

Specifications

MAGNUM III CHISEL PLOWS

Specifications and Options

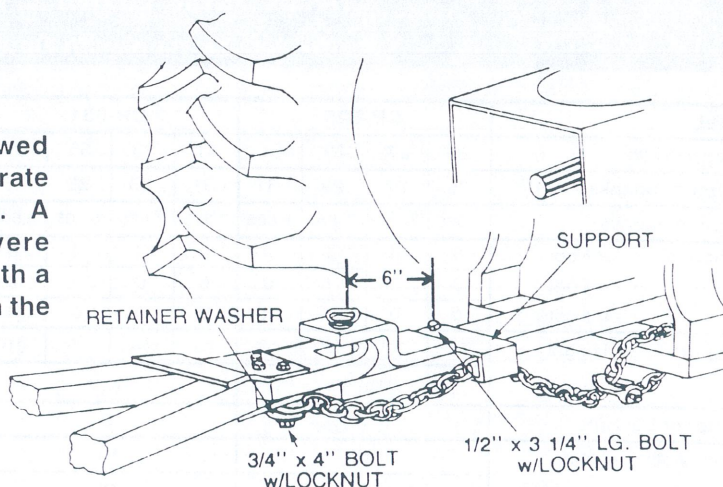
Model	CP-825				CP-831				CP-840		CP-843			CP-850	
Working Width	25'	27'	29'	31'	31'	33'	35'	37'	40'	42'	43'	45'	47'	50'	
Number of Shanks	25	27	29	31	31	33	35	37	40	42	43	45	47	50	
Weight in pounds	6,860	7,150	7,490	8,655	7,345	7,665	8,005	8,540	10,695	10,985	12,740	13,030	13,370	13,555	
Extentions - 2 Foot - 4 Foot - 6 Foot	0	1	1	0	0	1	1	0	0	1	0	1	1	0	
	0	0	1	0	0	0	1	0	0	0	0	0	1	0	
	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
Transport - Height - Width	10'	11'	12'	13'	13'	14'	15'	16'	16'	17'	13'			13'	
	18' 9"				18' 9"				21' 9"		18' 9"			21' 9"	
Number of Sections	3				3				3		5			5	
Frame Width - Main - Inner Wing - Outer Wing	13'				13'				16'		13'			16'	
	6'				9'				12'		9'			9'	
	N/A				N/A				N/A		6'			8'	
Tire Size Base Machine	- Main - Inner Wing - Outer Wing	(2) 9.5L x 15FI Load Range D				(4) 9.5L x 15FI Load Range D				(4) 9.5L x 15FI Load Range D		(4) 9.5L x 15FI Load Range D			(4) 11L x 15FI Load Range D
		(2) 9.5L x 15SL 6 ply rating				(2) 9.5L x 15SL 6 ply rating				(4) 9.5L x 15SL 6 ply rating		(2) 9.5L x 15SL 6 ply rating			(2) 9.5L x 15SL 6 ply rating
		N/A				N/A				N/A		(2) 9.5L x 15SL 6 ply rating			(2) 9.5L x 15SL 6 ply rating
Overall Length	21'				21'				24'		24'			24'	
Frame Depth	100"				100"				100"		100"			100"	
Self Levelling Hitch	N/A				N/A				N/A		Standard			Standard	
Safety Chain	Standard				Standard				Standard		Standard			Standard	
Safety Lights	Optional				Optional				Optional		Optional			Optional	
Gauge Wheels	N/A				Optional				Optional		Standard			Standard	
Dual Wheels	825D - Main Frame				831 - Main Frame 831D - Main and Wing Frame				Main and Wing Frame		Main Frame			Main Frame	
Number of Wheels	825 - 4 / 825D - 6				831 - 6 / 831D - 8				8		10			10	
Sweeps -16" 50 Degree	Standard				Standard				Standard		Standard			Standard	
Sweep to Frame Clearance	30"				30"				30"		30"			30"	
Number of Rows	4				4				4		4			4	
Shank Spacing	12"				12"				12"		12"			12"	
Rank to Rank Spacing	32"				32"				32"		32"			32"	
Shank to Shank Spacing	36"				36"				36"		36"			36"	
Trip Mechanism	LH 755 lb. Automatic Trip with 1 1/4" x 2" Shank and 50 Degree tillage tools.														

Operation



CAUTION

A safety chain will help control towed machines should it accidentally separate from the drawbar while transporting. A runaway machine could cause severe injury or death. Use a safety chain with a strength rating equal to or greater than the gross weight of the towed machines.



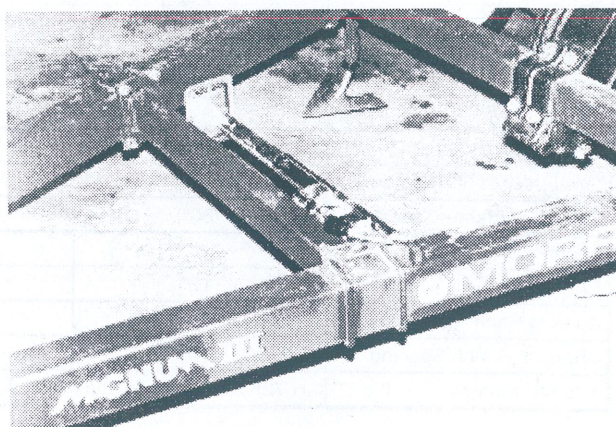
Attach safety chain to the tractor drawbar support or other specified anchor location with the appropriate parts.

Hitching to Tractor

- Ensure swinging drawbar is locked in the centre position.
- Ensure hitch pin is in good condition.
- Level clevis with tractor drawbar using hitch jack.
- Back tractor into position and attach hitch clevis to drawbar, using an adequate hitch pin.
- Lock hitch pin in place with a hairpin or other proper locking device.
- Route Safety Chain through chain support and drawbar support.
- Lock safety hook onto chain.

Note: Provide only enough slack in chain to permit turning.

- Ensure hydraulic hose quick couplers are dirt free.
- Inspect all fittings and hoses for leaks and kinks. Repair as necessary.
- Connect the hydraulic hoses to the tractor quick couplers.



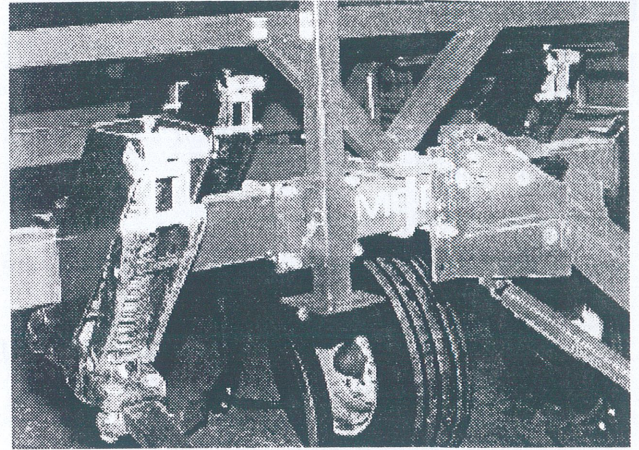
Hitch Jack Raised



Dirt in the hydraulic system could damage O-rings, causing leakage, pressure loss and total system failure.

Hitching to Tractor - continued

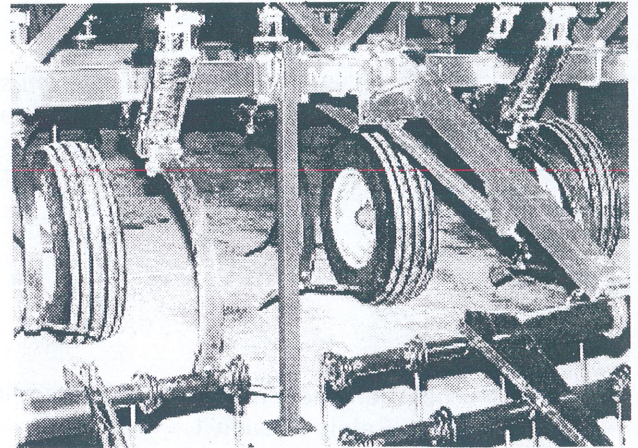
- After tractor to implement connection is made, relieve pressure off the hitch jack.
- Place hitch jack in raised position.
- Place park stand in raised position.



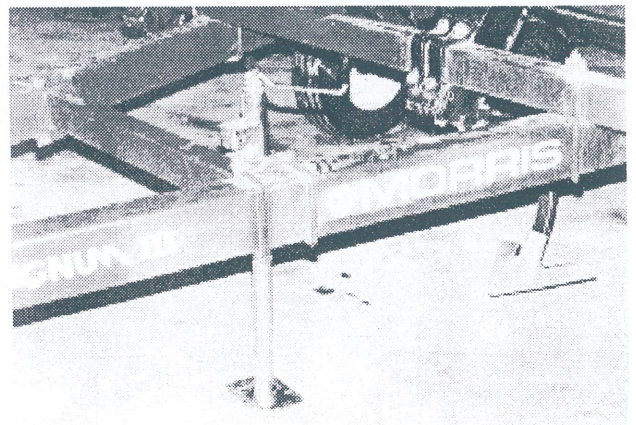
Park Stand Raised

Unhitching from Tractor

- Lower park stand to lower most position possible.
- Pin hitch jack in storage position.
- Lower hitch jack taking the weight off the hitch clevis.
- Ensure all transport locks are properly secured.
- Relieve pressure in the hydraulic hoses by positioning tractor hydraulic lever in "float" position or turn tractor engine off and cycle lever back and forth several times.
- Disconnect the hydraulic hoses.
- Remove the safety chain.
- Remove the drawbar pin.
- Slowly move tractor away from chisel plow.



Park Stand Lowered



Hitch Jack Lowered

Operation

Transport

Observe all applicable safety precautions under transport heading in Safety, Section 1.

- Refer to Specifications, Section 2 for weight, transport height and width.
- Transport with tractor only!
- Always connect safety chain provided to the towing vehicle and the hitch of the seed cart.
- Inspect tires for any serious cuts or abrasions. If such has occurred, tire should be replaced.
- Raise and lower wings on **level ground**.
- Never raise or lower wings when moving.

MORRIS INDUSTRIES LTD. WILL NOT BE RESPONSIBLE FOR ANY DAMAGES OR OPERATOR INJURY RESULTING FROM NON-USE OR IMPROPER USE OF TRANSPORT LOCKS.

Speed

- Only tow at safe speeds.
- The weight of the implement being towed *must not exceed 1.5 times* the weight of towing vehicle.
- Do Not Exceed 20 M.P.H.

Lights

- Ensure proper reflectors and safety lights are in place, refer to Safety Section 1.
- Be familiar with and adhere to local laws.



CAUTION

**Raise and lower wings on level ground.
Never raise or lower wings when moving.**

Transport - continued

Transport to Field Position

- Position machine on **level ground**.
- Stop tractor, and engage park brake.
- As a precaution, check surrounding area to be sure it is safe to lower wings.
- Extend main frame depth cylinders.
- Remove two transport lock pins from the main frame axles. Do not walk under the wings when removing the pins.

IMPORTANT

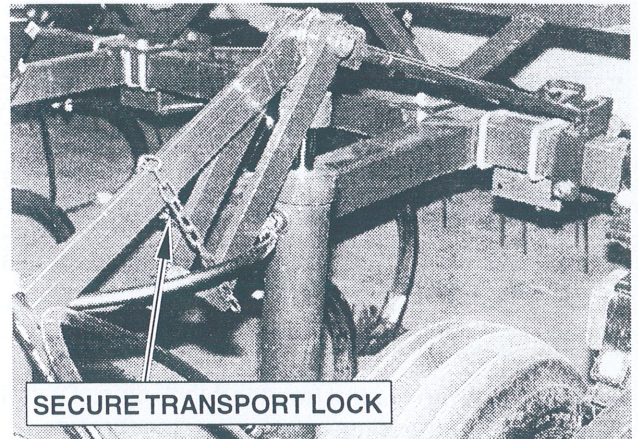
Secure main frame axle transport locks to axle tower preventing interference with cylinder operation.

- Unlatch wing transport locks. Do not walk under raised wings.
- Operate wing lift hydraulics until wings are lowered and the cylinder shafts are completely extended to allow wings to float when working in uneven land.
- Operate depth control hydraulics, lowering machine fully, then raise machine fully holding the hydraulic lever for several seconds to phase the system.

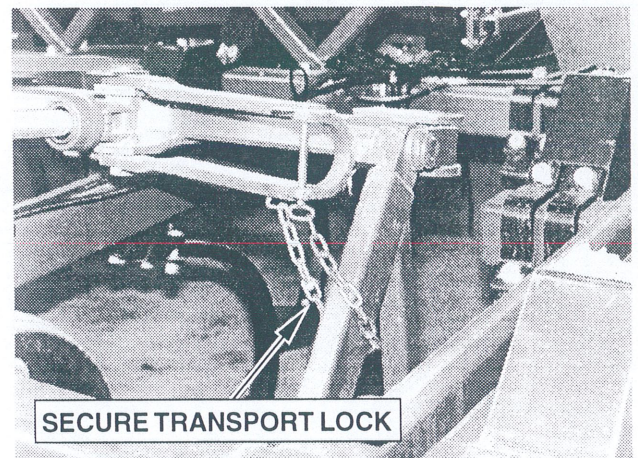


DANGER

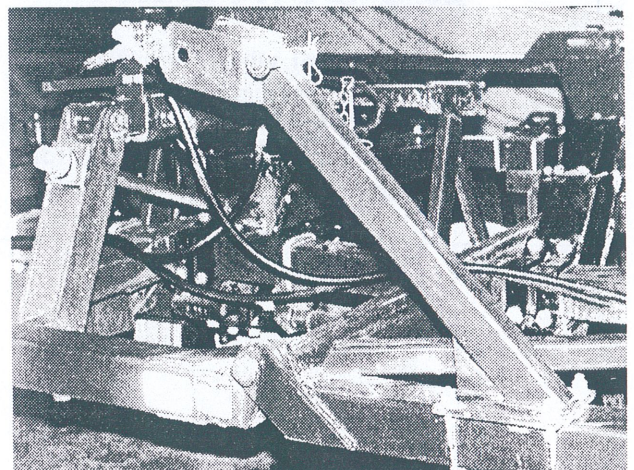
Always stay clear of wings being raised, lowered or in elevated position. Ensure cylinders are completely filled with hydraulic fluid - Wings may fall rapidly causing injury or death.



Main Frame - Single Axle



Main Frame - Dual Axle



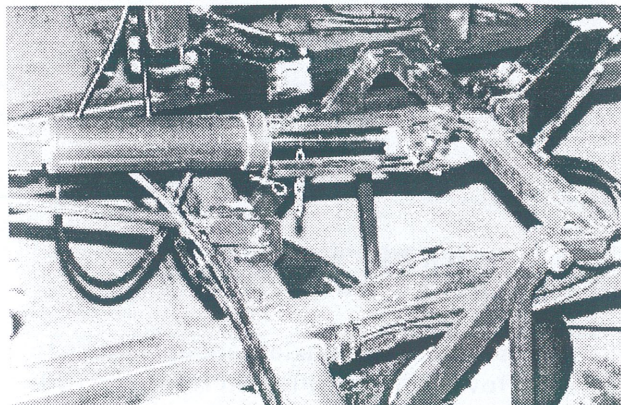
Wing Transport Locks

Operation

Transport - continued

Field to Transport Position

- Position machine on **level ground**.
- Stop tractor, and engage park brake.
- Operate the depth control hydraulics, to raise the implement fully above ground.
- Operate the wing lift hydraulics, to raise the wings fully into transport position.
- Secure wing transport locks.
- Secure depth control transport lock pins. Do not walk under the wings when installing the pins.
- Ensure safety chain is properly installed, see page two of Operation Section.

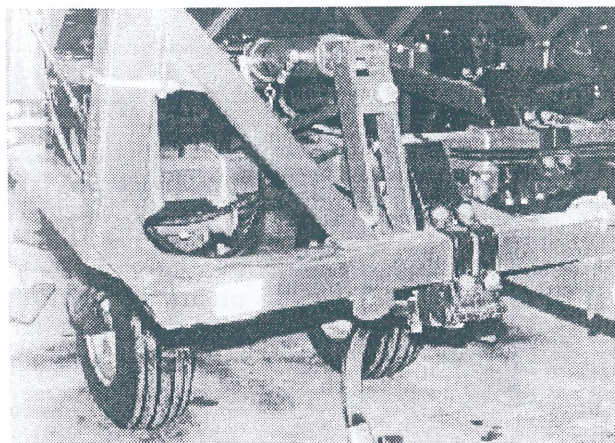


Main Frame Axle



DANGER

Always stay clear of wings being raised, lowered or in elevated position. Ensure cylinders are completely filled with hydraulic fluid - Wings may fall rapidly causing injury or death.



Wing Transport Locks

Levelling

There are two steps necessary to level the unit:

- 1) An initial levelling where certain measurements must be checked.
- 2) A final levelling procedure that must and can only be done in the field.

Initial Levelling

- Check that tires are properly inflated. See Maintenance Section.
- Adjust the Dual Wheel axle control rods that a 5/8" of rod is past the Jam Nut.
- Adjust the Single Wheel axle control rods that 5/8" of rod is past the Jam Nut.

Final Levelling

In order for any chisel plow to perform as intended, it must be properly levelled. To properly level a floating hitch chisel plow, the **final levelling must be done in the field with ground conditions being firm and unworked.**

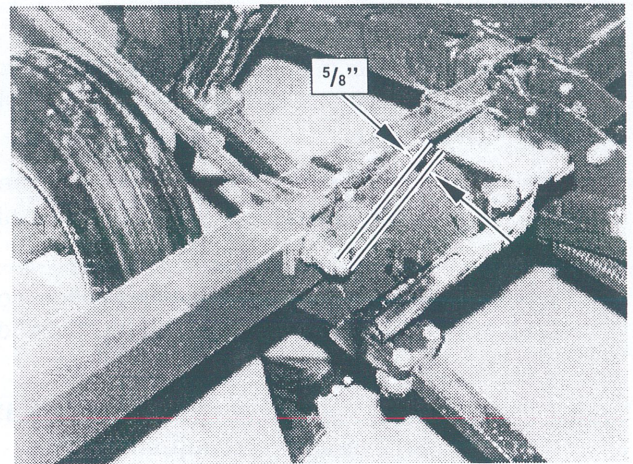
If the chisel plow is levelled in preworked, soft conditions, the front may dip when working in harder conditions. This causes the back row of shanks to work shallower than the front and by using the chisel plow in this manner can result in the following:

- 1) The finish of your field can be rough and uneven.
- 2) The back row of shanks can ridge. When used in conjunction with an Air Cart this could result in uneven seed depth and strips may appear.

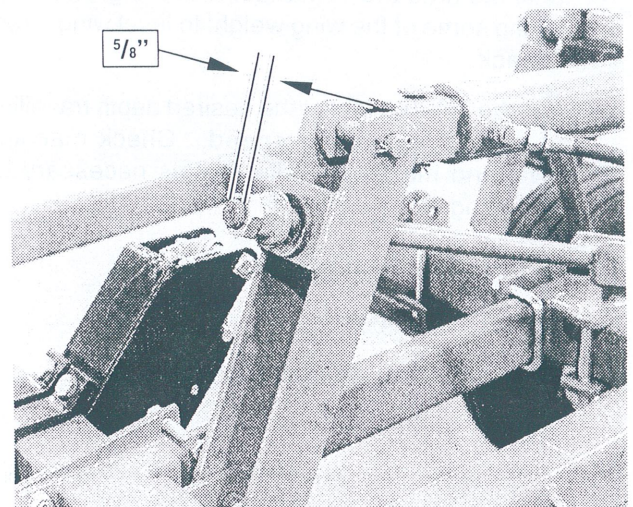
Note: Each operator is responsible for levelling their chisel plow. As field conditions vary, fine tuning is left to the operator's discretion.

IMPORTANT

Keep tire air pressure at the listed specifications to achieve and maintain proper level.



Single Axle



Dual Axle

Operation

Levelling - Continued

Final Levelling - Continued

Final levelling requires the following six basic steps to be followed:

- 1) **Rephase** hydraulic depth system.
- 2) Pull the unit 100 feet at the desired depth at **approximately 2 m.p.h.** Stop the unit in the ground.
- 3) Check the depth on the main frame side to side. Adjust the main frame cylinder control rods as required to level the main frame.

Check the depth on the main frame front to back. Adjust the hitch ratchet jack as required to level main frame.

On 3-Section units the hitch ratchet jack must be adjusted for every change in depth of the chisel plow.

The 5-Section units have a self-levelling hitch, so the hitch ratchet jack will not need to be adjusted for every change in depth of the chisel plow.

Note: Only do one adjustment at a time, repeat step 1 and 2 before next adjustment.

- 4) Once the main frame is level, proceed to each wing (On 5-Section units level the inner wings before proceeding to the wings). Adjust wing axle control rod as required until wing is level side to side with main frame.
- 5) Adjust wing gauge wheels, if so equipped, down until the tires are in contact with the ground and taking some of the wing weight to level wings front to back.
- 6) Pull the unit 100 feet at the desired depth travelling at **normal operating speed**. Check machine level and make any adjustments necessary by repeating steps 3 through 5.

Gauge Wheel Adjustment

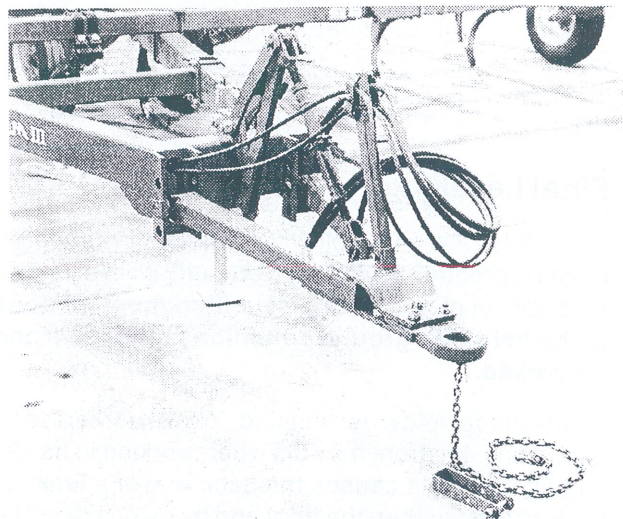
- Loosen clamp bolts
- Adjust Turn Buckle to desired position.
- Tighten clamp bolts.
- When working deeper than 5 inches move axle assembly to the upper hole as shown.

IMPORTANT

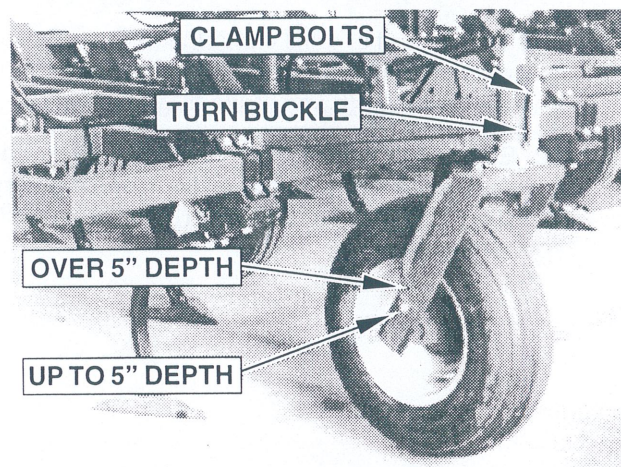
Final Levelling is
"VERY IMPORTANT"

It is suggested that the operator read carefully and carry out the procedures exactly as described.

Note: With machine at desired working depth position "A"- Frame in appropriate holes to maintain a level line of pull.



"A" - Frame Hitch



Gauge Wheel

Depth Stop Adjustment

The Magnum III incorporates both a positive mechanical depth stop and hydraulic double depth stop valves as standard equipment.

The mechanical depth stops ensure positive depth of each frame section, unaffected by any leaks in the system. (i.e. leaking couplers, internal cylinder leaks, etc.)

The double depth stop valves ensure consistent working depth by isolating the implement's hydraulic system from the tractor. The double depth stop valves provide the operator quick easy one point depth adjustment.

Mechanical Depth Stop

- Ensure depth stop valve plungers do not close before stroke control collars are fully seated.
- To increase or decrease the working depth, adjust all the stroke control collars **evenly** across the whole machine.
 - a) 1 turn on the collar changes the depth approximately 3/16".
 - b) 6 turns on the collar changes the depth approximately 1".
- The optional spacer may be required when seeding shallow. These spacers are available under part number S25999 through the Parts Department.

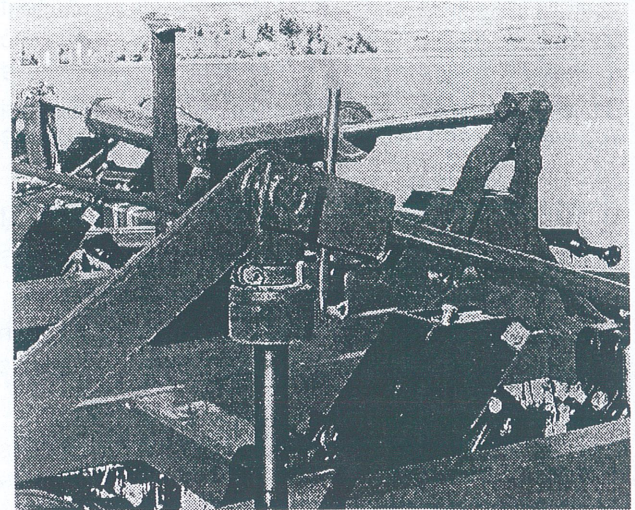
Rephasing

- Raise machine fully, holding hydraulic lever for several seconds to phase the system.
- This will maintain equal pressure, cylinder stroke, and synchronize cylinders.
- **It is recommended that the unit be rephased at each turn on the headland.**

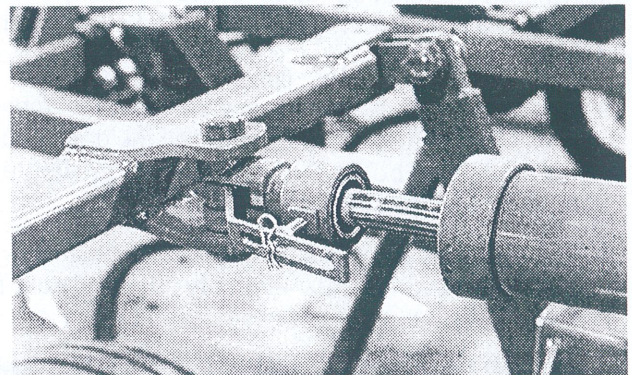
Oil Level

The hydraulic system draws its oil supply from the tractor reservoir.

- Check the oil level after the chisel plow system has been filled.
- Refer to tractor operators manual for more information.



Stroke Control Collar - Single Axle



Stroke Control Collar - Dual Axle

Operation

Depth Stop Adjustment - Continued

Hydraulic Depth Stop

Hydraulic double depth stop valves ensure consistent working depth by isolating the implement's hydraulic system from the tractor. This system provides a simple and convenient method of adjusting machine depth from an accessible single point location at the front of the machine.

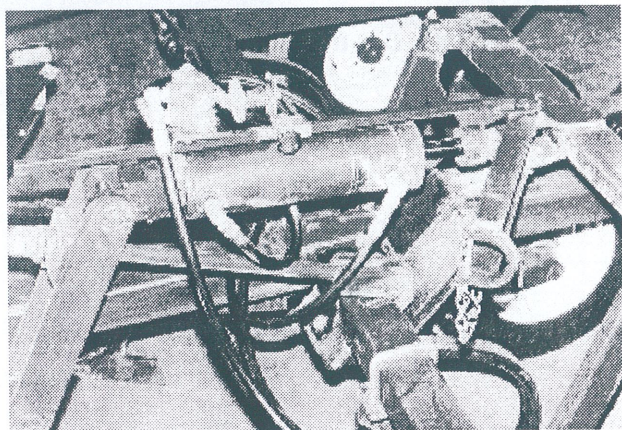
- When using the depth stop valves, consistent machine depth depends on whether the valves are closed or open.

If they are **closed** the operating depth will remain constant by isolating the implement's hydraulic system from the tractor.

If the depth stops are **not closed** the implement's hydraulic oil may leak back to the tractor. This will give the impression that a cylinder is leaking and will cause the unit to run out of level.

Always ensure the depth stops are closed by holding the hydraulic lever momentarily longer after the chisel plow has reached its preset working depth. Do not rely on tractor detente.

- Ensure mechanical depth stops do not contact cylinder collars before depth stop valve plungers close fully.
- To increase or decrease the working depth, move the depth control rod as desired so the depth stop plunger will be depressed when the desired working depth is acquired.
- Do not overtighten rod tightener. The depth valve operates hydraulically and very little pressure is required on the poppet to stop oil flow.

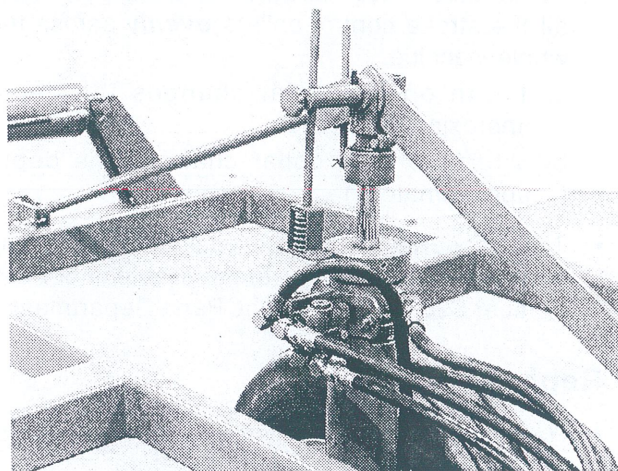


825D, 831, 831D & 840 - Depth Stop Valves

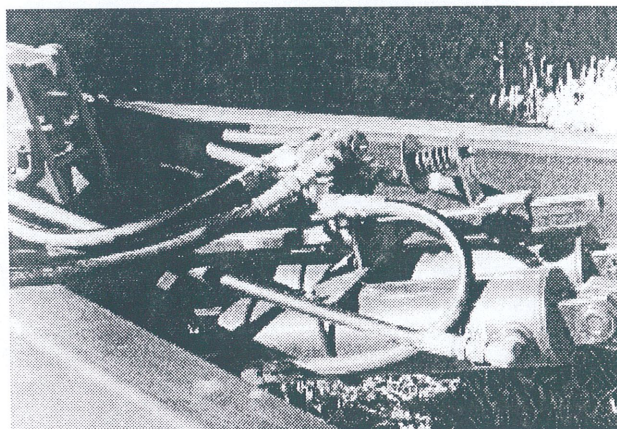
IMPORTANT

It is essential the valves be engaged while chisel plow is moving forward, **NOT WHILE THE MACHINE IS STATIONARY**. This will ensure consistent closing of the valve poppets.

The valves should remain engaged at all times while working in the field. If the above is not followed, the chisel plow will creep down, which will eventually lead to certain sections going deeper than others.



825 - Depth Stop Valves



843 & 850 - Depth Stop Valves

Hydraulic Depth Control System

Three Section

825 Single Axle Model

The hydraulic depth control system is a series system.

To lift the chisel plow, hydraulic fluid is forced into the butt end of cylinder 1. This causes the piston rod to extend, rotating the left wing axle down. This causes the left wing to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 1 to the butt end of cylinder 2, causing it to extend, rotating the left main axle down. This causes the left side of the main frame to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 2 to the butt end of cylinder 3, causing it to extend, rotating the right main axle down. This causes the right side of the main frame to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 3 to the butt end of cylinder 4, causing it to extend, rotating the right wing axle down. This causes the right wing to raise.

Finally the fluid exits the gland end of cylinder 4 back to the tractor.

Mechanical Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the stroke control collars seat firmly on the gland end of the cylinders. This causes the flow of oil from the tractor to stop.

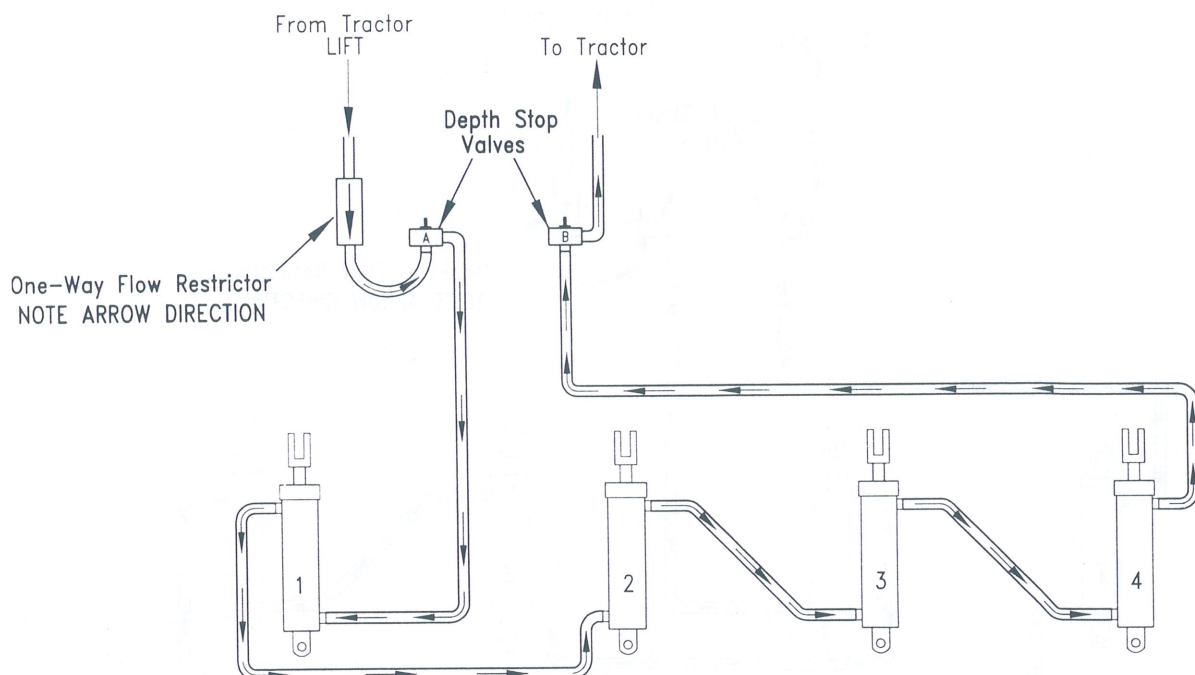
With the stroke control collars firmly seated, the cylinders will hold this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Hydraulic Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the depth stop plate depresses the plungers on the two depth valves A and B. This causes the poppets to seat and stop the flow of oil from the tractor.

With the poppets seated, the depth stop valves will hold the cylinders this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Note: A one-way flow restrictor valve is incorporated into the hydraulic system to maintain a positive oil pressure.



Operation

Hydraulic Depth Control System - continued

Three Section

825D, 831, 831D, and 840 Models

The hydraulic depth control system is a series system.

To lift the chisel plow, hydraulic fluid is forced into the butt end of cylinder 1. This causes the piston rod to extend, rotating the left wing axle down. This causes the left wing to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 1 to the butt end of cylinder 2, causing it to extend, rotating the left main axle down. This causes the left side of the main frame to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 2 to the butt end of cylinder 3, causing it to extend, rotating the right main axle down. This causes the right side of the main frame to raise.

Simultaneously, hydraulic fluid is forced from the gland end of cylinder 3 to the butt end of cylinder 4, causing it to extend, rotating the right wing axle down. This causes the right wing to raise.

Finally the fluid exits the gland end of cylinder 4 back to the tractor.

Mechanical Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the stroke control collars seat firmly on the gland end of the cylinders. This causes the flow of oil from the tractor to stop.

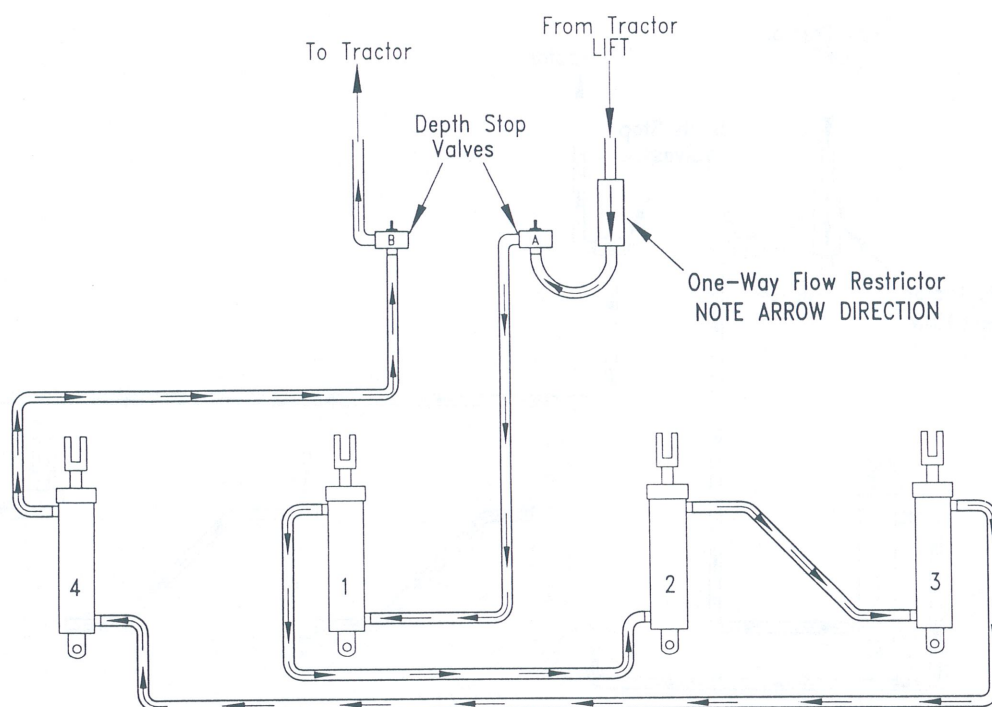
With the stroke control collars firmly seated, the cylinders will hold this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Hydraulic Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the depth stop plate depresses the plungers on the two depth valves A and B. This causes the poppets to seat and stop the flow of oil from the tractor.

With the poppets seated, the depth stop valves will hold the cylinders this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Note: A one-way flow restrictor valve is incorporated into the hydraulic system to maintain a positive oil pressure.



Hydraulic Depth Control System - continued

Five Section

All Models

The hydraulic depth control system is a series system.

To lift the chisel plow, hydraulic fluid is forced into the gland end of cylinders 1. This causes the piston rods to retract, pivoting the Hitch "A" - Frame down, which maintains machine level as the frames raise.

Simultaneously, hydraulic fluid is forced from the butt end of cylinders 1 to the butt end of cylinders 2, causing them to extend, pivoting the main frame axles down. This causes the main frame to raise.

Hydraulic fluid is forced from the gland end of cylinders 2 to the butt end of cylinders 3, causing them to extend, pivoting the inner wing frame axles down. This causes the inner wings to raise.

Hydraulic fluid is forced from the gland end of cylinders 3 to the butt end of cylinders 4, causing them to extend, pivoting the outer wing frame axles down. This causes the outer wings to raise.

Finally the fluid exits the gland end of cylinders 4 into a common line and then back to the tractor.

Mechanical Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the stroke control collars seat firmly on the gland end of the cylinders. This causes the flow of oil from the tractor to stop.

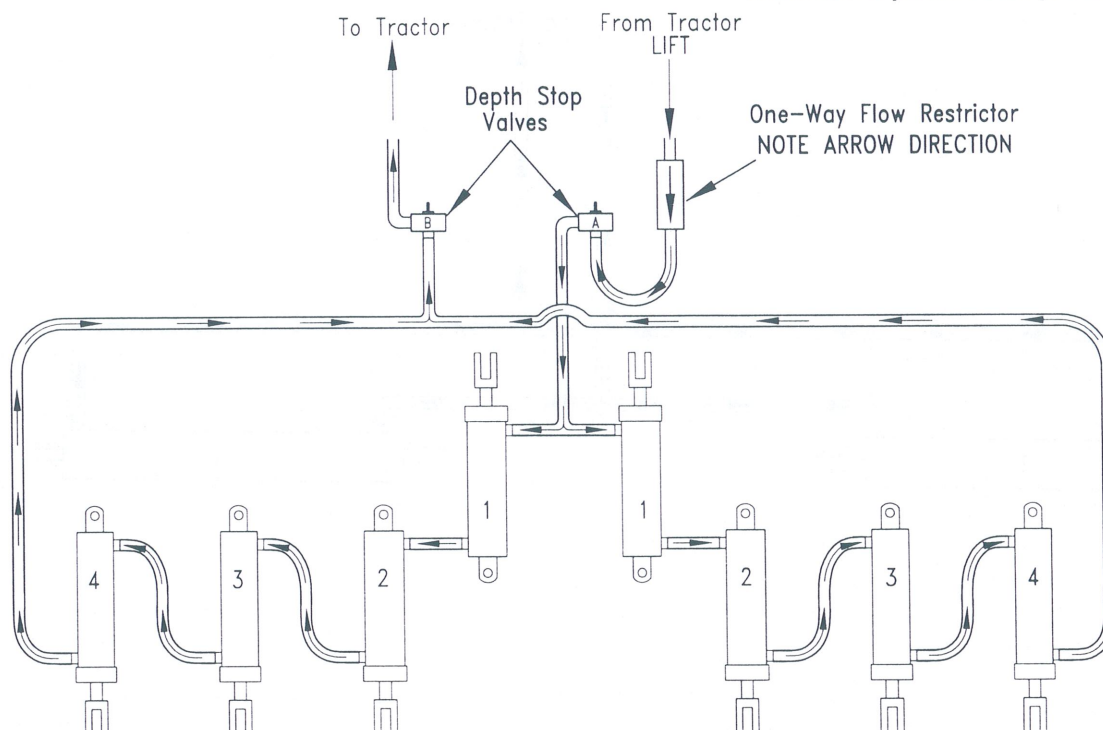
With the stroke control collars firmly seated, the cylinders will hold this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Hydraulic Depth Stop

To lower the chisel plow, hydraulic fluid flows through the cylinders in the reverse direction to that described above, until the depth stop plate depresses the plungers on the two depth valves A and B. This causes the poppets to set and stop the flow of oil from the tractor.

With the poppets seated, the depth stop valves will hold the cylinders this working depth until the tractor hydraulic controls are activated to lift the chisel plow.

Note: A one-way flow restrictor valve is incorporated into the hydraulic system to maintain a positive oil pressure.



Operation

Hydraulic Wing Lift System

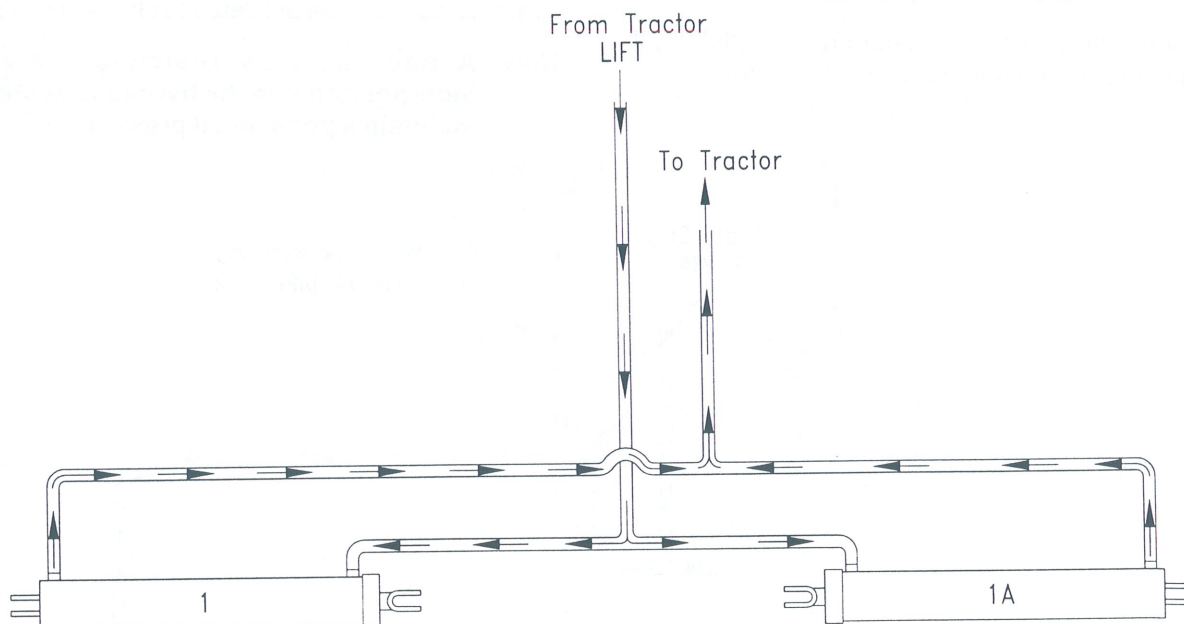
Three Section Models

The hydraulic wing lift system is controlled by a parallel system.

To lift the wings, hydraulic fluid is forced from the tractor through a common line to the gland end of cylinders 1 and 1A, simultaneously forcing both cylinders to retract and lift each wing. The wing frame requiring the least amount of pressure will raise first, followed by the other wing frame.

While the wings are being raised, hydraulic fluid displaced from the butt end of the cylinders return through a common line to the tractor.

To lower the wings, hydraulic fluid is allowed to flow into the butt end of both wing lift cylinders, causing the wings to lower. Hydraulic fluid from the gland ends of the cylinders is forced through a common line back to the tractor.



Hydraulic Wing Lift System

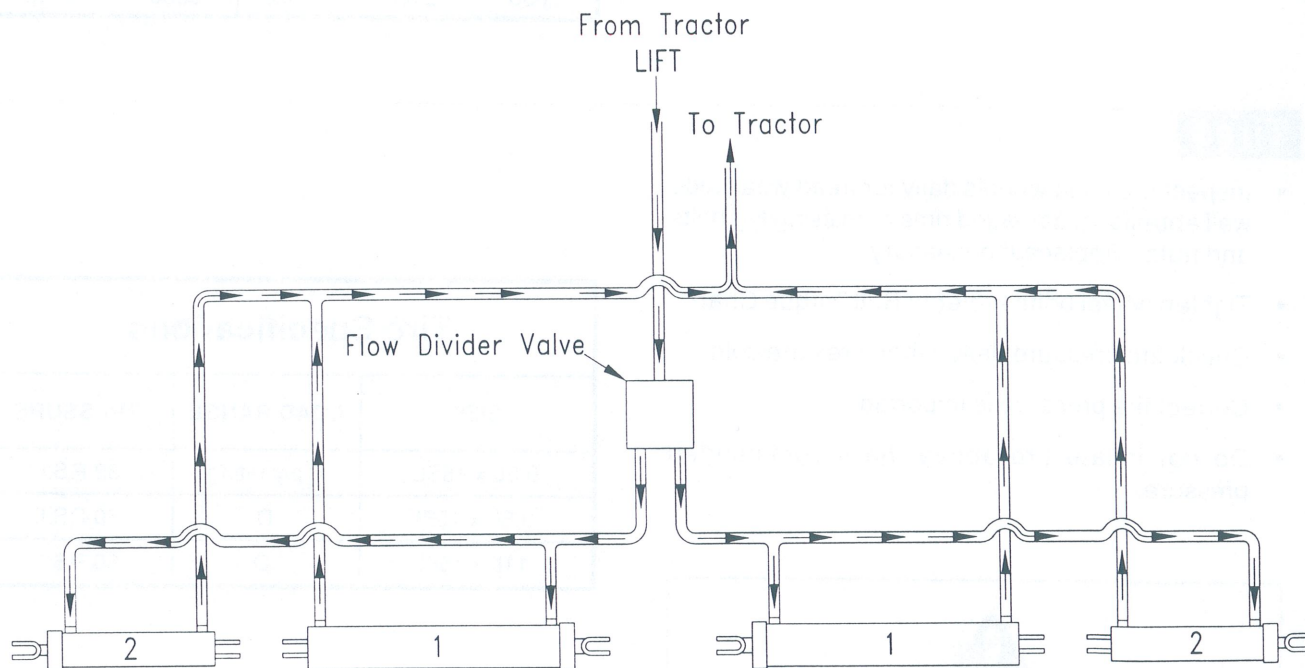
Five Section Models

The hydraulic wing lift system is controlled by a parallel hydraulic system with a pressure compensated flow control valve integrated in the circuit to synchronize the raising and lowering of the wings.

To lift the wings, hydraulic fluid is forced from the tractor through a common line to the flow control valve. The fluid is divided in the flow control valve and flows to the gland end of each cylinder on both sides of the circuit. The force required to retract the cylinders marked #1 is greater than the force required to retract the cylinders marked #2. Therefore the #2 cylinders retract first raising the outer wings. When the #2 cylinders are fully retracted then the #1 cylinders retract lifting the inner wings.

While the wings are being raised, hydraulic fluid displaced from the butt end of the cylinders returns through a common line to the tractor.

To lower the wings, hydraulic fluid flows opposite to that described for the lifting operation. Fluid flows into the butt end of all eight cylinders simultaneously. The force required to extend the #1 cylinders is less than the force required to extend the #2 cylinders. Therefore, the #1 cylinders extend first to lower the inner wings. When the #1 cylinders are fully extended, the #2 cylinders then extend to lower the outer wings. While the wings are being lowered, hydraulic fluid displaced from the gland end of the cylinders is combined in the flow control valve and returns through a common line to the tractor.





Maintenance

Tighten Bolts

- Before operating the machine.
- After the first two hours of operation.
- Check tightness periodically thereafter.
- Use Bolt Torque Chart for correct values on various bolts.
- Note dashes on hex heads to determine correct grade.

Note: DO NOT use the values in the Bolt Torque Chart if a different torque value or tightening procedure is given for a specific application.

- Fasteners should be replaced with the same or higher grade. If higher grade is used, only tighten to the strength of the original.

Bolt Torque Chart				
Grade 5 Bolt Marking 		Bolt Size	Grade 8 Bolt Marking 	
Nm	lb. ft.		lb. ft.	Nm
11	8	1/4	12	16
23	17	5/16	24	33
41	30	3/8	45	61
68	50	7/16	70	95
102	75	1/2	105	142
149	110	9/16	155	210
203	150	5/8	210	285
366	270	3/4	375	508
536	395	7/8	610	827
800	590	1	910	1234
1150	850	1-1/8	1350	1850
1650	1200	1-1/4	1950	2600
2150	1550	1-3/8	2550	3400
2850	2100	1-1/2	3350	4550

Tires

- Inspect tires and wheels daily for tread wear, side wall abrasions, damaged rims or missing lug bolts and nuts. Replace if necessary.
- Tighten wheel bolts - refer to Bolt Torque Chart.
- Check tire pressure daily, when tires are cold.
- Correct tire pressure is important.
- Do not inflate tire above the recommended pressure.



Tire replacement requires trained personnel and proper equipment.

Tire Specifications		
SIZE	LOAD RANGE	PRESSURE
9.5L x 15SL	6 ply rating	32 P.S.I.
9.5L x 15FI	D	60 P.S.I.
11L x 15FI	D	60 P.S.I.

Lubrication

Greasing pivot points prevents wear and helps restrict dirt from entering. However, once dirt does enter a bearing, it combines with the lubricant and becomes an abrasive grinding paste, more destructive than grit alone.

- Apply new lubricant frequently during operation to flush out old contaminated lubricant.
- Use a good grade of **lithium based grease**.
- Use a good grade of machine oil.
- Clean grease fittings and lubricator gun before applying lubricant.

Refer to the photos for grease fitting locations.

1. Hubs

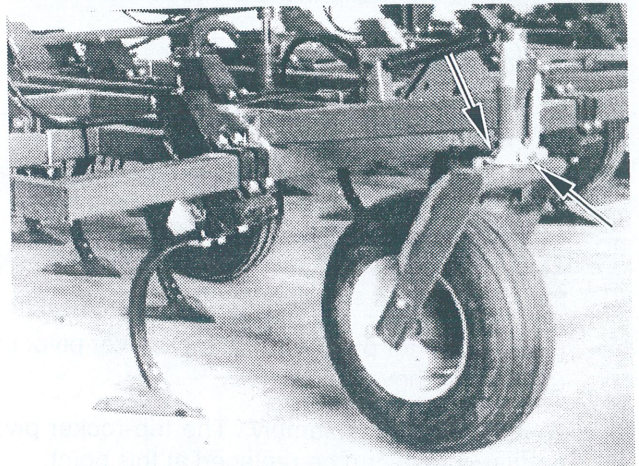
- Grease every 500 hours.

2. Gauge Wheel Castor Pivot

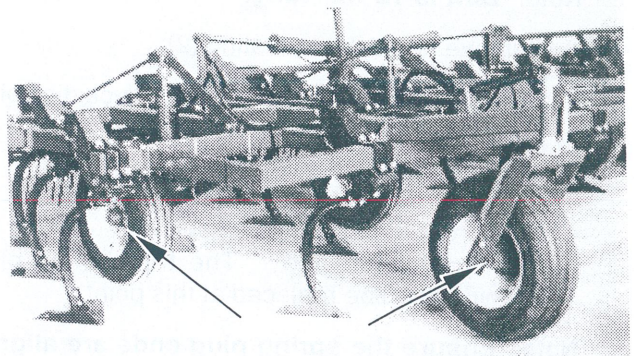
- Grease every 100 hours.

3. Stroke Control Collars

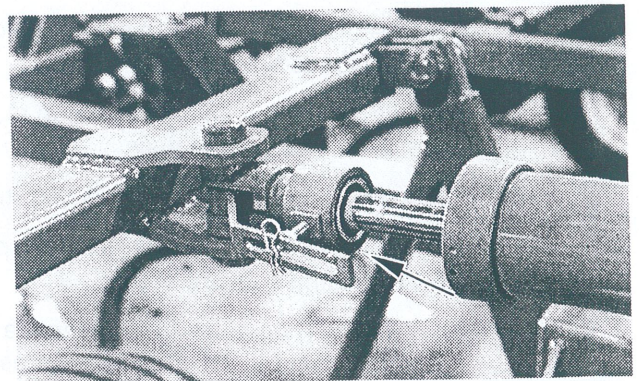
- Clean and Grease threads at end of season.



Gauge Wheel Castor Pivot



Hubs



Stroke Control Collars

Maintenance

Trip Maintenance - Continued

755 LH Trip

Bushing Replacement

In the event the pivot pin bushings need replacing, use the following procedure.

- Tighten spring retaining bolt (20) enough to take the pressure off spring assembly.
- Remove cotter pin (31) from trip-rocker pivot pin (16) and remove pin.
- Remove spring assembly. The trip-rocker pivot bushings (14) can be replaced at this point.
- The spring assembly may be dismantled at this point if required by unscrewing the spring retaining bolt (20).

Note: Bolt is 12 1/2" long.

- Remove shank from casting (2).
- Remove retaining bolt (18) from trip-casting pivot pin (17).
- Remove pivot pin (17) from casting (2).
- Push front of casting down and slide casting out the front of trip body. The trip-casting pivot bushings can be replaced at this point.

Note: Ensure the spring plug ends are aligned when reassembling the spring assembly.

Reverse the above procedure to reassemble trip. Loosen spring retaining bolt 1/2" to apply pressure on spring assembly.

Compression Straps

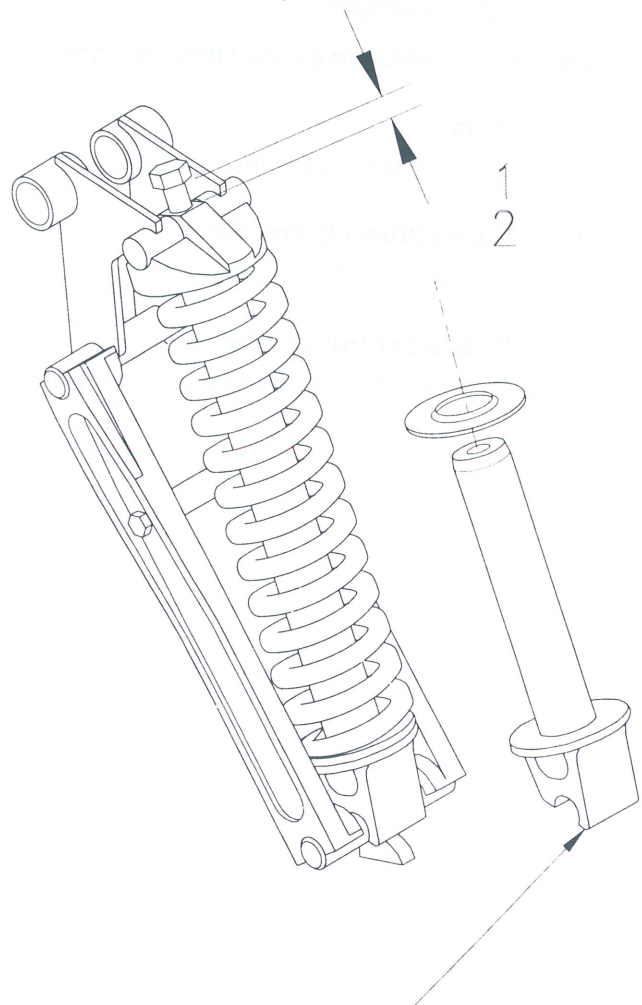
In the event the compression straps need replacing, use the following procedure.

- Tighten spring retaining bolt (20) enough to take the pressure off spring assembly.
- Remove retaining bolt (19) from connecting straps.
- Remove compression straps (5) from spring assembly by sliding outward of pins.

Reverse the above procedure to reassemble trip. Loosen spring retaining bolt 1/2" to apply pressure on spring assembly.

Important: Do not remove spring retaining bolt with trip rocker still pinned into trip body.

Note: Spring retaining bolt must have a clearance of 1/2" once trip is reassembled.



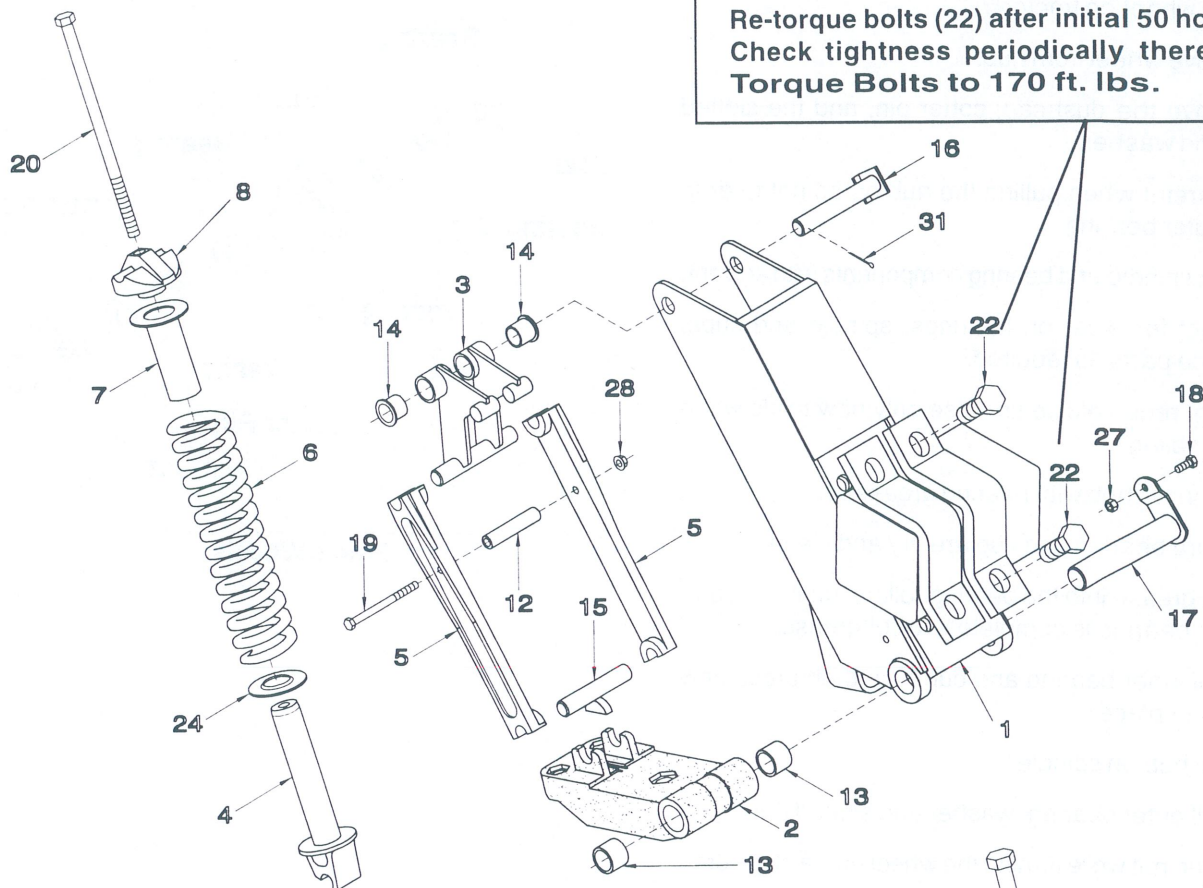
Note: Mount Longer lip of plug end to the front.

Trip Maintenance - Continued

LH 755 Trip Assembly

IMPORTANT

Re-torque bolts (22) after initial 50 hours.
Check tightness periodically thereafter.
Torque Bolts to 170 ft. lbs.

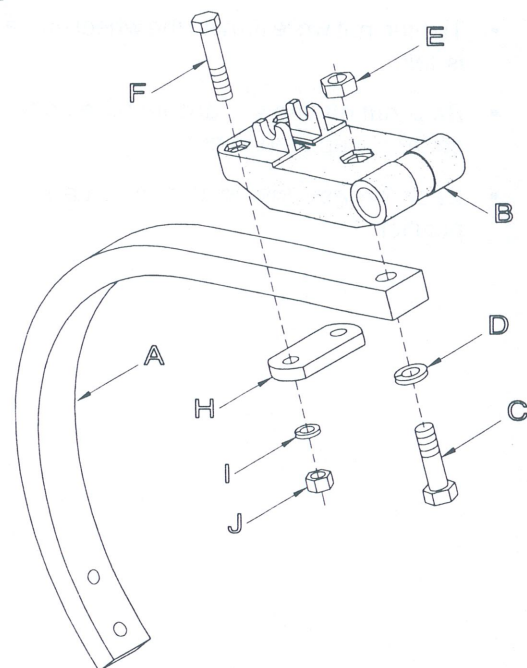


Shank Replacement

In the event a shank needs replacing, use the following procedure.

- Remove retaining bolt (C) from casting.
- Remove Shank Holder Clamp (H) from casting.
- Lift rear of shank up and pull out.
- Reverse above procedure to reassemble.

Note: Retaining strap bolts (F) must be installed as shown to prevent interference with connecting straps.



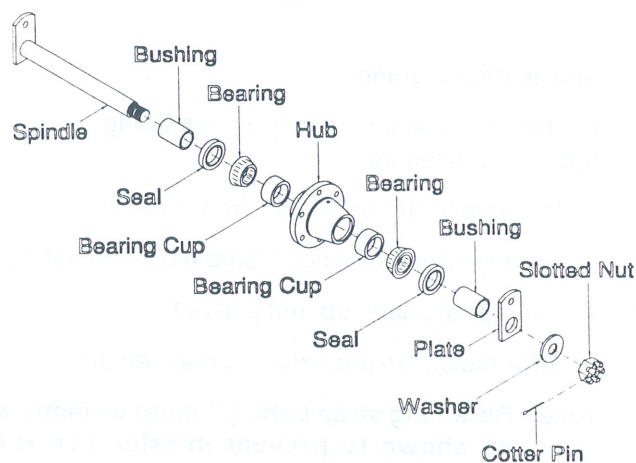
Maintenance

Wheel Bearings

- Lower the cultivator and raise the wheels enough to clear the surface.
- Shut tractor off and remove key.
- Block wheel on tractor.
- Remove wheel from hub.
- Remove the dust cap, cotter pin, and the slotted nut and washer.
- Be careful when pulling the hub off as not to drop the outer bearing.
- Clean spindle and bearing components with solvent.
- Inspect for wear on bearings, spindle and cups, replace parts as required.
- Do not reuse old seals. Use only new seals when assembling.
- Pack inner hub with bearing grease.
- Be sure bearing and cup are dry and clean.
- Work grease into the bearing rollers, until each part of the bearing is completely full of grease.
- Install inner bearing and cup first, then press new seals in place.
- Place hub on spindle.
- Install outer bearing, washer and slotted nut.
- Tighten nut while turning the wheel until a slight drag is felt.
- Back nut off one slot and install a cotter pin. Bend cotter pin up around nut.
- Pack grease inside the dust cap and tap into position.



Frame Wheels



Gauge Wheels

Hydraulics

Refer to Section 1 regarding hydraulic safety.

- Inspect hydraulic system for leaks, damaged hoses and loose fittings.
- Damaged Hoses and hydraulic tubing can only be repaired by replacement. **DO NOT ATTEMPT REPAIRS WITH TAPE OR CEMENTS.** High pressure will burst such repairs and cause system failure and possible injury.
- Leaking cylinders - install a new seal kit.
- Fittings - use Teflon seal tape on all NPT hydraulic joints. **Do not use Teflon tape on JIC ends.**
- Hydraulic Hose Connections - when connecting the hoses to the cylinders, tubing, etc. always use one wrench to keep the hose from twisting and another wrench to tighten the union. Excessive twisting will shorten hose life.
- Keep fittings and couplers clean.
- Check the Tractor Manual for proper filter replacement schedule.

Refer to the Trouble Shooting Section.

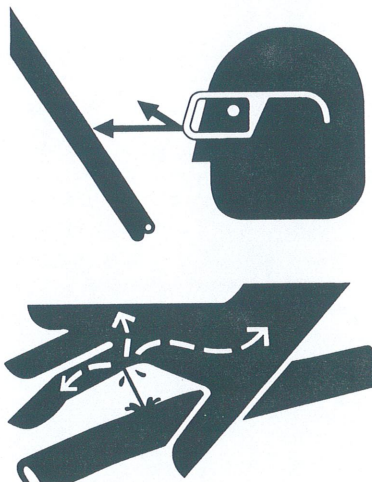


Contact your nearest Dealer for genuine repair parts. Dealers carry ample stocks and are backed by the manufacture and regional associations.



Dirt in the hydraulic system could damage O-rings, causing leakage, pressure loss and total system failure.

Note: Extreme care must be taken to maintain a clean hydraulic system. Use only new hydraulic fluid when filling reservoir.



WARNING

HIGH-PRESSURE FLUID HAZARD

To prevent serious injury or death:

- Relieve pressure on hydraulic system before servicing or disconnecting hoses.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

