



3800 SERIES

FIELD CULTIVATORS

Kongsilde
3800 Series



***Model may not be exactly as shown.**
Kongsilde reserves the right to make changes to product designs and specifications without notice or obligation to rework.

OWNERS MANUAL
Warranty Certificate
Operating Guide

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INTRODUCTION

This manual has been developed to assist you in the operating and servicing of your new Kongskilde product. Read it carefully: it will provide you with information that will enable you to obtain years of dependable service.

If you did not receive a warranty registration form, contact your dealer. He will be able to obtain one for you. It is important that the warranty registration be completed and returned to validate the warranty protection period.



SAFETY PRECAUTIONS

This safety symbol, found throughout this manual, is used to call your attention to instructions concerning the personal safety of the owner or operator.

Look for this symbol to point out safety precautions. It means ATTENTION! Become ALERT! Your safety is involved.

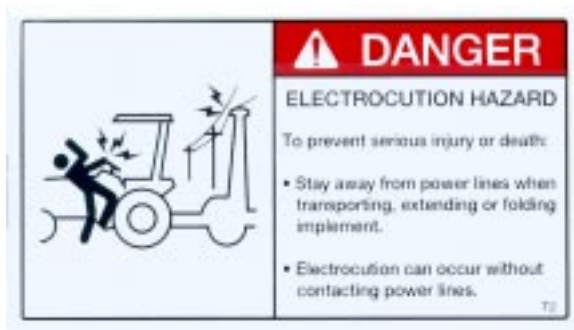
Before attempting to operate this equipment, read, and understand this manual fully and follow all safety precautions. In addition, make sure that every individual who operates or works with this equipment is familiar with these instructions. Observation of these safety precautions will make your farm a safer place to work. Read carefully and understand all operating instructions before attempting to operate the machine.

PRODUCT SAFETY PRECAUTIONS

1. Read the owner's manual.
2. Make certain all safety decals, reflectors and SMV signs are applied to your unit.
3. **IMPORTANT NOTE:** 3800 Series cultivators may be assembled in combinations that exceed normal widths and heights for safe transporting on public roadways. The operator is responsible at all times to insure the safe transport of the cultivator along the chosen route.



4. The operator is responsible at all times to comply with all state and local laws when transporting large or oversized implements on public or private roadways. Careful consideration must be given in order to prevent accidents with other vehicles and avoid coming in contact with obstacles such as: bridges, tunnels, overpasses, guard rails, road signs, traffic lights, power lines, public utilities, and other structures that may be encountered along the way. In some jurisdictions the operator may be required to obtain special permits or arrange for escorts before transporting oversized equipment. Kongskilde is not liable for personal or property damage caused by inappropriate, unauthorized or unsafe transport or operation of equipment.
5. Do not transport the implement over 20 M.P.H. Make sure all wheel bolts are secure and check that the tires are in good condition and inflated properly before attempting to move the implement on public roadways.
6. Always make certain that the safety chain, all wing fold lock pins and the wheel cylinder transport locks are secured before transporting.
7. Take care, especially when transporting, folding or unfolding the implement around power lines. Serious injury or death to the operator or bystanders may result through direct or indirect contact with power lines.

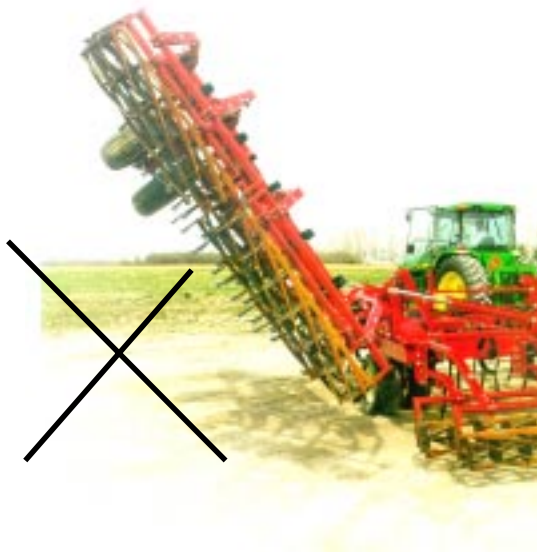


8. Make sure that the tractor is shifted into park before getting out to remove transport locks and wing fold lock pins. Never remove wing lock pins or wheel transport locks when the implement is sitting on uneven ground.



9. Never remove transport lockout devices or unfold the unit unless cylinders are completely full of oil. Failure to properly charge the folding hydraulics with oil could allow the wings to free fall when unfolding, causing damage to the equipment and possible injury to the operator or bystanders. Never fold the cultivator wings by any mechanical method! Always charge the hydraulic system first and use it to fold and unfold the wings. Stand clear of the machine and watch for overhead hazards or objects in the wing-fall zone when folding and unfolding.

10. Be certain all persons are clear of working area in and around the machine whenever folding, unfolding, raising or lowering the machinery or in any way using the hydraulic system.



11. Never crawl under the machine to make repairs or adjustments or replace tines and shares, etc... unless you have properly blocked and supported the cultivator frame. The cultivator must be secured in a fixed position in order to prevent it from moving or falling before making any attempt to work underneath.

12. Take care when changing shares or removing share bolts as the edges can become extremely sharp when worn.



13. Be alert when walking around the machinery in the folded transport position to avoid walking into the point of a shank or sweep. Severe head or body injury could result.

14. Check all wheel bolts before transporting and retighten after the first 2 hours of use, after the 1st day and after 1 week. Periodically check all other nuts and bolts and secure if loose.

15. Establish a good routine for regular inspection, lubrication and maintenance in order to keep the machine in good operating condition.

SAFETY DEVICES

Folding and Transporting Implements:



WHEEL LOCK FOR TRANSPORT CYLINDERS

Insert a safety lock over each centre section cylinder rod and fasten the pins as shown. Slowly ease the cultivator down until the wheel lock is wedged firmly in place.

When cultivating the safety locks should be stored in the tractor box or in a place that will not interfere with the safe operation of the equipment.



LOCK THE WINGS FOR SAFE TRANSPORT

When the wings are raised and folded for transport, lock the wings in the transport position with the wing fold lock pins shown. The lock pins must also be secured with the lynch pins provided. Proper installation of the wing lock pins will prevent the wings from falling uncontrollably during transport if a problem occurs with the hydraulic system.



SAFETY CHAIN, SMV SIGN AND REFLECTORS

Attach the safety tow chain and make sure that the SMV sign and reflectors supplied are installed on the unit before transporting.



OPERATING INSTRUCTIONS

1. When hooking to the tractor always use an approved draw pin. Secure the draw pin in place with a safety pin (or other locking device). The tractor and cultivator should also be connected together with an approved safety chain.



2. Make sure that the rear jack is raised before moving the cultivator.



3. Connect the cultivator's hydraulic lines to the tractor. Note that the 3/8" lines activate the wing fold hydraulics and the 1/2" lines activate the wheel lift hydraulics.



4. Extend the wheel lift cylinders and remove transport locks from the centre wheel cylinder rods.



5. Remove the wing lock pins and activate the hydraulics to lower the wings. Check to see that no observers or obstructions are in the path of the wings!



6. For proper field operation the wing fold cylinders must be fully extended to allow the wings to float.



7. Level the cultivator for the tractor draw bar height and set the working depth by following the procedure outlined in later in this manual under Operating Adjustments.



8. Periodically lift the machine completely out of the ground (or when turning at the end of the field). Fully extend the cylinders and hold the remote lever briefly. This rephases the wheel cylinders and keeps the wings at a uniform working depth with the centre section.

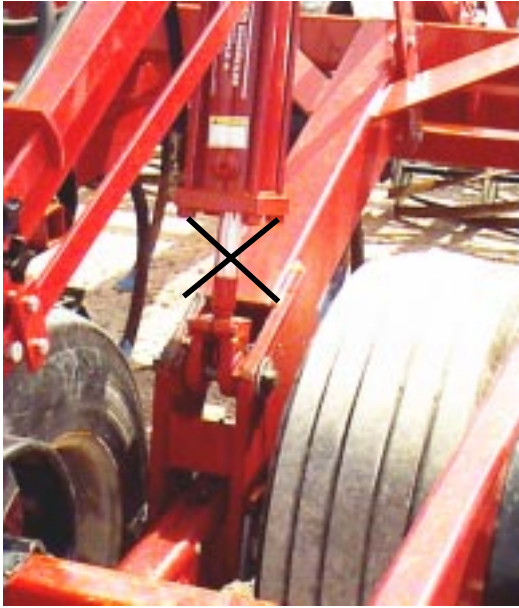


9. Try to avoid making sharp turns when working the soil. Turning with the tines in the ground can cause high stress levels in the cultivator frame and twists the tines, causing premature failure. Sharp turns are especially stressful on the wide double fold models, as the wing on the inside of the turn may actually try to move backwards in the soil! Lifting the cultivator helps to reduce stress on the cultivator tines and framework.



OPERATING ADJUSTMENTS

1. Before the machine can be used in the field some basic adjustments need to be made in order to level the machine from side to side and front to back. The first step is to remove all weight from the wheel arms by setting the machine on its tines on level ground, and placing the tractor hydraulic lever in float, before adjusting the wheel towers. The wheel operating cylinders should be fully retracted, (i.e. bottomed out), when the adjusting the wheel tower slider mechanism. Later, when the desired working depth is achieved the cylinder rods should be fully retracted when cultivating the soil.



2. When the wheel cylinders are fully retracted, adjust each wheel tower slider by removing the clip pin and turning the threaded adjuster with a 1 1/2" socket or box end wrench.
NOTE: Take extra care to adjust both of the centre wheel sliders to the same setting in order to prevent twisting of the rockshaft and self leveling linkages. We suggest that the sliders be adjusted to an initial setting of 4". (**NOTE: A 1" change in the slider adjustment makes approximately 3" difference in the working depth**). It may be necessary to adjust the wing wheel sliders at a different setting in order to make the cultivator wings run level from side to side with the centre frame, but these adjustments and other "fine tuning" can be made later when you get to the field.



3. Once the cultivator is set level side to side, the machine must be adjusted to run level from front to back. This "fore & aft" leveling is accomplished by adjusting the top link of the hitch in or out by turning the cast adjuster located near the drawclevis. Remove the spring clip pin and adjust the top link as required to bring the front row of tines level with the tines on the back. The adjustment of the working depth and setting of the castoring gauge wheels will also have an influence on the fore and aft levelness of the machine and you will have to "fine tune" this setting as well when you begin working in the field. The front and rear tines should be working the soil to the same depth.



4. After following the previous steps to level the machine the initial working depth of the tines can be set. This is accomplished by adjusting each of the wheel tower sliders in or out equal amounts. It is important to adjust each of the wheel tower sliders carefully so that the wheel cylinders are bottomed out at the desired maximum depth setting, thus ensuring that the machine will remain level when working the soil.



5. In order to make the depth adjustment more convenient in the field, the single point hydraulic control may be adjusted to "shallow up" the cultivator from original depth setting of the wheel tower sliders. However it is important to note that the single point hydraulics will not function properly or compensate for a poor job of levelling the machine if the mechanical adjustments have not been set properly. Turn the crank handle until the spring loaded striker bolt on the trigger arm assembly shuts off the valve poppet when the cultivator is lowered to the desired working depth. Coarse adjustment is made by loosening the set screw and sliding the adjuster tube to one of the 3 hole positions. Finer adjustments can be made by turning the crank handle and rotating the threaded adjuster in or out as required to move the spring loaded striker bolt into position to trigger the poppet valve and set the depth accurately.



Single Point Hydraulics - Valves and Crank Assembly

Fine Adjust: Turn Crank Handle to position Striker Bolt.

Coarse Adjust: Loosen Set Screw and Slide Tube.

6. The castoring gauge wheels should be adjusted equally to evenly distribute the load across the front of the cultivator and help to maintain fore and aft levelness. Remove the handle locking clip pin and crank the gauge wheels up or down as required.



Use a tape measure as shown to set each wheel the same.



7. Take care to secure the gauge wheel handles and the adjustment bolts by snapping the clip pins back into the "locked" position. This will keep the machine from going out of adjustment when working in the field.




FIELD LEVELLING PROCEDURE

1. Set the working depth of the cultivator as described in step 1 & 4 of the operating adjustments.
2. Cultivate a short distance and stop. Level the cultivator in the fore aft direction using the procedure in step 3, of the operating adjustments.
3. Adjust the wheel cylinder towers on the wings according to step 2 in the operating adjustments in order to level the wings from side to side with the centre section.
4. Repeat step 2 & 3 until you are satisfied that all the tines are working the soil at a uniform depth.
5. Set the height of the castoring gauge wheels in order to distribute the load evenly across the front of the cultivator and to help maintain cultivating depth accuracy.
NOTE: The castoring gauge wheels should not be used to set the working depth of the tines nor are they designed to carry the weight of the machine. They are provided to ensure depth accuracy is maintained in uneven field conditions and should only have light contact with the surface of the ground.
6. Use the single point hydraulics whenever you need to "shallow up" the cultivator from the original mechanical depth setting of the wheel tower sliders. Remember to readjust the gauge wheels after changing the working depth setting of the machine.



PARKING THE CULTIVATOR

1. When not in use, park the cultivator on level areas only. Install the wheel locks and wing fold lock pins and release all hydraulic pressure before disconnecting the hydraulic lines from the tractor. If the unit will be parked outside for an extended period of time, remove the wheel locks and lower the cultivator down to rest on the tines. Fully retract the wheel cylinders so that the cylinder rods will not be exposed to the elements during the winter months.
2. When parking the unit in the transport position, ensure that the unit is stable by blocking the wheels to prevent the unit from rolling when disconnected from the tractor.
3.  **IMPORTANT NOTE:** The cultivator is back heavy and therefore the tongue will fly up when disconnected from the tractor unless the rear jack is lowered. In order to keep the cultivator level when parked and prevent possible injury when removing the draw pin, be sure to lower the rear jack before disconnecting from the tractor.



MAINTENANCE & LUBRICATION

Refer to the section on "Safety Precautions" and make sure that all persons working with the implement have been instructed on the safe operation of the unit before performing any maintenance operations in and around the working areas of the machine. Make sure that the implement has been secured properly using the lock out devices supplied and/or ensure that all reasonable precautions have been taken to ensure that maintenance can be conducted in a safe manner by service personnel.

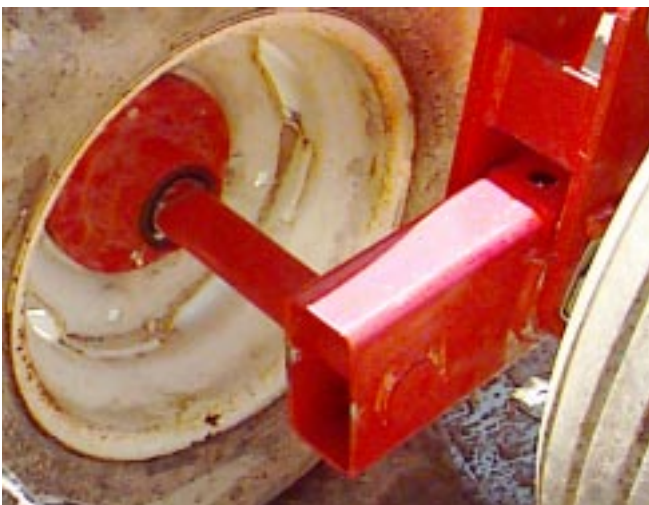
1. It is a good idea to grease the wing hinges and other frame pivot points daily. There are also grease fittings located on the front brace pivot bushings and on the castering gauge wheel swivel arms.



3. Inspect the wheel arm pivot bushings regularly for signs of excessive wear. The bushings are oil impregnated and do not require additional lubrication. However they should be replaced immediately if the bushing appears to be "thinning", or if it is cracked or deformed in any way.



2. Grease the wheel bearings and tandem arm bearings weekly. Bearing lubrication is recommended more frequently depending on the acreage worked or amounts of road travel involved.



4. Check the condition of the tires regularly and always maintain proper tire inflation.



5. Keep all bolts and nuts tight especially wheel bolts.

On new cultivators the wheel bolts must be tightened before road transport and then re-tightened after the first 2 hours of use, after the first day, and again after 1 week.

All other bolts should be checked after the first 2 hours use and at regular intervals when greasing the bearings or performing other regular maintenance.



6. Check the tine clamp bolts after the first few hours of operation and secure if loose. Inspect the shares daily and replace worn ones.



7. Occasionally check the condition of the pivot pin connections and other moving linkages for excessive wear. Replace wear bushings if linkages seem sloppy.



8. Frequently check the hydraulic system for leaks. Tighten any leaking fittings and carefully inspect the hydraulic lines and replace any worn or damaged hoses.



9. The cultivators hydraulic system is a rephasing type system where the movement of the larger centre wheel cylinders control the movement of the smaller wing wheel cylinders connected in series. It is a very reliable system but can be difficult to troubleshoot if one of the hose connections are wrong or an internal leak develops in one or more of the cylinders. For these and other problems, please refer to the hydraulic trouble shooting guide in the back of the booklet.

10. After making repairs to the hydraulic system please follow these additional instructions in order to remove air from the wheel cylinders and hydraulic lines:

A) Activate cylinders through two full cycles of extension and retraction.

B) Extend cylinders completely and hold lever while relief valve squeals for a minimum of 30 seconds.

C) Activate cylinders to full extension and retraction, they should now move in unison. If the cylinders do not move in and out smoothly repeat step B, as there may still be some air in the lines.

Note: If wheels do not work in unison, refer to the layout diagrams for the hydraulics. Carefully check to make sure that the hose connections & cylinder locations on the cultivator match the hydraulic assembly diagrams provided.



11. The cultivator should never be assembled and placed in the folded position without first charging the hydraulic system, but never assume this has been done! Even on a new machine, leaks can occur from improperly assembled hydraulic components and the folding system could have lost enough oil to allow the wings to free fall to the ground when the unit is unfolded.



If you suspect there is a problem with the wing fold system...

DO NOT USE THE HYDRAULICS TO LOWER THE WINGS!

If the wings are in the folded position with uncharged cylinders or you have discovered a leak in the folding system, the wings should be lowered to the ground in a safe manner.

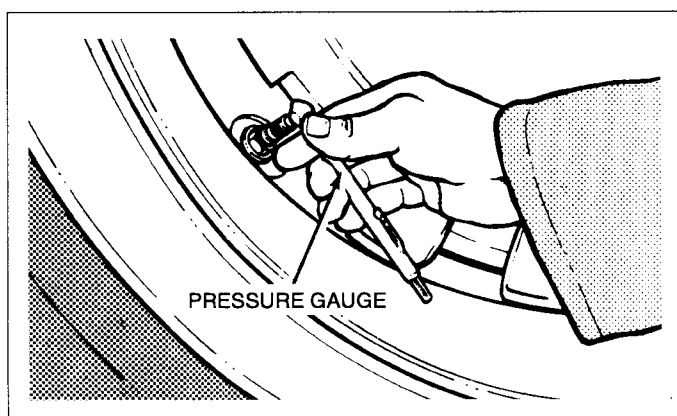
12. Remove clevis pins from the cylinder rods. Hold or block the wing fold cylinders in an upright position so that the rods can be extended and retracted several times to fill the cylinders with oil and remove all the air from the hydraulic lines. Replace clevis pins and check to make sure all connections are correct and secure. The hydraulic system can now be operated safely to fold and unfold the cultivator.



TIRE INFLATION:

Premature tire wear is caused by improper tire inflation. The cultivators performance in the field and in road transport are also affected.

- Check the tire pressure with an accurate pressure gauge when the tires are cold.
- Refer to the Tire Pressure Chart on this page for the recommended pressures, and maintain proper tire inflation at all times.
- Check the condition of the tires and rims. Look for cuts, abrasions, cracks or bulges, uneven or excessive tread wear, or rusted, dented or bent rims.
- Tire repair or replacement must be performed by qualified personnel only.
- Do not stand in a position directly over the tire while you are inflating it.
- Check wheel bolts or lug nuts.



Tire Inflation Chart:

Tire Size	Make	Ply Rating	Pressure
5.3 x 12	Various	2 - Trail	55 psi
5.9 x 12	Various	4 - SL Impl.	36 psi
7.6 x 15	GoodYear	8 - Farm Utility	52 psi
9.5 x 15	GoodYear	8 - Farm Utility	44 psi
9.5 x 15	GoodYear	12 - Farm Utility	64 psi
11 x 15	GoodYear	8 - Farm Utility	36 psi
11 x 15	GoodYear	12 - Hwy. Serv.	90 psi

If your tire is not listed above or the pressure rating embossed on the sidewall of the tire differs from the chart pressure, ***the Manufacturers Specifications for load rating and tire pressure embossed on the sidewall of the tire should be followed at all times.*** If in doubt, contact the Kongskilde Dealer in your area or your local Farm Tire Service Centre.

SINGLE POINT HYDRAULIC UPDATE:

We have updated the Single Point Hydraulics for 3800 Series Field Cultivators to include a Rebound Valve Assembly and a new Trigger Bar Assembly with Crank Adjust Mechanism.

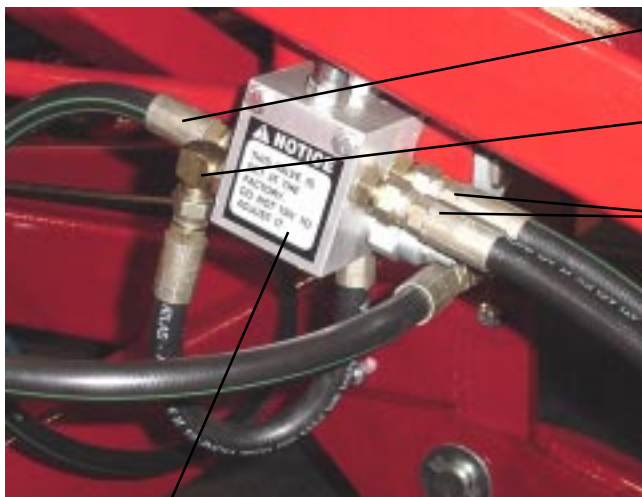
The rebound valve helps to prevent air ingestion into the hydraulic system and prevents the cylinders from operating unevenly. This is an advantage on large cultivators such as the 3800 Series in maintaining depth accuracy.

It is important to remember to raise the cultivator when turning at the end of the field, to fully extend and rephase the hydraulic wheel lift cylinders. However, the rebound valve helps to keep the implement level and hold the working depth by stabilizing the hydraulic pressure in the system when the cultivator is operating.

IMPORTANT NOTICE: THE REBOUND VALVE HAS BEEN PRESET BY THE MANUFACTURER AND SHOULD NOT BE TAMPERED WITH OR RE-ADJUSTED FOR ANY REASON.

Please refer to the 3800 Operator Manual for more information on the 3800 field adjustments or when trouble shooting problems with the hydraulic system.

The new Trigger Arm Assembly and Crank Adjust Mechanism is easier to adjust and use than the original system, and provides protection for the stroke control valve by adding a spring loaded striker bolt to the striker plate assembly.



VALVE PORT - C2 100" HOSE TO WHEEL LIFT RETURN LINE TEE

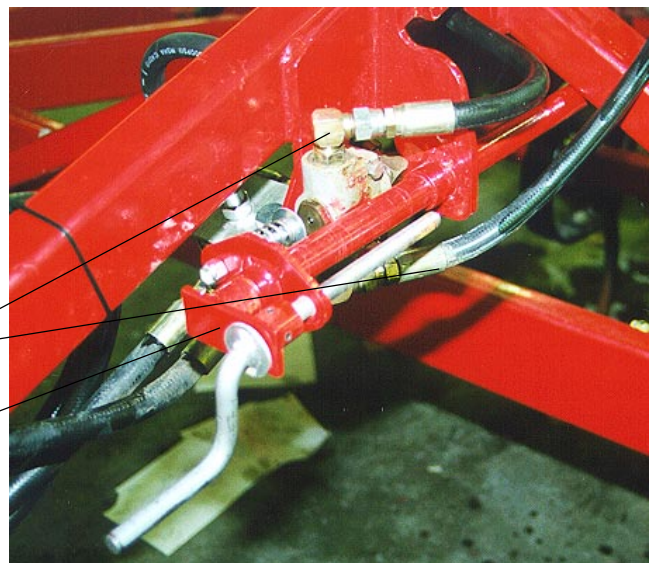
VALVE PORT - C1 16" HOSE TO REAR PORT OF SINGLE POINT VALVE

VALVE PORTS - V1 & V2 145" HOSES TO TRACTOR

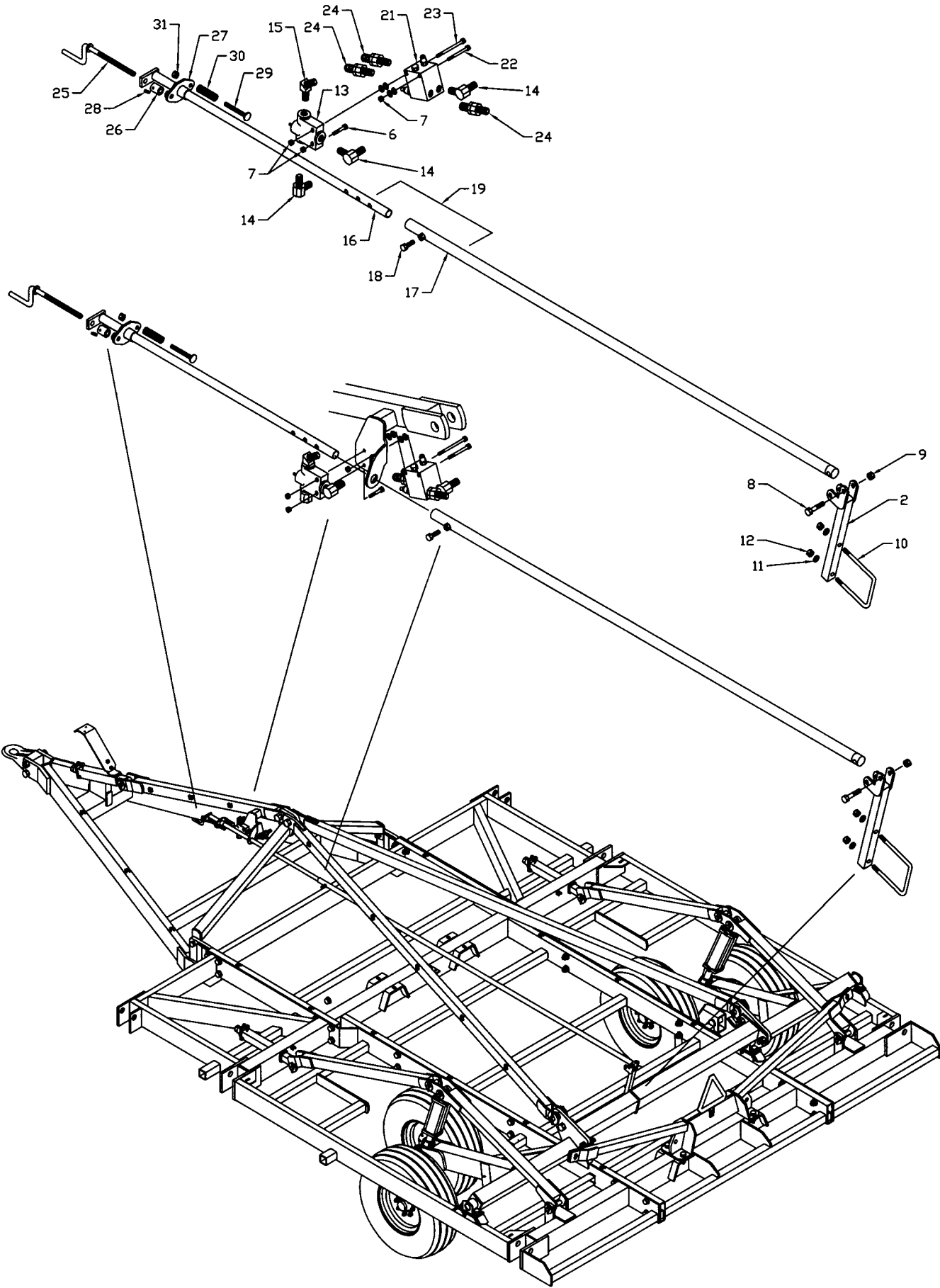
NEW REBOUND VALVE ASSEMBLY

VALVE PORTS - HOSES TO TOP OF WHEEL LIFT CYLINDERS

NEW CRANK ADJUST FOR SINGLE POINT VALVE TRIGGER ASSEMBLY



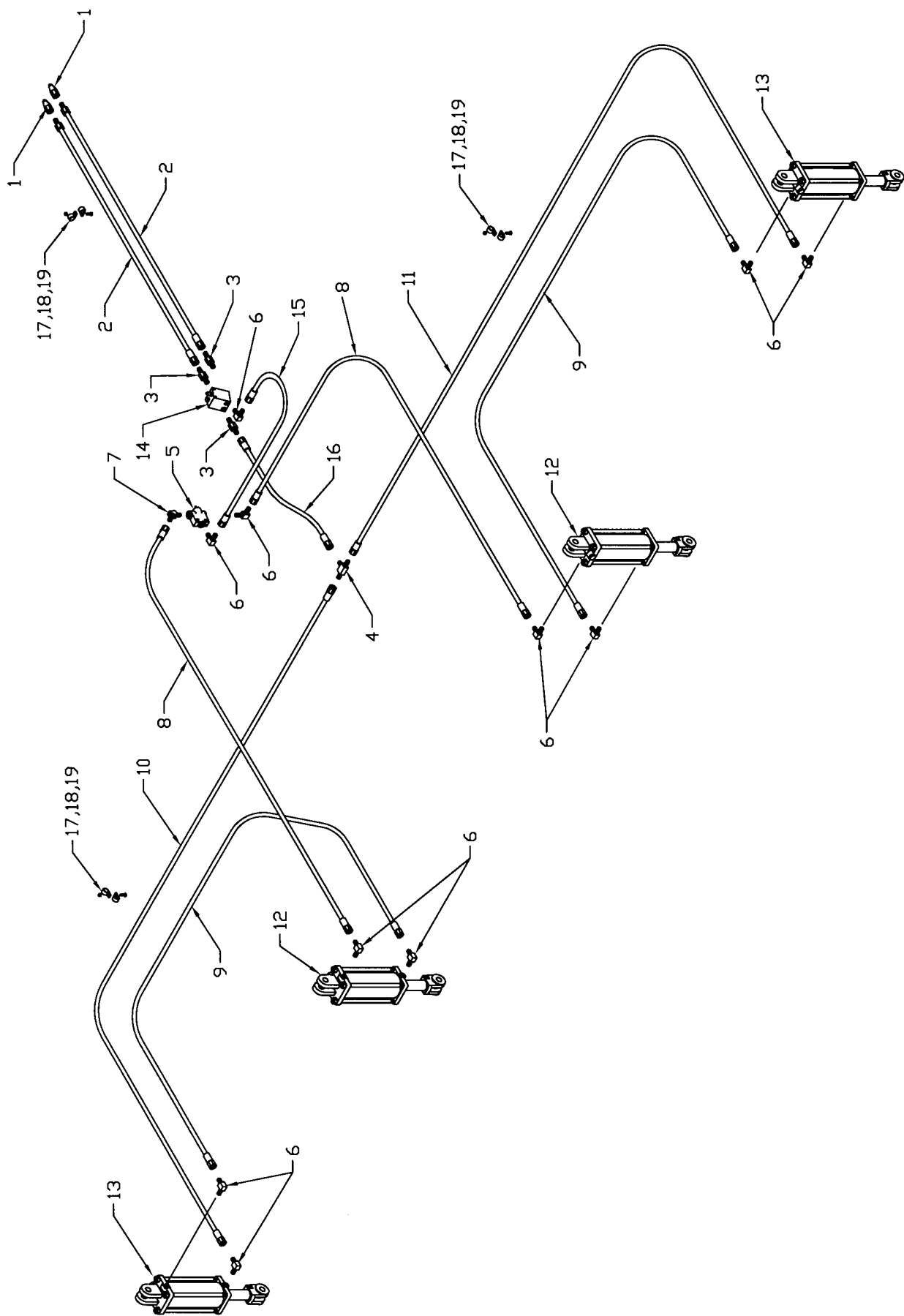
HYDRAULIC LAYOUTS:



Spare part list / 3800 Single Point Hydraulic Assembly. Date: 2000, 12. Serial #021450>

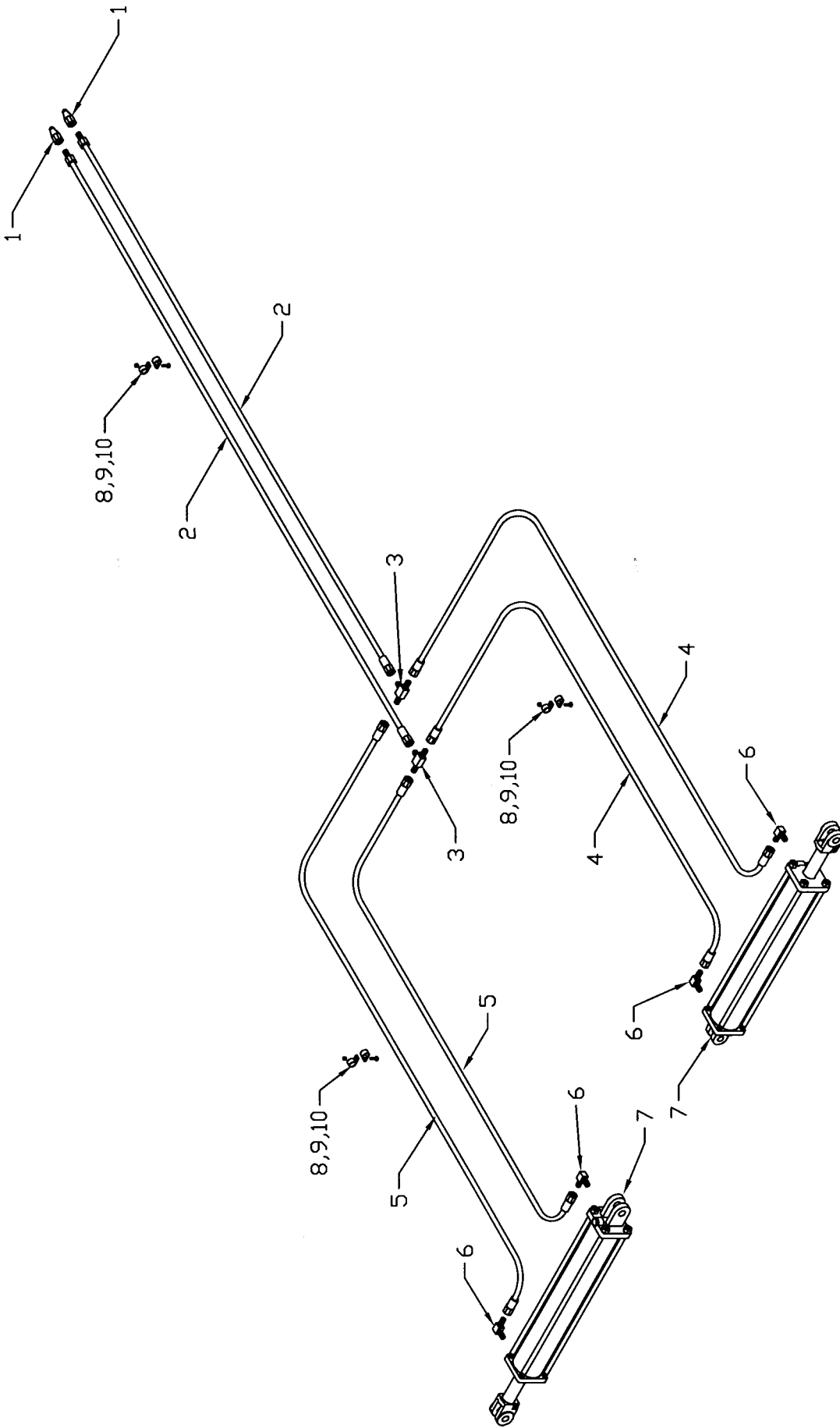
Fig.	Part no.	Description
2	01 242 308	Single Point Hydraulics Activation Arm
6	00 356 148	Bolt 5/16" x 2 1/2"
7	00 366 003	Locknut 5/16"
8	00 356 022	Bolt 1/2" x 2 1/2"
9	00 366 005	Locknut 1/2"
10	00 373 073	U-Bolt 3/8" x 4" x 6"
11	00 381 006	Flat Washer 3/8"
12	00 366 004	Locknut 3/8"
13	00 470 070	Stroke Control Valve
	00 470 072	Replacement Cartridge for Stroke control Valve - Not Shown
14	00 470 049	1/2" ORB x 1/2" JIC - 90 Degree Elbow
15	00 470 179	1/2" ORB x 1/2" JIC - 45 Degree Elbow
16	601242365	Single Point Hydraulic Adjuster
17	601242364	Single Point Hydraulics Trigger Arm
18	600372008	Set Screw 3/8" x 1-3/4"
19	601241141	Single Point Hydraulics Trigger Arm Assembly (Items 16,17,18)
21	600470229	Rebound Valve
22	600356034	Bolt 5/16" x 4"
23	300356035	Bolt 5/16" x 5 1/2"
24	600470048	1/2" ORB x 1/2" JIC - Straight Fitting
25	601242367	Hand Crank Adjuster
26	601242368	Crank Lock Bushing
27	601242366	Single Point Striker Weldment
28	600372006	Set Screw 1/4" x 3/4" (2 Required in Lock Bushing)
29	601141555	Striker Bolt
30	601140556	Striker Spring
31	601366004	Locknut 3/8"

(For Hydraulic Hoses & Connections see Wheel Hydraulic Diagrams)



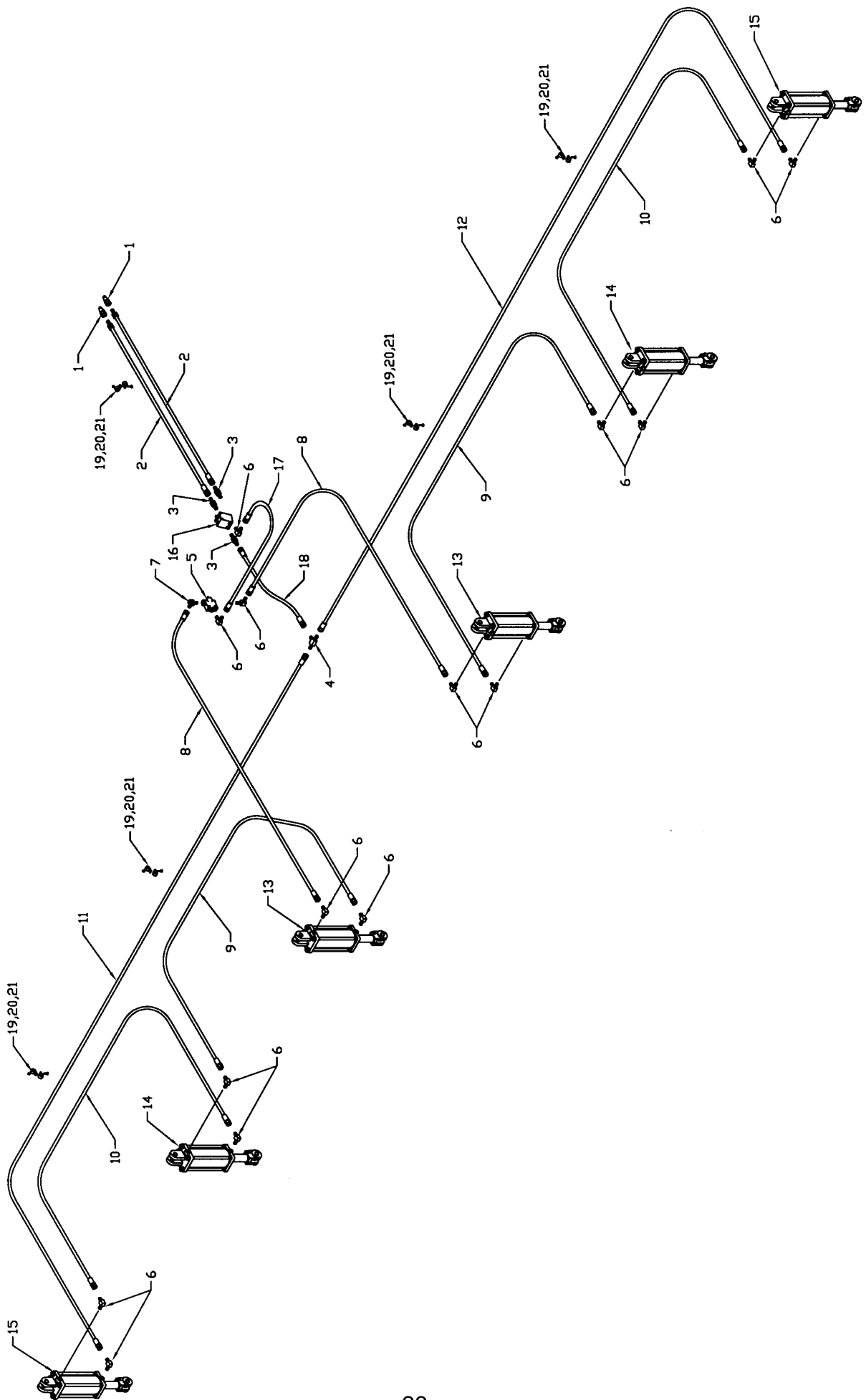
Spare part list / 3800 Single Fold Wheel Hydraulics. Date: 2001, 01.

Fig.	Part no.	Description
1	00 470 110	Quick Coupler (Optional-not part of hose kit)
2	00 470 129	1/2" Hose 1/2" Pipe x 1/2" JIC - 145" (all models)
3	00 470 048	1/2" O-ring x 1/2" JIC - Straight
4	00 470 004	1/2" Tee Fitting
5	00 470 070	Control Valve for Single Point Hydraulics
	00 470 072	Replacement Cartridge for Stroke control Valve - Not Shown
6	00 470 049	Elbow 1/2" O-ring x 1/2" JIC - 90 Degree
7	00 470 179	Elbow 1/2" O-ring x 1/2" JIC - 45 Degree
8	00 470 176	1/2" Hose 1/2" JIC x 1/2" JIC - 165" (all 3812 models)
	00 470 182	1/2" Hose 1/2" JIC x 1/2" JIC - 175" (all 3815 models)
9	00 470 178	1/2" Hose 1/2" JIC x 1/2" JIC - 185" (3812-22, 3815-25)
	00 470 135	1/2" Hose 1/2" JIC x 1/2" JIC - 210" (3812-25, 3815-28)
	00 470 186	1/2" Hose 1/2" JIC x 1/2" JIC - 230" (3812-28, 3815-32)
	00 470 139	1/2" Hose 1/2" JIC x 1/2" JIC - 250" (3812-32, 3815-35)
	00 470 142	1/2" Hose 1/2" JIC x 1/2" JIC - 270" (3812-35, 3815-38)
10	00 470 181	1/2" Hose 1/2" JIC x 1/2" JIC - 155" (3812-22)
	00 470 182	1/2" Hose 1/2" JIC x 1/2" JIC - 175" (3812-25, 3815-25)
	00 470 185	1/2" Hose 1/2" JIC x 1/2" JIC - 195" (3812-28, 3815-28)
	00 470 177	1/2" Hose 1/2" JIC x 1/2" JIC - 215" (3812-32, 3815-32)
	00 470 137	1/2" Hose 1/2" JIC x 1/2" JIC - 235" (3812-35, 3815-35)
	00 470 140	1/2" Hose 1/2" JIC x 1/2" JIC - 255" (3815-38)
11	00 470 177	1/2" Hose 1/2" JIC x 1/2" JIC - 215" (3812-22)
	00 470 137	1/2" Hose 1/2" JIC x 1/2" JIC - 235" (3812-25, 3815-25)
	00 470 140	1/2" Hose 1/2" JIC x 1/2" JIC - 255" (3812-28, 3815-28)
	00 470 143	1/2" Hose 1/2" JIC x 1/2" JIC - 275" (3812-32, 3815-32)
	00 470 146	1/2" Hose 1/2" JIC x 1/2" JIC - 295" (3812-35, 3815-35)
	00 470 187	1/2" Hose 1/2" JIC x 1/2" JIC - 315" (3815-38)
12	00 474 456	Cylinder 4 x 12 - black
13	00 474 447	Cylinder 3 3/4 x 12 - black
14	00 470 229	Rebound Valve Assembly
15	00 470 230	1/2" Hose 1/2" JIC x 1/2" JIC - 16" (all models)
16	00 470 231	1/2" Hose 1/2" JIC x 1/2" JIC - 100" (all models)
17	00 361 039	Carriage Bolt 1/4" x 1"
18	00 365 006	Locknut 1/4"
19	00 470 047	Hose Clamp 1/2"



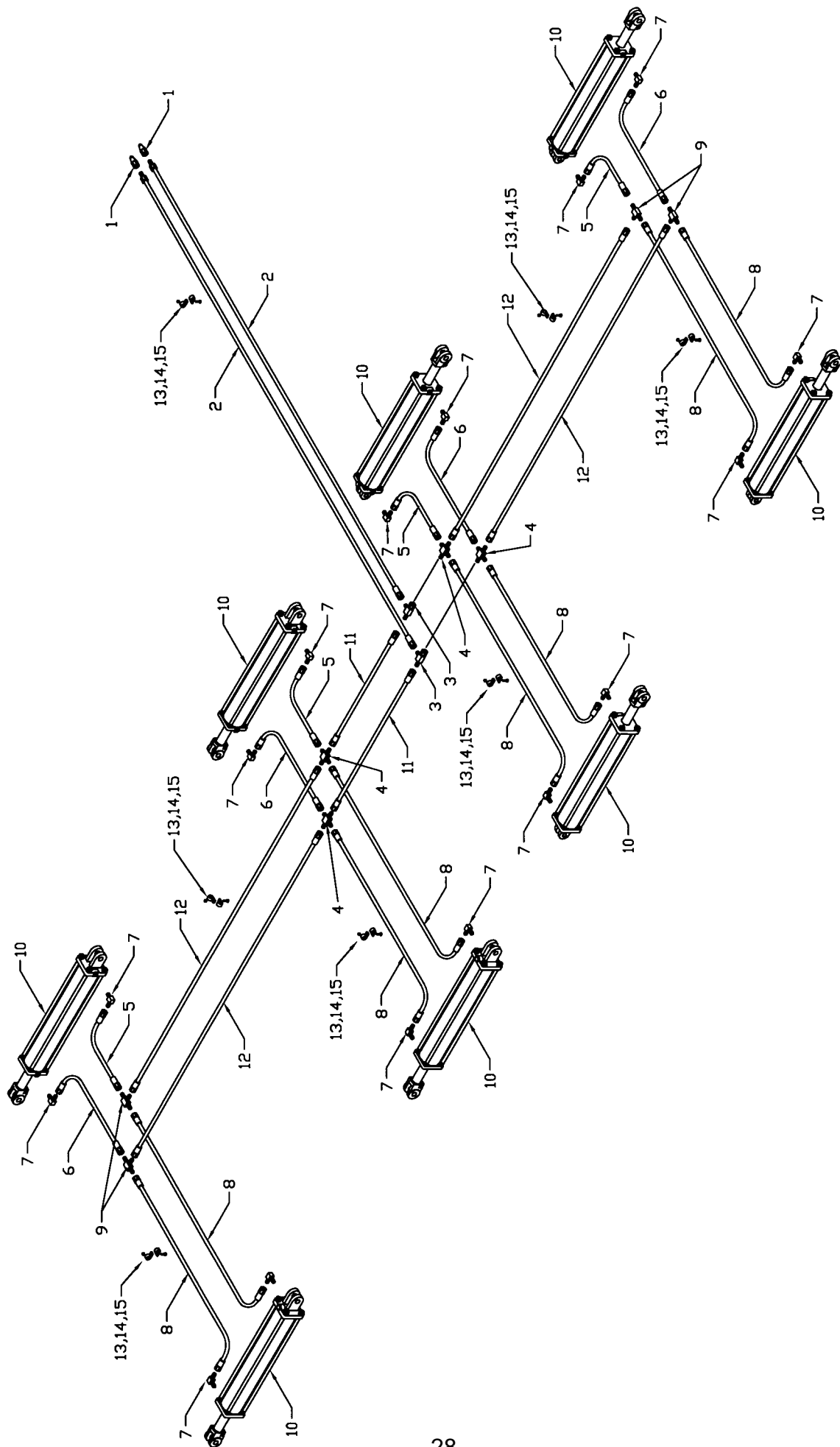
Spare part list / 3800 Single Wing Fold Hydraulics. Date: 2001, 01.

Fig.	Part no.	Description
1	00 470 110	Quick Coupler
2	00 470 157	3/8" Hose 1/2" Pipe x 3/8" JIC - 215"
3	00 470 003	Tee 3/8" JIC
4	00 470 162	1/4" Hose 3/8" JIC x 3/8" JIC - 112" (3812, 3815)
5	00 470 169	1/4" Hose 3/8" JIC x 3/8" JIC - 175" (3812)
	00 470 184	1/4" Hose 3/8" JIC x 3/8" JIC - 215" (3815)
6	00 470 124	Elbow 1/2" O-ring x 3/8 JIC
7	00 474 462	Cylinder 4 x 30 - black
8	00 361 039	Carriage Bolt 1/4" x 1"
9	00 365 006	Locknut 1/4"
10	00 470 007	Hose Clamp 3/8"



Spare part list / 3800 Double Fold Wheel Hydraulics. Date: 2001, 01.

Fig.	Part no.	Description
1	00 470 110	Quick Coupler
2	00 470 129	1/2" Hose 1/2" Pipe x 1/2" JIC - 145" (all models)
3	00 470 048	1/2" O-ring x 1/2" JIC - Straight
4	00 470 004	1/2" Tee Fitting
5	00 470 070	Control Valve for Single Point Hydraulics
	00 470 072	Replacement Cartridge for Stroke control Valve - Not Shown
6	00 470 049	Elbow 1/2" O-ring x 1/2" JIC - 90 Degree
7	00 470 179	Elbow 1/2" O-ring x 1/2" JIC - 45 Degree
8	00 470 176	1/2" Hose 1/2" JIC x 1/2" JIC - 165" (all 3812 models)
	00 470 182	1/2" Hose 1/2" JIC x 1/2" JIC - 175" (all 3815 models)
9	00 470 135	1/2" Hose 1/2" JIC x 1/2" JIC - 210" (3812-35D, 3815-38D)
	00 470 186	1/2" Hose 1/2" JIC x 1/2" JIC - 230" (3812-38,42 3815-42,45)
	00 470 139	1/2" Hose 1/2" JIC x 1/2" JIC - 250" (3812-42H,45,48, 3815-45H,48,52)
	00 470 142	1/2" Hose 1/2" JIC x 1/2" JIC - 270" (3812-45H,52,55, 3815-48H,55,58)
10	00 470 178	1/2" Hose 1/2" JIC x 1/2" JIC - 185" (3812-35D,38,42H,45H, 3815-38D,42,45H,48H)
	00 470 135	1/2" Hose 1/2" JIC x 1/2" JIC - 210" (3812-42,45, 3815-45,48)
	00 470 186	1/2" Hose 1/2" JIC x 1/2" JIC - 230" (3812-48,52, 3815-52,55)
	00 470 139	1/2" Hose 1/2" JIC x 1/2" JIC - 250" (3812-55, 3815-58)
11	00 470 137	1/2" Hose 1/2" JIC x 1/2" JIC - 235" (3812-35D)
	00 470 140	1/2" Hose 1/2" JIC x 1/2" JIC - 255" (3812-38, 3815-38D)
	00 470 143	1/2" Hose 1/2" JIC x 1/2" JIC - 275" (3812-42,42H, 3815-42)
	00 470 146	1/2" Hose 1/2" JIC x 1/2" JIC - 295" (3812-45,45H, 3815-45,45H)
	00 470 187	1/2" Hose 1/2" JIC x 1/2" JIC - 315" (3812-48, 3815-48,48H)
	00 470 188	1/2" Hose 1/2" JIC x 1/2" JIC - 335" (3812-52, 3815-52)
	00 470 189	1/2" Hose 1/2" JIC x 1/2" JIC - 355" (3812-55, 3815-55)
	00 470 190	1/2" Hose 1/2" JIC x 1/2" JIC - 375" (3815-58)
12	00 470 146	1/2" Hose 1/2" JIC x 1/2" JIC - 295" (3812-35D)
	00 470 187	1/2" Hose 1/2" JIC x 1/2" JIC - 315" (3812-38, 3815-38D)
	00 470 188	1/2" Hose 1/2" JIC x 1/2" JIC - 335" (3812-42,42H, 3815-42)
	00 470 189	1/2" Hose 1/2" JIC x 1/2" JIC - 355" (3812-45,45H, 3815-45,45H)
	00 470 190	1/2" Hose 1/2" JIC x 1/2" JIC - 375" (3812-48, 3815-48,48H)
	00 470 191	1/2" Hose 1/2" JIC x 1/2" JIC - 395" (3812-52, 3815-52)
	00 470 192	1/2" Hose 1/2" JIC x 1/2" JIC - 415" (3812-55, 3815-55)
	00 470 193	1/2" Hose 1/2" JIC x 1/2" JIC - 435" (3815-58)
13	00 474 456	Cylinder 4 x 12 - black
14	00 474 447	Cylinder 3 3/4 x 12 - black
15	00 474 431	Cylinder 3 1/2 x 12 - black
16	00 470 229	Rebound Valve Assembly
17	00 470 230	1/2" Hose 1/2" JIC x 1/2" JIC - 16" (all models)
18	00 470 231	1/2" Hose 1/2" JIC x 1/2" JIC - 100" (all models)
19	00 361 039	Carriage Bolt 1/4" x 1"
20	00 365 006	Locknut 1/4"
21	00 470 047	Hose Clamp 1/2"



Spare part list / 3800 Double Wing Fold Hydraulics. Date: 2001, 01.

Fig.	Part no.	Description
1	00 470 110	Quick Coupler
2	00 470 157	3/8" Hose 1/2" Pipe x 3/8" JIC - 215" (all models)
3	00 470 097	Swivel Tee Run 3/8" JIC
4	00 470 125	Tube Cross
5	00 470 164	1/4" Hose 3/8" JIC x 3/8" JIC - 20" (all models)
6	00 470 167	1/4" Hose 3/8" JIC x 3/8" JIC - 30" (all models)
7	00 470 124	Elbow 1/2" O-ring x 3/8 JIC
8	00 470 162	1/4" Hose 3/8" JIC x 3/8" JIC - 112 (all models)
9	00 470 003	Tee 3/8" JIC
10	00 474 462	Cylinder 4 x 30 - black
11	00 470 161	3/8" Hose 3/8" JIC x 3/8" JIC - 65" (3812)
	00 470 170	3/8" Hose 3/8" JIC x 3/8" JIC - 100" (3815)
12	00 470 194	3/8" Hose 3/8" JIC x 3/8" JIC - 80" (3812-35D, 3815-38D)
	00 470 170	3/8" Hose 3/8" JIC x 3/8" JIC - 100" (3812-38,42, 3815-42,45)
	00 470 158	3/8" Hose 3/8" JIC x 3/8" JIC - 120" (3812-42H,45,48, 3815-45H,48,52)
	00 470 159	3/8" Hose 3/8" JIC x 3/8" JIC - 140" (3812-45H,52,55, 3815-48H, 55,58)
13	00 361 039	Carriage Bolt 1/4" x 1"
14	00 365 006	Locknut 1/4"
15	00 470 007	Hose Clamp 3/8"

HYDRAULIC TROUBLE SHOOTING CHART

Problem	Cause	Remedy
1) Cultivator cylinders do not work in unison. Cylinders seem spongy.	Air in System	Raise cultivator to highest transport position. Hold the hydraulic lever on the tractor in the "raise" position for approx. 30 seconds. Flow passes through the cylinder bypass ports to flush air out of the system.
2) Wing cylinder contracts when master extends.	Hose connections wrong.	Check circuit according to the hose layout diagram.
3) Wing cylinders stroke further than master cylinders when retracting wings too deep, or: One wing cylinder will not retract fully when all others are retracted.	a) Wrong hose connections. b) Cylinder sizes or locations wrong.	Check circuit according to the hose layout diagram. Check cylinder locations and sizes according to hydraulic layout diagram.
4) One section of cultivator settles down in use.	a) System not being rephased. b) External leak from cylinder, hose or fitting. c) Internal leak in cylinder.	When the cylinders are extended fully each cylinder bypasses a small amount of oil to allow other cylinders to catch up. This rephasing is done each time the cultivator is raised fully to the top and must be done periodically and is recommended at each end of the field. Repair leaking component. Install new cylinder seal kit in the wing cylinder that settles.
5) Entire cultivator settles.	a) Tractor valve leaking back.	To check, remove hose from the tractor when cultivator is raised. This eliminates the tractor valve from the circuit. CAUTION: Make certain your tractor connections safely allow this operation.

Problem	Cause	Remedy
5) Entire cultivator settles.	b) External leak. c) Wing cylinder and at least one master leaking internally.	Repair leaking component. Install new cylinder seal kits.
6) Cultivator settles in transport or while parked.	Not using transport blocks.	The hydraulic system is not intended to hold the cultivator up permanently. A slow settling when not in use is normal.
7) Cylinders will not rephase.	a) Dirt blocking bypass ports in cylinder. b) Faulty cylinder.	Air pressure can be used to determine which cylinder will not bypass when extended. Rephasing cylinder and repair parts must be used in this service.
8) Air returns to system causing problems 1, 4, 5 to recur.	a) Air entering system. b) See item 7.	Check tractor oil level. Check tractor hydraulic pump. See item 7. Note: A mixture of oil and air forms a foam which may give unexpected results. It may take a few hours use before all foam is expelled.
9) Centre section is not level or goes out of level in use.	a) Rockshaft bolt broken. b) Rockshaft bent. c) Faulty single point hydraulic control valve.	Replace broken bolt. Always adjust wheel towers the same. See Dealer for instructions on straightening the shaft in place. Replace valve cartridge.
10) Both centre section and one wing settle together. Remaining wing raises or stays at the top.	Internal leak in the master cylinder on the side which the wing rises.	Install new cylinder seal kit.

