



Model E-100

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

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I. PRECAUTIONS

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

- FOLLOW MANUFACTURER'S RECOMMENDATIONS WHEN HANDLING YOUR TWELVE VOLT BATTERY.

- FOLLOW MANUFACTURER'S RECOMMENDATIONS WHEN CHARGING YOUR SYSTEM WITH THE TEN AMP BATTERY CHARGER.
(See Section III for use of battery charger.)

- RINSE THE SYSTEM THOROUGHLY WITH CLEAN WATER AFTER EACH USE TO ENSURE THAT THERE IS NO 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.

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

- PRIOR TO DISCONNECTING THE SPRAY WAND HOSE FROM THE QUICK DISCONNECT, TURN OFF THE PUMP AND DEPRESS THE SPRAY WAND HANDLE TO RELEASE PRESSURE.

II. ASSEMBLY

BEFORE REMOVING sprayer from the shipping box, the handle should be assembled as follows:

The clamp knobs on the sides of the lower handle bar frame should be backed off far enough to allow the upper handle bar inserts to slip into the lower frame receivers. Carefully lift the upper handle bar assembly so as not to stretch the control cables, and insert insert ends into the lower handle bar frame. Tighten the clamp knob to secure the upper section of the handle bar to the lower frame. For transporting or storage, loosen the clamp knob **ONLY** one revolution, pull the handle bar up to remove insert from lower frame. Carefully reposition lower end of handle bar to just behind and beside the 5-gallon tank and deck. **ALWAYS USE CAUTION** when pulling handle bar from lower handle bar frame to avoid damage to control cables or electrical wiring.

After the sprayer is removed from the shipping box, remove the Spray Wand and Hose. Insert the wand into the spring clamps on the lower right hand handle bar frame, and roll the hose around the L-shaped carriers at the center on of the handle bar frame

Your TRU MARK Field Marker is shipped with the following:


- 1- Plastic Mixing Jug
- 1- Plastic Fill Funnel
- 1- Tool Kit in Bag
- 1- Spray Wand
- 1- Ten Amp Battery Charger
- 1- Owner's Manual

III. OPERATION


BATTERY CHARGING

CAUTION - Before you use your battery charger, read all instructions and cautions printed on the battery charger, the battery, and follow the procedures printed in this manual.

The battery you purchase for your TRU MARK Field Marker will require charging before use. BEFORE CHARGING, connect the Quick-Tach lead with terminal ends to the battery by matching the polarity tag designation to the correct battery post.

 **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.

Once the terminal ends are tightly secured to the battery posts, set the battery into the battery case and allow the lead with the plug to hang outside the battery case, and tighten the web strap to secure the lid. The Quick-Tach plug may be inserted to the mating plug on the battery charger. Set the switch on the charger panel to the automatic position, then plug the charger into any 110V outlet to begin the charging process. The battery has reached and will maintain a full charge when the green indicator light on the charger is on. Unplug the charger from 110V source, and then disconnect the Quick-Tach plug.

 **WARNING !** Refer to Battery Charger Instructions when using the charger at the Manual Setting. Prolonged charging at this setting will cause permanent damage to your battery.

Set the battery box with charged battery on the frame of the field marker and connect the Quick-Tach plug ends. The panel gauge will read a full charge when the ends are connected.

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.

PREPARING TO PAINT

The Field Marker is now ready to be filled with paint. Most field paints are concentrated and require thinning at a one to one or higher water to paint ratio.

Mixing can be achieved by filling the wide mouth mixing jug with concentrate to the one and one half gallon mark, and filling to the two and one half gallon mark with water. Close the lid tightly, shake vigorously, and pour into the poly tank. Fill the mixing jug again with only water to the two gallon mark and pour into the poly tank. This 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.

Many commercial field marking paint recommend a mixture of one gallon of paint to one gallon of water. Please follow the paint manufacturer's recommended dilution ratio. Using a cordless drill with a paint paddle and a empty 5 gallon pail is a very effective means to prepare the paint mixture before filling the 5 gallon tank using the screened funnel. Add approximately 2.5 gallons of water to an empty 5 gallon pail and then add 2.5 gallons of field paint to the same pail for a 1 to 1 ratio.

The panel switch may be turned to the ON position and the right hand cable control activated to allow air to escape from the system and begin to spray paint.

SPRAY HEAD ADJUSTMENT

Make a sample stripe to check line width and spray pattern. The spray head and shoes are preset at the factory for a four inch line width. Adjusting line width is accomplished by loosening two brass tipped set screws on each spray shoe using the L shaped hex Allen wrench and setting at the desired width. 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.

Your TRU MARK Field Marker is now field ready.

SPRAY SHOE LIFT

The spray shoe lift control is provided to raise the spray shoe during transport or spraying over uneven ground. Adjustment for this control cable is performed by resetting the brass tipped set screws on the collars of the spray shoe for proper tension and lift.

FLOW CONTROL VALVE

The flow control valve is located above the aluminum manifold. 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.

TRAFFIC LINE MARKING

To use zone marking paint or acrylic latex paint used for parking lot marking you must plug the front nozzle of the spray head with a solid disc spacer. Remove the current spray nozzle and check valve with multi-purpose wrench and replace it with the spacer. The paint should be diluted 16 ounces of water or 16 ounces of latex paint conditioner for every gallon of paint used. You may or may not need to adjust the restriction plug set screw in the paint return line. Adjust the spray head to achieve your desired line strip width. Since there may be slight paint dribble when disengaging the right handlebar control, it is recommended to reverse your direction for 6 to 12 inches so excess paint is applied to already painted section.

IV. MAINTENANCE & TROUBLE SHOOTING

MAINTENANCE

CLEANING

Proper maintenance of this equipment will maintain its efficient performance and prolong the life of all elements of operation. The single most important item to emphasize in maintaining this Field Marker is the cleaning of the unit after each use. Pour unused field paint into a separate container from the poly tank on the sprayer and rinse thoroughly with water. Fill the poly tank with clean water, 1 to 2 gallons, and flush the system, including the spray wand, until the discharged water runs clear. Since the return line for paint agitation will contaminate the paint tank you should then remove the remaining tainted water and add 1 to 2 gallons of fresh water and flush the system a second time. Use the balance of the clean water to rinse the frame, wheels and tires, and spray shoes. 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.

BATTERY MAINTENANCE

Refer to the Battery Owner's Instructions for inspection and maintenance. The charging of the battery was described in Section III. Refer to that section to keep the battery at peak performance.

LUBRICATION

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

TROUBLE SHOOTING

SYMPTOM - Low Pressure at Spray Head

- CAUSE
- A- Low voltage
 - B- Plugged Inlet Screen on Pickup Tube
 - C- Plugged Nozzle Tips or Screens
 - D- Control Cable out of Adjustment
 - E- Restriction Plug out of Adjustment
 - F- Worn Pump Diaphragm
 - G- Faulty Pump Motor

- CURE
- A- Recharge Battery
 - B- Unscrew tank lid and wipe any solids from the inlet screen (Mix paint well to avoid this)
 - C- Remove nozzle tips and check valve screens, brush and rinse any residue and replace
 - D- Make Adjustments to Control Cable
 - E- Adjust set screw in restriction plug to restrict more flow
 - F- Replace Diaphragm with new Pump Diaphragm Kit
 - G- Call factory for instructions (1-800-553-6275)

SYMPTOM - Hot Pump Motor/ Paint Leaking from Pump Head

- CAUSE
- A- Plugged Return Line

- CURE
- A- 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 four restrictor plug holes and replace set screw securely.

SYMPTOM - Pump Will Not Operate

- CAUSE
- A- Low Voltage
 - B- Blown Fuse
 - C- Pump is plugged with dried paint

- CURE
- A- Recharge Battery
 - B- Check panel fuse and replace if necessary
 - C- Remove and return to factory for repair or replacement

V. PARTS LIST

(Prices on request)

DESCRIPTION	PART NO.	QTY. REQ'D.
<hr/>		
<u>Spray Head Assembly</u>		
Nozzle Body with ¼ Barb Fitting	90099-100-094	2
Nozzle Cap, Brass	90099-159-006	2
Spray Tip*	100-159-007	2
Check Valve*	100-159-008	2
Spray Shoe	100-131-003	2
Rod Clamp Block	100-910-007	1
5/16" Setscrew with Brass Tip	100-929-040	4
<u>Tank Components</u>		
Poly Tank	100-159-013	1
"O" Ring	100-159-024	1
Return Line Cap	100-910-010	1
<u>System Components</u>		
Hand Control & Cable	100-129-006	1
Spray Wand Assembly	100-151-001	1
Intake Screen Assembly*	100-151-008	1
Pump 3.3GPM	100-159-030	1
Flow Control Valve	100-159-003	1
Return Line Restriction Plug with Setscrew*	100-910-009	1
Pump Valve Kit 3.3GPM*	100-159-031	1
Pump Diaphragm Kit 3.3GPM	100-159-034	1
* E-100 Field Kit Items	90010-121-0001	1

WARRANTY

TRU MARK E-100

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.

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 also located on the bottom of the E-100 platform.



Tru Mark E-100 Battery and Assembly/Testing Tips

Battery

If you haven't already purchased the battery you should do so. You need to get a Group 24 deep cycle 12v marine battery with 650 amp storage capacity and butterfly nuts on the top posts. Suggested batteries:

- Interstate Battery, Model # 24M-XHD, MCA 1,000, CCA 800
- Interstate Battery, Model # 24M-HD, MCA 625, CCA 500
- Walmart EverStart, Model # 24DP4, MCA 675

Marine Cranking Amps (MCA for 30 seconds)
Cold Cranking Amps (CCA)

Paint

You can use a field marking paint or any flat acrylic latex paint. Any paint you use should be water-soluble and not contain any petroleum products. Most of the field marking paint is diluted one gallon of paint to one gallon of water (\$30 - 40 per 5-gallon pail). After the first stripping you may be able to go to a thinner dilution and still get good coverage.

Procedures after receiving E-100

As soon as you receive your shipment, open the carton and examine the contents to make sure nothing has been damaged.

Please confirm what is on your packing list is in the shipping carton. You should have a screened funnel, 2.5 gallon carboy, 12' spray hose with spray wand, battery charger, tool kit, and plastic water bottle.

The battery charger is in the battery box with the tool kit and battery pig tail. Place your marine deep cycle battery in the battery box and attach the battery pig tail. Then connect this male/female connector to the connector near the deck plate behind the pump. You should get an immediate battery charger indication on the battery gauge. You can switch on the toggle switch on the control panel to confirm the pump is operating. This can be done without any fluids in the tank for a short period.

The handlebar should slide back into the receiver slot of the deck plate. This may be a tight fit, which is expected. Retighten the plastic screw down knobs on the side to secure the handlebar.

Please retighten the plastic pump hose connectors with your fingers. These are the 90 degree connectors on the intake and outlet of the pump. It is possible that they are not sealed sufficiently and will cause a poor spray fan at the spray nozzle tips.

The hose return line with the restriction plug that provides paint agitation will fit snugly when inserted and removed from the 5 gallon tank. If necessary a small knife or drill bit can be used to enlarge the hole in the tank.

Before running paint through the E-100 for the first time, do a test run with plain water. This will prime the pump and make sure everything is running properly. Simply put some water in the 5-gallon tank and do a test run.

After you have verified that everything is working properly, dump the excess water from the 5-gallon tank and fill the tank with your diluted paint mixture. You can dilute 1 gallon of paint with 1 or 2 gallons of water, depending on the quality of the paint. The better the quality of paint, the more it can be diluted.

If you have any questions please call or email.



Tru Mark Model E-100 Setup Procedures For Applying Synthetic Turf Paints

Each time you use field marking paint you should ensure the paint is well mixed due to settling and separation of some of the ingredients. We like to use an electric drill or cordless drill with a paint paddle mixing accessory to help mix the paint thoroughly. Most hardware stores selling paint will have a paint paddle.

For the low pressure low volume 12-volt diaphragm pump operations you should dilute the paint at 1 gallon of water for every one gallon of paint (1:1) to ensure a well defined spray fan from the spray tip(s). When diluting the paint pour water from an existing filled pail into the pail of paint. Do not inject air into the paint mixture (e.g., filling the paint pail with a water hose while the water flow is exposed to the air).

When applying synthetic turf paint (or any bulk water based paint) (less dilution) you need to prime the pump by using water first before putting the intake line into the paint tank with paint. You can use a 5-gallon tank with water next to the unit to help with this process. We recommend using a small pan or container to catch the water and paint before spraying the solution on the turf.

If you are using synthetic turf paint you may not want the paint shoe guard/shield touching the turf surface and collecting paint. Rotate the shoe guards by adjusting the set collar with the Allen head hex wrench for this adjustment. Loosen and then rotate the set collar and retighten the Allen head hex bolt.

You will likely need to adjust the spray head clamping block to ensure the width of the spray line based on the mowed height of the grass/ synthetic turf. You'll need to experiment whether to rotate the clamping block or extend or retract the spray nozzle bracket. Once again you'll use a hex head Allen wrench to make this adjustment.

Since there are two nozzle bodies on the E-100 it may be appropriate to block one of the nozzle bodies. Remove the spray tip and check valve from the front nozzle body and replace it with a brass disc or other circular disc and retighten the brass nozzle cap. This will increase the pressure to the remaining tip to improve the width of the spray fan on the remaining spray tip.

After completing the line striping operation ensure that the unit is thoroughly cleaned by rinsing the unit with clean water. Also remove the check valve with screen and spray tip for cleaning and then reattach. You should run water through the system for several minutes. You can use a diluted solution of Simple Green biodegradable cleaning agent in the rinse solution to help remove the paint residue. Also very helpful is a generic product called "Pump Protector" normally sold in paint supply stores. This product is used by commercial painters to clean their pump compressors. The product helps keep the latex paint from building up in the unit and can be left in the unit until its next use.