

Mechanical Transplanter Co.

Model 22, 222, 22C and 122



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Assembly Instructions for Model 22, 222, 22C, and 122

Each transplanter has its own bolt-on component hitch. Bolt the proper hitch to the front of the transplanter using four 1/2 x 1-1/2" hex head bolts and hex nuts.



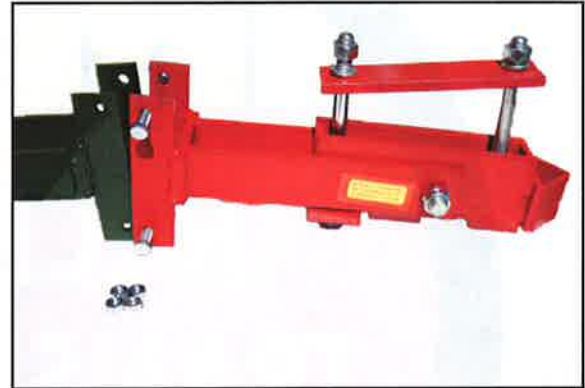
Model 22



Model 22C



Model 222 or 122



4 x 7 Toolbar Hitch for Model 22C, 222

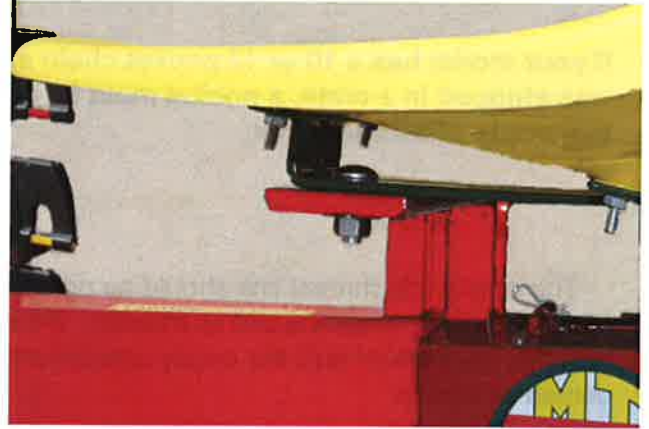
- The Model 22 has a wide drawbar hitch or can be used on old wide single row barrel mounting on the 3-point hitch.
- The standard Model 22C, 222, and 122 use a 3/4" U-bolt to connect to our H825 3-point hitch or a diamond shaped toolbar.
- The 4 x 7 toolbar hitch uses two 3/4 x 9-1/2" hex head bolts and hex



- Both L-shaped seat braces get attached on the outside of the unit frame. Secure each seat brace using the 1/2" U- bolts from the inside of the frame going out. Fasten with 1/2" washers and hex nuts.

Mounting your Fiberglass or Cushion Seat

Fiberglass Seats



Fiberglass Seat - Turn your fiberglass seat over and remove any plastic covers over the threaded studs. Take your green fiberglass seat bracket and mount it to the bottom of the seat with the side with the bend towards the front of the seat. Secure with four 1/4" hex nuts. Insert the 1/2 x 1-1/2" carriage bolt through the brace and then through the L-shaped seat bracket. Secure with a 1/2" washer and hex nut.

Cushion Seats

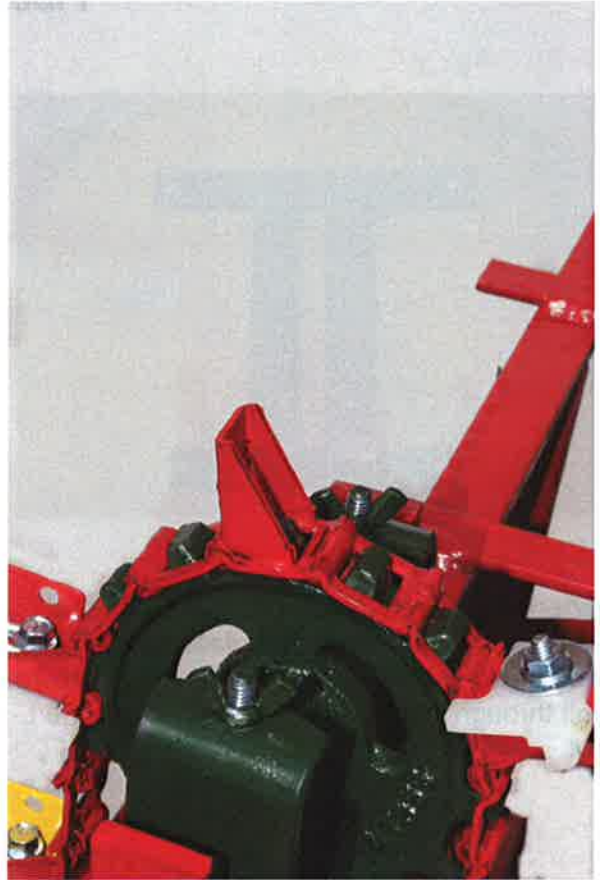


Cushion Seat - Slide the 1/2 x 1-1/2" carriage bolt through the bottom of the red seat bracket before mounting the seat bracket to the seat. After placing the carriage bolt through the seat bracket, place the seat bracket on the cushion seat. Secure with four 5/16 x 1" hex head bolts. Place the seat on the L-shaped seat bracket and secure with a 1/2" washer and hex nut.

Loose Pocket Assembly

If your model has a 10 or 12 pocket chain and was shipped in a crate, a pocket must be put on the empty attachment link.

The empty attachment link should be right at the top of the chain when the unit is shipped. If it is not, turn the drive wheel until the empty attachment link comes to the top.



Do NOT put #445 rubber gripper onto spring wires(#440) until pocket is assembled to attachment link.



Take the extra V-3 pocket that is wired onto unit and loosen the pocket bolt. Hold pocket next to attachment link. Make sure spacing bar stays under the head of the bolt. Hold #375 water trip on the back of attachment link, then the 1/4" fender washer. Secure with 1/4" flange nut. After the bolt has been tightened, slide the top part of the #445 rubber gripper to the #440 wire.

Installation of Plant Stands

It is very important to know what row width will be used before installing the plant stands on multi-row transplanters. Follow the chart below.

- 42" Row Spacing - All Wide Plant Stands
- 41" to 36" Row Spacing - Narrow Plant Stands Inside
- 35" to 24" Row Spacing - One Wide Inside & Two Wide Outside
- 23" to 21" Row Spacing - One Narrow Inside & Two Wide Outside
- Less than 21" Row Spacing - Wide Outside Plant Stand Only



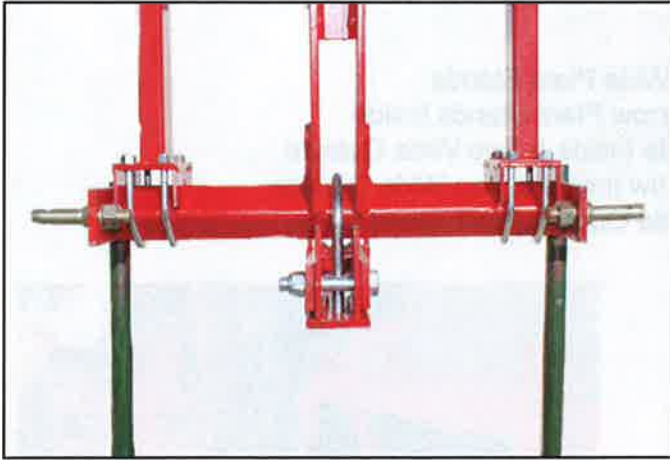
1. Remove the long bolt between the uprights by the pocket chain. Do not lose the spacer between the uprights. Remove the outside cotter key in each axle.



2. Slip the large hole on the plant stand over the axle. The long bolt goes over the axle. The long bolt goes through the slot in the top of each plant stand. Do not forget the spacer between the uprights. Secure the bolt with the nut that was removed. Insert the cotter keys back in each axle and bend the ends out.

3. Slip the plant boxes over the tabs on the plant stands. Each box has two adjustments for moving the box closer or farther away from the operator.

Model 122 3-Point Hitch and Barrel Mounting Instructions



1. After assembling the clamp hitch, place the #H825 3-Point Hitch on the clamp. Secure with a 3/4" U-bolt and two 3/4" hex nuts.
2. Put the pipe stands into the pipe holders on the 3-Point hitch.
3. Fasten each side of the barrel mounting to the 3-Point hitch using two 1/2" U-bolts with four 1/2" hex nuts. These should be about 20" apart.
4. Make sure that the barrel brackets are facing away from the tractor.



5. Screw in the nipple into the bottom of the tank.



6. Insert J-bolts into the four holes on the barrel hoops. It works best to thread 5/16" nut onto J-bolt before hooking up barrel hoops.



7. The 55 gallon poly tank can now be mounted on top of the barrel mountings. Use the four J-bolts and the galvanized straps to secure the barrel to the mountings.



8. Connect the water hose from the tank nipple to the water valve. Secure with hose clamps.



9. Fasten hitch pins to hitch lower arms using lock nut and hex nut.

Operating Instructions

A. Grease all fittings before the start of each day. Grease fittings are found:

1. On each packing wheel axle
2. Upper pocket chain sprocket (12 pocket chain only)
3. On each nylon bushing on the pocket chain jackshaft

B. Regulating Plant Depth

1. All operators should take care to see that the plants are placed well down in the pocket so the plant is held firmly
2. The plant depth is regulated by the distance the root is extended out of the pocket.
3. To set the plants deeper, set the plant in the pocket with the roots further out than what is normally done
4. If planting strawberries, the axle must be raised up to allow the transplanter unit to go deeper into the soil to cover the strawberry crowns.



V-3 Standard Plant Placement



Deeper Plant Placement

C. Pocket Chain Instructions

1. Make sure that bolts holding the upper sprocket on the pocket chain are not too tight. This will cause unnecessary friction on the unit and possible slippage on packing wheel drive transplanter. Loosen the wing nuts if the chain seems too tight.
2. Tighten the wingnuts equally by the top sprocket to keep the chain running level at all times.
3. If in row spacings of 20" or greater are needed, use only 6 pockets. You may remove every other pocket or leave them on. This gives the same speed or greater as a 12 pocket chain.

D. Adjusting or setting the #395R Round Point Shoe

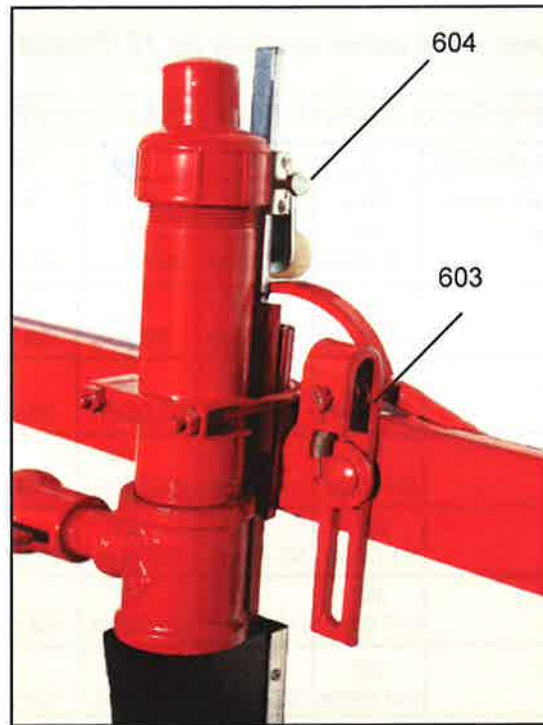
Note: The shoe is preset at the factory for almost all situations.

Follow these instructions only if plants are leaning or in extreme wet or dry soil conditions.

1. Whenever any adjustments are made, be sure to get the shoe directly square and straight in front of the opening of the packing wheels. Make sure that the pockets will run through the middle of the shoe.
2. In loose dry soil, the shoe should be adjusted closer to the packing wheels. This can be done by adjusting the diagonal brace on the shoe.
3. In wet heavy soil, the shoe should be adjusted away from the packing wheels. This can be done by adjusting the diagonal shoe brace.
4. Keep the shoe clean at all times. Do not allow dirt or trash to build up on the front or side of the shoe because this can cause too wide of a furrow that cannot be closed properly by the packing wheels. Poly covered shoes will eliminate this problem.

E. Water Valve Adjustment

1. For more water, make sure the valve is getting a full stroke by adjusting the #604 bracket on the pump rod. Make sure the valve does not over stroke. You should be able to lift the #604 rod 1/4-1/2" at the top of its stroke.
2. A broad range of adjustment can be achieved with the #603 water cam.
3. For wider spacings, the water cam may have to be raised so the water is on the plant. If the #603 is raised, be sure to raise the #604 water adjustment bracket accordingly and do not over stroke.



Example: At 20" plant spacing, the #603 water cam should be adjusted nearly all the way up the slot. The #604 water adjustment must also be adjusted accordingly so a 1/2" remains on the 604 stroke.

4. Tilting the #603 water cam back towards the water trips on the pockets will create a longer stroke of water or more water before and after the plant.
5. Always empty the water out of the valve after quitting for the day. Water freezing inside the valve will destroy the 610S and #612 balls inside the valve.

F. Proper Planting Position

1. Run the unit frame level to the ground. This allows the packing wheels to run in the proper packing position.
2. Running the toolbar too low will cause the packing wheels to run too light and not drive or pack the soil properly.
3. Running the toolbar too high will cause the unit to not float properly, especially through low spots
4. For proper float, lengthen your top third arm to tilt the clamp hitch back. You should have 1/4 to 1/2" of space between the pick up plate on the bottom of your clamp hitch. When the clamp is tilted back, the frame must still be parallel to the ground when the unit is in the soil and ready to plant.

Spacing Charts and Information

12 Pocket uses same spacing as 10 Pocket

CHAIN SPACING CHART FOR REAR DRIVE UNITS					
No. of teeth on sprocket	7	8	9	10	11
No. of pockets on chain 10 Pockets	Sets 12" 30.48cm	Sets 14" 35.56cm	Sets 16" 40.64cm	Sets 18" 45.72cm	Sets 20" 50.8cm
8 Pockets	16" 40.64cm	18" 45.72cm	20" 50.8cm	22" 55.88cm	24" 60.96cm
6 Pockets	20" 50.8cm	22" 55.88cm	24" 60.96cm	26" 66.04cm	28" 71.12cm
5 Pockets	24" 60.96cm	28" 71.12cm	32" 81.28cm	36" 91.44cm	40" 101.6cm
4 Pockets	32" 81.28cm	36" 91.44cm	40" 101.6cm	44" 111.76cm	48" 121.92cm
3 Pockets	40" 101.6cm	44" 111.76cm	48" 121.92cm	52" 132.08cm	56" 142.24cm
2 Pockets	64" 162.56cm	72" 182.88cm	80" 203.2cm	88" 223.52cm	96" 243.84cm

DISC SPACING CHART FOR REAR DRIVE UNITS					
No. of teeth on sprocket	7	8	9	10	11
No. of pockets on disc 24 R-2 Pockets	Sets 2" 5.08cm	Sets 2-1/2" 6.35cm	Sets 3" 7.62cm	Sets 3-1/2" 8.89cm	Sets 4" 10.16cm
20 R-2 Pockets	3" 7.62cm	3-1/2" 8.89cm	4" 10.16cm	4-1/2" 11.43cm	5" 12.7cm
16 R-2 Pockets	4" 10.16cm	4-1/2" 11.43cm	5" 12.7cm	5-1/2" 13.97cm	6" 15.24cm
12 V-3 Pockets	4-1/2" 11.43cm	5" 12.7cm	5-1/2" 13.97cm	6" 15.24cm	6-1/2" 16.51cm
10 V-3 Pockets	5-1/2" 13.97cm	6-1/4" 15.875cm	7" 17.78cm	7-3/4" 19.685cm	8-1/2" 21.59cm
8 V-3 Pockets	7" 17.78cm	7-3/4" 19.685cm	8-1/2" 21.59cm	9-1/4" 23.495cm	10" 25.4cm
6 V-3 Pockets	9" 22.86cm	10" 25.4cm	11" 27.94cm	12" 30.48cm	13" 33.02cm
5 V-3 Pockets	11" 27.94cm	12-1/2" 31.75cm	14" 35.56cm	15-1/2" 39.37cm	17" 43.18cm
4 V-3 Pockets	14" 35.56cm	15-1/2" 39.37cm	17" 43.18cm	18-1/2" 46.99cm	20" 50.8cm
3 V-3 Pockets	18" 45.72cm	20" 50.8cm	22" 55.88cm	24" 60.96cm	26" 66.04cm

Trouble Shooting

Important - Before attempting any of the following, make sure that the unit is running level or parallel to the ground. Do not run the front hitch or toolbar too far down or up. For all transplanter, make sure the soil is worked deep enough.

Problem

Solution

Packing wheels not packing properly

- A. Lengthen third arm on tractor to get float in hitch
- B. Hitch is too far down and needs to be lifted
- C. Clean off sides of shoe
- D. Work soil deeper
- E. Add weight to back of unit
- F. Poly shoes will eliminate soil building up on the outsides

Water leaks from top of water valve

- A. Check to see if the rubber nipple inside the top of the valve is in place and rounded.
- B. #610 ball inside the valve has collapsed and needs to be replaced.

Water leaks from bottom of water valve

- A. Rubber ball #612 on pin is broke and needs to be replaced
- B. The nylon nut on the bottom is broken and needs to be replaced

Water not uniform

- A. Make sure all the water trips on the pockets are in good shape and at even distances from the attachment link.
- B. Check to see that all springs on the water valve are in good working order.
- C. Water valve has dirt or residue build up that needs to be cleaned out

Water misses plants

•See water valve instructions on Page 7 & 8.

Plants falling out of pocket

- A. Inspect the rubber grippers to make sure that they are not all stretched out.
- B. Tighten the L-bolts on the side of the guides.
- C. #482 pocket extensions may be needed if planting cell-type plants.
- D. Check bottom of guides to insure that the pocket is not releasing the plant too soon.

Plants on top of soil

- A. Cut back on water because the plants are floating up out of the shoe.
- B. Plants need to be pulled further out of the pocket to put them deeper.
- C. Too much loose soil is getting inside the shoe before the packing wheels can pack. Move shoe closer to packing wheels.
- D. A gap might be occurring by having the hitch too low causing the packing wheels to be up in the air or not being able to put enough pressure on the soil.
- E. Ground not worked deep enough causing the shoe to not go deep enough into the soil.
- F. Our OE 73 weight bracket will help get the shoe deeper

Plants leaning

- A. Need to put plant further in the pocket to keep it from hitting the bottom of the furrow.
- B. Possibility of needing a deeper shoe.
- C. May need #482 extensions to help support the cell of a plant coming from a tray.
- D. See Operating Instructions on Page 7 about adjusting the shoe.

Packing wheel drive slippage

- A. Models with Direct Drive Float Wheels eliminate this problem.
- B. Extra weight may be needed to keep the packing wheels down.
- C. Make sure the frame of the unit is running parallel to the ground.
- D. Check to see if the third arm on the tractor is adjusted to allow float in unit hitch.

Safety Precautions

1. Make sure tractor is stopped and in neutral with the transplanter lowered to the ground before getting on and off the unit.
2. No operator is allowed to be on the unit as it is raised and lowered.
3. No operator is allowed on the transplanter as it is transported to or from the field.
4. All operators must be seated before movement begins and remain seated until the transplanter is completely stopped.
5. Never leave the transplanter in the raised position.
6. Keep all shields and guards in place when operating the transplanter.
7. Never attempt repairs or maintenance while the transplanter is in motion.
8. Never put the tractor in reverse while the transplanter is on the ground.
9. Follow all safety instructions supplied by the tractor manufacturer to which the transplanter is mounted.

MACHINE IMPROVEMENTS

MECHANICAL TRANSPLANTER CO. IS ALWAYS STRIVING TO MAKE IMPROVEMENTS ON THEIR LINE OF EQUIPMENT. MECHANICAL TRANSPLANTER CO. RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND CHANGES AT ANY TIME WITHOUT INCURRING OBLIGATIONS TO MAKE SUCH CHANGES OR ADDITIONS TO EQUIPMENT PREVIOUSLY SOLD.

Limited Warranty

Mechanical Transplanter Company warrants each item of new equipment manufactured by Mechanical to be free from defects in material and workmanship under normal use and service.

The obligation of Mechanical Transplanter Company under this LIMITED WARRANTY is limited to repairing or replacing as Mechanical may elect, and any parts that prove, in Mechanical's judgment, to be defective in material and workmanship within the first season's use or 45 consecutive days after initially placing equipment in operation, whichever occurs first. Any outside work or alterations without Mechanical's written approval will render the LIMITED WARRANTY void.

Mechanical's obligation specifically excludes any liability for consequential damages, such as loss of profits, delays, expenses, damage to goods or property used in connection with or processed in or by the product sold, or damage to the product sold from whatsoever cause, whether or not such loss is due to negligence of selling dealer of Mechanical Transplanter Company.

This limited warranty shall not apply to any item or machine which shall have been operated in a manner not recommended by the Company nor which shall have been repaired, altered, misused, damaged in an accident, neglected, tampered with or used in any way which in the Company's opinion adversely affects its performance and results.

No person is authorized to give any other warranties or to assume any other liability on behalf of Mechanical Transplanter Company, unless made in writing by Mechanical.

This limited warranty covers repair or replacement of Mechanical Transplanter Co. equipment only and does not cover crop loss, downtime, labor, damage to other equipment, etc.

This limited warranty does not apply to exterior finishes, tires, chain links, bearings, or any other items sold by Mechanical Transplanter Co., but warranted by the original manufacturer except to the extent of their individual manufacturer's warranty.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE EXCLUDED, AS ARE ALL OTHER REPRESENTATIONS TO THE USER-PURCHASER, AND ALL OTHER OBLIGATIONS OR LIABILITIES, INCLUDING LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES, ON THE PART OF MECHANICAL OR THE SELLER.