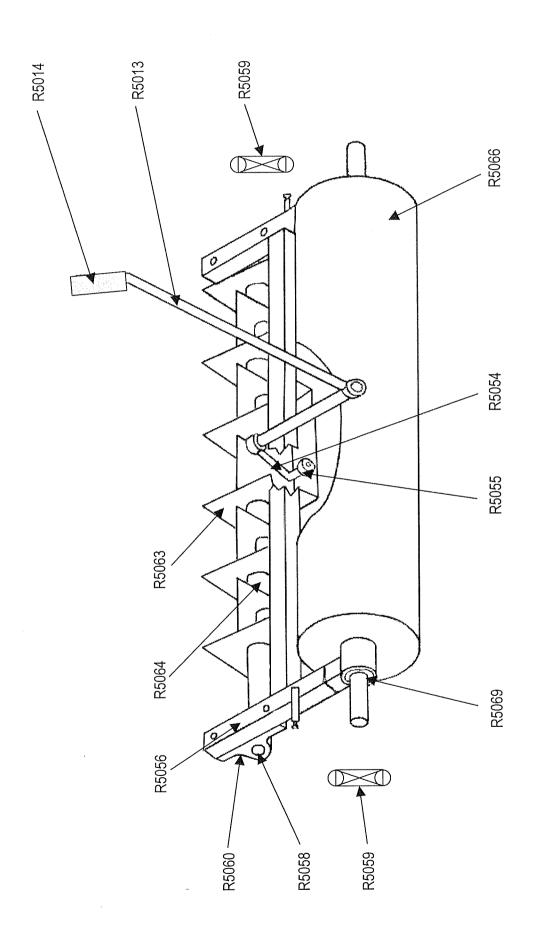


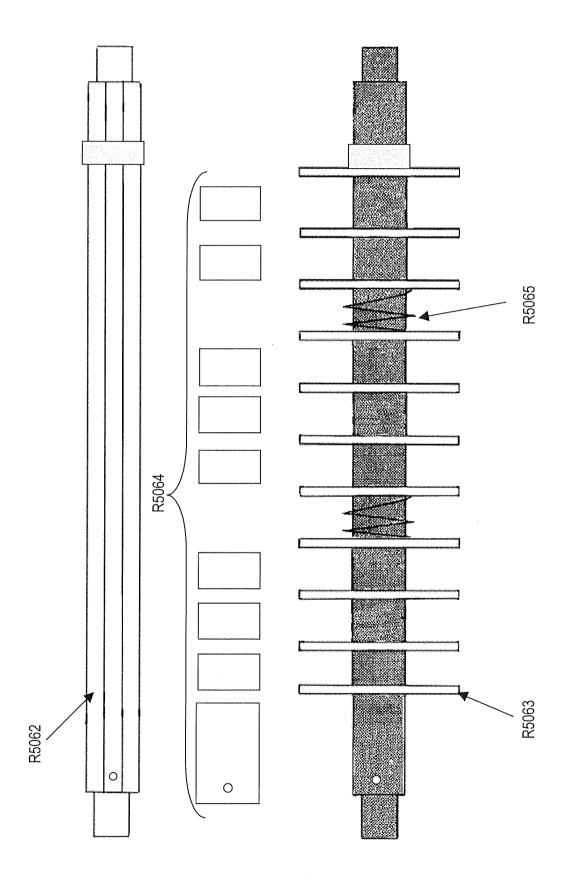


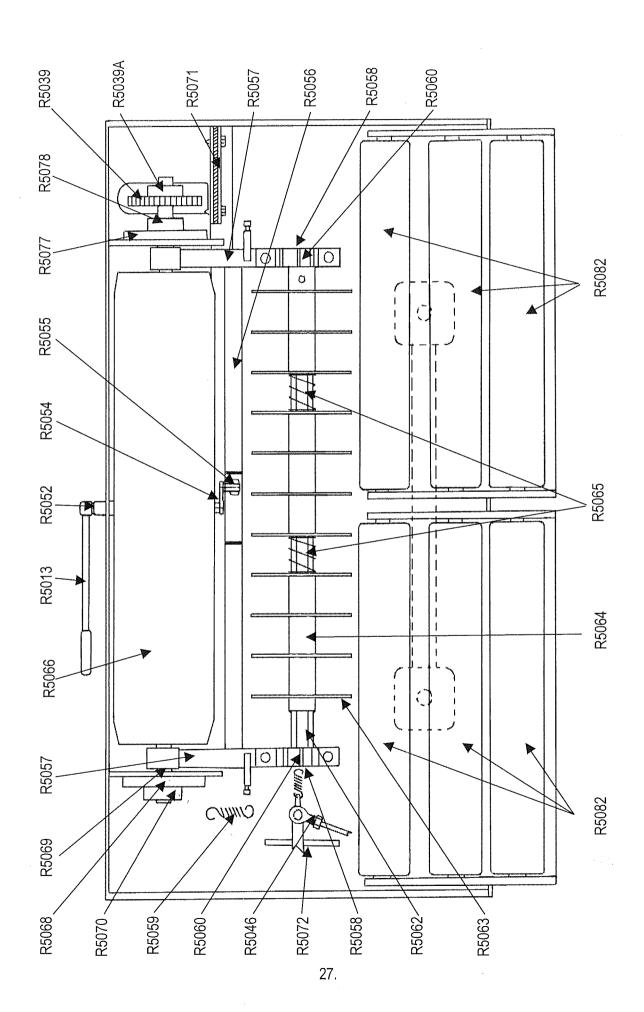


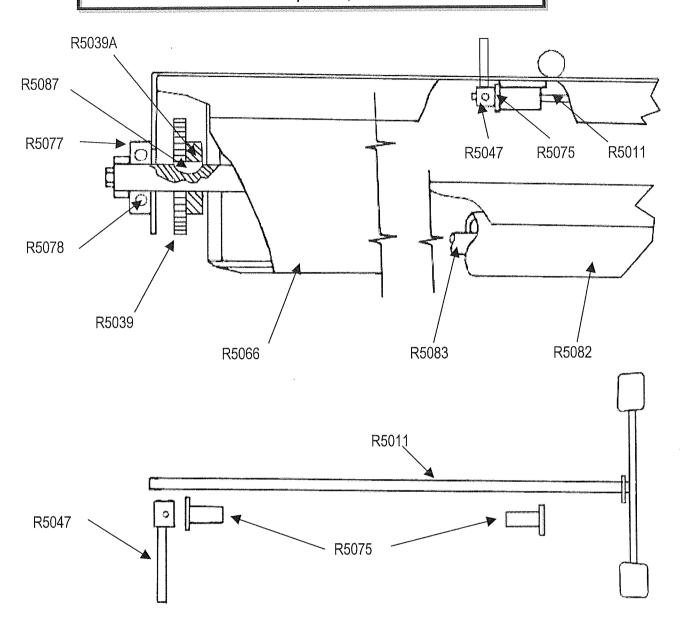


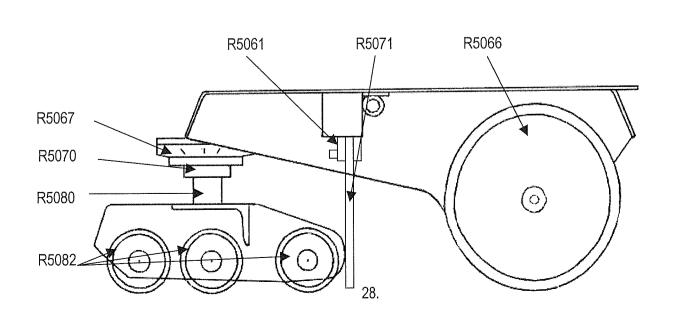












Part No R5017



Name & Model attached to rear of Transmission Cover

MADE ON THE GOLD COAST - THE GOLFING CAPITAL OF AUSTRALIA
PHONE +61 7 5594 7199



DANGER DO NOT OPERATE MACHINE WITHOUT COVER IN PLACE.

Attached to the Body beside the Transmission Cover

PRESS & HOLD PEDAL TO MOVE LEFT

Attached to the Body under the Foot Pedals

PRESS & HOLD PEDAL TO MOVE RIGHT

WHEN ROLLING SLOPING GREENS PLACE THESE ROLLERS ON THE HIGH SIDE.



Attached to the front top of the Smoothing Head

CAUTION

ENSURE FRONT OF ROLLER IS TOUCHING THE GROUND BEFORE RELEASING THE TRAILER LOCK

Attached to the front of both trailer arms at the Release Catch position

PARTS LIST

PART NUMBER	PART DESCRIPTION
R5000 R5001 R5002 R5003 R5004	Main Body Transmission Cover Seat Frame Seat Base Pin
R5005 R5006R R5006L R5007 R5008	Arm Rest Support Arm Rest RH Arm Rest LH Seat Joystick
R5009 R5010 R5011 R5012 R5013	Hand Grip Bearing Foot Pedals Foot Pedal Pads (2) Slicer Lever
R5014 R5015 R5016 R5017	Handle Grip Pin Catch (Rubber, Pin, Hook) Sticker (Safety Pack)
R5018R R5018L R5019 R5020 R5021	Trailer Arm RH Trailer Arm LH Drawbar (Pin Type) Drawbar (50mm Ball Coupling)
R5022 R5023 R5024 R5025 R5026 R5027 R5028 R5029 R5030 R5031	Spring Catch Trailer Plastic Plug Kit (4-35x35, 2-30x30, 1-1/4" dia) Hydraulic Strut Tyre & Rim (2 off inc. 2x1" Washers & 2x25 Circlips) Wheel Bearings Engine (Honda 4HP 2: 1 reduction) Engine Coupling (inc. Key & Allen Screw 5/16") Honda 4 h.p. Rubber Coupling (inc. 4x5/16x 1 1/2" x 5/16 UNF Bolts & Nyloc Nuts) Transmission Coupling (inc. 5/16 Allen Screw)

RS48-E PARTS LIST CONTINUED

R5033 R5034 R5035 R5036	Fan Transmission Sprocket 11T & 1/8" Woodruff Key & 5/16 Allen Screw Chain
R5037 R5038 R5039 R5039A	Sprocket 12T x 2 (inc. Bearing & Circlip) Tensioner Arms (pair) Sprocket 30T Taper Lock 30mm
R5040 R5041 R5042 R5043 R5044	1/2" Capped Washer Bracket Transmission Lever Transmission Neutral
R5045 R5046 R5047 R5048 R5049	Yoke Rod Ends x 2 inc. rod Foot Pedal Arm Self Centring Kit Spring Self Centring & Steering Return
R5050 R5051 R5052 R5053 R5054	Bearing 6000 Strut Transmission Bush Slicer Engaging Arm
R5055 R5056 R5057 R5058 R5059 R5060 R5061 R5062 R5063 R5064 R5065 R5066	Bearing Slicer Frame Slicer Frame Bearing Arm 2 off Bearings 2 off Springs 2 off Housing Mud Flap Strap Hexagon Slicer Shaft Blades (11 off) Spacer Sets (6x63mm – 1x25mm) Slicer Spacer Springs 2 off Drive Roller (inc. 1"x3/8 NF Bolt Body Washer & Spring Washer 8x7x30 Key or 8x30 Woodruff Key)
R5067 R5068 R5069 R5070	Housing Housing Bearing Bearing

RS48-E PART LIST CONTINUED

R5071 R5072 R5073 R5074 R5075	Mud Flap Steering Arm Steering Connecting Rod (inc. 2 x Rod Ends) Smoothing Head Swivel Bracket inc. Plastic plugs Nylon Bushes 2 off
R5076 R5077 R5078 R5079F R5079R	Pin Pivot Bush (powder coated) Bearing Housing Bearing Smoothing Head Front Smoothing Head Rear
R5080 R5081 R5082 R5083 R5084	Spacer Smoothing Head Bearing Carrier Mount 2 off Smoothing Rollers 6 off Shaft, 2x6304 Bearings, complete with Bolts & Washers Connecting Rod (inc. 2 Rod Ends)
R5085 R5086 R5087 R5088 R5089 R5090 R5091 R5092 R5093 R5094 R5095 R5096 R5097 R5098 R5099 R5100 R5101 R5102 R5103 R5104 R5105 R5105 R5106	Shim Shim Woodruff Key 8 x 30 Mat Woodruff Key 3/16" Woodruff Key 1/8" Engine 5.5 hp Honda Nylon Bush – Swivel Smoothing Head Spring Drawbar Catch Chain Tensioner Spring Dome Cap (16mm) Foot Pedal Arm Transmission Yoke Transmission Yoke Spring Chain Tensioner Bronze Bush Pivot Bush Pin Mount Blocks x 2 Sizing Sleeve 12-16mm Catch, Front Trailer (no spring tab) Smoothing Roller Shaft Washer (1/8" thick) Shaft – Swivel Smoothing Head (to suit red nylon bush R5092) Engine Coupling, Honda 5.5 HP (inc. key & allen screw 5/16") Roller Shaft Stepped (inc. 2 washers R5103)
Reserve	Tyrest Tobacol