

## **ASSEMBLY MANUAL**

# 5850 - 3 SECTION CHISEL PLOW

**2012 PRODUCTION-SERIAL # 460470 & UP** 

WIL-RICH
PO Box 1030
Wahpeton, ND 58074
PH (701) 642-2621
Fax (701) 642-3372
www.wil-rich.com

### PERSONAL SAFETY IS IMPORTANT!

ALL PERSONNEL INVOLVED WITH THE ASSEMBLY AND/OR OPERATION OF THIS EQUIPMENT MUST BE INFORMED OF PROPER SAFETY PROCEDURES. OPERATOR'S AND ASSEMBLY MANUALS PROVIDE THE NECESSARY INFORMATION. IF THE MANUAL IS LOST FOR A PARTICULAR IMPLEMENT, ORDER A REPLACEMENT AT ONCE. OPERATOR'S AND ASSEMBLY MANUALS ARE AVAILABLE AT NO CHARGE UPON REQUEST.

**ADDRESS INQUIRIES TO:** 

**WIL-RICH LLC** 

**PO BOX 1030** 

**WAHPETON, ND 58074** 

PH (701)642-2621 FAX (701)642-3372

Remove all wires and arrange the parts conveniently.

NOTE: Always wear safety glasses or goggles and be careful when cutting wires and steel bands as they are under tension and will spring back when cut.

Wherever the terms "left" and "right" are used, it must be understood to mean from a position behind and facing the machine.

Lubricate all bearings and moving parts as you proceed and make sure they work freely.

Loosely install all bolts connecting mating parts before final tightening.

When tightening bolts, they must be torqued to the proper number of foot-pounds as indicated in the table unless specified. It is important that all bolts be kept tight.

On new machines, all nuts and bolts must be rechecked after a few hours of operation.

GRADE 2	GRADE 5		GRADE 8					
TORQUE IN FOOT POUNDS								
BOLT DIA	3/8	1/2	5/8	3/4	7/8	1		
HEX HEAD	9/16	3/4	15/16	1-1/8	1-5/1	1-1/2		
UNC GR2	18	45	89	160	252	320		
UNC GR5	30	68	140	240	360	544		
UNC GR8	40	100	196	340	528	792		
UNF GR2	21	51	102	178	272	368		
UNF GR5	32	70	168	264	392	572		
UNF GR8	48	112	216	368	792	840		

### CAUTION

TO AVOID INJURY AND/OR MACHINE DAMAGE:

- Refer to Operator's Manual for safety instructions.
- Do not stand or climb on machine when operating.
- Use clean hazard flashers and SMV sign when transporting.
- Observe highway traffic regulations.

23325

### ASSEMBLY INFORMATION

When replacing a bolt, use only a bolt of the same grade or higher. Except in shear bolt applications, where you must use the same grade bolt.

Bolts with no markings are grade 2

Grade 5 bolts furnished with the machine are identified by three radial lines on the head.

Grade 8 bolts furnished with the machine are identified by six radial lines on the head.

All U-bolts are grade 5.



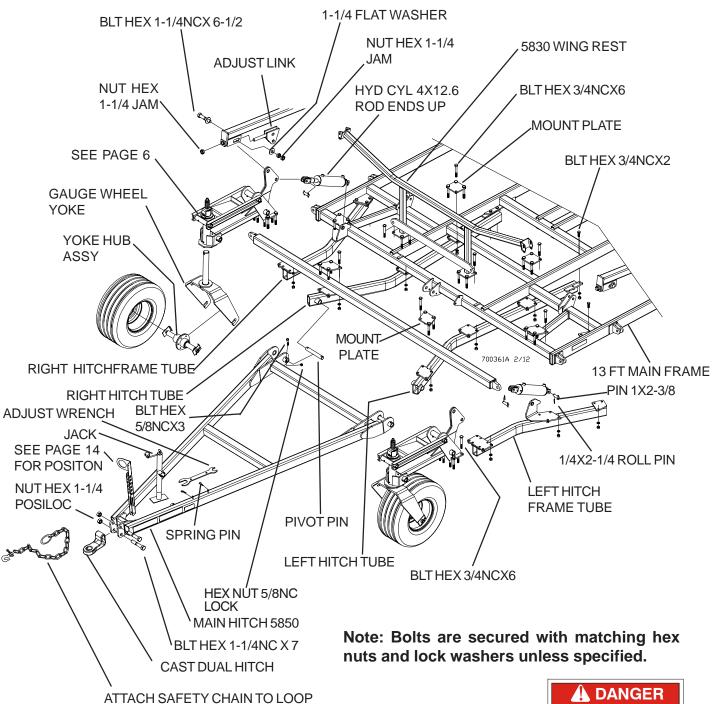
THIS SYMBOL USED TO CALL YOUR ATTENTION TO INSTRUCTIONS CON-CERNING YOUR PERSONAL SAFETY. BE SURE TO OBSERVE AND FOL-LOW THESE INSTRUCTIONS

### **CAUTION**

Failure to follow these instructions may result in personal injury and/or equipment damage.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

### 13' FRONT HITCH





ON MAIN HITCH

### **CAUTION**

TO AVOID INJURY AND/OR MACHINE DAMAGE:

- Refer to Operator's Manual for safety instructions.
- Do not stand or climb on machine when operating.
- Use clean hazard flashers and SMV sign when transporting.
- Observe highway traffic regulations.

23325



#### STAND CLEAR AT ALL TIMES: Never walk or stand in the

- path of the wings.
- Completely lower wings before performing service or adjustments.
- Failure to do so will result in serious injury or death.

### 13' MAIN FRAME

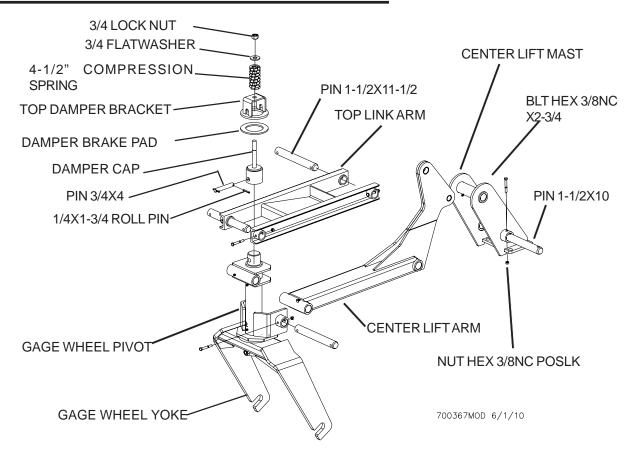
NOTE: WING REST ON FRONT OF MAIN FRAME MOUNTS ON TOP OF MAIN FRAME TUBING AND BOLTS INTO HITCH POLE PLATES.

NOTE: 6' WING USES 1 WING REST ON BACK OF IMPLEMENT.

Note: See shank placement pages for correct locations of all add-on stubs.

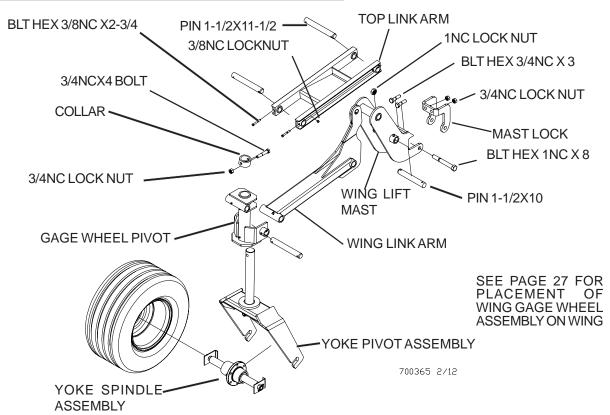
NOTE: If there are rear attachments to be mounted to the rear bar, check placement WSHR FLAT 1-1/4 before mounting rear wing rest. HEX NUT 1/2IN W/LOCK WASHER HEADLESS PIN(2) 1-1/4X3.38 **CP SHANK STUB** 1/4x2-1/4 ROLL PIN MAIN MAST TUBE MAIN AXLE ASSY 5850 BLT HEX 3/4-10NCX4 5830 WING REST BLT HEX 3/4-10NCX6 SEE BELOW 3/4NCx14 13 FT MAIN FRAME **GR5 BOLT AXLE CLAMP ASSEMBLY** RIGHT HITCH BLT HEX 1/2-FRAME TUBE 20NFX3-1/4 RIGHT HITCH TUBE - 5850 700364MDD,WMF 5/12 FRONT CROSS MOUNT LOCK NUT 2IN HUB & SPINDLE TUBE **PLATE** HEX 1/2-20NF **LEFT HITCH** LEFT HITCH FRAME TUBE SPRING PIN TUBE - 5850 Use wing lock pin to lock wing only when unit is to be stored to prevent unplanned unfolding. LOCK Store pin in lower hole when not PIN in use. Lock pin can be used on either or rear wing lock, preferably the front for access. 700364MDD-1 WING STOP LOCK PIN STORAGE HOLE

### **CENTER GAGE WHEEL ASSEMBLY**



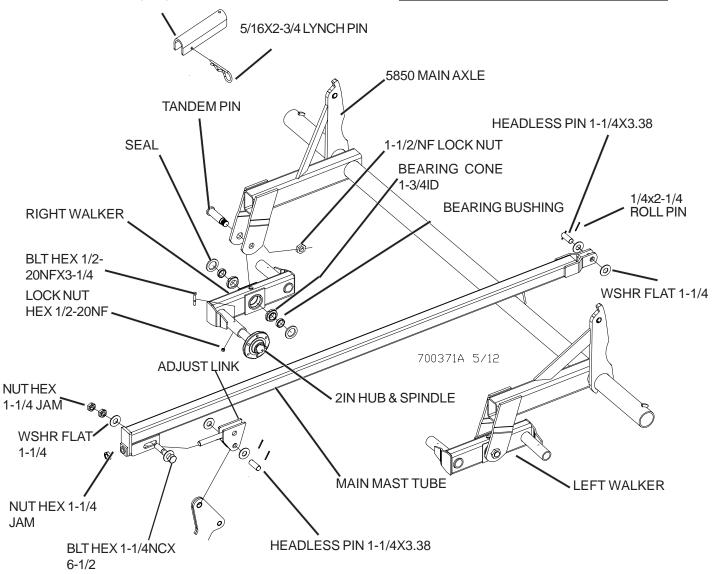
### **WING GAGE WHEEL ASSEMBLY**

CENTER AND WING GAGE WHEEL ASSEMBLIES ARE PARTIALLY ASSEMBLED AT THE FACTORY.



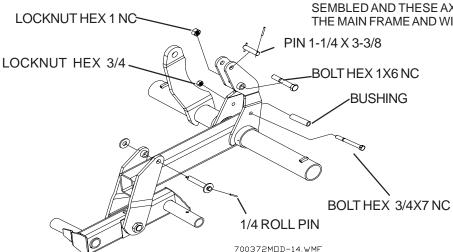
### **MAIN AXLE ASSEMBLY**



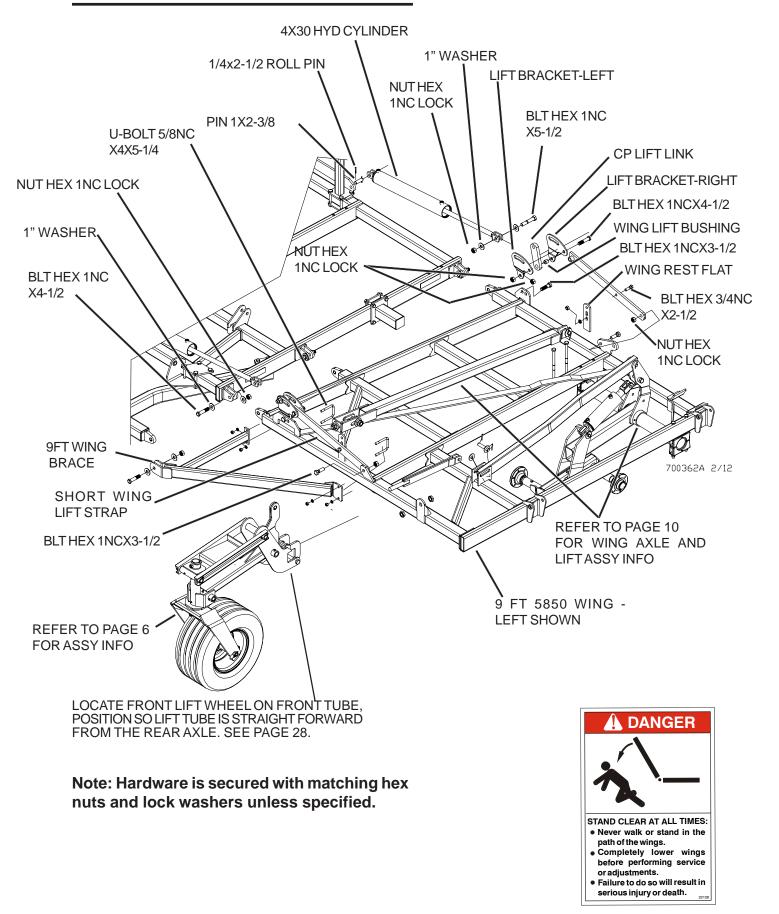


### WING AXLE ASSEMBLY

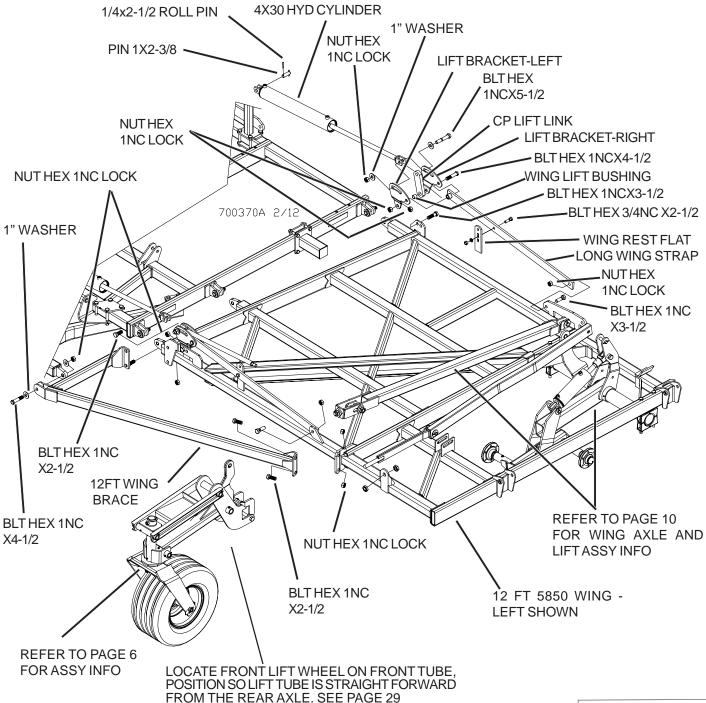
MAIN FRAME AND MAIN WING AXLES AND WALKERS ARE ASSEMBLED AND THESE AXLE ASSEMBLIES ARE MOUNTED TO THE MAIN FRAME AND WINGS AT THE FACTORY.



### 9 FT INNER WING ASSEMBLY



### 12 FT INNER WING ASSEMBLY

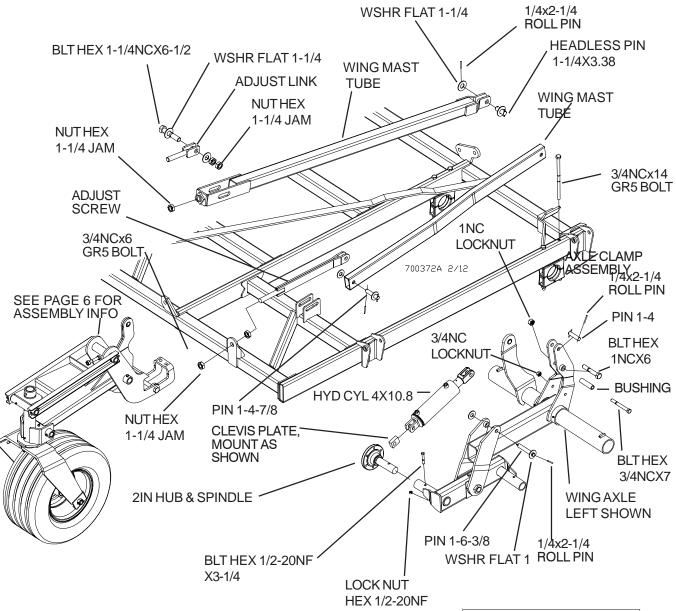


Note: Hardware is secured with matching hex nuts and lock washers unless specified.

Note: See shank placement pages for correct locations of all add-on stubs.



### **WING AXLE ASSEMBLY**

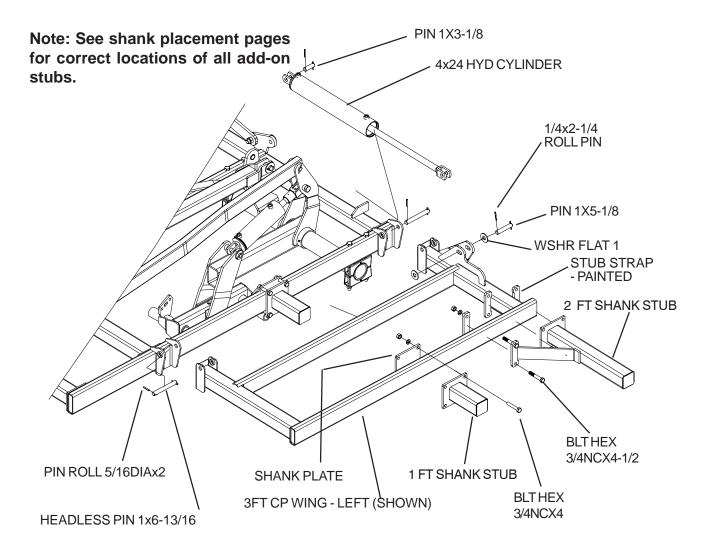


Note: Hardware is secured with matching hex nuts and lock washers unless specified.

MAIN FRAME AND MAIN WING AXLES AND WALKERS ARE ASSEMBLED AT THE FACTORY AND COMPLETED AXLE ASSEMBLIES ARE MOUNTED TO THE MAIN FRAME AND WINGS AT THE FACTORY.

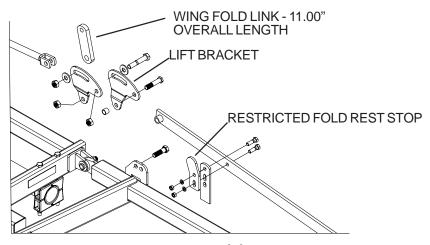


### 3' OUTER WING

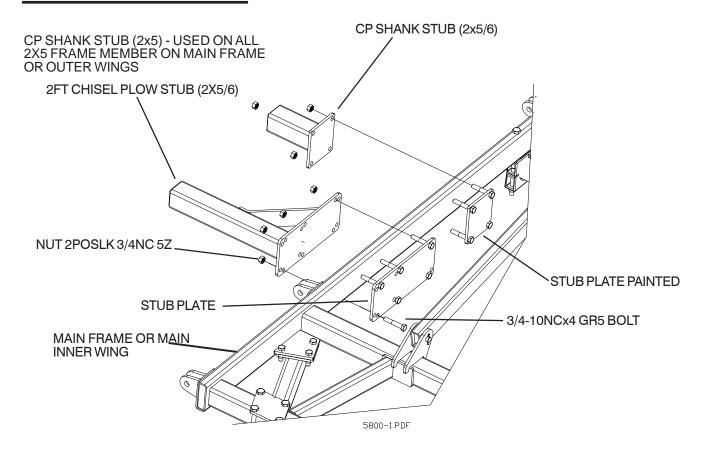


Note: Hardware is secured with matching hex nuts and lock washers unless specified.

Note: On unit with 12 ft inner wings and 3 ft outer wings unique wing fold links, brackets and rest stops are required.

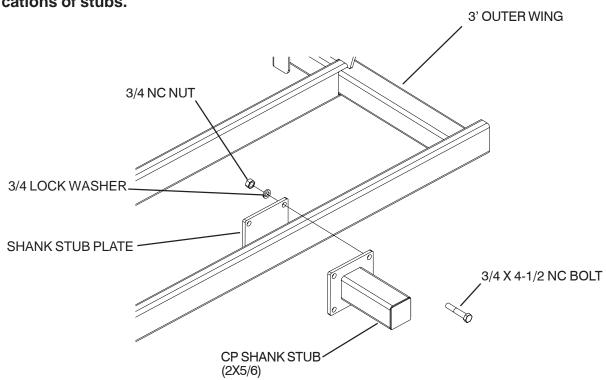


### **STUB EXTENSIONS**

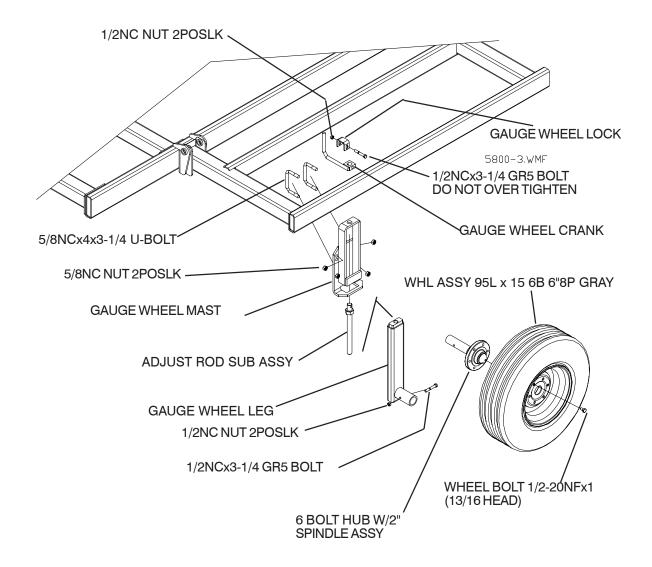


Note: Hardware is secured with matching hex nuts and lock washers unless specified.

Note: See shank placements for locations of stubs.

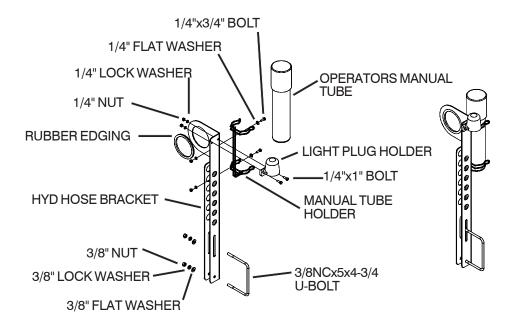


### **RIGID GAUGE WHEEL**

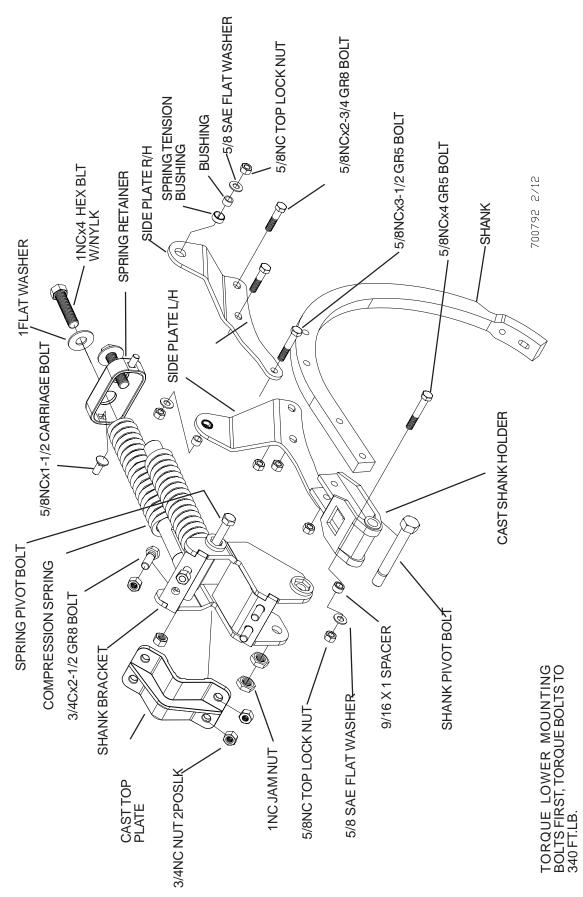


RIGID GAGE WHEEL CAN ALSO BE MOUNTED TO THE OUTSIDE OF AN OUTER 3 FT WING IF DESIRED. GAUGE WHEEL MAST WILL FIT 4" AND 5" TUBES, MOUNTING U-BOLTS FOR BOTH TUBE SIZES ARE SUPPLIED WITH THE OPTION..

### **UTILITY POLE ASSEMBLY**

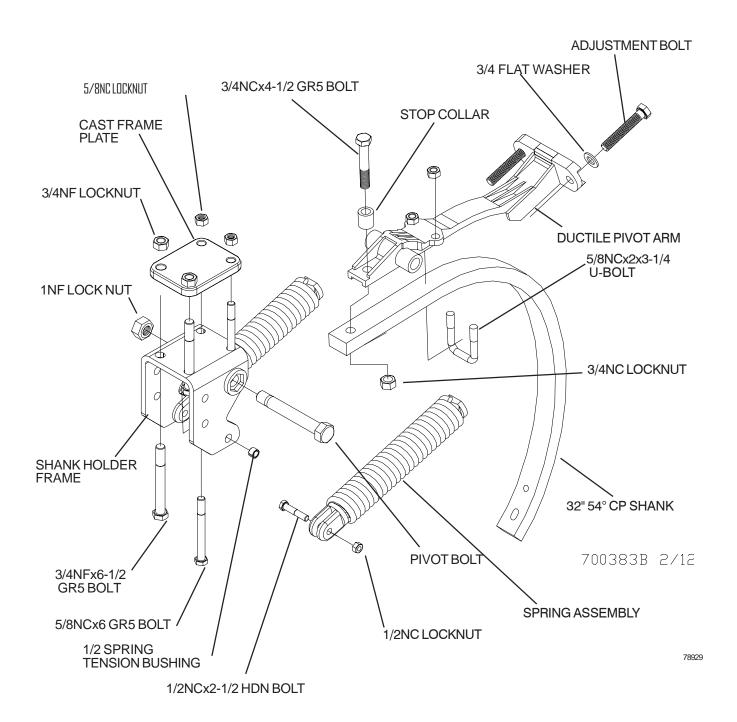


### 1000 LB CP SHANK ASSEMBLY



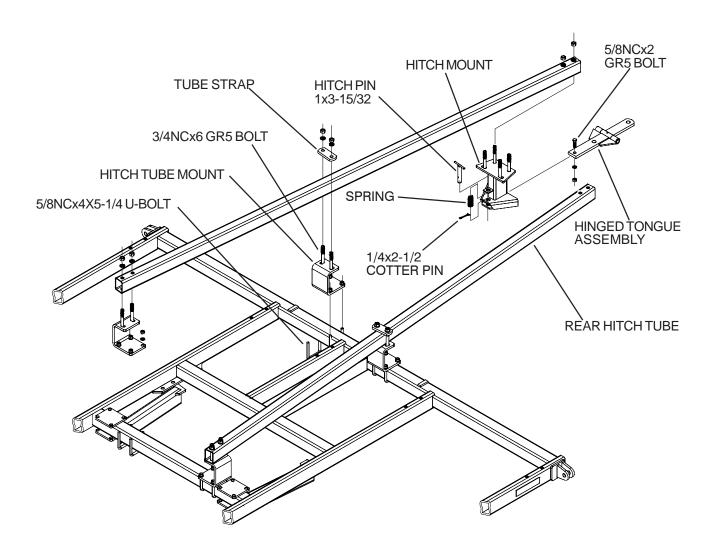
TORQUE ALL HARDWARE TO FT/LB NOTED ON PAGE 3

### 32IN 54 DEGREE 650 LB CP SHANK ASSEMBLY



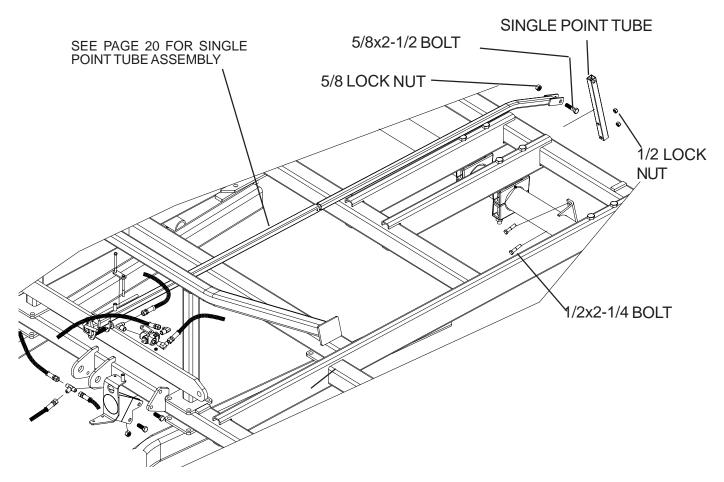
TORQUE ALL HARDWARE TO FT.LB. NOTED ON PAGE 3

### **UNIVERSAL AUXILIARY HITCH**

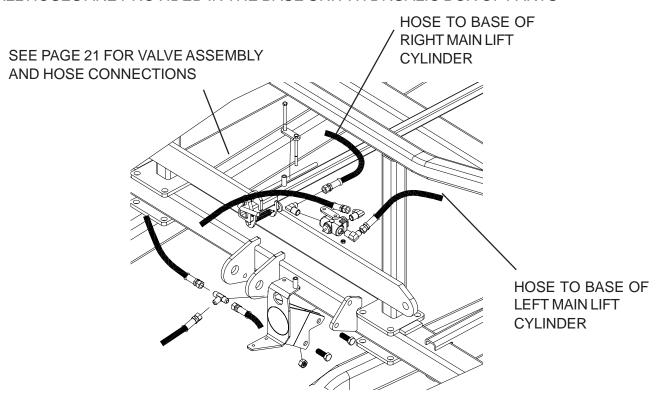


USE OF THIS HITCH MAY PREVENT THE USE OF SINGLE POINT CONTROLS OR MOUNTING OF FLUID TANKS

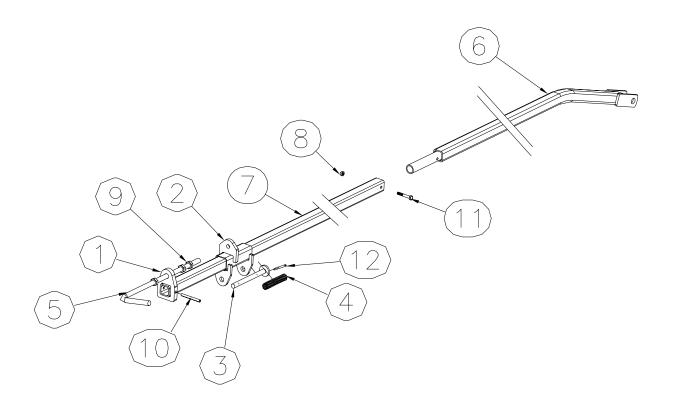
### **5850 SINGLE POINT ASSY**



#### ALL HOSES ARE PROVIDED IN THE BASE UNIT HYDRUALIC BOX OF PARTS

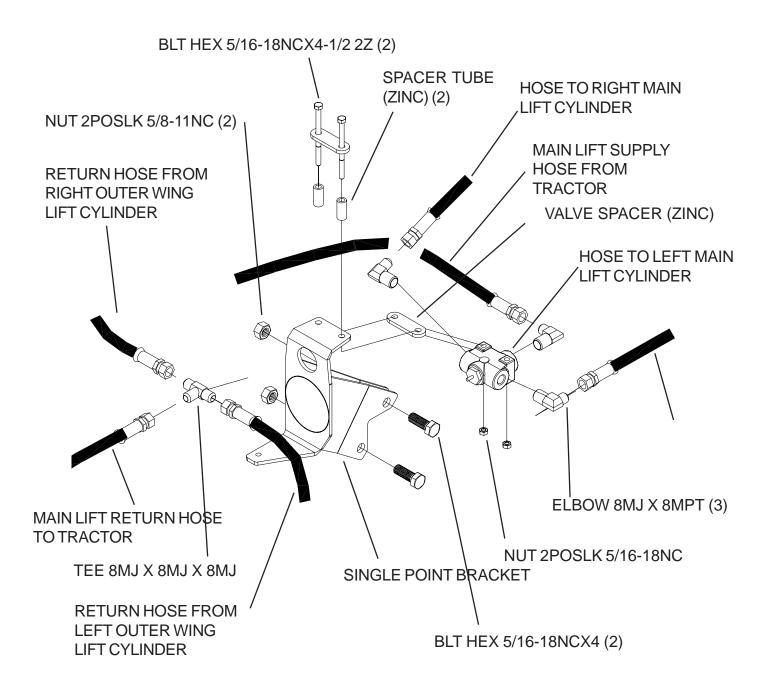


### SINGLE POINT TUBE ASSY



ITEM	PART NO.	DESCRIPTION	QTY
1	222107	ADJUST EAR	1
2	222111	SLIDE ADJUST	1
3	222180	SPRING PIN (ZINC)	1
4	23200	SPRING	1
5	238657	ADJUST CRANK - LONG	1
6	243062	CP SINGLE POINT TUBE	1
7	243063	SINGLE POINT TUBE	1
8	88237	NUT 2POSLK 1/4-20NC 5Z	1
9	88561	NUT JAM 1/2-13NC 5Z	3
10	88767	PIN ROLL 1/4DIAX2-1/2 Z	1
11	88997	BLT HEX 1/4-20NC X 1-3/4 5Z	1
12	89078	PIN ROLL 3/16X1-3/4 Z	1

### **5850 SINGLE POINT VALVE ASSEMBLY**



### HYDRAULIC ASSEMBLY INFORMATION

Before assembling any of the various lift and wing fold cylinders please do the following.

#### WING FOLD SYSTEM

Identify the correct cylinders and their location. The inner wings utilize either single or double 4x30 lift cylinders with the outer wing requiring 24" or 30" stroke cylinders. Refer to the following circuit diagram for information to identify the required cylinders.

Attach the base end of the cylinders to the base anchor point and connect the hydraulic lines as noted. By using a wood block or other device support the rod end of the cylinders to allow the rods to be fully extended without contacting any part of the machine. Apply pressure to the system and check for leaks. Fully extend all the wing fold cylinders. This process may take some time as the oil volume requirements can be high and each cylinder has an integral port restrictor for safety reasons. Once all the cylinders have been fully extended, reverse the oil flow and fully retract all cylinders. This process ensures that all cylinders are properly charged before final assembly.

Extend the wing fold cylinders and attach all rod ends to the corresponding anchors. Secure all pins with the pins or hardware as specified.

#### MAIN LIFT SYSTEM

As with the wing fold system, identify the correct cylinders that are required. All WIL-RICH chisel plows use a sequencing system to lift and control the operational depth. All cylinders are mounted with the rod end up, the base of the cylinders are attached to the axle leg - refer to the various assembly pages.

As shown the main frame utilizes the longest stroke cylinders (4x12.6) with the base end attached to the main axle leg. The inner wings use the next shorter cylinder (4x10.8) mounted to the axle leg in the same manner. Attach the base end of the correct cylinders to the main and wing axles as shown. Connect the required hydraulic hoses in the manner shown.

Do not attach the rod ends of these cylinders at this point in time. Support the rod end of the cylinders with a wood block.

With the hoses connected and secured apply pressure to the system, make certain rod do not contact any obstructions. The main frame cylinders will extend fully and move to the bypass position before the wing cylinders will extend.

Once the main frame cylinders have been fully extended oil will pass to the next cylinder in the circuit, the wing lift cylinders.

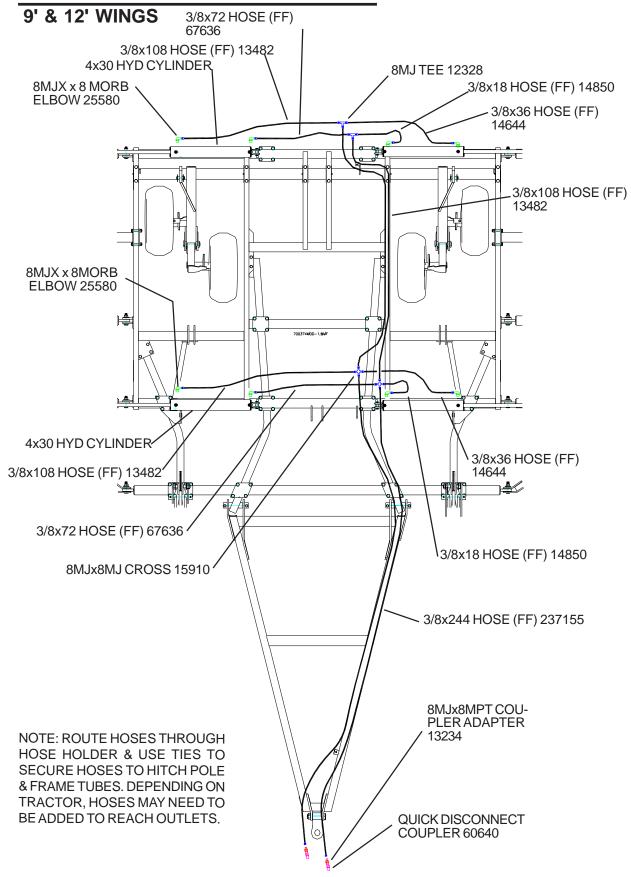
Because oil must move through a small bypass hole in the main frame cylinder the process can be slow and will require sufficient system pressure (2500 psi) for proper system charging and sequencing. Once the wing cylinders have been fully extended they will move to their bypass position and allow oil to fill the return line to the tractor. This process is intended to purge air from the system, filling all cylinders and supply hoses with oil. Once the system has been fully charged and extended, reverse the oil flow and retract the cylinders. The cylinders should fully retract in sequence, if the cylinders do not there still may be air in the system. Repeat the process of fully extending the cylinders and holding pressure on the system to purge the circuit.

Once the system has been purged remove any blocks, extend the cylinders and secure the rod ends to the appropriate anchor point. Raise the unit and ascertain that the cylinders are moving properly.

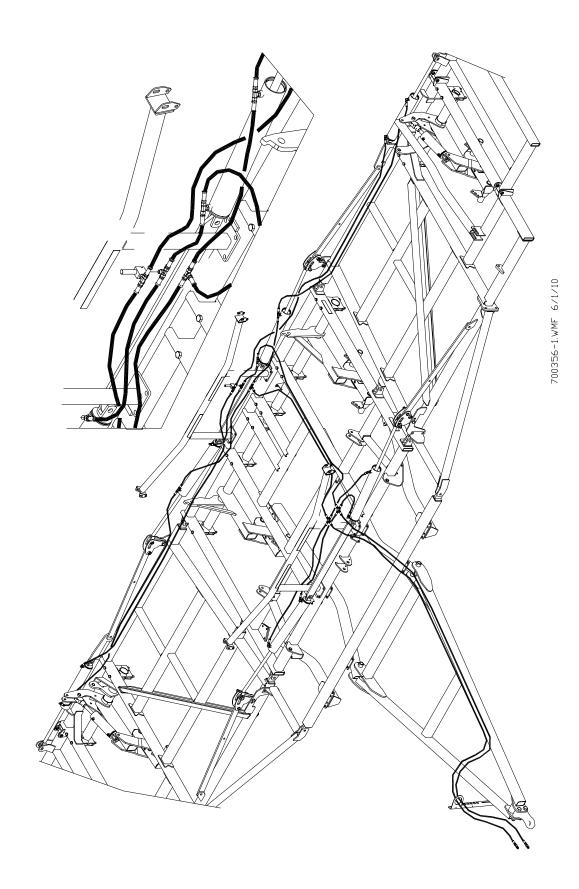
Charging the main lift system in this manner will be the best way to initially sequence the lift circuit. As the unit is first used and periodically after it may require that the unit be held in the fully raised position to sequence the lift.

NOTE: The system will only bypass when all the cylinders are fully extended or allowed to fully extend. If there is any restrictions in the lift geometry adjustments that prevent all the cylinders from fully extending the system will not bypass properly.

### **5850 WING FOLD HYDRAULICS**



### 5850 WING FOLD HYDRAULICS

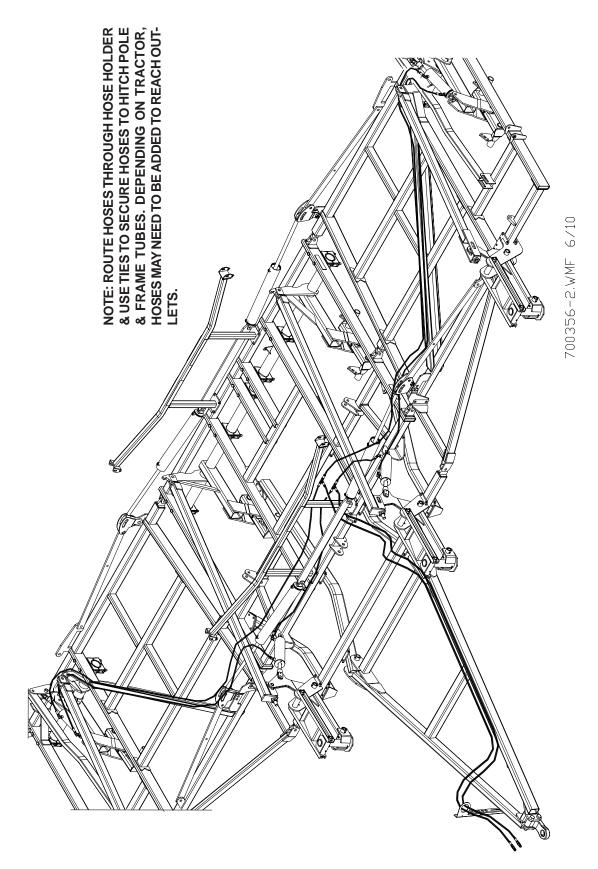


LOCATE HOSES ALONG THE FRAME MEMBERS APPROX AS SHOWN, SECURING WITH TIES. ROUTE AND SECURE HOSES AROUND HINGES AND AWAY FROM PINCH POINTS. SOME FRAME PARTS ARE NOT SHOWN TO CLARIFY SUGGESTED HOSE ROUTING LOCATIONS. REFER TO PAGE 22 FOR HOSE AND FITTING CALLOUTS.

23

### 5850 WING FOLD HYDRAULICS 9FT-3/8x156 HOSE (FF) 13484 12FT-3/8X168 HOSE (FF) 59909 9FT-3/8x120 HOSE (FF) 13483 12FT-3/8x156 HOSE (FF) 13484 WITH MAST TUBE ALIGNED POSITION WING MAST TOWER **CURE HOSES TO HITCH POLE &** FRAME TUBES. DEPENDING ON TRACTOR, HOSES MAY NEED TO NOTE: ROUTE HOSES THROUGH HOSE HOLDER & USE TIES TO SE-BE ADDED TO REACH OUTLETS. WITHREARANCHOR 3/8×108 HOSE (FF) 13482 3/8x2144HOSE (FF) 237155 3/8x36 HOSE (FF) 14644 3/8x18 HOSE (FF) 14850 TEE 8MJx8MJX8MORB 56534 3/8x36 HOSE (FF) 14644 3/8x18 HOSE (FF) 14850 QUICK DISCONNECT COUPLER 60640 TEE 8MJx8MJX8MORB 56534 SEQUENCE VALVE 8MJ TEE 13238 9FT-3/8x180 HOSE (FF) 233689 12FT-3/8x216 HOSE (FF) 240605 3/8x72 HOSE (FF) 67636 8MJx8MJ CROSS 15910 3/8x72 HOSE (FF) 67636 8MJx8MPT COUPLER ADAPTER 13234 4x30 HYD CYLINDER 3/8x108 HOSE (FF) 13482 4x30 HYD CYLINDER 3/8x108 HOSE (FF) 13482 8MJX x 8 MORB ELBOW 25580 9FT-3/8x120 HOSE (FF) 13483 12FT-3/8x156 HOSE (FF) 13484 8MJXx8MORD ELBOW 25580 П **DANGER** 4X24 HYD CYLINDER, STAND CLEAR AT ALL TIMES: Never walk or stand in the path of the wings. Completely lower wings before performing service or adjustments. Failure to do so will result in

### 5850 MAIN LIFT HYDRAULICS - 9FT & 12FT WING



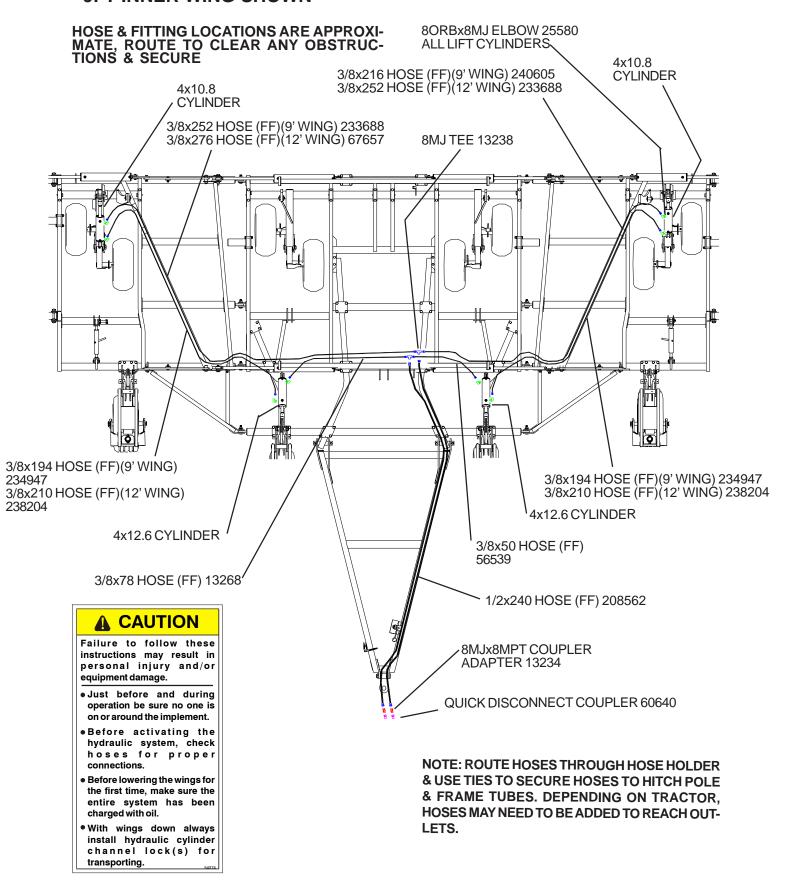
LOCATE HOSES ALONG THE FRAME MEMBERS APPROX AS SHOWN, SECURING WITH NYTIES. ROUTE AND SECURE HOSES AROUND HINGES AND AWAY FROM PINCH POINTS.

SOME FRAME PARTS ARE NOT SHOWN TO CLARIFY SUGGESTED HOSE ROUTING LOCATIONS. REFER TO PAGE 26 FOR HOSE AND FITTING CALLOUTS.

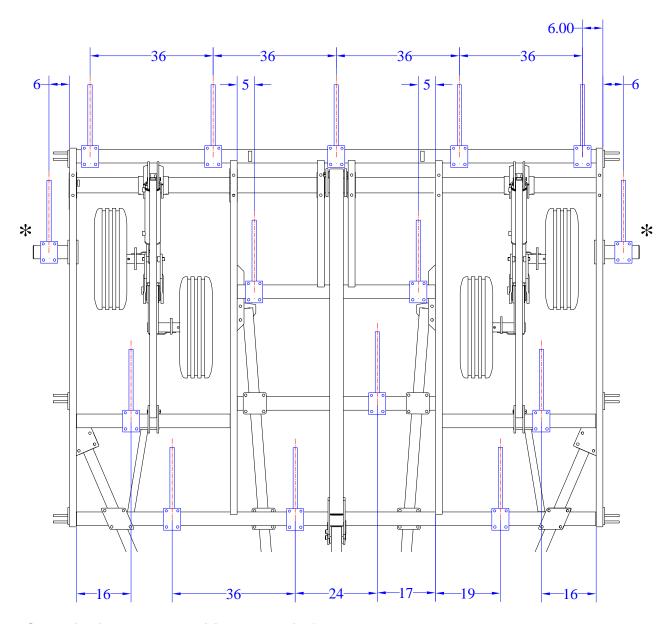
25

### 5850 MAIN LIFT HYDRAULICS - 9FT & 12FT WING

#### 9FT INNER WING SHOWN



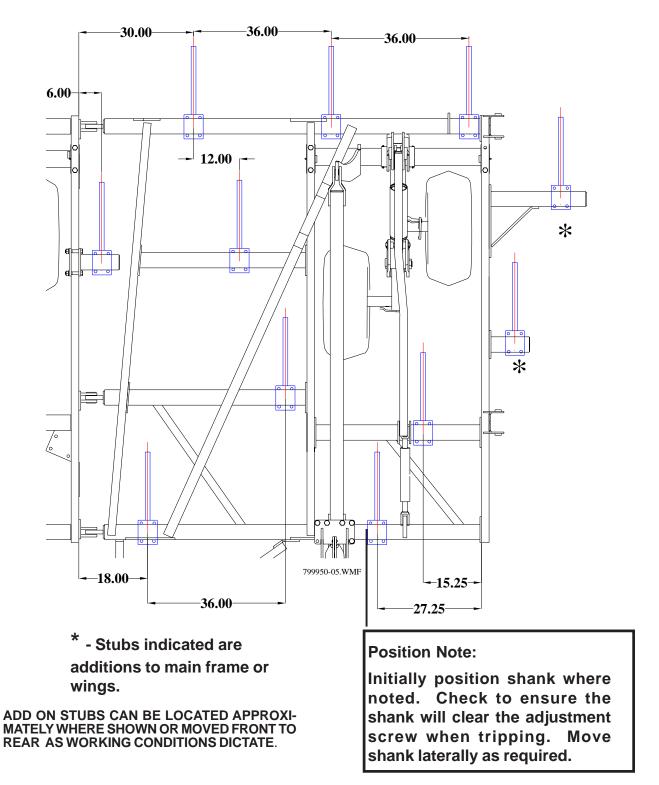
#### 13 FT MAIN FRAME



<sup>\*-</sup>Stubs indicated are additions to main frame.

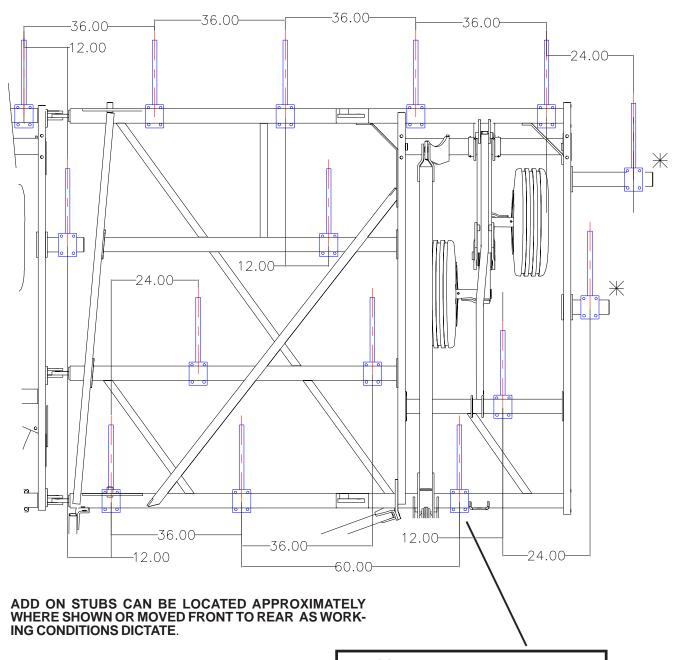
LOCATIONS INDICATE CORRECT SHANK MOUNT-ING POSITIONS ONLY. ACTUAL CLAMPING CON-FIGURATION IS DEPENDENT ON TYPE OF SHANK.

#### 9FT WING



LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION IS DEPENDENT ON TYPE OF SHANK.

#### 12FT WING



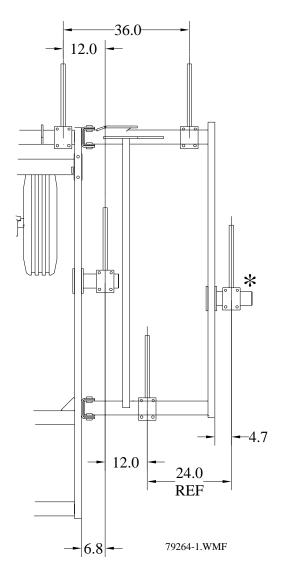
\* - Stubs indicated are additions to main frame or wings.

LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION IS DEPENDENT ON TYPE OF SHANK.

#### **Position Note:**

Initially position shank where noted. Check to ensure the shank will clear the adjustment screw when tripping. Move shank laterally as required.

#### **3FT OUTER WING**

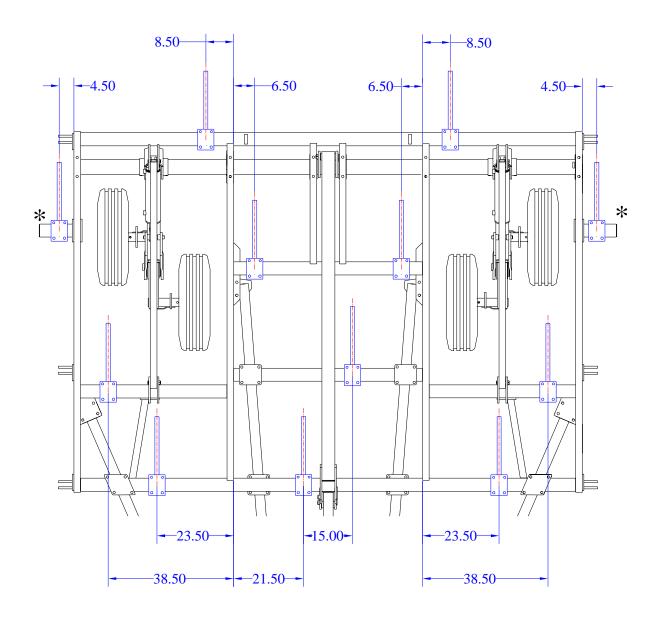


ADD ON STUBS CAN BE LOCATED APPROXIMATELY WHERE SHOWN OR MOVED FRONT TO REAR AS WORKING CONDITIONS DICTATE.

LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION IS DEPENDENT ON TYPE OF SHANK.

<sup>\* -</sup> Stubs indicated are additions to main frame.

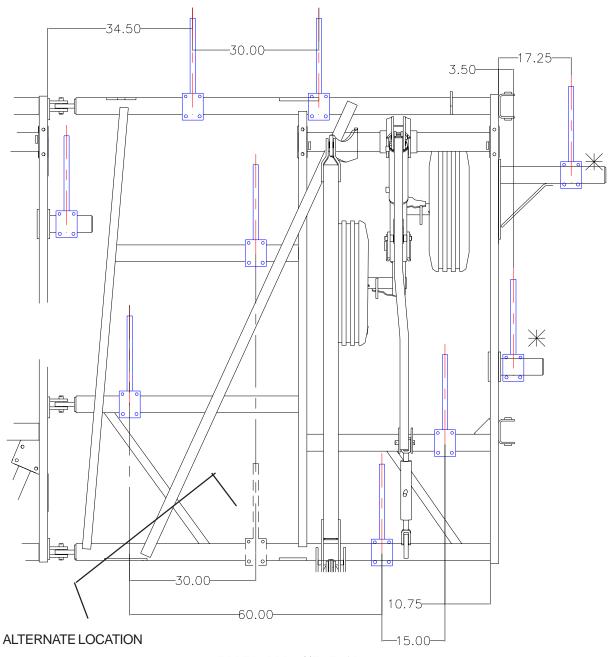
#### 13 FT MAIN FRAME



\* - Stubs indicated are additions to main frame.

LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION IS DEPENDENT ON TYPE OF SHANK.

#### 9FT WING



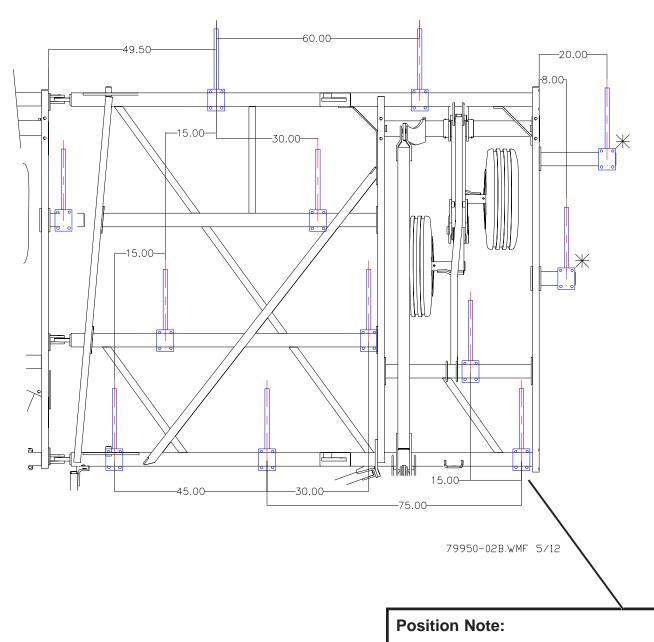
79950-02C.WMF 5/12

ADD ON STUBS CAN BE LOCATED APPROXIMATELY WHERE SHOWN OR MOVED FRONT TO REAR AS WORKING CONDITIONS DICTATE.

LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION AND LOCATION IS DEPENDENT ON TYPE OF SHANK. SHANKS MAY NEED TO BE SHIFTED LATERALLY TO ALLOW CLEARANCE AND FIT. SHANKS CAN BE MOUNTED AT THE "ALTERNATE LOCATION" IF DESIRED WHILE MAINTAINING THE MAXIMUM LATERAL DISTANCE BETWEEN SHANKS.

 $<sup>^{</sup>f *}$  - Stubs indicated are additions to main frame or wings.

12FT WING



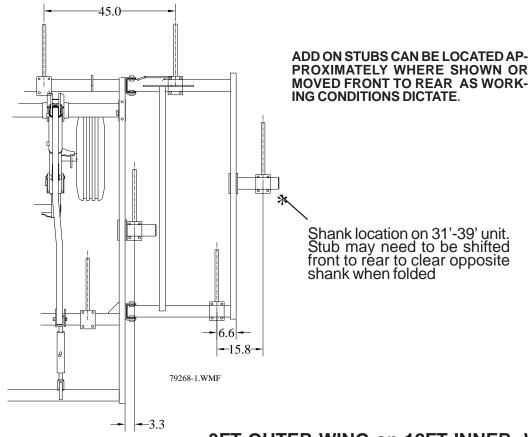
\* - Stubs indicated are additions to main frame or wings.

ADD ON STUBS CAN BE LOCATED APPROXIMATELY WHERE SHOWN OR MOVED FRONT TO REAR AS WORKING CONDITIONS DICTATE.

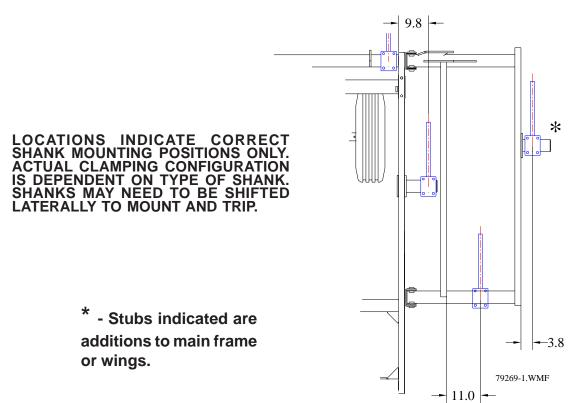
Initially position shank where noted. Check to ensure the shank will clear the adjustment screw when tripping. Move shank laterally as required.

LOCATIONS INDICATE CORRECT SHANK MOUNTING POSITIONS ONLY. ACTUAL CLAMPING CONFIGURATION AND LOCATION IS DEPENDENT ON TYPE OF SHANK. SHANKS MAY NEED TO BE SHIFTED LATERALLY TO ALLOW CLEARANCE AND FIT.

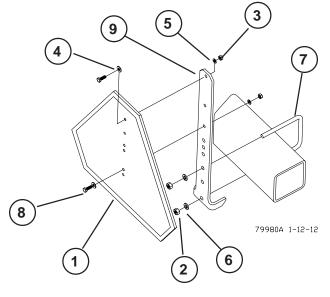
#### **3FT OUTER WING on 9FT INNER WING**



#### 3FT OUTER WING on 12FT INNER WING



### SAFETY



The bracket provided is designed to mount to numerous frame sizes and can be orientated in numerous positions to avoid interference with implement components.

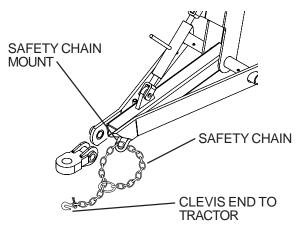
The SMV emblem is to be secured as near to the rear and centered, or as near to the left of center of the implement as possible.

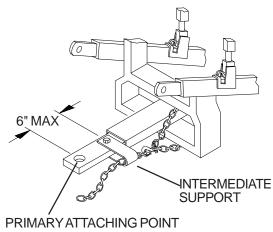
Emblem is to be 2 to 6 feet above the ground measured from the ground edge of the emblem.

ITEN	/ PART NO	DESCRIPTION	QTY
1	30651	SMV EMBLEM S276.6	1
2	88103	NUT HEX 3/8-16NC 5Z	2
3	88172	NUT HEX 1/4-20NC 5Z	2
4	88261	WSHR FLAT 1/4(5/16 X 3/4ACT) Z	2
5	88262	WSHR HLK 1/4ID(5/16ACT) Z	2
6	88362	WSHR HLK 3/8ID Z	2
7	88385	BLT-U 3/8-16NCX4X5 Z	1
8	88993	BLT HEX 1/4-20NC X 3/4 5Z	2
9	350933	SMV BRACKET	1

Keep safety decals clean. Replace any safety decals that are damaged, destroyed, missing, painted over or can no longer be read. Replacement safety decals are available through your dealer. The purpose of the safety chain is to provide an auxiliary attaching system to retain the connection between towing and towed machine in the event of separation of the primary attaching system. The safety chain should be hooked long enough to permit full turns. Unnecessary slack should be taken up.

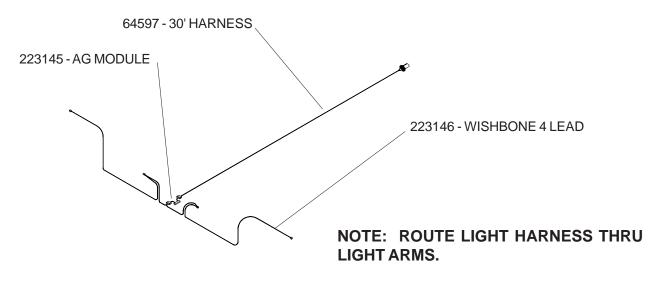
Intermediate support is to be used if there is more than 6" of unsupported chain on either side of the primary attaching point. The intermediate support should not be mounted more than 6" from the primary attaching point. (See figure below) The intermediate support is available from your Wil-Rich dealer.

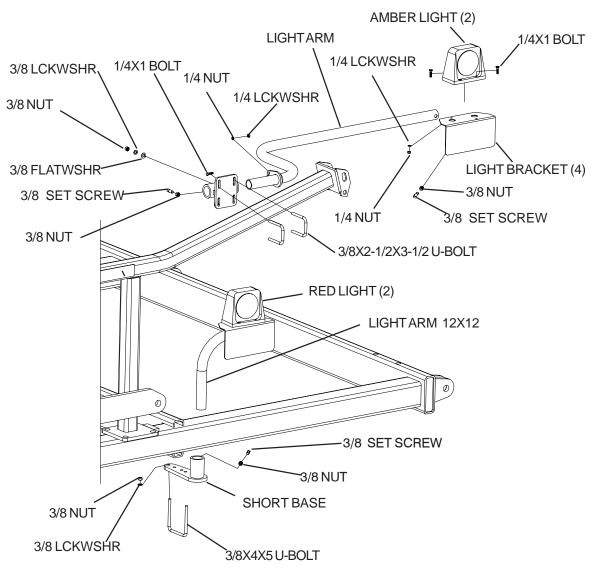




CI-77825

### **SAFETY LIGHT ASSEMBLY**





### **SAFETY LIGHT ASSEMBLY**

