RS-500

Tru Mark Rider

(All Models)

Tru Mark Athletic Field Marker
PO Box 706
Norfolk, NE 68702-0706
(800) 553-6275
www.AthleticFieldMarker.com

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I. PRECAUTIONS

CAUTION

- **LOOK DOWN AND BEHIND MACHINE BEFORE AND WHILE BACKING.**
- **DO NOT USE ON SLOPES OR IN ANY AREA WHERE STABILITY OR TRACTION IS IN DOUBT.**
- **DO NOT USE MARKER ACROSS FACE OF SLOPES.**
- **AVOID SUDDEN TURNS.**

CAUTION

- **TRAILER LOADING PROCEDURES:**
  - **BACK ONTO TRAILER, DO NOT DRIVE FORWARD ONTO TRAILER.**
  - **EMPTY TANKS BEFORE LOADING ONTO TRAILER.**

- SEE ASSEMBLY INSTRUCTIONS BEFORE REMOVING THE TRU MARK FIELD MARKER FROM THE SHIPPING CRATE.

- USE ONLY WATER BASED LATEX FIELD MARKING PAINTS. DO NOT USE FLAMMABLE LIGUIDS, OIL BASED OR RUBBER BASED PAINTS.

- RINSE THE SYSTEM THOROUGHLY WITH CLEAN WATER AFTER EACH USE TO ENSURE THAT THERE IS NOT PAINT RESIDUE REMAINING IN THE TANK, THE PUMP, OR THE LINES. (See Section IV for proper maintenance.)

- MIX PAINT THOROUGHLY TO AVOID POTENTIAL OF CLOGGING AT INLET SCREEN.

II. ASSEMBLY

SHIPPING CONTENTS

Your TRU MARK Rider Field Marker is shipped with the following:

- 1- Plastic Mixing Jug
- 1- Plastic Fill Funnel
- 1- Tool Kit in Bag
- 1- Spray Wand Assembly
- 1- Owner's Manual

After receiving your TRU MARK Rider, remove everything from the shipping crate. Inspect all pieces to ensure no damage has occurred during shipping. Once inspection is complete, the machine can be prepared for use. The battery in your TRU MARK Rider has been sent DRY for shipping purposes and must be prepared for initial operation.

NEW BATTERY OPERATION

1. Remove battery from Rider chassis (See Section IV for proper removal.)
2. Place battery in a well-ventilated area on a level non-concrete surface.
3. Remove battery cell caps. Fill cells as required with electrolyte (purchased separately) to proper level. Fill to 3/16" above cell plates. Filling battery with electrolyte will bring the battery to 80% charged state.
4. With cell caps removed, connect battery charger to battery terminals; RED to positive (+) and BLACK to negative (-) terminal.

☞ IMPORTANT: 3/16" above cell plates is the recommended level. However do not try to measure this dimension. Never place anything in battery other than specified electrolyte.

CAUTION!
Never attempt to charge battery while installed on the Rider chassis. Never use "BOOST" chargers on the battery. DO NOT OVERFILL.

5. Slow charge the battery at 1 amp for 2 hours to bring the battery to full charge.
6. After charging, check level of electrolyte and add as needed to bring level to 3/16” above cell plates.
7. Reinstall cell caps.

8. Reinstall battery in Rider chassis (See Section IV for proper installation.)

CAUTION!

The electrolyte (acid) produces a highly explosive gas. Keep all sparks, flame and fire away from area when charging battery or when handling electrolyte or battery. Electrolyte (acid) is a highly corrosive liquid. Wear eye protection. Wash affected areas immediately after having eye or skin contact with electrolyte (acid). Battery acid is corrosive. Rinse empty acid containers with water and mutilate before discarding. If acid is spilled on battery, bench, or clothing, etc., flush with clear water and neutralize with baking soda.

III. OPERATIONS

PRE-START CHECK LIST

Perform the following checks and servicing before each start-up.

1. Check tires and add or release air as needed to bring pressure to 15 psi in front and 10 psi in rear tires.
2. Check all guards, deflectors, retaining pins and covers to make sure all are in place and securely tightened.
3. Check engine oil and add oil as needed to bring level up to the full mark. Refer to engine owner's manual for oil specifications.
4. Adjust seat as needed to most comfortable position.
5. Clean exterior surfaces of Rider chassis, tanks and engine of any accumulation of dirt, paint, oil, etc. Keep engine air intake screen and cooling fins clear at all times.
6. Add fuel to tank after pushing the Rider outside where fumes can dissipate. Make sure fuel filler cap is tight and vent is open after refueling. Refer to engine owner's manual.

☞ NOTE: The paint tanks on your TRU MARK Rider are designed to swing away for ease of maintenance. Simply pull out the hairpin located under each tank and swing away for needed clearance. PLACE TANKS AND HAIRPINS IN PROPER LOCATION BEFORE OPERATION.

OPERATOR'S SEAT ADJUSTMENT

The operator's seat on the Rider is adjustable from front to rear. With the engine stopped, loosen the two adjusting knobs and move seat to desired position. After adjustment, tighten knobs securely. If seat does not move after loosening knobs, it may be necessary to loosen the 5/16" patch lock screws located at the rear of the seat using a ½" wrench. The adjusting knobs need to be positioned as not to interfere with seat mounting plate when returned to sitting position.

CAUTION!
It is possible to start engine with transmission shift lever in a drive position. Follow starting instructions carefully.

STARTING & OPERATION

ELECTRIC START

☞ IMPORTANT: When the ignition key is turned to "START", the engine will turn over, but will not start unless the Clutch/Brake pedal is depressed all the way down. The operator should be in the seat. Start engine as follows:

1. Move Transmission Shift Lever to (N) Neutral position. DO NOT start engine with Transmission Shift Lever in a drive position.
2. Press Clutch/Brake pedal all the way down and hold while starting engine.
3. Open vent on fuel filler cap by turning counterclockwise. IMPORTANT: Failure to open vent on the fuel filler cap can cause engine to stall.
4. Move engine speed control to the choke position, located on control panel, to start a cold engine.
5. Turn key to the "START" position until engine starts. NOTE: If the engine does not start after 5 seconds of cranking it, release the key, make sure the Clutch/Brake pedal is fully depressed and attempt starting again after waiting for approximately 20 seconds.
6. After engine starts, move engine speed control to the "FAST" position; allow a brief warm-up until engine runs smooth.
7. Should the battery be too weak to start the engine, use instructions shown below to manually start the electric start engines.
8. The engine is equipped with a fuel shut-off solenoid. If the battery is dead, the engine cannot be started with the recoil back-up starter.
9. Recharge battery per instructions on page 3 and try again.

MANUAL START

☞ IMPORTANT: When the ignition key is turned to "RUN", and the recoil handle is pulled, the engine will turn over, but will not start unless the Clutch/Brake pedal is pressed all the way down with the Parking Brake engaged. Start the engine as follows:

1. Move Transmission Shift Lever to (N) Neutral position. DO NOT start engine with Transmission Shift Lever in a Drive position.
2. Press Clutch/Brake pedal all the way down, lift Parking Brake Lever and release the Clutch/Brake pedal to set Parking Brake.
3. Open vent on fuel filler cap by turning counterclockwise. IMPORTANT: Failure to open vent on the fuel filler cap can cause engine to stall.

4. Move engine speed control to the choke position to start a cold engine.
5. Turn key to "RUN" position.
6. Pull starter rope with a smooth, even motion until engine starts. Always guide the starter rope back into the recoil housing. Never allow rope to snap back. After engine starts, move engine speed control to the "FAST" position.
7. Allow a brief warm-up until engine runs smooth.

CAUTION!
Before dismounting the Rider with engine running, shift to Neutral and engage the Parking Brake.

STOPPING

1. Stop engine by turning key to the "OFF" position.
2. Stop motion of Rider by pushing Clutch/Brake pedal all the way "DOWN" to apply brake.
3. Engage Parking Brake by pushing Clutch/Brake pedal "DOWN" and moving the park brake lever to the "ON" position. While holding the park brake lever "ON", release Clutch/Brake pedal to set Parking Brake.
4. Release Parking Brake by pushing down on the Clutch/Brake pedal to release Parking Brake lever.

WHEEL DRIVE

1. With engine running, adjust engine speed control to "FAST" position.
2. Depress Clutch/Brake pedal.
3. Place Transmission Shift lever in the notch for the desired speed.
4. Release Clutch/Brake pedal SLOWLY to start desired direction.
5. During forward motion, the Transmission Shift lever may be placed in any desired forward speed without depressing the Clutch/Brake pedal.

WARNING!
Never park Rider on an incline or embankment.

PAINTING OPERATIONS

PREPARING TO PAINT

The Field Marker is now ready to fill with paint. Most field paints are concentrated and require thinning at a 2:1 ratio. This is just a suggested ratio. Refer to any manufacturer's recommendations. This could change depending on the quality of paint used or quality of paint lines desired. Higher quality paints may require a 4:1 ratio of water to paint. The following is an example of how to mix a 2:1 ratio paint mixture.

1. Mix by filling the Wide Mouth Mixing Jug with concentrate to the 1-1/2 gallon mark, and filling to the 2-1/2 gallon mark with water.
2. Close the lid tightly, shake vigorously, and pour into the poly tank.
3. Fill the mixing jug again with only water to the 2 gallon mark and pour into the poly tank.
4. This procedure provides 4-1/2 gallons of field paint with a 2:1 mixture.
5. Repeat until both tanks are full.

☞ IMPORTANT: Additional agitation provides better dilution of the mixture. Failure to follow this procedure results in plugging of the inlet screen on the pickup tube. The thickness or viscosity of paint may affect the flow of paint and nozzle pressure.

SPRAYING PAINT

You can spray paint two different ways with your Rider Field Marker. Lines are painted with the Rider by means of the Spray Shoe located under the machine and detailing can be done with the Spray Wand at the rear of the machine.

SPRAY SHOE OPERATION

The Spray Shoe is design for painting lines while the Rider is in a forward motion. Backing up the machine while spraying is not recommended. Operate Spray Shoe as follows:

1. Lower Spray Shoe if in the Raised/Locked position.

2. Adjust Spray Shoe to the desired width by turning adjusting set screws (2) located on side of Spray Shoes (See Spray Head Adjustment instructions.) with an allen wrench.
3. Loosen adjusting knobs at front of Rider to set Line Guide to a comfortable position for operator. Tighten knobs securely.
4. Start Rider and adjust engine speed to the "FAST" position (See Starting instructions.)
5. Turn the switch located on the control panel to the "ON" position. The pumps will turn on and recirculate paint into the tanks.
6. Once speed of the Rider is selected (See Wheel Drive instructions) and direction is decided, the spray nozzle applicator can be turned "ON/OFF" any time using the 2-way valve located under the seat on the left side. Moving the handle to the down position will cause the paint to flow to the spray nozzle applicator. Moving the handle to the horizontal position will turn off the paint flow.
7. Use line guide to follow premarked course to aid in painting straight lines.

SPRAY WAND OPERATION

The Spray Wand is designed for painting details on the athletic field. It is recommended that the Rider be in a stationary position while the Spray Wand is in use. Operate Spray Wand as follows:

1. Uncoil Spray Wand from hanger and hook hose into "Quick-Coupler" located at center of machine below the seat.
2. Start Rider and adjust engine speed to the "FAST" position (See Starting instructions.)
3. Apply Parking Brake (See Stopping instructions) and dismount machine.
4. Turn switch located on the control panel to the "ON" position. The pumps will turn on and recirculate paint into the tanks.
5. Turn the 2-way valve handle, located under the seat on the left side, up to allow paint to flow to the Spray Wand.
6. Depress handle on Spray Wand to begin spraying.
7. Adjust Spray Wand nozzle to give desired cone.

SPRAY HEAD ADJUSTMENT

Make a sample stripe to check line width and spray pattern. Adjusting line width is accomplished by loosening the set screws, sliding the spray shoe to desired width, then tightening the set screws. The closer the shoes are set together, the lower the Spray Head should be set. Setting of the Spray Head is accomplished by

loosening the setscrew in the collar of the Spray Head with the provided Allen wrench found in the Tool Kit. The spray pattern should not contact more than ONE INCH of the bottom of the spray shoe for best paint usage.

SPRAY SHOE LIFT

The Spray Shoe Lift Control is provided to raise the Spray Shoe during transport or spraying over uneven ground.

1. To lift the Spray Shoe, depress the Spray Shoe Lift Pedal on the right side of the console.
2. To lock the Spray shoe in the raised position, depress the Lift Pedal and flip open the lock.
3. Release raised Spray Shoe (take foot off Lift Pedal), depress Lift Pedal and close the lock.

☞ IMPORTANT: The Spray Shoe is not designed to spray in the Locked/Raised position. Lower Spray Shoe during painting operations.

FLOW CONTROL VALVE

The flow control valve is located on the left side of the machine under operator's seat. The valve comes preset from the factory at the full flow position. To restrict the flow, start by loosening the small nut located underneath the brass knurled knob by turning it counter-clockwise. Turn the knurled knob in a clockwise direction until the desired flow is achieved, then tighten down the small nut to prevent the knob from turning during operation.

IV. MAINTENANCE

Proper maintenance of this equipment will maintain its efficient performance and prolong the life of all elements of operation.

CLEANING

☞ IMPORTANT: The single most important item to emphasize in maintaining this Field Marker is the cleaning of the unit after each use.

1. Drain unused field paint into a separate container from the poly tanks on the Rider and rinse thoroughly with water. Each tank is equipped with a drain located on the bottom of each tank.
2. Fill the poly tanks with clean water and flush the system, including the Spray Wand, until the discharged water runs clear (See Spraying instructions.)
3. Use the balance of the clean water with Spray Wand to rinse the frame, wheels and tires, and Spray Shoe.
4. Remove the spray nozzles and check valve screens, rinse with water and scrub any dried paint with brush in Tool Kit. When replacing nozzles, adjust direction with wrench in Tool Kit and tighten securely.

☞ IMPORTANT: When cleaning with use of Spray Wand, DO NOT spray directly into battery and engine compartments. Cleaning of the Paint Spray System is the only maintenance procedure that can be done with the engine running.

SERVICE

CAUTION!

Before performing any service or maintenance procedures to engine or chassis, always remove key from ignition switch, remove spark plug wire from spark plug and secure spark plug wire away from spark plug.

Refer to the engine owner's manual for those adjustments and/or repairs that can be made by the owner.

AFTER FIRST 5 OPERATING HOURS

After the first five hours of use, the engine has passed the "Break-In" period and it is important to change the oil. Change the oil as follows:

1. Block up rear of Rider so rear wheels are off ground.
2. Remove left rear wheel by removing lug bolts.
3. Loosen or remove oil fill cap on engine.
4. Loosen oil drain plug.
5. Place a 2-quart minimum capacity container under the end of the oil drain. Open oil drain.
6. Fill engine crankcase with new oil. Refer to your engine owner's manual for oil specifications.

AFTER EVERY 25 OPERATING HOURS

1. Engine Oil – Change engine oil. Refer to engine owner's manual for oil specifications.
2. Air Filter – Refer to engine owner's manual for service.

ANNUALLY (END OF EACH SEASON)

1. Engine – Service engine according to engine owner's manual.
2. Fuel Filter – Service fuel filter as instructed below, on COLD ENGINE ONLY!

☞ IMPORTANT: To stop flow of fuel, close fuel shut off valve located under fuel tank.

1. Remove hose clamps from fuel filter.
2. Remove fuel lines from filter. Discard filter.
3. Install new fuel filter.

EVERY TWO YEARS

In addition to regular maintenance, the following components of the Rider should be carefully inspected every 2 years for wear or damage. Replace any worn or damaged parts.

1. All bushings and pivot areas.
2. Check both front wheel kingpins.
3. Transmission shift lever and detent.
4. Clutch disc.
5. Clutch yoke.

STORAGE (OUT OF SEASON)

1. Thoroughly clean the Rider (See Cleaning instructions.)
2. Perform maintenance and lubrication (See Maintenance and Lubrication instructions.)
3. Drain fuel from fuel tank.
4. Start engine and allow it to run until engine runs out of fuel. This allows the carburetor and fuel system to remain clean during storage (See Starting instructions.)
5. Remove battery (See Battery Removal instructions.)
6. Close vent on fuel filler cap.

CLUTCH

STARTING MOTION ADJUSTMENTS

If the Rider clutch is too positive or slips excessively when the Clutch/Brake pedal is released, adjust as follows.

1. Remove key from ignition switch.
2. Remove spark plug wire from spark plug and secure wire away from plug.
3. Close vent on fuel filler cap.
4. Locate yoke arm between chain case and differential.
5. Move spring to first hole (for positive clutch action) to 4th hole (to increase slippage.)

SHIFTING ADJUSTMENTS

With engine running, depress Clutch/Brake pedal and move Transmission Shift Lever into a forward speed. If shifting is difficult or will not shift, adjust the clearance between clutch disc and drive disc as follows:

1. Depress Clutch/Brake pedal all the way down. Move and hold the Parking Brake Lever in the "ON" position, then release the Clutch/Brake pedal to lock the Parking Brake.
2. Move the Transmission Shift Lever to reverse.
3. Visually inspect to make certain there is clearance between clutch disc and drive disc.
4. If no clearance is visible, release Parking Brake by depressing Clutch/Brake pedal to release Parking Brake Lever.
5. Pull Clutch/Brake pedal towards operator's seat and slide one additional ferrule toward end of cable through the eye in the Clutch/Brake pedal arm.
6. Engage Parking Brake as described in Step 1.
7. Check for clearance between clutch disc and drive disc. If no clearance is visible, repeat Steps 4 and 5 until clearance is visible.

WHEEL BRAKE ADJUSTMENT

Test the wheel brake on a dry concrete surface. When properly adjusted, the Rider will stop within 3 feet from the fastest speed. If stopping is more than 3 feet, the wheel brake should be adjusted as follows:

1. Depress Clutch/Brake pedal all the way down. Move and hold the Parking Brake Lever in the "ON" position, then release the Clutch/Brake pedal to lock the Parking Brake.
2. Measure the distance between end of Clutch/Brake cable and bottom of housing. Measurement should be no less than ½" and no greater than ¾".
3. If measurement is less than ½" or greater than ¾", loosen the two jam-nuts holding the Clutch/Brake cable to the chain case bracket.
4. Adjust cable up or down using the jam-nuts to obtain a distance of ½" to ¾" between end of Clutch/Brake cable and bottom of housing.
5. After adjustment is complete, securely tighten cable jam-nuts.

LUBRICATION

CHASSIS

1. Front wheel bearings – Lubricate front wheel bearings with five shots of general-purpose grease from grease gun.
2. Left rear axle bearing does not require lubrication.
3. Right rear axle bearing is lubricated by the differential lubricant.
4. Differentials – To check lubricant, remove Fill/Level plug and visually inspect for lubricant on the internal parts of the differential. If no lubricant is visible on the internal parts of the differential, add "00" grease as needed.

☞ IMPORTANT: Overfilling of the differential with lubricant will cause lubricant to leak onto drive components of the Rider.

5. Chain case - To check lubricant in chain case, remove Fill/Level plug and look for lubricant on the internal components of the chain case. If no lubricant is visible, add "00" grease as needed.
6. Axle boots – Check axle boots for signs of wear or cracks.

SPRAY COMPONENTS

Lubricate the following spray components with penetrating oil or light grease several times during a season to insure smooth operation:

1. Spray Shoe hinge pivots and adjustment arms.
2. Tank support hinge pivots.
3. Spray Shoe Lift Pedal hinge pivots.
4. Spray Shoe rollers.

BATTERY

REMOVAL

1. Pull hairpin from left-hand tank support and swing tank support away for clearance to battery.

2. Carefully pull each side of battery cover away from ratchet fasteners and remove cover.
3. Slide battery from battery box to gain access to terminal cables.
4. Observe and note cable positions on battery.
5. Disconnect cables from battery terminals, disconnecting BLACK (Negative) cable first. Retain mounting bolts and nuts.

CAUTION!

Cables must be connected to battery terminals in the proper position. Shield the positive terminal with terminal cover located on battery harness. This prevents metal from touching the positive terminal, causing sparks.

INSTALLATION

1. Slide battery partially into battery housing Positive (+) end first.
2. Connect Positive (+) cable (RED) first, from wiring harness to the Positive terminal (+) on battery using bolt and nut provided. Connect Negative (-) cable (BLACK) last, to Negative terminal (-) on battery using bolt and nut provided. Apply a small amount of grease over terminals to prevent corrosion.
3. Insert battery completely into battery housing.
4. Reinstall battery cover.
5. Swing tank support back into place and reinstall hairpin.

SERVICE

1. Remove battery (See Battery Removal instructions.)
2. Place battery in a well-ventilated area on a level surface.
3. Using distilled water, refill cells as required to cover cell plates which can also be visualized through the plastic battery case.
4. With cell caps removed, connect battery charger to battery terminals. Red to Positive (+) terminal and Black to Negative (-) terminal.
5. Slow charge battery at 1 amp for 10 hours.
6. If battery will not accept charge or is partially charged after 10 hours of charging at 1 amp, replace with new battery.

STORAGE

If Rider is to be stored out of season, it is recommended the battery be removed, charged and stored.

1. Remove battery (See Battery Removal instruction.)
2. Perform battery service.
3. Bring battery to full charge, if required.
4. Store battery in an area away from the Rider on a wood surface. DO NOT STORE BATTERY ON A CONCRETE SURFACE.

V. TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Low Pressure at Spray Head	1. Low voltage. 2. Plugged inlet screen on pickup tube. 3. Plugged nozzle tips or screens. 4. Paint mixture too thick.	1. Set engine speed to “FAST” position. 2. Unscrew tank lid and clean any solids from inlet screen (mix paint well to avoid this.) 3. Remove nozzle tips and check valve screens, brush and rinse residue and replace. 4. Increase water to paint ratio and mix.
Hot Pump Motor/Paint Leaking from Pump Head	1. Plugged return line.	1. Remove the restrictor plug set screw, located at the end of the return line hose. Use the wire cleaner provided in the tool kit to clean the holes through the restrictor plug and replace.
Pump Will Not Operate	1. Low voltage. 2. Blown fuse. 3. Pump is plugged with dried paint.	1. Set engine speed to “FAST” position. 2. Check pump inline fuse and replace if necessary. 3. Remove and return to factory for repair or replacement.
Engine Will Not Start Using Recoil Starter	1. Fuel tank empty. 2. Engine needs choking. 3. Spark plug wire disconnected. 4. Faulty parking brake or ignition switch. 5. Park brake not engaged. 6. Blown fuse. 7. Faulty relay switch. 8. Ignition is in the “OFF” position.	1. Fill fuel tank with fresh fuel to proper level. 2. Move choke control to “CHOKE” position. 3. Place spark plug wire onto spark plug. 4. Contact dealer. 5. Engage park brake. 6. Replace with new 20 AMP fuse. 7. Contact dealer. 8. Turn ignition switch to “RUN” position.
Engine Will Not Start Using Electric Starter	1. Fuel tank empty. 2. Engine needs choking. 3. Spark plug wire disconnected. 4. Faulty parking brake or ignition switch. 5. Park brake not engaged. 6. Blown fuse. 7. Faulty relay switch. 8. Ignition is in the “OFF” position. 9. Battery is weak or dead. 10. Battery cables loose, broken, disconnected or corroded. 11. Faulty electric starter. 12. Starter cable loose, broken or disconnected. 13. Electrical wiring harness disconnected or broken.	1. Fill fuel tank with fresh fuel to proper level. 2. Move choke control to “CHOKE” position. 3. Place spark plug wire onto spark plug. 4. Contact dealer. 5. Engage park brake. 6. Replace with new 20 AMP fuse. 7. Contact dealer. 8. Turn ignition switch to “RUN” position. 9. Charge or replace new battery. 10. Clean and connect battery cables. If broken, replace with new battery cables. 11. Contact dealer. 12. Connect starter cable. If broken, replace with new starter cable. 13. Connect or replace with new wiring harness.
Engine Stalls After Running	1. Operator not in seat. 2. Choke control in “CHOKE” position. 3. Fuel tank empty. 4. Engine pre-cleaner and/or air cleaner dirty. 5. Spark plug defective or gap set improperly. 6. Fuel filter restricted. 7. Water, debris or stale fuel in fuel system. 8. Gas tank is air locked.	1. Sit in operator’s seat. 2. Move choke control to “OFF” position. 3. Fill fuel tank with fresh fuel to proper level. 4. Clean or replace filters. 5. Service spark plug (See engine owner’s manual.) 6. Replace fuel filter. 7. Drain and clean fuel system 8. Loosen gas cap vent.

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Engine Loses Power	1. Excessive load on engine. 2. Engine air pre-cleaner and/or air cleaner dirty. 3. Spark plug faulty. 4. Water, debris or stale fuel in fuel system. 5. Debris build-up on engine cooling screen.	1. Lessen load. 2. Clean or replace filters. 3. Service spark plug (See engine owner's manual.) 4. Drain and clean fuel system. Replace filter. 5. Clean all debris from engine cooling screen.
Engine Backfires When Turned To "STOP"	1. Throttle control set to "FAST".	1. Set throttle control to "SLOW" and allow engine to idle. Then, turn key to "OFF".
Rider Will Not Move Or Loss Of Traction	1. Drive disc worn or damaged. 2. Rubber drive disc is not tracking properly on drive disc. 3. Tapered axle bolt and nut missing. 4. Axle bearing seized. 5. Insufficient lubrication in chain case or transmission/differential.	1. Replace drive disc. 2. Adjust rubber drive disc (See maintenance instructions.) 3. Replace tapered bolt and nut. 4. Contact dealer. 5. Add lube (See lubrication instructions.)
Oil Leaking	1. Leaking chain case or differential plugs. 2. Leaking engine block.	1. Verify plugs are not cracked and are in good shape. 2. Contact dealer.

VI. PARTS

(Prices on request)

DESCRIPTION	PART NO.	QTY. REQ'D.
Spray Head Ass'y.		
Nozzle Body w/ ¼" Barb, Brass	90099-100-094	2
Nozzle Cap, Brass	100-159-006	2
Spray Tips	100-159-007	2
Check Valve	100-159-008	2
LH Spray Shoe	90050-202-0000	1
RH Spray Shoe	90050-203-0000	1
Black Adjusting Knob	90099-100-0015	1
Rollers	90099-100-0020	2
Tank Components		
20 Gallon Poly Tank	500-929-0003	2
Intake Screen	100-919-005	2
Restriction Plug	100-910-009	2
Tank Strap	90050-100-0004	4
Hitch Pin	90099-100-0024	2
System Components		
Spray Shoe Lift Cable	90099-110-0005	1
Spray Wand Assembly	90050-400-0000	1
Pump	100-159-030	2
Flow Control Valve	100-159-023	1
2-Way Manual Valve	90099-100-045	1
Maintenance Parts		
Engine Speed Control	2-4155	1
Clutch/Brake Cable	2-9913	1
Brake Cable	2-2344	1
Rubber Drive Disc	5-3103	1

TRU MARK
RS-500

WARRANTY

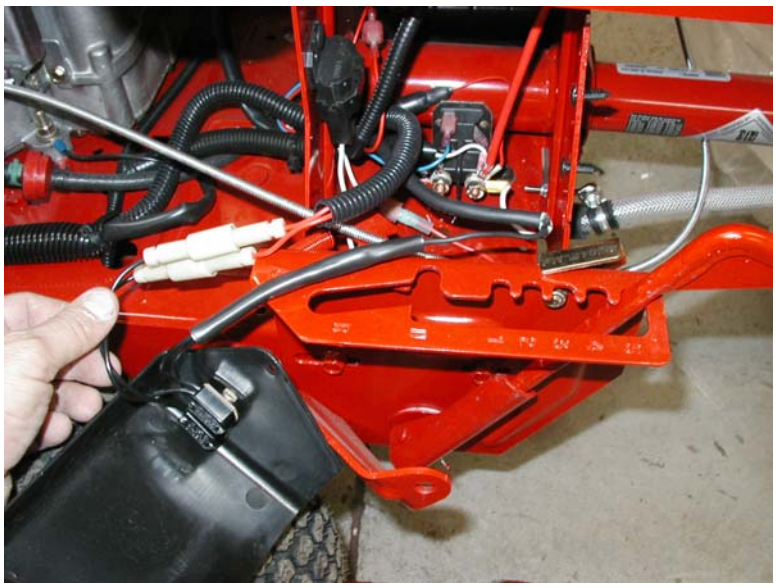
eSelling4u.com, Inc., the manufacturer of your TRU MARK Athletic Field Marker, warrants this product for 2 years from the date of shipment for any defects in material or workmanship with the following exceptions, Shurflo pumps are covered under a 90 day factory warranty, the Briggs & Stratton engine is covered under a 24 month warranty, and the Snapper chassis under a 12 month warranty.

Registration of your unit is not necessary since records of purchase dates and owners are maintained at the factory.

Should you have a warranty claim, call 1-800-553-6275 for instructions on return of goods for repair or replacement. Please have your unit's serial number from the front page of the owner's manual ready when calling. The serial number is located on the back lower right-hand corner of the Rider on the manufacturer’s tag.

P.O. Box 706
Norfolk, NE 68702-0706

1-800-553-6275
www.AthlecticFieldMarker.com



RS-500 Pump Wiring Scheme

The basic wiring for the pump operations:

1) Positive (battery) side of the circuit is connected through a pump on/off toggle switch, either on the center console or the steering wheel.
2) The latter wiring configuration has the connection coming off the positive side (right side as you face it) of the solenoid (versus directly off the battery). Solenoid shown in the center of the picture has the battery cable and toggle switch connection on the right post.
3) The white wire of the insulated two or three wire bundle (goes to the toggle switch) is connected to the positive post of the solenoid (right side post).
4) The return black electrical wire from the toggle switch goes either to two separate toggle switches (independently controlling each pump (shown on the lower left of the picture)), or directly to 15 amp inline fuse holders (white screw together).
5) The red wires (normally) are connected from in inline fuse holder to each of the red Shurflo pump wires.
6) The black wires from the Shurflo pumps (tied together with a wire connector) are terminated to a ground.
7) On the later models we terminated the ground wire to one of the engine connecting bolts on the chassis (earlier models terminated on the battery terminal)

Sincerely,

Mark Hall
General Manager

TRU MARK Athletic Field Marker

September 11, 2009

Clean-up Procedures for RS-500 Riders

First time use and between field marking seasons

1. Ensure the battery is fully charged by using the low amperage battery charger/tender.
2. Fill both 20-gallon tanks with about 3 gallons of clear water. Run the system with engine running at full throttle. Use individual pump toggle switches behind seat near shifting lever to verify each pump is operating properly. Sometimes the swivel pump hose connectors can loosen and cause pour pump priming (sucking air).
3. Remove battery from the unit after the field marking season or over an extended non-use period of time.

After normal striping operations

1. Remove all unused paint from 20-gallon tanks through the 2-way drop valves at the bottom of each tank.
2. Rinse out 20-gallons tanks with clean water using hose and spray nozzle. For convenience you may swing out the tanks.
3. Add about 3 gallons of clean water and run pumps to circulate water through system.
4. Remove paint tainted water from 20-gallon tanks. (This is due to the pump return lines containing paint.)
5. Rinse out the 20-gallons tanks with a water hose and spray nozzle.
6. Add 3-5 gallons of water to the 20-gallon tanks. If available use "pump protector" 1-2 ounces per-gallon of water or a cleaning solution like ordinary liquid soap or Simple Green.
7. Run the system as the final rinse cycle.
8. Remove the nozzle cap, clean the spray tips and check valves of paint. Remove and clean the inline screen at the bottom of the 20-gallon tanks.
9. To help keep the pump in a primed condition leave final rinse solution in the tanks.
10. Reconnect the battery trickle charger/tender to keep battery fully charged. The voltage regulator puts a very small load on the battery.
11. Prior to next field striping operations you may remove this final rinse water (following a system check by running pumps).

CAUTION: To jump-start the battery first disconnect the red quick disconnect voltage line near the voltage regulator (2" x 2") on the front left side of the engine.

CAUTION: Ensure only water-soluble paint is used with the RS-500 Rider. Verify there are no petroleum based products in the paint.

Operational Tips

1. Learn how to start the striping operations without starting from a dead stop. Engaging the clutch/brake is governed by a tension spring that has 5 positions. The friction drive wheel is set on a tighter spring setting causing a "jerking" condition due to increased weight of the field marker. The spring is connected to the rear plate of the unit (behind and below the engine). There should be a braided string to help with adjusting the tension.
2. Use pedal for lifting spray shoe assembly during backing operations and traveling between fields.
3. For trouble shooting steps please refer to the end of the operator's manual. Here are a couple quick things to check, for example when the spray fan from the spray tip narrows.
    a. Verify the spray tips, check valves, and in-line tank screens are clear of paint build-up.
    b. Check individual pumps using individual toggle switches. There are individual fuses below the seat next to shifting lever.
    c. Verify the pumps are running at full RPM. Low pump RPMs will not generate sufficient pressure.
    d. Use pumps when engine is running at full RPMs. Low engine RPMs with pumps running will draw down the battery and subsequently cause low paint striping pressure.
    e. Verify that you have a good working and fully charged battery.
    f. Remove pump head (6 Phillips screws) and verify condition of Pump Valve Kit. Paint build up on three small and one large center valve will cause poor performance. You may remove excess paint by scraping with dull blade, Simple Green cleaning solution and nylon bristle brush (tooth brush).

Please visit Tru Mark Athletic Field Marker's web site at http://www.AthleticFieldMaker.com or call them a 1-800-553-MARK for product information, field marking information, parts, and service. Contact Mark Hall at (402) 316-9664 (cell phone) for technical support).