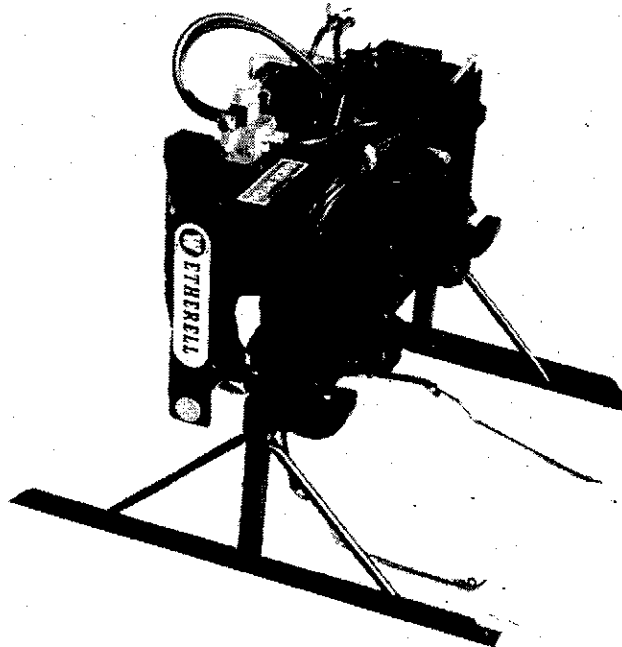




CLEGHORN, IOWA 51014

GUIDE HITCH



OPERATOR'S MANUAL AND

BLACK + PARTS BOOK
WHITE -



Box 188 - Cleghorn, Iowa 51014
Telephone 712-436-2266



ep.

f.f.....

Congratulations, you are now the owner of a Wetherell Guide Hitch!

In the following pages, we have gone into extensive detail with your operating instructions, parts breakdown, and general "common sense" suggestions for you to carefully study.

As with other brands, the Wetherell Guide Hitch has not been designed for hands-off remote operation. We do offer you confidence that you will have years of trouble-free operation...easing the strain of cultivation, reducing crop loss, as well as numerous other benefits, if you will follow our instructions and suggestions.

We ask that you pay special attention to the fact that corn does need to be 8" to 10" tall, and beans need to be 6" to 8" tall in order for a guidance system to work properly.

Also, take very special notice: any guidance system does require a tractor of ample front-end weight and general heft and power, to work successfully. If you, the operator, adhere to the above conditions and steer the tractor properly between the rows, the Wetherell Guide Hitch will follow in a satisfactory manner.

Thank you for choosing the Wetherell Guide Hitch.

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FOREWORD

Read this manual carefully to learn how to operate and service your Wetherell Guide Hitch properly. Failure to do so could result in personal injury or equipment damage.

This manual should be considered a permanent part of your Wetherell Guide Hitch and should remain with the machine when you sell it.

Measurements in this manual are U.S. customary units and their metric equivalents.

Right-hand and left-hand sides are determined by facing in the direction the Wetherell Guide Hitch will travel when going forward.

The front section of this manual contains assembly, operation and service instructions for the Wetherell Guide Hitch. The rear section contains a complete list of parts available for service and repair.

Write product identification numbers in the Specifications section. An accurate record of all the numbers will help in tracing the machine, should it be stolen. Your dealer also needs these numbers when you order parts. If this manual is kept on the machine, also file a copy of the identification numbers in a secure place off the machine.

Warranty is provided as part of Wetherell Manufacturing Company's support program for customers who operate and maintain their equipment as described in this manual. All Wetherell Manufacturing Company parts and workmanship will be free of defect for the first crop season. All warranty claims must be processed *by December 31 of that season*. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void. Additionally, Wetherell Manufacturing Company's warranty does not cover labor or expense involved in removal of components from equipment or any transportation charges involved. There is no warranty for cables that are pinched, stretched or crushed. This concludes any and all warranties implied in the manufacture, unless otherwise stated in writing.

All information, illustrations and specifications in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

SAFETY

Recognize safety information. This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury

Follow recommended precautions and safe operating practices.

Follow safety instructions. Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs.

Learn how to operate the machine and how to use the controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



Understand signal words. A signal word--DANGER, WARNING or CAUTION--is used with the safety-alert symbol. DANGER identifies the most serious hazards.

Safety signs with the signal words DANGER or WARNING are typically near specific hazards.

General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



SAFETY RULES

- Although we make every effort to insure maximum safety when using this guide hitch, a careful operator is always the best insurance against an accident.
- Comply with all state, federal, and local laws when transporting the implements on highways or public roads.
- Be sure SMV emblem is visible from the rear when transporting the implement.
- Stop engine or other power source before adjusting, lubricating, cleaning or unclogging guide hitch.
- Never allow anyone to ride on the guide hitch.
- Never work underneath a raised implement. Make sure that the implement is completely lowered or resting on parking stands before working underneath.
- Refrain from turning sharply when making turns. Operate at a safe and reasonable speed. Do not allow inexperienced persons to operate this guide hitch.
- Be sure control box is in the "off" position before getting out of tractor. Don't climb on or under to adjust anything with power "on".
- **WARNING:** Don't shift the Guide Hitch when the implement is in the ground and the tractor is not moving. Turn the control box power off, or turn the hydraulic power off to stop implement shift.
- **NOTE:** If you need to escape quickly from Guide Hitch control, turn power switch to "off" position.
- Make sure that parking stands are lowered on implement before unhitching, or injury may occur.

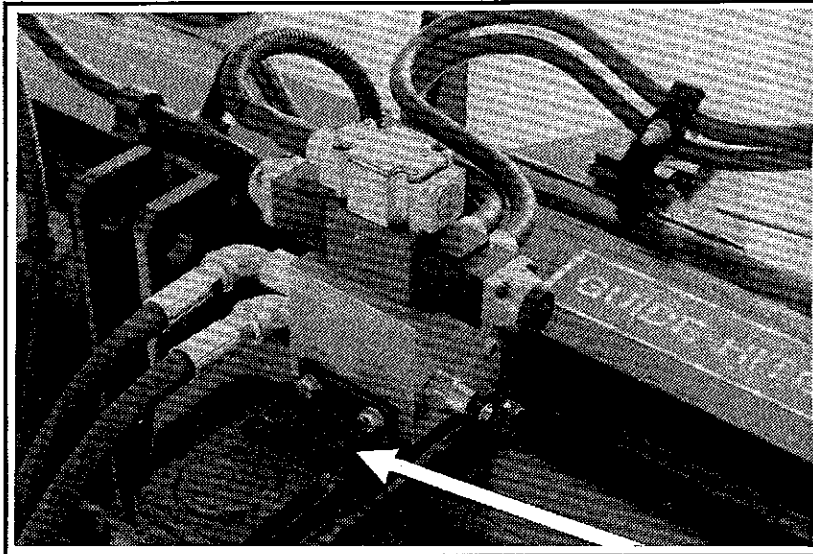
SERIAL NUMBER LOCATION

Always give your dealer the Model Number and Serial Number of the machine when ordering parts or requesting service information.

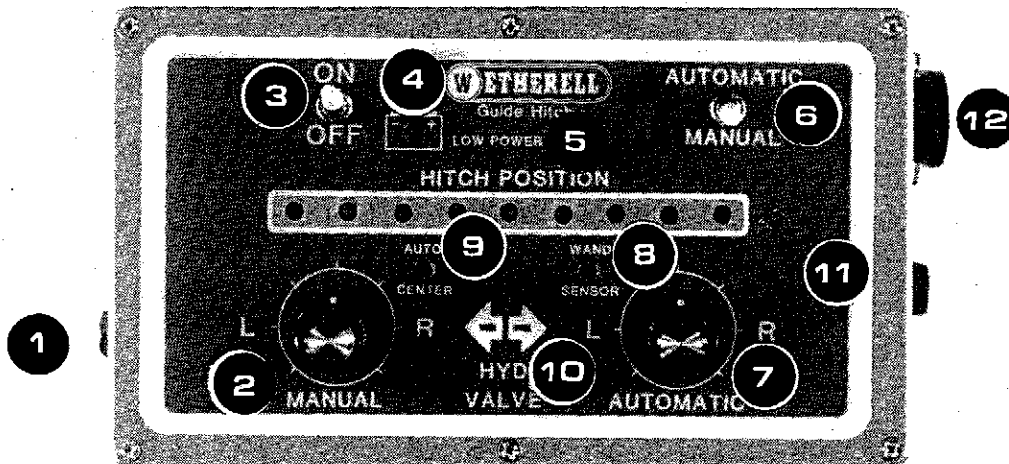
The serial number is located in front of the Hydraulic Valve Assembly (shown below), and is stamped in the metal.

Model Number: WGH-1

SERIAL NUMBER: _____



FEATURES OF THE CONTROL BOX



1. **Wand Sensitivity Adjustment** -- This sets the sensitivity of the wand sensor. From the factory is set for maximum sensitivity. (*completely counterclockwise*)
2. **Manual Offset Knob** -- This knob moves the implement left and right when the Auto/Manual switch is in the manual position. (*Some uses of the manual knob would be backing up and hooking up to a cultivator, or while cultivating you come to a draw, washout, or a real weedy patch, going to manual will put the cultivator where the manual knob is set to*).
3. **Power On/Off Toggle Switch**
4. **Low Power Light** -- Lights when there is less than 12 volts DC at the control box.
5. **Hitch Position Lights** -- These lights inform the operator the position of the Hitch. When the middle green light is lit the Guide Hitch is ready for normal operation, switching the Auto/Manual switch to manual or activating the auto center micro switch by raising the 3-point, will turn off this light indicating that the Guide Hitch is NOT ready for normal operation. When the 1st and 2nd green lights from center light this indicates that the Hitch is 4 - 6 inches left or right from center. The yellow light, 3rd from center, is a caution light to show you're 6 - 8 inches off and should begin to correct by turning toward the lights, and the red lights on either end indicates that the Hitch has reached its limit..
6. **Automatic/Manual Toggle Switch** -- When this switch is in the Automatic position and the auto center micro switch is released, by lowering the 3-point, the Hitch is moved left or right by the wand feelerr assembly. In the Manual position the Hitch is moved left or right according to the position of the manual offset knob (2).
7. **Automatic Knob** -- This knob will shift the Hitch 1 - 2 inches to the left or right from the center of the row.
8. **Wand Sensor Light** -- Will indicate green or red when the wand assembly is either left or right of center.
9. **Auto Center Light** -- When you raise the 3-point the wand assembly activates the auto center micro switch returning the Hitch to the center, and the Red Auto Center light comes on.
10. **Hydraulic Valve Indicator Lights** -- These lights, when lit tell the direction of movement. Red is to the right and green is left.
11. **Fuse Holder** -- This fuse holder holds a 3 Amp AGC type of fuse. (*NOTE: replacing with a larger fuse will VOID warranty.*)
12. **Cable Connector** -- To connect to the Guide Hitch via the 10-foot cable, and to the Tractor electrical system by the 2-conductor gray cord extending from the 10-foot cable.

BLACK +

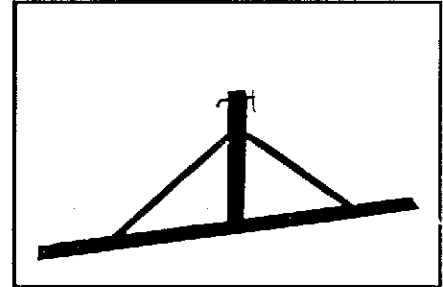
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STANDARD GUIDE HITCH FEATURES

1. Heavy-duty dual frame with parallel-type of movement to allow 20" of travel, 10" left and right. The tractor side of the Guide Hitch is Cat. II and III, the implement side is Cat. III only.

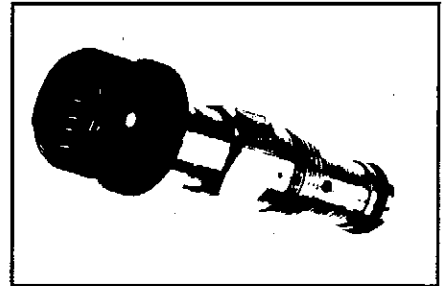
2. Parking stands included so you don't have to man-handle the 800 +-lb. hitch.

3. Guide Hitch automatically centers when the implement is raised, no need for extra switches, cables, etc.



4. Available for both open and closed center hydraulic systems.

5. A 3 1/2" x 20" stroke hydraulic double acting cylinder made by Wetherell Manufacturing.



6. Hydraulic flow control to adjust the correction time of the Guide Hitch. As cultivating speeds increase, the correction speed also needs to be increased.

7. An important feature of the Control Box, is a Light Bar Display with LED lights to ALERT YOU when the guide hitch is at the end of travel, left or right.

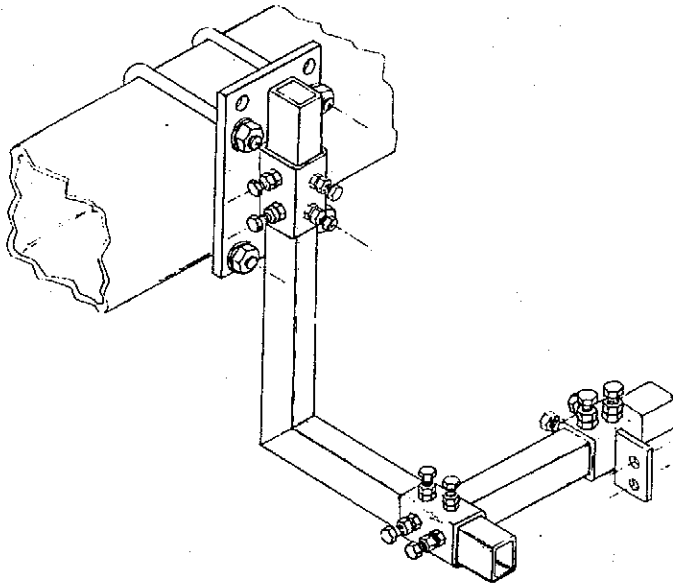
8. A low power light to alert the operator that the voltage at the control box is not 12 volts, which could cause the system to not function properly.

9. A manual knob to adjust Guide Hitch in case of skips, point rows, wash-outs, or conditions that are too weedy.

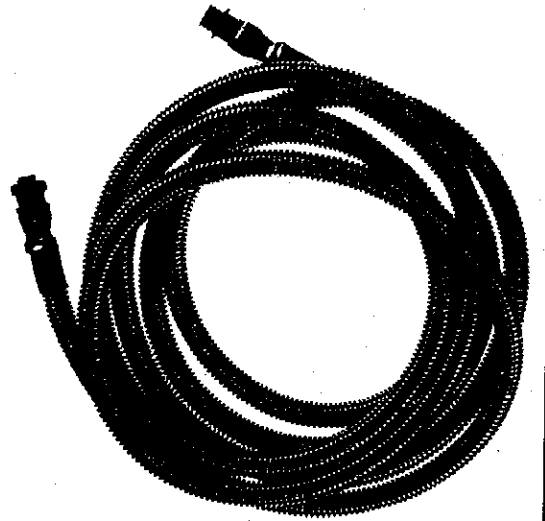
10. Only ONE cable from tractor to the guide hitch, to eliminate the possibility of hooking up the wrong cable to the wrong plug. These cables are Twist-lock type and are polarized so that they can only be plugged in one way, and won't come loose.

11. All cable connectors are the solder type, not the crimp type, for a better and longer lasting connection. All cables and electronics are made by Wetherell Manufacturing.

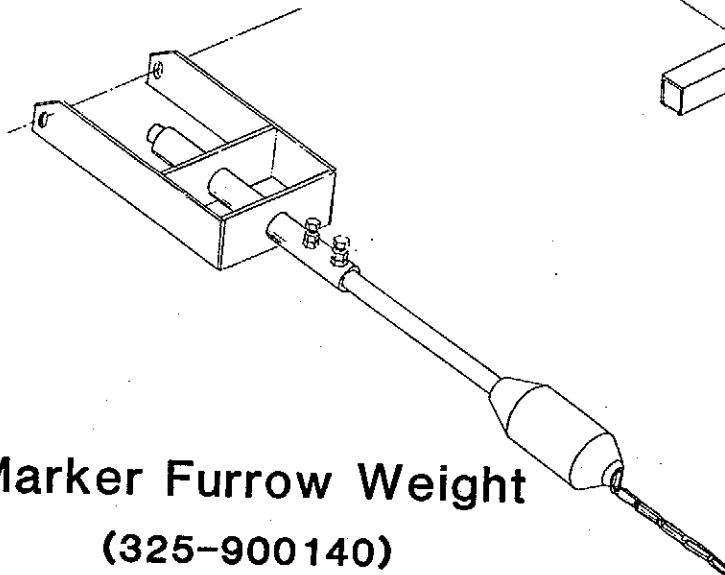
ACCESSORIES



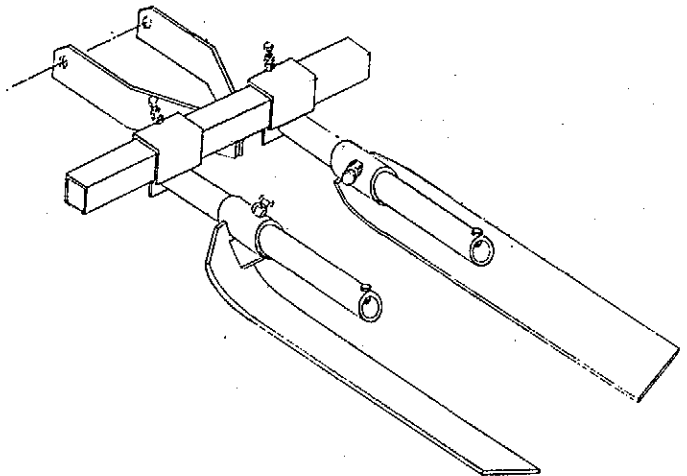
Offset Bracket
(325-900125)



12' Sensor Ext. Cord
(325-900130)

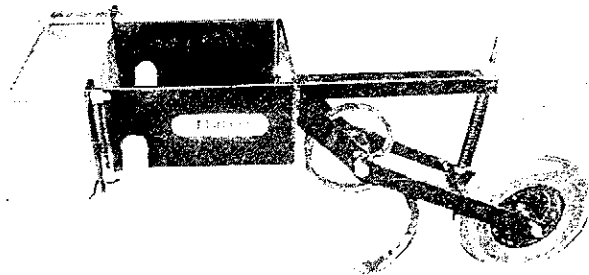


Marker Furrow Weight
(325-900140)



Ridge Following Sled
(325-900135)

ACCESSORIES



PLANTER MARK REMARKER
(325-900145)



EXTERNAL POWER RECEPTACLE
(for JD "55" Series Tractors &
Case IH "Magnum" Tractors)
(325-206037)

MOUNTING INSTRUCTIONS

Attaching the Guide Hitch to 3-point

1. Remove the drawbar from the tractor (the drawbar could interfere with the wand sensor when raising the 3-point). Also, if anything is being connected to the PTO, make sure that it won't interfere with the rising or lowering of the guide hitch.
2. When the Guide Hitch is attached to the 3-point arms of the tractor, there should be no free play. This can be accomplished by installing the sway blocks on the tractor. There are also various widths of 1 1/4" ID spacers provided with the guide hitch as shown on *page 5.1, Ref. No. 18*, to help tighten the 3-point. Not having all the free play out of the 3-point arms will greatly reduce the benefit of a guide hitch. On some tractors with worn 3-point arms, linkages may have to be rebuilt.



CAUTION: Do not allow anyone near the guidance system when in operation.

Connecting the Guide Hitch to the Hydraulics

1. Check with the tractor manual and/or dealer to determine whether the tractor has an open or closed center hydraulic system. The hydraulic valve assembly must be matched to the tractor -- either open or closed center. John Deeres, for instance are closed center, and the earlier IH's are open center.
2. Hydraulic couplers to match the tractor will have to be installed on the 1/2" hydraulic hoses coming from the hydraulic block assembly. These hoses have 1/2" NPT male ends on the hoses.
3. The hoses must be connected to the tractor noting the pressure and return. The pressure hose from the hydraulic block is marked "P" for pressure. There is a check valve on the hydraulic valve assembly to prevent oil from flowing the wrong way through the valve assembly. If the guide hitch doesn't move, try reversing the hoses. The operation of the guide hitch requires a constant flow of hydraulic fluid through the hydraulic valve assembly. Once again, check with the owner's manual of the tractor to find the best way to lock a remote lever on, not in the float position. This is usually accomplished with a clip, tie strap, or a wedge.
4. Note: a complete description of the hydraulic system is explained on page 4.2



CAUTION: For safety, the power switch should be turned off when the system is not in use.

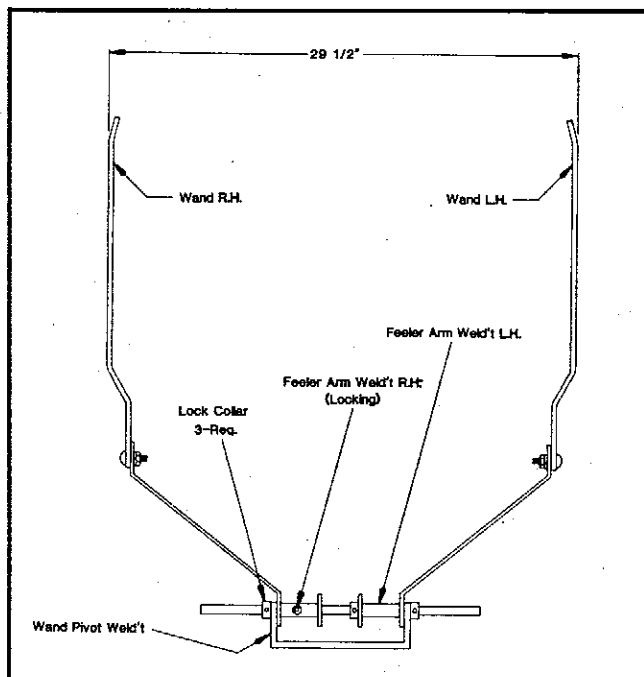
Control Box & Electrical Connections

1. Normally the control box is mounted on the right hand side of the tractor, towards the front to watch the hitch position lights, with the cable plug facing the rear of the tractor. The control box has four magnets for mounting on a metal part of the tractor. If there isn't anything metal to fasten to, a metal mounting plate may be required (not included). The control box is not sealed for rain and should be removed or covered if left on a tractor without a cab.

NOTE: Never leave the tractor with the control box on.

2. The electrical requirements for the guide hitch are 12 Vdc at approximately 3 amps. It is best to try to hook up to a main fuse that is switched with a key. Damage to the solenoid may occur if power is left on for extended periods of time.
3. The control box is connected to the toolbar sensor via a 10' cable assembly, the end that goes to the tractor is labeled on the cable end, if it is turned around it won't work! About 12" from the end marked "TO TRACTOR CAB" is a gray cord that extends out of the black cable, this is the one that gets connected to the 12 Vdc of the tractor system. The 2-conductors in this cord are black and white. The black gets connected to the positive 12Vdc (+) and the white is connected to the negative (-). Turning these around will blow the fuse in the control box, this is a 3 amp fuse, replacing this with a larger one will VOID warranty. The only difference when connecting to a tractor with a positive ground is that the black wire gets connected to the frame, which is positive (+), and the white wire is connected to the switched fuse block, which is (-).
4. There is a red "LOW POWER" light (ref 4 page 2.1) to alert the operator that the main control box doesn't have 12 volts to it. This could be caused by connecting to a wire not large enough to carry the amperage of the solenoid valve. Prolonged use with the Low Power light lit could cause the solenoid to fail.
5. After connecting the control box to the tractor to the toolbar sensor by the 10-ft. cable, make sure that the cable is tied so that raising and lowering doesn't stretch, pinch or crush the cable.

SETTING WAND FEELERS FOR 30-36-38" ROWS



Set for 30" Row Spacing



The wand feeler system on the Wetherell Guide Hitch is adjustable from 30" to 38" row spacings. This is accomplished by changing the Feeler Arm Weldment and the lock collars to different positions. The setting will be set at 30" from the factory.

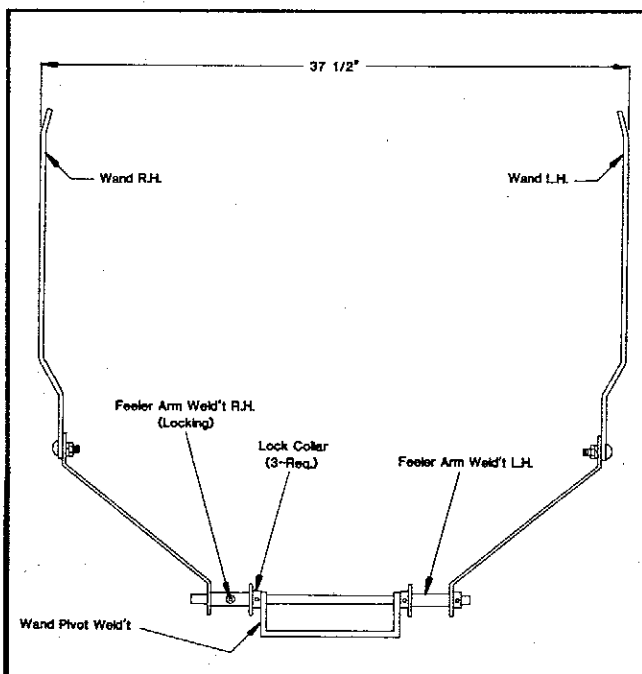
To change the setting to 36" or 38", first loosen the lock collars and the set screw on the R.H. Feeler Arm Weldment, pull the 1/2" shaft out and place the Feeler Arm Weldments and lock collars according to the diagrams on this page. Now tighten the lock collars and the set screw on the R.H. Feeler Arm Weldment. The R.H. and L.H. Feeler Arms should be independent of each other to allow them to go with the contour of the ground.

Slight bending of the wands may be required to make the wand spacing 1/2" narrower than the physical inside to inside row crop spacing.

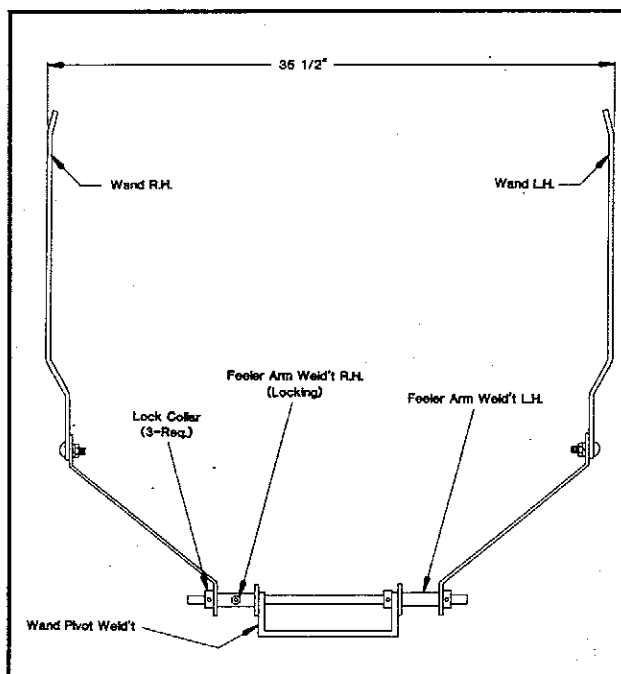
Replacement parts may be ordered from the Parts Manual found on page 5.1 of this manual.

NOTE: *Damage may occur to wands when backing the unit up.*

CAUTION: *Prevent injury or death. Always support the frame with jack stands or completely lower equipment to the ground before working around or under the machine or it may fall on you.*



Set for 38" Row Spacing



Set for 36" Row Spacing

SETTING WAND SENSOR ASSEMBLY To Proper Height

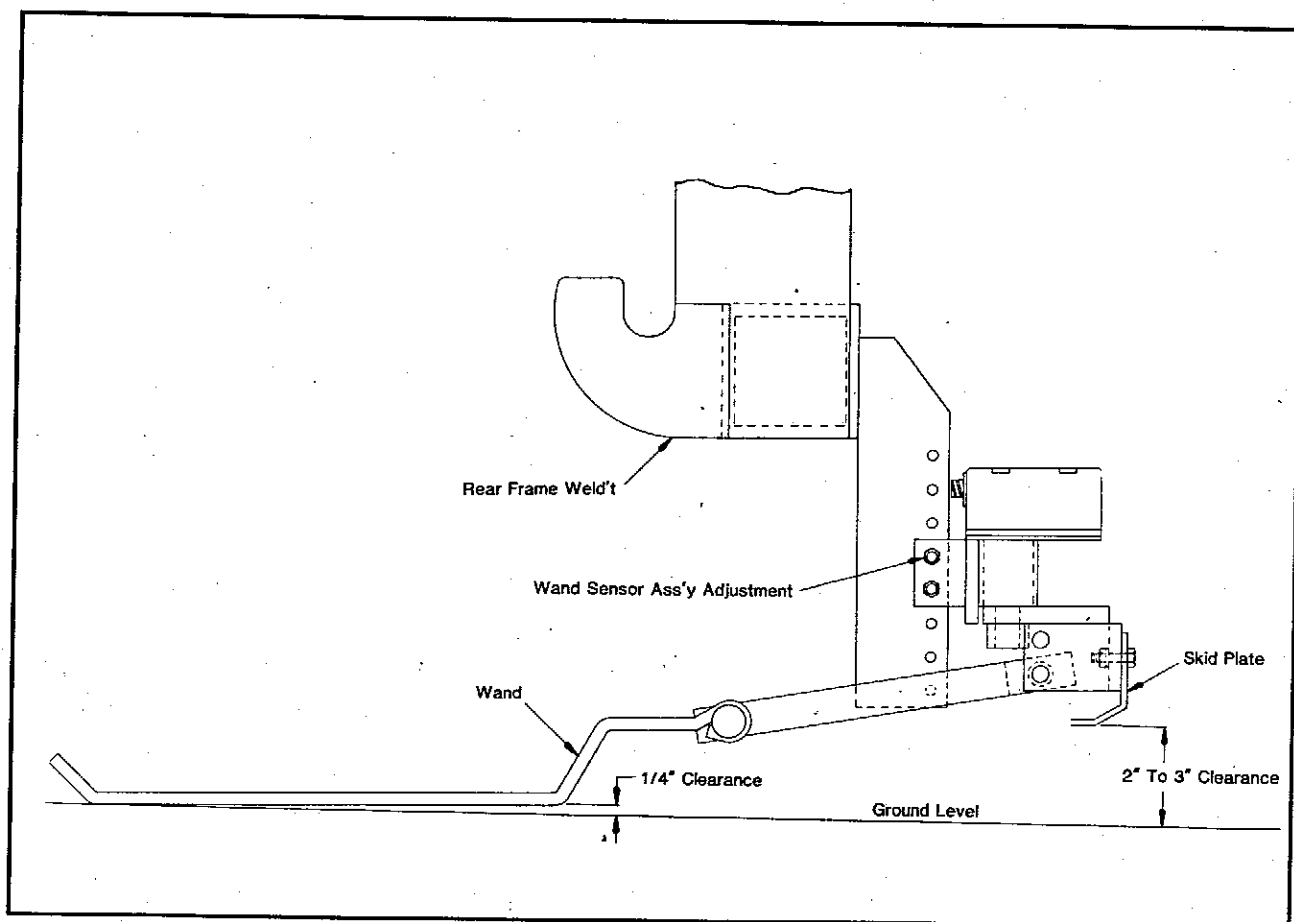
The first step in setting the wand sensor assembly to the proper working height is to set the cultivator to the correct height, so that the parallel bars of the cultivator run level to 5° uphill towards the toolbar. This should be accomplished with the cultivator connected to the Guide Hitch and in the field, with shovels in the ground.

With the 3-point set to the proper height, you now need to adjust the Wand Sensor Assembly up or down to get 2" to 3" of clearance between the bottom of the skid plate and the ground. With younger plants, you will want to keep the skid plate fairly close to the ground. As the crops get larger, the skid plate doesn't have to be as close to the ground to be effective.

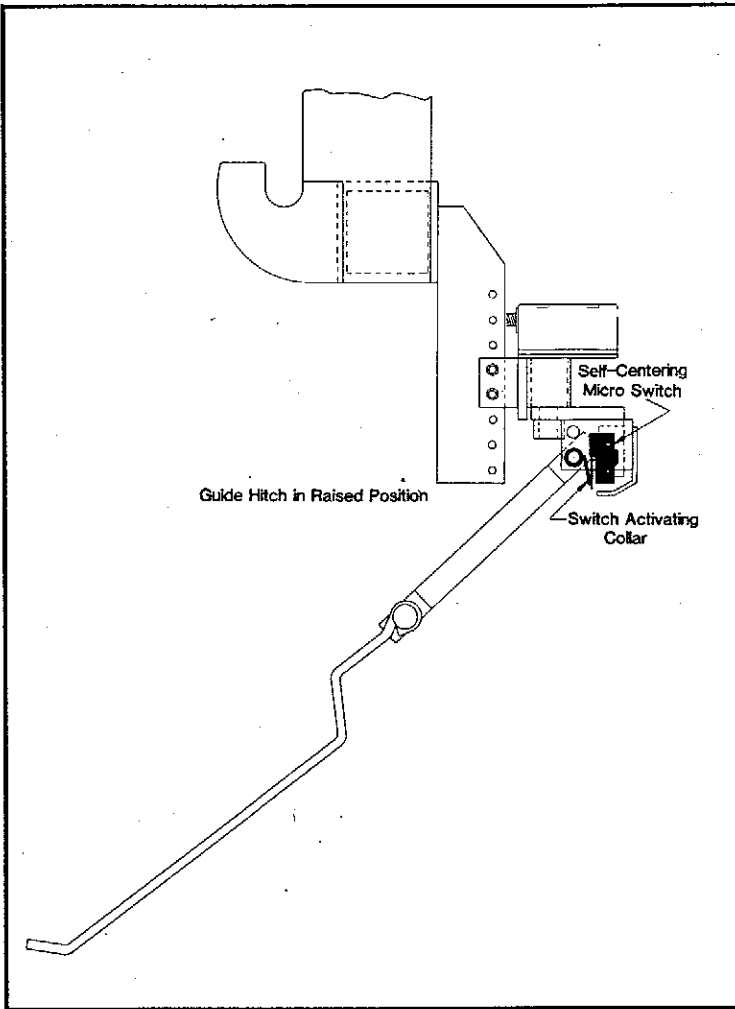
The wands should be adjusted so that the front edge of the wand is 1/4" above the ground. This can be accomplished by loosening the 3/8" x 1" carriage bolt and moving as required to get the right dimensions (shown below).

NOTE: BE SURE TO PUT PARKING STAND DOWN WHEN LEAVING IMPLEMENT PARKED FOR AN EXTENDED PERIOD OF TIME, OR DAMAGE TO WAND FEELER ASSEMBLY MAY OCCUR IF 3-POINT WOULD SETTLE.

CAUTION: Prevent injury or death. Always support the frame with jack stands or completely lower equipment to the ground before working around or under the machine or it may fall on you.



SETTING THE SELF-CENTERING MICRO SWITCH




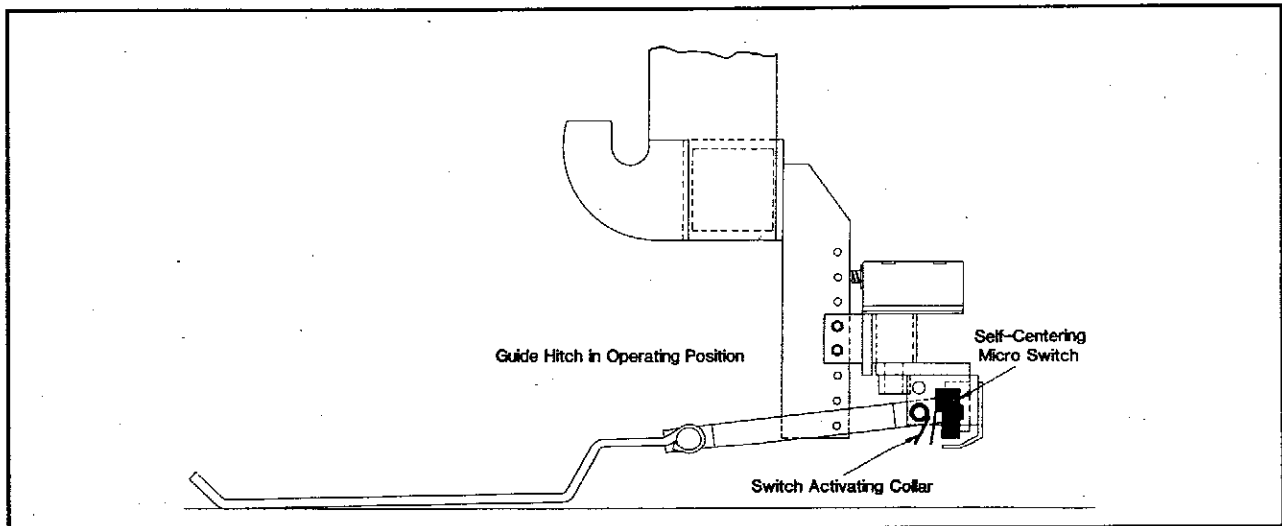
Guide Hitch in Raised Position

The purpose for the self-centering micro switch is to center the implement when you raise the 3-point. This way the implement centers as you raise it to turn on the end rows.

To check the centering, raise the 3-point up, engage the hydraulics, and turn on the control box's power switch. Switch the AUTO/MANUAL to "manual" and move the Guide Hitch in either direction. As you switch the AUTO/MANUAL switch back to "auto", the Guide Hitch should center.

If the Guide Hitch did not center, then the Switch Activating Collar (Ref. 1) probably isn't in contact with the self-centering Micro Switch (Ref. 2). To adjust, loosen the set screw on the Switch Activating Collar and rotate the collar into the Micro Switch until you hear the Micro Switch "click". Retighten the set screw and go back to step one (note diagrams left and below). The Guide Hitch should center now. If not, the Micro Switch probably needs replacing (to order, see Parts Manual , page 5.1).

CAUTION:
 *Prevent injury or death. Always support the frame with jack stands or completely lower equipment to the ground before working around or under the machine or it may fall on you.*



Guide Hitch in Operating Position

SENSOR ARM LIGHT ADJUSTMENT

Under both the Toolbar Sensor and the Wand Sensor there is a sensor light arm (ref 1 fig 1) that shines a red light on 2 photo cells. When shipped from the factory, the red light from the sensor light arm is preset to shine in the center of the 2 photo cells (ref 2 fig 1), making the toolbar and wand sensor center properly. If the toolbar doesn't return to center when raising the 3-point, making the auto center light lite, or if the Guide Hitch doesn't place the cultivator in the middle of the row with the auto/manual switch (ref 6 page 2.1) in the auto position the sensor arm of either the toolbar or the wand sensor may have come loose and need readjusted. Figure 1 below shows the sensor assembly for reference in the following instructions. Left and right, as referred to, are from behind the sensor looking towards the photo cells. Replace the cover firmly after each adjustment, as outside light will interfere with the red light from the sensor light arm giving you wrong indications.

Centering the TOOLBAR SENSOR -- When you raise the 3-point the auto center light (ref 9 page 2.1) lights and with the auto/manual switch (ref 6 page 2.1) in the auto position the hitch should center, if it doesn't 1) switch the auto/manual switch to manual 2) move the hitch to the center with the manual offset knob (ref 2 page 2.1) 3) turn off the hydraulic flow with the tractor hydraulic lever 4) switch the auto/manual back to auto 5) remove the gray plastic cover and loosen the setscrew and adjust the sensor arm (ref 1 fig 1) slightly left or right until both hydraulic valve indicator lights are out. **NOTE:** if the hydraulic valve light is red the sensor arm must be moved to the right, and if the light is green it must be moved to the left. 6) with the cover on and both hydraulic valve lights extinguished, retighten the set screw on the sensor arm and replace the gray cover, making sure that the gasket is in place.

Checking and recentering the WAND SENSOR -- The first step is to place the wand sensor assembly in the middle of the travel. The easiest way to do this is by wedging a 5/32 allen wrench, like shown in the picture below, between the pivot point of the wand bracket and the sensor mounting bracket.. **NOTE:** This is also a good time to check that the wand feelers are evenly spaced between the cultivator shanks. Now make sure that 1) the auto/manual switch (ref 6 page 2.1) is in the AUTO position. 2) lower the 3-point to shut off the auto center light (ref 9 page 2.1) 3) that the automatic knob (ref 7 page 2.1) is in the center position 4) if both of the hydraulic valve lights are off then the adjustment is OK, if not, remove the gray plastic cover of the wand sensor box and loosen the set screw on the sensor arm and move very slightly to the right or left to extinguish both hydraulic valve lights.

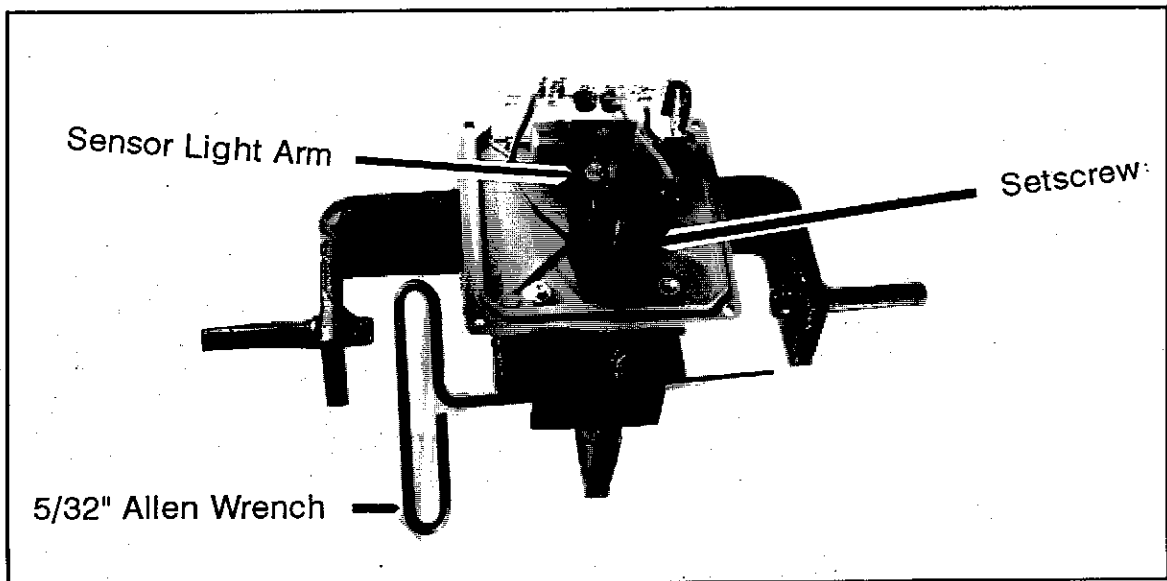


Figure 1. Wand Sensor Assembly

HYDRAULIC SYSTEM

HYDRAULIC FLOW CONTROL -- A standard feature on the Guide Hitch is a flow control adjustment (*ref 4 fig 1*) to vary the correction speed of the Hitch. This adjustment is a handknob with a finger-type locknut on the outer side of the hydraulic assembly on the Guide Hitch. It has 6 turns (0 - 6 GPM) and when turned completely in (CW) there is NO flow and turned completely out (CCW) it is at approximately 6 GPM. From the factory it is adjusted to 3 turns out, this is a good setting to start with when crop heights are at the minium and cultivating speeds are in the 3 - 4 MPH range. When both crop heights and cultivating speeds increase adjust flow control out to speed up the correction time of the Hitch.

HYDRAULIC SOLENOID VALVE -- This is the bi-directional hydraulic solenoid valve (*ref 3 fig 1*) that moves the cylinder left and right by the signals being sent from the wand or toolbar sensor. The solenoid valve has two 12 volt coils, each having a ground and a power wire which is connected to the toolbar sensor box via the 33" cable. NOTE: one nice feature of the solenoid valve is the rubber boots that cover each end of the valve spool. Thru these boots you can feel and verify that the spool is moving left or right according to the hydraulic valve lights on the control box (*ref 10 page 2.1*). Also with a blunt end of a tool you can push in on the spool thru these boots and actually move the spool, shifting the hitch left or right even without electrical power. This is helpful in trouble shooting.

HYDRAULIC BYPASS CARTRIDGE -- This plug (*ref 7 fig 1*) is a hydraulic bypass logic cartridge used with open centered, fixed displacement pumps, to bypass extra hydraulic oil at LOW psi. Example - with 15 GPM of oil at the P-pressure port and the flow control set at 3 GPM this plug bypass the extra oil to the T- tank port at LOW pressure NOT to cause heat. With pressure compensating or load sensing closed center systems this bypass cartridge is replaced with a blank plug (*ref 6 fig 1*).

IDENTIFYING OPEN or CLOSED HYD. COMPONENTS -- There are 2 componets that have to be matched to the tractor hydraulic system. The hydraulic solenoid valve (*ref 3 fig 1*), which is either open or closed and the easiest way to identify this is by the diagram on top plate of the solenoid valve NOTE: diagrams A & B to determine this. And the hydraulic plug (*ref 6&7 fig 1*), these plugs can be identified by the part # stamped on the hex part of the plug. The bypass cartridge (*ref 7 fig 1*) has a part # LRFC-XDN, and the blank plug (*ref 6 fig1*) has a part # of XBCA-XXN.

HOW TO MATCH the "GUIDE HITCH" TO YOUR TRACTOR HYDRAULIC SYSTEM -- A general note, the tractor hydraulic system data that follows should be used only as a guideline. For more detailed information, consult your tractor operators manual, dealer, or the manufacture.

PC Closed Center: If your tractor hydraulic system is A Pressure Compensating Closed Center Systemlike the system used on a JOHN DEERE, you use a closed center solenoid valve(*ref 3 diagram B fig 1*) and a blank plug, part # XBCA-XXN, (*ref 6 fig 1*) on the guide hitch. To vary the correction speed of the guide hitch use the flow control valv (*ref 4 fig 1*) on the hydraulic valve assembly of the guide hitch.

LS Closed Center: If your tractor hydraulic system is a Load Sensing ClosedSystem, also known as Pressure Flow Compensating (PFC) System, like the system used on a Case IH "Magnum" you use a open center solenoid valve (*ref 3 diagram A fig 1*) and a blank plug, part # XBCA-XXN, (*ref 6 fig1*). The correction speed of the guide hitch is controlled by adjusting the flow control lever on the tractor and make SURE that the flow control valve (*ref 4 fig 1*) of the guide hitch is wide open (6 turns OUT, ccw). NOTE: also on a CaselH "Magnum", do NOT use the 1st remote hydraulic lever, use either the 2nd, 3rd, or 4th.

Open Center: If your tractor hydraulic system is an Open Center Fixed Displacement System, like the system on an earlier "IH" use an open centered solenoid valve (*ref 3 diagram A fig1*) and a

HYDRAULIC SYSTEM

(CONTINUED FROM PAGE 4.2)

hydraulic bypass cartridge, part # LRFC-XDN, (ref 7 fig 1). The correction speed of the guide hitch is controlled by using the flow control valve on the guide hitch hydraulic valve assembly.

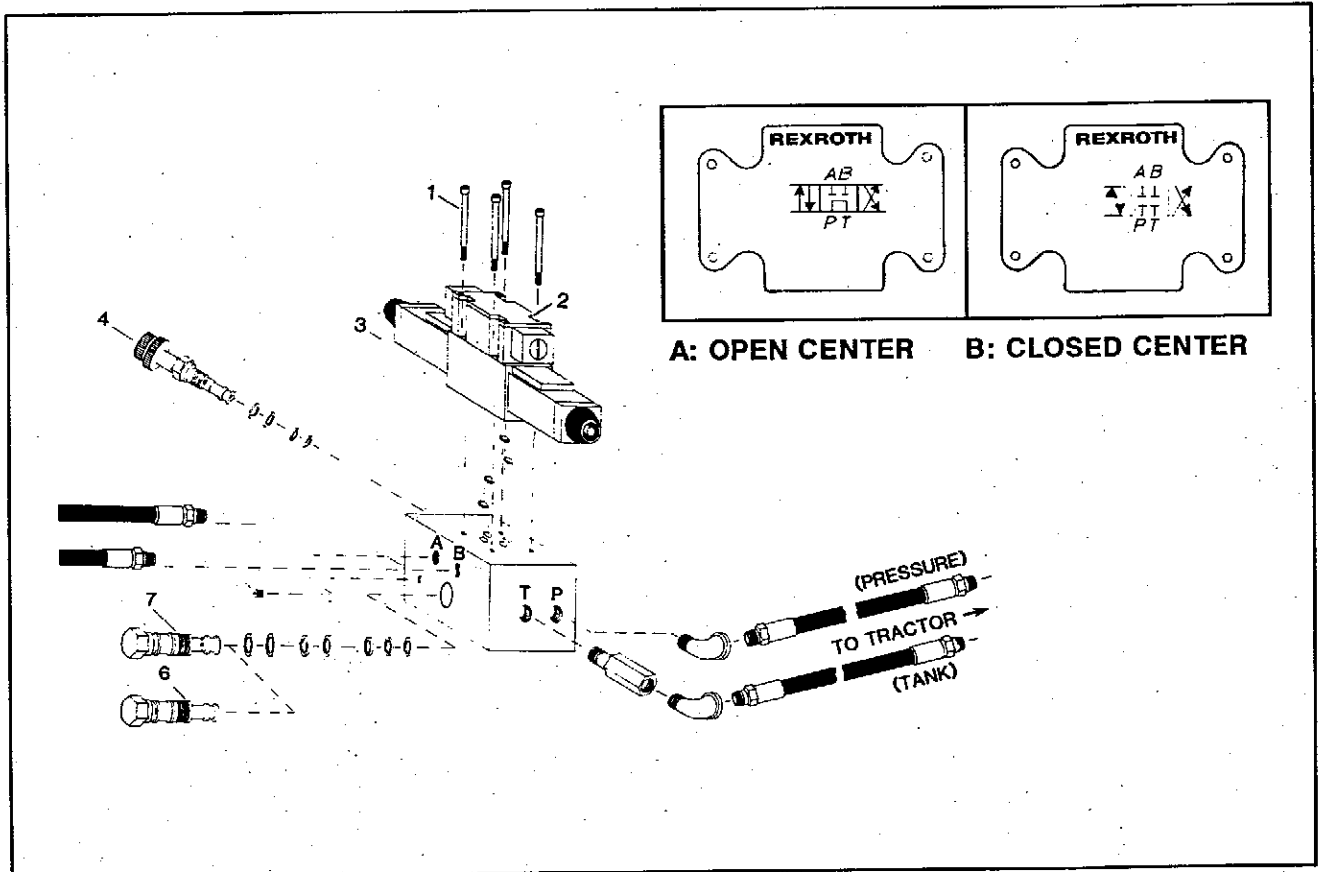


Figure 1. Hydraulic Valve Assembly.

Changing Componets -- There are two componets to change when matching a Hydraulic Valve Assembly to one of the tractor hydraulic systems mentioned above. 1) the electric solenoid valve (ref 3 fig 1) 2)the hydraulic cartridge (ref 6,7 fig 1) To change the solenoid valve you need to first unscrew the 33" electrical cable (ref 38 page 5.6) from the toolbar sensor. Second, you must remove the four allen head cap screws (ref 1 fig 1), and lift off the solenoid valve. When replacing the solenoid valve, make sure that the O-rings are in place as you set the solenoid valve back on the block. To switch the hydraulic cartridge, you need a 1 1/8" wrench to unscrew the cartridge and replace the other one. Make sure that you put grease on the O-rings of the cartridge when you replace it into the block.

GREASING AND STORAGE

Grease all grease zerks every 10 hours of operation. There are 10 zerks total--one on each end of the cylinder, and four on each side of the Guide Hitch, on the 2" bushings.



CAUTION: Unhitching Instructions: Implement may tip over and cause bodily injury if unhitched incorrectly.

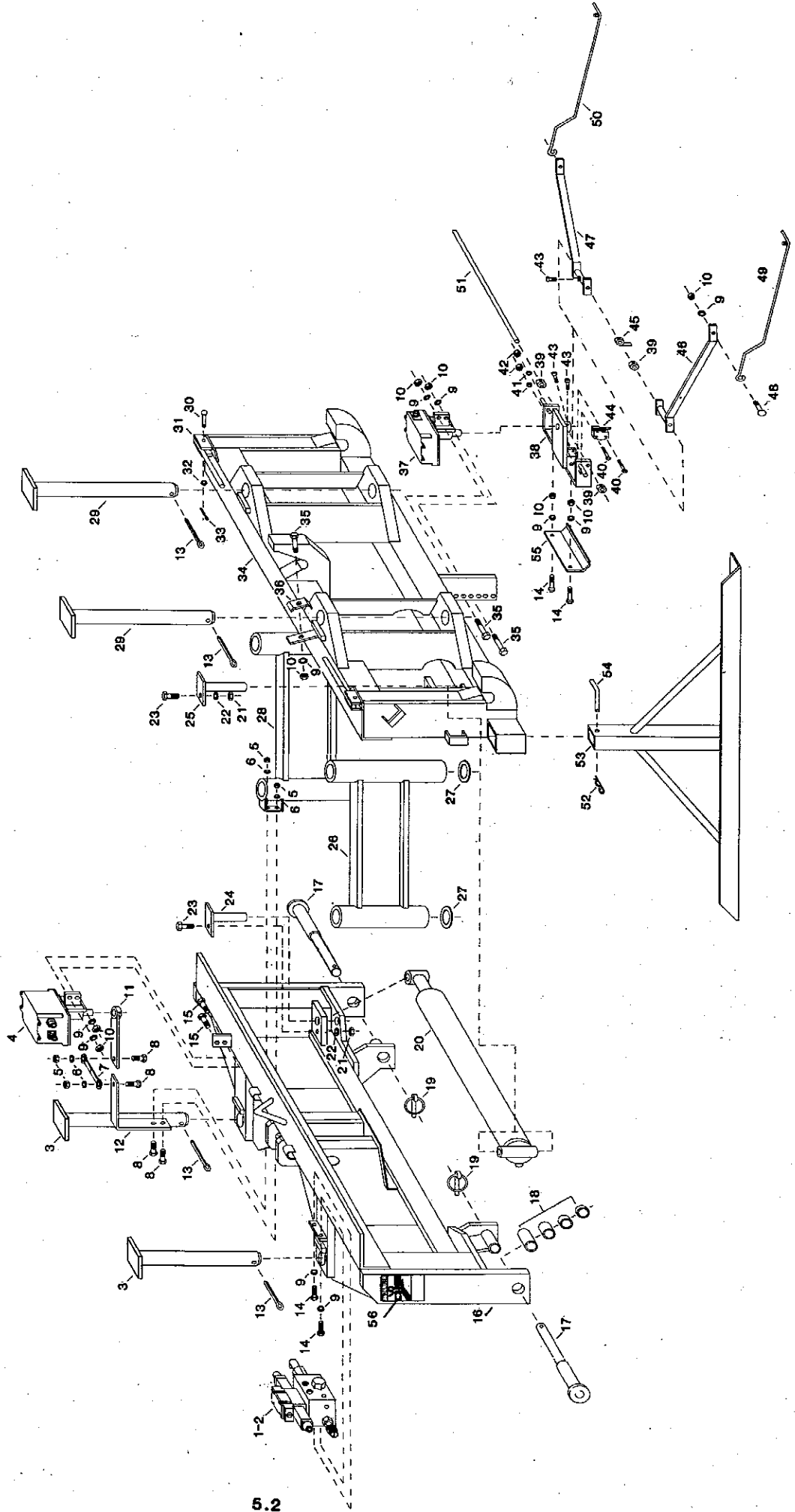
- Lower front parking stands before unhitching implement from Guide Hitch or implement may tip over.
- Raise Guide Hitch and replace parking stands before setting on ground.
- Clean and store Guide Hitch, Main Control Box and cables in a dry place.
- Inspect for damaged parts; replace before next season.
- Grease all grease zerks before storage to push out any moisture.
- Apply grease to exposed cylinder shaft.

NOTES

Guide Hitch Assembly

Ref.	Part No.	Quantity	Description	Ref.	Part No.	Quantity	Description
1.	325-12085-1	1-PER MACH	HYD. VALVE ASS'Y (OPEN)	33.	032-424250	2-PER MACH	3/32" X 1" COTTER PIN
2.	325-12085-2	1-PER MACH	HYD. VALVE ASS'Y (CLOSED)	34.	325-11978	1-PER MACH	FRAME WELDMENT REAR
3.	325-12005-2	2-PER MACH	PIN WELD'T FRONT	35.	016-146144	5-PER MACH	3/8" N.C. HEXBOLT X 1 1/2"
4.	325-12086	1-PER MACH	TOOLBAR SENSOR ASS'Y	36.	325-12074	1-PER MACH	CLAMP (HYD. HOSE)
5.	017-116200	4-PER MACH	1/4" N.C. HEXNUT	37.	325-12087	1-PER MACH	WAND SENSOR ASSY
6.	020-11250	4-PER MACH	1/4" LOCKWASHER	38.	325-12069	1-PER MACH	WAND PIVOT WELD'T
7.	325-KF4G	2-PER MACH	1/4" ROD ENDS	39.	021-50505	3-PER MACH	9/16" SHAFT COLLAR
8.	016-126012	4-PER MACH	1/4" N.C. HEXBOLT X 1" LG.	40.	006-17250	2-PER MACH	6-32 MACH. SCREW X 1" LG.
9.	020-11375	11-PER MACH	3/8" LOCKWASHER	41.	020-11220	2-PER MACH	NO. 8 LOCKWASHER
10.	017-116212	9-PER MACH	3/8" N.C. HEXNUT	42.	006-016120	2-PER MACH	6-32 HEX. MACH. SCREW NUT
11.	325-12063	1-PER MACH	LINKAGE ARM	43.	047-402114	3-PER MACH	1/4" SQ. HD. SETSCREW X 3/4"
12.	325-12065	1-PER MACH	LINKAGE CONTROL ARM	44.	325-15GWB7	1-PER MACH	CENTERING MICRO SWITCH
13.	032-424782	4-PER MACH	1/2" X 3 COTTER PIN	45.	325-12066	1-PER MACH	SWITCH ACTIVATING COLLAR
14.	016-146138	4-PER MACH	3/8" N.C. HEXBOLT X 1" LG.	46.	325-12068-L	1-PER MACH	FEELER ARM WELDMENT L.H.
15.	016-146144	5-PER MACH	3/8" N.C. HEXBOLT X 1 1/2" LG.	47.	325-12068-R	1-PER MACH	FEELER ARM WELDMENT R.H.
16.	325-11977	1-PER MACH	FRAME FRONT	48.	013-330522	2-PER MACH	3/8" N.C. CARRIAGE BOLT X 1"
17.	325-12083	2-PER MACH	LOWER CATEGORY PIN	49.	325-12088-L	1-PER MACH	L.H. WAND
18.	325-12084	1-PER MACH	CATEGORY SPACER KIT	50.	325-12088-R	1-PER MACH	R.H. WAND
19.	037-218324	2-PER MACH	7/16" LYNCH PIN	51.	325-12071	1-PER MACH	ROD. WAND PIVOT WELDMENT
20.	400-12007	1-PER MACH	3 1/2" X 1 1/2" X 20" CYL.	52.	049-202332	2-PER MACH	3/32" HAIR PIN
21.	017-116224	2-PER MACH	1/2" N.C. HEXNUT	53.	325-12080	2-PER MACH	PARKING STAND
22.	020-11500	2-PER MACH	1/2" LOCKWASHER	54.	325-12081	2-PER MACH	PARK STAND PIN
23.	016-166288	2-PER MACH	1/2" N.C. HEXBOLT X 2" LG.	55.	325-12060	1-PER MACH	SKID PLATE
24.	325-12088-2	1-PER MACH	CYL. PIN (ROD END)	56.	325-000215	2-PER MACH	SAFETY DECAL_ (1 PER SIDE)
25.	325-12008-1	1-PER MACH	CYL. PIN (BUTT END)				
26.	325-11979-L	1-PER MACH	ARM WELDMENT L.H.				
27.	020-43130	4-PER MACH	2 1/8" I.D. MACHINE BUSHING				
28.	325-11979-R	1-PER MACH	ARM WELDMENT R.H.				
29.	325-12005-1	2-PER MACH	PIN WELDMENT REAR				
30.	027-249900	2-PER MACH	1/4" X 1 1/4" PICKER PIN				
31.	325-12012	2-PER MACH	LEVER WELDMENT				
32.	020-21250	2-PER MACH	1/4" FLATWASHER				

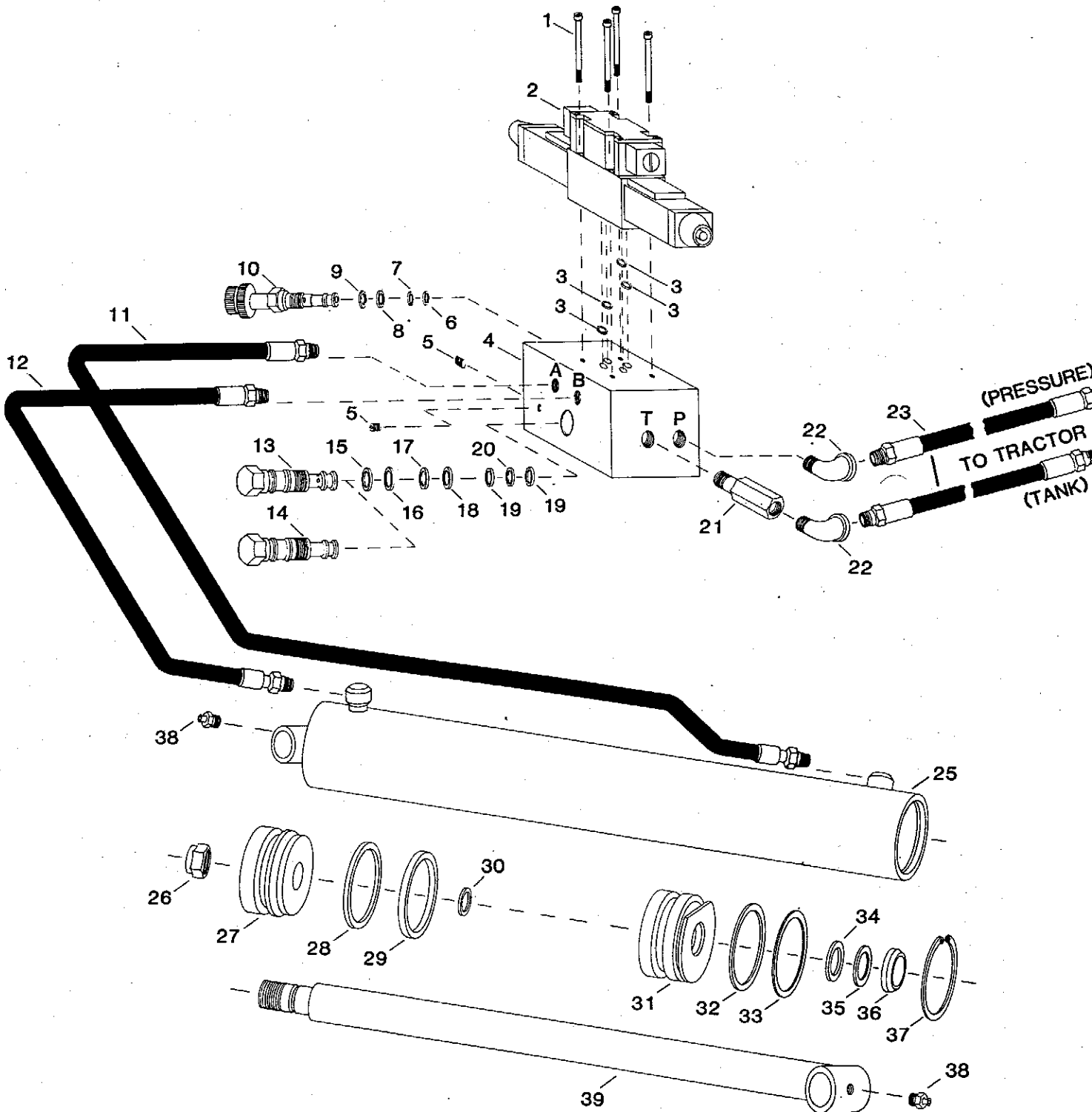
GUIDE HITCH PARTS ASSEMBLY



HYDRAULIC ASSEMBLY

Ref.	Part No.	Qty.	Description
1	005-15100	4-PER MACH	10-24 SOCKET HD. CAPSCREW X 2"
2	325-12089-1	1-PER MACH	HYD. SOLENOID VALVE (OPEN CENTER)
2-A	325-12089-2	1 PER MACH	HYD. SOLENOID VALVE (CLOSED CENTER)
3	065-2-012-70	4-PER MACH	O-RING
4	325-12090	1-PER MACH	HYD. VALVE BODY
5	011-253253	2-PER MACH	1/8"-27 HEX SOCKET PIPE PLUG
6	065-2-015-70	1-PER MACH	O RING
7	066-1750-015	1-PER MACH	BACKUP RING
8	066-1750-017	1-PER MACH	BACKUP RING
9	065-2-017-70	1-PER MACH	O-RING
10	325-12091	1-PER MACH	FLOW CONTROL VALVE
11	325-12092	1-PER MACH	3/8"-NPT HYD. HOSE ASS'Y
12	325-12093	4-PER MACH	3/8"-NPT HYD. HOSE ASS'Y
13	325-12094	1-PER MACH	HYD. PLUG (OPEN CENTER)
14	325-12095	1-PER MACH	HYD. PLUG (CLOSED CENTER)
15	066-1750-021	1-PER MACH	BACKUP RING
16	065-2-021-70	1-PER MACH	O-RING
17	065-2-020-70	1-PER MACH	O-RING
18	066-1750-020	1-PER MACH	BACKUP RING
19	066-1750-018	2-PER MACH	BACKUP RING
20	065-2-018-70	1-PER MACH	O-RING
21	064-FC-50	1-PER MACH	CHECK VALVE
22	011-234302	2-PER MACH	1/2"-NPT GAL. 90 DEG. ST. ELBOW
23	325-12096	2-PER MACH	1/2"-NPT HYD. HOSE ASS'Y
25	401-12007-1	1-PER MACH	CYL. CASE WELDMENT
26	401-12278	1-PER MACH	1-14" LOCKNUT
27	401-P-10599	1-PER MACH	PISTON, CYL.
28	065-2-336-70	1-PER MACH	O-RING, PISTON
29	069-1710-56	1-PER MACH	RECT. PISTON SEAL
30	065-2-020-70	1-PER MACH	O-RING
31	401-11-3500	1-PER MACH	HEAD
32	065-2-236-70	1-PER MACH	O-RING, HEAD
33	066-1750-236	1-PER MACH	BACKUP RING, HEAD
34	065-2-222-70	1-PER MACH	O-RING, GLAND
35	066-1750-222	1-PER MACH	BACKUP RING, GLAND
36	067-1803-17	1-PER MACH	ROD WIPER
37	401-SR-3500	1-PER MACH	SNAP RING
38	031-341202	2-PER MACH	1/4"-28 GREASE ZERK
39	401-12098	1-PER MACH	CYL. ROD WELDMENT

GUIDE HITCH HYDRAULIC ASSEMBLY



ELECTRICAL ASSEMBLY

Ref.	Part No.	Qty.	Description
1	006-018100	4-PER MACH	#6 x 1/2" Phillips screws
2	325-2N6283	1-PER MACH	NPN Transistor
3	325-2N6286	1-PER MACH	PNP Transistor
4	325-04651K	2-PER MACH	Mica Insulator
5	325-274416	2-PER MACH	Control Knobs
6	325-B5006L	1-PER MACH	Cover for Control Box
7	325-ORV41K	2-PER MACH	1K Potentiometer
8	325-JMT223	2-PER MACH	DPDT On-On Switch
9	325-MB1100	1-PER MACH	Main PCB Assembly
10	325-046023	1-PER MACH	Fuse Holder
11	325-046103	1-PER MACH	3 Amp AGC Fuse
12	006-019100	4-PER MACH	#6 x 3/8" Slotted Hex Screws
13	325-206036	2-PER MACH	16 Pin Sq. Receptacle
14	325-00RB40	4-PER MACH	Round Magnets
15	006-014100	4-PER MACH	3/16" x 1/2" Stove Bolts w/nuts
16	325-RV4500	1-PER MACH	500 Potentiometer w/lock nut
17	325-B5006B	1-PER MACH	4 x 7" Alum. Box
18	325-0P9925	1-PER MACH	Warning Buzzer
19	006-017200	2-PER MACH	#6 x 3/4" Mach. Screw
20	325-206061	2-PER MACH	4 Pin Sq. Receptacle
21	325-32824P	1-PER MACH	4 Pin Round Connector
22	325-065000	1-PER MACH	4x4x4 PVC Cover
23	325-065100	2-PER MACH	4x4 Gasket for PVC Cover
24	325-065300	2-PER MACH	4x4 PVC Base
25	325-012110	2-PER MACH	Sensor Light Holder
26	325-00556R	2-PER MACH	LED Sensor Light w/Leads
27	325-065700	2-PER MACH	4" Nylon Tie
28	325-065400	2-PER MACH	Aluminum PCB Base
29	325-065500	1-PER MACH	Toolbar PCB Assembly v1.1
30	325-065800	2-PER MACH	5 Pin Plug
31	006-014105	4-PER MACH	3/16" x 1/2" Oven Head Stove Bolt w/nut
32	006-019210	8-PER MACH	#8 x 1/2" Slotted Hex Screws
33	006-014200	4-PER MACH	3/16 x 3/4" Round Head Stove Bolts
34	325-065200	1-PER MACH	4x4x2 PVC Cover
35	325-065600	1-PER MACH	Wand Sensor PCB v1.1
36	325-15GWB7	1-PER MACH	Centering Micro Switch
37	325-050300	1-PER MACH	48" Wand Sensor Cable
38	325-050400	1-PER MACH	33" Hyd. Solenoid Valve Cable
39	325-050500	1-PER MACH	120" Main Control Cable
40	325-012059	2-PER MACH	Sensor Weldment
41	325-065900	2-PER MACH	Double-ended Bearing

GUIDE HITCH ELECTRICAL ASSEMBLY

NOTE: SEE ENCLOSED SHEET IN THE BACK OF THE BOOK FOR THE 1996 WIRING DIAGRAM UPDATE.

