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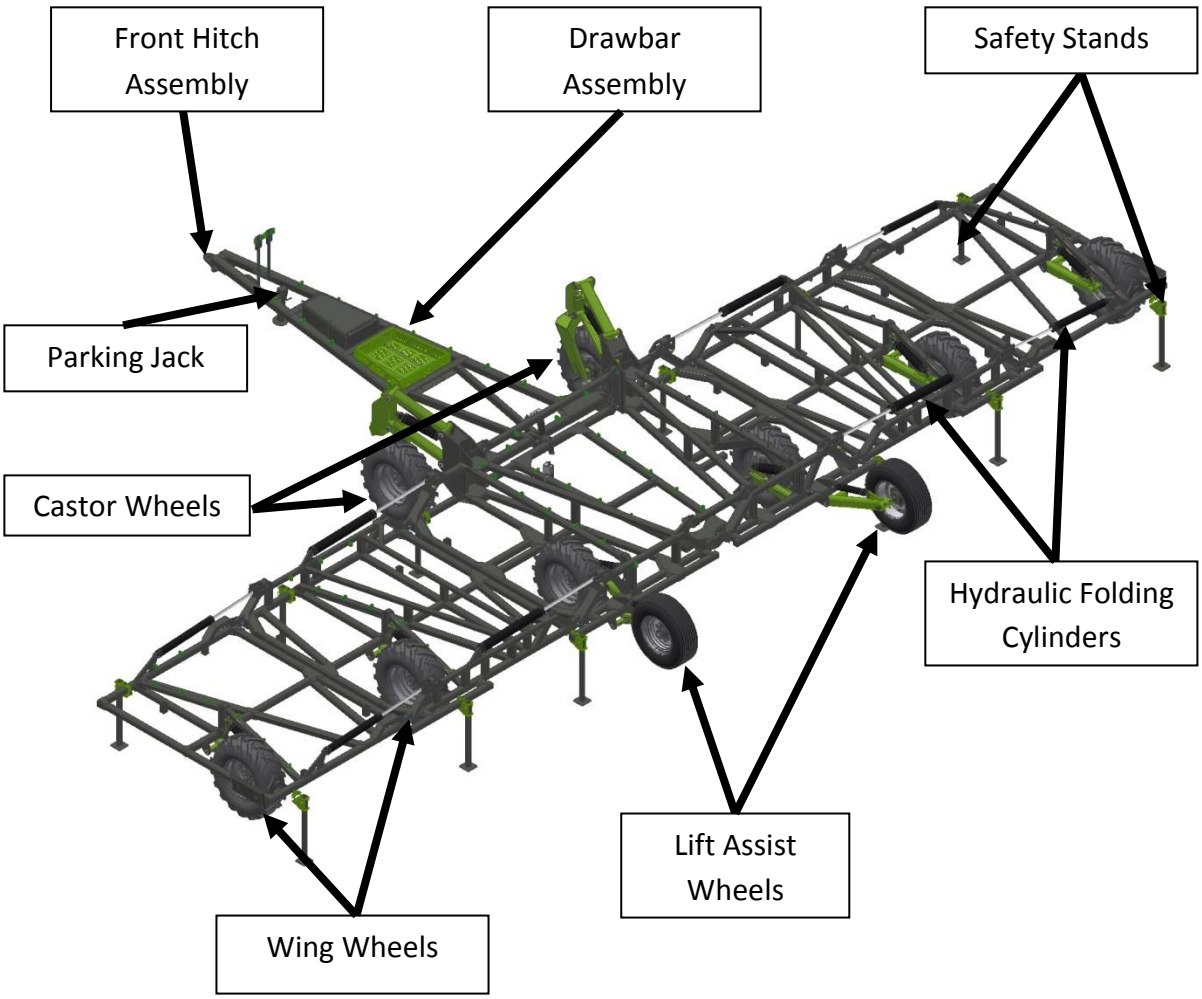
1 Planter Safety

- Read & understand the operators' manual before using this equipment.
- Ensure safety stands are in place before working under machine.
- Ensure the tractor is shut down and the key removed before working on machine.
- Be aware of pinch points on the row units & planter frame.
- Ensure the machine is securely chocked when unhooking to prevent the machine from rolling.
- Do not disconnect hydraulic breakaway couplings while the hydraulic system is under pressure.
- Inspect for hydraulic leaks and replace hoses if required. **Do not inspect for oil leaks with bare hands,** as small invisible high pressure oil leaks can penetrate the skin & require treatment.
- Pressurised hydraulic oil can harm or kill.
- Never ride on machine when operating.
- Do not let children climb or play on machine.
- Ensure safety pins are in place when the machine is in the folded position.
- Ensure the tractor is ballast correctly for linkage machines.
- Be aware of overhead powerlines when transporting a folded machine.
- Width and height restrictions may apply when travelling on public roads, consult your local transport regulator for specific requirements in your area.
- **Max travelling speed is 20km/h.**
- Ensure tyres are inflated to the correct pressure as recommended.
- Inspect the machine regularly for loose bolts, damaged or worn components and replace as required.
- Inspect and keep wheel studs tight.
- Do not stand between the tractor and implement while coupling the machine up.
- Ensure all safety signs are in place and replace if damaged.
- Ensure all safety guards are in place.
- No persons within 50 metres when the machine is operating.

BOSS SUPAFLEX FRAME



2 Road & Field Travel

BOSS planters are designed primarily for **in field** operation, this means tyre selection and position is for optimum in field use. Continuous high speed road travel is not recommended as this is not the machines primary design function.

We understand road travel may be required from time to time, and as such certain steps/guidelines need to be considered for personal & public safety, and to avoid tyre damage.

- Always use an agricultural tractor large enough & with sufficient braking capacity to stop the combined unit quickly and safely.
- Make sure tyre pressures are correct as per operators manual or inflation stickers located on the rim.
- Ensure all wheel nuts are present and tight as per operators manual or wheel nut torque stickers located on the rim.
- Make sure connection pin & hitch components are in good order with no possibility of the machine coming unhooked.
- Travel Speed should not exceed 20km per hour.
- Know the machines limitations when negotiating changes in road conditions. Reduce speed over uneven or rough terrain, & be aware of hazards such as bridges, trees, fences, power lines & other road users.
- Machines are often oversize & as such follow local laws regarding excess dimension transport requirements.
- Exercise caution when transporting BOSS Planters on public roads in poor visibility, or when road conditions are wet as stopping capability may be reduced.
- Be aware of overhead powerlines at all times.
- Do not allow anyone to ride on the machine at any time.
- High road temperatures significantly reduce tyre carrying capacity, stop and check tyres regularly and allow to cool before continuing.
- Ensure fold safety pins are in place & any components fitted to the machine cannot fall off during transport.

It is important to remember that BOSS Planters are **NOT** designed for frequent, high speed or long distance road transport and as such BOSS Agriculture does **NOT** recommend on road travel other than necessary, infrequent, short distance road travel at a reduced speed following above guidelines.

3 Hooking Up

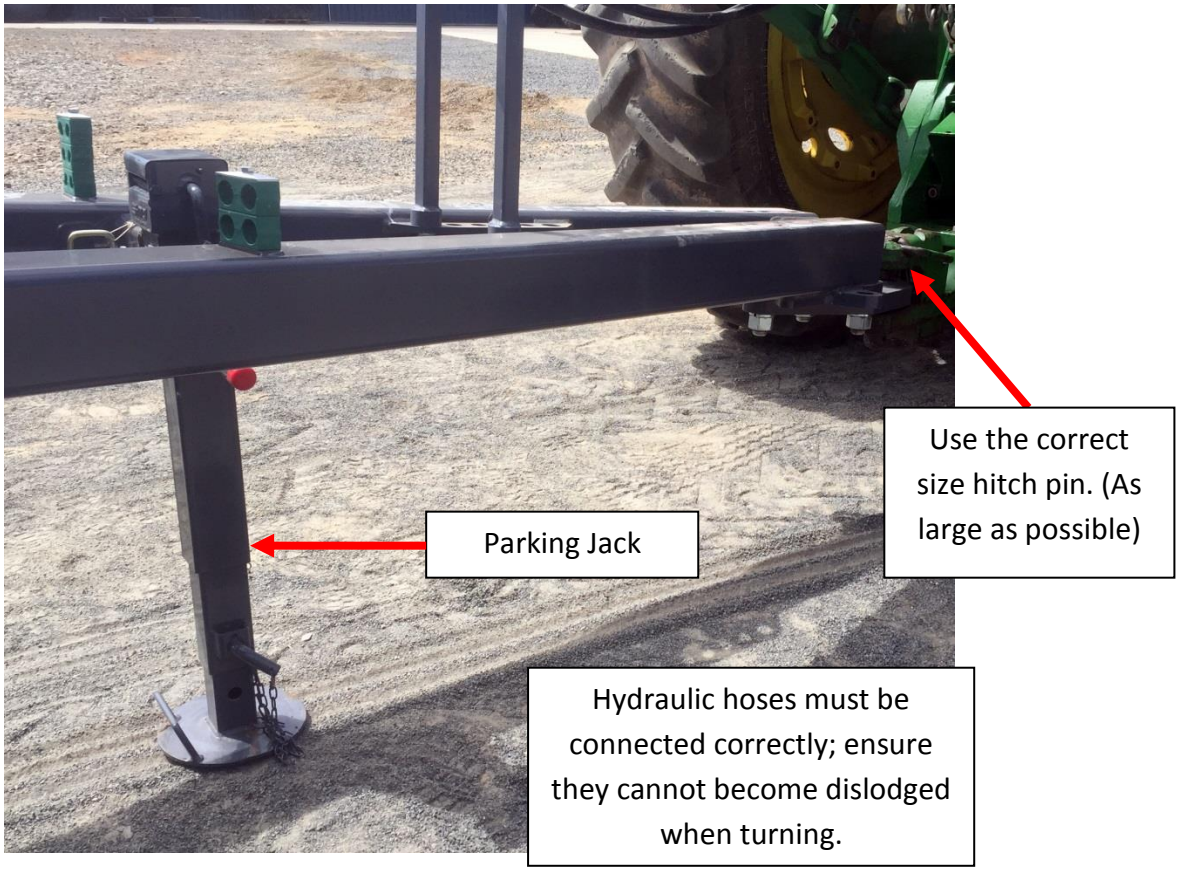
Ensure no-one is at risk of being crushed or trapped before commencing to hook up the machine to the tractor. Use the mechanical parking jack stand to set the drawbar pull to the correct height before reversing.

Connect all hydraulic lines making sure all hydraulic fittings are clean prior to connection. All hydraulic dump lines are required to be connected correctly to avoid damage to the machine, row units or air seeder. BOSS dump lines are generally labelled, however, ensure you have an understanding of the machines operation and connect hydraulic lines accordingly.

Connect electrical wiring harnesses (if applicable).

The main hitch pin should be the correct size for both the machine & the tractor (use as large a pin as possible). The pin should be undamaged & in good condition.

Once the tractor and machine are connected remove the parking jack and place in the storage position.



4 Setting Frame Operating Height

Frame operating height is set by adjusting the ram stops located on the in-frame centre section cylinders. Using a ¾ spanner loosen ram stops and adjust all 4 stops (2 on each cylinder), to achieve the required under-bar operating height. These stops **MUST be adjusted EVENLY,** a preferred method is to check with a ruler. If they are not adjusted evenly the cylinder rod can become fatigued and break off. Once all stops are evenly adjusted tighten the locating bolts. The correct operating height is determined by the row unit that is fitted to the frame; refer to the row unit operating manual for instruction on frame height.

Using a ¾ spanner loosen the ram stop bolts and adjust both stops **equally.** The safest way is to use a ruler so all 4 stops (2 on each cylinder on the centre in-frame lift wheels) are equal.

5 Levelling the Supaflex Frame

Your Supaflex frame will be levelled in the factory however if in field changes are required they can be carried out in the field.

The Supaflex frame is fitted with adjustment bolts located in the lift wheel ram assemblies on the in-frame wheels only. This adjustment raises or lowers the rear of the frame.

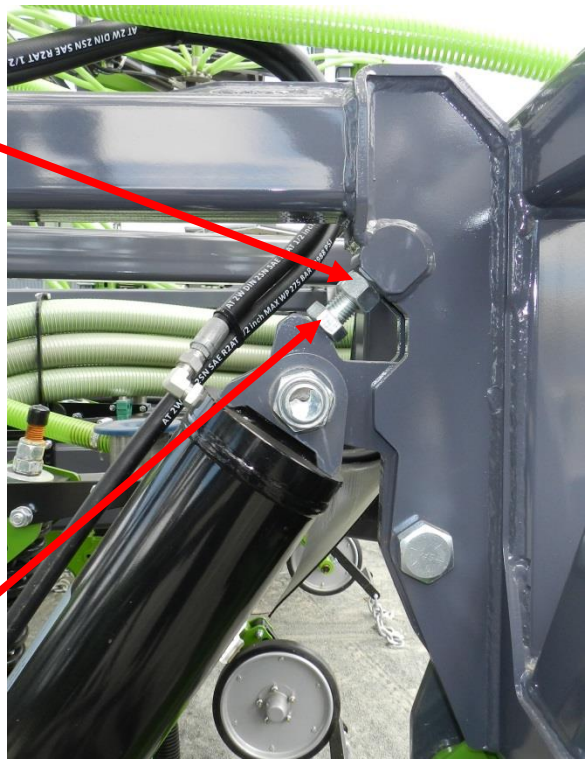
When adjusting the frame using the lift wheel ram adjustment, firstly lower all frame safety stands and gently lower the machine so the frame weight is just supported to make adjusting the bolt easier. A 1½" spanner will be required. Firstly undo the locknut and adjust the bolt in to lower the rear of the frame or adjust out to raise the rear of the frame. All adjustments must be made equally to each section ie. Centre section, Inner Wing Sections or Outer Wing Sections. If adjusting the bolt out, ensure there is enough bolt remaining inside the thread otherwise damage may occur.

This adjustment can also be used when deep sowing if the wing sections appear to nosedive in the front corners of the toolbar. If this occurs you can assist by screwing in the adjuster bolts on the **centre section only**. This will lower the rear of the centre frame and at the same time pick up the front of the outer wings.

Lift wheel ram adjusters are located on the top of all in-frame hydraulic lift wheel cylinders.

Before making adjustments lower all frame stands & support the weight of the machine to make adjusting easier.

Using a 1½" spanner undo the locknut & make your required adjustments.



6 Supaflex Folding Procedure

Prior to folding your machine ensure the lift cylinders are phased correctly and the frame is level. To phase the cylinders fully raise the frame and hold levers on momentarily, then lower slightly & repeat to allow the oil to fill lines and cylinders completely to ensure phasing poppets are correctly seated.

When folding the Supaflex Frame, a tractor must be hooked up to the machine & the terrain must be level and safe. Ensure the area is clear of power lines, trees & people in the vicinity of the machine are far enough away to be safe.

Ensure fold safety pins are in the storage position so no damage can occur to fold cylinders when operating.

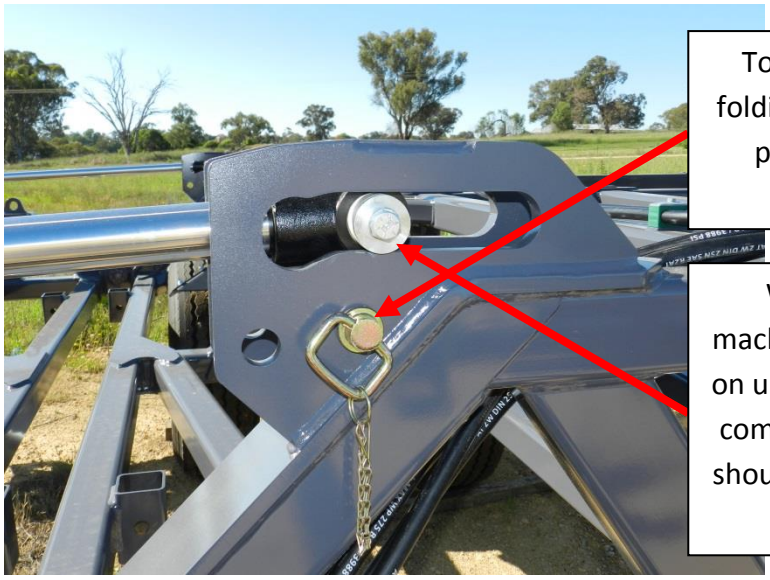
Before folding raise the machine so the row units are off the ground, and ensure the row units do not drag across the ground as the wings are coming up. The wings should operate together and both should come up evenly. If the wings are not coming up together do not continue to fold contact a BOSS representative for instruction. Once the machine is fully folded the safety fold pins should be placed in the transport position (located on inner wings only).

When unfolding the Supaflex Frame remove the safety fold pins and ensure the area is clear & safe. Once the machine has been unfolded continue to extend fold cylinders until they are all the way out (approx half way in the operating slot). This will allow the wing sections to float up or down, and follow ground contours without damaging hydraulic cylinders. It is advisable to leave your folding cylinders in the float position on the hydraulics for cylinder protection.

- **Be aware of the height of the frame when working around power lines.**

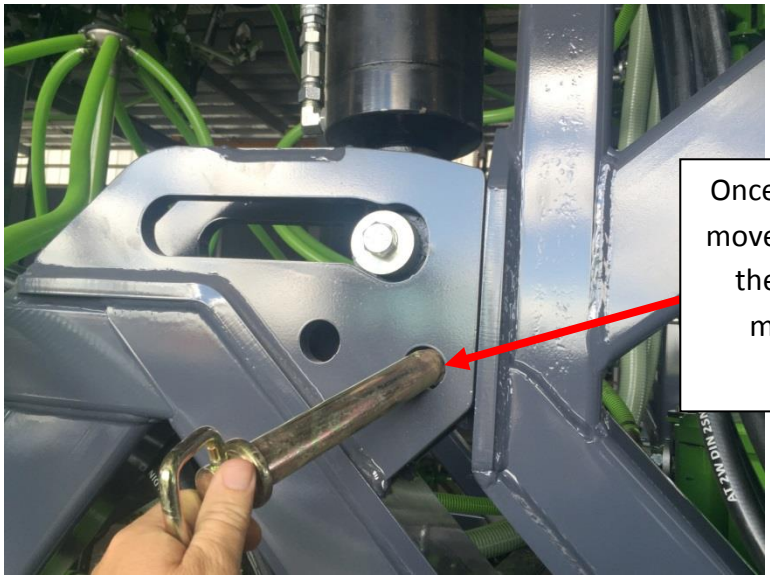
- **Ensure no-one is under the wing section at any time.**

Ensure tyre pressures are correct (see page 14) and the area is clear before folding.



To avoid damage before folding check the fold safety pins are in the storage position as shown.

When unfolding the machine hold the hydraulics on until all fold cylinders are completely extended. They should be approx halfway in the operating slot.



Once the machine is folded move the safety fold pins to the lockout position for machine transport or storage.

Folding when Lift Assist Wheels are Fitted

Lift assist wheels are fitted to large double folding Supaflex machines to assist with supporting the weight of the machine when it is folded up & during travel.

The lift assist wheels are usually plumbed into the folding circuit of the machine and will automatically operate when the machine is being folded. To operate correctly the **fold circuit must have the hydraulic flow engaged into a constant flow during transport of the machine**. A hydraulic operating valve located on the frame will be pre-set to regulate the amount of weight carried on the lift assist wheels.

Ensure you are completely stopped before unfolding the machine as the weight will instantly come off the lift-assist wheels and be transferred onto the two in-frame & front castor wheels.

As the lift assist wheels come down automatically, make sure the area is clear and no people are within 50 metres of the machine during operation.

The lift assist wheels will be approx 600mm off the ground when the machine is unfolded and in the working position. If the lift assist wheels need to be isolated (tractor hydraulics not holding), simply activate the hydraulic fold rams to unfold and when the wheels are fully retracted turn the hydraulic tap to the isolate position. **The isolation tap must only be operated when the machine is in the fully unfolded position.**

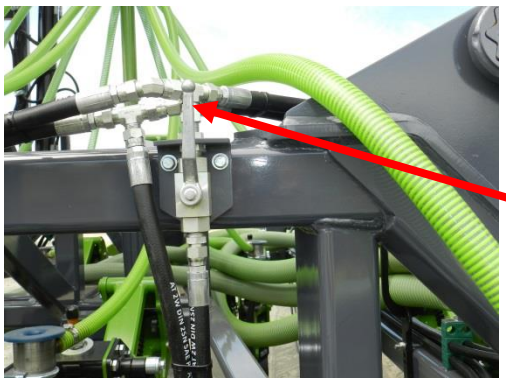
(Lift assist wheels are also available on a stand-alone system that does not operate through the folding circuit)

Lift assist wheels fitted to the rear of double folding Supaflex frames are plumbed into the folding circuit & require constant oil flow delivered from the tractor during transport.

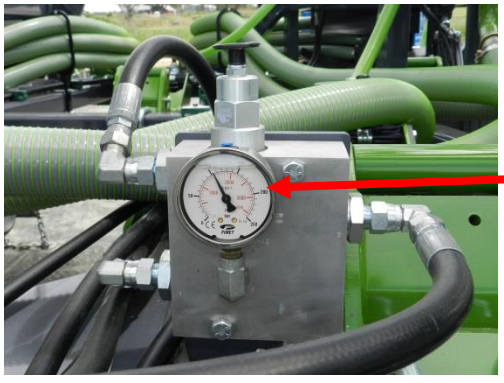
Lift assist wheels should remain approx 600mm off the ground when the machine is unfolded.

Ensure people are clear when operating as the lift assist wheels will automatically come down when folding.

Lift assist wheels are fitted with an isolation tap should the hydraulics not hold the wheels up during operation. The isolation tap should only be operated when the machine is fully unfolded.



Isolation tap in the working position shown, simply pull down to 90˚deg to isolate lift assist wheels.



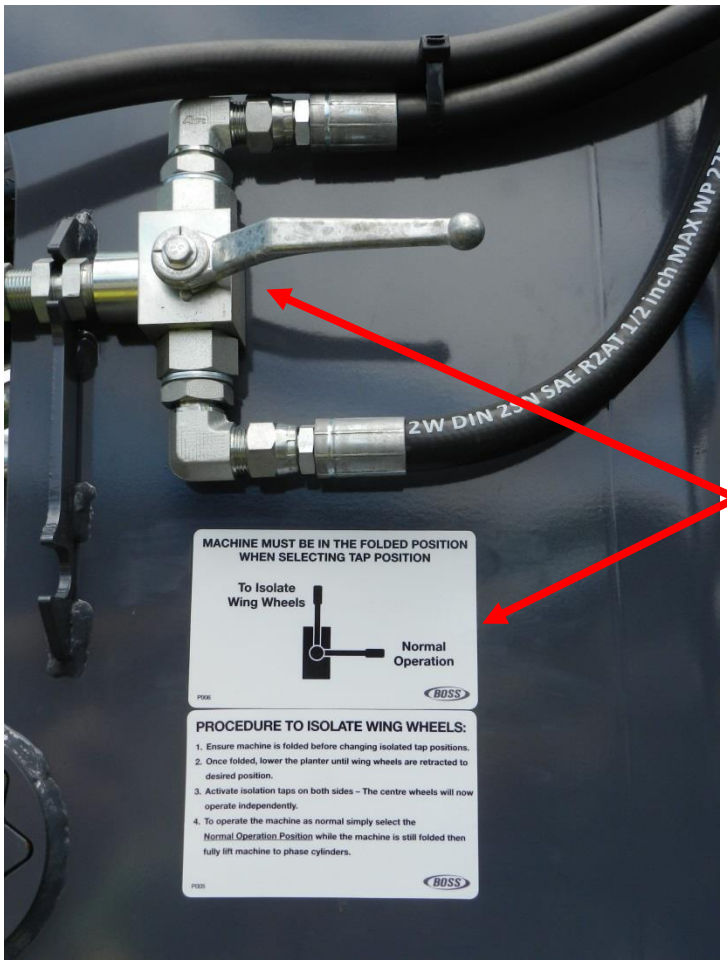
Hydraulic valve located on the frame will be pre-set in the factory to regulate how much weight is carried by the lift assist wheels.

7 Outer Wing Wheel Lockout Operation

Supaflex frames are fitted with outer wing wheel lockout taps to reduce the overall height or width of frames, by isolating the outer frame wheels so they will remain retracted whilst still having the ability to operate the centre section wheels up or down.

To lockout wing wheels simply fold the machine, then lower the frame to retract wing wheels. When the wing wheels have retracted to your desired position turn **both taps,** (one on each front castor mount), to the isolate wing wheels position. You can now operate the centre wheels independently. Wing wheel lockout taps are located on the two front castor arm mounts & must be both activated together.

To operate the machine as normal, simply select the normal operation position on both taps (whilst machine is still folded). The machine must now be re-phased; to phase the cylinders fully raise the frame and hold levers on momentarily, then lower slightly & repeat to allow the oil to fill lines and cylinders completely, to ensure phasing poppets are correctly seated.



Wing wheel lockout procedure is detailed on operation stickers located below the lockout taps.

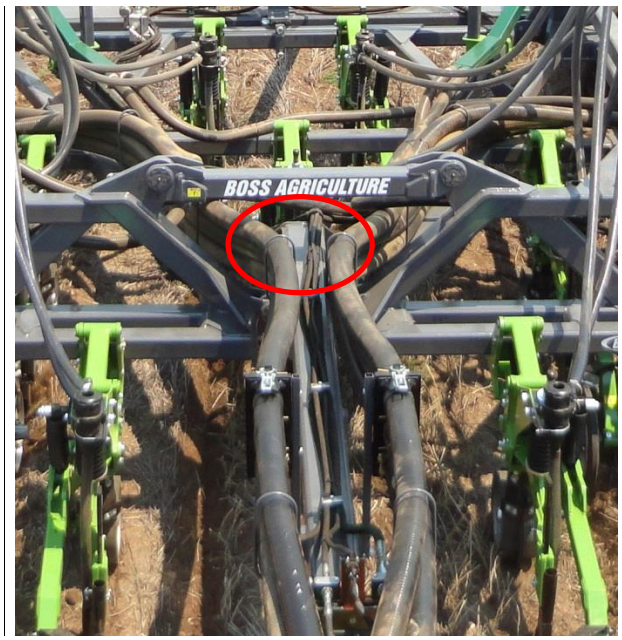
Wing wheel lockout taps are located on both the front castor wheel mount assemblies.

8 Important Bolts to Check

- Front hitch bolts.

- All wheel nuts.

- Air Seeder pull bolts.



9 Maintenance

SHUT OFF THE TRACTOR ENGINE, REMOVE THE KEY FROM THE IGNITION AND BE CERTAIN THAT ALL MOVING PARTS HAVE STOPPED BEFORE SERVICING.

BEFORE SERVICING MAKE SURE ALL SAFETY STANDS AND SAFETY PINS ARE IN PLACE. NEVER PLACE HANDS OR FEET UNDER ROW UNITS AS THE IMPLEMENT COULD LOWER UNEXPECTEDLY.

Your BOSS Supaflex Frame requires minimal maintenance to keep in good shape. Below is a guide to maintain your Supaflex Frame. All maintenance procedures may vary depending on ground/soil conditions & the amount of use your machine does both in-field & on-road.

Supaflex Frame - Wheel Nut Torque

8 Stud	400ft-lb
10 Stud	500ft-lb

Supaflex Frame – Recommended Tyre Pressure

Super Singles (Lift Assist Tyres)	100psi (maximum)
400/80-24 Lug Tyres – Centre Frame	73psi (maximum)
400/80-24 Lug Tyres – Wing Sections	60psi (maximum)

After first 5 hours Check:

- All wheel nuts.
- Drawbar mounting bolts through to the front hitch.
- Air Seeder pull bolts.
- Wheel bearing preload.
- Hydraulic leaks.

9.1 Daily Maintenance:

- Periodically check all wheel nut tension throughout the first days after delivery until wheel nut tension is maintained.
  (See wheel nut torque chart on page 14)
- Grease frame pivots with 1-2 pumps grease.
- Grease castors wheels – purge grease.
- Check for hydraulic leaks.
- Check tyres are inflated correctly. (See tyre inflation chart on page 14)
- Check hydraulic pins are secure with end clips in place.

9.2 Weekly Maintenance:

- Check all wheel nut tension. (See wheel nut torque chart on page 14)
- Check for any loose or damaged bolts & replace if necessary.
- Check for hydraulic leaks & repair if necessary.
- Check tyres are inflated correctly. (See tyre inflation chart on page 14)
- Check drawbar mounting bolts through to the front hitch bolts are tight.
- Check Air Seeder pull bolts are tight.
- Check hydraulic fold rams & lifting rams are in good condition with all mounting pins secure with safety clips or end bolts in place.
- Check safety stands & safety decals are in place.
- Visually check bearings in fold pivots, ensure the circlips are in place & bearings are retained properly in the housing.
- Check main frame wheel axle retaining bolts are tight and the axle has not moved.

9.3 Annual Maintenance:

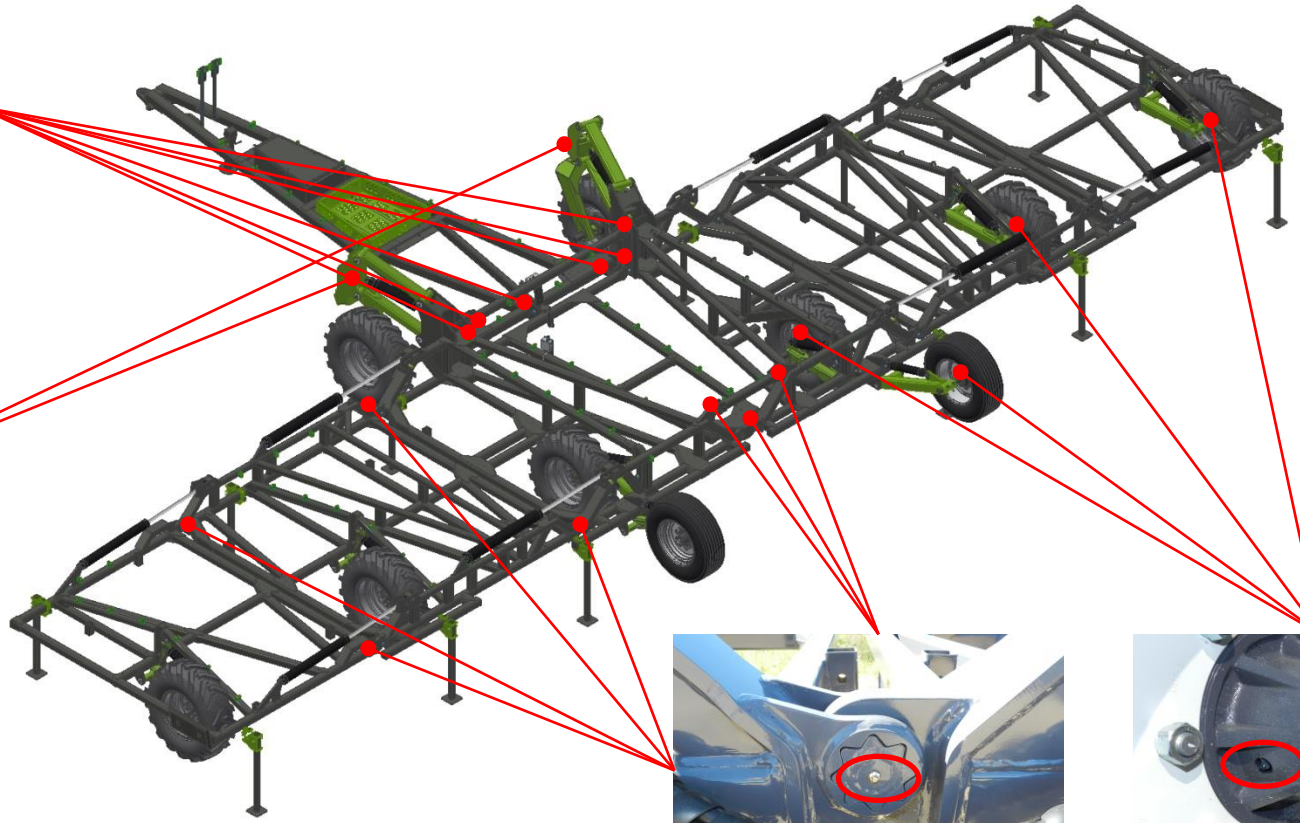
- Check all wheel nut tension. (See wheel nut torque chart on page 14)
- Check for any loose or damaged bolts & tighten or replace if necessary.
- Check for hydraulic leaks & repair if necessary.
- Check hydraulic hoses are in good condition & replace if necessary.
- Grease wheel bearings. (bearings are fitted with purge seals however always ensure the seal is seated correctly after greasing)
- Check wheel bearing preload & adjust as necessary.
- Check tyres are in good operating condition.
- Check tyres are inflated correctly. (See tyre inflation chart on page 14)
- Check drawbar mounting bolts through to the front hitch bolts are tight.
- Check Air Seeder pull bolts are tight.
- Grease frame pivots with 1-2 pumps grease.
- Grease castors wheels – purge grease.
- Check hydraulic fold rams & lifting rams are in good condition with all mounting pins secure with safety clips or end bolts in place.
- Check safety stands & safety decals are in place.
- Visually check bearings in fold pivots, ensure the circlips are in place & bearings are retained properly in the housing.
- Check frame wheel axle retaining bolts are tight and the axle has not moved.
- Check all pins and bushes for wear and replace as required.
- Clean and wash the machine down touching up any areas where paint has been removed.

Some hydraulic components such as hydraulic cylinders depend on oil residue for rust protection; avoid using any harsh cleaning products during wash-down.

Service Information - Grease Points

Frame & Drawbar Pivots – Grease Daily

Castor Wheels - Purge Grease Daily



Frame Pivots - Grease Daily

Grease Seasonally