



OPERATOR'S MANUAL

RUSTLER **Heavy Harrow**

H72503-01

Quick Start Guide

Hydraulic Connections to Tractor

Yellow - Wing lift/lower

Red - Tine angle adjust

Green - Wing wheel pivot

Unfold to Field Position

- Find a location that is as level as possible. Position harrow in line with tractor.
- Remove lock pin from main frame lift cylinder.
- Remove lock pins from wing lift and wing pivot wheels.
- From the cab of the tractor, rotate pivot wheels to 45° (Green hydraulic remote).
- Slowly back up the tractor to unfold.
- Once wings are nearly fully unfolded, rotate pivot wheels to 90°.
- Ensure that the draft arms have pushed the swing arms into the lock mechanism.
- Carefully lower the harrow wing halfway to the ground (Yellow hydraulic remote). Ensure that the swing arms are both still locked in place.
- Slowly drive the tractor ahead, while lowering the harrow wing the rest of the way down.

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Section 1: Safety

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Safety

SAFETY-ALERT SYMBOL



Watch for this symbol. It identifies potential hazards to health or personal safety. It means:

ATTENTION - BE ALERT.
Your Safety is involved.

Familiarize yourself with the location of all decals. Read them carefully to understand the safe operation of your machine.

Signal Words

The words **DANGER**, **WARNING** or **CAUTION** are used with the safety alert symbol. Learn to recognize the safety alerts, and follow the recommended precautions and safe practices.

Three words are used in conjunction with the safety-alert symbol:



DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in **DEATH OR SERIOUS INJURY**.



WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in **DEATH OR SERIOUS INJURY**.



CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in **MINOR OR MODERATE INJURY**.

Replace any **DANGER**, **WARNING**, **CAUTION** or instructional decal that is not readable or is missing. The location and part number of these decals is identified later in this section of the manual.

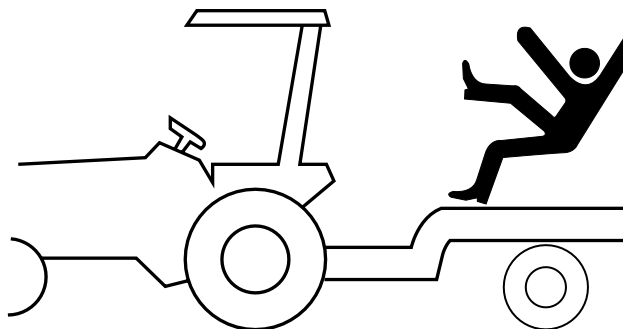
The words **Important** and **Note** are not related to personal safety but are used to give additional information and tips for operating or servicing this equipment.

IMPORTANT: Identifies special instructions or procedures which, if not strictly observed could result in damage to, or destruction of the machine, process or its surroundings.

NOTE: Indicates points of particular interest for more efficient and convenient repair or operation.

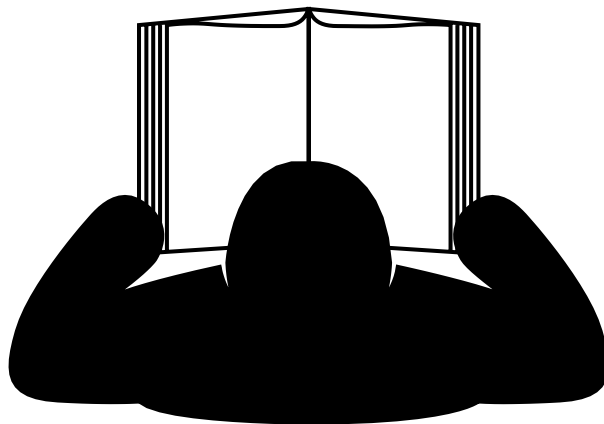
General Operation

- **DO NOT RIDE!!** Do not allow riders on the implement when in motion.
- Do not allow extra riders in the tractor unless an instructor seat and seat belt are available.
- **Check behind** when backing up.
- **Reduce speed** when working in hilly terrain.
- Never allow anyone within the immediate area when operating machinery.
- **Stand clear** when raising or lowering wings.
- **Keep all shields in place**, replace them if removed for service work.



Tractor Operation

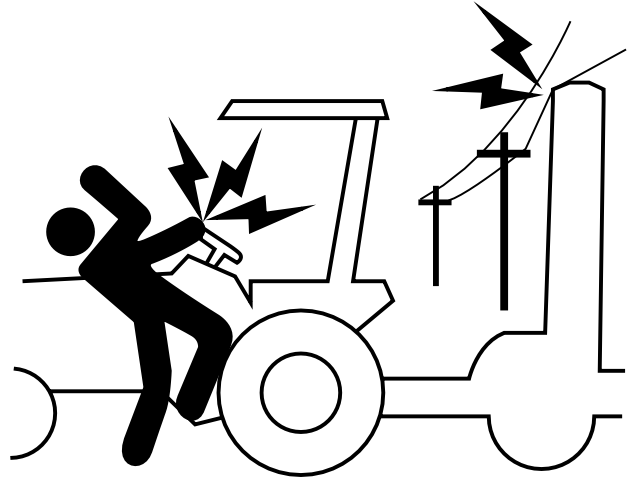
- Be aware of the correct tractor operating procedures, when working with implements.
- Review tractor operator's manual.
- Secure hitch pin with a retainer and lock drawbar in centre position.



Safety

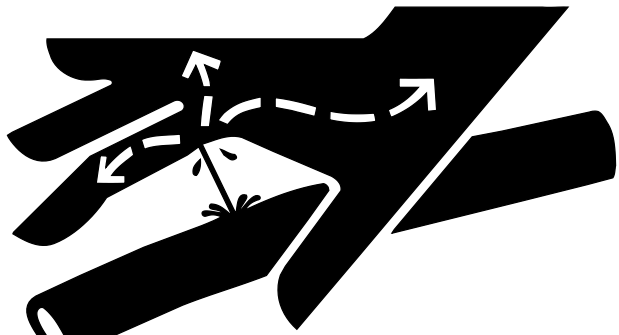
Transporting

- **Be aware** of the height, length and width of implement. Make turns carefully and be aware of obstacles and overhead electrical lines.
- Always travel at a safe speed. Do Not Exceed 20 mph (32 kph).
- Use an agricultural tractor that is large enough with sufficient braking capacity so that the weight of the loaded equipment towed **does not exceed 1.5 times** the weight of the tractor.
- Use flashing amber warning lights, turn signals and SMV emblems when on public roads.
- Do not transport in poor visibility.
- The slow moving vehicle (SMV) emblem and reflectors must be secured and be visible on the machine for transport.
- Avoid soft surfaces, the additional wing weight on the centre wheels could cause the machine to sink.
- Ensure safety chain is attached correctly to the towing vehicle and the hitch of the implement.
- Check that wings are firmly seated on transport wing stops, and wing lift valve and opener valve are in locked position.
- Be familiar with and adhere to local laws.



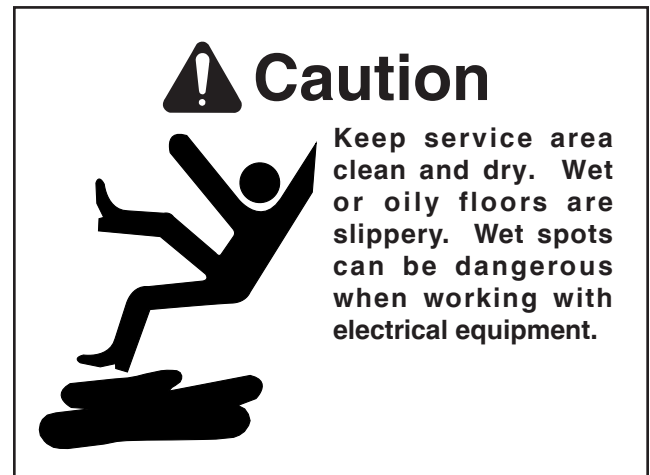
Hydraulics

- **Do not** search for high pressure hydraulic leaks without hand and face protection. A tiny, almost invisible leak can penetrate skin, thereby requiring immediate medical attention.
- Use cardboard or wood to detect leaks - never your hands.
- Double check that all is clear before operating hydraulics.
- **Never** remove hydraulic hoses or ends with machine elevated. Relieve hydraulic pressure before disconnecting hydraulic hoses or ends.
- Maintain proper hydraulic fluid levels.
- Keep all connectors clean for positive connections.
- Ensure all fittings and hoses are in good condition.
- Do not stand under wings.



Maintenance

- **Shut tractor engine off** before making any adjustments or lubricating the machine.
- **Block** machine securely to prevent any movement during servicing.
- Wear close fitting clothing and appropriate personal protective equipment for the job.
- **Always wear** safety goggles, breathing apparatus and gloves when working on seeder filled with granular chemical or treated seed per the manufacture's instructions.
- Do not modify the machine.



Hitching and Unhitching

- **Stand clear of hitch tongue.** The hitch of the Heavy Harrow Bar can swing up abruptly when disconnected from the tractor drawbar.
- Never stand between the tractor and implement.
- Lower the hitch jack(s) onto firm ground and chock the tires when un-hooking implement from tractor.
- Ensure the unit is on level ground prior to un-hooking tractor.

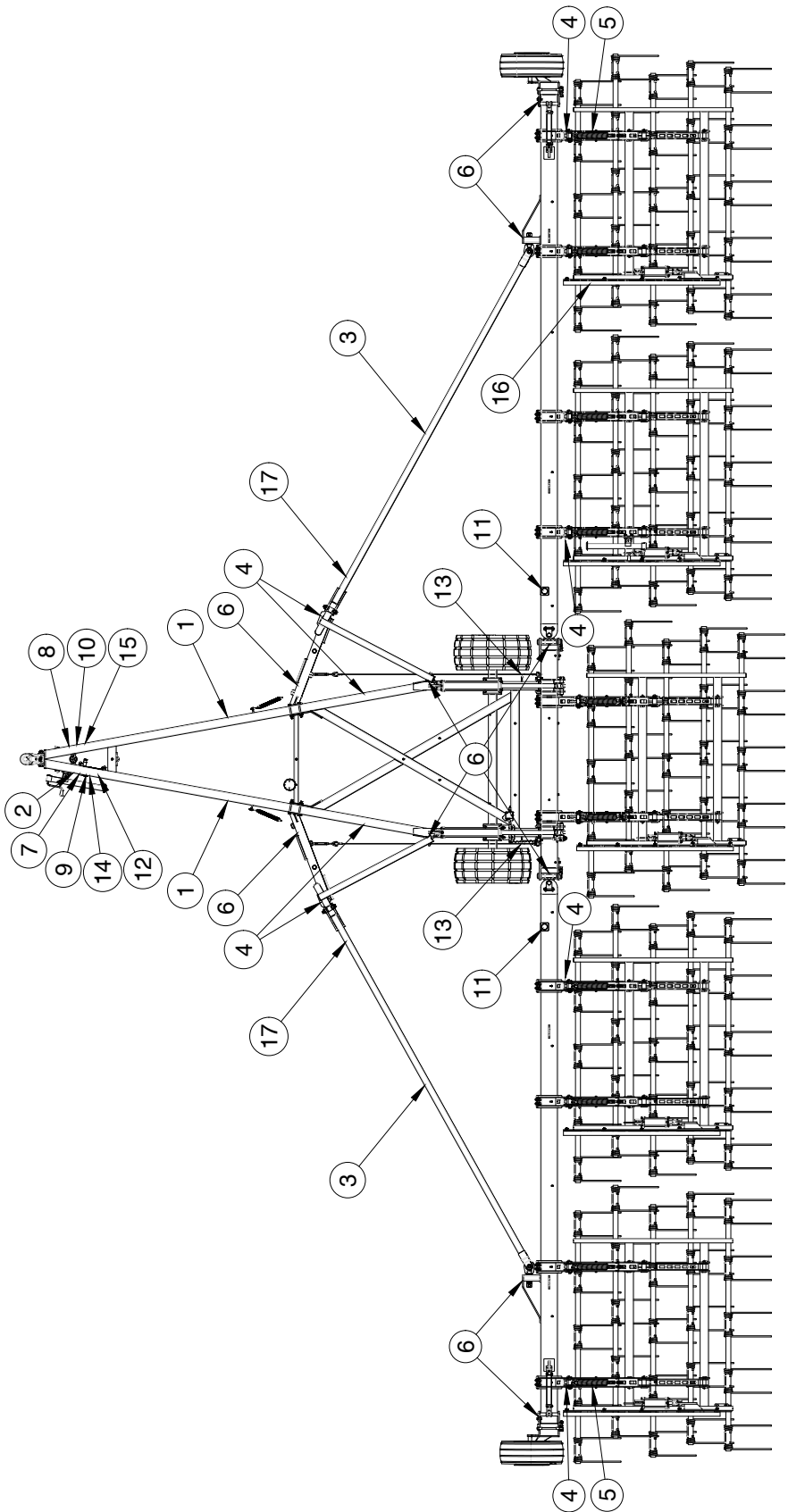


Storage

- Store implement away from areas of main activity.
- Level implement and block up securely to relieve pressure on jack.
- Do not allow children to play on or around stored implement.

Safety Signs

Locations



Safety Signs - Continued

Decal Locations - Continued

Item	Part No.	Description	Qty
1	S66442	Morris - Decal.....	2
2	060-0038	Attention - Ensure That All Cylinders Are Retracted...	1
3	H72505	Rustler 5-55 Used On 55' 5-bar Unit	2
	H72506	Rustler 5-68 Used On 68' 5-bar Unit	2
	H72507	Rustler 5-78 Used On 78' 5-bar Unit	2
	H72511	Rustler 5-90 Used On 90' 5-bar Unit	2
	H73297	Rustler 7-58 Used On 58' 7-bar Unit	2
	H73298	Rustler 7-72 Used On 72' 7-bar Unit	2
	H73299	Rustler 7-82 Used On 82' 7-bar Unit	2
4	060-0009	Amber Reflector (3 x 2)	14
5	060-0022	Red Reflector (3 x 2)	2
6	060-0046	Grease Every 8 Hours.....	10
7	060-0015	Important - Block Wheels.....	1
8	060-0028	Warning - Lower Or Block Elevated Components	1
9	060-0011	Caution - Escaping Fluid Hazard... ..	1
10	060-0029	Warning - Stand Clear Of Hitch Tongue... ..	1
11	060-0036	Place Jack In Small Mount For Transport.....	2
12	*****	Morris Serial Number Plate	1
13	060-0050	Warning - Tine Angling Cylinders... ..	2
14	060-0061	Hydraulic - Hose Application	1
15	060-0067	Warning - Check And Tighten Hub And Wheel Bolts.	1
16	060-0091	Tine Angle Indicator - (1234) 11 x 2-3/4"	1
17	H72508	Morris Bullet.....	2

Safety

Notes

Section 2: Specifications

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Specifications

RUSTLER “Heavy Harrow Bar” Specifications and Options

Models	5-55	5-68	5-78	5-90	7-58	7-72	7-82
Working Width	55 feet (16.76 m)	68 feet (20.72 m)	78 feet (23.77 m)	90 feet (27.43 m)	58 feet (17.68 m)	72 feet (21.95 m)	82 feet (25 m)
Weight	11,950 lb 5,420 kg	13,560 lbs. (6,151 kg)	14,720 lbs. (6,677 kg)	16,500 lbs. (7,484 kg)	13,500 lbs (6,123 kg)	15,500 lbs (7,030 kg)	19,900 lbs (9,026 kg)
Transport							
- Width	14' 9" (4.5m)	14' 9" (4.5m)	14' 9" (4.5m)	16' 3" (4.9m)	14' 9" (4.5m)	14' 9" (4.5m)	16' 6" (5.03m)
- Height	11' 8" (3.6m)	11' 8" (3.6m)	11' 8" (3.6m)	11' (3.1m)	12' 7" (3.84m)	12' 7" (3.84m)	12' 7" (3.84m)
- Length	44' 8" (13.7m)	51' 10" (15.8m)	55' 10" (17.0m)	64' 10" (20m)	38' 1" (11.6m)	52' 8" (16.0m)	60' 10" (18.54m)
Tires							
- Main Frame	(2) 16.5L x 16.1			(2) 21.5L x 16.1	(2) 16.5L x 16.1		(2) 21.5L x 16.1
- Wing Frame (1 per wing)	(2) 12.5L x 15			(2) 16.5L x 16.1	(2) 12.5L x 15		(2) 16.5L x 16.1
Harrow Sections							
- Tine	9/16" diameter x 28" length				1/2" diameter x 24' length		
- Tine Tips	Max Life carbide wear coating - 4" (102 mm)				Max Life carbide wear coating - 4" (102 mm)		
- Tine Spacing	2.6" (66 mm)				1.4" (35 mm)		
- Tine Adjustment	Hydraulic				Hydraulic		
- Tine Angle	40 - 85 Degrees				40 - 85 Degrees		
- Frame System	Parallel Linkage with 12" of travel				Parallel Linkage with 12" of travel		
- Bars Per Section	5				7		
- Bars Spacing	18" (457 mm)				14" (355 mm)		
- Section Width	5 - 11'	2 - 6.5' and 5 - 11'	7 - 11'	2 - 6.5' and 7 - 11'	5 - 11.5'	2 - 6.5' and 5 - 11.5'	7 - 11.5'
Auto-Fold with hydraulic pivoting end wheels	Standard				Standard		
Auto-Lock Draft Arms	Standard				Standard		
Cart Frame	4" x 8" tubular steel with 1/4" wall (203mm x 100mm x 6.4mm)				4" x 8" tubular steel with 1/4" wall (203mm x 100mm x 6.4mm)		
Harrow Frame	8" x 8" tubular steel with 3/8" wall (203mm x 203mm x 9.5mm)				8" x 8" tubular steel with 3/8" wall (203mm x 203mm x 9.5mm)		
Hydraulics	3 hydraulic remotes required				3 hydraulic remotes required		
Safety Lights	Standard				Standard		
Safety Chain	Standard				Standard		

Specifications are estimates and subject to change.

Section 3: Checklist

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Checklist

SAFETY-ALERT SYMBOL



Watch for this symbol. It identifies potential hazards to health or personal safety. It points out safety precautions. It means:

ATTENTION - BE ALERT.
Your safety is involved.

Please read the Operator's Manual carefully and become a "SAFE" operator.

Adopt a good lubrication and maintenance program.



TAKE SAFETY SERIOUSLY.

**DO NOT TAKE
NEEDLESS CHANCES!!**

OWNER REFERENCE

Model: _____

Serial No: _____

Dealer: _____

Town: _____ State: _____

Phone: _____

OWNER/OPERATOR _____

Date: _____

Note: Pre-Delivery Inspection Form must be completed and submitted to Morris Equipment within 30 days of delivery date.

Warranty Void if Not Registered

Pre-Delivery Inspection

General

- ___ Remove wrapping and wash unit, removing all road debris. (Road salt, mud, snow, etc.)
- ___ Inspect paint, decals and general appearance of unit.
- ___ Verify that the owners manual is in the manual storage tube.
- ___ Verify 'SLOW MOVING VEHICLE' sign (SMV) is on unit
- ___ Verify that jacks are with the unit and function properly.
- ___ Check wheel bolts for proper torque.
- ___ Check for proper tire pressure (PSI).
- ___ Verify that the wheel hubs are lubricated.
- ___ Verify that locking pins and / or ram locks are in place.
- ___ Lubricate all components as per operators manual recommendation.
- ___ Check that all bolts and fasteners are at the proper torque specifications.

Note: All cap screws that have lock nuts joining moving pieces should not be tightened completely, they must allow movement. i.e. Spring pressure kits, rock shaft connector, draft arm, etc.

- ___ Check sprocket alignment and chain tension. (If applicable)
- ___ Check locking collars and set screws for proper tension. (If applicable)
- ___ Verify operation of lights. (If applicable)
- ___ Verify the unit moves 'IN' and 'OUT' of transport without any binding.
- ___ Verify that tires are tracking properly when in transport mode.

Hydraulics

- ___ Insure that all hydraulic hoses and lines are routed properly and secured.
- ___ Verify that all hydraulic fittings / hoses are secure and there are no oil leaks.
- ___ Inspect all cylinders for leakage and the cylinder shaft for rust, pits, or scratches.
- ___ Verify operation of all hydraulic functions - Cycle hydraulic cylinders to remove air from the system.

Delivery

- ___ Verify that 'The customer is aware of warning decals and proper jack placement for transport'
- ___ Verify that 'The customer is aware of proper operation and transportation of the unit'
- ___ Verify that 'The customer has received an operators manual'
- ___ Explain all maintenance and service intervals to the customer (From operators manual).
- ___ Advise the customer of grease zerk locations and maintenance schedules.
- ___ Level the unit per operators manual and instruct the customer on the proper procedures.
- ___ Verify that the center harrow section has been rotated to working position.

Checklist

Notes

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Introduction

Introduction

This Operator's Manual has been carefully prepared to provide the necessary information regarding the operation and adjustments, so that you may obtain maximum service and satisfaction from your new MORRIS RUSTLER Heavy Harrow.

To protect your investment, study your manual before starting or operating in the field. Learn how to operate and service your RUSTLER Heavy Harrow correctly, failure to do so could result in personal injury or equipment damage.

If you should find that you require information not covered in this manual, contact your local MORRIS Dealer. The Dealer will be glad to answer any questions that may arise regarding the operation of your MORRIS RUSTLER Heavy Harrow.

MORRIS Dealers are kept informed on the best methods of servicing and are equipped to provide prompt efficient service if needed.

Occasionally, your RUSTLER Heavy Harrow may require replacement parts. Your Dealer will be able to supply you with the necessary replacement parts required. If the Dealer does not have the necessary part, the MORRIS Factory will supply the Dealer with it promptly.

Your MORRIS RUSTLER Heavy Harrow is designed to give satisfaction even under difficult conditions. A small amount of time and effort spent in protecting it against rust, wear and replacing worn parts will increase the life and trade-in value.



Keep this book handy for ready reference at all times. It is the policy of Morris Equipment Ltd. to improve its products whenever it is possible to do so. The Company reserves the right to make changes or add improvements at any time without incurring any obligation to make such changes on machines sold previously.

Section 5: Operation

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Operation

CAUTION



BE ALERT

SAFETY FIRST

**REFER TO SECTION 1 AND REVIEW ALL
SAFETY RECOMMENDATIONS.**

Tractor

Tires

- Proper ballast and tire pressure are required when pulling heavy implements.
- Consult your tractor operator's manual and follow all recommended procedures.

Hydraulics

- Wipe all hydraulic fittings and couplers with a clean cloth to avoid contaminating the system.
- Check that hydraulic reservoir is filled to the proper level.

Drawbar

- Centre and pin in a fixed position for easier hitching and greater stability.

Note: Use a clevis-type tractor hitch with a retained type of hitch pin.

Warning

Do not permit smoking, sparks or an open flame where combustible fuels are being used. Keep the work area well ventilated.

Warning

Do not search for high pressure hydraulic leaks without hand and face protection. A tiny, almost invisible leak can penetrate skin, that requires immediate medical attention.

General Information

- In transport position, the maximum turning angle is 40°. Turning too tight will cause severe damage to the machine.
- Always choose a level area when folding the unit in or out of transport mode.
- Lubricate all pins, axles and bearings regularly to prevent premature failure.
- Clean hydraulic hose ends prior to coupling with tractor hydraulic system.
- The RUSTLER requires three sets of hydraulic remotes to operate the machine, further detailed in this section.

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(s) on wings.
- 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.
- After tractor to implement connection is made, relieve pressure off the hitch jack.
- Place hitch jack in raised position.

Note: Ensure that the parking jack handle is secured by chain prior to moving the machine. Failure to do so can destroy the jack handle.

- 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.

Recommended Hydraulic Connections:

Red - Remote 1 - Tine angle adjust

Yellow - Remote 2 - Wing lift/lower

Green - Remote 3 - Wing wheel pivot



⚠ Caution

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



Operation

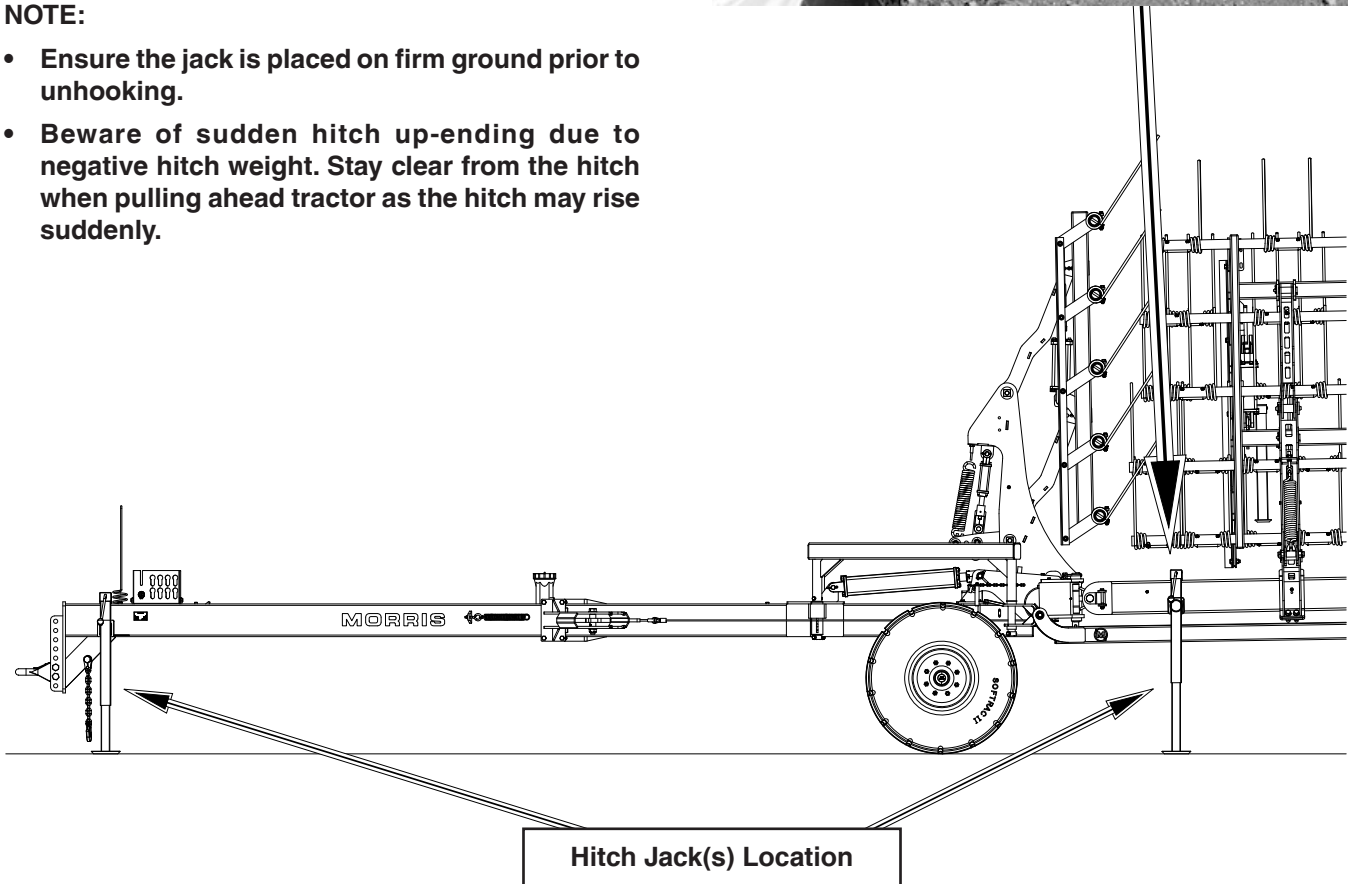
Tractor Disconnecting

1. Ensure that machine is in transport position.
2. Put all lock pins into place.
3. Block the A-frame tires, front and back, before disconnecting from the tractor.
4. Apply lifting pressure at stubs on the wings with parking jack(s).
5. Pin the hitch parking jack in the downward position and crank to extend until the clevis lifts off the tractor hitch.
6. 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.
7. Disconnect all hydraulic lines from the tractor.
8. Remove the safety chain.
9. Remove the drawbar pin.
10. Slowly move tractor away from Heavy Harrow Bar.



NOTE:

- Ensure the jack is placed on firm ground prior to unhooking.
- Beware of sudden hitch up-ending due to negative hitch weight. Stay clear from the hitch when pulling ahead tractor as the hitch may rise suddenly.



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!
- Ensure safety chain is attached correctly to the towing vehicle and the hitch of the implement.
- 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 EQUIPMENT LTD. WILL NOT BE RESPONSIBLE FOR ANY DAMAGES OR OPERATOR INJURY RESULTING FROM NON-USE OR IMPROPER USE OF TRANSPORT LOCKS.

Speed

- Always travel at a safe speed. Do Not Exceed 20 mph (32 kph).
- The weight of the implement being towed must not exceed 1.5 times the weight of towing vehicle.

Lights

- Ensure proper reflectors are in place, refer to Safety, Section 1.
- Use flashing amber warning lights, turn signals and SMV emblems when on public roads.
- Be familiar with, and adhere to, local laws.

Caution

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



Operation

Transport to Field Position

1. Hook up harrow according to prior instructions.
2. Ensure that the safety pins are in transport position before towing on the road.
3. When entering the field from transport mode, find a level location.
4. Position the machine in-line with the tractor and bring the tractor to a full stop.
5. Remove both wheel pivot safety pins from transport position to field position and secure (fig. 2).
6. Remove the main lift safety pin (fig. 3).

NOTE: Failing to follow this procedure may cause severe damage to the machine.

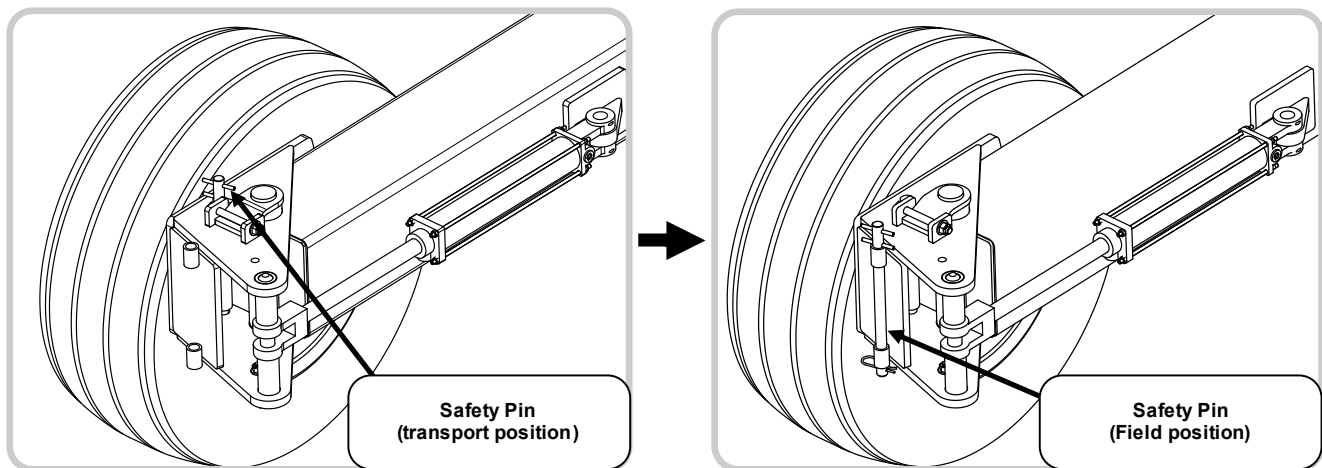


FIGURE 2

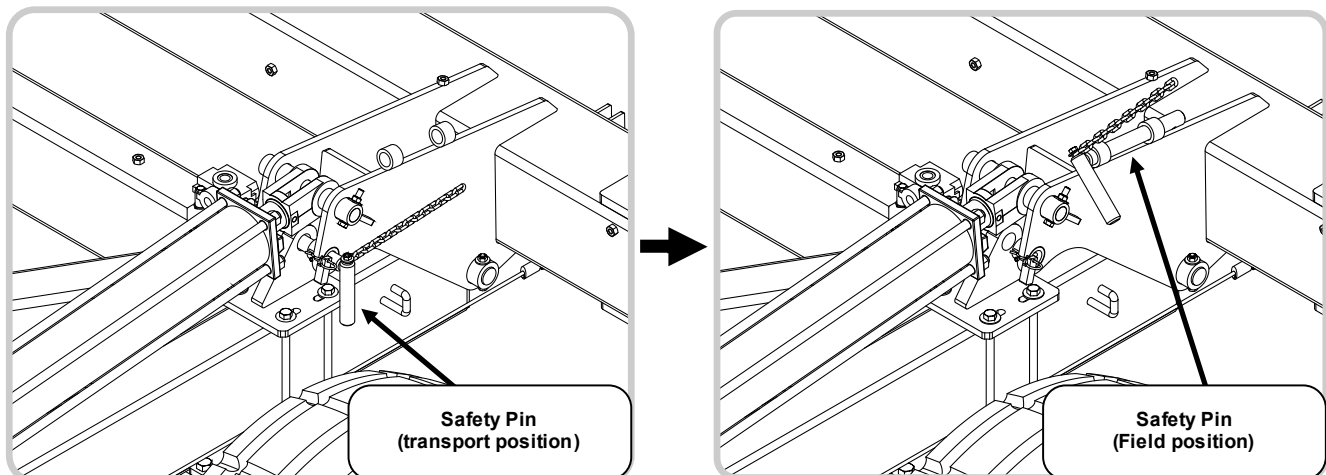


FIGURE 3

Transport to Field Position - Continued

7. From the cab of the tractor, rotate pivot wheels to 45° (Green hydraulic remote) (fig. 4).
8. Slowly back up the tractor to unfold (fig. 5).
9. Once wings are nearly fully unfolded, rotate pivot wheels to 90°.

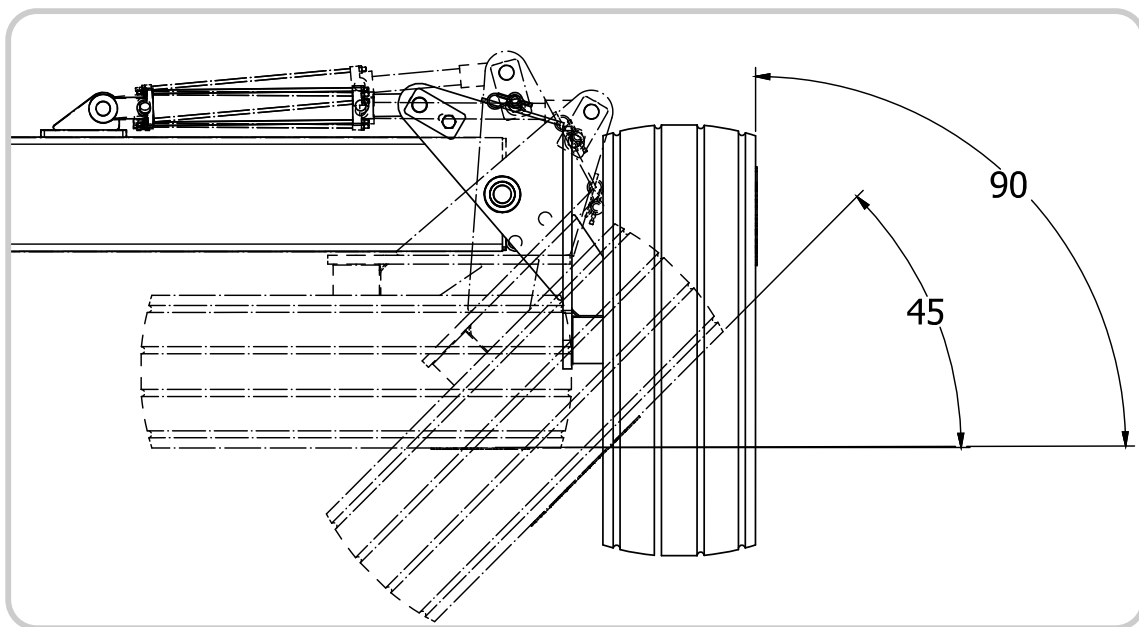


FIGURE 4



Operation

Transport to Field Position - Continued

10. Ensure that the draft arms have pushed the swing arms into the lock mechanism (fig. 6).
11. Carefully lower the harrow wing halfway to the ground (Yellow hydraulic remote). Ensure that the swing arms are both still locked in place.
12. Slowly drive the tractor ahead, while lowering the harrow wing the rest of the way down (fig. 7).

NOTE:

- Do not lower the harrow wings fully down to the ground without driving ahead simultaneously. Damage to the Heavy Harrow Sections could result.
- Check the level of A-frame hitch relative to the tractor. Adjust using hitch tongue to level.
- Ensure all harrow prongs are tight.

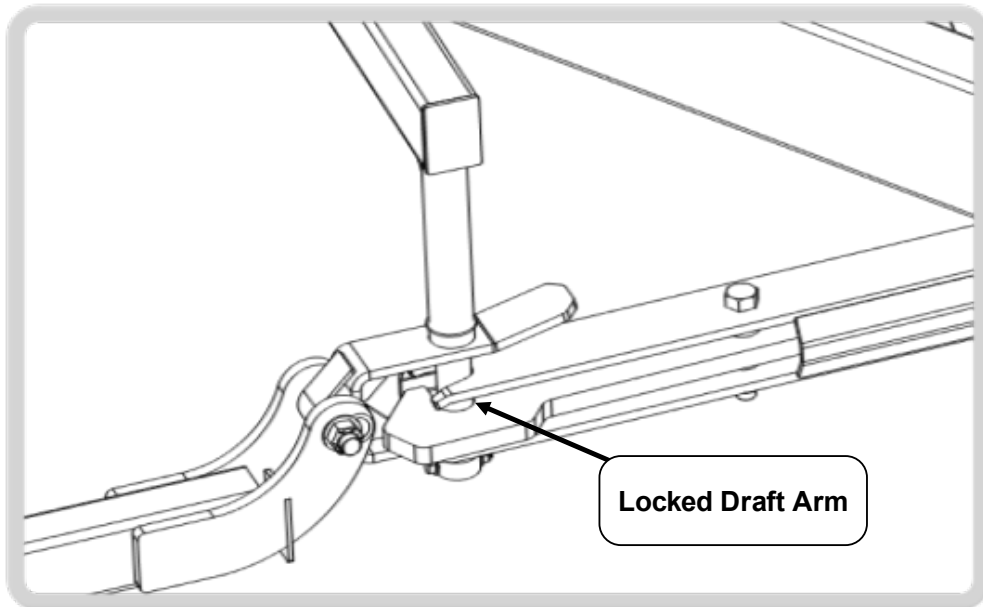


FIGURE 6

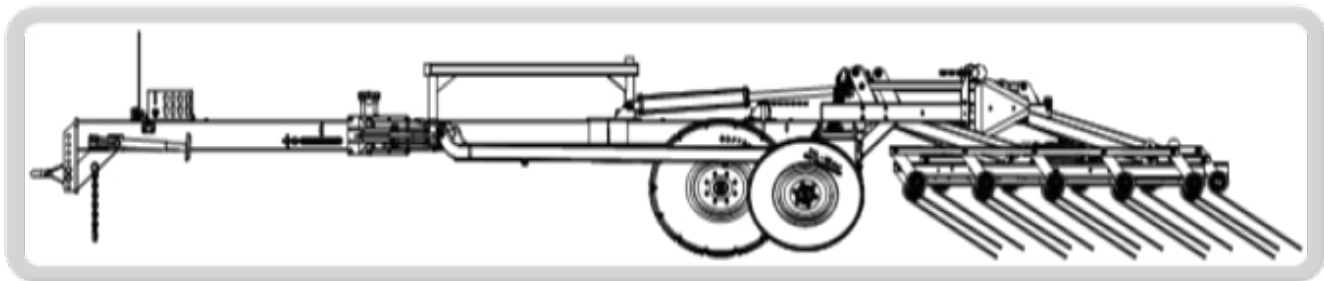


FIGURE 7

Field to Transport Position

1. Stop the tractor before attempting to fold up the harrow toolbar.
2. Lift up the wings by activating the Yellow hydraulic remote. Ensure the auto fold lock opens as the harrows are lifted to the raised position (fig. 8).
3. Turn the wing pivot wheels 90° using the Green hydraulic remote so that they are parallel to the wings.
4. Slowly drive forward to fold back wings.
5. Retract the tine adjust cylinders using the Red hydraulic remote to lower the harrow sections.
6. If you intend to disconnect the harrow from the tractor, line up the harrow with the tractor so that the parking jacks will not interfere with the draft arms.
7. Lock the wing lift and wing wheel cylinders with transport pins.
8. **Ensure the Main Lift transport pin is properly engaged. The roll pin must be locked into the tab in the frame and cotter pin installed (fig 9). If this is not properly engaged DAMAGE WILL OCCUR.**

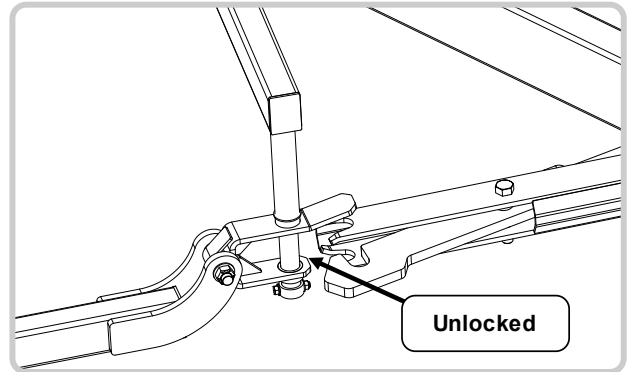


FIGURE 8

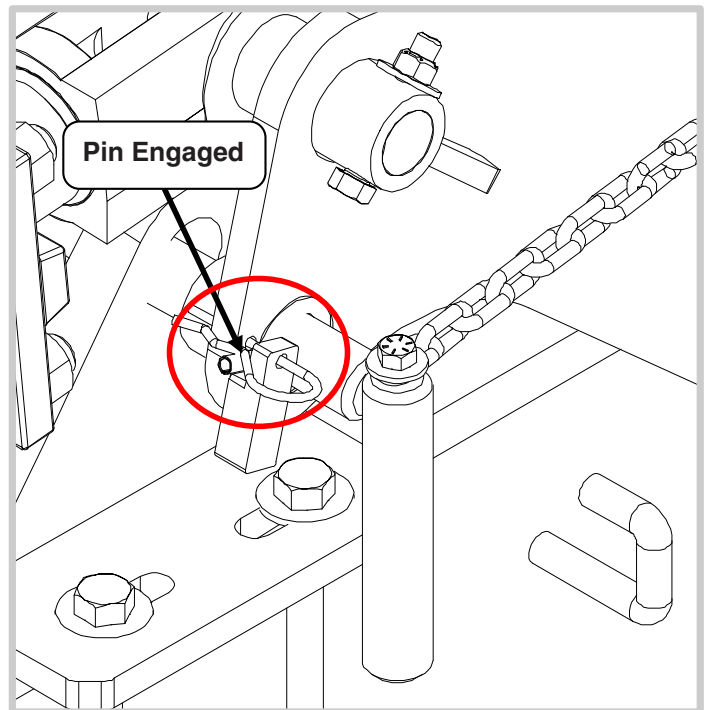


FIGURE 9

Operation

Levelling

1. Hitch unit up to tractor and unfold into field position on flat ground
2. Ensure the main lift cylinders are fully stoked outwards (measurement 60" eye to eye with full tine aggression)
3. Measure from the top of tubing on one of the lift arms to the ground (fig. 11).
4. Repeat measurement on the other end of the lift arm (fig. 11).
5. Adjust hitch clevis up or down accordingly until the measurements are within 1/4" of each other. (fig. 10).

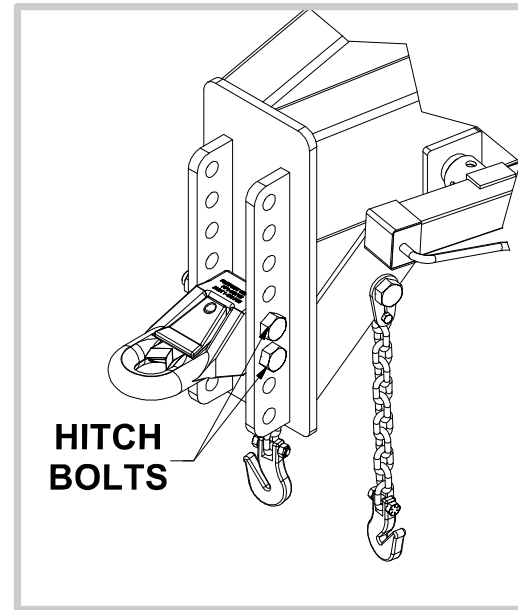


FIGURE 10

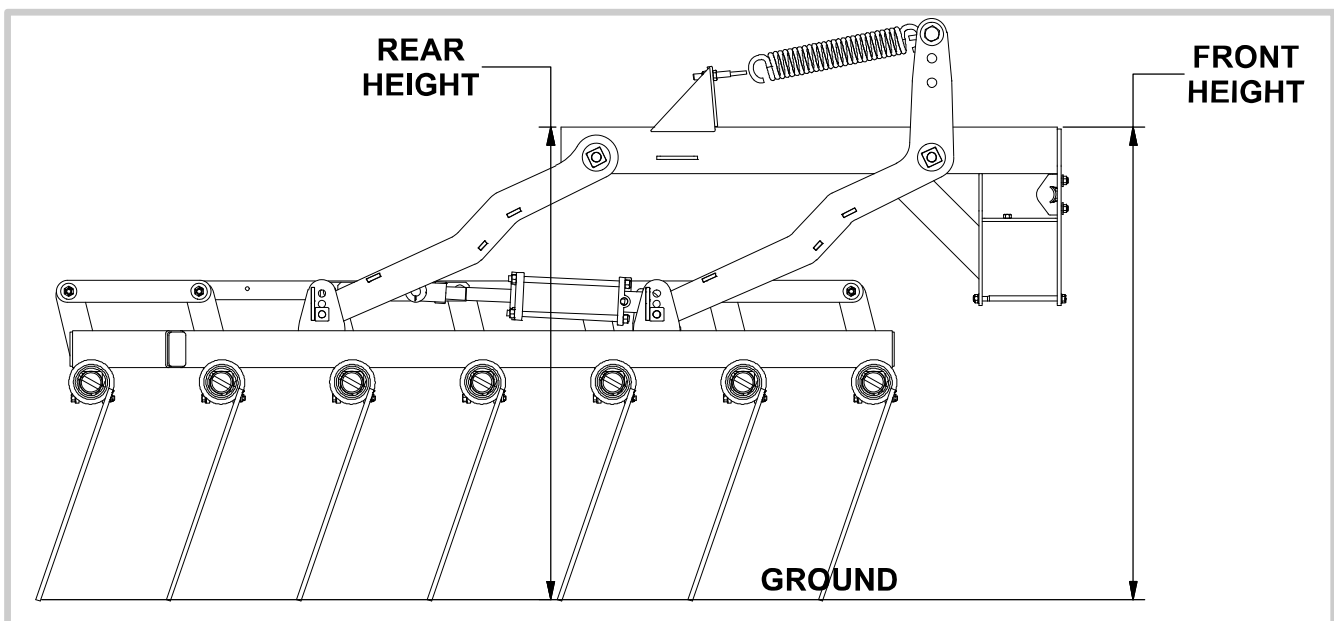


FIGURE 11

Tine Section Adjustment

- The Tine sections are fully adjustable based on your preferences and tine wear.

Levelling:

- Before leveling the sections ensure the lift arms are properly leveled (Page 19)
- To level the section relocate the tine section pins in holes 1-3 (fig 12).
- To bring the rear down, use rear #1 and front #3.
- To bring the front down, use rear #3 and front #1.
- The #2 setting can be used for less aggressive adjustments.

Down Pressure:

- Adjust the down pressure by moving the spring position on the top of the lift arm, in holes A-C and D (fig 9).
- For minimum downpressure, move the spring to hole A.
- For maximum downpressure, move the spring to hole C.
- Adjust D to tension the spring so that a piece of paper can slide between the coils.

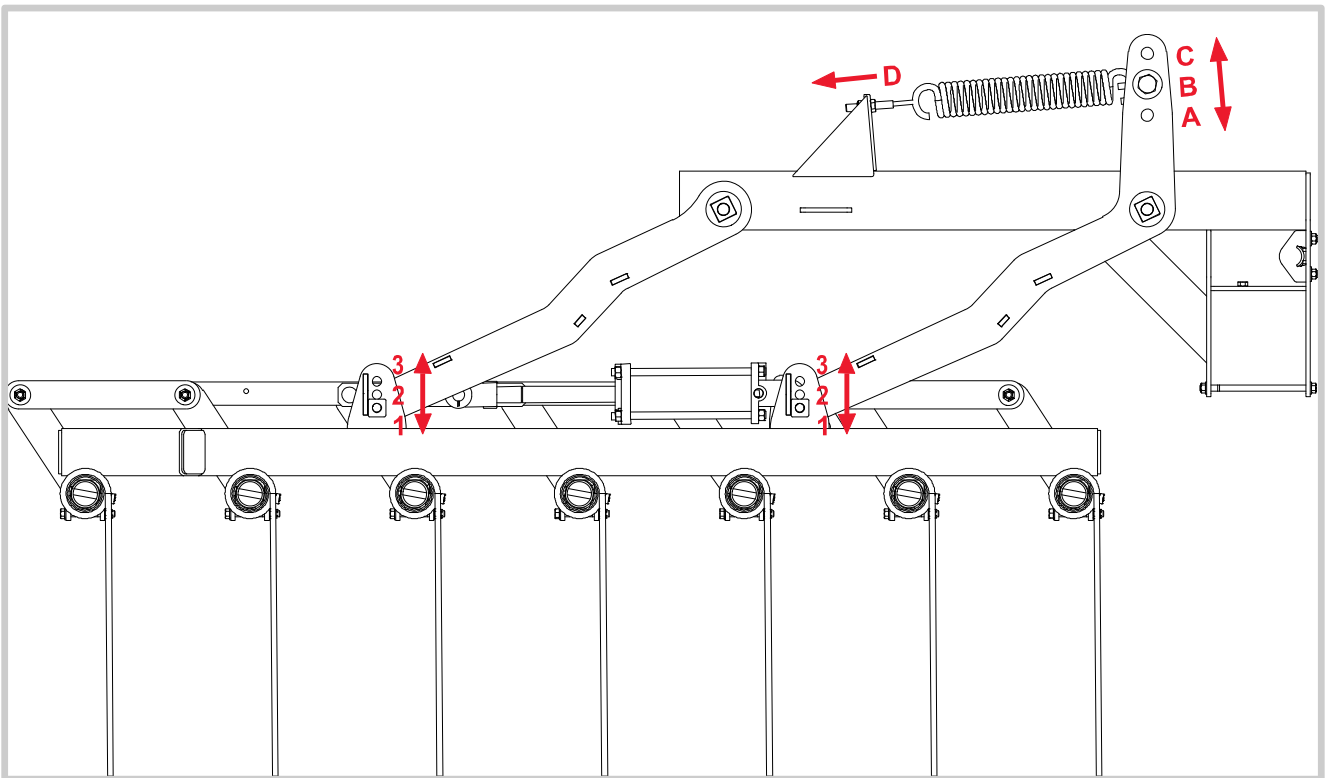


FIGURE 12

Operation

Notes

Section 6: Maintenance

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Maintenance

CAUTION



BE ALERT

SAFETY FIRST

REFER TO SECTION 1 AND REVIEW ALL SAFETY RECOMMENDATIONS.

General

This section deals with two goals, maximum life and dependable operation. Adopt a regular maintenance and lubrication program. Care and sufficient lubrication is the best insurance against delays.

Safety

- Always shut off the tractor and remove key before dismounting.
- Guard against hydraulic high pressure leaks with hand and face protection.
- Never work under the Implement unless it is in the down position or transport lock pins are in place and secured with hair pins. Do not depend on the hydraulic system to support the frame.
- Always wear safety goggles, breathing apparatus and gloves when working on seeder filled with chemical. Follow manufactures recommended safety procedures when working with chemicals or treated seeds.
- Do not feed left over treated seed to livestock, treated seed is poisonous and may cause harm to persons or livestock.



Warning

Securely support any machine elements that must be raised for service work.



Caution



Keep service area clean and dry. Wet or oily floors are slippery.

Tighten Bolts

- Before operating the implement.
- 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.

Note: All fasteners with locknuts that are used to join moving pieces should not be tightened completely to allow for movement.

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 Specifications			
SIZE	LOAD RANGE	PRESSURE	USED ON
12.5L x 15FI	8 ply	90 P.S.I.	Wing Axle 5-55, 5-68, 5-78 7-58, 7-72
16.5L x 16.1	10 ply	35 P.S.I.	Main Frame 5-55, 5-68, 5-78 7-58, 7-72
16.5L x 16.1	10 ply	35 P.S.I.	Wing Axle 5-90 and 7-82
21.5L x 16.1	10 ply	35 P.S.I.	Main Frame 5-90 and 7-82



Caution

Tire replacement should be done by trained personnel using the proper equipment.

Wheel Bolt Torque	
SIZE	Torque
9/16	110 lb. ft. (149 Nm)

Maintenance

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.

General

- Repack the wheel hubs after the first 500 kilometres of travel ; then yearly thereafter.
- Visually inspect the wheel bolts for tightness each day. Torque to 110 ft lbs. (149 Nm) after the first few hours of operation and frequently thereafter.
- Ensure the tires are inflated to the correct pressure:

Refer to the Grease Location diagrams for grease fitting locations.

Every 8 Hours (Daily)

- Grease all pins and knuckles. (See decals locations)

Every 100 Hours (Monthly)

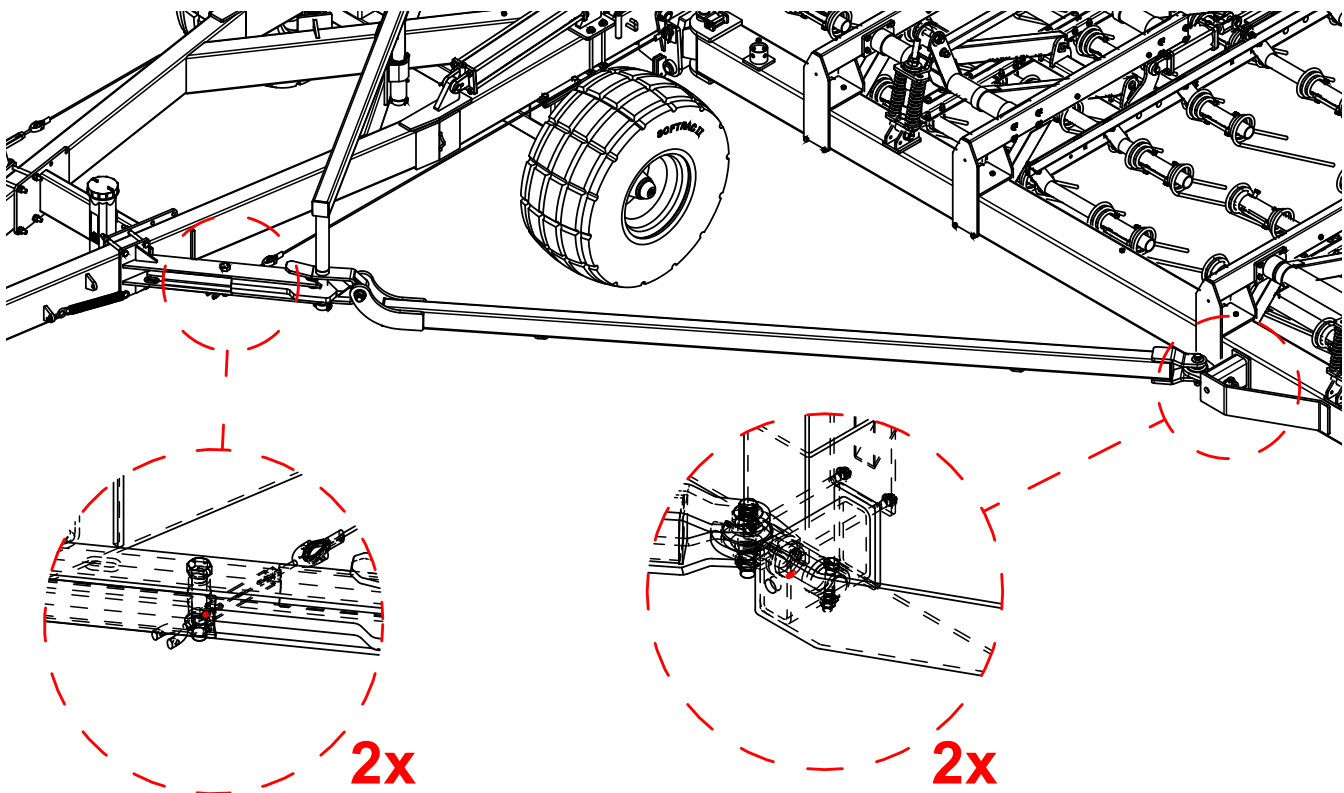
- Visually inspect hydraulic hoses & fittings for leaks or damage.

Annually

- Inspect wheel bearings / hubs for tightness and grease.
- Check wheel bolts for tightness and re-torque.
- Visually inspect unit for loose, worn or damaged components.

Grease Locations - 55, 58, 68, 72 and 78

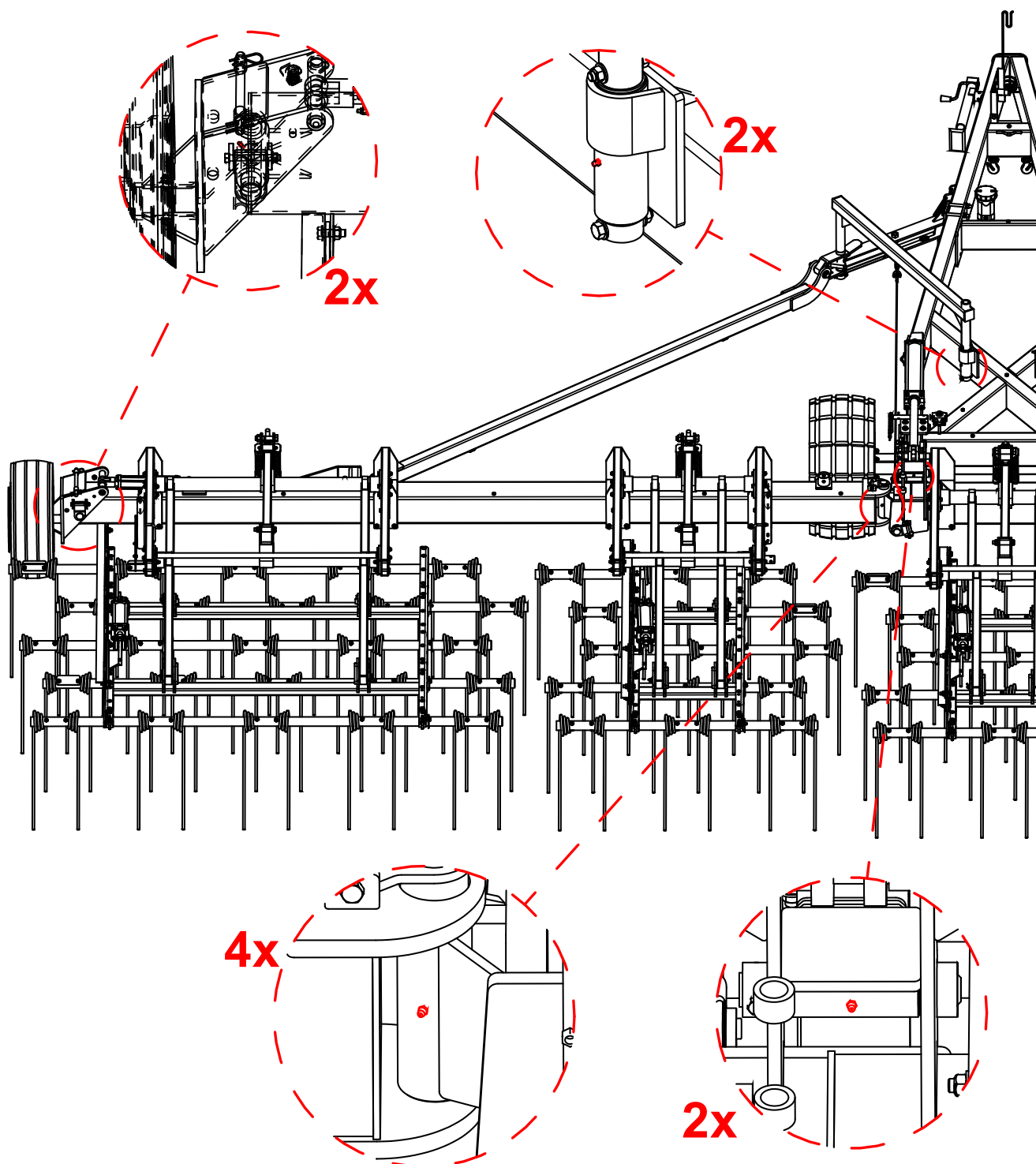
Grease should be applied to both sides of the machine.



Lubrication - Continued

Grease Locations - 55, 58, 68, 72 and 78 - Contiued

Grease should be applied to both sides of the machine.

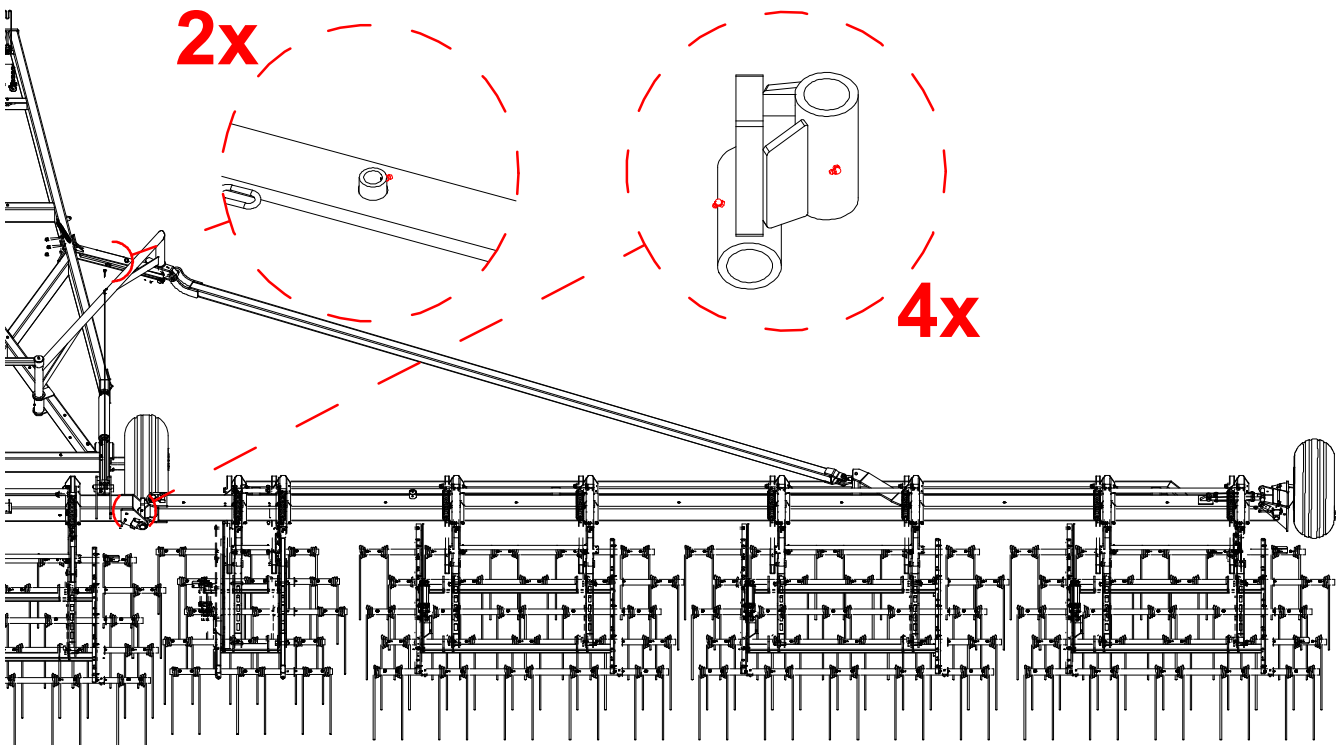
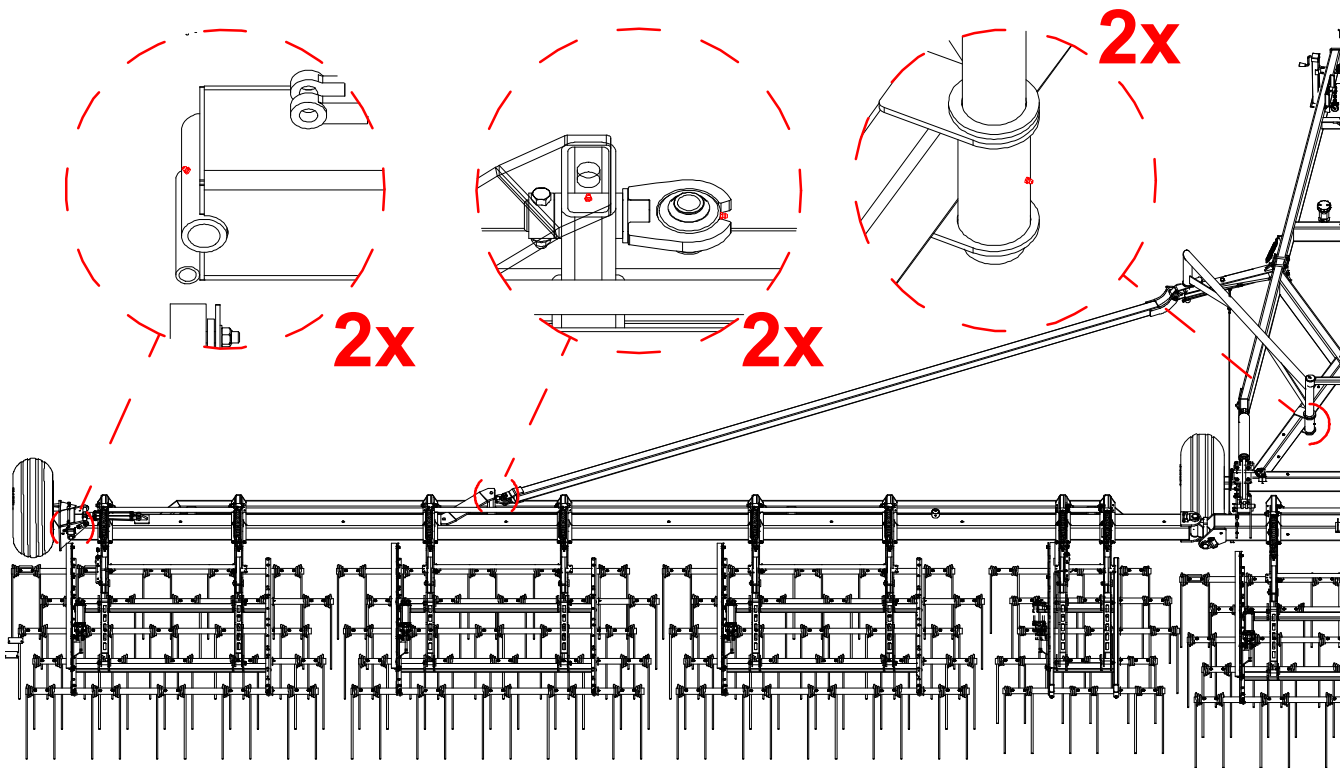


Maintenance

Grease Locations - Continued

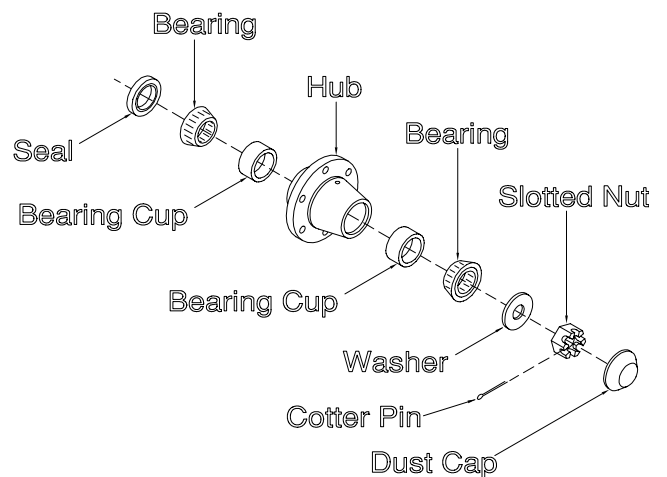
Grease Locations - 82 and 90

Grease should be applied to both sides of the machine.



Wheel Bearings

- Lower the Heavy Harrow fully.
- Shut tractor off and remove key.
- Block wheel on tractor.
- Raise the Heavy Harrow wheels enough to clear the surface.
- Securely block frame.
- 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.



Maintenance

Hydraulics

Refer to Section 1 regarding hydraulic safety. In addition:

- 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 liquid Teflon on all NPT hydraulic joints. **Do not use liquid Teflon or Teflon tape on JIC or ORB 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.

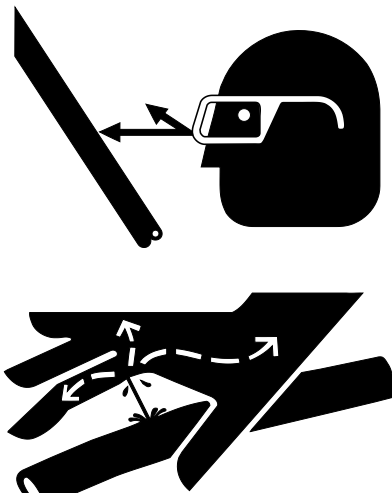


Contact your nearest Dealer for genuine repair parts. Dealers carry ample stocks and are backed by the manufacture and regional associations.

Caution

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.**

Section 7: Storage

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Removing From Storage	7-3

Storage

Preparing for Storage

- To ensure longer life and satisfactory operation, store the Heavy Harrow in a shed.
- If building storage is impossible, store away from areas of main activity on firm, dry ground.
- Clean machine thoroughly.
- Inspect all parts for wear or damage.
- Avoid delays - if parts are required, order at the end of the season.
- Lubricate grease fittings. (Refer to Lubricating Section).
- Tighten all bolts to proper specifications (Refer to Bolt Torque Chart).

Note: All fasteners with locknuts that are used to join moving pieces should not be tightened completely to allow for movement.

- Ensure that hitch jack(s) are situated on firm ground. Failure to do so may cause the hitch to rise sharply as the jack pads sink into the ground.
- Lock all applicable safety pins into place.
- Relieve pressure from hydraulic system.
- Cover tires with canvass to protect them from the elements when stored outside.
- Coat exposed cylinder shafts (Refer to Cylinder Shaft Maintenance).
- Paint any surfaces that have become worn.



Warning

**Do not allow children to play
on or around the machine.**

Cylinder Shaft Protection

The steps summarized below should be followed when protecting chrome plated shafting on equipment:

- Position the equipment as it will be stored, and identify all the exposed portions of the chrome plated shafts.
- Clean dirt and dust from the exposed portions of the shafting using a dry cloth or a cloth which has been dampened with an appropriate solvent.
- Prepare a mixture of 60% oil-based rust inhibitor and 40% Kerosene. Apply a thin coating of this mixture to the exposed surfaces of the chrome plated shafting. No. 1 fuel oil may be substituted for Kerosene. A cloth dipped in the mixture can be used to apply the coating.
- Inspect the shaft surfaces after six months and apply additional corrosion preventative mixture.
- If the equipment is to be moved and then stored again for an extended period of time, the steps above should be repeated for all shafts that were stroked during the move.
- **Before retracting the cylinders the protective coating should be removed**, to prevent fine sand and dirt that has accumulated in the coating, from damaging the shaft seal. **Under no circumstances should sandpaper or other abrasive be used to clean the surfaces.** Plastic or copper wool in combination with an appropriate solvent will remove most of the dirt.

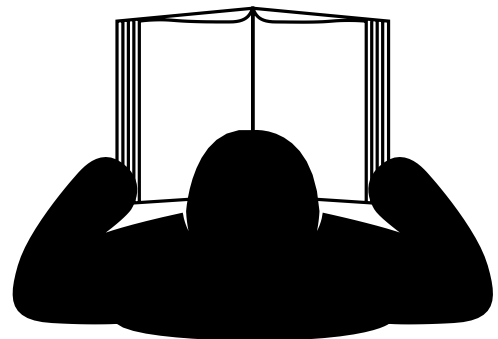


Caution

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

Removing From Storage

- Review Operator's Manual.
- Check tire pressure (Refer to Tire Pressure List)
- Clean machine thoroughly. Remove coating from exposed cylinder shafts (**Refer to Cylinder Shaft Protection**).
- Lubricate grease fittings. (Refer to Lubricating Section).
- Tighten all bolts to proper specifications (Refer to Bolt Torque Chart).



Storage

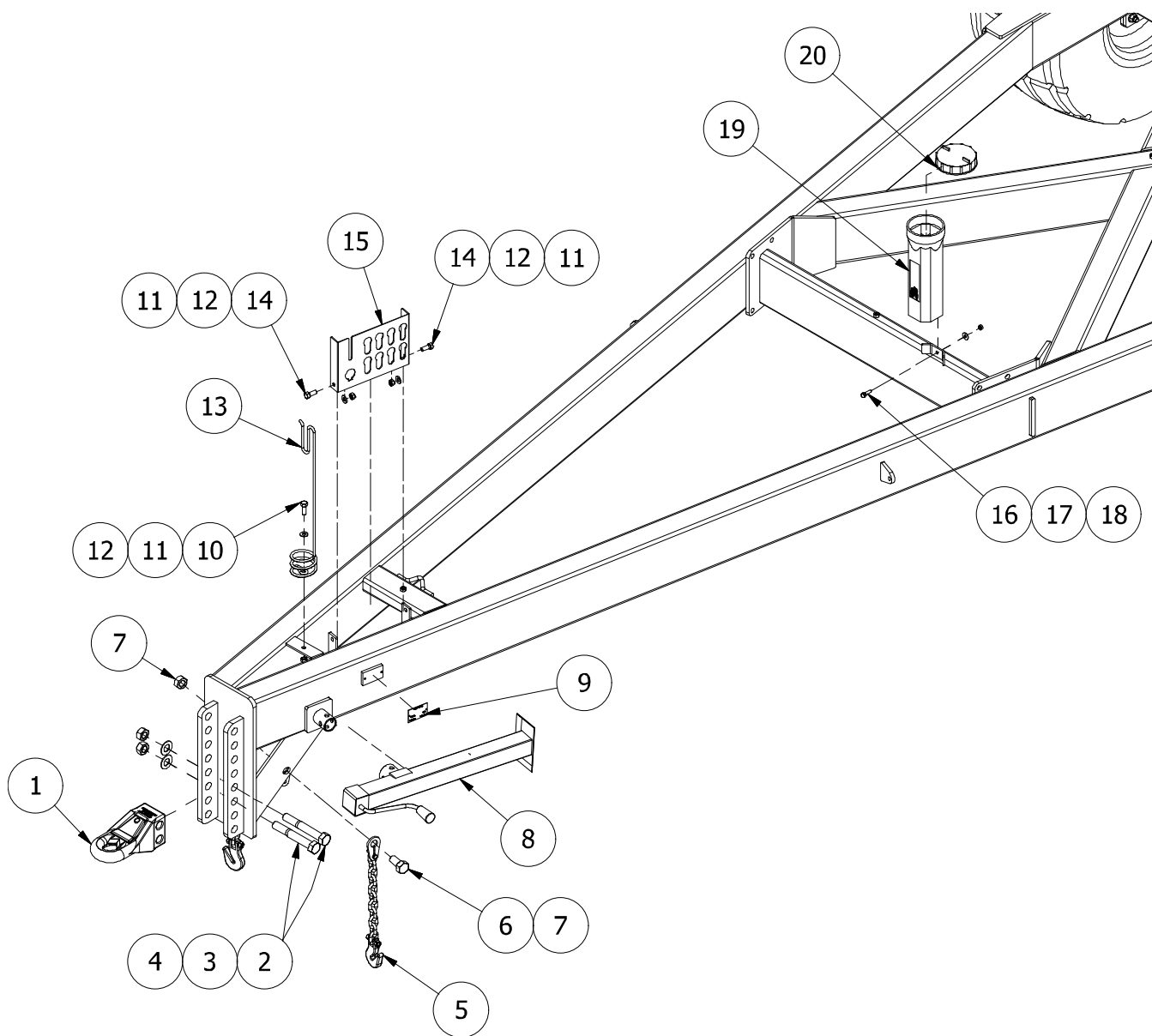
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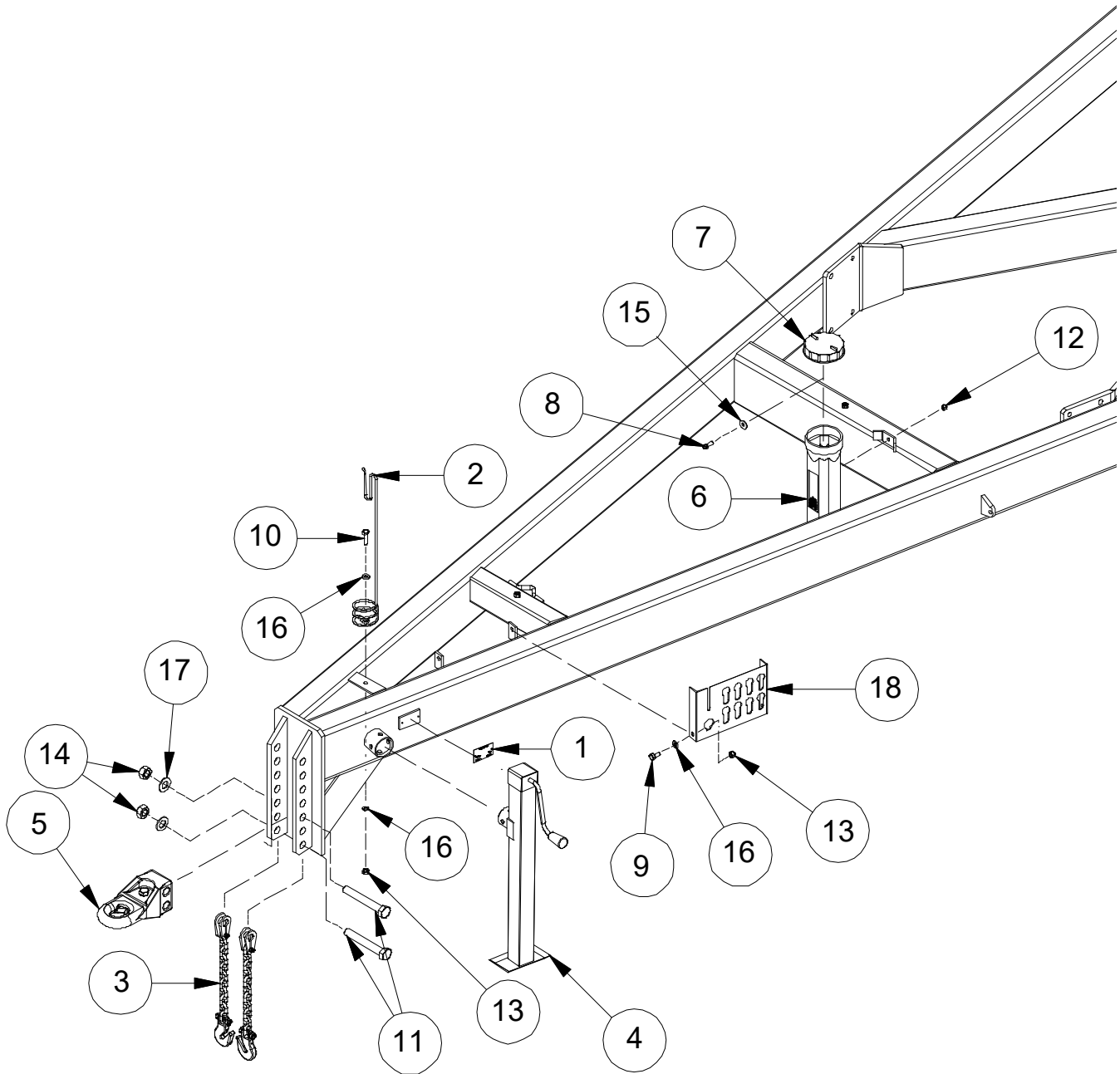
A-Frame Hitch - 55, 58, 68, 72, 78



A-Frame - Hitch - 55, 58, 68, 72, 78

Item	Part No.	Description	Qty
1	423-0001	PP1-301VH Perfect Hitch C/W PP1-301VH	
2	526-1656	Bolt, 1-8 UNC - 7, Gr.5, Yellow Zinc Plated.....	
3	550-5316	Washer, Flat, 1" - SAE, Gr.5, Yellow Zinc Plated	
4	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated	
5	409-9050	Safety Chain 20,000Lb, Clevis Mount, New Style.....	
6	526-1616	Bolt, 1-8 UNC - 2, Gr.5, Yellow Zinc Plated.....	
7	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated	
8	420-0168	5000Lb. 20" Square Sidewind Jack 20.1"RI	
9	* * * * *	Serial Plate - Morris Equipment	
10	526-0812	Bolt, 1/2-13 UNC - 1.5, Gr.5, Yellow Zinc Plated	
11	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated	
12	526-6105	Nut, Stover Lock, 1/2-13 Unc, Gr.5, Yellow Zinc Plated	
13	407-0003	24" Shepherd Hook Hose Standoff.....	
14	526-0810	Bolt, 1/2-13 UNC - 1.25, Gr.5, Yellow Zinc Plated	
15	835-1009	Chain And Tip Holder 14-1/4 x 8	
16	526-0610	Bolt, 3/8-16 UNC - 1.25, Gr.5, Yellow Zinc Plated	
17	550-5206	Washer, Flat, 3/8" - SAE, Gr.5, Yellow Zinc Plated	
18	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated	
19	426-0001	Manual Storage Tube.....	
20	426-0002	Manual Storage Tube Cap	

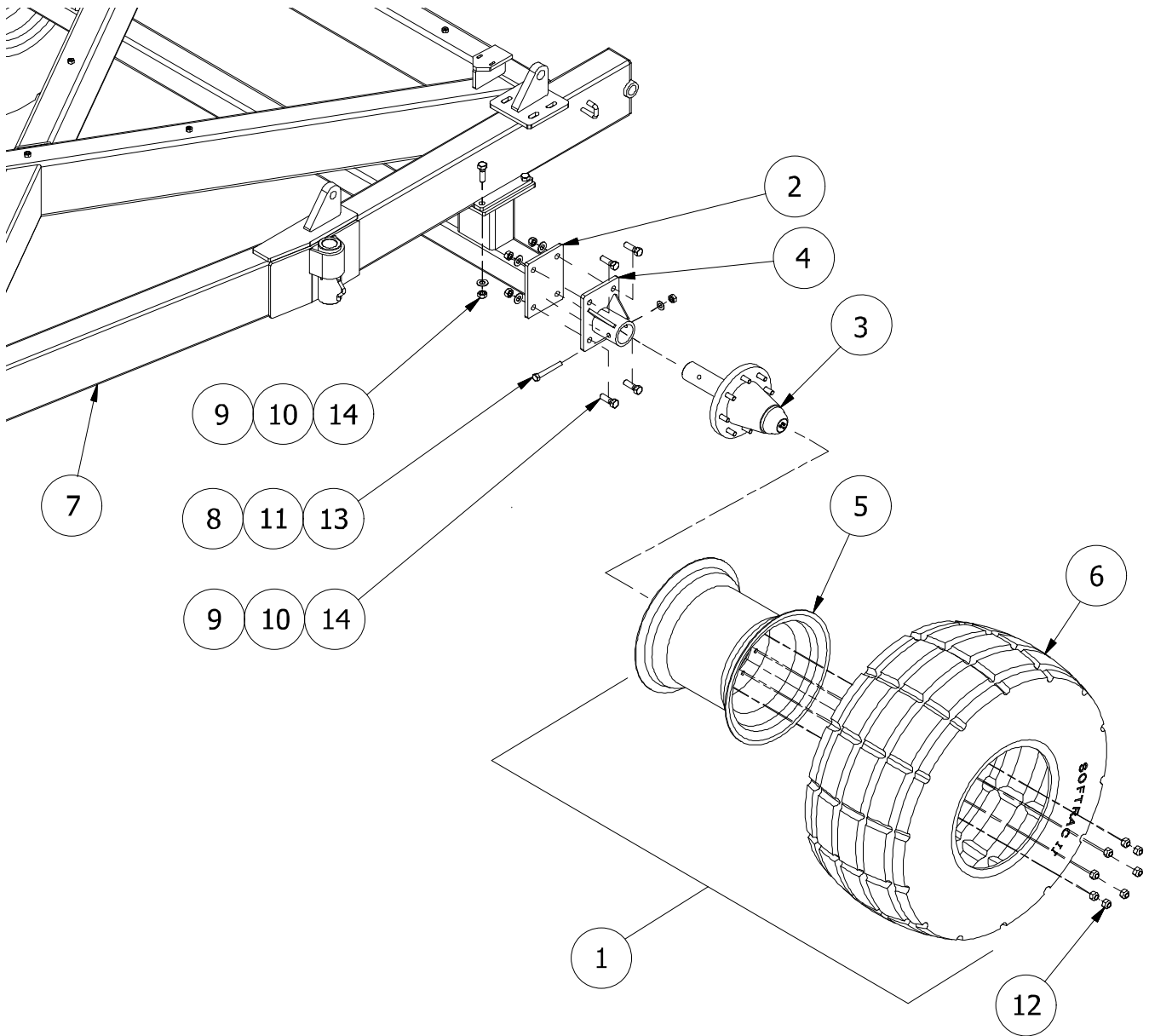
A-Frame Hitch - 82, 90



A-Frame - Hitch - 82, 90

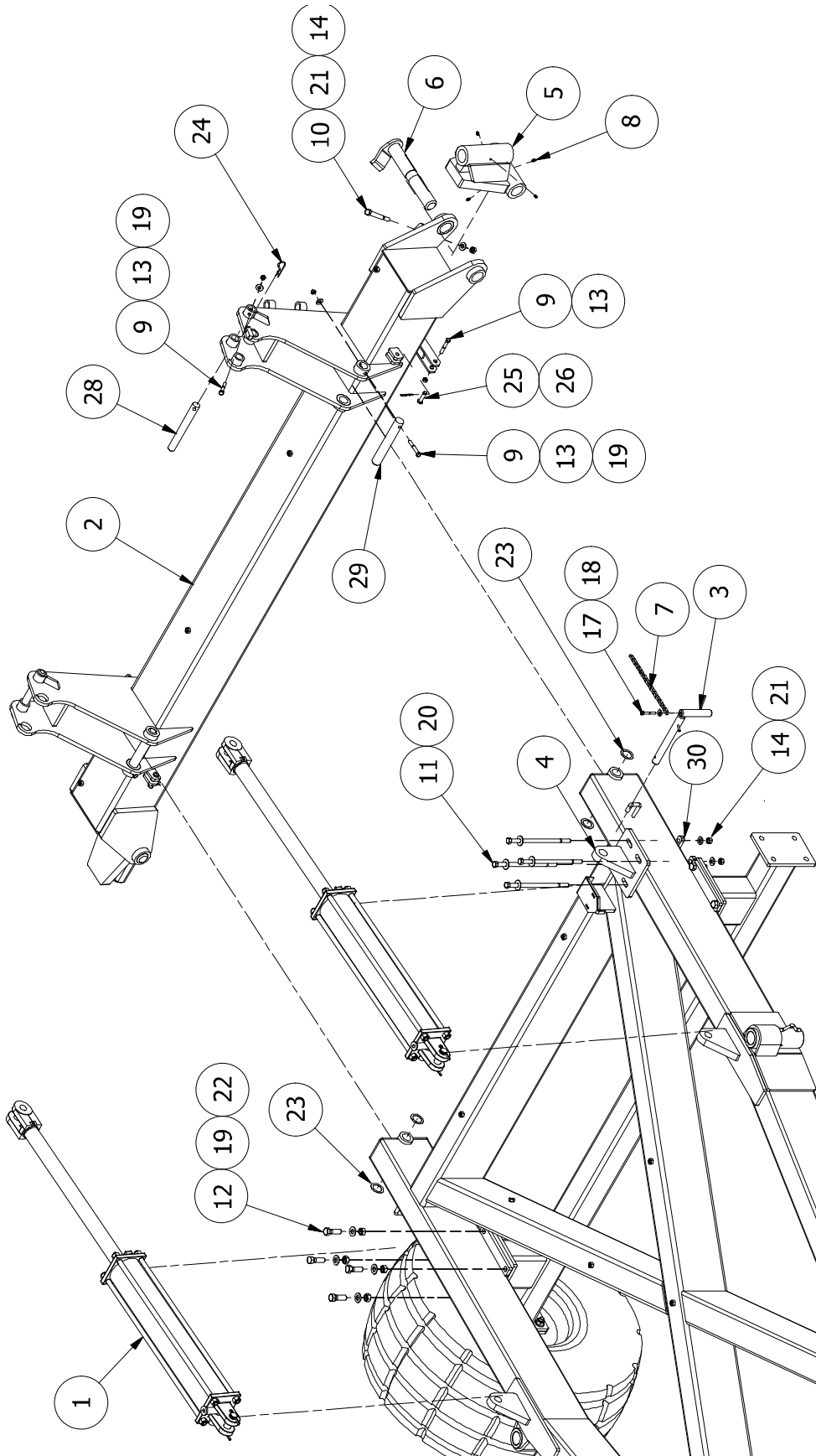
Item	Part No.	Description	Qty
1	*****	Serial Plate.....	
2	407-0003	24" Shepherd Hook Hose Standoff.....	
3	409-9050	Safety Chain 20,000Lb, Clevis Mount.....	
4	420-0168	5000Lb. 20" Square Sidewind Jack 20.1"RL.....	
5	423-0001	PP1-301VH Perfect Hitch C/W PP1-301VH.....	
6	426-0001	Manual Storage Tube.....	
7	426-0002	Manual Storage Tube Cap.....	
8	526-0610	Bolt, 3/8-16 UNC - 1.25, Gr.5, Yellow Zinc Plated.....	
9	526-0810	Bolt, 1/2-13 UNC - 1.25, Gr.5, Yellow Zinc Plated.....	
10	526-0812	Bolt, 1/2-13 UNC - 1.5, Gr.5, Yellow Zinc Plated.....	
11	526-1656	Bolt, 1-8 UNC - 7, Gr.5, Yellow Zinc Plated.....	
12	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated.....	
13	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated.....	
14	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated.....	
15	550-5206	Washer, Flat, 3/8" - SAE, Gr.5, Yellow Zinc Plated.....	
16	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated.....	
17	550-5316	Washer, Flat, 1" - SAE, Gr.5, Yellow Zinc Plated.....	
18	835-1009	Chain and Tip Holder 14-1/4 x 8.....	

A-Frame Axle



A-Frame - Axle			
Item	Part No.	Description	Qty
1	020-0105	Tire and Wheel Assembly - 16.5L x 16.1 - 8 Bolt - (55' - 58' - 68' - 72' - 78')	
	020-0121	Tire and Wheel Assembly - 21.5L x 16.1 - 8 Bolt - (82' - 90')	
2	120-1117	Centre Axle - (55' - 58' - 68' - 72' - 78') (Shown)	
	110-1248	Centre Axle - (82' - 90')	
3	120-1246	812 Hub & Spindle Assembly	
4	120-1230	Centre Axle Stub Assembly	
5	204-5585	W14C x 16.1 - 8 Hole Wheel, 3/8" Offset - (55' - 58' - 68' - 72' - 78')	
	204-5582	W16C x 16.1 - 8 Hole Wheel, 1-1/2" Offset - (82' - 90')	
6	205-1192	Tire - 16.5L x 16.1 - 12 Ply - (55' - 58' - 68' - 72' - 78')	
	205-1203	Tire - 21.5L x 16.1 - 6 Ply - (82' - 90')	
7	105-0363	A-Frame Weldment - (55' - 58' - 68' - 72' - 78') (Shown)	
	105-1330	A-Frame Weldment - (82' - 90')	
8	526-0932	Bolt - 9/16-12 UNC - 4, Gr5, Yellow Zinc Plated	
9	526-1016	Bolt - 5/8-11 UNC - 2, Gr5, Yellow Zinc Plated	
10	526-6106	Nut - Stover Lock, 5/8-11 UNC, Gr5, Yellow Zinc Plated	
11	526-6112	Nut - Stover Lock, 9/16-12 UNC, Gr5, Yellow Zinc Plated	
12	543-5563	9/16 Wheel Nut, NF, Gr5, Pltd	
13	550-5309	Washer, Flat, 9/16" - SAE, Gr5, Yellow Zinc Plated	
14	550-5310	Washer, Flat, 5/8" - SAE, Gr5, Yellow Zinc Plated	

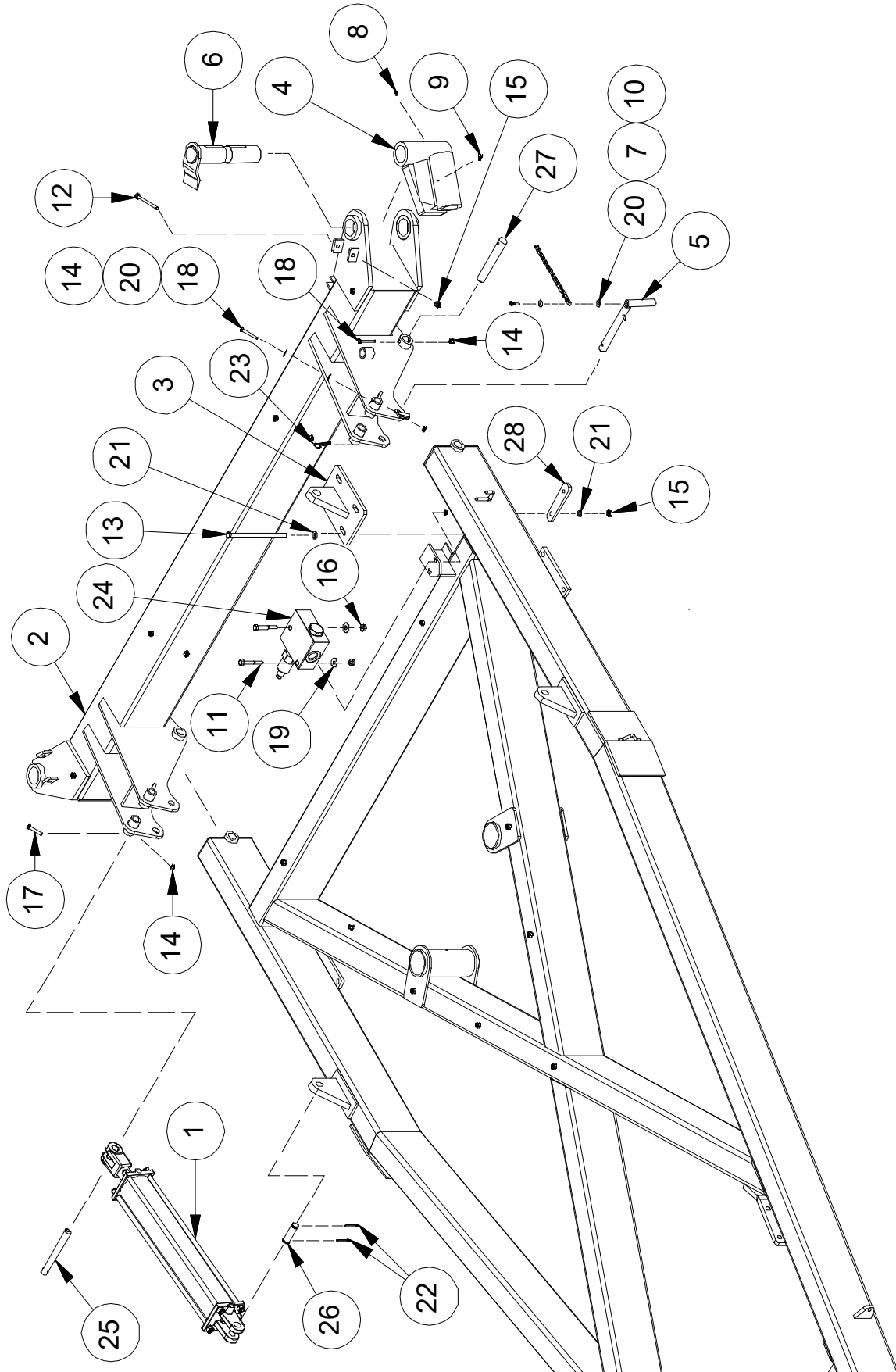
A-Frame Center Bar - 55, 58, 68, 72, 78



A-Frame - Center Bar - 55, 58, 68, 72, 78

Item	Part No.	Description	Qty
1	030-5985	Tie Rod Cylinder, 4" Bore x 24" Stroke, 1.5" Rod, 36" RL	
	030-5987	Tie Rod Cylinder, 4" Bore x 24" Stroke, 2" Rod, 36" RL (72' Only) Model 7-72	
2	105-1246	Centre Bar Weldment	
3	105-1328	Hyd. Valve Lock Pin Weldment (Hollow)	
4	112-0509	Hyd. Lock Lug Weldment	
5	113-0031	1-3/4 x 1-3/4 Knuckle	
6	123-3204	1-3/4 x 11-1/4 Knuckle Lock Pin	
7	409-9057	Hyd. Lock Pin Chain	
8	419-0004	Grease Zerk, 1/4" NF - Straight	
9	526-0620	Bolt, 3/8-16 UNC - 2.25, Gr.5, Yellow Zinc Plated	
10	526-0836	Bolt, 1/2-13 UNC - 4.5, Gr.5, Yellow Zinc Plated	
11	526-0880	Bolt, 1/2-13 UNC - 10, Gr.5, Yellow Zinc Plated	
12	526-1016	Bolt, 5/8-11 UNC - 2, Gr.5, Yellow Zinc Plated	
13	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated	
14	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated	
15	526-6106	Nut, Stover Lock, 5/8-11 UNC, Gr.5, Yellow Zinc Plated	
17	530-0516	Bolt, 5/16-18 UNC - 2, Gr.8, Yellow Zinc Plated	
19	550-5206	Washer, Flat, 3/8" - USS, Gr.5, Yellow Zinc Plated	
20	550-5208	Washer, Flat, 1/2" - USS, Gr.5, Yellow Zinc Plated	
21	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated	
22	550-5310	Washer, Flat, 5/8" - SAE, Gr.5, Yellow Zinc Plated	
23	554-1065	Washer, Flat, 1 1/4 - Narrow, Gr.5, Yellow Zinc Plated	
24	558-2057	#9 Hitch Pin Clip, Pltd.	
25	558-2059	3/32 x 2-5/16 #7 Hitch Pin Clip	
26	560-0808	1/2 x 1-3/4 Clevis Pin (Jumbo)	
28	807-2804	1 x 8-5/8 Lift Cylinder Pin	
29	807-3205	Centre Bar Pivot Pin	
30	815-1008	Lock Lug Tie Plate	

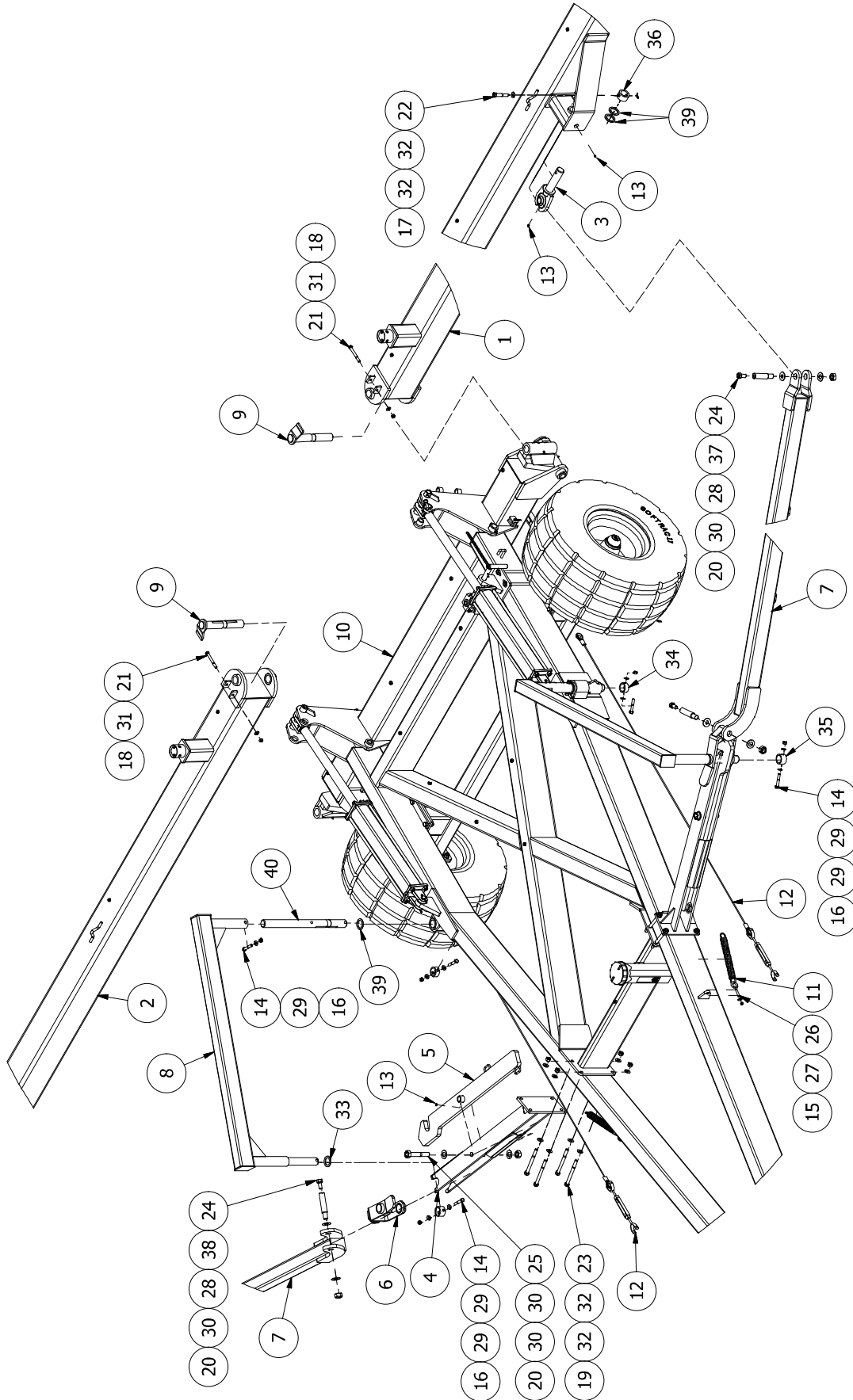
A-Frame Center Bar - 82 and 90



A-Frame - Center Bar - 82 and 90

Item	Part No.	Description	Qty
1	030-5987	Tie Rod Cylinder, 4" Bore x 24" Stroke, 2.0" Rod, 36" RL.....	
2	110-1254	Centre Bar Weldment (2-1/2" Dia Pin)	
3	112-0522	Hydraulic Lug Weldment	
4	113-0071	2-1/2" Dia Knuckle Weldment	
5	105-1328	Hyd. Valve Lock Pin Weldment.....	
6	123-3801	2-1/2" Dia Knuckle Pin Weldment.....	
7	409-9057	Hyd. Lock Pin Chain	
8	419-0004	Grease Zerk, 1/4"NF - Straight	
9	419-0006	1/4" Grease Zerk - 90° Elbow	
10	526-0510	5/16 x 1-1/4 Capscrew, NC, Gr.5, Pltd.	
11	526-0520	5/16 x 2-1/2 Capscrew, NC, Gr.5, Pltd.	
12	526-0840	1/2 x 5 Capscrew, NC, Gr.5, Pltd.	
13	526-0880	Bolt, 1/2-13 UNC - 10, Gr.5, Yellow Zinc Plated	
14	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated	
15	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated	
16	526-7105	Nut, Flange, 5/16-18 UNC, Gr.5, Pltd.	
17	530-0616	3/8 x 2 Capscrew, UNC, Gr.8, Pltd.	
18	530-0620	3/8 x 2-1/2 Capscrew, UNC, Gr.8, Pltd.	
19	550-5205	Washer, Flat, 5/16" - USS, Gr.5, Yellow Zinc Plated	
20	550-5206	Washer, Flat, 3/8" - USS, Gr.5, Yellow Zinc Plated	
21	550-5208	Washer, Flat, 1/2" - USS, Gr.5, Yellow Zinc Plated	
22	556-0906	3/16 x 1-3/4 Cotter Pin, Pltd.....	
23	558-2057	#9 Hitch Pin Clip, Pltd.	
24	710-5018	Reducing Valve With Reverse Flow Set @ 700Psi.....	
25	807-2804	1 x 8-5/8 Lift Cylinder Pin	
26	807-2809	1 x 3-3/8 Cylinder Pin, Pltd.	
27	807-3205	Centre Bar Pivot Pin.....	
28	815-7008	Backer Plate For Hydraulic Lock Lug Weldment	

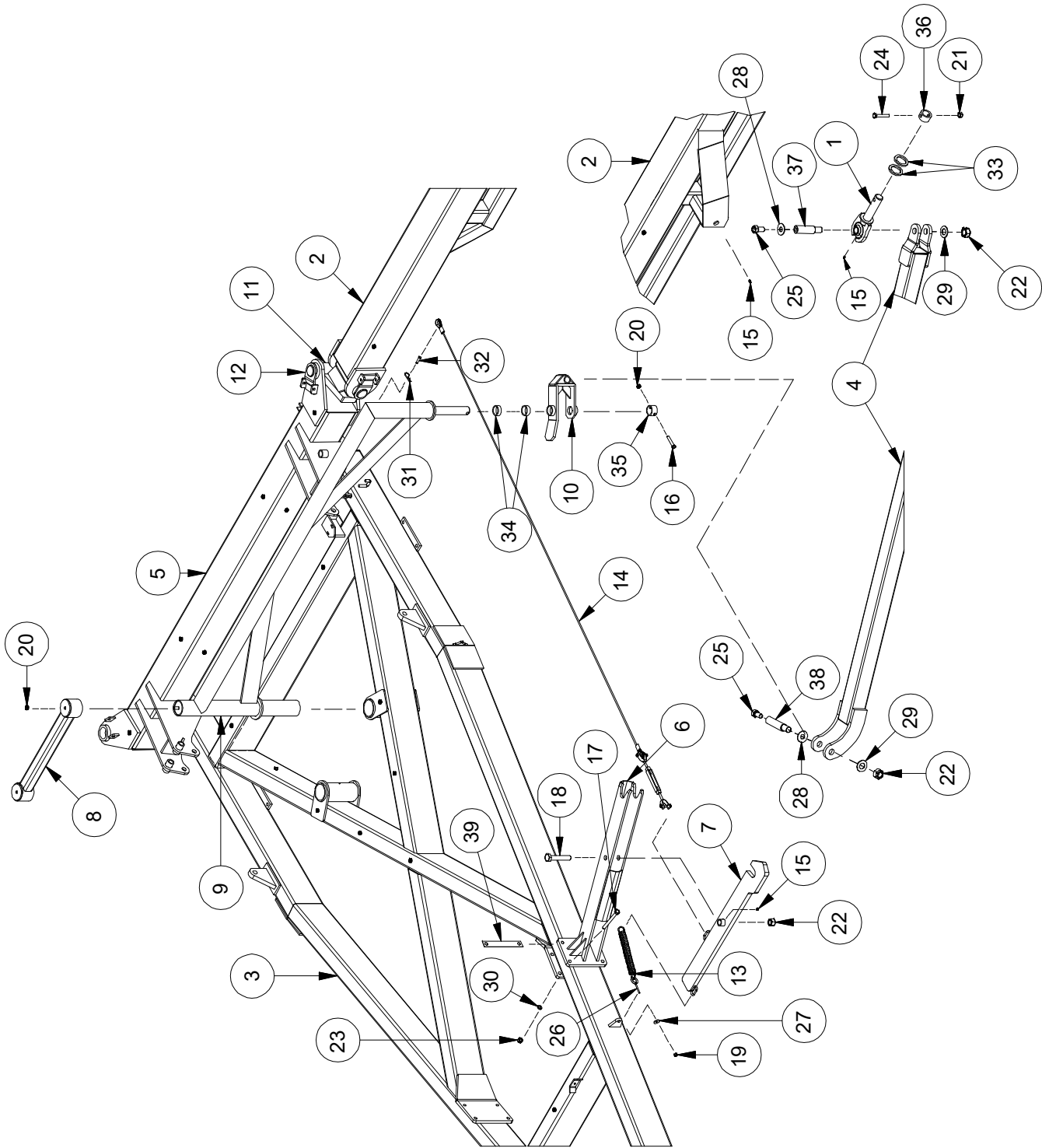
A-Frame Auto Fold - 55, 58, 68, 72, 78



A-Frame - Auto Fold - 55, 58, 68, 72, 78

Item	Part No.	Description	Qty
1	105-1304	Wing - Left - 55' - Model 5-55	
	105-1306	Wing - Left - 68' - Model 5-68	
	105-1308	Wing - Left - 78' - Model 5-78	
	105-1206	Wing - Left - 58' - Model 7-58	
	105-1216	Wing - Left - 72' - Model 7-72	
2	105-1305	Wing - Right - 55' - Model 5-55	
	105-1307	Wing - Right - 68' - Model 5-68	
	105-1309	Wing - Right - 78' - Model 5-78	
	105-1207	Wing - Right - 58' - Model 7-58	
	105-1217	Wing - Right - 72' - Model 7-72	
3	105-1259	Draft Arm Pull Lug Pin, Extended (1-1/4")	
4	112-0115	Lock Box - 55' and 58' - Model 5-55 and 7-58	
	112-0324	Lock Box - 68', 72' and 78' - Model 5-68, 5-78 and 7-72	
5	112-0234	Lock Arm - 55' and 58' - Model 5-55 and 7-58	
	112-0323	Lock Arm - 68', 72' and 78' - Model 5-68, 5-78 and 7-72	
6	112-0507	Draft Arm Clevis Weldment, (1-5/16")	
7	112-0604	Draft Arm - 55' and 58' - Model 5-55 and 7-58	
	105-1151	Draft Arm - 68', 72' - Model 5-68 and 7-72	
	105-1152	Draft Arm - 78' - Model 5-78	
8	112-0606	Swing Arm Weldment - Bolt In Shaft	
9	123-3204	1-3/4 x 11-1/4 Knuckle Lock Pin	
10	105-1246	Centre Bar Weldment (Revised Angle)	
11	403-0267	1-1/2" x 12-1/2" Auto Fold Spring	
12	410-0321	1/4" x 97" Auto Fold Cable C/W 3/8" x 6" Turn Buckle	
13	419-0004	Grease Zerk, 1/4" NF - Straight	
14	526-0824	Bolt, 1/2-13 UNC - 3, Gr.5, Yellow Zinc Plated	
15	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated	
16	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated	
17	526-6106	Nut, Stover Lock, 5/8-11 UNC, Gr.5, Yellow Zinc Plated	
18	526-7308	1/2 Stover Lock Nut, NC, Gr.8, Pltd.	
19	526-7310	Nut, Stover Lock, 5/8-11 UNC, Gr.8, Yellow Zinc Plated	
20	526-7316	Nut, Stover Lock, 1-8 UNC, Gr.8, Yellow Zinc Plated	
21	530-0772	Bolt, 1/2-13 UNC - 4.5, Gr.8, Yellow Zinc Plated	
22	530-1000	Bolt, 5/8-11 UNC - 3.5, Gr.8, Yellow Zinc Plated	
23	530-1006	Bolt, 5/8-11 UNC - 6.5, Gr.8, Yellow Zinc Plated	
24	530-1246	Bolt, 3/4-10 UNC - 1.5, Gr.8, Yellow Zinc Plated	
25	530-1644	Bolt, 1-8 UNC - 5.5, Gr.8, Yellow Zinc Plated	
26	546-0199	3/8 x 4 Eye Bolt, NC, Gr.5, Pltd.	
27	550-5206	Washer, Flat, 3/8 - Regular - Type B, Gr.5, Yellow Zinc Plated	
28	550-5212	Washer, Flat, 3/4 - Regular - Type B, Gr.5, Yellow Zinc Plated	
29	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated	
30	550-5316	Washer, Flat, 1" - SAE, Gr.5, Yellow Zinc Plated	
31	550-5613	Washer, Flat, 1/2 SAE, Gr.8, Yellow Zinc Plated	
32	550-5617	Washer, Flat, 5/8 SAE, Gr.8, Yellow Zinc Plated	
33	554-5401	1-3/4 ID x 10 Ga. Machine Washer, Pltd.	
34	805-6018	2 1/4 OD x .240W CDSM - 1	
35	805-6021	2-1/4 OD x .240W CDSM - 1-3/8	
36	805-7608	2-1/2 OD x .365W CDSM - 1-3/8	
37	827-0077	Pin, 1-1/4" OD, CR 1045, 5", End Threaded 1" UNC	
38	827-0078	Pin, 1-1/4" OD, CR 1045, 6-1/8", End Threaded 1" UNC	
39	805-6005	Pull Lug Spacer, 1/4"	
40	807-3654	Swing Arm Shaft, Bolt In, 1045	

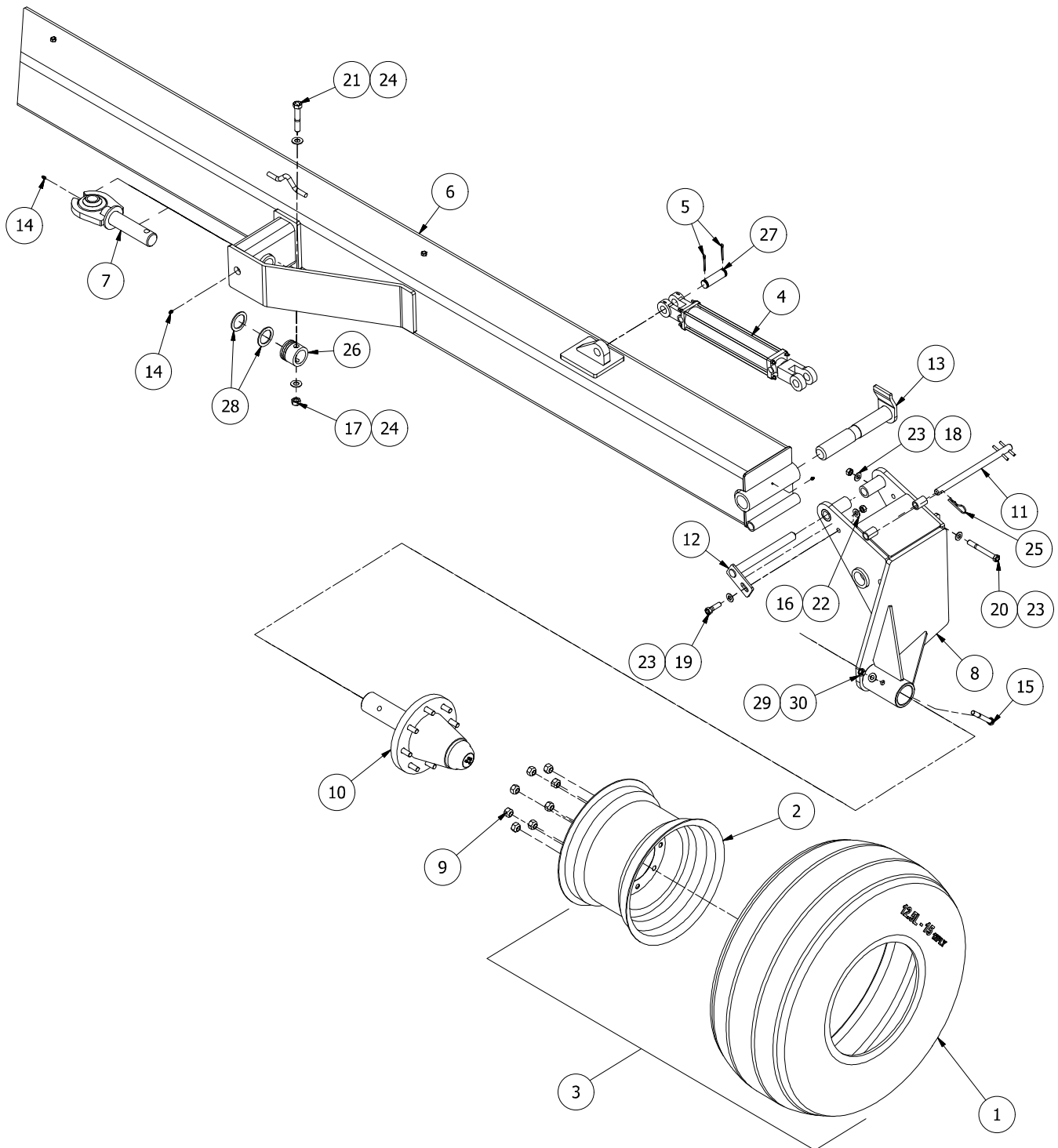
A-Frame Auto Fold - 82, 90



A-Frame - Auto Fold - 82, 90

Item	Part No.	Description	Qty
1	105-1259	Draft Arm Pull Lug Pin, Extended (1-1/4")	
2	105-1310	Left Wing - 90' - Model 5-90.....	
	105-1311	Right Wing - 90' - Model 5-90	
2A	105-1253	Left Wing - 82' - Model 7-82	
	105-1254	Right Wing - 82' - Model 7-82	
3	105-1330	A-Frame (X-Style)	
4	110-1249	Draft Arm (1-1/4" Dia.).....	
5	110-1254	Centre Bar (2-1/2" Dia. Pin)	
6	110-1291	Right Lock Arm	
	110-1292	Left Lock Arm	
7	112-0323	Lock Arm	
8	105-1326	Tie Bar - 90' - Model 5-90	
	112-0486	Tie Bar - 82' - Model 7-82	
9	112-0487	Swing Arm - 90'.....	
10	112-0504	Draft Arm Clevis Weldment (1-1/4" Dia Bolt)	
11	113-0071	2-1/2" Dia. Knuckle Weldment	
12	123-3801	2-1/2" Dia. Knuckle Pin Weldment	
13	403-0267	1-1/2" x 12-1/2" Auto Fold Spring.....	
14	410-0213	1/4 x 122" Cable C/W Turn Buckle & 2 Jaws	
15	416-0004	1/4 Grease Zerk, Straight.....	
16	526-0824	1/2 x 3 Capscrew, NC, Gr.5, Pltd.	
17	526-1052	5/8 x 6-1/2 Capscrew, NC, Gr.5, Pltd.	
18	526-1644	1 x 5-1/2 Capscrew, NC, Gr.5, Pltd.	
19	526-6103	3/8" Stover Lock Nut, NC, Gr.5, Pltd.	
20	526-6105	1/2" Stover Lock, NC, Gr.5, Pltd.	
21	526-6106	5/8" Stover Lock Nut, NC, Gr.5, Pltd.	
22	526-6109	1" Stover Lock Nut, NC, Gr.5, Pltd.	
23	526-6210	5/8" Hex Nut, NC, Gr.5, Pltd.	
24	530-1000	5/8 x 3 Capscrew, NC, Gr.8, Pltd.	
25	530-1246	Bolt, 3/4-10 Unc - 1.5, Gr.8, Yellow Zinc Plated.....	
26	546-0199	3/8" x 4 Eye Bolt, NC, Pltd.	
27	550-5206	3/8" Flat Washer, Pltd.....	
28	550-5212	3/4" Flat Washer, Pltd.....	
29	550-5316	Washer, Flat, 1" - SAE, Gr.5, Yellow Zinc Plated	
30	551-5010	5/8" Spring Lock Washer, Pltd.....	
31	558-2059	5/32" x 2-5/16" #7 Hitch Pin Clip, Pltd.	
32	560-0808	1/2" x 1-3/4" Clevis Pin (Jumbo)	
33	805-6005	Pull Lug Spacer, 1/4".....	
34	805-6014	2-1/4" x 3/4" Spacer	
35	805-6021	2-1/4" x 1-3/8" Swing Arm Offset Lock Collar	
36	805-7608	2-1/2" x 1-3/8" Collar.....	
37	827-0077	Pin, 1-1/4" OD x 5" Lg End Threaded 1"UNC.....	
38	827-0078	Pin, 1-1/4" OD x 6-1/8" Lg End Threaded 1"UNC.....	
39	835-2001	20 Ga. Sheet - 10-1/4" x 1-1/2" Shim	

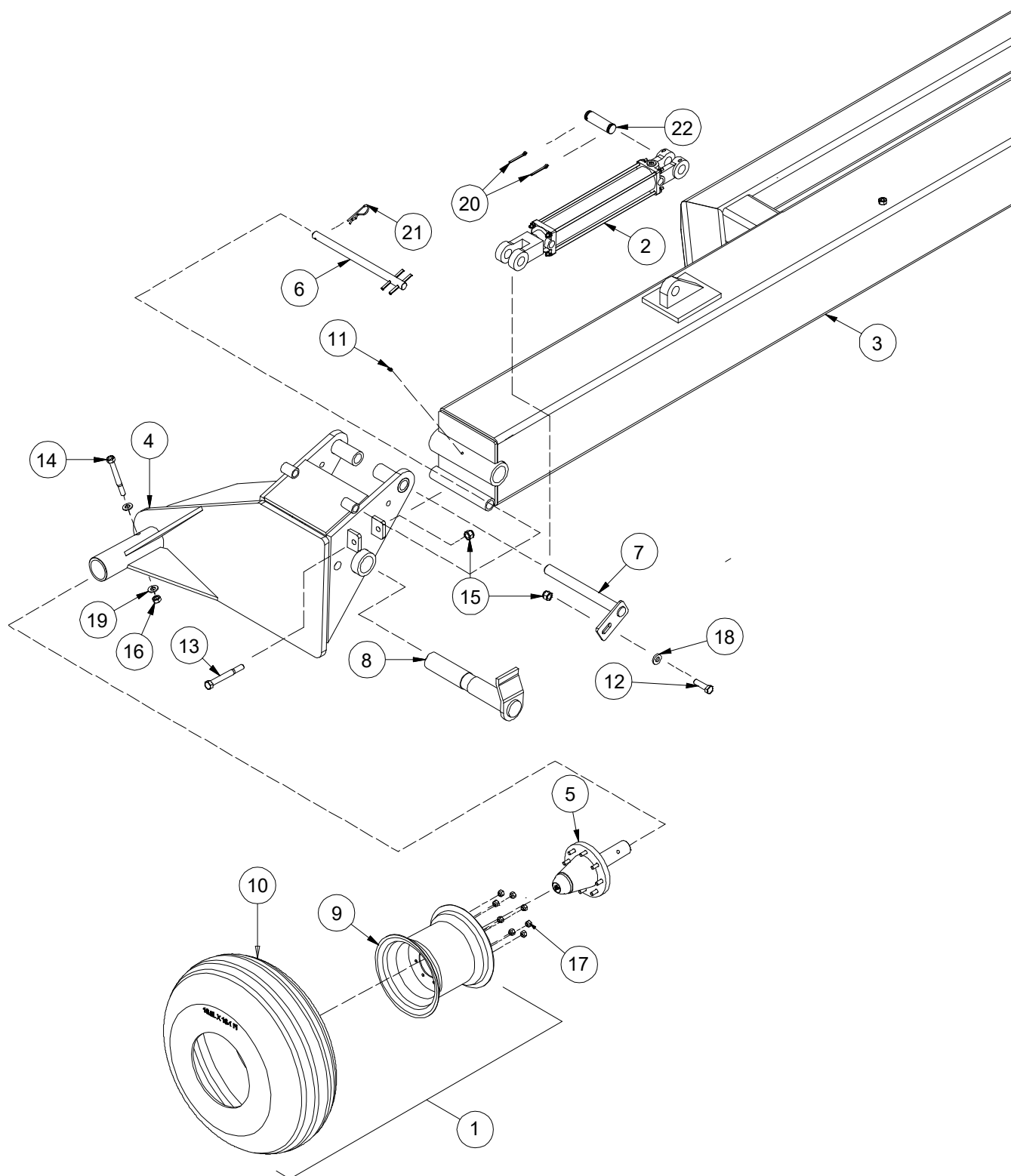
Wings Steering - 55, 58, 68, 72, 78



Wings - Steering - 55, 58, 68, 72, 78

Item	Part No.	Description	Qty
1	205-1193	12.5L x 15 Tire - 8 Ply Tire	
2	204-5586	Wheel Rim 15 x 10 - 8 Bolt.....	
3	020-0142	Tire and Wheel Assembly (Includes items 1 and 2)	
4	030-5979	2 x 12 Hydraulic Cylinder, 22.25" RI.....	
5	556-0906	3/16 x 1-3/4 Cotter Pin	
6	105-1304	Wing - Left - 55' - Model 5-55	
	105-1305	Wing - Right - 55' - Model 5-55	
6A	105-1306	Wing - Left - 68' - Model 5-68	
	105-1307	Wing - Right - 68' - Model 5-68	
6B	105-1308	Wing - Left - 78' - Model 5-78	
	105-1309	Wing - Right - 78' - Model 5-78	
6C	105-1206	Wing - Left - 58' - Model 7-58.....	
	105-1207	Wing - Right - 58' - Model 7-58	
6D	105-1216	Wing - Left - 72' - Model 7-72.....	
	105-1217	Wing - Right - 72' - Model 7-72	
7	105-1259	Draft Arm Pull Lug Pin, Extended (1-1/4")	
8	120-1238	Left Wing Axle Weldment.....	
	120-1239	Right Wing Axle Weldment.....	
9	543-5563	9/16 Wheel Nut, NF, Gr.5, Pltd.....	
10	120-1246	812 Hub & Spindle Assembly.....	
11	123-1807	3/4" x 11-1/2" Wheel Tee Lock Pin.....	
12	123-2222	Wing Axle Cylinder Lock Pin Wld.	
13	123-3204	1-3/4 x 11-1/4 Knuckle Lock Pin	
14	419-0004	Grease Zerk, 1/4"NF - Straight	
15	526-0932	Bolt, 9/16-12 UNC - 4, Gr.5, Yellow Zinc Plated	
16	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated	
17	526-6106	Nut, Stover Lock, 5/8-11 UNC, Gr.5, Yellow Zinc Plated	
18	526-7308	1/2 Stover Lock Nut, NC, Gr.8, Pltd.	
19	530-0742	Bolt, 1/2-13 UNC - 1.75, Gr.8, Yellow Zinc Plated	
20	530-0772	Bolt, 1/2-13 UNC - 4.5, Gr.8, Yellow Zinc Plated.....	
21	530-1000	Bolt, 5/8-11 UNC - 3.5, Gr.8, Yellow Zinc Plated	
22	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated	
23	550-5613	Washer, Flat, 1/2 SAE, Gr.8, Yellow Zinc Plated	
24	550-5617	Washer, Flat, 5/8 SAE, Gr.8, Yellow Zinc Plated	
25	558-2057	#9 Hitch Pin Clip, Pltd.	
26	805-7608	2-1/2 OD x .365W CDSM - 1-3/8.....	
27	807-2809	1 x 3-3/8 Cylinder Pin,	
28	839-1961	Pull Lug Spacer, 1/4".....	
29	550-5309	Washer, Flat, 9/16" - SAE, Gr.5, Yellow Zinc Plated	
30	526-6112	Nut, Stover Lock, 9/16-12 UNC, Gr.5, Yellow Zinc Plated	

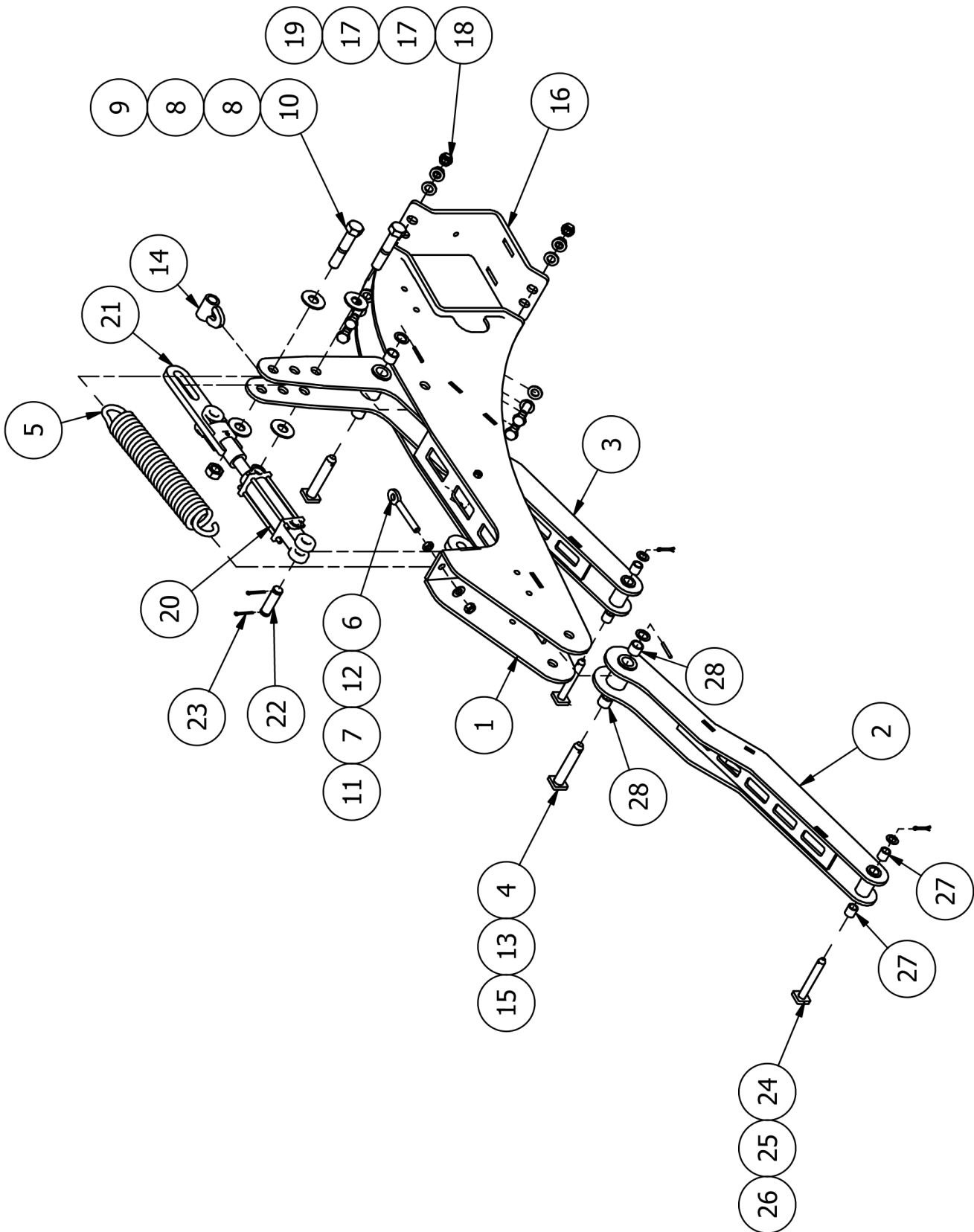
Wings Steering - 82, 90



Wings - Steering - 82, 90

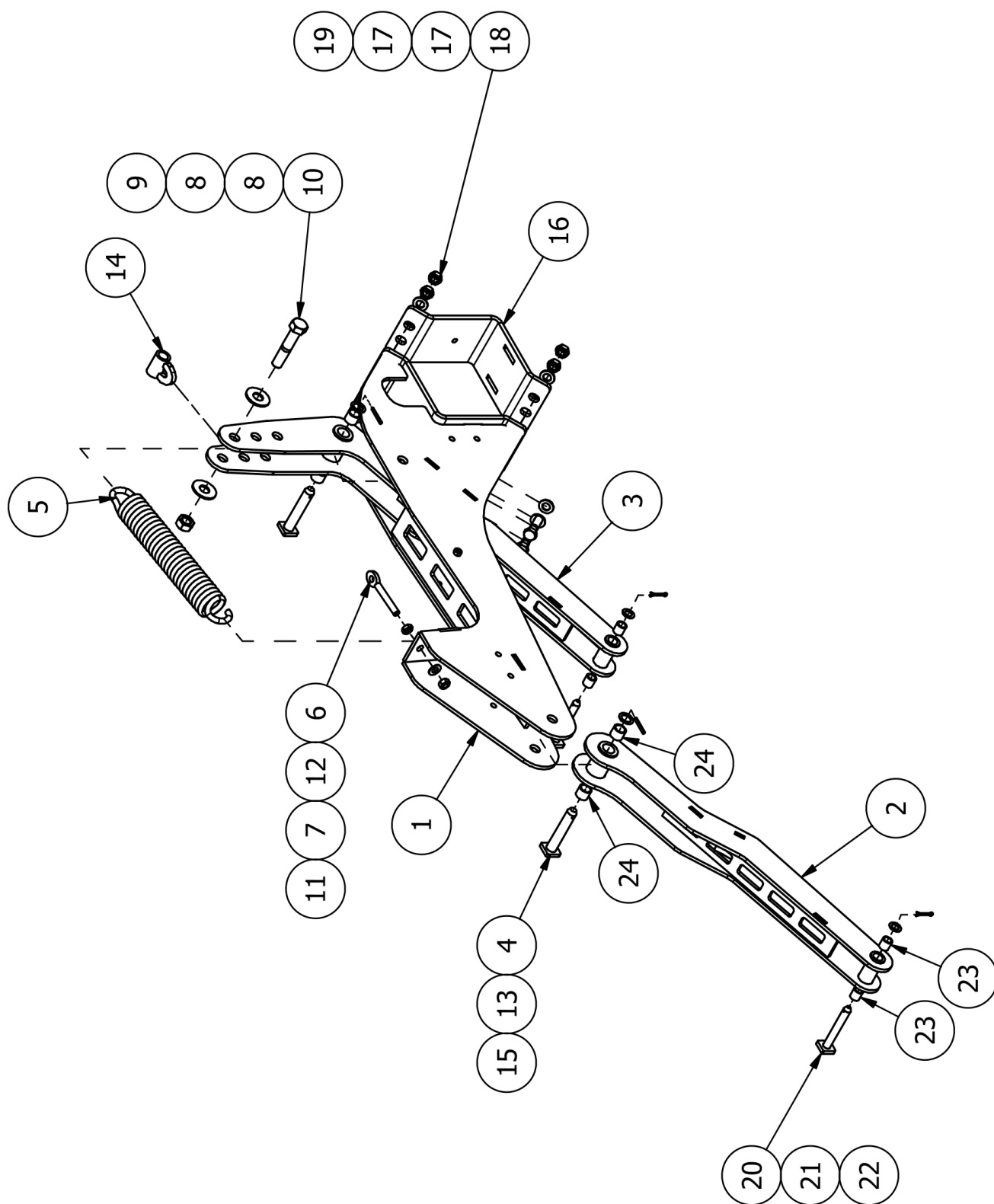
Item	Part No.	Description	Qty
1	020-0105	16.5 - 16.1 8 Bolt Tire and Wheel Assembly	
2	030-5978	2 x 12 Hydraulic Cylinder, 22.25" RL.....	
3	105-1310	Left Wing - 90' - Model 5-90.....	
	105-1311	Right Wing - 90' - Model 5-90	
3A	105-1253	Left Wing - 82' - Model 7-82	
	105-1254	Right Wing - 82' - Model 7-82	
4	113-0073	Wing Axle Spindle - Left.....	
	113-0084	Wing Axle Spindle - Right	
5	120-1246	812 Hub & Spindle Assembly	
6	123-1807	3/4" x 11-1/2" Wheel Tee Lock Pin.....	
7	123-2222	Wing Axle Cylinder Lock Pin Wld.	
8	123-3204	1-3/4 x 11-1/4 Knuckle Lock Pin	
9	204-5585	W14C x 16.1" - 8 Hole Wheel, 3/8" Offset	
10	205-1192	16.5 x 16.1 6 Ply Tire	
11	419-0004	Grease Zerk, 1/4"Nf - Straight	
12	526-0814	Bolt, 1/2-13 UNC - 1.75, Gr.8, Yellow Zinc Plated	
13	526-0836	Bolt, 1/2-13 UNC - 4.5, Gr.8, Yellow Zinc Plated.....	
14	526-0932	Bolt, 9/16-12 UNC - 4, Gr.5, Yellow Zinc Plated	
15	526-6105	Nut, Stover Lock, 1/2-13 Unc, Gr.5, Yellow Zinc Plated	
16	526-6112	Nut, Stover Lock, 9/16-12 Unc, Gr.5, Yellow Zinc Plated	
17	543-5563	9/16 Wheel Nut, Nf, Gr.5, Pltd.	
18	550-5208	Washer, Flat, 1/2 SAE, Gr.8, Yellow Zinc Plated	
19	550-5309	Washer, Flat, 9/16" - SAE, Gr.5, Yellow Zinc Plated	
20	556-0906	3/16 x 1-3/4 Cotter Pin Pltd.....	
21	558-2057	#9 Hitch Pin Clip, Pltd.	
22	807-2809	1 x 3-3/8 Cylinder Pin, Pltd.	

Lift Arms Center



Lift Arms - Center			
Item	Part No.	Description	Qty
1	105-1344	Lift Arm, Profiled, Extended	
2	160-0728	Link, Idler W/ Bushings	
3	160-0729	Link, Driven W/ Bushings	
4	105-1343	Harrow Pin, Dia 1 x 4 5/8 Usable Lg	
5	403-0282	Extension Spring, .562 Dia x 3" x 19-12" Out to Out	
6	546-0219	Bolt, Spade, 5/8-11 NC, Gr. 5 - 4" Lg	
7	550-5310	Washer, Flat, 5/8" - SAE, Gr.5, Yellow Zinc Plated	
8	550-5216	Washer, Flat, 1" - USS, Gr.5, Yellow Zinc Plated	
9	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated	
10	526-1640	Bolt, 1-8 Unc - 5, Gr.5, Yellow Zinc Plated	
11	526-7310	Nut, Stover Lock, 5/8-11 UNC, Gr.8, Yellow Zinc Plated	
12	525-6110	Nut, Jam, Hex, Inch, Grade 5, Yellow Zinc Plated	
13	554-5405	Machinery Bushing, 1 ID x 14 Ga, Pltd.	
14	105-1164	Lug, Ext Spring Kit	
15	556-1621	1/4 x 2 Roll Pin, Pltd.....	
16	839-2099	Lift Arm V Clamp	
17	550-5312	Washer, Flat, 3/4" - SAE, Gr.5, Yellow Zinc Plated	
18	526-6107	Nut, Stover Lock, 3/4-10 UNC, Gr.5, Yellow Zinc Plated	
19	526-1222	Bolt, 3/4-10 UNC - 2.75, Gr.5, Yellow Zinc Plated.....	
20	030-5904	2 x 4 Cyl - 112 Body	
21	105-1250	Helper Cylinder Clevis Weldment.....	
22	807-2809	1 x 3-3/8 Cylinder Pin, Pltd.	
23	556-0906	3/16 x 1-3/4 Cotter Pin Pltd.....	
24	105-1163	Harrow Pin, Dia 3/4 x 4 3/4 Usable Lg	
25	554-5414	Machinery Bushing, 3/4 ID x 14 Ga, Pltd.	
26	556-0612	Cotter Pin, 3/16 x 1 1/2, Zinc Plated.....	
27	610-0021	Bushing, 0.75 x 1 x 1	
28	610-0014	Bushing, 1 x 1.26 x 1	

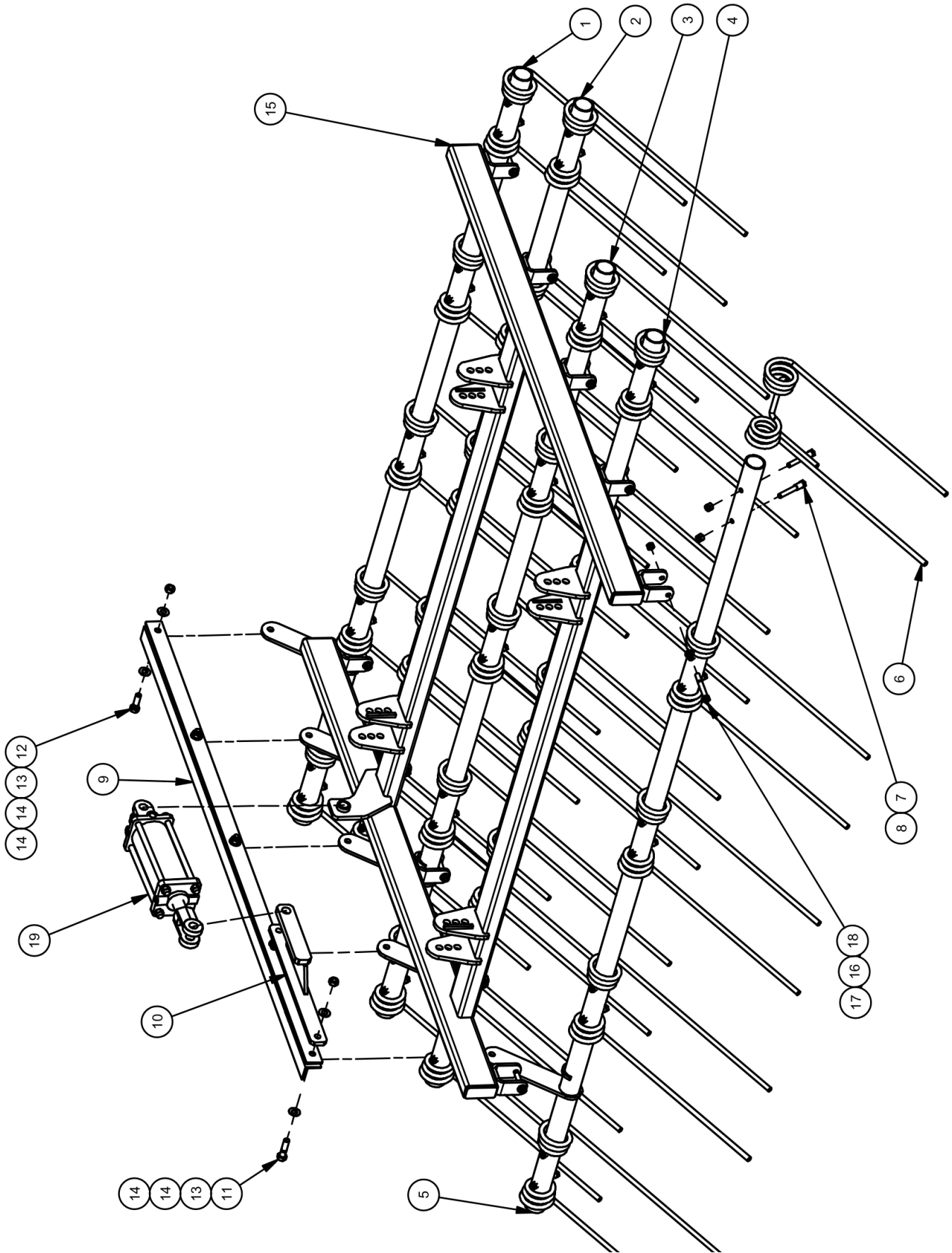
Lift Arms Wings



Lift Arms - Wings

Item	Part No.	Description	Qty
1	105-1342	Lift Arm, Profiled	
2	160-0728	Link, Idler W/ Bushings	
3	160-0729	Link, Driven W/ Bushings	
4	105-1343	Harrow Pin, Dia 1 x 4 5/8 Usable Lg	
5	403-0282	Extension Spring, .562 Dia x 3" x 19-12" Out to Out	
6	546-0219	Bolt, Spade, 5/8-11 NC, Gr. 5 - 4" Lg	
7	550-5310	Washer, Flat, 5/8" - SAE, Gr.5, Yellow Zinc Plated	
8	550-5216	Washer, Flat, 1" - USS, Gr.5, Yellow Zinc Plated	
9	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated	
10	526-1640	Bolt, 1-8 UNC - 5, Gr.5, Yellow Zinc Plated	
11	526-7310	Nut, Stover Lock, 5/8-11 UNC, Gr.8, Yellow Zinc Plated	
12	525-6110	Nut, Jam, 5/8-11 UNC, Gr.5, Yellow Zinc Plated	
13	554-5405	Machinery Bushing, 1 ID x 14 Ga, Pltd.	
14	105-1164	Lug, Ext Spring Kit	
15	556-1621	1/4 x 2 Roll Pin, Pltd.	
16	839-2099	Lift Arm V Clamp	
17	550-5312	Washer, Flat, 3/4" - SAE, Gr.5, Yellow Zinc Plated	
18	526-6107	Nut, Stover Lock, 3/4-10 UNC, Gr.5, Yellow Zinc Plated	
19	526-1222	Bolt, 3/4-10 UNC - 2.75, Gr.5, Yellow Zinc Plated	
20	105-1163	Harrow Pin, Dia 3/4 x 4 3/4 Usable Lg	
21	554-5414	Machinery Bushing, 3/4 ID x 14 Ga, Pltd.	
22	556-0612	Cotter Pin, 3/16 x 1 1/2, Zinc Plated	
23	610-0021	Bushing, 0.75 x 1 x 1	
24	610-0014	Bushing, 1 x 1.26 x 1	

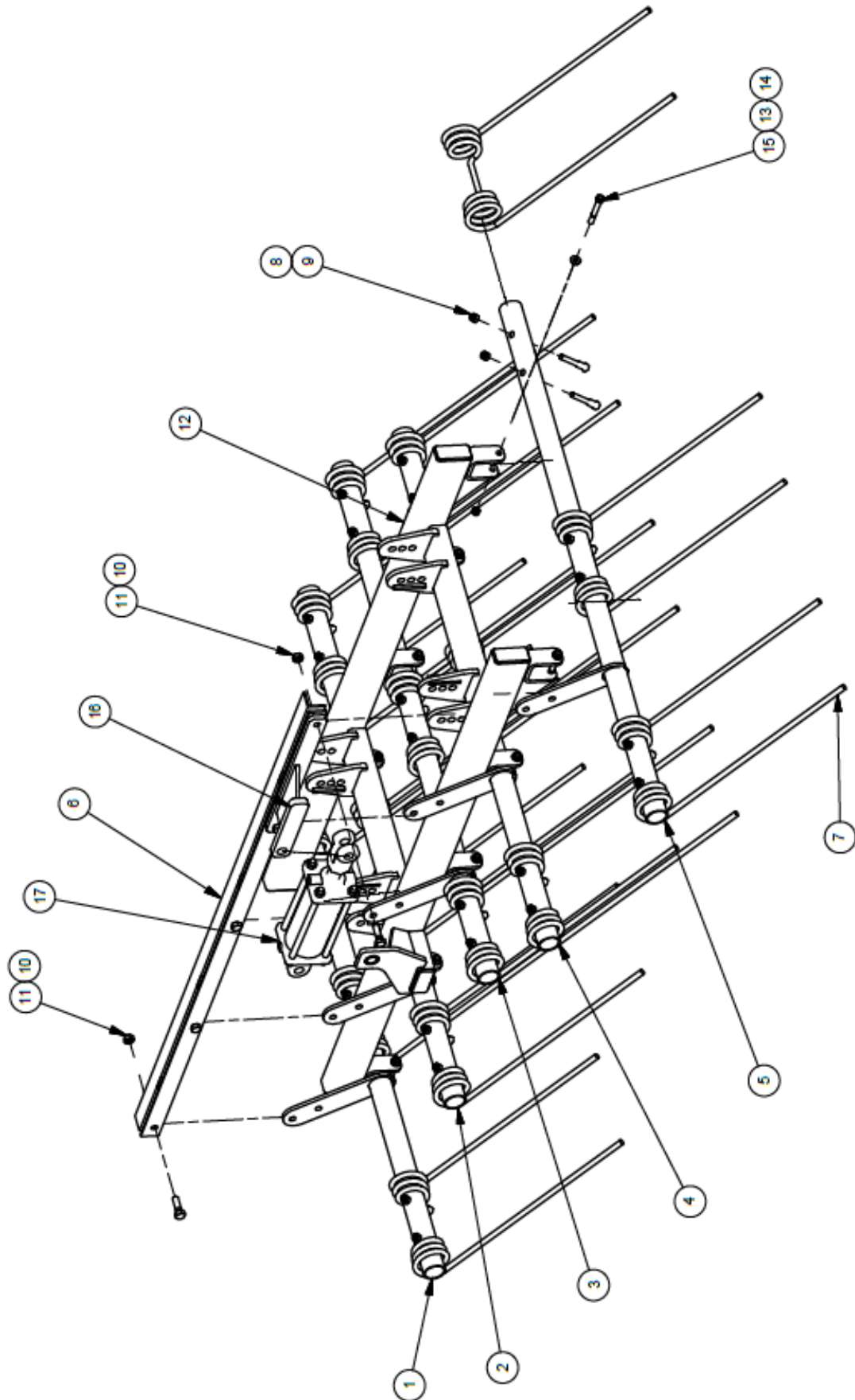
Harrow Sections 5 Bar - 11 ft Section



Harrow Sections - 5 Bar - 11 ft Section

Item	Part No.	Description
	160-0584	Harrow Section, 5-Bar, 11'
1	105-1333	5 Bar, Pipe 1, 11' Universal Pipe
2	105-1334	5 Bar, Pipe 2, 11' Universal Pipe
3	105-1335	5 Bar, Pipe 3, 11' Universal Pipe
4	105-1336	5 Bar, Pipe 4, 11' Universal Pipe
5	105-1337	5 Bar, Pipe 5, 11' Universal Pipe
6	404-0035	9/16" x 28" Harrow Tine, W/ Wear Guard
7	545-0015	1/2 x 3-3/4 High Head Harrow Bolt
8	526-6208	Nut, Nylock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
9	116-8002R1	Harrow Adjusting Linkage
10	112-0132	11' Tine Adjustment Weldment
11	530-1018	Bolt, 5/8-11 UNC - 2.5, Gr.8, Yellow Zinc Plated
12	530-1002	Bolt, 5/8-11 UNC - 2, Gr.8, Yellow Zinc Plated
13	526-7310	Nut, Stover Lock, 5/8-11 UNC, Gr.8, Yellow Zinc Plated
14	550-5617	Washer, Flat, 5/8 SAE, Gr.8, Yellow Zinc Plated
15	105-1072	5 Bar 11' Jumbo Harrow Frame Welded
16	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated
17	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
18	530-0754	Bolt, 1/2-13 UNC - 4, Gr.8, Yellow Zinc Plated
19	Varies	Rephasing Cylinder - See "Hydraulic Schematics" Pages 8-30-8-37

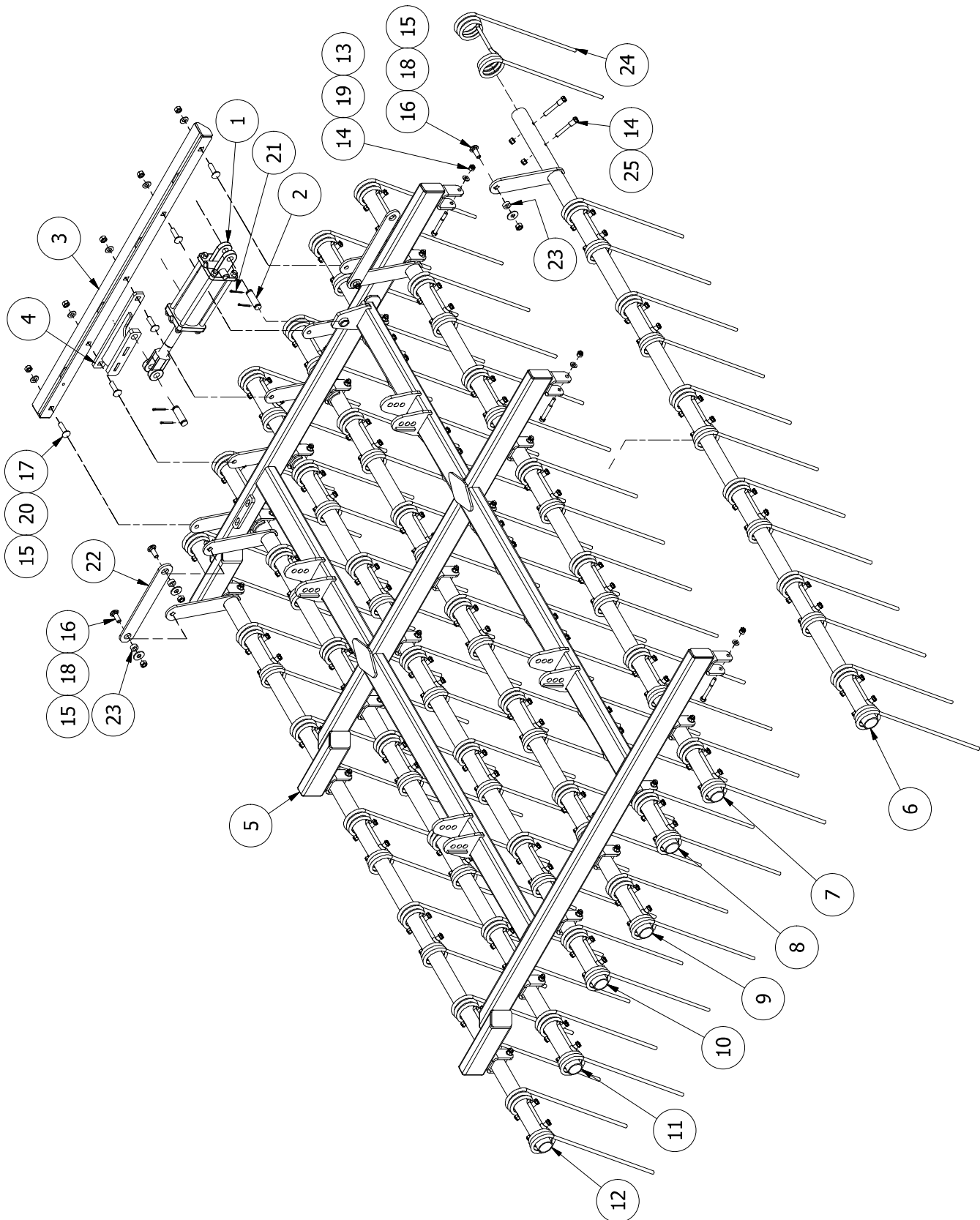
Harrow Sections 5 Bar - 6 1/2 ft Section



Harrow Sections - 5 Bar - 6 1/2 ft Section

Item	Part No.	Description
	160-0585	Harrow Section, 5-Bar, 6-1/2'
1	105-1260	5 Bar, Pipe 1, 6-1/2'
2	105-1261	5 Bar, Pipe 2, 6-1/2'
3	105-1262	5 Bar, Pipe 3, 6-1/2'
4	105-1331	5 Bar, Pipe 4, 6-1/2'
5	105-1332	5 Bar, Pipe 5, 6-1/2'
6	116-8002R1	Harrow Adjusting Linkage
7	404-0035	9/16" x 28" Harrow Tine, W/ Wear Guard
8	545-0015	1/2 x 3-3/4 High Head Harrow Bolt
9	526-7008	Nut, Nylock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
10	526-1016	Bolt, 5/8-11 UNC - 2, Gr.5, Yellow Zinc Plated
11	526-6106	Nut, Stover Lock, 5/8-11 UNC, Gr.5, Yellow Zinc Plated
12	105-1073	6-1/2' Jumbo Harrow Frame Welded
13	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated
14	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
15	530-0754	Bolt, 1/2-13 UNC - 4, Gr.8, Yellow Zinc Plated
16	112-0132	11' Tine Adjustment Weldment
17	Varies	Rephasing Cylinder - See "Hydraulic Schematics" Pages 8-30-8-37

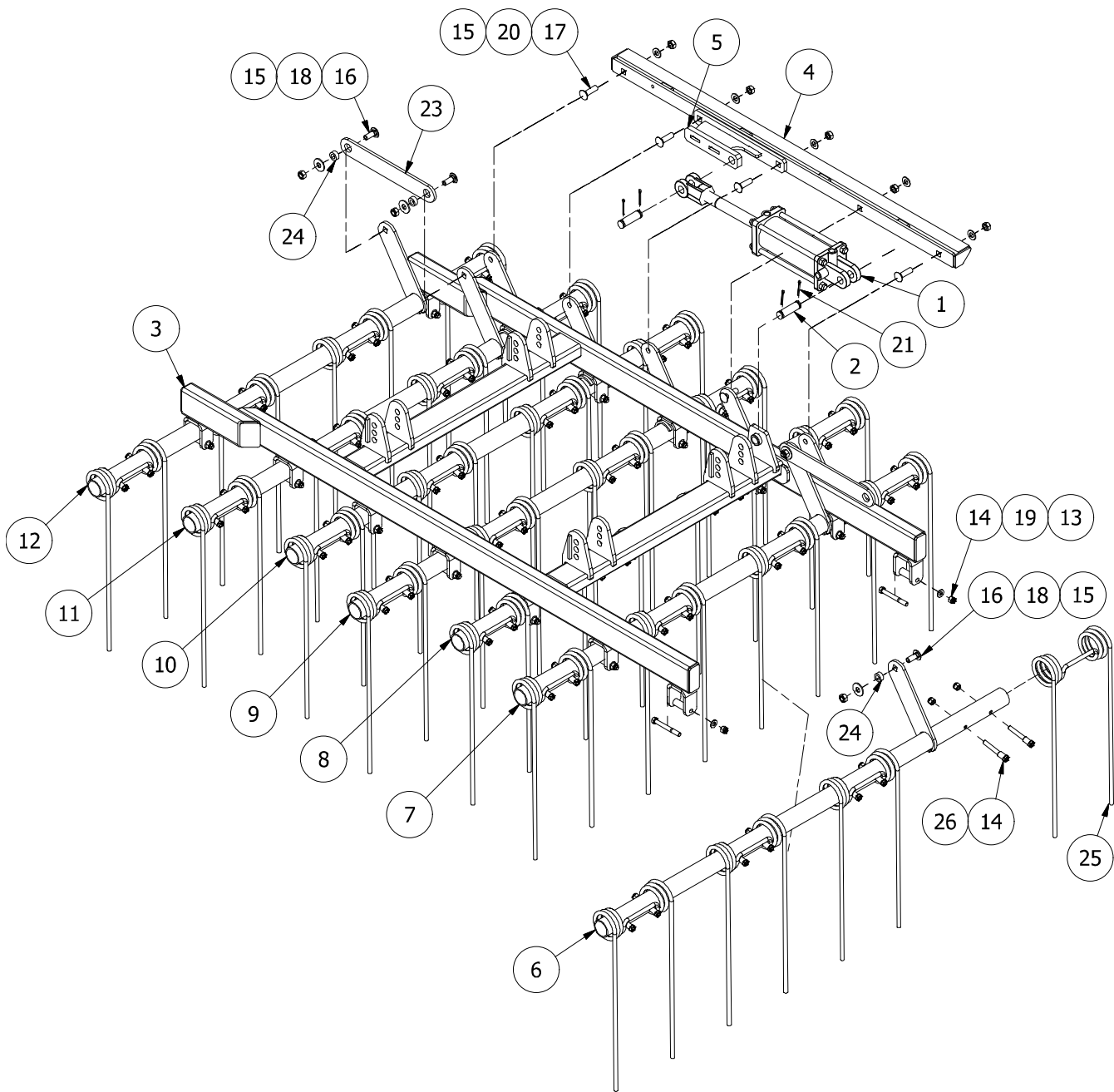
Harrow Sections 7 Bar - 11 1/2 ft Section



Harrow Sections - 7 Bar - 11 1/2 ft Section

Item	Part No.	Description
	160-0646	Harrow Section, 7-Bar, 11-1/2'
1	Varies	Cylinder, Rephasing - See Cylinders Section
2	560-1614	1" x 3-1/2" Cylinder Pin
3	105-1167	Linkage, Harrow Tine Angle Adj.
4	105-1168	Lug, Harrow Tine Angle Adj.
5	105-1181	Harrow Section, Frame, 7-Bar, 11-1/2'
6	105-1184	Tine Bar, 7-Bar, 11-1/2', A, 13-1/4" (Square Hole)
7	105-1185	Tine Bar, 7-Bar, 11-1/2', B, 14-11/16" (2 Lugs)
8	105-1186	Tine Bar, 7-Bar, 11-1/2', C, 17-9/16"
9	105-1187	Tine Bar, 7-Bar, 11-1/2', D, 13-1/4" (Round Hole)
10	105-1188	Tine Bar, 7-Bar, 11-1/2', E, 16-1/8"
11	105-1189	Tine Bar, 7-Bar, 11-1/2', F, 11-13/16" (2 Lugs)
12	105-1190	Tine Bar, 7-Bar, 11-1/2', G, 13-13/16"
13	526-0833	Bolt, 1/2-13 Unc - 4.25, Gr.5, Yellow Zinc Plated
14	526-7008	Nut, Nylock, 1/2-13 Unc, Gr.5, Yellow Zinc Plated
15	526-7310	Nut, Stover Lock, 5/8-11 Unc, Gr.8, Yellow Zinc Plated
16	542-1014	Carriage Bolt, 5/8-11 Unc - 1.75, Gr.5, Yellow Zinc Plated
17	542-1018	Carriage Bolt, 5/8-11 Unc - 2.25, Gr.5, Yellow Zinc Plated
18	550-5210	Washer, Inch, Yellow Zinc Plated
19	550-5308	Washer, Flat, 1/2" - Sae, Gr.5, Yellow Zinc Plated
20	550-5617	Washer, Flat, 5/8 Sae, Gr.8, Yellow Zinc Plated
21	556-0906	3/16 x 1-3/4 Cotter Pin Pltd
22	839-1866	Link Plate, Tine Angle Adj.
23	839-1932	Bushing Profile, Tine Angle Linkage
24*	404-0040	Harrow Tine, 1/2" T x 10 1/6" W x 24" H
24*	404-0039	Harrow Tine, 1/2" T x 10 1/6" W x 24" H, W/ Wear Guard
25	545-0015	1/2 x 3-3/4 High Head Harrow Bolt

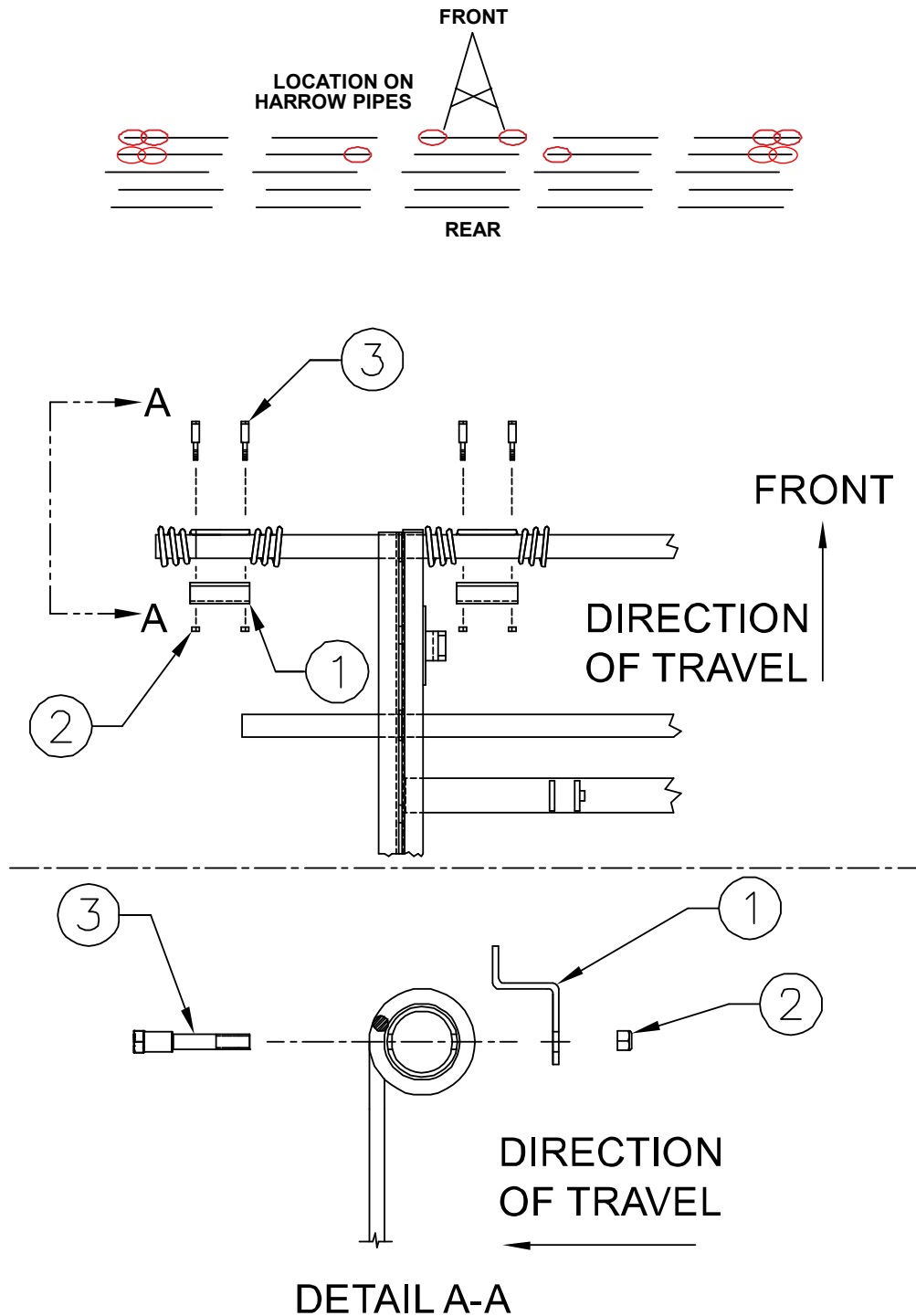
Harrow Sections 7 Bar - 6 1/2 ft Section



Harrow Sections - 7 Bar - 6 1/2 ft Section

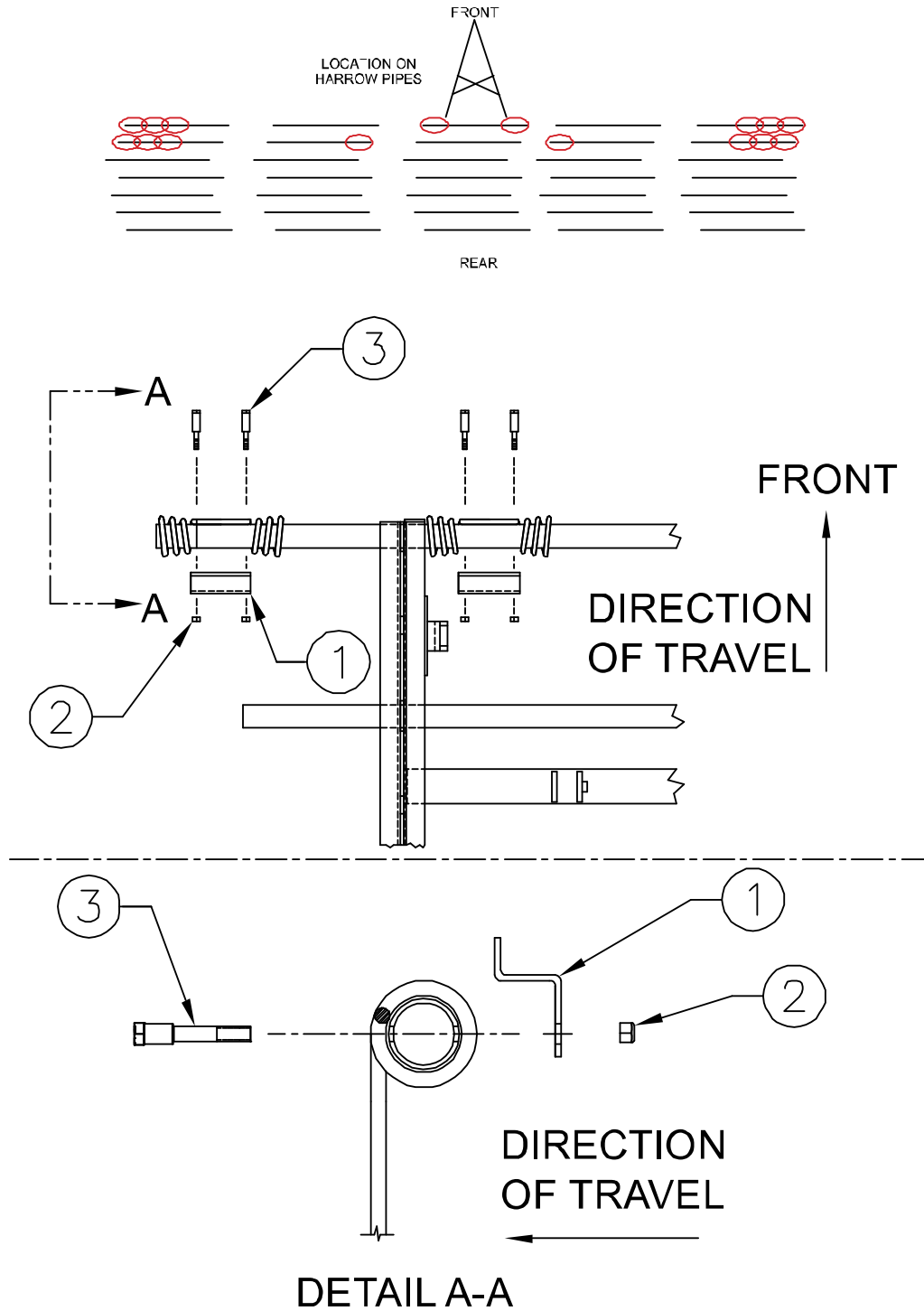
Item	Part No.	Description
	160-0637	Harrow Section, 7-Bar, 6 1/2'
1	Varies	Cylinder, Rephasing - See Cylinders Section
2	560-1614	1" x 3-1/2" Cylinder Pin
3	105-1166	Harrow Section, Frame, 7-Bar, 6-1/2'
4	105-1167	Linkage, Harrow Tine Angle Adj.
5	105-1168	Lug, Harrow Tine Angle Adj.
6	105-1171	Tine Bar, 7-Bar, 6-1/2'; A, 13-1/4" (Square Hole)
7	105-1172	Tine Bar, 7-Bar, 6-1/2'; B, 14-11/16" (2 Lugs)
8	105-1173	Tine Bar, 7-Bar, 6-1/2'; C, 17-9/16"
9	105-1174	Tine Bar, 7-Bar, 6-1/2'; D, 13-1/4" (Round Hole)
10	105-1175	Tine Bar, 7-Bar, 6-1/2'; E, 16-1/8"
11	105-1176	Tine Bar, 7-Bar, 6-1/2'; F, 11-13/16" (2 Lugs)
12	105-1177	Tine Bar, 7-Bar, 6-1/2'; G, 13-13/16"
13	526-0833	Bolt, 1/2-13 Unc - 4.25, Gr.5, Yellow Zinc Plated
14	526-7008	Nut, Nylock, 1/2-13 Unc, Gr.5, Yellow Zinc Plated
15	526-7310	Nut, Stover Lock, 5/8-11 Unc, Gr.8, Yellow Zinc Plated
16	542-1013	Carriage Bolt, 5/8-11 Unc - 1.75, Gr.5, Yellow Zinc Plated
17	542-1018	Carriage Bolt, 5/8-11 Unc - 2.25, Gr.5, Yellow Zinc Plated
18	550-5210	Washer, Inch, Yellow Zinc Plated
19	550-5308	Washer, Flat, 1/2" - Sae, Gr.5, Yellow Zinc Plated
20	550-5310	Washer, Flat, 5/8" - Sae, Gr.5, Yellow Zinc Plated
22	825-0303	Harrow Frame C-Bracket Bushing
23	839-1866	Link Plate, Tine Angle Adj.
24	839-1932	Bushing Profile, Tine Angle Linkage
25*	404-0040	Harrow Tine, 1/2" T x 10 1/6" W x 24" H
25*	404-0039	Harrow Tine, 1/2" T x 10 1/6" W x 24" H, W/ Wear Guard
26	545-0015	1/2 x 3-3/4 High Head Harrow Bolt

Harrow Sections 5 Bar - Tine Retainers



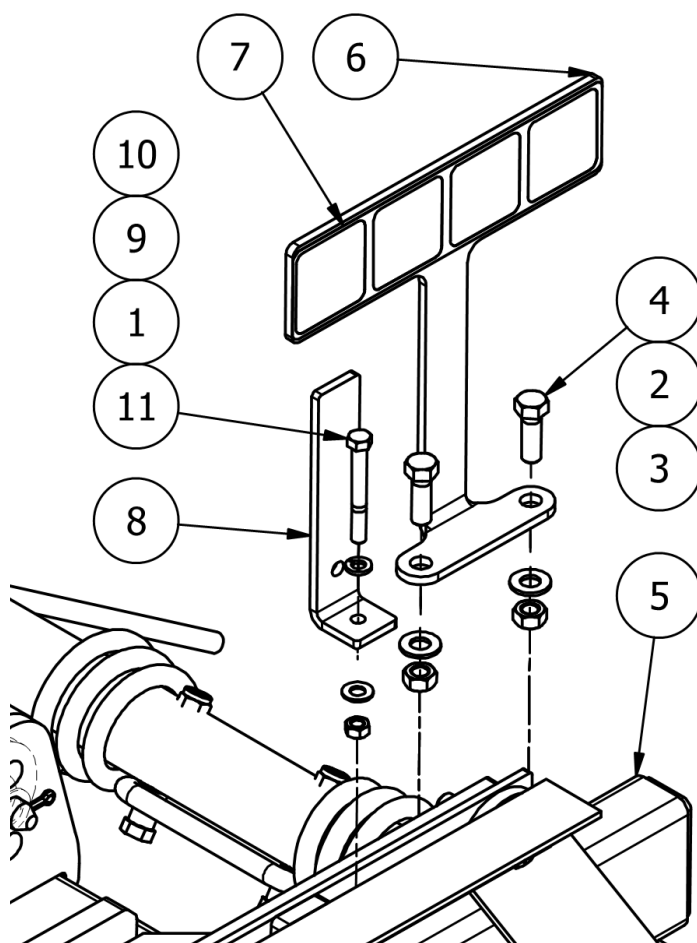
Item	Part No.	Description
1*	112-0595	Universal Tine Retainer Clip Weldment
1*	839-1832	Tine Retainer, 5 Bar
2	526-6105	1/2" Stover Lock Nut, NC, Gr.5, Pltd.
3	545-0015	1/2" x 3-3/4" High Harrow Head Bolt, NC, Gr.5, Pltd.

Harrow Sections 7 Bar - Tine Retainers



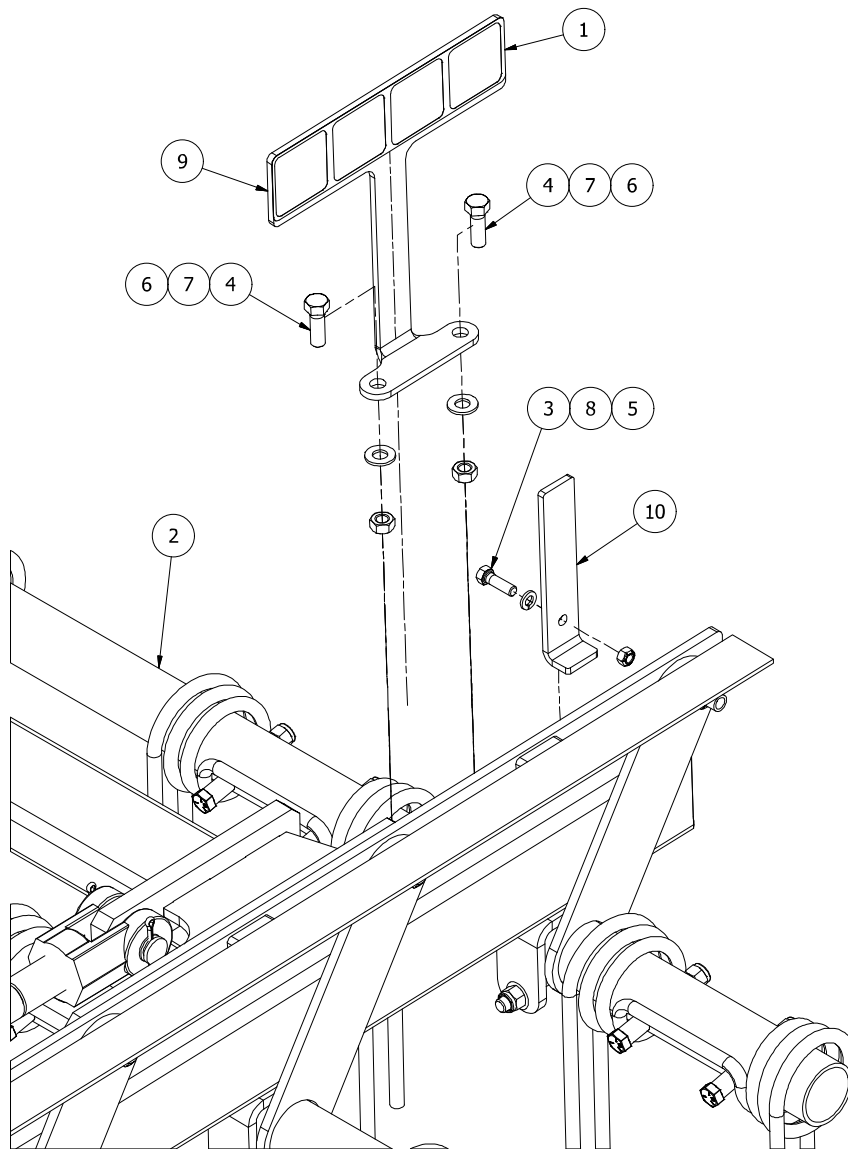
Item	Part No.	Description
1	839-1879	Tine Retainer, 7 Bar
2	526-6105	1/2" Stover Lock Nut, NC, Gr.5, Pltd.
3	545-0015	1/2" x 3-3/4" High Harrow Head Bolt, NC, Gr.5, Pltd.

Harrow Sections 5 Bar - Tine Angle Indicator



Item	Part No.	Description
1	526-6103	Nut, Stover Lock, 3/8-16 UNC, Gr.5, Yellow Zinc Plated
2	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
3	550-5308	Washer, Flat, 1/2" - SAE, Gr.5, Yellow Zinc Plated
4	526-0812	Bolt, 1/2-13 UNC - 1.5, Gr.5, Yellow Zinc Plated
5	VARIES	Outer Most 11' Harrow Section
6	839-1242	Tine Adj. Sign Background
7	060-0091	1234 Harrow Tine Decal
8	839-1881	Plate, Indicator, Tine Angle
9	551-5006	Washer, Spring, Inch, Yellow Zinc Plated
10	550-5306	Washer, Flat, 3/8" - SAE, Gr.5, Yellow Zinc Plated
11	526-0624	Bolt, 3/8-16 UNC - 3, Gr.5, Yellow Zinc Plated

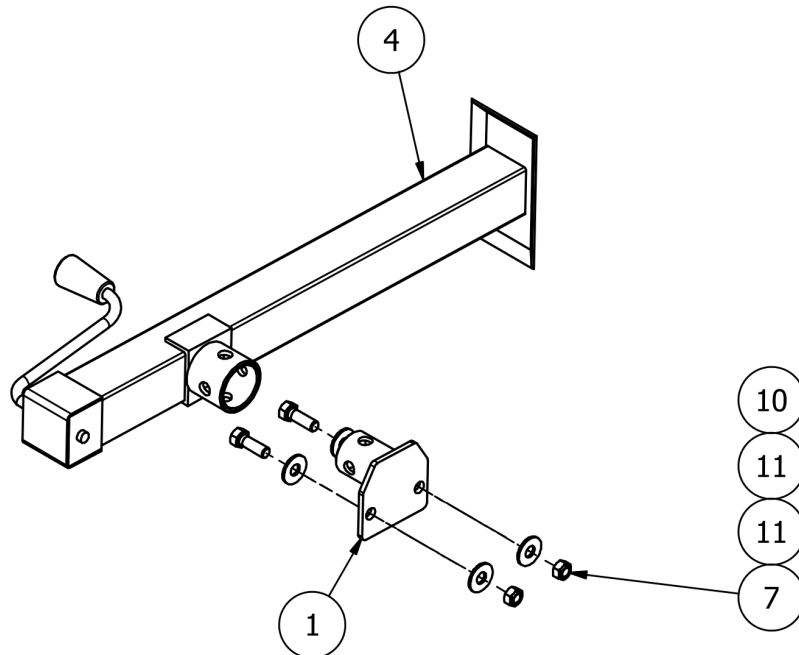
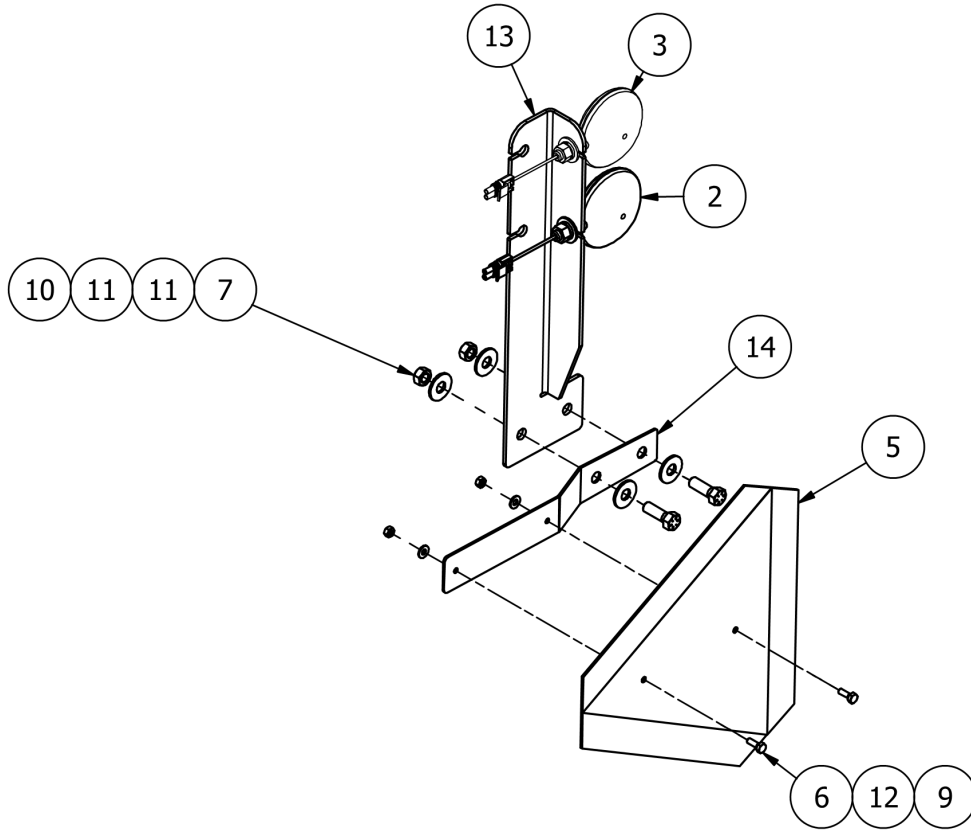
Harrow Sections 7 Bar - Tine Angle Indicator



Item	Part No.	Description
1	060-0091	1234 Harrow Tine Decal
2	Varies	Harrow Section, 5-Bar
3	526-0610	Bolt, 3/8-16 Unc - 1.25, Gr.5, Yellow Zinc Plated
4	526-0812	Bolt, 1/2-13 Unc - 1.5, Gr.5, Yellow Zinc Plated
5	526-6103	Nut, Stover Lock, 3/8-16 Unc, Gr.5, Yellow Zinc Plated
6	526-6105	Nut, Stover Lock, 1/2-13 Unc, Gr.5, Yellow Zinc Plated
7	550-5308	Washer, Flat, 1/2" - Sae, Gr.5, Yellow Zinc Plated
8	551-5006	Washer, Spring, Inch, Yellow Zinc Plated
9	839-1242	Tine Adj. Sign Background
10	839-1881	Plate, Indicator, Tine Angle

Harrow Sections

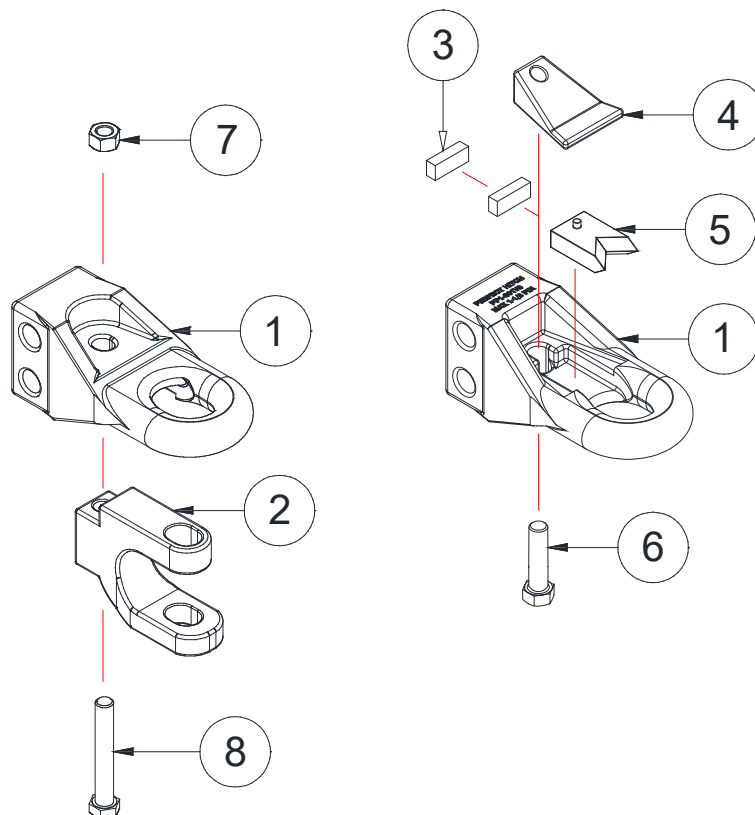
Light Kit - Slow Moving Sign - Jack Storage Mount



Harrow Sections - Light Kit - SMV - Jack Storage Mount

Item	Part No.	Description
1	105-1345	Jack Mount Weldment, Profiled Lift Arm
2	417-0018	Amber Warning Light C/W Hardware
3	417-0019	Red Warning Light C/W Hardware
4	420-0168	5000Lb. 20" Square Sidewind Jack 20.1"RI
5	424-0001	Slow Moving Vehicle Sign (SMV)
6	526-0406	Bolt, 1/4-20 UNC - 0.75, Gr.5, Yellow Zinc Plated
7	526-6105	Nut, Stover Lock, 1/2-13 UNC, Gr.5, Yellow Zinc Plated
8	526-6109	Nut, Stover Lock, 1-8 UNC, Gr.5, Yellow Zinc Plated
9	526-6204	Nut, Hex, Inch, Grade 5, Yellow Zinc Plated
10	530-0740	Bolt, 1/2-13 UNC - 1.5, Gr.8, Yellow Zinc Plated
11	550-5208	Washer, Flat, 1/2" - USS, Gr.5, Yellow Zinc Plated
12	550-5304	Washer, Flat, 1/4" - SAE, Gr.5, Yellow Zinc Plated
13	839-2109	Universal, Light Bracket, Profiled Lift Arm
14	839-2110	Slow Moving Sign Spade, Profiled Lift Arm
	040-0029	Light Kit, 5-68 & 5-78 (Not Shown)
	040-0030	Light Kit, 5-55 (Not Shown)
	040-0040	Light Kit, 5-90 (Not Shown)

Perfect Hitch



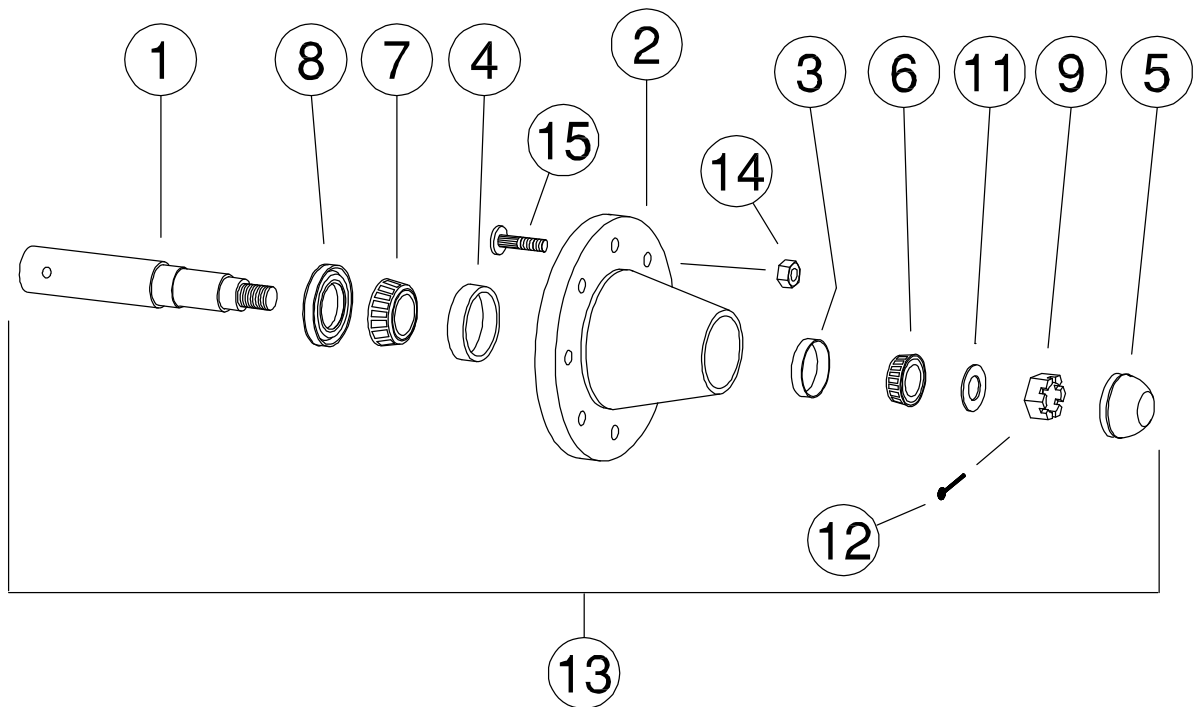
Item	Part No.	Description
1	423-0005	Base Hitch (PP1-301VH)
2	423-0006	Clevis (PP1-208VR-10)
3	423-0019	Neoprene Cushion (PP1-205H)
4	423-0017	Top Plate Perfect Hitch (PP1-302V)
5	423-0018	V-Block (PP1-203VR)
6	526-1224	3/4" x 3" Capscrew, NC, Gr.5, Pltd.
7	526-6107	3/4" Stover Lock Nut, NC, Gr.B, Pltd.
8	526-1241	3/4" x 5-1/2" Capscrew, NC, Gr.5, Pltd.

The sliding V-block has a polyurethane cushion which is made to flex. The cushion also acts as a shock absorber to reduce driveline stress, giving driveline components longer life. **Do not remove all the cushions! Install the perfect hitch components with bolt head on the bottom and the top plate on top.**

Always adjust the V-block to your tractor draw pin size by following these steps:

1. Remove top plate by unscrewing 3/4" bolt from bottom of Perfect Hitch and lifting top plate off.
2. The polyurethane cushion can be laid flat to achieve an extra 1/4" of adjustment.
3. If more closure is needed metal spacers (not supplied) can be placed behind the cushions to push the V-block forward and closer to the draw pin hole to tractor draw pin size.
4. Replace top plate and re-install 3/4" bolt tightly (Approx. 200 ft/lb).

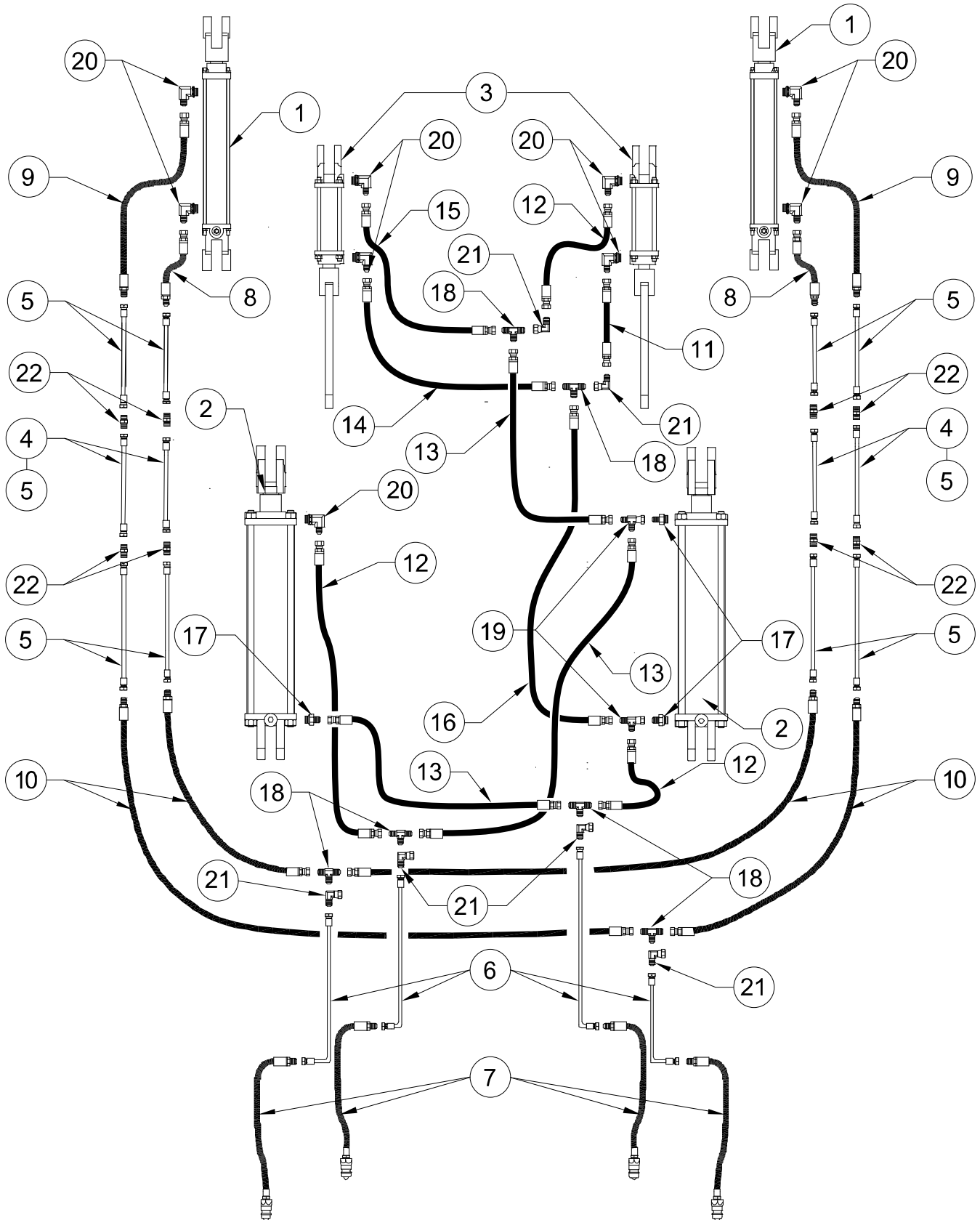
Hub and Spindle



Item	Part No.	Description
1	203-6044	812 Spindle, Dia 2-1/2" x 11-3/4" Long
2	200-6011	812 Hub (Complete)
3	201-6016	Outer Cup LM2720
4	201-6017	Inner Cup 3720
5	202-6013	DC 17 Dust Cap
6	290-6013	Outer Bearing, 2790
7	290-6014	Inner Bearing, 3780
8	295-6016	SE 17 Seal
9	534-7816	1" Castle Nut, NF, Gr.5, Black
11	554-5303	1" Spindle Washer, Black
12	556-0614	3/16" x 1-3/4" Cotter Pin, Pltd.
13	120-1246	812 Hub & Spindle Assembly
14	543-5563	9/16" Wheel Nut, UNF
15	543-5564	9/16" Wheel Stud

Hydraulics Schematics

Hitch - 55, 58, 68, 72, 78

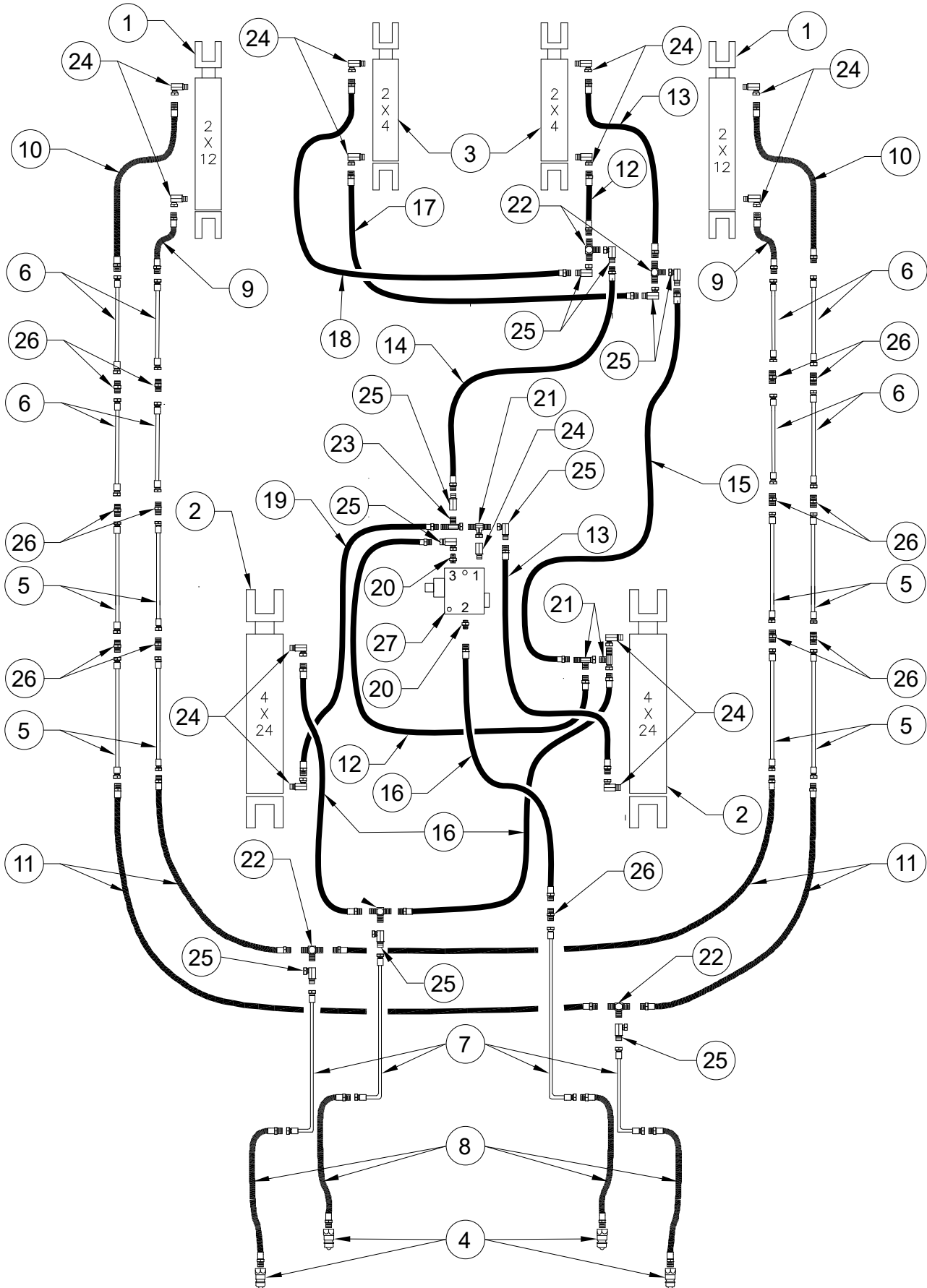


Hydraulics Schematics - Hitch - 55, 58, 68, 72, 78

Item	Part No.	Description
1	030-5979	2" x 12" Hydraulic Cylinder - ORB
2	030-5985	4" x 24" Hydraulic Cylinder, 1.50" Rod - ORB
	030-5987	4" x 24" Hydraulic Cylinder, 2.00" Rod - ORB - 72' model 7-72 only
3	030-5999	2" x 4" Hydraulic Cylinder - ORB
4	311-2083	3/8" Hydraulic Steel Lines - 83"
5	311-2132	3/8" Hydraulic Steel Lines - 132"
6	311-2157	3/8" Hydraulic Steel Lines - Bent- 157"
7	313-5096	3/8" JIC M x 1/2" NPT M Hydraulic Hose - 96"
8	313-7812	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 12"
9	313-7828	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 28"
10	313-7895	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 144"
11	313-7928	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 28"
12	313-7937	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 37"
13	313-7955	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 55"
14	313-7971	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 71"
15	313-7977	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 77"
16	313-7985	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 85"
17	316-0302	1/2" ORB M x 3/8" JIC Male - Adaptor
18	318-5704	Hydraulic Tee - 3/8" JIC M (x2 Run & Branch)
19	318-5710	Hydraulic Tee - 3/8" JIC M (x1 Run, Branch) x 3/8" JIC Sw F (x1 Run)
20	319-5710	1/2" ORB M x 3/8" JIC M - 90° Elbow
21	319-5714	3/8" JIC M x 3/8" JIC Sw F - 90° Elbow
22	324-0031	3/8" JIC Nipple

Hydraulics Schematics

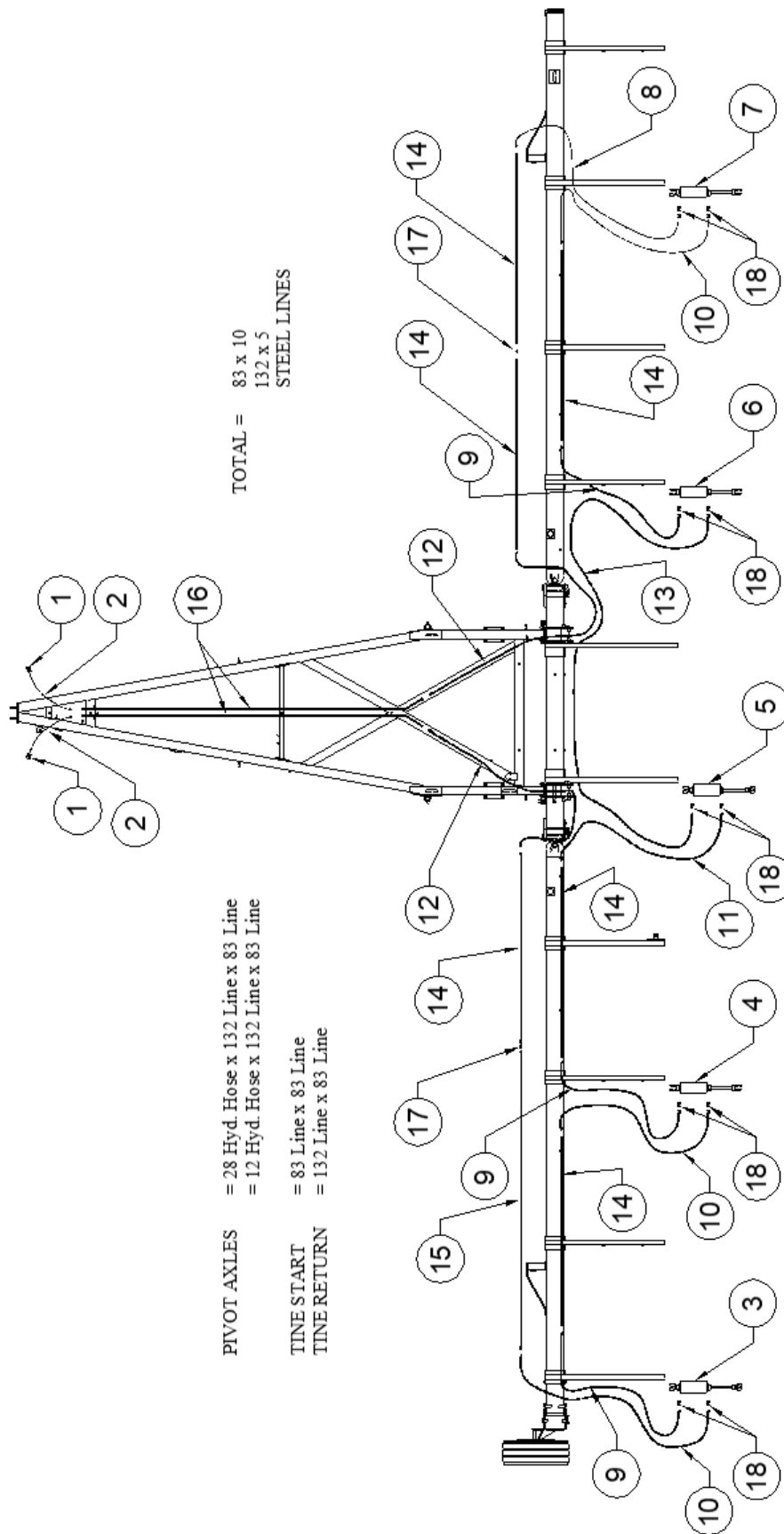
Hitch - 82, 90



Hydraulics Schematics - Hitch - 82, 90

Item	Part No.	Description
1	030-5979	2" x 12" Hydraulic Cylinder - ORB
2	030-5987	4" x 24" Hydraulic Cylinder, 2.00" Rod - ORB
3	030-5999	2" x 4" Hydraulic Cylinder - ORB
4	308-0001	Pioneer Coupling
5	311-2083	3/8" Hydraulic Steel Lines - 83"
6	311-2132	3/8" Hydraulic Steel Lines - 132"
7	311-2157	3/8" Hydraulic Steel Lines - Bent - 157"
8	313-5096	3/8" JIC M x 1/2" NPT M Hydraulic Hose - 96"
9	313-7812	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 12"
10	313-7828	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 28"
11	313-7895	3/8" JIC M x 3/8" JIC Sw F Hydraulic Hose - 144"
12	313-7928	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 28"
13	313-7937	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 37"
14	313-7945	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 45"
15	313-7950	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 50"
16	313-7975	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 75"
17	313-7971	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 71"
18	313-7977	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 77"
19	313-7987	3/8" JIC Sw F x 3/8" JIC Sw F Hydraulic Hose - 102"
20	316-0302	1/2" ORB M x 3/8" JIC Male – Adaptor
21	318-5701	Hydraulic Tee - 3/8" JIC M (x2 Run) x 3/8" JIC Sw F (Branch)
22	318-5704	Hydraulic Tee - 3/8" JIC M (x2 Run & Branch)
23	318-5710	Hydraulic Tee - 3/8" JIC M (x1 Run, Branch) x 3/8" JIC Sw F (x1 Run)
24	319-5710	1/2" ORB M x 3/8" JIC M - 90° Elbow
25	319-5714	3/8" JIC M x 3/8" JIC Sw F - 90° Elbow
26	324-0031	3/8" JIC Nipple
27*	710-5018*	Reducing Valve With Reverse Flow Set @ 700 PSI* *DO NOT TAMPER WITH VALVE PRESSURE SETTING DAMAGE WILL OCCUR TO MACHINE

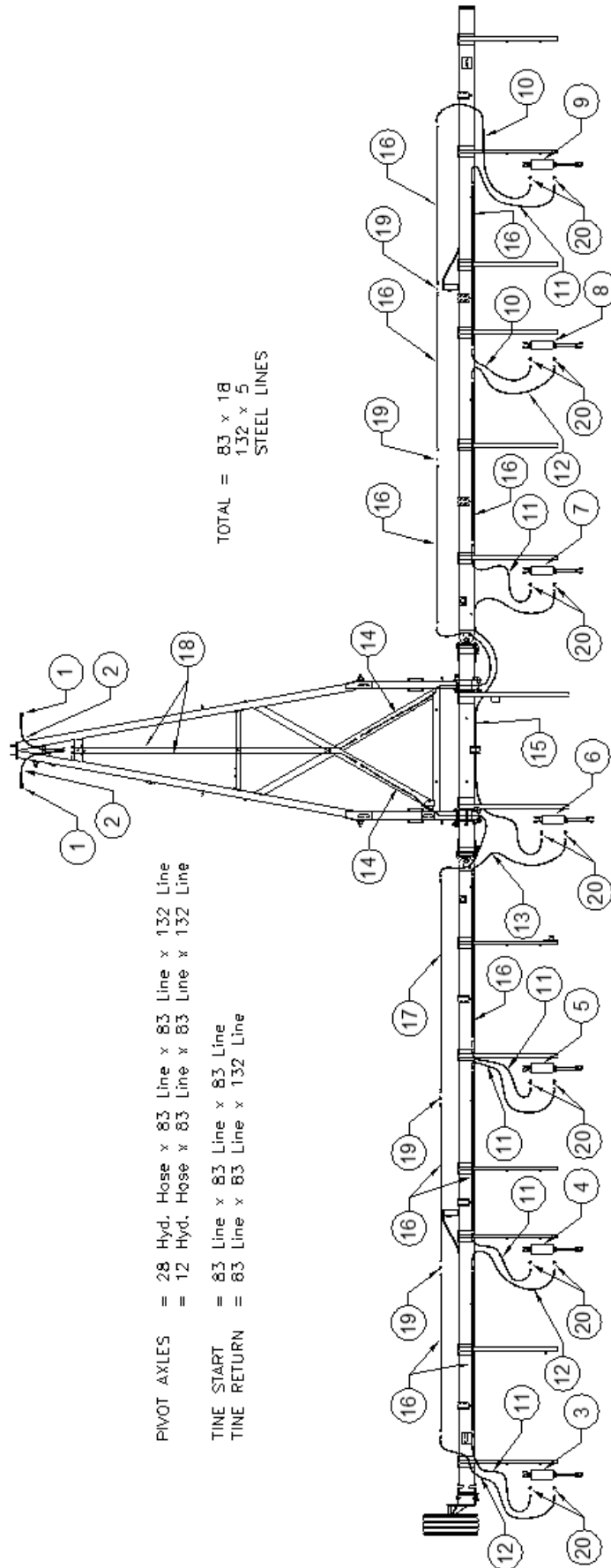
Hydraulic Schematics Model 5-55



Hydraulics Schematics - Model 5-55

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8 JIC M x 1/2 NPT M - 96" Hyd Hose	2
3	030-5734	2-1/2 x 8 Bp Hyd Cyl - 1/2 ORB	1
4	030-5735	2-3/4 x 8 Bp Hyd Cyl - 1/2 ORB	1
5	030-5736	3 x 8 BP Hyd Cyl - 1/2 ORB	1
6	030-5737	3-1/4 x 8 Bp Hyd Cyl - 1/2 ORB	1
7	030-5738	3-1/2 x 8 Bp Hyd Cyl - 1/2 ORB	1
8	313-7863	3/8 JIC M x 3/8 JIC Sw F - 63" Hyd Hose	1
9	313-7871	3/8 JIC M x 3/8 JIC Sw F - 71" Hyd Hose	3
10	313-7885	3/8 JIC M x 3/8 JIC Sw F - 85" Hyd Hose	3
11	313-7899	3/8 JIC M x 3/8 JIC Sw F - 113" Hyd Hose	1
12	313-7895	3/8 JIC M x 3/8 JIC Sw F - 144" Hyd Hose	2
13	313-7904	3/8 JIC Sw F x 3/8 JIC Sw F - 270" Hyd Hose	1
14	311-2083	3/8 Hydraulic Line - 83"	6
15	311-2132	3/8 Hydraulic Line - 132"	1
16	311-2157	3/8 Hydraulic Line - 157"	2
17	324-0031	3/8 JIC Nipple	2
18	319-5729	1/2 ORB M x 3/8 JIC M - 45 Elbow	10

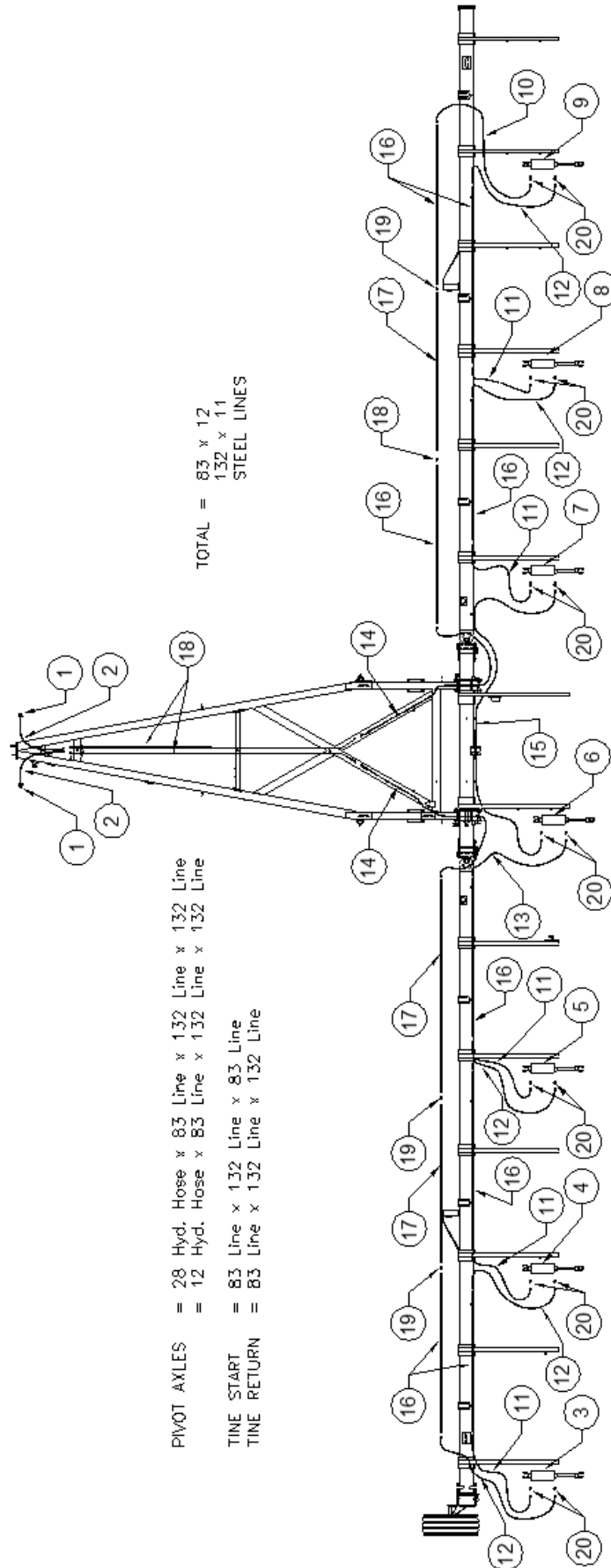
Hydraulics Schematics Model 5-68



Hydraulics Schematics - Model 5-68

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose.....	2
3	30-5734	2-1/2" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
4	30-5735	2-3/4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
5	30-5736	3" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
6	30-5737	3-1/4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
7	30-5738	3-1/2" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
8	30-5739	3-3/4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
9	30-5740	4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
10	313-7863	3/8" JIC M x 3/8 JIC Sw F - 63" Hyd Hose.....	2
11	313-7871	3/8" JIC M x 3/8 JIC Sw F - 71" Hyd Hose.....	6
12	313-7885	3/8" JIC M x 3/8 JIC Sw F - 85" Hyd Hose.....	3
13	313-7899	3/8" JIC M x 3/8 JIC Sw F - 113" Hyd Hose	1
14	313-7895	3/8 JIC M x 3/8 JIC Sw F - 144" Hyd Hose.....	2
15	313-7904	3/8 JIC Sw F x 3/8 JIC Sw F - 270" Hyd Hose	1
16	311-2083	3/8" Hydraulic Line - 83"	10
17	311-2132	3/8" Hydraulic Line - 132"	1
18	311-2157	3/8" Hydraulic Line - 157"	2
19	324-0031	3/8" JIC Nipple.....	4
20	319-5729	1/2 ORB M x 3/8 JIC M - 45 Elbow.....	14

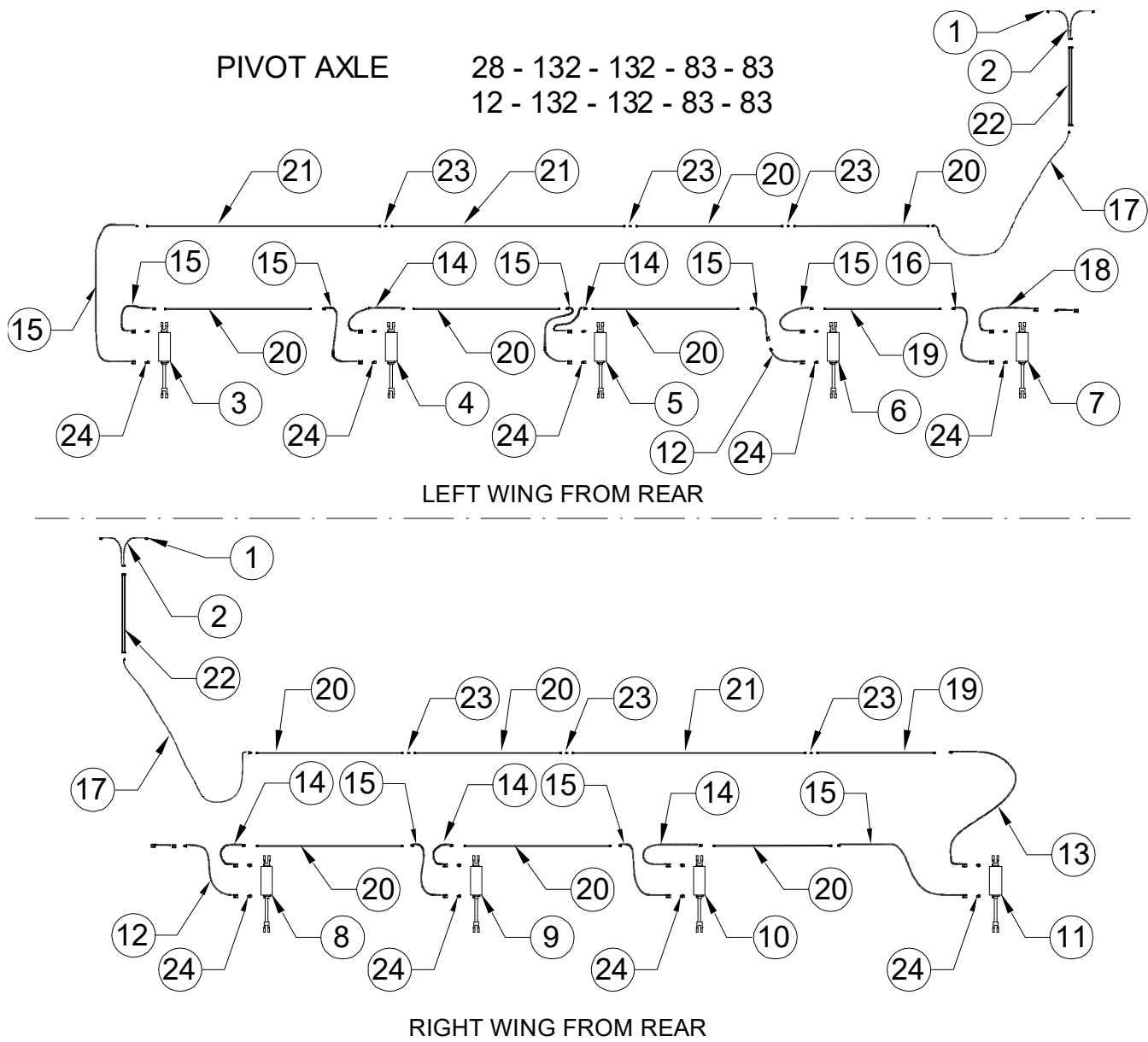
Hydraulics Schematics Model 5-78



Hydraulics Schematics - Model 5-78

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose.....	2
3	30-5734	2-1/2" x 8" Bp Hyd Cyl -1/2 ORB.....	1
4	30-5735	2-3/4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
5	30-5736	3" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
6	30-5737	3-1/4" x 8" Bp Hyd Cyl -1/2 ORB.....	1
7	30-5738	3-1/2" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
8	30-5739	3-3/4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
9	30-5740	4" x 8" Bp Hyd Cyl - 1/2 ORB.....	1
10	313-7863	3/8" JIC M x 3/8 JIC Sw F - 63" Hyd Hose.....	1
11	313-7871	3/8" JIC M x 3/8 JIC Sw F - 71" Hyd Hose.....	5
12	313-7885	3/8" JIC M x 3/8 JIC Sw F - 85" Hyd Hose.....	5
13	313-7899	3/8" JIC M x 3/8 JIC Sw F - 113" Hyd Hose	1
14	313-7895	3/8 JIC M x 3/8 JIC Sw F - 144" Hyd Hose.....	2
15	313-7904	3/8 JIC Sw F x 3/8 JIC Sw F - 270" Hyd Hose	1
16	311-2083	3/8" Hydraulic Line - 83"	8
17	311-2132	3/8" Hydraulic Line - 132"	3
18	311-2157	3/8" Hydraulic Line - 157"	2
19	324-0031	3/8" JIC Nipple.....	4
20	319-5729	1/2 ORB M x 3/8 JIC M - 45 Elbow.....	14

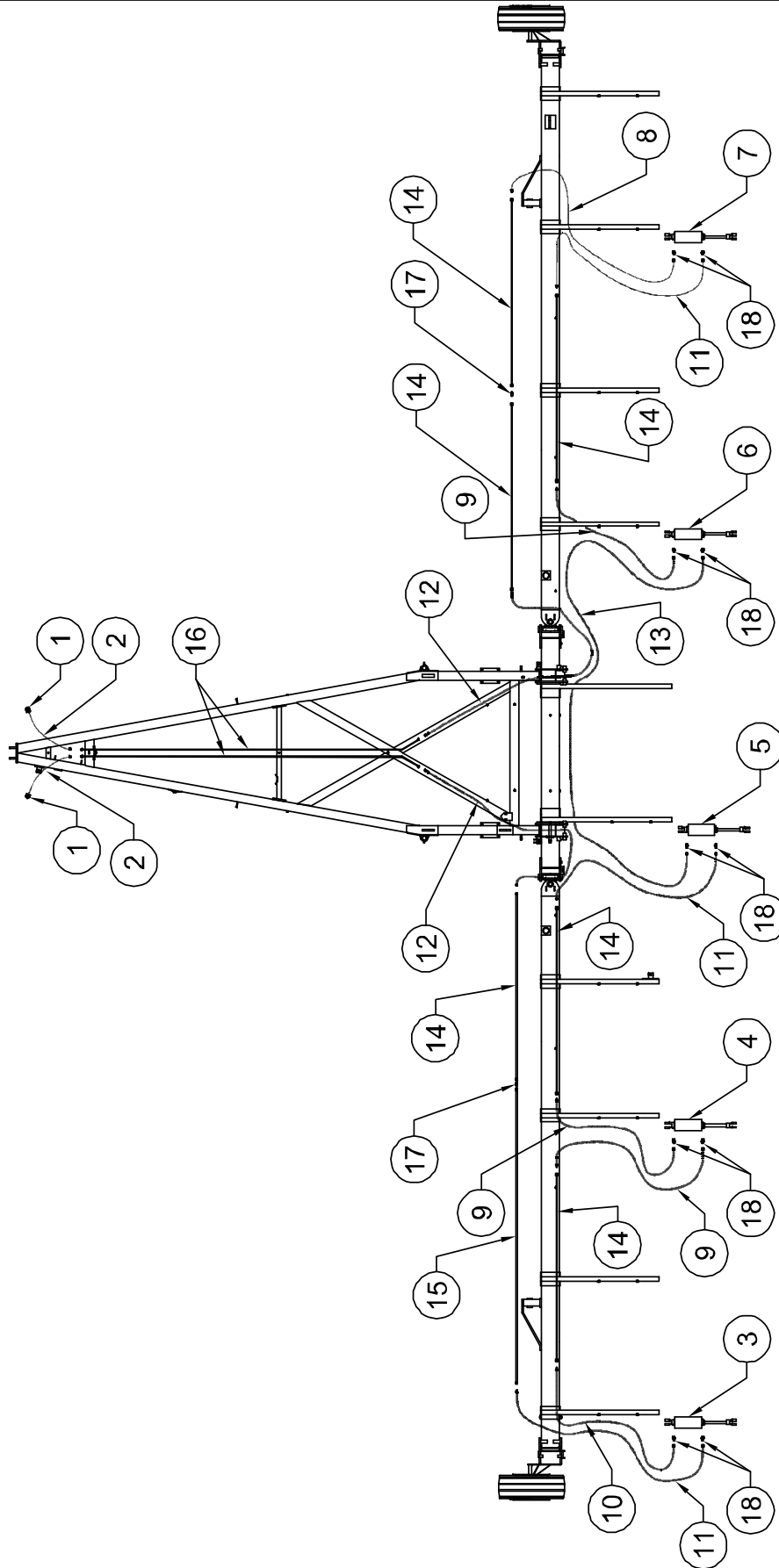
Hydraulics Schematics Model 5-90



Hydraulics Schematics - Model 5-90

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose	2
3	030-5734	2-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
4	030-5735	2-3/4" x 8" BP Hyd Cyl - 1/2" ORB	1
5	030-5736	3" x 8" BP Hyd Cyl - 1/2" ORB	1
6	030-5737	3-1/4" x 8" BP Hyd Cyl - 1/2" ORB	1
7	030-5738	3-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
8	030-5739	3-3/4" x 8" BP Hyd Cyl - 1/2" ORB	1
9	030-5740	4" x 8" BP Hyd Cyl - 1/2" ORB	1
10	030-5750	4-1/4" x 8" BP Hyd Cyl - 1/2" ORB	1
11	030-5751	4-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
12	313-7816	3/8" JIC M x 3/8 JIC Sw F - 16" Hyd Hose	2
13	313-7863	3/8" JIC M x 3/8 JIC Sw F - 63" Hyd Hose	1
14	313-7871	3/8" JIC M x 3/8 JIC Sw F - 71" Hyd Hose	5
15	313-7885	3/8" JIC M x 3/8 JIC Sw F - 85" Hyd Hose	9
16	313-7899	3/8" JIC M x 3/8 JIC Sw F - 113" Hyd Hose	1
17	313-7895	3/8" JIC M x 3/8 JIC Sw F - 144" Hyd Hose	2
18	313-7904	3/8" JIC Sw F x 3/8 JIC Sw F - 270" Hyd Hose	1
19	311-2066	3/8" Hydraulic Line - 66"	2
20	311-2083	3/8" Hydraulic Line - 83"	10
21	311-2132	3/8" Hydraulic Line - 132"	3
22	311-2157	3/8" Hydraulic Line - 157"	2
23	324-0031	3/8" JIC Nipple	6
24	319-5710	1/2 ORB M x 3/8 JIC M - 90 Elbow	18

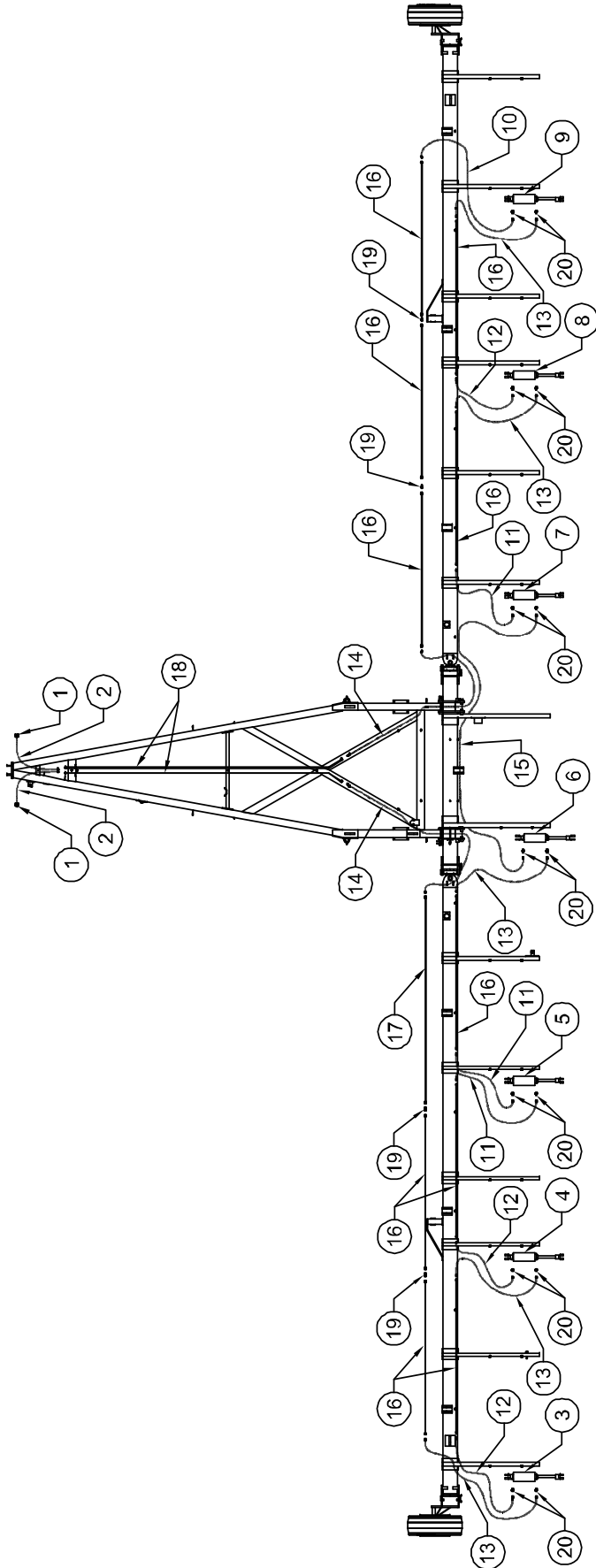
Hydraulic Schematics Model 7-58



Hydraulics Schematics - Model 7-58

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose.....	2
3	030-5734	2-1/2 x 8 Bp Hyd Cyl.....	1
4	030-5735	2-3/4 x 8 Bp Hyd Cyl.....	1
5	030-5736	3 x 8 Bp Hyd Cyl	1
6	030-5737	3-1/4 x 8 Bp Hyd Cyl.....	1
7	030-5738	3-1/2 x 8 Bp Hyd Cyl.....	1
8	313-7871	3/8 JIC M x 3/8 JIC Sw F - 71" Hyd Hose	1
9	313-7877	3/8 JIC M x 3/8 JIC Sw F - 77" Hyd Hose	3
10	313-7885	3/8 JIC M x 3/8 JIC Sw F - 85" Hyd Hose	1
11	313-7892	3/8 JIC M x 3/8 JIC Sw F - 92" Hyd Hose	2
12	313-7895	3/8 JIC M x 3/8 JIC Sw F - 144" Hyd Hose.....	2
13	330-0294	3/8 JIC Sw F x 3/8 JIC Sw F - 294" Hyd Hose	1
14	311-2083	3/8 Hydraulic Line - 83"	6
15	311-2132	3/8 Hydraulic Line - 132"	1
16	311-2157	3/8 Hydraulic Line - 157"	2
17	324-0031	3/8 JIC Nipple - 90 Elbow	2
18	319-5710	1/2 ORB M x 3/8 JIC M.....	10

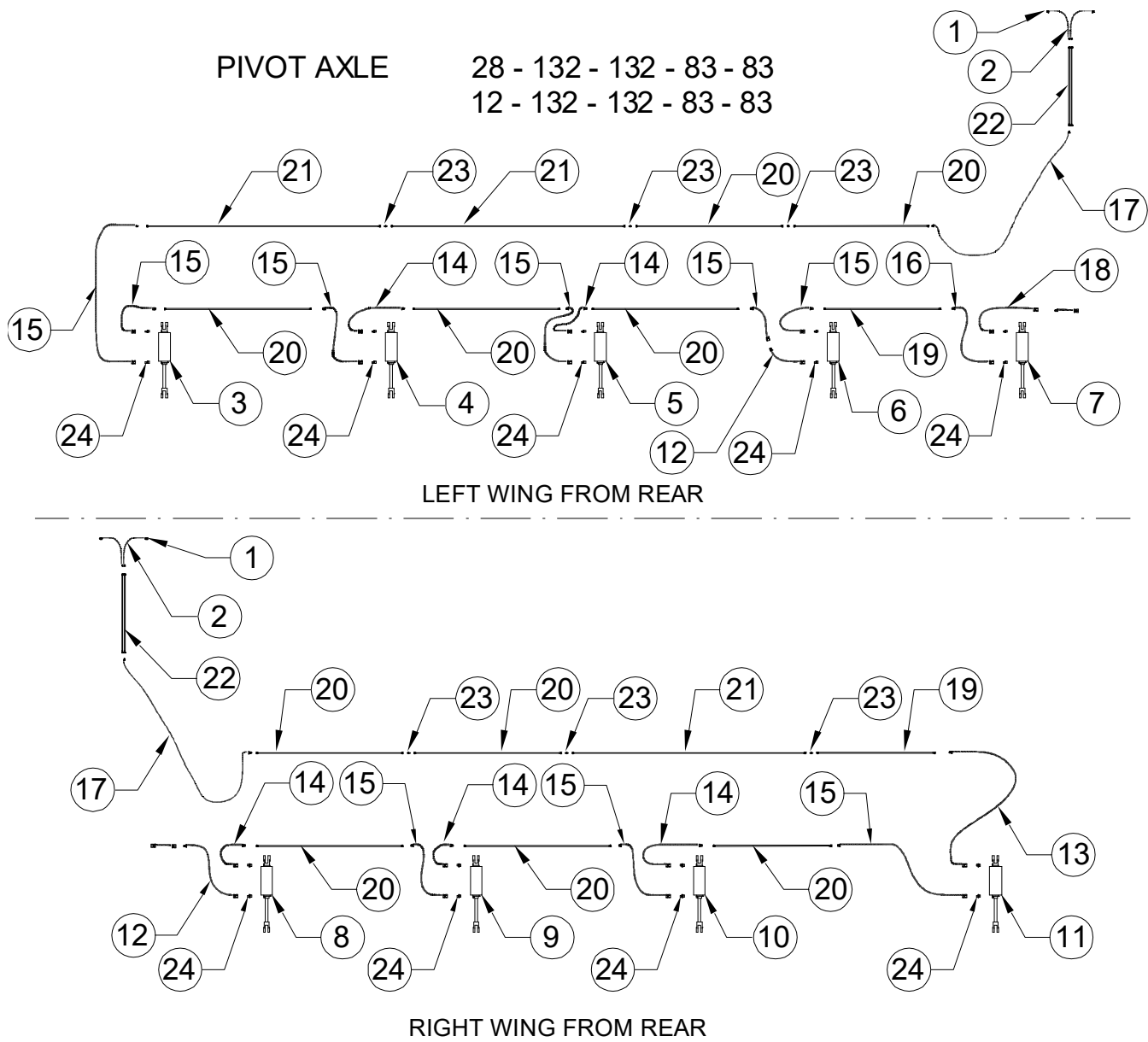
Hydraulic Schematics Model 7-72



Hydraulics Schematics - Model 7-72

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose.....	2
3	030-5734	2-1/2 x 8 Bp Hyd Cyl.....	1
4	030-5735	2-3/4 x 8 Bp Hyd Cyl.....	1
5	030-5736	3 x 8 Bp Hyd Cyl	1
6	030-5737	3-1/4 x 8 Bp Hyd Cyl.....	1
7	030-5738	3-1/2 x 8 Bp Hyd Cyl.....	1
8	030-5739	3-3/4 x 8 Bp Hyd Cyl.....	1
9	030-5740	4 x 8 Bp Hyd Cyl	1
10	313-7871	3/8 JIC M x 3/8 JIC Sw F - 71" Hyd Hose	1
11	313-7877	3/8 JIC M x 3/8 JIC Sw F - 77" Hyd Hose	3
12	313-7885	3/8 JIC M x 3/8 JIC Sw F - 85" Hyd Hose	3
13	313-7892	3/8 JIC M x 3/8 JIC Sw F - 92" Hyd Hose	5
14	313-7895	3/8 JIC M x 3/8 JIC Sw F - 144" Hyd Hose.....	2
15	330-0294	3/8 JIC Sw F x 3/8 JIC Sw F - 294" Hyd Hose	1
16	311-2083	3/8 Hydraulic Line - 83"	10
17	311-2132	3/8 Hydraulic Line - 132"	1
18	311-2157	3/8 Hydraulic Line - 157"	2
19	324-0031	3/8 JIC Nipple - 90 Elbow	4
20	319-5710	1/2 ORB M x 3/8 JIC M.....	14

Hydraulic Schematics Model 7-82

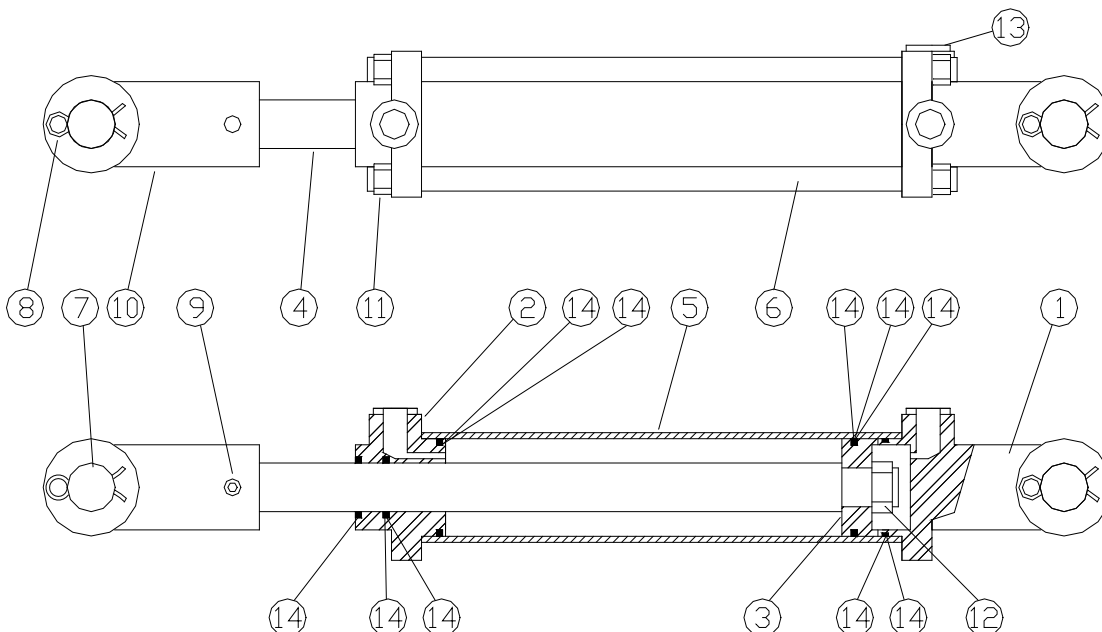


Hydraulics Schematics - Model 7-82

Item	Part No.	Description	Qty
1	308-0001	Pioneer Coupling	2
2	313-5096	3/8" JIC M x 1/2" NPT M - 96" Hyd Hose	2
3	030-5734	2-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
4	030-5735	2-3/4" x 8" BP Hyd Cyl - 1/2" ORB	1
5	030-5736	3" x 8" BP Hyd Cyl - 1/2" ORB	1
6	030-5737	3-1/4" x 8" BP Hyd Cyl - 1/2" ORB	1
7	030-5738	3-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
8	030-5739	3-3/4" x 8" BP Hyd Cyl - 1/2" ORB	1
9	030-5740	4" x 8" BP Hyd Cyl - 1/2" ORB	1
10	030-5750	4-1/4" x 8" BP Hyd Cyl - 1/2" ORB	1
11	030-5751	4-1/2" x 8" BP Hyd Cyl - 1/2" ORB	1
12	313-7816	3/8" JIC M x 3/8 JIC Sw F - 16" Hyd Hose	2
13	313-7863	3/8" JIC M x 3/8 JIC Sw F - 63" Hyd Hose	1
14	313-7871	3/8" JIC M x 3/8 JIC Sw F - 71" Hyd Hose	5
15	313-7885	3/8" JIC M x 3/8 JIC Sw F - 85" Hyd Hose	9
16	313-7899	3/8" JIC M x 3/8 JIC Sw F - 113" Hyd Hose	1
17	313-7895	3/8" JIC M x 3/8 JIC Sw F - 144" Hyd Hose	2
18	313-7904	3/8" JIC Sw F x 3/8 JIC Sw F - 270" Hyd Hose	1
19	311-2066	3/8" Hydraulic Line - 66"	2
20	311-2083	3/8" Hydraulic Line - 83"	10
21	311-2132	3/8" Hydraulic Line - 132"	3
22	311-2157	3/8" Hydraulic Line - 157"	2
23	324-0031	3/8" JIC Nipple	6
24	319-5710	1/2 ORB M x 3/8 JIC M - 90 Elbow	18

Cylinders
MONARCH 4" X 24" (40THC24-150)
 MONARCH Part Number 671645
 MORRIS Part Number 030-5985

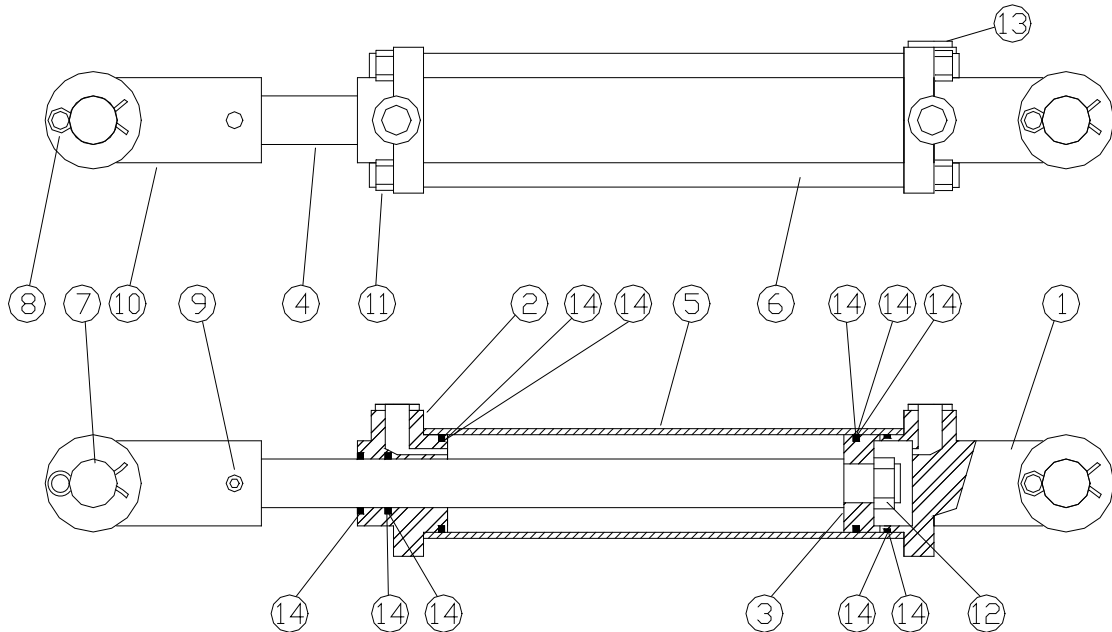
USED ON 5-55, 5-68, 5-78 and 7-58



Item	Part No.	Description
1	492680	Clevis Cap 4" x 3/4" ORB-1.00
2	492686	Rod Cap - 4" x 1-1/2" - 3/4"ORB
3	492527	Piston - 4" Dia CST DI
4	492615	Rod - 1-1/2" Dia TL x 26"
5	467324	Tube - 4" x 24" 5/8" TR
6	492354	Tie Rod - 5/8" x 24"
7	134953	Pin Dia 1" x 3.37" For Cotter
8	134952	Hair Pin - .105 Dia
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128271	Hex Nut - 5/8" UNC Gr5
12	129110	Hex Nut - 1" - 14 UNS Gr5
13	186562	Plug - 3/4" - 16 UNF SOC HD STR-THD
14	639580	Seal Kit - 4" x 1-1/2"

Cylinders
MONARCH 4" X 24" (40THC24-200)
 MONARCH Part Number 671647
 MORRIS Part Number 030-5987

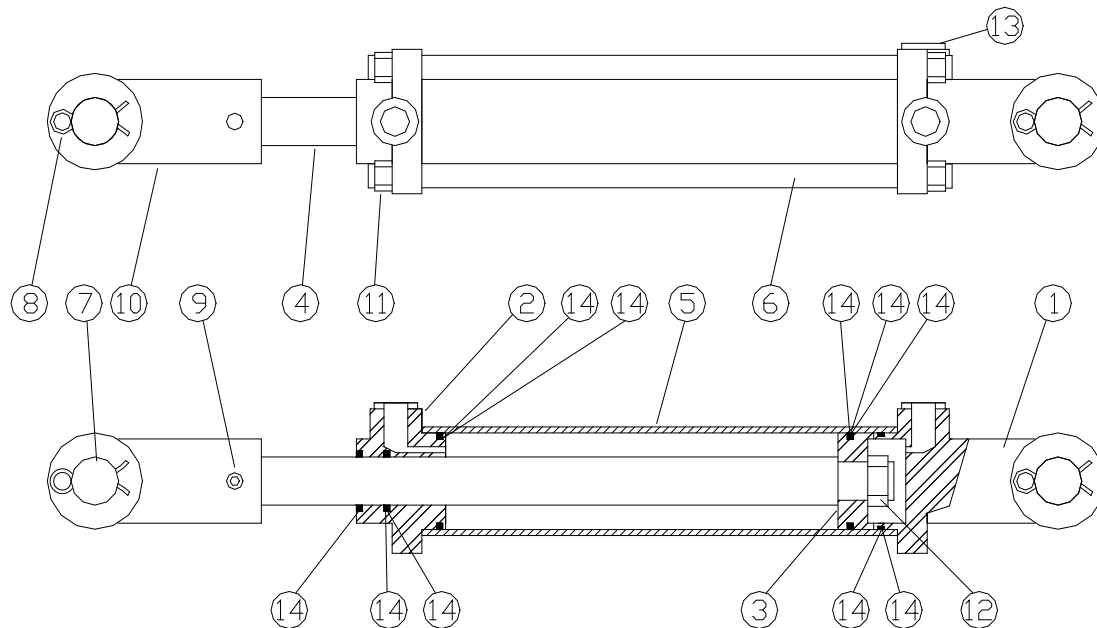
USED ON 5-90, 7-72 and 7-82



Item	Part No.	Description
1	492680	Clevis Cap 4" x 3/4" ORB-1.00
2	492732	Rod Cap - 4" x 2" - 3/4" ORB
3	492527	Piston - 4" Dia CST DI
4	493894	Rod - 2" Dia TL x 26"
5	467324	Tube - 4" x 24" 5/8" TR
6	492354	Tie Rod - 5/8" x 24"
7	134953	Pin Dia 1" x 3.37" For Cotter
8	134952	Hair Pin - .105 Dia
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	493168	Rod Clevis 2"
11	128271	Hex Nut - 5/8" UNC Gr5
12	129110	Hex Nut - 1" - 14 UNS Gr5
13	186562	Plug - 3/4" - 16 UNF SOC HD STR-THD
14	639582	Seal Kit - 4" x 2"

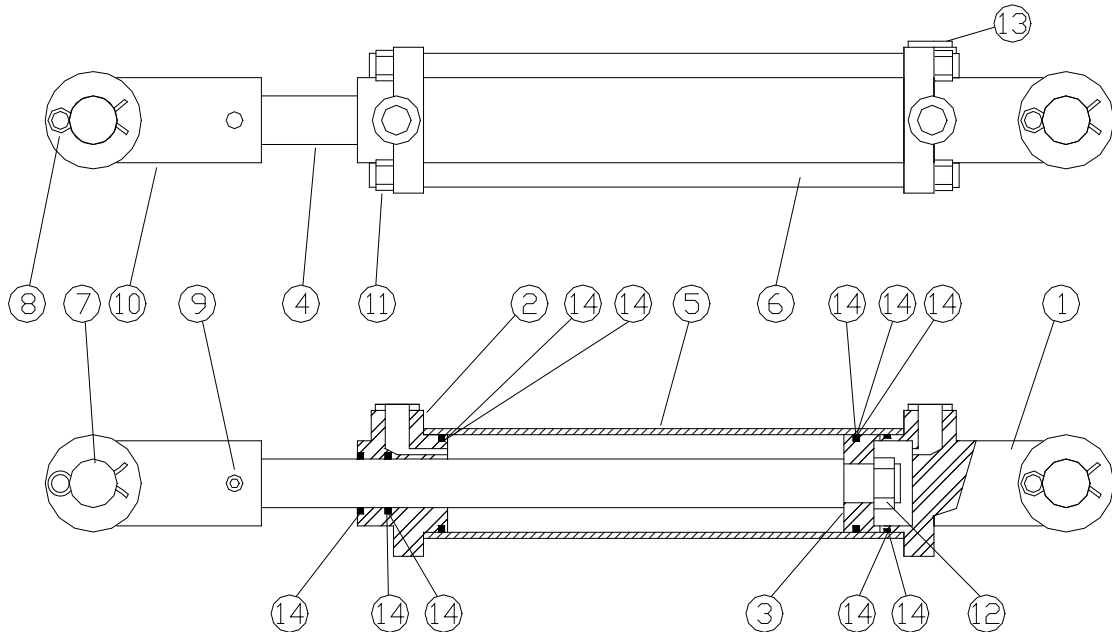
Cylinders
MONARCH 2-1/2" x 8" BP (25TP08-112)
MONARCH Part Number 639521
MORRIS Part Number 030-5734

Used on 5-55, 5-68, 5-78, 5-90, 7-82



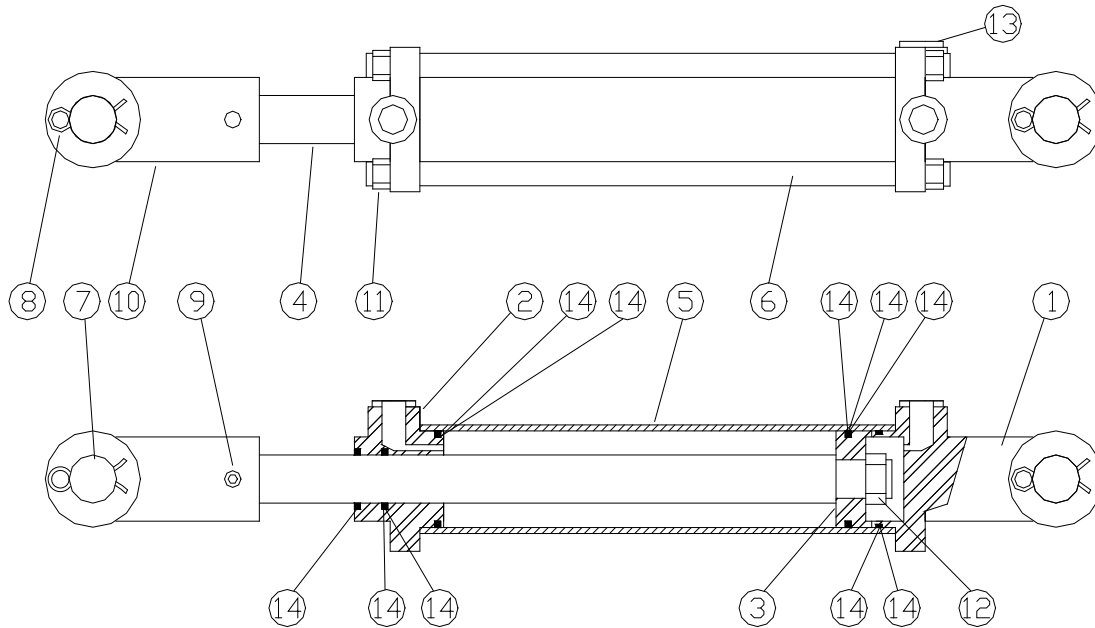
Item	Part No.	Description
1	492674	Clevis Cap 2-1/2" ORB
2	492673	Rod Cap 2-1/2" x 1-1/8" ORB
3	494726	Piston * R1 * 2-1/2" WPTR
4	492699	Rod 1-1/8 ASAE 8
5	464263	Tube Weld 2-1/2" x 8" TP
6	492218	Tie Rod 3/8" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492650	Rod Clevis 1-1/8"
11	128230	Nut Hex 3/8" UNC
12	130556	Nut Hex 3/4" UNF GrA Uunitorque
13	186562	Plug - 3/4" - 16 UNF SOC HD STR-THD
14	639555	Seal Kit - 2-1/2" x 1-1/8"

Cylinders
MONARCH 2-3/4" x 8" BP (27TP08 - 112)
MONARCH Part Number 639522
MORRIS Part Number 030-5735



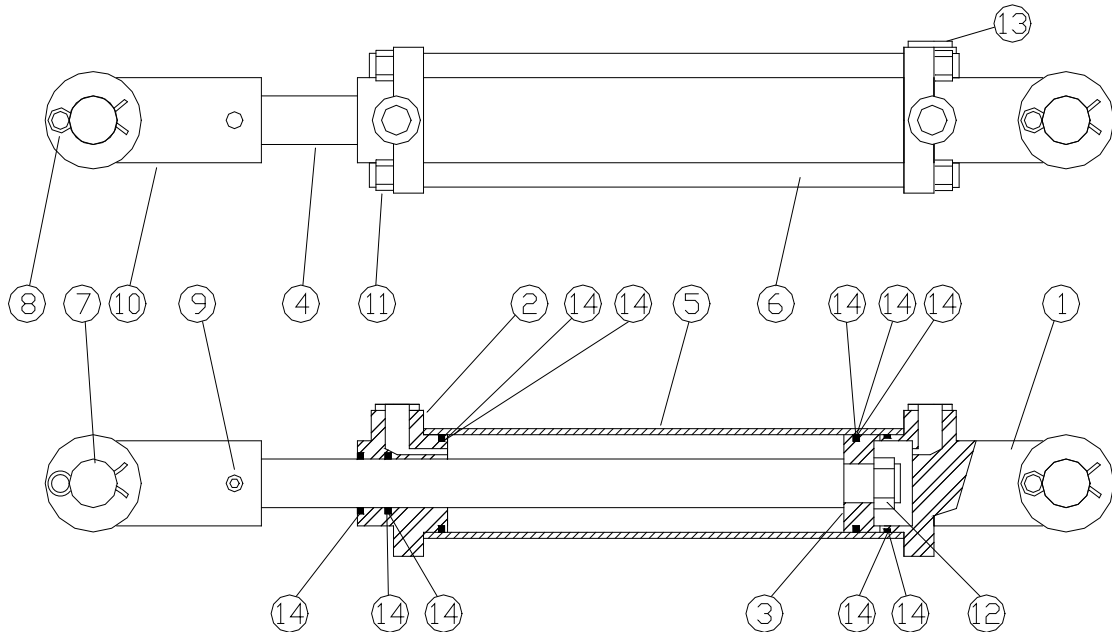
Item	Part No.	Description
1	492660	Clevis Cap 2-3/4" ORB
2	492661	Rod Cap 2-3/4" x 1-1/8" ORB
3	494727	Piston * R1 * 2-3/4" WPTR
4	492699	Rod 1-1/8" ASAE 8
5	464264	Tube Weld 2-3/4" x 8" TP
6	492278	Tie Rod 1/2" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492650	Rod Clevis 1-1/8"
11	128250	Nut Hex 1/2" UNC
12	130556	Nut Hex 3/4" UNF GrA Uunitorque
13	186562	Plug - 3/4" - 16 UNF SOC HD STR-THD
14	639557	Seal Kit 2-3/4" x 1-1/8"

Cylinders
MONARCH 3" x 8" BP (30TP08-125)
 MONARCH Part Number 639523
 MORRIS Part Number 030-5736



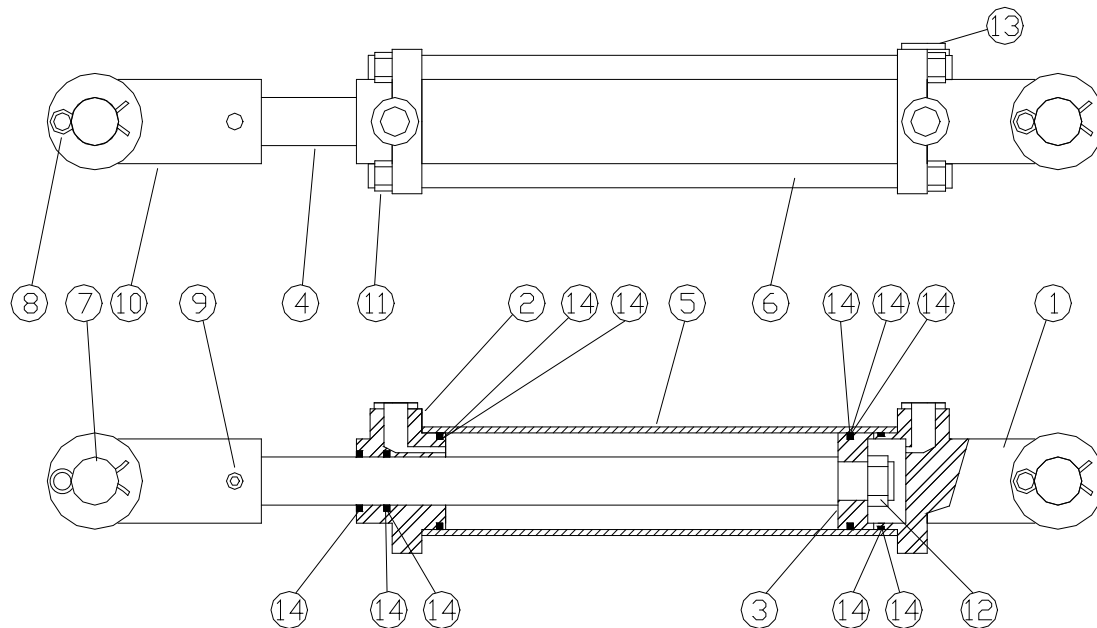
Item	Part No.	Description
1	492675	Clevis Cap 3" ORB
2	492670	Rod Cap 3" x 1-1/4" ORB
3	494719	Piston *R1 * 3" WPTR
4	492700	Rod 1-1/4" Dia ASAE 8
5	464265	Tube Weld 3" x 8" TP
6	492278	Tie Rod 1/2" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128250	Nut Hex 1/2" UNC
12	130560	Nut Hex 1"-14 GrA Unitorque
13	186562	Plug - 3/4" - 16 UNF SOC HD STR-THD
14	639558	Seal Kit 3" x 1-1/4"

Cylinders
MONARCH 3-1/4" x 8" BP (32TP08-125)
MONARCH Part Number 639524
MORRIS Part Number 030-5737



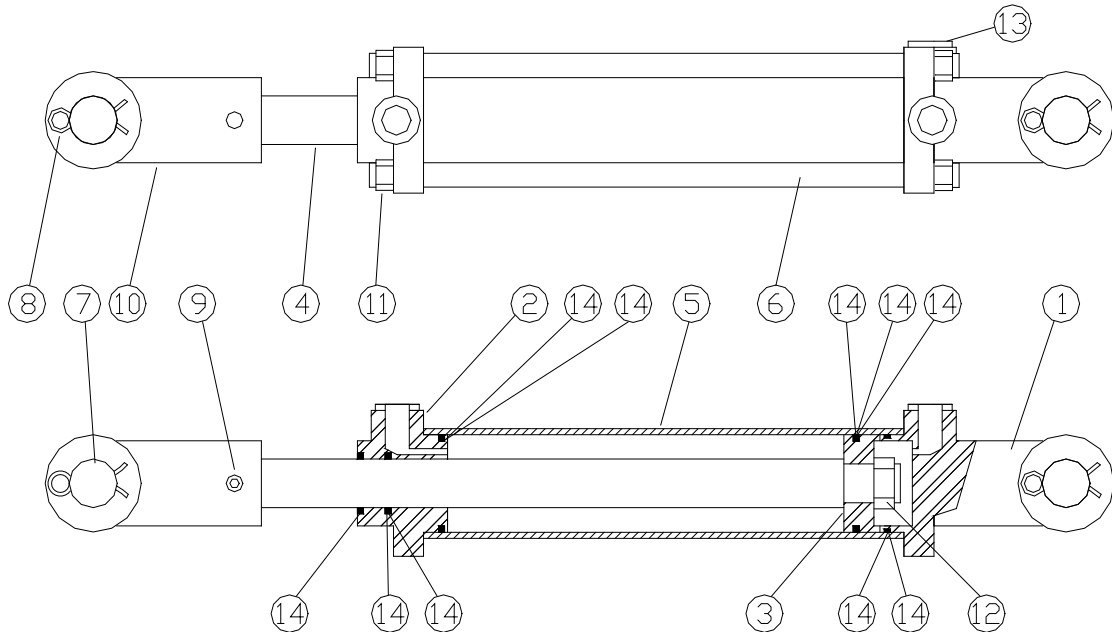
Item	Part No.	Description
1	492662	Clevis Cap 3-1/4" ORB
2	492664	Rod Cap 3-1/4" x 1-1/4" ORB
3	494737	Piston 3-1/4" TP
4	492700	Rod 1-1/4" Dia ASAE 8
5	464266	Tube Weld 3-1/4" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128271	Nut Hex 5/8" UNF Grade 5
12	130560	Nut Hex 1"-14 GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639560	Seal Kit 3-1/4" x 1-1/4"

Cylinders
MONARCH 3-1/2" x 8" BP (35TP08-125)
MONARCH Part Number 639962
MORRIS Part Number 030-5738



Item	Part No.	Description
1	492676	Clevis Cap 3-1/2" ORB
2	492677	Rod Cap 3-1/2" x 1-1/4" ORB
3	494738	Piston 3-1/2" TH/TP
4	492700	Rod 1-1/4" Dia ASAE 8
5	464267	Tube Weld 3-1/2" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128271	Nut Hex 5/8" UNF
12	130560	Nut Hex 1"-14 GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639561	Seal Kit 3-1/2" x 1-1/4"

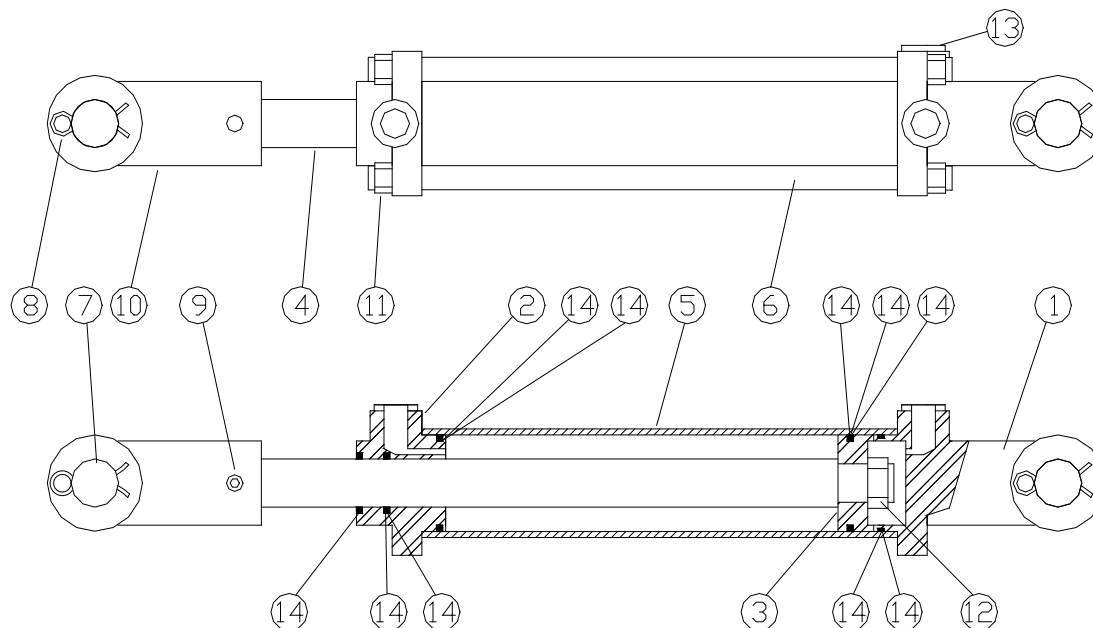
Cylinders
MONARCH 3-3/4" x 8" BP (37TP08 - 137)
MONARCH Part Number 639963
MORRIS Part Number 030-5739



Item	Part No.	Description
1	492678	Clevis Cap 3-3/4" ORB
2	492679	Rod Cap 3-3/4" x 1-3/8" ORB
3	494732	Piston 3-3/4" TP
4	492800	Rod 1-3/8" Dia ASAE 8
5	464268	Tube Weld 3-3/4" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128271	Nut Hex 5/8" UNF
12	130559	Nut Hex 1-1/8 UNF GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639563	Seal Kit 3-3/4" x 1-3/8"

Cylinders
MONARCH 4" x 8" BP (40TP08 - 137)
MONARCH Part Number 639964
MORRIS Part Number 030-5740

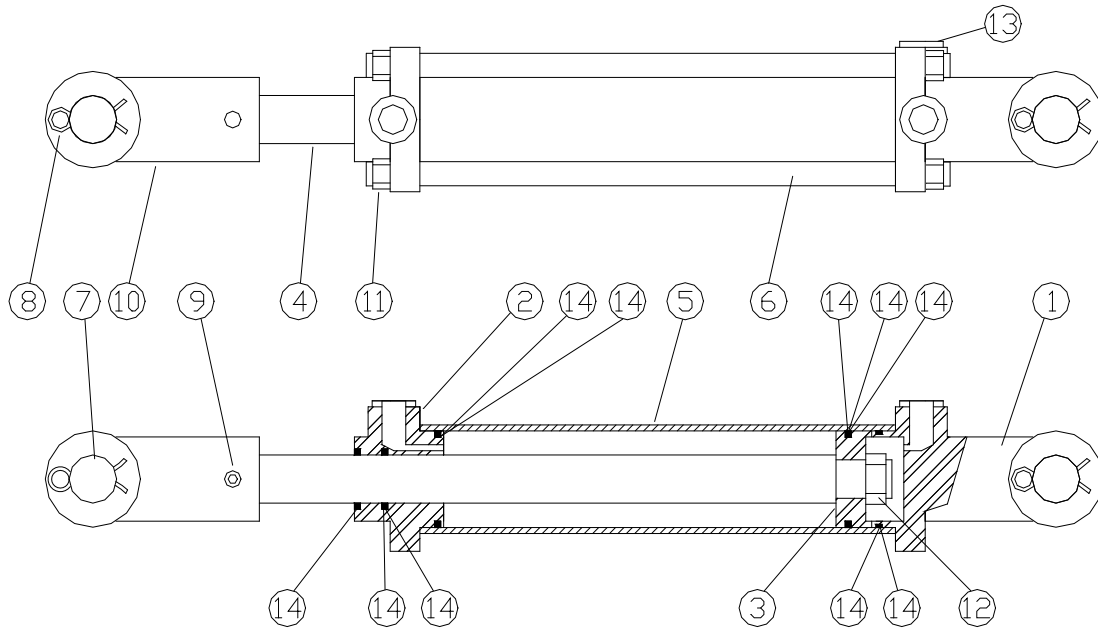
Used on 5-55, 5-68, 5-78, 5-90, 7-58, 7-72, 7-82



Item	Part No.	Description
1	492680	Clevis Cap 4" ORB
2	492685	Rod Cap 4" x 1-3/8" ORB
3	494730	Piston 4" TH/TP
4	492800	Rod 1-3/8" Dia ASAE 8
5	464269	Tube Weld 4" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	469528	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/4"
11	128271	Nut Hex 5/8" UNF
12	130559	Nut Hex 1-1/8" UNF GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639564	Seal Kit 4" x 1-3/8"

Cylinders
MONARCH 4 1/4" x 8" BP (42TP08 - 150)
MONARCH Part Number 639710
MORRIS Part Number 030-5750

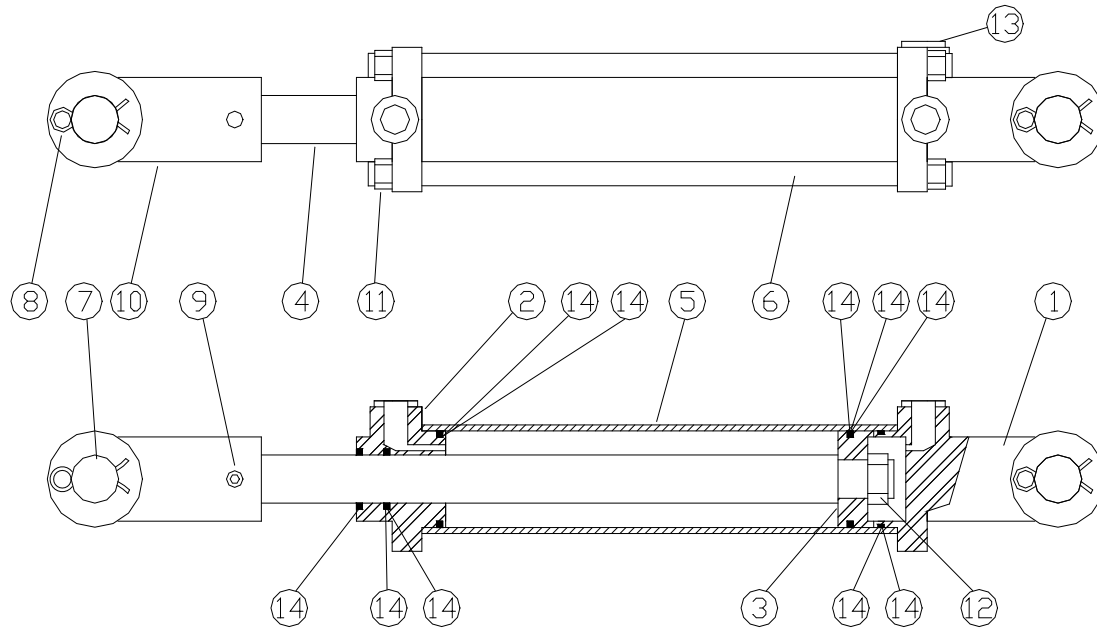
Used on 5-90, 7-82



Item	Part No.	Description
1	492706	Clevis Cap 4-1/4" ORB
2	492703	Rod Cap 4-1/4" x 1-3/2" ORB
3	494739	Piston 4-1/4" TH/TP
4	492698	Rod 1-1/2" Dia ASAE 8
5	464270	Tube Weld 4-1/4" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	269722	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492652	Rod Clevis 1-1/2"
11	128271	Nut Hex 5/8" UNF
12	130781	Nut Hex 1-1/4" UNF GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639567	Seal Kit 4-1/4" x 1-1/2"

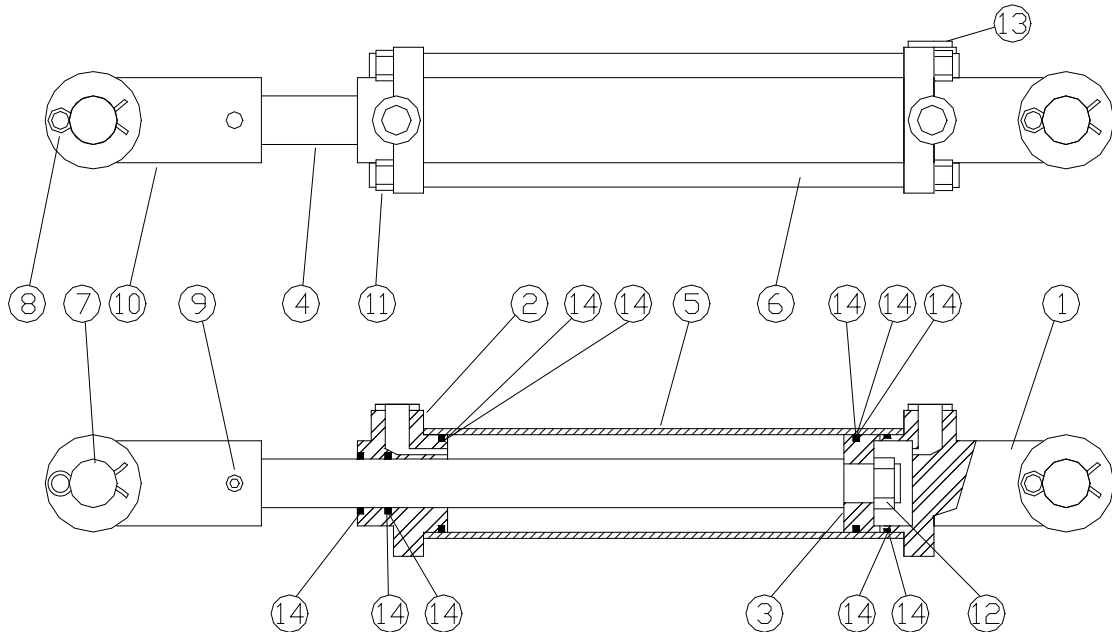
Cylinders
MONARCH 4-1/2" x 8" BP (45TP08 - 150)
MONARCH Part Number 639711
MORRIS Part Number 030-5751

Used on 5-90, 7-82



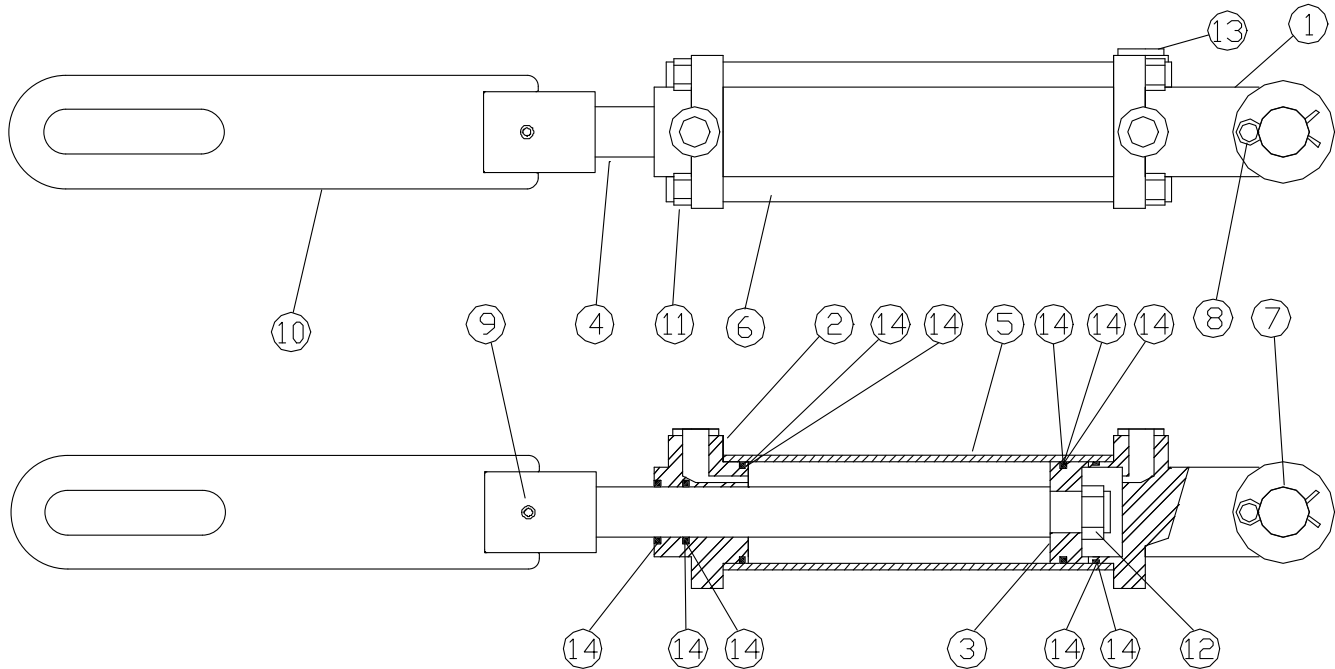
Item	Part No.	Description
1	492708	Clevis Cap 4-1/2" ORB
2	492705	Rod Cap 4-1/2" x 1-1/2" ORB
3	494740	Piston 4-1/2" TH/TP
4	492698	Rod 1-1/2" Dia ASAE 8
5	464271	Tube Weld 4-1/2" x 8" TP
6	492338	Tie Rod 5/8" x 8"
7	269722	Pin 1" Dia For Cotter
8	135995	Cotter Pin 3/16" x 1-1/2" Hammerlock
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492654	Rod Clevis 1-1/2"
11	128271	Nut Hex 5/8" UNF
12	130781	Nut Hex 1-1/4" UNF GrA Unitorque
13	186562	Plug - 3/4"-16 UNF SOC HD STR-THD
14	639568	Seal Kit 4-1/2" x 1-1/2"

Cylinders
MONARCH 2" x 12" (20TxC12 - 113)
MONARCH Part Number 671624
MORRIS Part Number 030-5979



Item	Part No.	Description
1	492672	Clevis Cap 2" x 3/8" ORB-1.00
2	492665	Rod Cap 2" x 1-1/8" - 3/4" ORB
3	492548	Piston 2" Dia CST DI
4	492853	Rod 1-1/8" x 12"
5	491612	Tube 2" x 12" Cylinder
6	492222	Tie Rod 3/8", 12" Cylinder
7	134953	Pin Dia 1" x 3.37" For Cotter
8	134952	Hair Pin .105" Dia
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	492650	Rod Clevis 1-1/8" - 12 UNF
11	128230	Hex Nut 3/8" UNC Gr5
12	129090	Hex Nut 3/4" UNF Gr5
13	186562	Plug D 3/4"-16 SOC HD STR-THD
14	639572	Seal Kit - 2" x 1-1/8"

Cylinders
MONARCH 2" x 4" (20TX04- 112)
MONARCH Part Number 661838
MORRIS Part Number 030-5999



Item	Part No.	Description
1	492672	Clevis Cap 2" x 3/8" ORB-1.00
2	492665	Rod Cap 2" x 1-1/8" - 3/4" ORB
3	492548	Piston 2" Dia CST DI
4	497505	Rod 1-1/8" x 8"
5	491604	Tube 2" x 4" Cylinder
6	492214	Tie Rod 3/8", 4" Cylinder
7	134953	Pin Dia 1" x 3.37" For Cotter
8	134952	Hair Pin .105" Dia
9	148390	SC SCKT Set, 3/8" UNC x 1/2" KNUR
10	105-1250	Rod Clevis, Slotted (Sold With Cylinder Only)
11	128230	Hex Nut 3/8" UNC Gr5
12	129090	Hex Nut 3/4" UNF Gr5
13	186562	Plug D 3/4"-16 SOC HD STR-THD
14	639572	Seal Kit - 2" x 1-1/8"



www.morris-industries.com

1891 Albert Street North,
Regina, Saskatchewan
S4R 8R7 Canada
Phone: 306-933-8585
Fax: 306-933-8626

It is the policy of Morris Equipment Ltd. to improve its products whenever it is possible to do so. Morris Equipment reserves the right to make changes or add improvements at any time without incurring any obligation to make such changes on machines sold previously.