



## EZ-70 Field Marker

### Operations Manual

TruMark Athletics  
PO Box 451037  
Omaha, NE 68145  
800.553.MARK  
*trumarkathletics.com*

# Table of Contents

I.	Precautions.....	3
II.	Paint Shoe Assembly.....	3
III.	Operation.....	3
	a. Battery Charging	
	b. Preparing to Paint	
	c. Spray Shoe/Spray Head Adjustment	
	d. Spray Shoe Lift	
	e. Flow Control	
IV.	Maintenance.....	4
	a. Cleaning	
	b. Lubrication	
V.	Troubleshooting.....	5
VI.	Warranty.....	5

## I. Precautions

- a. Use only water based latex field marking paints. Do not use flammable liquids, oil based or rubber based paints.
- b. Follow manufacturer's recommendations when handling the twelve volt sealed battery.
- c. Follow manufacturer's recommendations when charging your system with the 1.5 AMP battery charger.
- d. Rinse the system thoroughly with clean water after each use to ensure that there is no paint residue remaining in the tank, pump or lines.
- e. Mix paint thoroughly to avoid potential of clogging at the inlet screen.

## II. Paint Shoe Assembly

- a. Attach the paint shoe assembly using the 5/16" x 2" hex head bolts and nylock nuts. The bracket holding the 3/8" rod is mounted below the 1" square tubing on the right side behind the front wheel. Use 1/2" hex or adjustable wrenches to tighten mounting bracket to the square tubing.

## III. Operation

### a. Battery Charging

- i. CAUTION: Before you use your battery charger read all instructions and cautions printed on the battery charger, the batter and follow the procedures printed in this manual.
- ii. The 12 volt sealed battery will require charging before use. Before charging, connect the 2-wire connectors or terminal clamps to the battery posts ensuring you matched terminal end to the battery by matching the wire designation.
  1. WARNING: The terminal ends must be matched by the red positive tag to the positive battery post and the white/black negative tag to the negative battery post. Failure to properly match the polarity tags to the battery posts will result in permanent damage to the battery charger, the electrical system and possibly personal injury.
- iii. Confirm the 2-wire connector or the battery clamps are tightly secured to the battery posts. The battery with the 2-wire connector should be aligned to the rear of the battery and tank box. The 2-wire plug may be inserted to the mating plug on the battery charger. Set the switch on the charger panel to the 12 volt position, then plug the charger into any 110 volt outlet to begin the charging process. The battery has reached and will maintain a full charge when the indicator light has been displayed indicating "charged". Unplug the charger from the 110 volt source and disconnect the 2-wire connector plug or terminal clamps.
- iv. CAUTION: Operating the field marker for a prolonged period with the battery at low charge will diminish the life of the battery. Recharge battery before each use to insure maximum efficiency.

### b. Preparing to Paint

- i. Most field paints are concentrated and require thinning at a 1:1 or higher water to paint ratio. Mixing can be achieved by filling a 2.5 gallon wide mouth mixing jug with concentrate to the one and one half gallon mark and filling to the two and a half gallon mark with water. Close the lid tightly, shake vigorously, and pour into the poly tank. The procedure provides four and one half gallons of field paint with a two to one mixture. Additional agitation provides better dilution of the mixture. Failure to follow this procedure results in plugging of the inlet screen on the intake line assembly.
- ii. Many field marking paint manufacturers recommend a mixture of 1:1. Please follow the paint manufacturer's recommended dilution ratio. Using a cordless drill with a paint paddle and an empty 5 gallon pail
- iii. The On/Off toggle switch on the handlebar may be turned to the On position for pump priming to allow air to escape from the system and to begin paint spraying.

#### c. Spray Shoe/Spray Head Adjustment

- i. Make a sample stripe (using water) to check line width and spray pattern.
- ii. Adjust the width of the spray shoes by loosening the four set collars that are next to each of the paint shoes. The set screw holes in collar of the paint shoe are not functional. One set of collars can be tightened with the 3/16" hex head allen wrench and the other set with the extended bolt can be tightened with the 5/32" hex head allen wrench. The closer the shoes are set together, the lower the spray head should be set. The spray pattern should not contact more than one inch of the bottom of the spray shoe for best paint usage. The extended bolt is used to limit the rotation of the paint shoe assembly with an installed roll pin. When the front wheel is lifted for relocation purposes the paint shoe stops rotating to avoid dragging.

#### d. Spray Shoe Lift

- i. The spray shoe lift control is provided by tipping the front wheels off the ground during transport or field relocation. The roll pin in conjunction with the extended bolt head on the set collars prevents the paint shoe from over rotating and dragging.

#### e. Flow Control

- i. The flow control can be changed by replacing the existing spray tip with a different spray tip configuration. The unit is equipped with a TeeJet 8004 tip which indicates an 80 degree spray fan and an output of .4 gallons per minute. With taller grass use a TeeJet 11004 tip to maintain excellent 4" coverage. Changes in the dilution of paint will affect the flow performance.

### IV. Maintenance

#### a. Cleaning

- i. Proper cleaning after each use is critical to maintain the efficiency and to prolong the life of all elements of the EZ-70. Pour unused field paint into a separate container from the poly tank on the sprayer and rinse the poly tank

thoroughly with water. Fill the poly tank or a separate clean container with 1 to 2 gallons of clean water and flush the system until the discharged water runs clear.

- ii. Remove spray nozzles and check valve screens for any leftover residue. Rinse with water and scrub off any dried paint. When replacing nozzles adjust direction and tighten securely.
- iii. It is recommended to use a pump protector that keeps any remaining paint in suspension until the next use. One to two ounce of this product is added to one gallon of clean water as part of the final rinse solution. This cleaning solution can be left in the tank, hoses and pump until the next use.

#### b. Lubrication

- i. The only points of lubrication are the paint shoe hinge pivots and the shoe lift rod bushings. These may be sprayed with WD-40 or a similar product several times during the season to insure smooth operation.

### V. Troubleshooting

- a. Issue: Low pressure at spray head
  - i. Potential Cause: Resolution
    - 1. Low voltage: recharge the battery
    - 2. Plugged inlet screen on pick-up tube: Unscrew tank lid and wipe any solids from the inlet screen (mix paint well to avoid this issue)
    - 3. Plugged nozzle tips or screens: Remove nozzle tips and check valve screens. Clean and rinse off any residue and replace.
    - 4. Paint not fully diluted: add additional water to increase the dilution ratio.
    - 5. Paint build-up on pump valve kit: clean or replace the pump valve kit.
    - 6. Worn pump diaphragm: replace with new pump diaphragm kit.
- b. Issue: Hot pump motor or paint leaking from pump head
  - i. Potential Cause: Resolution
    - 1. Plugged Line: Remove spray tip and check valve and run pump to clear lines using warm water.
- c. Issue: Pump will not operate
  - i. Potential Cause: Resolution
    - 1. Low voltage: recharge the battery
    - 2. Blown fuse: check panel fuse and replace if necessary
    - 3. Pump is plugged with dried paint: replace the pump valve kit

### VI. Warranty

- a. Scotch Bayard, LLC, the manufacturer of your TruMark Athletic Field Marker warrants this product for 2 years from the date of shipment for any defects in material or workmanship (not including wear parts). Shurflo 12 volt diaphragm pump is warranted for 90 days under normal operating use.