**TABLE OF CONTENTS**

This is a downloadable version of the manual.  A partial download may not contain all pertinent information.  Make Sure to read Chapter 1, Safety!
Due to ongoing upgrades specifications may change without notice, contact a Monosem Rep for current information.

## PREPARING THE PLANTER

### Pull-Type Planter

For the initial preparation of the planter, lubricate the planter and row units. Make sure all tires are properly inflated, that all drive chains have the proper tension, alignment and lubrication.

**CAUTION** Before starting up the planter, check that all main bolts are properly tightened and that planting units are equipped with the proper seed disc. Also check that the shutters inside the metering boxes are adjusted correctly. (See Metering Box.)

**CAUTION** Except when absolutely necessary, do not leave the turbofan running when the planter is in a raised position.

When planting small seeds (rape, cabbage, uncoated sugarbeet), make sure that the hoppers fit tightly at the bottom. This may be improved if necessary by using a sealant. When planting these small seeds, it is recommended to fill the hopper only one-third full.

### LUBRICATION

Proper lubrication of all moving parts will help ensure efficient operation of your Monosem planter and prolong the life of friction producing parts.

All bearings (wheels, disc openers, turbofan, and metering box) are self-lubricated for life and therefore no additional greasing is necessary.

The gauge wheel arms may require daily greasing.

The hub of each drive wheel requires greasing once per season.

A general lubricant each day of the chains for the seed spacing gearbox, drive wheel blocks and metering units is recommended (preferably with a chain lubricant which does not attract dust).

Before starting up the planter, grease the hexagonal shaft where the upper sprocket cluster of the gearbox slides to allow easier alignment of the sprockets. Also lubricate the claws of the safety clutch of each planting unit to allow for disengagement in case of a blockage.

Oil the chain rollers and shafts of the metering unit chain moderately.

All transmission and drive chains should be lubricated daily with a chain lubricant (which does not attract dust). Extreme operating conditions such as dirt, temperature or speed may require more frequent lubrication. If a chain becomes stiff, it should be removed, soaked and washed in solvent to loosen and remove dirt from the joints. Then soak the chain in oil so that the lubricant can penetrate between the rollers and bushings.

### LUBRICATE WHEEL BEARINGS

Wheel bearings should be repacked with clean, heavy-duty axle grease once a year or at the beginning of each planting season. This applies to all drive wheels, transport wheels, and marker hubs. Follow the procedure outlined for wheel bearing replacement with the exception that bearings and bearing cups are reused.

**Wheel Bearing Lubrication or Replacement**

1. Raise the tires clear of the ground and remove wheel.
2. Remove the double jam nuts and slide the hub from the spindle.
3. Remove the bearings and cups and discard if bearings are being replaced. Clean the hub and dry. Remove the bearings only if repacking.
4. Press in new bearing cups with thickest edge facing in. (Bearing replacement procedure only.)
5. Pack bearings with heavy-duty wheel bearing grease thoroughly forcing grease between roller cones and bearing cage. Also fill the space between the bearing cups in the hub with grease.
6. Place inner bearing in place.
7. Clean spindle and install hub.
8. Install outer bearing and nut. Tighten the jam nut while rotating the hub until there is some drag. This assures that all bearing surfaces are in contact. Back off jam nut ¼ turn or until there is only slight drag when rotating the hub. Install second jam nut to lock against first.
9. Install wheel on hub and tighten evenly and securely.

## PREPARING THE PLANTER

**Pull-Type Planter**

### LUBRICATE GREASE FITTINGS

Those parts equipped with grease fittings should be lubricated at the frequency indicated with SAE multipurpose type grease. Be sure to clean the fitting thoroughly before using a grease gun. The frequency of lubrication recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent attention.

There are a number of sealed bearings on your planter to provide trouble free operation. These sealed bearings are lubricated for life.

Frequency of lubrication for:

**Chain Lubricant**

**DAILY**

- Unit drive chains
- Wheel block drive chains
- Transmission chains & rollers
- Insecticide drive chains
- Liquid fertilizer squeeze pump drive
- Chain rollers and shafts on unit drive chains

**Grease**

**DAILY**

- Gauge wheel arms
- Row marker hinge points

**WEEKLY**

- Row unit closing wheel/disc
- Closing assembly pivot points.

### SPRING ADJUST CONTACT DRIVE WHEEL

There are two down pressure springs on each contact drive wheel. The down pressure is factory preset and should need no further adjustment.

The spring tension is set leaving 2 ¼" between the spring plug and the bolt head.

Tire pressure should be checked regularly and maintained.

### CHAIN TENSION ADJUSTMENT

The drive chains are spring loaded and therefore self-adjusting. The only adjustment needed is to shorten the chain if wear stretches the chain and reduces spring tension. The pivot point of these idlers should be checked periodically to ensure that they will rotate freely.

### TIRE PRESSURE

Tire pressure should be checked regularly and maintained as follows:

Transport Ground Drive – 7.50x20 - 40 PSI
Contact Drive – 4.10x6 - 50 PSI

DANGER Rim and tire servicing can be dangerous. Explosive separation of a tire and rim parts can cause serious injury or death.

**Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. This should only be done by properly trained people who are equipped to do the job.**

**Maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.**

**When inflating tires, use a clip-on air chuck and extension hose long enough to allow you to stand to one side, and not in front of or over the tire assembly. Use a safety cage to enclose the tire and assembly when inflating.**

**Inspect tires and wheels daily. Do not operate with low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.**

## PREPARING THE PLANTER

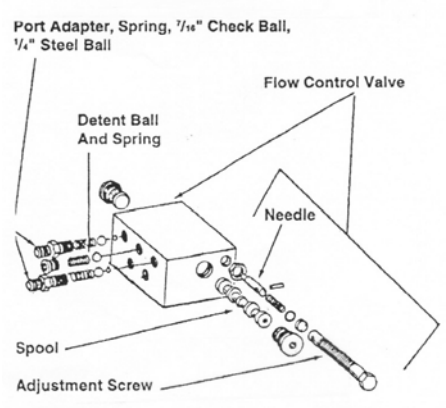
**Pull-Type Planter**

### VALVE BLOCK ASSEMBLY INSPECTION

The valve block assembly consists of the marker sequencing and flow control valves in one assembly. The sequencing valve consists of a chambered body containing a spool and series of check valves to direct hydraulic oil flow. Should the valve malfunction, the components may be removed for inspection as follows.

1. Remove valve block assembly from planter
2. Remove detent assembly and port adapter assemblies from rear of valve block.
3. Remove plug from both sides of valve block and remove spool.
4. Inspect all parts for pitting, contamination or foreign material. Also check seating surfaces inside the valve. Replace any parts found to be defective.
5. Lubricate spool with light oil and reinstall. Check to be sure spool moves freely in valve body.
6. Important: Make sure the correct check ball(s) and spring are installed in each valve bore before reassembly.

A flow control valve is located on each side of the block assembly. The flow control valves should be adjusted for raise and lower speed as part of the assembly procedure or upon initial operation. If the valve fails to function properly or requires frequent adjustment, the needle valve should be removed for inspection. Check for foreign material and contamination. Be sure the needle moves freely in adjustment screw. Replace any components found to be defective.




### TRACTOR PREPARATION & HOOKUP

Consult your dealer for information on the minimum tractor horsepower requirements and tractor capability. Tractor requirements will vary with planter options, tillage and terrain.

1. Adjust the tractor drawbar so it is 13 to 17 inches above the ground. Adjust the drawbar so that the hitch pinhole is directly below the centerline of the PTO shaft. Make sure the drawbar is in a stationary position.
2. Back the tractor to the planter and connect them with a hitch pin. Make sure the hitch pin is secured with a locking pin or cotter pin.
3. Connect the PTO drive shaft to the tractor. In addition to a standard 450/540 rpm PTO, a 1000-rpm shaft is available.

**CAUTION** Make sure that you connect the proper end of the PTO to the tractor. An arrow on the PTO indicates the end of the constant velocity (double clutch) that is attached to the tractor.

A sticker with the following warning is placed on your PTO shaft for your safety:

**DANGER Rotating driveline contact can cause death – keep away. Do not operate without all driveline, tractor and equipment shields in place; do not operate without drivelines securely attached at both ends, and without driveline shields that turn freely on driveline.**

4. Connect the hydraulic hoses to tractor ports in a sequence that is both familiar and comfortable to the operator.

## PREPARING THE PLANTER

**Pull-Type Planter**

**DANGER Before applying pressure to the hydraulic system, make sure all connections are tight and hoses and fittings have not been damaged. Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin, causing injury or infection.**

**CAUTION** Always wipe hose ends to remove any dirt before connecting couplers to tractor parts.

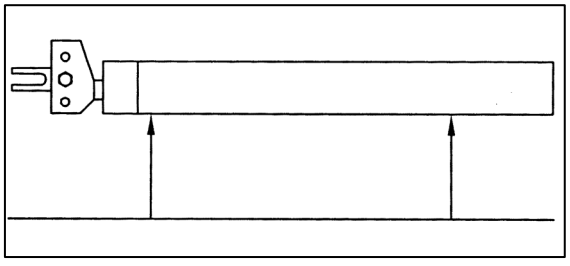
5. Raise the jack stand and remount horizontally on the storage bracket.

6. Lower the planter to the planting position and check that the planter is level (front to back and side to side). If the hitch height is too high or too low, disconnect the planter and adjust the hitch clevis in an up or down position as necessary.

### LEVELING THE PLANTER

For proper operation of the planter and row units, it is important that the unit operate level.
Unless the tractor drawbar is adjustable for height, the fore and aft level adjustment must be maintained by the position of the hitch clevis. Holes in the hitch bracket allow the clevis to be raised or lowered. When installing clevis-mounting bolt, tighten hex nut to proper torque setting.
With the planter lowered to proper operating depth, check to be sure the frame is level fore and aft (front to back and side to side). Recheck once the planter is in the field.

It is also important for the planter to operate level laterally. Tire pressure can affect the lateral leveling of the planter. Maintain the tire pressure as mentioned in this section.



### TRANSPORTING THE PLANTER

**CAUTION** Use necessary safety precautions, such as turning on safety lights and devices.

**CAUTION** Always install all cylinder lockup brackets before transporting the planter.

Observe legal regulations before transporting the planter on public roads.

Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure.

Do not carry passengers on transported equipment.

Watch for obstructions overhead and to the side while transporting.

Make allowances for increased length and weight of the planter when making turns, stopping, etc.

### OPERATING SPEED

The operating speed needs to be selected as a function of:

- The desired consistency in the row
- The ground conditions
- The density of the seed

A high speed is not conducive to accuracy, especially in rough or rocky conditions that causes the unit to bounce.

Likewise, a high seed density may cause the disc to rotate fast, thus burdening the metering.

It should be noted, and especially for corn, that misshapen and angular seeds are difficult to sow regularly, particularly at high working speeds.

A base speed of 3 ½ to 4 ½ mph (5-7 km/h) assures good results for most seeds in the majority of conditions. However when planting corn at lighter population more than 6" (15 cm) between the seed, 5-6 mph (8-10 km/h) is quite possible.

For planting of high seed population such as peanuts, edible beans, and kidney beans, best results can be obtained by not going faster than 3-4 mph (4.5-6 km/h).

## PREPARING THE PLANTER

### Pull-Type Planter

**FIELD TEST**

Before the initial operation of the planter, a field test is advised. Check for the following:

- That the planter is level (front to back and side to side)
- That the hydraulics of the 3-point hitch of the tractor is in a float position while planting.
- That all of the row units are running level and remain parallel to the ground when planting.
- That each metering unit is metering properly (see metering unit section).
- That the row markers are adjusted properly.
- That you are using the proper application rates of chemicals on all rows.
- That you have set the desired depth of seed placement and checked your seed population on all rows.

**CHECKING SEED POPULATION**

1. Only one planting unit is necessary to check you seed population. Tie up the sets of closing wheels on one unit with a heavy cord or light chain. It may be necessary to decrease the tension of the closing wheel arm.
2. Put seed in the seed hopper.
3. Begin planting. At the end of a short distance (for example 100 yards or 90 meters) check to see if seed is visible in the seed trench. Make adjustments in your seed depth if necessary.
4. Measure off 1/200 of an acre of the test row just planted. Use the chart below to find the approximate distance. Mark this distance with flags.
5. Count the seeds within the distance between the flags. Multiply the number of seeds counted in this distance by 200. This will give you the total number of seeds planter per acre.

Length of Row in Feet

| Fraction Of Acre | Row Width 22" | 30" | 36" | 40" |
|---|---|---|---|---|
| 1/200 | 119 | 87 | 72 ½ | 66 |

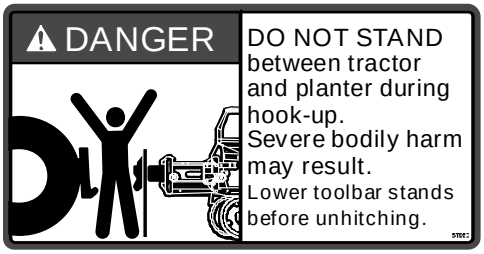
NOTE: When viewing the test row for seed population and placement, remember that the closing wheels were tied up in a raised position. Therefore, the seeds may have rolled or bounced and will affect your seed placement for accuracy.

## PREPARING THE PLANTER

### Pull-Type Planter

### UNHOOKING THE PLANTER

**WARNING** Before unhooking the planter from the tractor, fully extend the jack stands to the point where the toolbar will remain level. Lock the stands securely in place with the locking pins.




1. Lower the planter to the ground. Set the tractor or towing vehicle brakes, disengage PTO and all power drives, shut off the engine and remove the ignition key.

2. Unhook the tractor lift arms from hitch pockets and remove center link. If a quick attach is used, position levers so that the locking mechanism is in the “unlatched” position and lower.

3. When the lift arms or quick attach arms are clear of the tractor, slowly drive the tractor away from the planter.

### STORAGE

After the season, thoroughly clean the machine, especially the metering boxes. The microgranular applicator should be completely emptied and the fertilizer applicator scraped of any fertilizer residue. After emptying the trap doors, turn the shafts manually to remove any residual product from the mechanism.

Except for the microgranular applicator, protect all metal parts against oxidation by applying a coat of oil or diesel fuel.

Grease the exposed areas of cylinder rods. Also grease or paint the disc openers to prevent rust.

Inspect and replace any worn parts at the end of the planting season. New parts are available for replacement from your dealer.

Remove all trash that may be wrapped on sprockets or shafts and remove dirt that can draw and hold moisture.

Clean all drive chains and coat with a rust preventative spray, or remove chains and submerge in oil.

Lubricate planter and row units at all lubrication points.

**The planter should be stored in a dry and dust-free location with the hydraulic cylinders closed.**