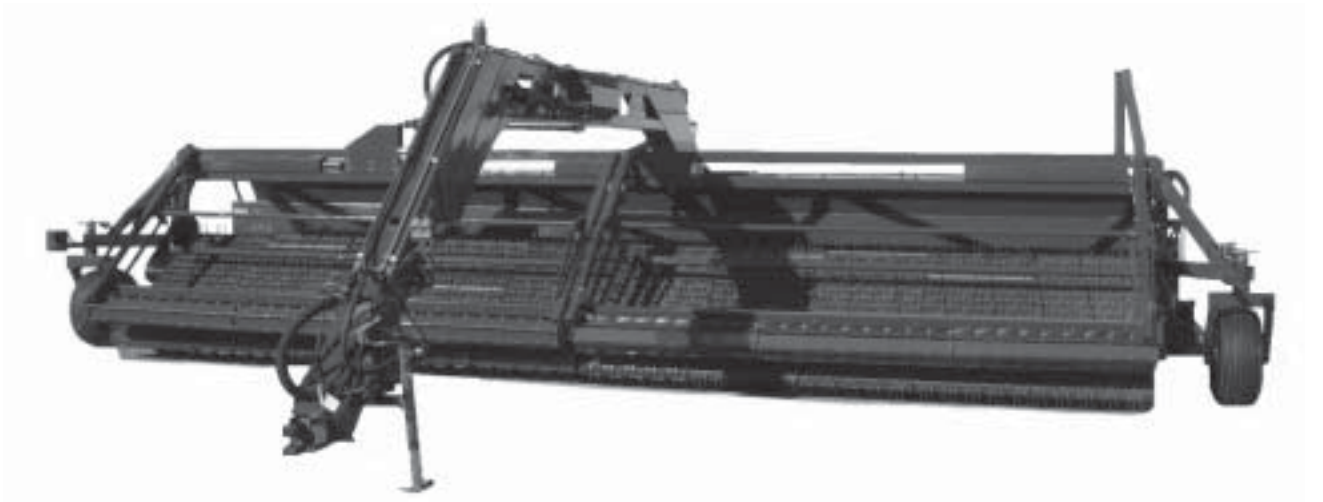


H&S

30' CONTINUOUS MERGER



WARNING

READ AND UNDERSTAND THIS MANUAL
BEFORE OPERATING THIS EQUIPMENT

UNSAFE OPERATION OR MAINTENANCE OF THIS EQUIPMENT CAN RESULT IN
SERIOUS INJURY OR DEATH

OPERATOR'S MANUAL AND PARTS LIST

HSMFG12009

Manufactured By
H&S MANUFACTURING CO., INC.

P.O. BOX 768 (715) 387-3414 FAX (715) 384-5463
MARSHFIELD, WISCONSIN 54449

H & S
30' CONTINUOUS MERGER
PARTS AND OPERATOR'S MANUAL
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WARRANTY

Mr. Owner: Before Operating-Read and Understand Operating and Safety Instructions.

H&S Manufacturing Co., Inc. truly believes you have made a wise choice and a sound and lasting investment. Many years of development have made available these quality machines to assure you the performance and reliability you need. **We ask you to read the following agreement as this unit is subject to this warranty and agreement and no other.**

H&S MANUFACTURING CO., INC. WARRANTY

H&S Manufacturing Co., Inc. ("H&S") warrants this product to be free from defect in material and workmanship. Except as noted below, this warranty term is 120 days from the date of delivery of the product to the original purchaser by and authorized H&S dealer. Under this warranty H&S will repair or replace, at it's option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. In no case will the covered repair cost of a part or parts exceed the replacement cost of that part. Warranty service must be performed by H&S or a dealer authorized by H&S to sell and/or service the product involved, which will use only new or remanufactured parts or components furnished by H&S. This warranty includes approved parts and labor to fix the product but does not include, and the purchaser is responsible for; any service call and/or transportation of the product to and from the dealer's place of business, for any premium charged for overtime labor requested by the purchaser, and for any service work not directly related to any defect covered under this warranty. This warranty includes only those components of the product manufactured by H&S. Warranty for any component not manufactured by H&S including, but not limited to engines, batteries, tires, rims, hydraulic motors, pumps etc., are covered by the warranty if any provided separately by their respective manufacturers.

This warranty in all its parts, is extended solely to the original purchaser of the product, is terminated upon any subsequent transfer or sale from or by the original purchaser and extends no third party benefits or rights whatsoever.

This warranty does not include: (1) Any product that has been altered or modified in ways not approved by H&S; (2) Depreciation or damage caused by normal wear, misuse, improper or insufficient maintenance, improper operation, accident or failure to follow the product Operator Manual recommendations and product decal recommendations; (3) Normal maintenance parts and service; (4) Repairs made with parts other than those available from H&S or performed by anyone other than H&S or a dealer authorized by H&S to sell and/or service the product involved.

To secure warranty service the purchaser must report the product defect to a dealer authorized by H&S to sell and/or service the product involved within the applicable warranty term together with evidence of the warranty start date and make the product available to that dealer within a reasonable period of time.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. H&S and the companies affiliated with it makes no warranties, representations, or promises, express or implied, as to the quality or performance or freedom from defect of its products other than these set forth above and **NO IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. IN NO EVENT WILL THE DEALER, H&S OR ANY COMPANY AFFILIATED WITH H&S BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.** The **ONLY REMEDY** the purchaser has in connection with the breach of performance of any warranty on H&S products are those set forth above.

The selling dealer has no authority to make any representations or promise on behalf of H&S, or to modify the terms or limitations of this warranty in any way.

TM3/04

**FILL OUT AND MAIL
IMMEDIATELY TO MAKE
WARRANTY EFFECTIVE**



WARRANTY REGISTRATION

Date of Purchase _____

Purchaser _____ Address _____

City _____ State _____ Zip _____

Product _____ Model# _____ Serial# _____

Dealer _____ Address _____

City _____ State _____ Zip _____

Signature of Original Buyer

IMPORTANT!

Tear on dotted line, provide the information requested on the card. The H&S Warranty is valid **“only”** after this card is received and recorded at H&S Mfg. Co. Mail at once. No postage is required in the U.S.A.

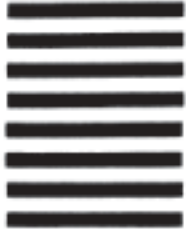


NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL Permit No. 195 Marshfield, WI 54449

POSTAGE WILL BE PAID BY ADDRESSEE

H&S Manufacturing Co., Inc.
PO Box 768
Marshfield WI 54449-9963



AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

**H&S
DEALER PRE-DELIVERY CHECK LIST**

After the Windrow Merger has been completely set-up, check to be certain it is in correct operating order before delivering to the customer. The following is a list of points to inspect. Check off each item as you have made the proper adjustments and found the item operating satisfactorily.

- All shields and guards are in place and fastened
- All grease fittings have been lubricated - (See lubrication guide in this manual).
- All mechanisms are operating trouble free.
- Belts are properly adjusted.
- All bolts and fasteners are tight.
- All decals are in place and legible.
- All hydraulic hoses & fittings securely tightened.

(Dealer's Name)

Model Number

Serial Number

(Signature of Pre-Delivery Inspector)

(Inspection Date)

DEALER DELIVERY CHECK LIST

This check list that follows is an important reminder of valuable information that should be passed on to the customer at the time this Windrow Merger is delivered.

Check off each item as you explain it to the customer.

This delivery check list, when properly filled out and signed assures the customer that the Pre-delivery service was satisfactorily performed.

- Explain to the customer that the pre-delivery inspection was made.
- Explain to the customer all the safety precautions they must exercise when operating this unit.
- Explain to customer that regular lubrication is required for proper operation and long life of machine. Show customer the lubrication section of Owner's Manual.
- Give the customer Owner's Manual and make sure they read and understand all operating and service instructions.
- Record Serial Number on page 20 of this Manual.
- Have customer sign a completed "Warranty Registration," and mail it promptly.

Date Delivered _____

Dealer's Name _____

By _____

Signature of Original Buyer

Note: Warranty is not valid until warranty card is completed and returned to H & S Mfg. Co., Inc.

(Remove Dealers File Copy At Perforation)



**BE
ALERT!**

**YOUR SAFETY
IS INVOLVED.**

THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER YOUR PERSONAL SAFETY IS INVOLVED. TAKE TIME TO BE CAREFUL. REMEMBER: THE CAREFUL OPERATOR IS THE BEST OPERATOR. MOST ACCIDENTS ARE CAUSED BY HUMAN ERROR. CERTAIN PRECAUTIONS MUST BE OBSERVED TO PREVENT THE POSSIBILITY OF INJURY OR DAMAGE.

TRACTORS

This operator's manual uses the term "Tractor" when identifying the power source.

H & S MANUFACTURING CO. INC.

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.



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 signal word DANGER or WARNING are typically near specific hazards.

General precautions are listed on CAUTION safety signs.



WARNING



CAUTION



FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual, and all safety signs on your machine. Follow all recommended precautions and safe operating procedures.

Keep signs in good condition. Immediately replace any missing or damaged signs.

⚠ DANGER



5896B

**ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH**

⚠ WARNING



DO NOT GO NEAR LEAKS

- High pressure oil easily punctures skin causing serious injury, gangrene or death.
- If injured, seek emergency medical help. Immediate surgery is required to remove oil.
- Do not use finger or skin to check for leaks.
- Lower load or relieve hydraulic pressure before loosening fittings.

11599

⚠ WARNING

HELP AVOID INJURY

- READ & UNDERSTAND THE OPERATORS MANUAL PROVIDED WITH THIS MACHINE. IF MISPLACED CALL H & S MANUFACTURING AT 715-387-3414 WITH MODEL AND SERIAL NUMBER.
- UNDERSTAND ALL SAFETY WARNINGS AND FUNCTION OF CONTROLS.
- KEEP SAFETY DEVICES IN PLACE AND WORKING.
- KEEP YOURSELF AND OTHERS WELL CLEAR OF MOVING PARTS.
- DISCONNECT ALL POWER BEFORE SERVICING OR CLEANING THIS MACHINE.
- DO NOT EXCEED 20 MPH

72203A

⚠ WARNING



**DO NOT REMOVE SHIELDS
MOVING PARTS
INSIDE**

1494K

⚠ DANGER



**STAY CLEAR OF MERGER WHEN
OPENING OR
CLOSING.**

FAILURE TO HEED THIS
WARNING MAY RESULT IN
PERSONAL INJURY OR DEATH

KEEP CLOTHING, YOURSELF
AND OTHERS WELL CLEAR.

31401

⚠ WARNING



CRUSHING HAZARD

TO PREVENT SERIOUS INJURY OR DEATH:

KEEP HANDS AND BODY OUT OF HITCH AREA WHEN ATTACHING TOWING VEHICLE.

KEEP BODY CLEAR OF CRUSH POINT BETWEEN TOWING VEHICLE AND LOAD.

KEEP FEET AND LEGS CLEAR FROM UNDER TONGUE AREA IN CASE OF POSSIBLE JACK FAILURE.

82902

⚠ DANGER




**STAY CLEAR OF
MOVING PARTS**

FAILURE TO HEED THIS
WARNING MAY RESULT IN
PERSONAL INJURY OR DEATH

KEEP CLOTHING, YOURSELF
AND OTHERS WELL CLEAR.

3398A

⚠ DANGER



**STAY CLEAR OF
MOVING PARTS**

FAILURE TO HEED THIS
WARNING MAY RESULT IN
PERSONAL INJURY OR DEATH

KEEP CLOTHING, YOURSELF
AND OTHERS WELL CLEAR.

3294

TRACTORS

This operators manual uses the term “Tractor” when identifying the the power source.



WARNING

TO PREVENT SERIOUS INJURY OR DEATH

BEFORE YOU ATTEMPT TO OPERATE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT, WHETHER FAMILY MEMBER OR EMPLOYEE, IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

KNOW HOW TO STOP MACHINE BEFORE STARTING IT.

If the machine becomes clogged or requires servicing, disengage the tractor hydraulics. Stop the tractor engine, remove ignition key and allow all mechanisms to stop before cleaning or working on the machine.

DO NOT attempt to perform maintenance or repair with tractor running, or tractor or merger hydraulics engaged.

DO NOT step up on machine at any time.

NEVER manually feed material into the pickup.

DO NOT allow minors to operate or be near the machine.

DO NOT ALLOW PERSONNEL OTHER THAN THE QUALIFIED OPERATOR NEAR THE MACHINE.

STAY CLEAR of machine when raising or lowering pickups or positioning pole, also when.

Keep hands and feet, and clothing away from pickup and conveyor belts WHEN THEY ARE IN MOTION.

Loose or floppy clothing should not be worn by the operator.

Be sure the machine is clear of people, tools, and other objects before engaging tractor hydraulics or tractor PTO.

NEVER start Windrow Merger until all guards and safety shields are secured in place.

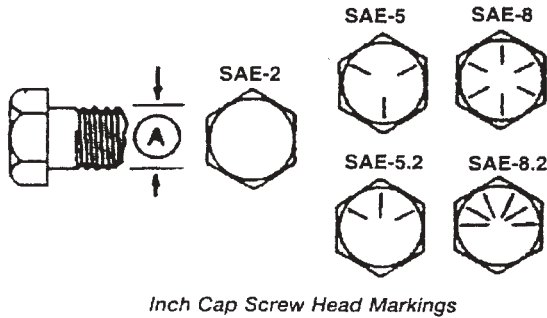
STAY CLEAR of hydraulic lines. They may be under extreme pressure or heat.

H&S Mfg. Co. always takes the operator and their safety into consideration and guards exposed moving parts for their protection. However, some areas cannot be guarded or shielded in order to assure proper operation. In addition, the operators manual and decals on the machine itself warn you of further danger and should be read and observed closely.

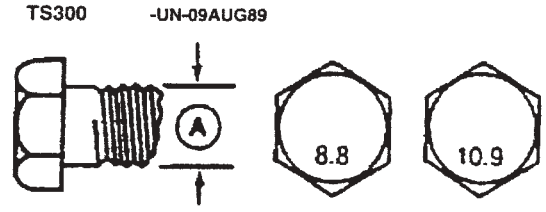
Study The Above Safety Rules

ATTENTION - BE ALERT - YOUR SAFETY IS INVOLVED

CAP SCREW TORQUE VALUES



Inch Cap Screw Head Markings



Metric Cap Screw Head Markings

INCH CAP SCREW TORQUE VALUES

Bolt Diameter (A)	Wrench Size	Cap Screw Grade					
		SAE 2		SAE 5		SAE 8	
		N-m	lb.-ft	N-m	lb.-ft	N-m	lb.-ft
1/4"	7/16"	7	(5)	11	(8)	16	(12)
5/16"	1/2"	14	(10)	23	(17)	33	(24)
3/8"	9/16"	24	(18)	41	(30)	54	(40)
7/16"	5/8"	41	(30)	68	(50)	95	(70)
1/2"	3/4"	61	(45)	102	(75)	142	(105)
9/16"	13/16"	88	(65)	142	(105)	203	(150)
5/8"	15/16"	122	(90)	197	(145)	278	(205)
3/4"	1-1/8"	217	(160)	353	(260)	495	(365)
7/8"	1-5/16"	224	(165)	563	(415)	800	(590)
1"	1-1/2"	332	(245)	848	(625)	1193	(880)
1-1/4"	1-7/8"	665	(490)	1492	(1100)	2393	(1765)

METRIC CAP SCREW TORQUE VALUES

Bolt Diameter (A)	Wrench Size	Markings on Cap Screw Heads			
		8.8		10.9	
		N-m	lb.-ft	N-m	lb.-ft
5 mm	8 mm	6	(4.5)	9	(6.5)
6 mm	10 mm	10	(7.5)	15	(11)
8 mm	13 mm	25	(18)	35	(26)
10 mm	16 mm	50	(37)	75	(55)
12 mm	18 mm	85	(63)	130	(97)
16 mm	24 mm	215	(159)	315	(232)
20 mm	30 mm	435	(321)	620	(457)
24 mm	36 mm	750	(553)	1070	(789)
30 mm	46 mm	1495	(1103)	2130	(1571)



CAUTION: Use only metric tools on metric hardware. Other tools may not fit properly. They may slip and cause injury.

DO NOT use these values if a different torque value tightening procedure is listed for a specific application. Torque values listed are for general use only. Check tightness of cap screws periodically.

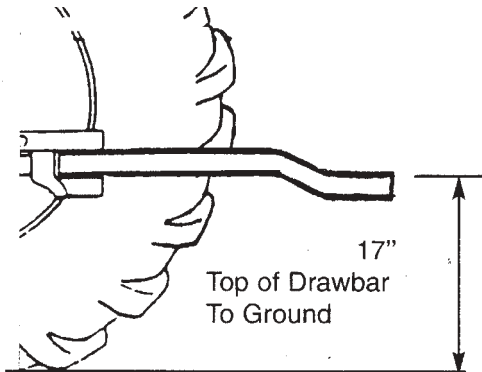
Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade. Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fastener threads are clean and you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of amount shown in chart. Tighten toothed or serrated-type lock nuts to full torque value.

TRACTOR SET UP

There are a few things that can be done with the tractor set up to ensure the smooth efficient operation of the 30' Continuous Merger. The drawbar should be set up at least 17 inches off the ground. This may require the drawbar to be "flipped". This gives more clearance between the pole and left head wind guard for opening and closing. Also the drawbar should be extended in the farthest position to allow for easier turning. The three point arms should be taken off the tractor to keep them from hitting the hydraulic shut-off valve located at the front of the pole. The tractor must be equipped with a 1000 RPM 1-3/8" 21 spline PTO shaft. The tractor should have a seven pin electric plug and two pin connector in cab.



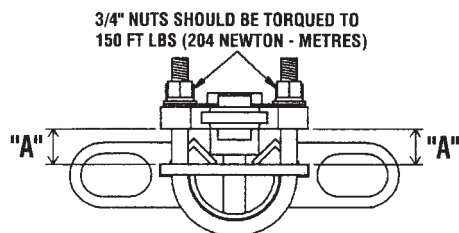
MAIN TRACTOR PLUG

1.	Black (Ground)	
2.	Red (Work Lights)	
3.	Yellow (Left Turn)	
4.	Not Used	
5.	Green (Right Turn)	
6.	Brown (Tail Lights)	
7.	White/Black (+12V to Control Box)	

Tractor wiring may differ. Check your tractor manufacturers' electrical diagram to match to Continuous Merger Electronics.

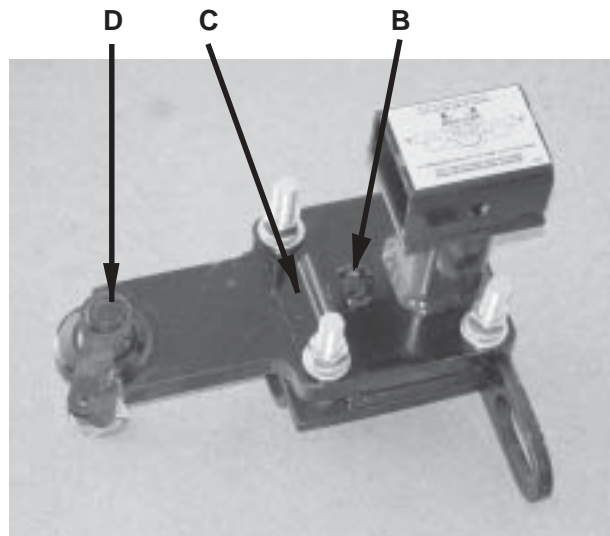
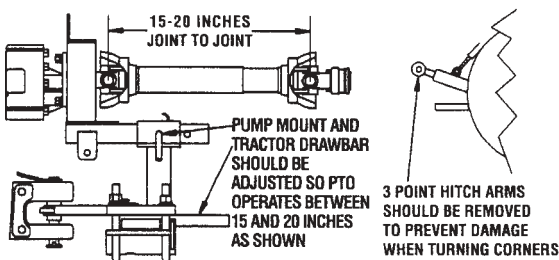
PRE-OPERATION

1. While in the transport position, check entire unit carefully before first operation. Tighten bolts, set screws, and chains that might have come loose in handling. Lubricate as explained in the lubrication guide.
2. Install drawbar extension on drawbar. Install hitch pin (B) and rotate pin lock (C) over hitch pin. Tighten 3/4" nuts to 150 ft. lbs. (204N-m). Nuts will secure pin lock and hold extension tight to the drawbar. Dimension "A" should be the same on each side as shown.
3. Attach Merger to tractor using 1" hitch pin (D) provided and install safety-locking device.



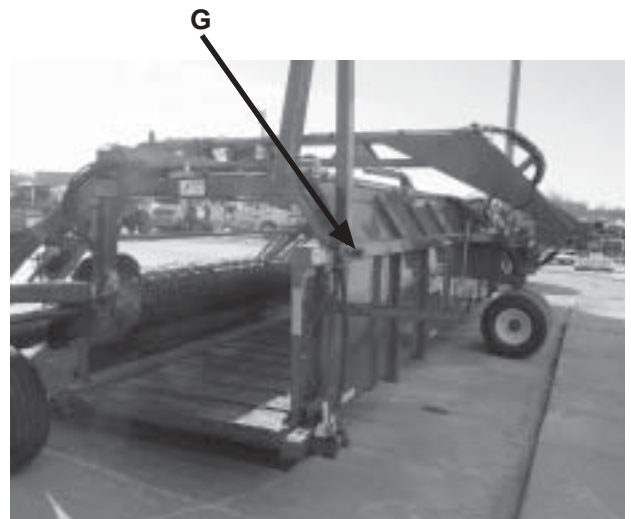
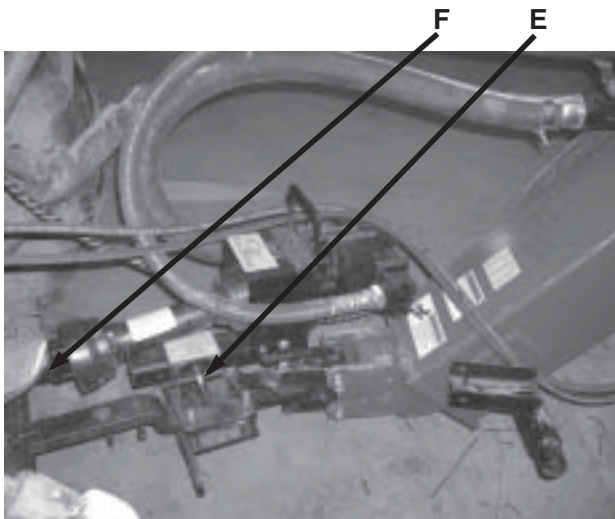
"A" DIMENSIONS SHOULD BE THE SAME AFTER TIGHTENING

NOTE: TRACTOR THREE POINT HITCH ARMS SHOULD BE REMOVED BEFORE OPERATION



PRE-OPERATION *(Continued)*

- Slide pump on receiver and secure with pin (E) provided and install safety-locking device.
- Slide spring loaded locking collar (F) on PTO yoke rearward, and slide yoke onto the tractor PTO shaft. Release spring loaded collar. Be sure the pins fall into the groove of the tractor PTO shaft and collar snaps forward into position. **CAUTION:** Do not use steel hammer to aid in joining PTO parts.
- Remove weight from lift jack and place in storage position (G).
- Connect six hydraulic hoses to the tractor. Two hoses on left side of pole open and close the machine. Two top hoses on right side of pole raise and lower the left head and two bottom hoses raise and lower the right hand head.
- Connect seven pin plug on merger harness to seven pin connector on tractor. Attach two pin connector on fan harness to two pin plug in tractor cab.



	⚠ WARNING
	DO NOT GO NEAR LEAKS <ul style="list-style-type: none">• High pressure oil easily punctures skin causing serious injury, gangrene or death.• If injured, seek emergency medical help. Immediate surgery is required to remove oil.• Do not use finger or skin to check for leaks.• Lower load or relieve hydraulic pressure before loosening fittings.

⚠ WARNING		
		
CRUSHING HAZARD		
TO PREVENT SERIOUS INJURY OR DEATH: KEEP HANDS AND BODY OUT OF HITCH AREA WHEN ATTACHING TOWING VEHICLE. KEEP BODY CLEAR OF CRUSH POINT BETWEEN TOWING VEHICLE AND LOAD. KEEP FEET AND LEGS CLEAR FROM UNDER TONGUE AREA IN CASE OF POSSIBLE JACK FAILURE.		

PRE-OPERATION *(Continued)*

9. Plug the control box cord into the main wiring harness on pole. Attach control box to a convenient place on the tractor. The control box controls the following functions. 1.) Cross conveyor discharge to left, right or off. 2.) Pole open or close. 3.) Warning light and horn to indicate low oil level.
10. Run pickup and conveyor for several minutes to ensure proper assembly and lubrication. Successful operation will be achieved by periodic adjustments and experience of the operator. Make sure to read and understand the adjustments.
11. Check tires and inflate to recommended pressure. The rear two tires (H) and the front caster tires (I) should be inflated to 75 PSI.



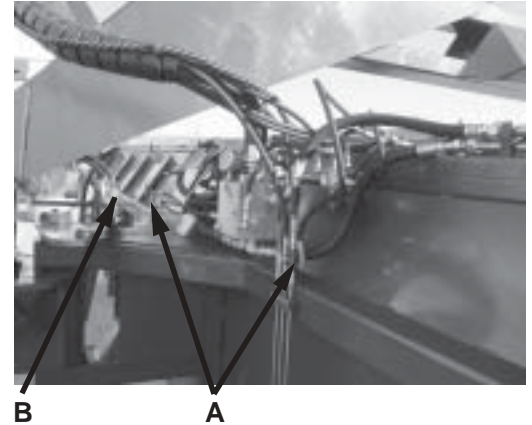
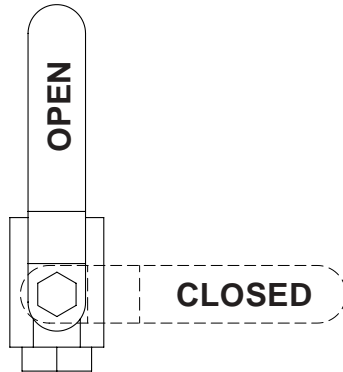
HYDRAULICS

The tractor hydraulic system should have a minimum flow of 5 GPM and a minimum pressure of 2000 PSI. This system is used to operate the pole cylinders and the cylinders controlling pickup heads. The PTO driven self-contained hydraulic system on the Merger provides oil to the hydraulic motors operating the pickup belts and cross conveyor belts. The Merger pole is the hydraulic reservoir. In case of a blown suction hose, shut off tractor PTO and turn off valve located at the front of the pole. The fans for the oil cooler radiators are located on the merger pole must be turning properly to keep oil cool during merger operation. The oil filter should be replaced once a year and the oil should be replaced every other year or when the oil becomes discolored.

OPERATION

TRANSPORT LOCKS

There are three manual transport locks on the merger. All locks should be used when transporting the unit, and must be in the open position when operating the merger. The transport locks (ball valves) (A) for the heads are located at the rear of the machine. The transport lock (ball valve) (B) for the rear steering wheels is also located at the rear of the machine. This valve must be in the closed position for transporting to ensure merger trails properly. **Transport speed should not exceed 20 M.P.H.**



PICK-UP HEADS

Each pick-up head can be raised and lowered separately by using the tractor remote outlets. To properly set the heads for the field operating position the operator must power the heads and the rotary crop deflector down (using the tractor remote hydraulic levers). Once the heads and the rotary crop deflector are all the way down the operator **must put the tractor hydraulic lever into the float position.** This will allow the merger pick-up heads to float with the contour on the ground.



CROSS CONVEYOR

The 30' Continuous Head Merger can be set up to merge hay to the right, left, or right and left. This can be done by moving the toggle switches on the control box. These switches can not be moved from one direction to the other in one continuous motion. They are designed to stop in the center position. Momentarily relieving pressure on the switch will allow it to then be moved in the other direction. Bringing both switches to the center position will stop both cross conveyors. The pick up heads will still be operating. When both cross conveyors are stopped, this allows the operator to pick up small amounts of hay and store it on the cross conveyor. The operator can then go back to a windrow and select the direction of travel and begin merging again. The pickup head and cross conveyor speed should be controlled by adjusting the tractor throttle. By controlling the speed this way, the hydraulics will run at a cooler temperature. Opening and closing should be done on level ground and not while moving.

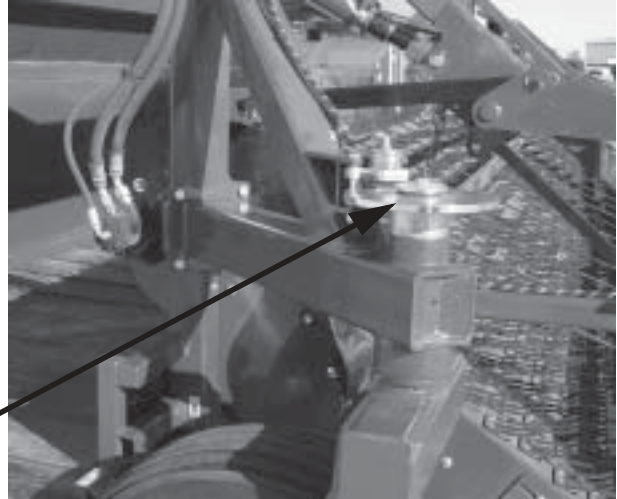


OPERATION *(Continued)*

CASTER WHEELS

There are two caster wheels located at the front of the merger. Each caster wheel has its own braking system. The brakes are automatic and do not require daily adjustment. Any time the PTO is running the brakes automatically disengage. To engage the brakes for transport simply turn off the PTO.

Brake Caliper and Rotor



LOAD LEVELER

After engaging the PTO, the Load Leveler (C) automatically transfers a portion of the machine weight to the rear steering wheels.

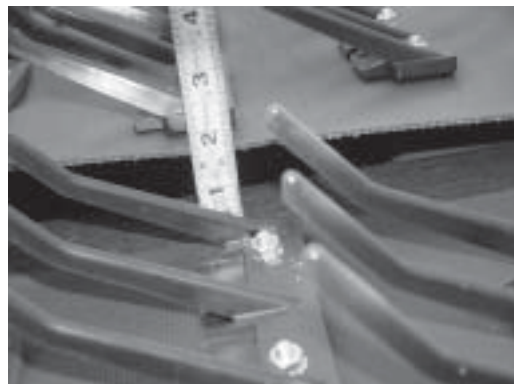
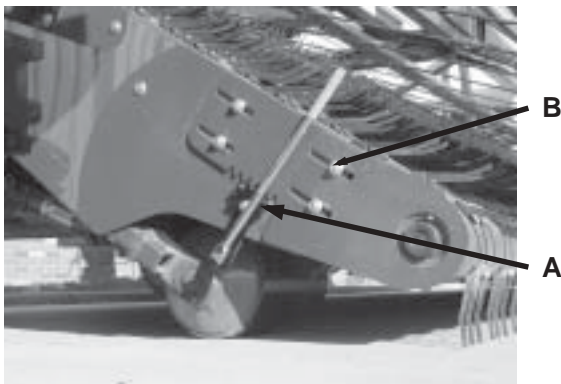
C



ADJUSTMENTS

PICK-UP ADJUSTMENT

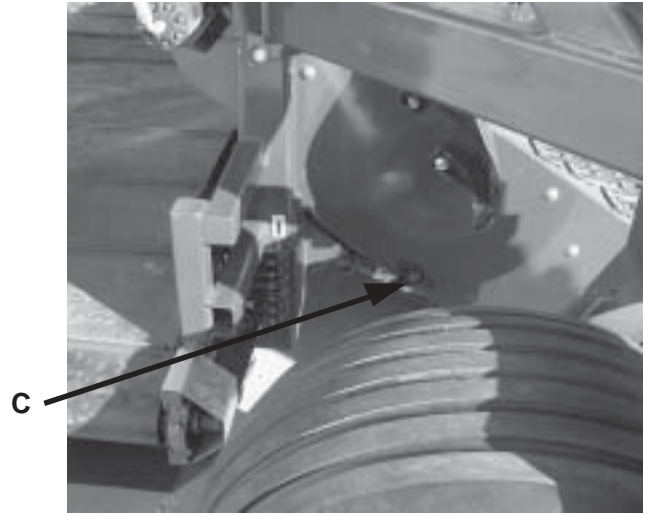
Pick-up belts may be adjusted by inserting a 1/2" ratchet or breaker bar into the tightener pinion (A) located on both ends of each pick-up. The flange nuts (B) must be loosened before adjustment, and tightened after the desired belt tension is attained. Proper belt tension will be achieved when 1-1/2" of slack can be pulled in the center of the two outside belts (of each head) with minimal resistance. **DO NOT** tighten pick-up belts excessively. Over tightening may cause damage to belts or rollers. Loose belts will cause unnecessary tooth wear and breakage.



ADJUSTMENTS *(Continued)*

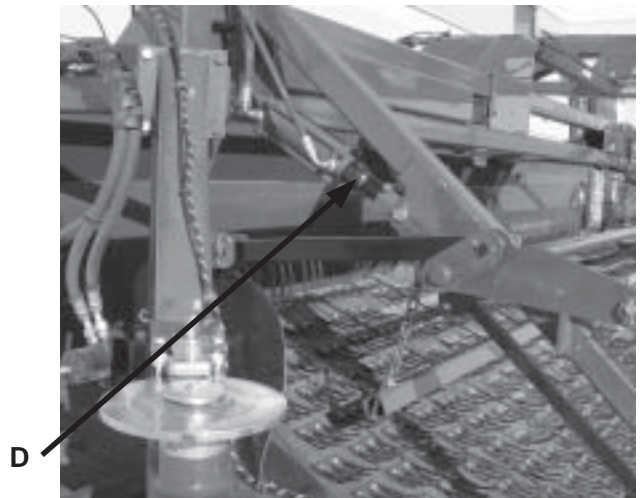
PICK-UP GAUGE ROLLERS

Pick-up height may be adjusted by adjusting the gauge rollers located underneath each end of each head. Pull pins (C) and slide the roller assembly in or out and select your height setting from the series of holes on the inner tube and outer frame until proper adjustment is achieved. Proper adjustment will allow the teeth to run 1/2" above the ground. Excessive tooth wear and breakage will occur if teeth are touching the ground. Adjust both sides equally.



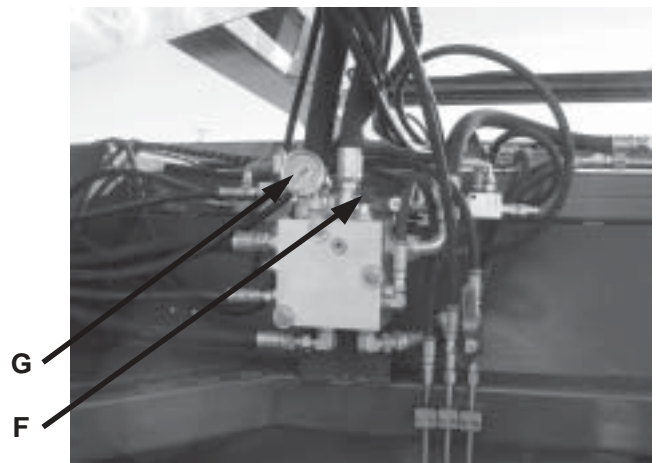
ROTARY CROP DEFLECTOR ROLLER

The rotary crop deflector comes leveled side to side from the factory. The height can be adjusted by loosening set screw and turning stop (D) to the desired height. **Note: One turn will move the roller a considerable amount.** Always make sure the same amount of adjustment is done to each cylinder of each crop roller. The crop deflector roller will automatically retract and extend each time the operator raises or lowers the pick-up heads.



HEAD FLOATATION SYSTEM

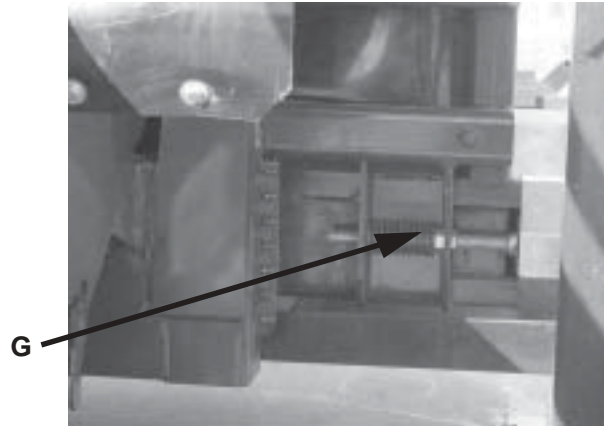
The 30' Continuous Head Merger has a built in head floatation system. The amount of weight that each head has on the gauge rollers is adjustable by turning valve (F) in to increase the pressure and out to decrease the pressure that is required to change the head weight. The pressure can be read on gauge (G). **Note: The head floatation system will only work if the pick-ups are down and in the float position on the tractor hydraulic lever and the tractor PTO is engaged.**



ADJUSTMENTS *(Continued)*

CONVEYOR ADJUSTMENTS

The cross conveyor belt tension can be adjusted by tightening the take up bolts (G) located on the two belt drive rollers located on each end of the cross conveyor. Proper tension may be achieved by compressing the springs to 3-1/4"



TROUBLE SHOOTING



WARNING

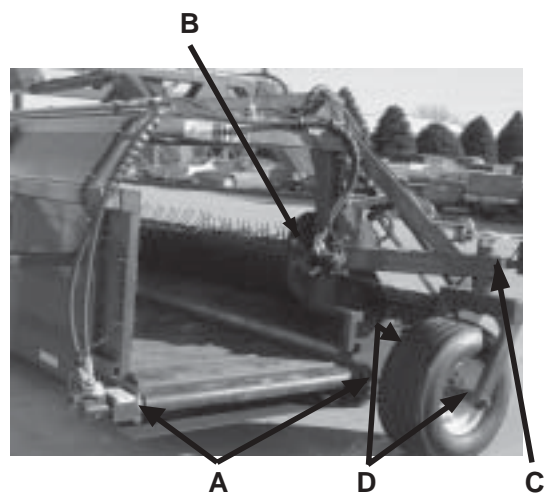
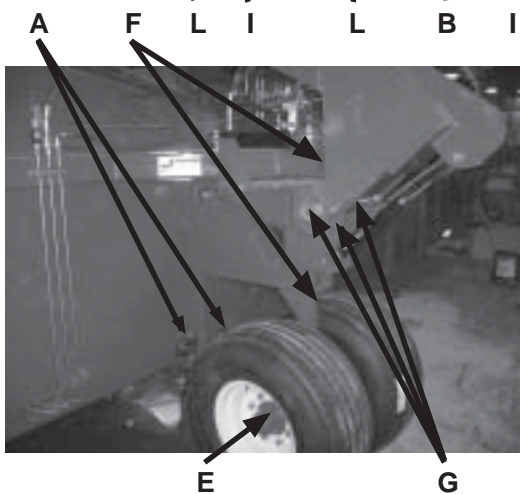
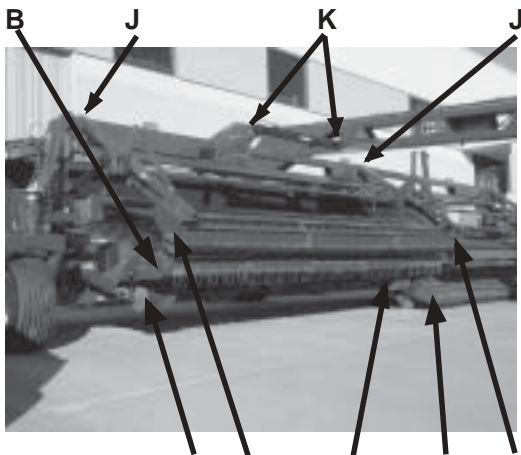
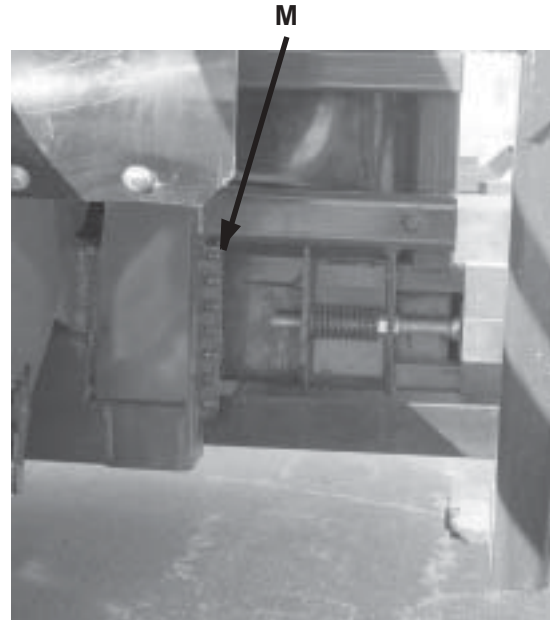
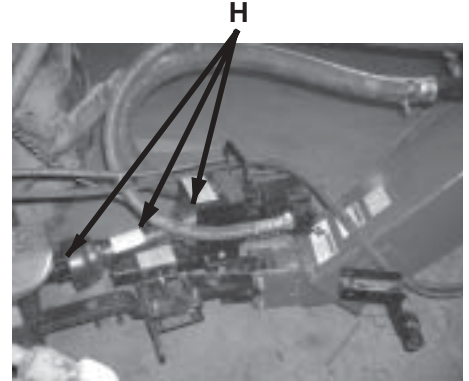
MAKE SURE THAT THE TRACTOR IS SHUT OFF AND THE MERGER CAN NOT MOVE BEFORE SERVICING THE TWIN WINDROW MERGER. MAINTENANCE AND REPAIR SERVICE WORK TO BE PERFORMED BY A QUALIFIED SERVICE PERSON ONLY.

<u>TROUBLE...</u>	<u>POSSIBLE CAUSE...</u>	<u>POSSIBLE REMEDY...</u>
Merger Will Not Swing Into Field or Transport Position	Merger 7-Pin Connector Not Connected To Tractor	Connect To Tractor 7-Pin Connector
	Control Box Not Connected To Main Wire Harness On Merger	Connect To Main Harness On Merger
	Tractor Hydraulic Lever Not Engaged Or Engaged In Wrong Direction	Engage Tractor Hydraulic Lever In Correct Direction
	Hydraulic Hoses Not Connected To Tractor Remote Outlet	Connect Hoses To Tractor Remote Outlets
Merger Pickup Heads Will Not Raise Or Lower	Hydraulic Hoses Mixed Up With Pickup Lift Hoses	Sort Hydraulic Hoses Correctly And Re-Couple To Tractor Remote Outlets
	Hydraulic Hoses Not Connected To Tractor Remote Outlets	Connect Hoses To Tractor Remote Outlets
	Hydraulic Hoses Mixed Up With Merger Swing Cylinder Circuit	Sort Hydraulic Hoses Correctly And Re-Couple To Tractor Remote Outlets
Merger Pick Or Cross Conveyor Will Not Run	Pickup Transport Locks Still Engaged	Rotate Transport Lock Valves (See Page # 13)
	PTO Shaft Not Connected To Tractor	Connect PTO Shaft To Tractor
	PTO Not Turning	Engage Tractor PTO
	Suction Ball Valve Turned Off	Turn Ball Valve At The Front Of The Merger Tongue
Merger Does Not Track	Toggle Switches For Cross Conveyor In Neutral Position	Move Toggle Switches for R or L Discharge
	Transport Lock (Ball Valve) Closed	Open Transport Lock (Ball Valve) (See Page # 13)
Hot Oil	Fans Not Turning Properly	Plug Two Pin Connector In Tractor Cab

LUBRICATION

There are 58 grease fittings on your 30' Continuous Head Merger. If these are lubricated properly and often enough, it will prolong the life of the merger. Grease daily during normal use and **before and after storage and after power washing**. Use a good grade of high quality grease. Make sure grease comes out around the shaft on the sleeve type bearings. On the sealed ball bearings, grease should be added slowly until a slight bead forms at the seals indicating the correct amount of lubricant. Wipe off excess grease to prevent accumulation of grit around the bearings.

- A. (6) Cross Conveyors - one on each pillow block bearing (two on each end, two in the center rear).
- B. (8) Pickup Heads - one on each end of each pickup idler roller (bottom) and one on each end of pickup drive roller (top).
- C. (2) One on each caster wheel pivot.
- D. (4) Two on each caster wheel hub.
- E. (2) One on each rear axle wheel hub.
- F. (2) Center Rear Axle Mount.
- G. (3) Pole Pivot pin.
- H. (3) One on each end of PTO shaft and center slide.
- I. (4) One on each end of each rotary crop deflector.
- J. (4) One on each rotary crop deflector top pivot.
- K. (2) One on each end of pole swing cylinder.
- L. (4) One on each pick-up gauge roller.
- M. (2) Grease Blocks - Greases inside cross conveyor bearing, four head pivot points, two frame gauge rollers.



DECAL LOCATION

Your H&S Continuous Head Windrow Merger was manufactured with operator safety in mind. Located on the windrow merger are various decals to aid in operation, and warn of danger or caution areas.

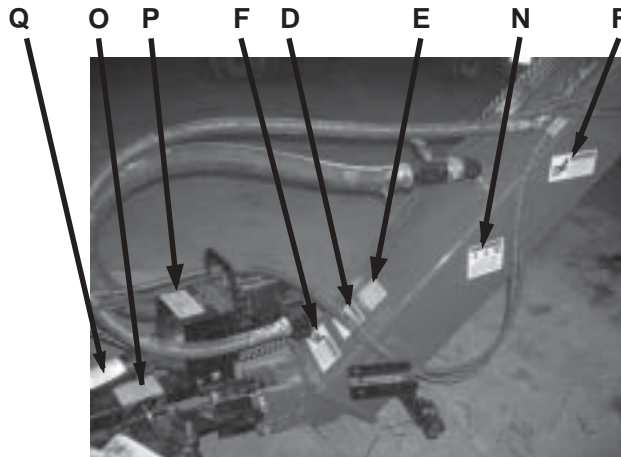
Pay close attention to all the decals on your windrow merger.



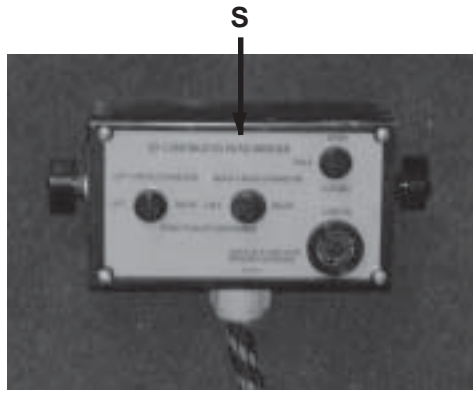
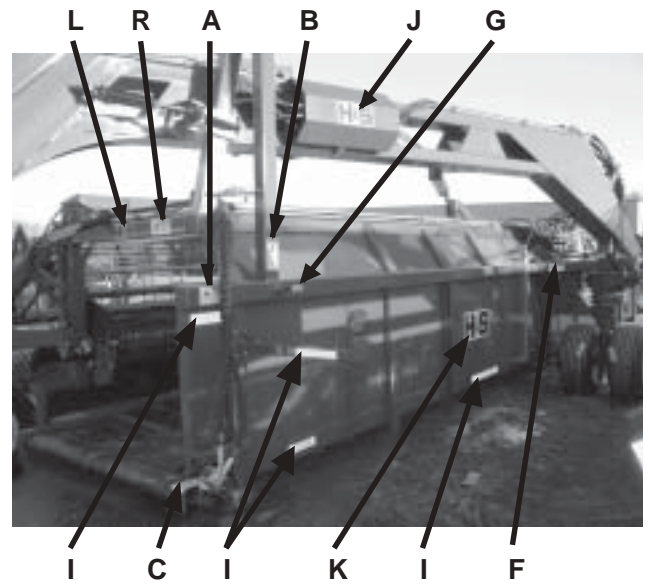
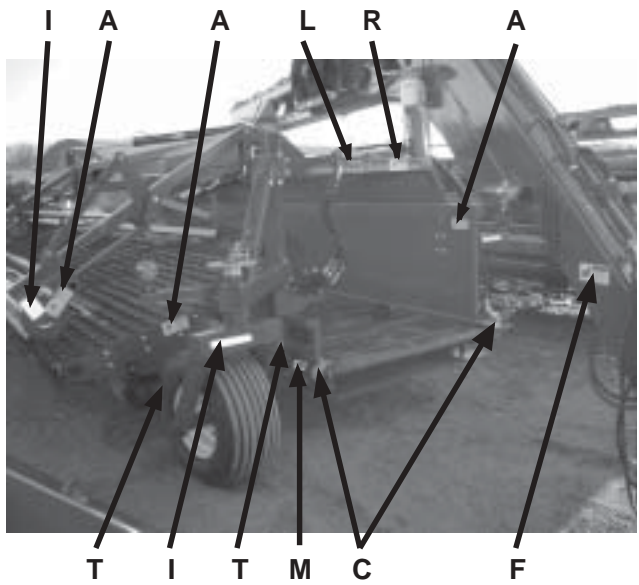
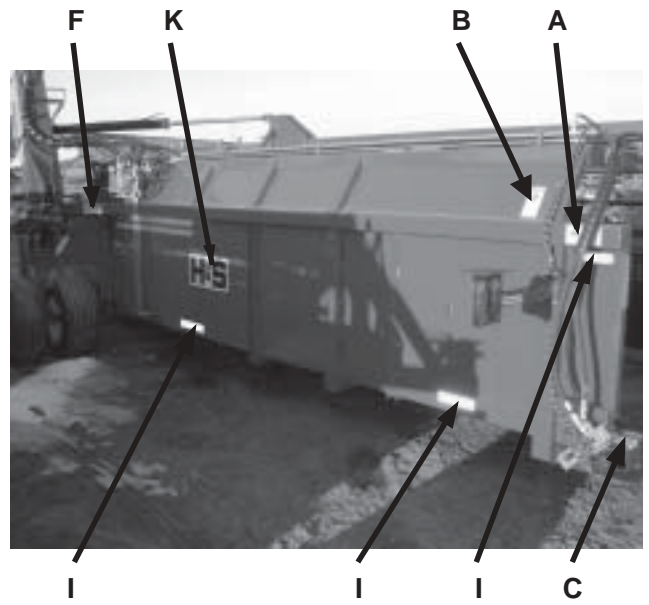
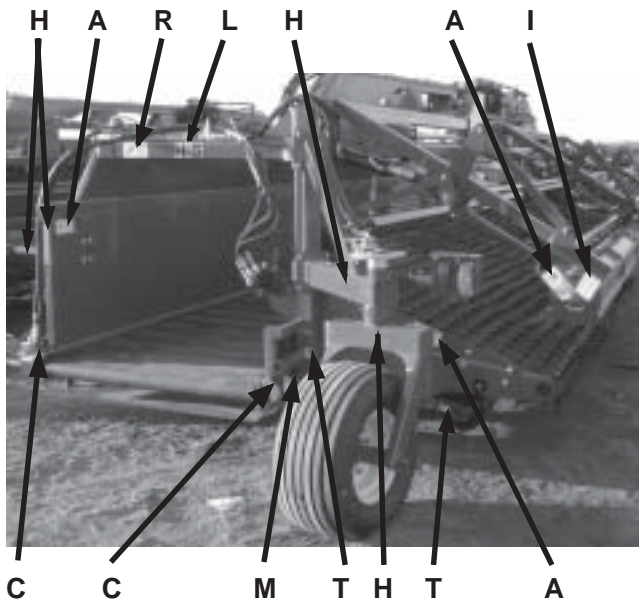
DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF WINDROW MERGER IS REPAINTED, REPLACE DECALS. REMEMBER: DECALS ARE FOR YOUR PROTECTION AND SAFETY.

Listed below are the decals on your Continuous Head Merger. These decals may be ordered individually by part number, or by ordering a complete set.

ITEM	PART NO.	DESCRIPTION
A.	3398A	(8) Danger - Stay Clear of Moving Parts
B.	31401	(2) Danger - Stay Clear of Merger
C.	1494K	(4) Warning - Do Not Remove Shields
D.	72203A	Warning - Help Avoid Injury
E.	H&S 404	Patent Numbers
F.	11599	(5) Warning - Do Not Go Near Leaks
G.	711888	Jack Storage Position
H.		(4) 2" x 9" Red Reflector
I.		(9) 2" x 9" Amber Reflector
J.	B12	(2) H&S Decal
K.	B22	(2) H&S Decal
L.	B8	(2) H&S Decal
M.	5896B	(2) Warning - Rotating Driveline
N.	82602	Warning - Crushing Hazard
O.	12803A	Hitch Mounting Instructions
P.	12803B	PTO & Hydraulic Pump Mounting Instructions
Q.	Weasler	Rotating Driveline (H&S Decal 1494L)
R.	2204	(4) Danger - Stay Clear of Moving Parts
S.	03107A	Electric Control Box Decal
T.	093020	Grease
	041307CHM	Complete Set of Decals
Paint - H&S Red		
	ZX21	Gallon
	ZX22	Quart
	ZX23	Pint
	ZX79	Spray Can



DECAL LOCATION (Continued)



INSTRUCTIONS FOR ORDERING PARTS

All service parts should be ordered through your authorized H & S dealer. They will be able to give you faster service if you will provide them with the following

1. Model & Serial number is located on the front, right main frame near pole pivot of your unit.
2. All reference to left or right apply to the machine as viewed from the rear.
3. Parts should not be ordered from illustration only. Please order by complete part number.
4. If your dealer has to order parts - give shipping instructions:
VIA truck - large pieces (please specify local truck lines)
VIA United Parcel Service (include full address)

H&S MFG. CO. INC.	
MARSHFIELD, WIS.	
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SER. NO.	<input type="text"/>
DESCR.	<input type="text"/>

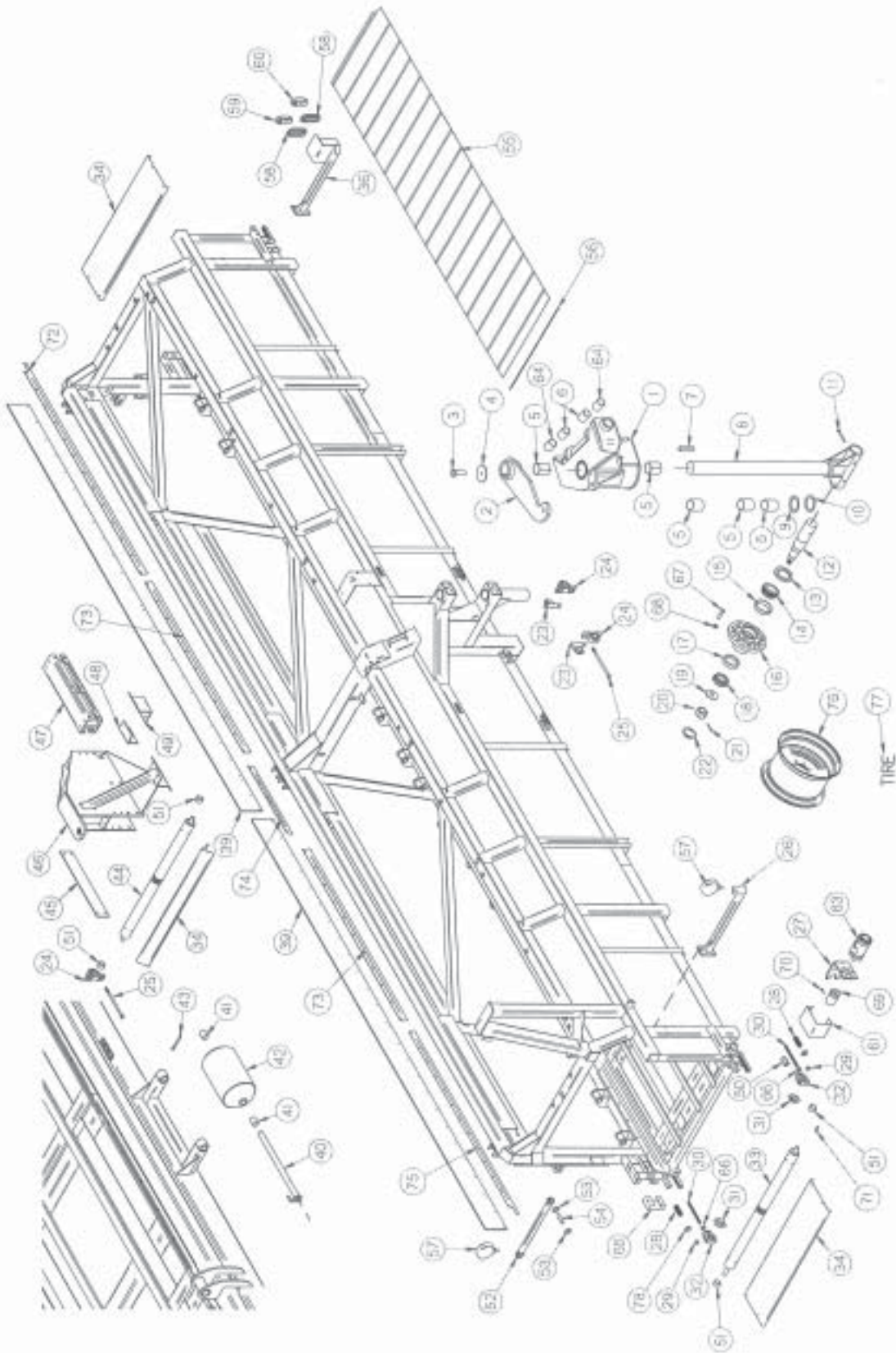
PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

ABOUT IMPROVEMENTS

H&S IS CONTINUALLY STRIVING TO IMPROVE IT'S PRODUCTS

We must therefore, reserve the right to make improvements or changes whenever it becomes practical to do so without incurring any obligation to make changes or additions to the equipment previously sold.

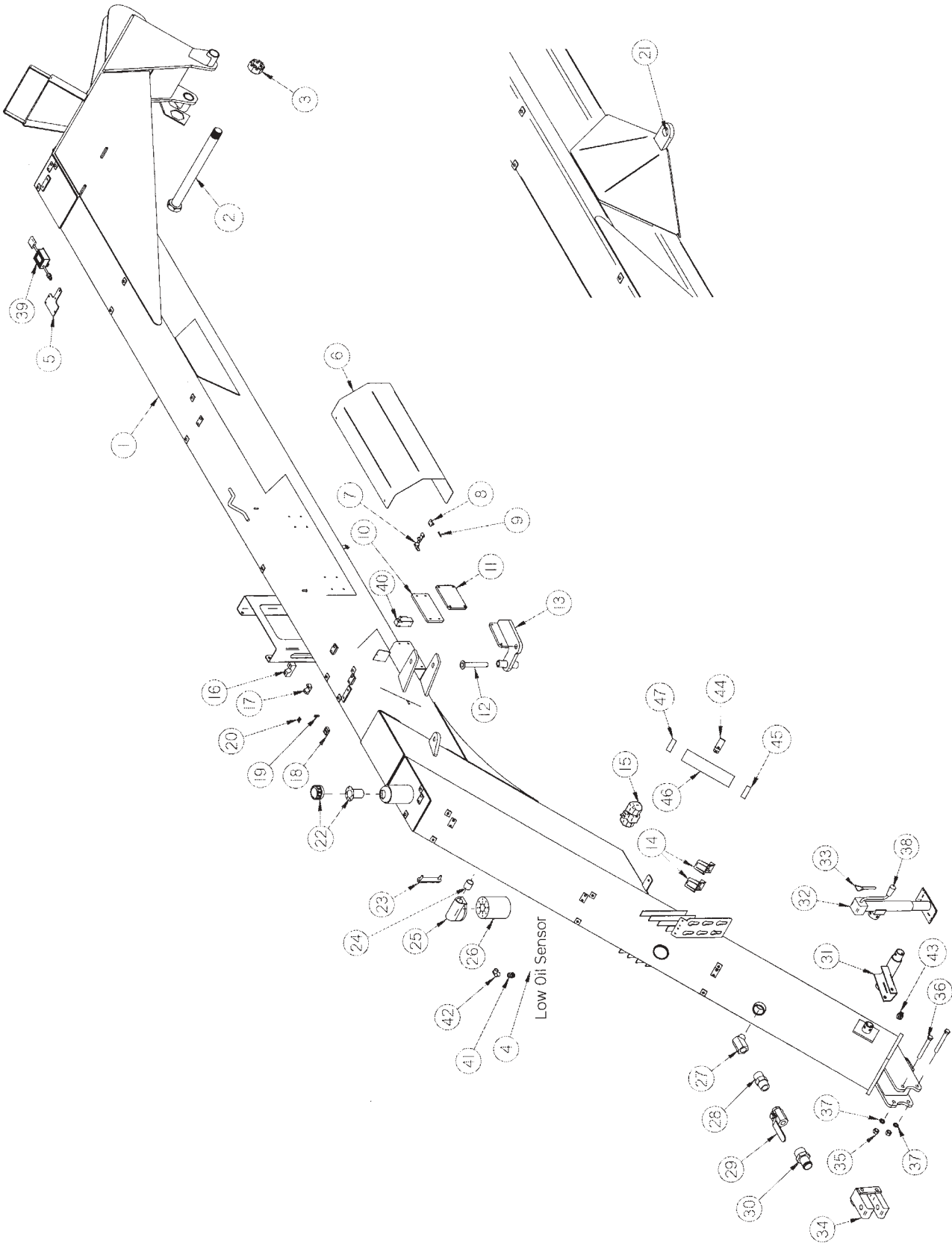
FIGURE 1



**FIGURE 1
FRAME**

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	CHM3	Steering Pivot	42.	FM12	Drum Roller
2.	CHM4	Steering Flange	43.	3G22	Expansion Pin 5/16" X 1-3/4"
3.	RG135	1/2" X 1" Bolt Gr. 5	44.	DWM13	Middle Roller
4.	CHM5	Top Washer	45.	CHM21	Slider Poly .250
5.	CHM148	Bushing (Phenolic)	46.	CHM22	Pole Slider
6.	RG26	Bushing 2.015 ID x 2.25 OD x 2"	*	CHM23	Bushing (Spherical)
7.	DWM126	1/2" X 2-1/2" Key	47.	CHM24	Cylinder Mount
8.	CHM6	Steering Fork	48.	CHM25	Slider Poly Short .250
9.	DWM49	Steel Washer 3" ID	49.	CHM26	Short Pole Slider
10.	DWM73	Bronze Washer 3" ID	50.	CHM27	3/4" Nut
11.	CHM7	3/8" X 3-1/2" Bolt Gr. 5	51.	DWM57	Pipe Spacer
12.	CHM8	Spindle	52.	CHM131	Timing Link
13.	RG165	Seal	53.	CHM139	Timing Link Washer
14.	RG166	Bearing	54.	CHM140	Timing Link Pin
15.	RG167	Race	55.	CHM345	Cross Conveyor Belt (Apache)
16.	RG168	Hub	56.	DWM162	Cross Conveyor Lacing Pin
17.	RG169	Race	*	DWM318	Repair Dutchman
18.	RG170	Bearing	*	DWM162	Cross Conveyor Lacing
19.	RG183	Washer	57.	DWM129	Yellow Hazard Light
20.	RG184	Nut	58.	S308	Rubber Light Mount
21.	RG185	Cotter Pin 7/32" X 2"	59.	S310	Red Tail Light
22.	RG171	Hub Cap	60.	S309	Yellow Tail Light
23.	CHM9	Anti - Wrap Guard	61.	CHM133	Motor Shield
24.	DWM132	Bearing (Pillow Block)	63.	CHM149	Hydraulic Motor
25.	CHM304	1/2" X 8-1/2" Bolt Gr.	64.	CHM150	Bushing 2.015" IDx2.25" ODx2"
26.	CHM10	Right Front Light Bracket	65.	CHM 310	Bearing Shield
27.	CHM11	Torque Arm	66.	DWM169	3/4" Jam Nut
28.	CHM12	Spring	67.	RG71	Stud Bolt
29.	CHM13	3/4" Square Nut	68.	RG72	Lug Nut
30.	CHM14	Takeup Shaft	69.	DWM27	Coupler
31.	CHM15	Anti - Wrap	70.	DWM137	Cap Screw - Coupler
32.	CHM16	Bearing (Complete)	71.	G23	5/16" X 1-3/8" Key
33.	CHM313	Drive Roller	72.	DWM335	RH Skirt
34.	CHM311	Conveyor Hay Shield	73.	DWM46	Short Skirt
36.	CHM18	Left Rear Light Bracket	74.	DWM47	Middle Skirt
39.	DWM350	Poly Skirt	75.	DWM334	LH Skirt
40.	CHM20	Frame Roller Pin	76.	CHM102	Wheel W-523360R
41.	RG132	Bushing (1.26 IDx1.50 ODx2")	77.	CHM327	Tire 13.50 X 15 FI
NOTE: *(MEANS NOT SHOWN)			78.	T73	Washer

FIGURE 2

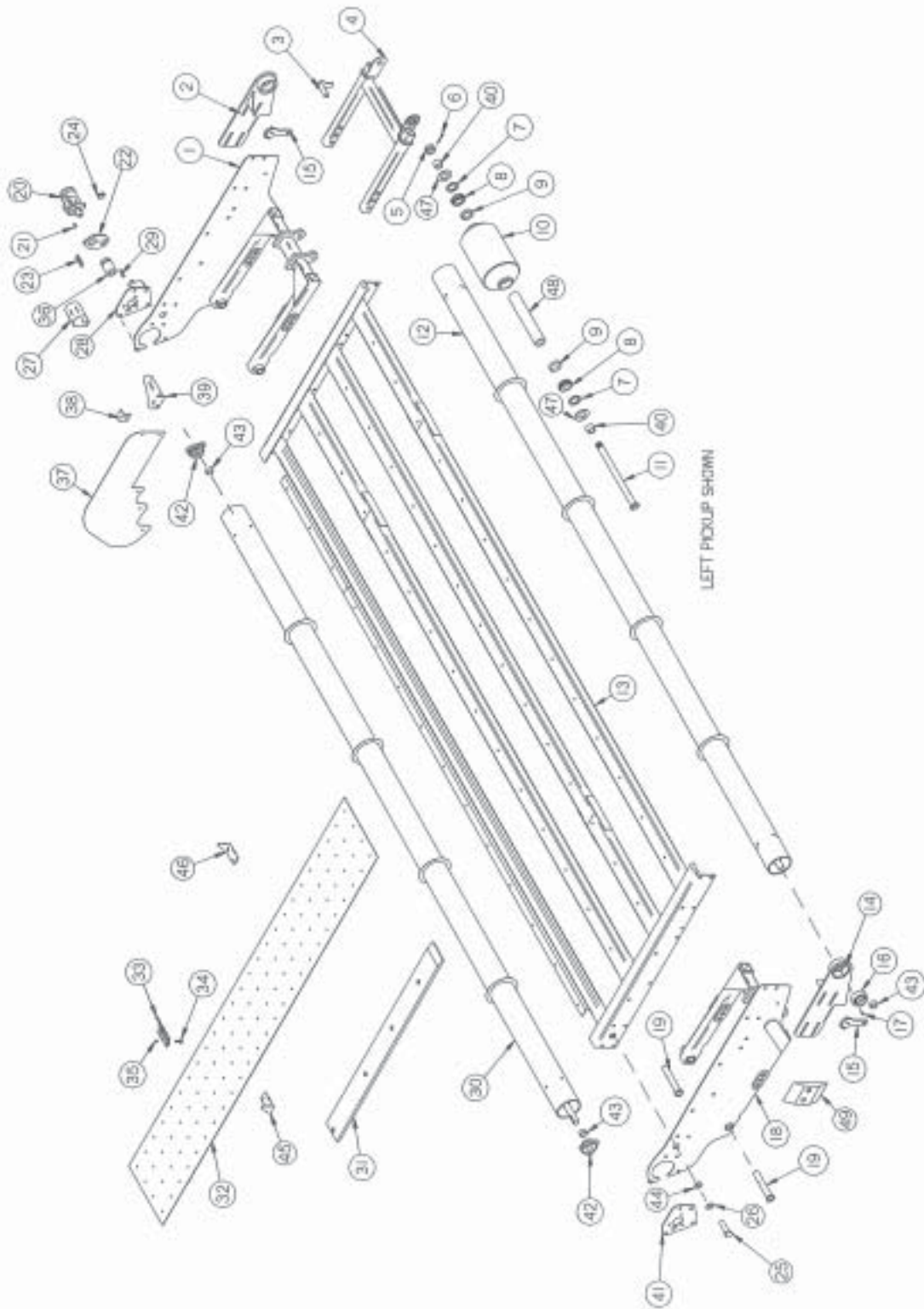


**FIGURE 2
POLE**

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	CHM28	Pole	25.	DWM82	Filter Base
2.	CHM29	Pole Pin	26.	STM23	Filter
3.	CHM30	2" Nut	27.	DWM267	Street Elbow 2" - 45°
4.	CHM31	Low Oil Sensor	28.	DWM147	2" Nipple Nut
5.	CHM32	Module Holder	29.	DWM83	Ball Valve
6.	CHM33	Pole Valve Shield	30.	DWM144	2" Hose Barb
7.	X192	Rubber Latch	31.	CHM44	Pump Storage Bracket LH
8.	X194	Latch Mounting Bracket	*	CHM308	Pump Storage Bracket RH
9.	X195	Latch Pin	32.	DWM124	Jack (2000#)
10.	CHM34	Latch Standoff Poly	33.	BFR4	Jack Pin & Chain
11.	CHM35	Latch Face Plate Poly	34.	WM43	Hitch - Adjustable
12.	CHM36	Latch Pin	35.	DWM282	3/4" Nut
13.	CHM37	Latch Bar	36.	50N129	3/4" X 6" Bolt Gr. 5
14.	CHM38	Plug Storage	37.	RG199	3/4" Lock Washer
15.	DWM130	Flood / Worklight	38.	12N12	Jack Handle
16.	CHM39	1-1/4" Line Clamp (Complete)	39.	S441	Light Module
17.	CHM40	3/4" Line Clamp (Complete)	40.	LW78	Limit Switch
18.	CHM41	3/8" Line Clamp Double (Complete)	41.	LW178	Strain Relief
19.	CHM42	Line Clamp Extender Dbl. Line	42.	CHM67	Pull Elbow 90°
20.	CHM43	Line Clamp Spacer Dbl. Line	43.	DWM159	Drain Plug
21.	CHM23	Bushing (Spherical)	44.	S416	Hanger Bracket
22.	DWM81	Strainer Filler	45.	S418	Cap W/Hole
23.	DWM204	Temp. & Oil Level Gauge	46.	S415	Tube
24.	CHM132	1-1/4" Nipple Nut	47.	S414	Cap

NOTE: * (Means Not Shown)

FIGURE 3



**FIGURE 3
PICKUP**

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	CHM46	Left Side Panel	28.	CHM63	Drive Roller Bearing Bracket Left
2.	CHM47	Pickup Belt Tightener A	*	CHM64	Drive Roller Bearing Brkt.Right
3.	CHM312	Head Roller Slideout Pin Long	29.	G23	5/16" X 1-3/8" Key
4.	CHM49	Head Roller Slideout Frame	30.	CHM65	Pickup Drive Roller
5.	BFR228	Slotted Nut 1-1/4-12	31.	DWM358	Slides
6.	T56	Cotter Pin 5/32" X 2"	32.	CHM346	Pickup Belt Section (Apache)
7.	G34	Seal	*	CHM347	Complete Belt W/Teeht & Pin (Apache)
8.	G18	Bearing	*	DWM367	Repair Dutchman Assembly
9.	G54	Race	*	DWM373	Complete Dutchman Repair
10.	CHM50	Head Roller	-	-	Kit w/Nuts Bolts and Clips
11.	CHM51	Head Roller Pin	33.	SWM1	Pickup Tooth
12.	CHM52	Pickup Idler Roller	34.	SWM26	Bolt
13.	CHM53	Belt Frame	35.	SWM27	Nut
14.	CHM54	Pickup Belt Tightener B	36.	DWM27	Coupler
15.	CHM55	Tightener Pinion	37.	CHM66	Pickup Poly Shield
16.	CHM56	Bearing (HCC207-20)	38.	CHM68	Poly Shield Holder
17.	CHM57	Grease Zerk (1680)	39.	CHM70	Poly Shield Bracket Left
18.	CHM58	Right Side Panel	*	CHM69	Poly Shield Bracket Right
19.	CHM59	Head Pivot Pin	40.	CHM45	Bushing
20.	DWM84	Hydraulic Motor (101-3048)	41.	CHM130	Drive Roller Bearing Bracket
*	WM225	Seal Kit	42.	SWM35	3-Bolt Bearing Assembly
21.	5B10	Woodruff Key 1/4" X 1"(Hardened)	43.	WM27	Lock Collar
22.	CHM306	Motor Mount B	44.	WM183	Pivot Bushing
23.	DWM137	Cap Screw - Coupler	45.	CHM317	Right Tooth
24.	F56	Lynch Pin	46.	CHM316	Left Tooth
25.	DWM177	1" X 2-1/2" Full Thread Bolt Gr. 5	47.	CHM305	Gauge Wheel Seal Washer
26.	CHM61	Pivot Washer	48.	CHM315	Roller Grease Spacer
27.	CHM62	Motor Coupler Shield	49.	CHM307	Head Spacer Poly Block

NOTE: * (MEANS NOT SHOWN)

FIGURE 4

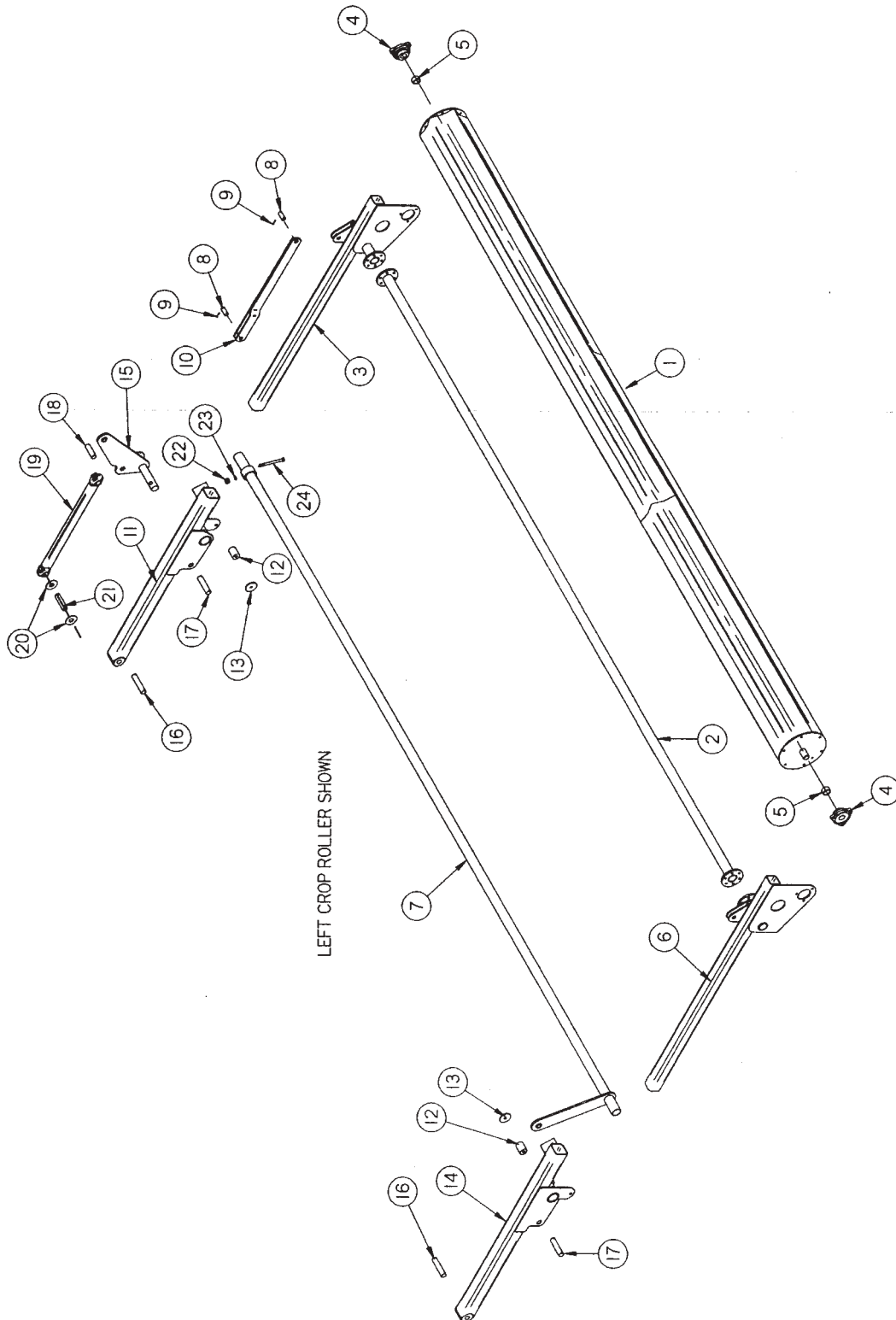
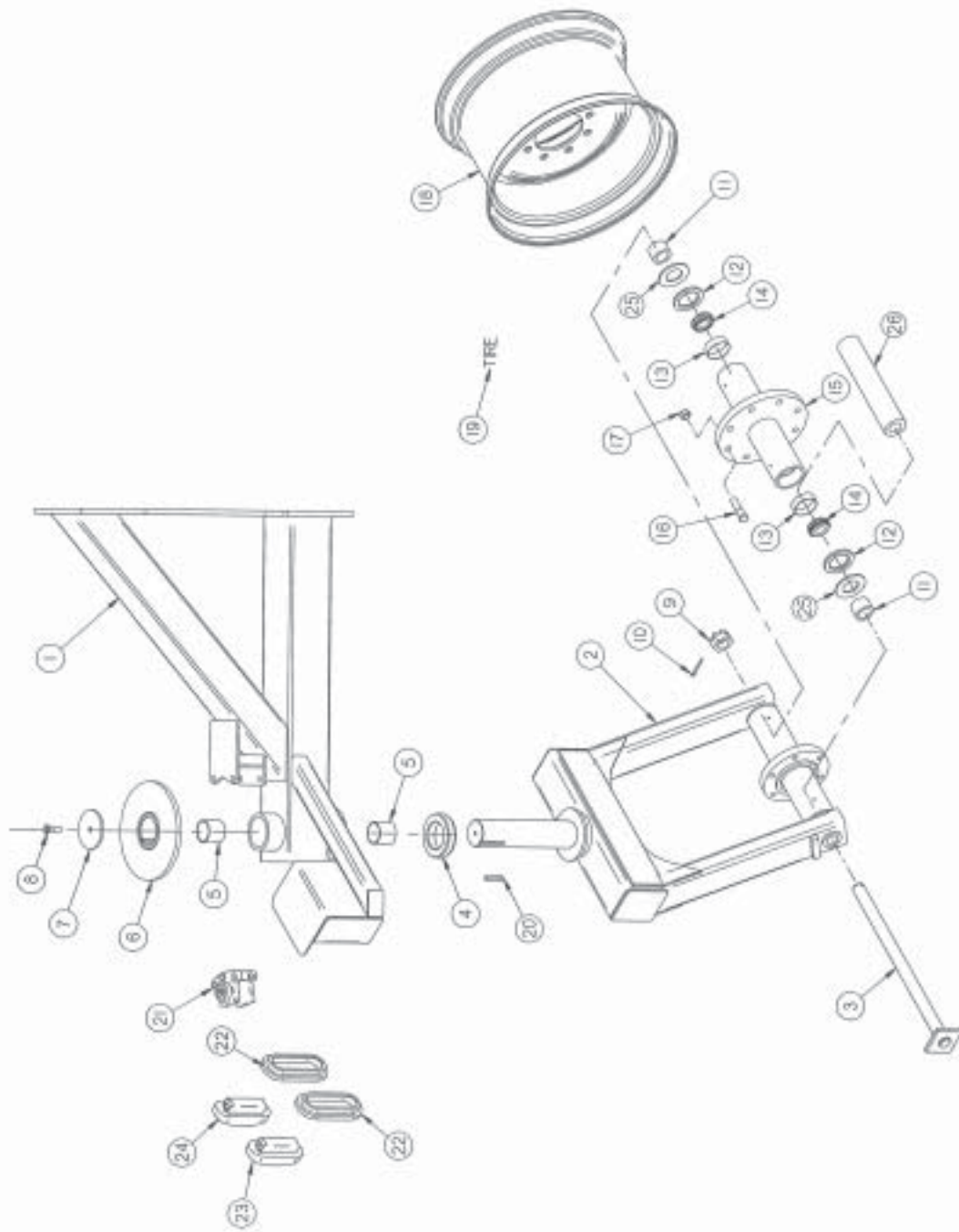


FIGURE 4
CROP ROLLER / WINDGUARD

ITEM	PART NO.	DESCRIPTION
1.	CHM337	15' Crop Roller
2.	CHM338	Removable Pivot
3.	CHM339	Left Inner Sleeve (Left)
*	CHM340	Right Inner Sleeve (Left)
4.	SWM35	3-Bolt Cast Flange 1-1/4" Bearing
5.	WM27	Lock Collar
6.	CHM341	Left Inner Sleeve (Right)
*	CHM342	Right Inner Sleeve (Right)
7.	CHM79	Torsion Pipe (Left)
8.	CHM81	Linkage Pin
9.	T72	Cotter Pin 5/32" x 1-1/2"
10.	CHM83	Wind Guard Link
11.	CHM84	Sleeve Pivot Tube (Left)
*	CHM85	Sleeve Pivot Tube (Right Center)
12.	CHM86	Wind Guard Roller
13.	16SV211	Washer
14.	CHM88	Sleeve Pivot Tube (Left Center)
*	CHM89	Sleeve Pivot Tube (Right)
15.	CHM90	Torsion Arm (Left)
*	CHM91	Torsion Arm (Right)
16.	CHM92	Pivot Arm
17.	CHM93	Cylinder Pin
18.	CHM109	Top Link Pin
19.	CHM131	Timing Link
20.	CHM139	Timing Link Washer
21.	CHM140	Timing Link Pin
22.	T68	5/8" Nut
23.	T69	5/8" Lock Washer
24.	CHM128	5/8" x 4-1/4" Bolt GR. 5

NOTE: * (MEANS NOT SHOWN)

FIGURE 5

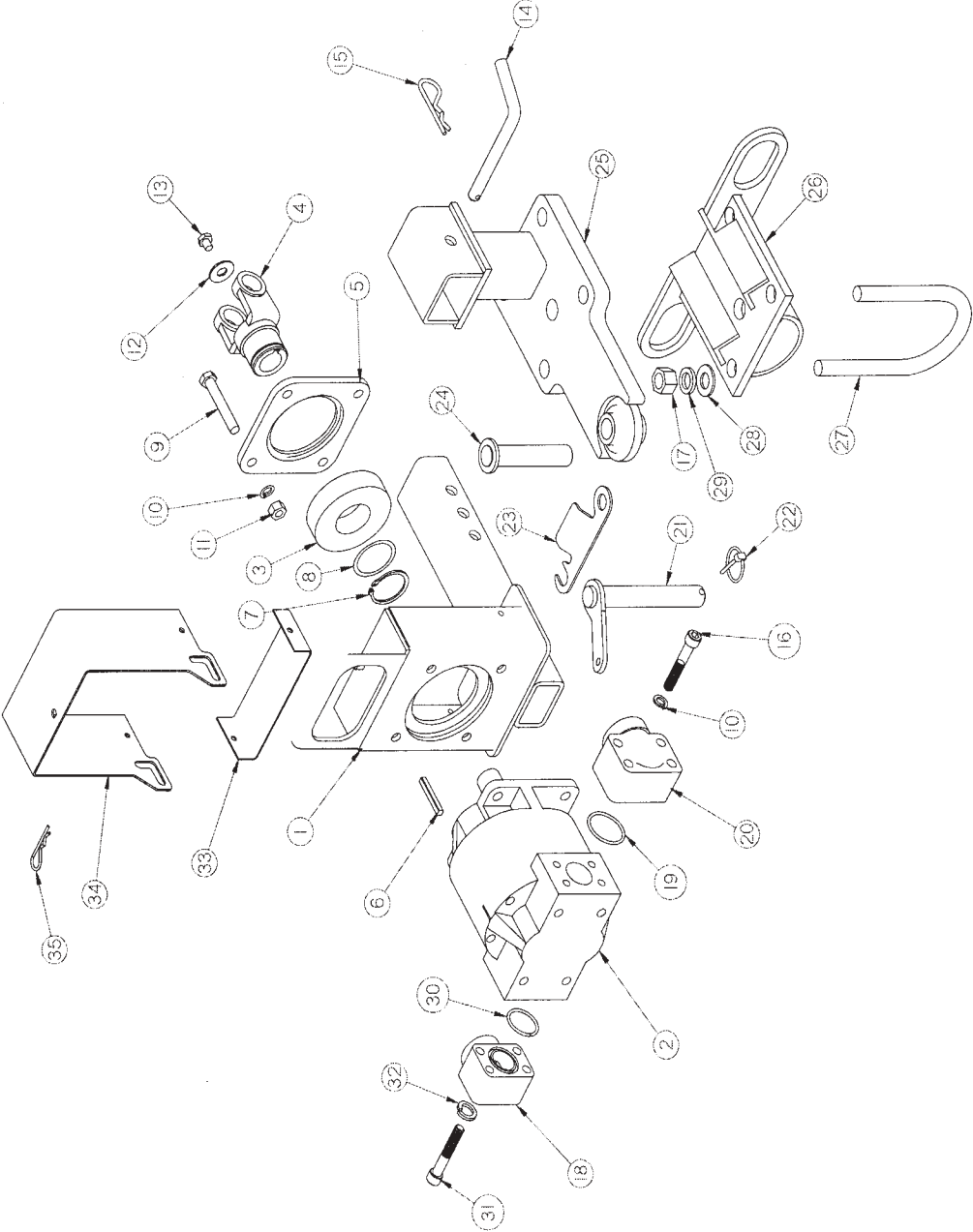


**FIGURE 5
CASTER WHEEL BRAKE**

ITEM	PART NO.	DESCRIPTION
1.	CHM94	Gauge Wheel Mount Right
*	CHM95	Gauge Wheel Mount Left
2.	CHM96	Caster
3.	CHM97	Gauge Wheel Spindle
4.	RG280	Thrust Bearing (E37)
5.	RG147	Bushing 3"OD X 2-3/4" ID X 3"
6.	CHM98	Brake Rotor
7.	CHM5	Top Washer
8.	RG135	1/2" X 1" Bolt Gr. 5
9.	BFR228	1-1/4" Slotted Nut
10.	T56	Cotter Pin 5/32" X 2"
11.	CHM45	Bushing
12.	G34	Seal
13.	G54	Race
14.	G18	Bearing
15.	CHM101	Caster Hub
16.	26G5A	Stud
17.	RG72	Nut
18.	CHM102	Wheel W-523360R
19.	CHM327	Tire 13.50 X 15 FI
20.	S38	3/8" X 2-3/8" Square Key
21.	CHM103	Brake Caliper
*	CHM104	Brake Pad
22.	S308	Rubber Light Mount
23.	S309	Yellow Tail Light
24.	S310	Red Tail Light
25.	CHM305	Gauge Wheel Seal Washer
26.	CHM314	Caster Wheel Grease Spacer

NOTE: * (MEANS NOT SHOWN)

FIGURE 6

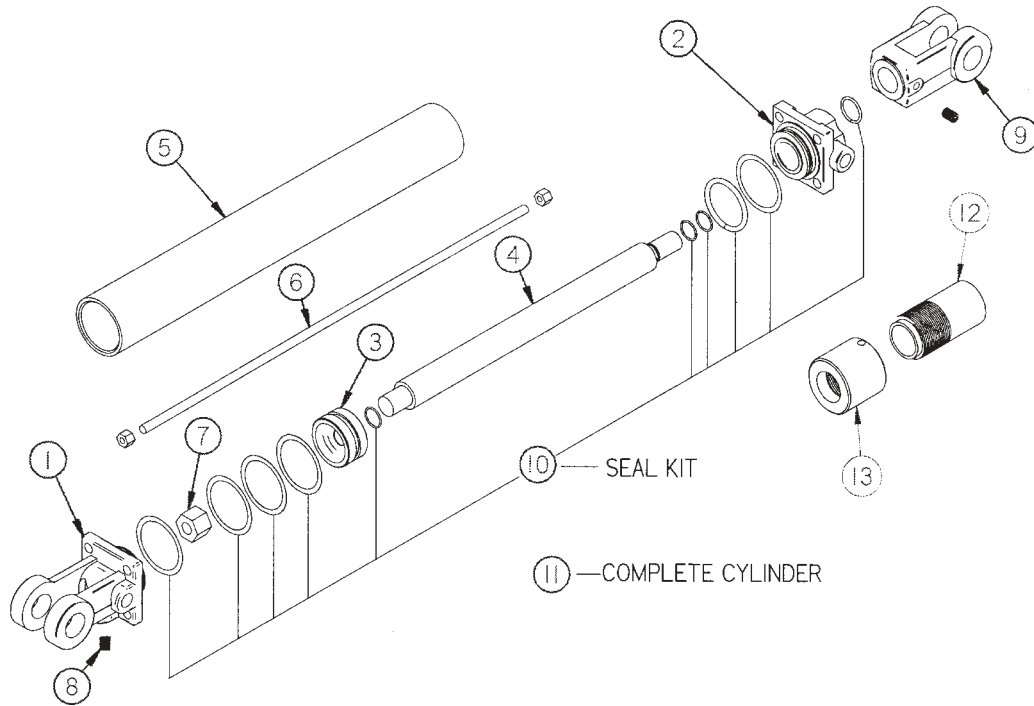


**FIGURE 6
HYDRAULIC PUMP**

ITEM	PART NO.	DESCRIPTION
1.	DWM336	Reciever Pump Mount
2.	DWM276	PTO Pump
*	DWM302	Replacement Shaft Seal
3.	DWM277	Thrust Roller Bearing
4.	DWM295	PTO Yoke (See PTO Drawing)
5.	DWM278	Outside Bearing Housing
6.	DWM279	5/16" X 2-1/4" Key(RoundEdges)
7.	DWM280	Snap Ring 2"
8.	G92	Shim (As Needed)
9.	16SV91	1/2" X3-1/4" Bolt Gr. 5
10.	R35	1/2" Lock Washer
11.	R29	1/2" Nut
12.	DWM320	1/2" Flat Washer
13.	DWM301	Bolt Metric
14.	10WR14	5" Bent Pin
15.	DWM310	Hair Pin
16.	DWM281	1/2" Socket Head Cap Screw
17.	DWM282	3/4" Nut
18.	DWM283	Pressure L - Flange
19.	DWM284	O - Ring
20.	DWM285	Return L - Flange
21.	DWM273	Draw Pin
22.	F56	Clip Pin
23.	DWM286	Drawbar Pin Lock
24.	DWM274	Hitch Pin
25.	DWM271	Hitch Extension
26.	DWM272	Hitch Plate
27.	DWM287	U - Bolt (2)
28.	DWM288	3/4" Flat Washer
29.	RG199	3/4" Lock Washer
30.	DWM311	O - Ring
31.	DWM312	7/16" Socket Head Cap Screw
32.	DWM313	7/16" Lock Washer
33.	DWM330	Lower PTO Shield
34.	DWM329	Upper PTO Shield
35.	X97	Hair Pin

NOTE: * (MEANS NOT SHOWN)

FIGURE 7



**FIGURE 7
HYDRAULIC CYLINDERS**

ITEM	PICKUP / LATCH	STEERING WINDGUARD		POLE	DESCRIPTION
	2" x 6"	2" x 8"	3" x 6"	3-1/2" x 60"	
	PART NO.	PART NO.	PART NO.	PART NO.	
1.	23N142A	"	CHM138	16SV157A	Clevis Cap
2.	23N143A	"	CHM110	HD189	Rod Cap
3.	23N144	"	CHM111	HD198	Piston
4.	CHM104	T134A	CHM112	HD191	Rod
5.	CHM105	BFR68	CHM113	HD193	Cylinder Tube
6.	CHM106	T186	CHM114	HD195	Tie Rod
7.	23N148	"	CHM115	DWM198	Piston Nut
8.	23N149	"	CHM116	DWM199	Plug
9.	23N150A	"	CHM117	DWM200	Rod Clevis
10.	23N151	"	CHM118	HD197	Seal Kit
11.	CHM107	BFR69A	CHM152&CHM108	HD136	Hydraulic Cylinder
12.	N/A	CHM134	CHM136	N/A	Cylinder Stop Inside
13.	N/A	CHM135	CHM137	N/A	Cylinder Stop Outside

NOTE: Cylinder CHM152, The Ports Are Parallel To The Pins

FIGURE 8

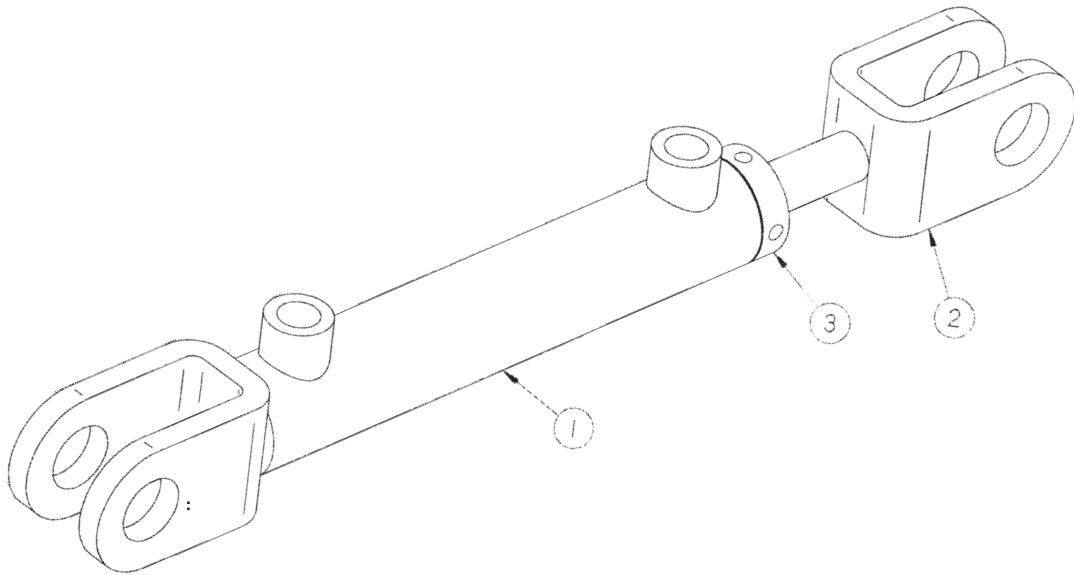
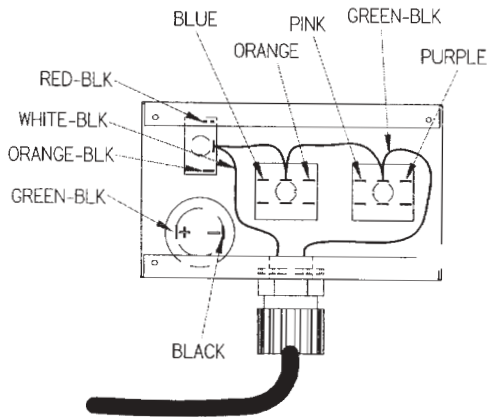
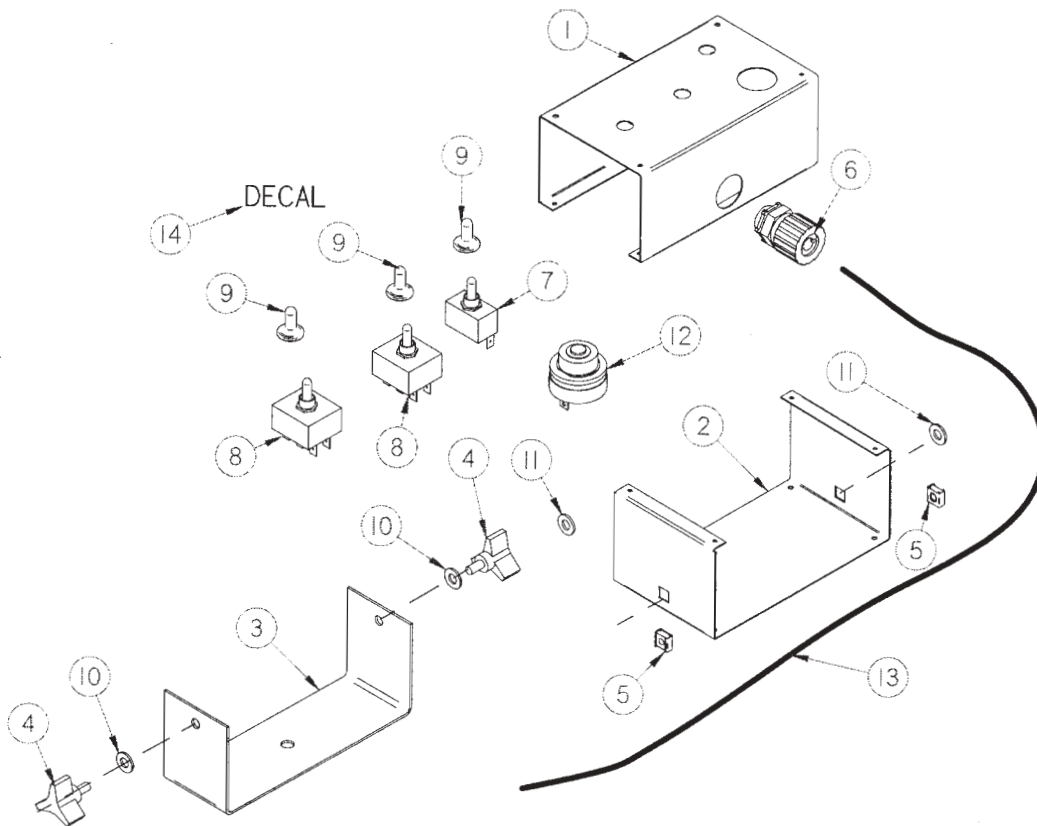


FIGURE 8
HEAD FLOAT CYLINDER 1-1/4 x 6 (4)

ITEM	PART NO.	DESCRIPTION
1.	CHM119	Cylinder Tube
2.	CHM120	Cylinder Rod
3.	CHM121	Front Gland
*	CHM122	Piston
*	CHM123	Nut
<hr/>		
*	CHM124	Seal Kit
*	CHM125	Complete Cylinder

NOTE: * (MEANS NOT SHOWN)

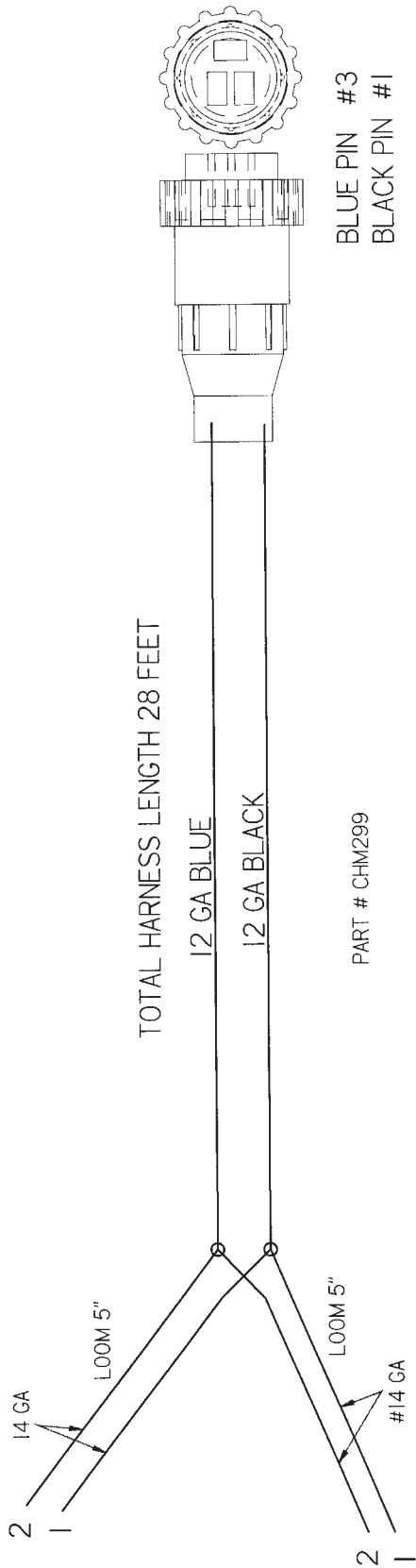
FIGURE 9



**FIGURE 9
CONTROL BOX**

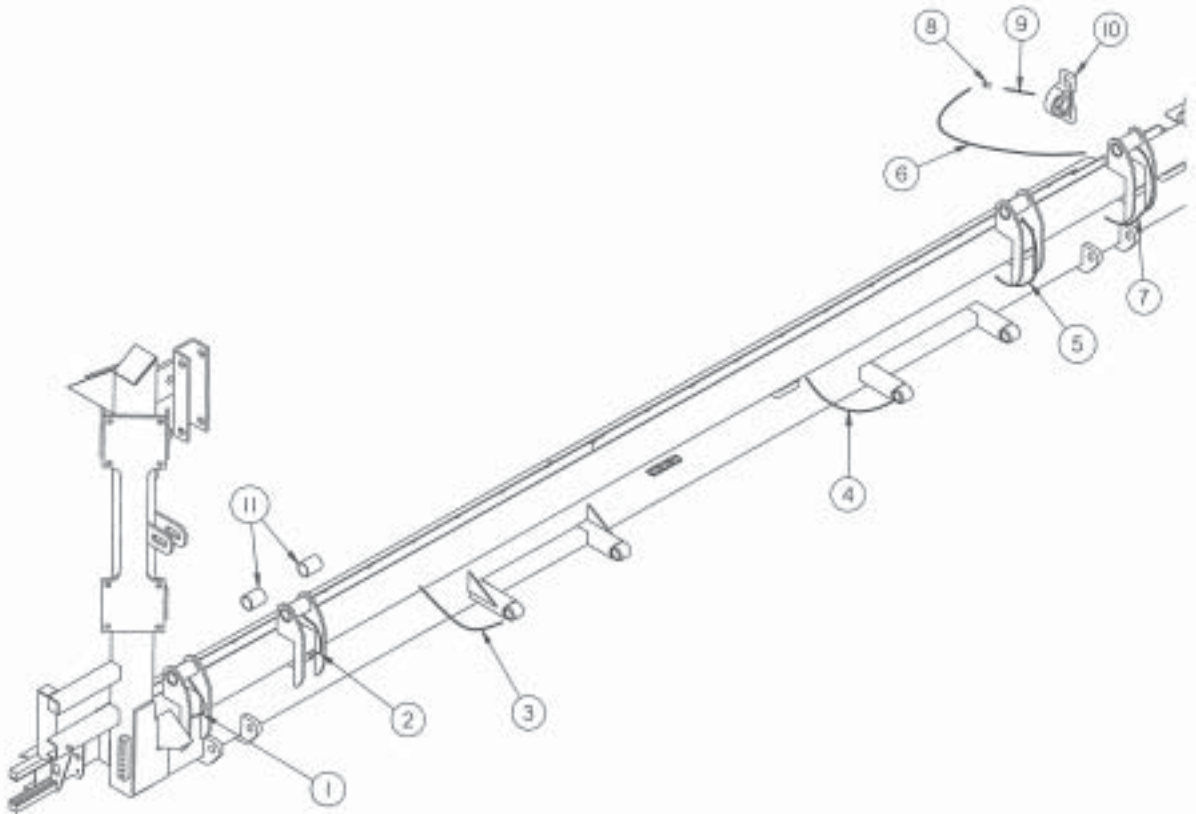
ITEM #	PART #	DESCRIPTION
1.	CHM126	Control Box Top
2.	DWM 448	Control Box Bottom
3.	DWM 449	Control Box Mount
4.	HD174	Knob
5.	HD173	Panel Nut
6.	DWM175	Strain Relief (Cord Grip)
7.	HD207	Switch (STDP MOM)
8.	DWM 453	Switch (Hesitation)
9.	16SV235	Switch Boot
10.	DWM 327	Poly Washer
11.	DWM404	Rubber Washer
12.	CHM127	Low Oil
13.	CHM1	Power Cord
14.	013107A	Decal
15.	CHM129	Complete Control Box

**FIGURE 11
FAN HARNESS**



BLUE PIN #3
BLACK PIN #1

FIGURE 12

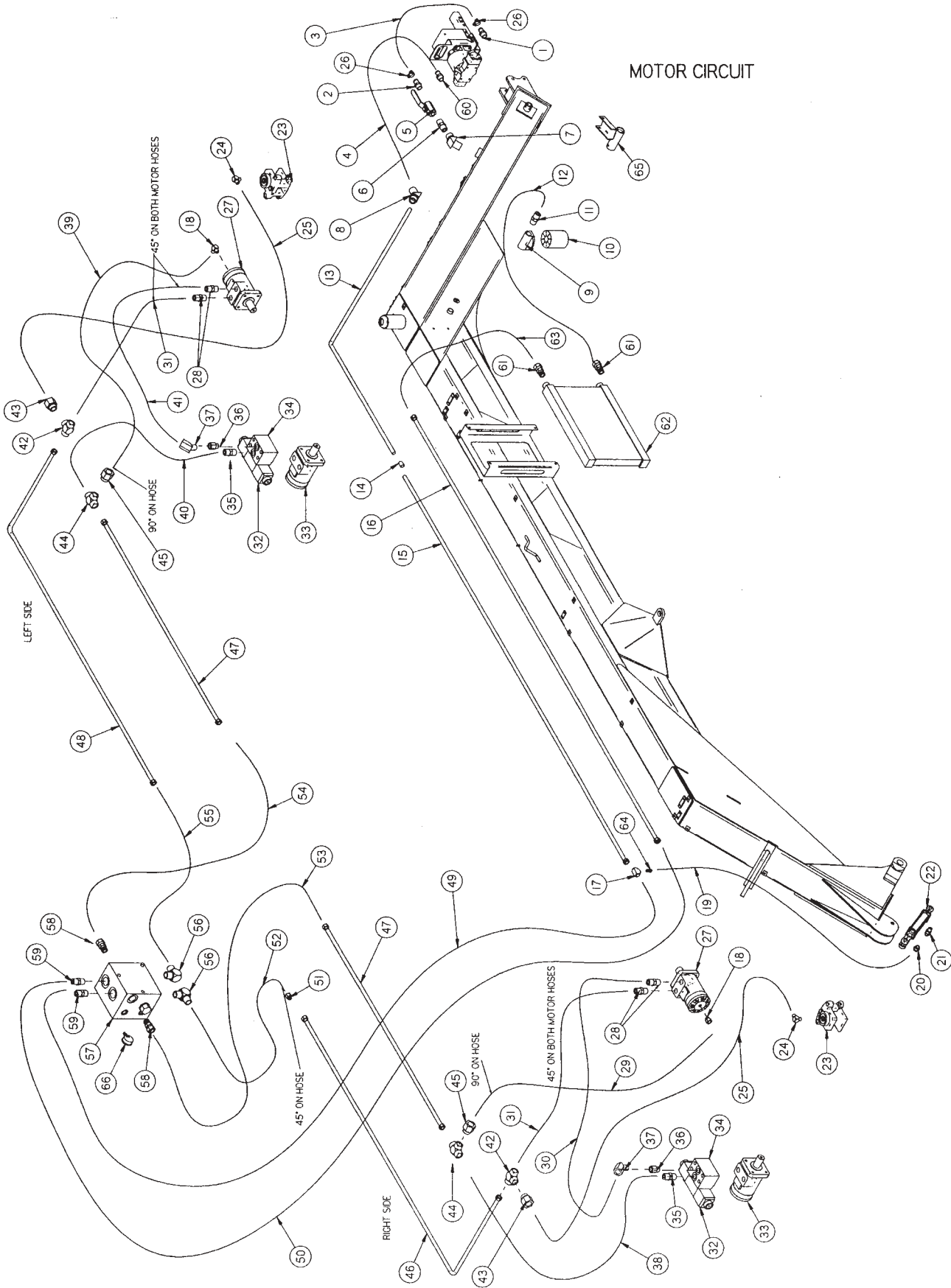


**FIGURE 12
REMOTE GREASING**

ITEM #	PART #	DESCRIPTION
1.	CHM318	Grease Line 25-1/2"
2.	CHM319	Grease Line 45-1/2"
3.	CHM320	Grease Line 79-1/2"
4.	CHM321	Grease Line 153"
5.	CHM322	Grease Line 175"
6.	CHM323	Grease Line 192"
7.	CHM324	Grease Line 195"
8.	CHM325	1/8" Coupling
9.	CHM326	1/8" X 2" Nipple
10.	DWM132	Bearing (Pillow Block)
11.	RG132	Bushing (1-1/2" OD X 1.260" ID X 2")

FIGURE 13

MOTOR CIRCUIT



**FIGURE 13
MOTOR CIRCUIT**

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	DWM260	Hose Barb	34.	CHM172	Manifold
2.	DWM144	2" Hose Barb (STC-25B)	35.	CHM173	Connector (10-8 F50X-S)
3.	CHM153	Hydraulic Hose 57"	36.	CHM174	Male/Female SAE 8-10 (F50G5-S)
4.	CHM154	Hydraulic Hose 1" X 78"	37.	CHM175	Elbow 45° (10 V50X-S)
5.	DWM83	Ball Valve	38.	CHM176	Hydraulic Hose 63"
6.	DWM147	2" Nipple (5404-32-32)	39.	CHM177	Hydraulic Hose 96"
7.	DWM267	2" 45° Elbow(SE45-BP-32)	40.	CHM178	Hydraulic Hose 67"
8.	CHM267	2" 45° Elbow(16V6X-S)	41.	CHM179	Hydraulic Hose 140"
9.	DWM82	Filter Base	42.	CHM180	Tee Swivel Run (12 R6X-S)
10.	STM23	Filter	43.	CHM181	Reducer (12-4 TRTXN-S)
11.	CHM155	Male Connector (20FTX-S)	44.	CHM182	Tee Swivel run (16 R6X-S)
12.	CHM156	Hydraulic Hose 1-1/4" X 44"	45.	CHM183	Reducer (16-6 TRTXN-S)
13.	CHM157	Pump Pressure Tube Front	46.	CHM184	Hydraulic Line Right
14.	CHM158	Connector (16HTX-S)	47.	CHM185	Hydraulic Line
15.	CHM159	Pump Pressure Tube Back	48.	CHM186	Hydraulic Line Left
16.	CHM160	Return Tube	49.	CHM187	Hydraulic Hose 78"
17.	CHM161	Tee (16-4 XHX6G5TP-S)	50.	CHM188	Hydraulic Hose 78"
18.	CHM162	Connector (6-4 C50X-S)	51.	CHM189	Union (12 HTX-S)
19.	CHM163	Hydraulic Hose 90"	52.	CHM190	Hydraulic Hose 27"
20.	BFR70	Vent	53.	CHM191	Hydraulic Hose 30"
21.	CHM164	Male Elbow (6-6 CTX-S)	54.	CHM192	Hydraulic Hose 60"
22.	BFR69A	Hydraulic Cylinder	55.	CHM193	Hydraulic Hose 63"
23.	CHM103	Brake Caliper	56.	CHM194	Elbow (12 C50X-S)
*	CHM104	Brake Pad	57.	CHM195	Manifold
24.	CHM165	Elbow (4 C50X-S)	58.	CHM196	Connector (16-12 F50X-S)
25.	CHM166	Brake Hose 74"	59.	CHM197	Connector (16 F50X-S)
26.	DWM122	Hose Clamp #HC200	60.	CHM229	Connector (16-20 F50X)
27.	DWM84	Pickup Motor (101-3048)	61.	CHM297	Adapter (S20-24 FTX-S)
28.	CHM167	Male Connector(8-12FTX-S)	62.	DWM78	Oil Cooler
29.	CHM296	Hydraulic Hose 85"	*	DWM319	Fan Assembly
30.	CHM169	Hydraulic Hose 132"	63.	CHM298	Hydraulic Hose 1-1/4" X 58"
31.	CHM170	Hydraulic Hose 53"	64.	CHM300	Straight Connector (6-4 F50X-S)
32.	CHM171	Valve / Solenoids	65.	CHM308	RH Storage Bracket
33.	CHM149	Hydraulic Motor	66.	CHM271	Gage (Q467360)

NOTE: * (MEANS NOT SHOWN)

FIGURE 14

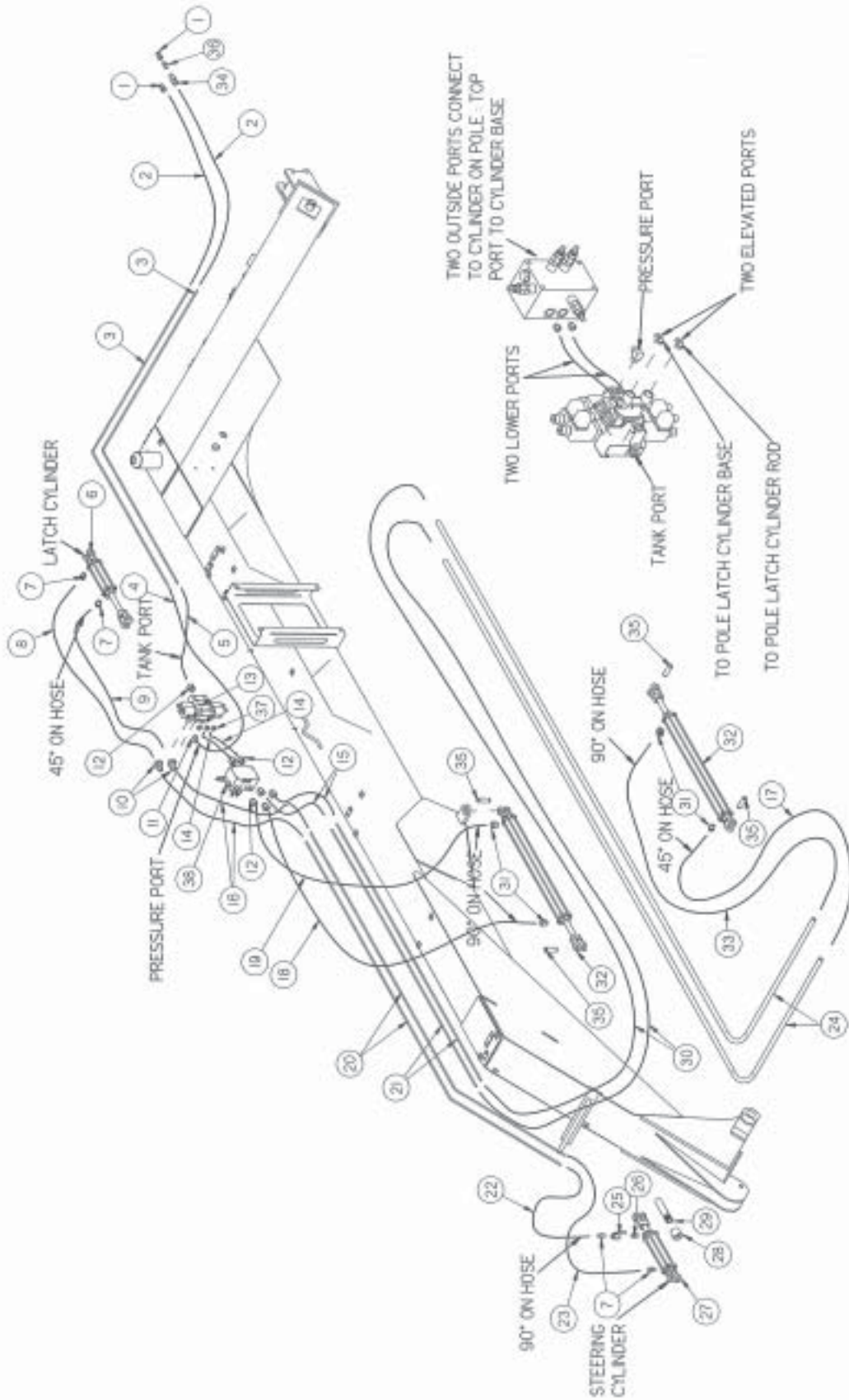


FIGURE 14
HYDRAULIC POLE CIRCUIT

ITEM	PART NO.	DESCRIPTION
1.	DWM205	1/2" Male Quick Coupler
2.	CHM198	Hydraulic Hose 104"
3.	CHM199	Hydraulic Line
4.	CHM200	Hydraulic Hose 32"
5.	CHM201	Hydraulic Hose 25"
6.	CHM107	Hydraulic Cylinder
7.	CHM202	Male Connector (6-6 FTX-S)
8.	CHM203	Hydraulic Hose 52"
9.	CHM204	Hydraulic Hose 52"
10.	CHM205	Tee Branch (6 S50X-S)
11.	CHM206	Elbow (6-8 C50X-S)
12.	CHM207	Connector (6-8 F50X-S)
13.	CHM208	Valve
*	CHM209	Solenoid
14.	CHM210	Hydraulic Hose 17"
15.	CHM211	Hydraulic Hose 36"
16.	CHM212	Hydraulic Hose 54"
17.	CHM213	Hydraulic Hose 18"
18.	CHM214	Hydraulic Hos 124"
19.	CHM215	Hydraulic Hose 60"
20.	CHM216	Hydraulic Line
21.	CHM217	Hydraulic Line
22.	CHM218	Hydraulic Hose 41"
23.	CHM219	Hydraulic Hose 34"
24.	CHM220	Hydraulic Line
25.	16SV338	3/8" Ball Valve
26.	CHM221	Nipple (3/8 FF-S)
27.	BFR69A	Hydraulic Cylinder (2" X 8")
28.	CHM135	Steering Stop Outside
29.	CHM134	Steering Stop Inside
30.	CHM222	Hydraulic Hose 99"
31.	CHM223	Male Connector (6-8 FTX-S)
32.	HD136	Hydraulic Cylinder (3-1/2" X 60")
33.	CHM224	Hydraulic Hose 87"
34.	CHM269	Check Valve (C20-8-FP-7)
35.	T135	Cylinder Pin
36.	WM141	Nipple Nut (5404-8-8)
37.	CHM301	Connector (6 F50S-X)
38.	CHM302	Sequence Manifold

NOTE: * (MEANS NOT SHOWN)

FIGURE 15
HYDRAULIC PICKUP CIRCUIT

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1.	CHM107	Hydraulic Cylinder (2"X 6")	25.	CHM240	Hydraulic Hose 96"
2.	CHM125	Hydraulic Cylinder (1-1/4" X 6")	26.	CHM241	Hydraulic Hose 140"
3.	CHM164	Male Elbow (6-6 CTX-S)	27.	CHM242	Tee Swivel Run (6 R6X-S)
4.	BFR70	Vent Plug	28.	CHM243	Hydraulic Hose 53"
5.	CHM225	Union Tee (6 JTX-S)	29.	CHM244	Hydraulic Hose 47"
6.	CHM226	Hydraulic Hose 88"	30.	CHM258	Jic Union (6 HTX-S)
7.	CHM227	Hydraulic Hose 84"	31.	CHM245	Hydraulic Hose 23"
8.	CHM168	Hydraulic Hose 94"	32.	CHM246	Hydraulic Hose 13"
9.	CHM228	Hydraulic Hose 87"	33.	CHM247	Hydraulic Hose 19"
10.	CHM295	Hydraulic Hose 86"	34.	CHM248	Hydraulic Hose 48"
11.	CHM230	Hydraulic Hose 75"	35.	CHM249	Hydraulic Hose 91"
12.	CHM231	Hydraulic Line	36.	CHM250	Hydraulic Hose 21"
13.	CHM152	Hydraulic Cylinder (3" X 6")	37.	CHM202	Male Connector (6-6 FTX-S)
14.	CHM108	Hydraulic Cylinder (3" X 6")	38.	16SV338	3/8" Ball Valve
15.	CHM223	Male Connector (6-8 FTX-S)	39.	CHM251	Hydraulic Hose 30"
16.	CHM232	Elbow (6-8 CTX-S)	40.	CHM206	Elbow (6-8 C50X-S)
17.	CHM220	Hydraulic Line	41.	CHM195	Manifold
18.	CHM234	Hydraulic Line	42.	CHM253	Hydraulic Hose 33"
19.	CHM235	Hydraulic Hose 44"	43.	CHM207	Connector (6-8 F50X-S)
20.	CHM236	Hydraulic Hose 37"	44.	T134	Cylinder Pin
21.	CHM218	Hydraulic Hose 41"	45.	CHM92	Pivot Pin
22.	CHM237	Hydraulic Hose 34"	46.	CHM223	Hydraulic Line
23.	CHM238	Hydraulic Hose 99"	47.	CHM252	Hydraulic line
24.	CHM239	Hydraulic Hose 81"	48.	CHM255	Hydraulic Hose 56"

FIGURE 16

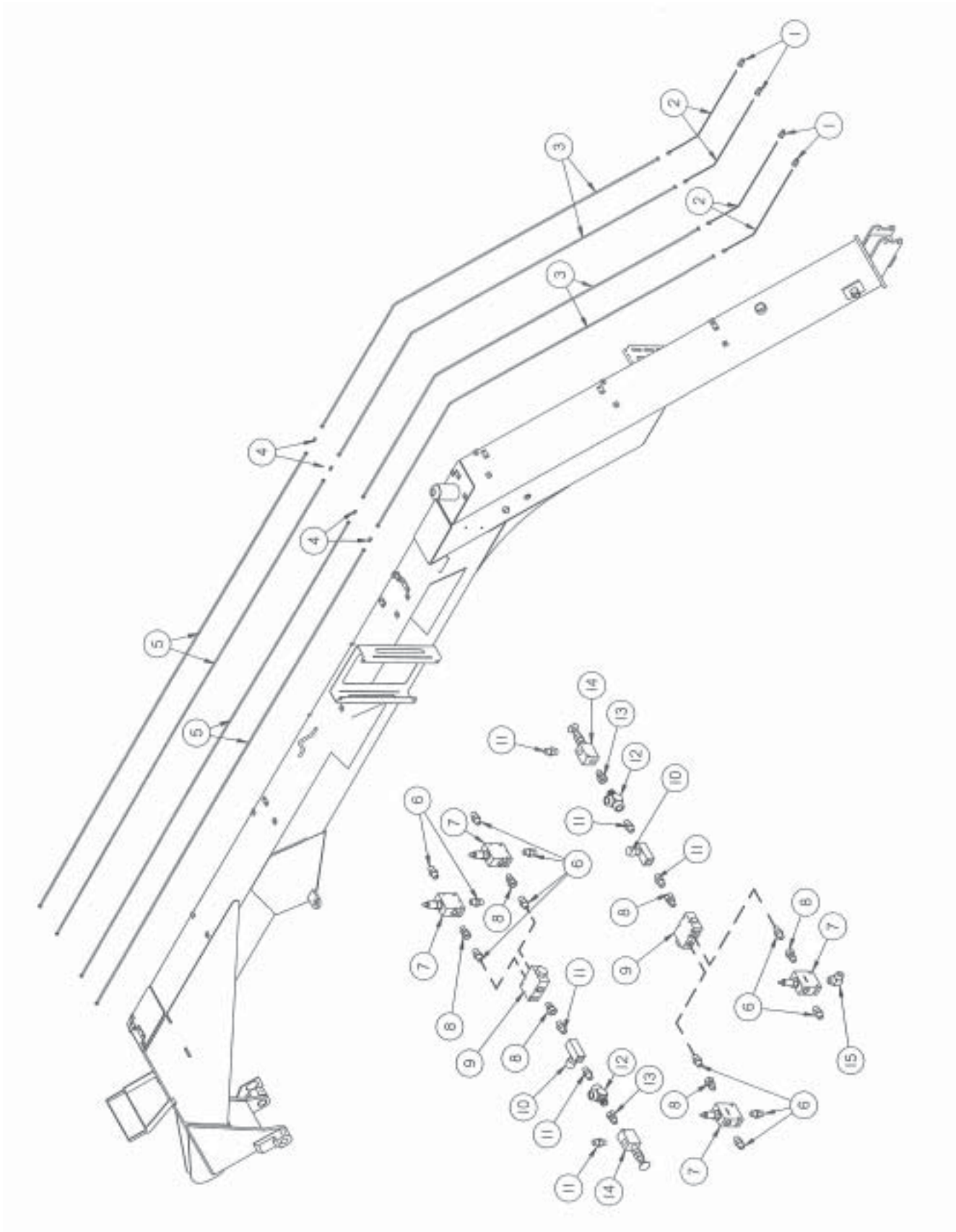


FIGURE 16
HYDRAULIC PICKUP POLE CIRCUIT

ITEM	PART NO.	DESCRIPTION
1.	DWM205	1/2" Male Quick Coupler
2.	CHM198	Hydraulic Hose 104"
3.	CHM199	Hydraulic Line
4.	CHM258	Union (6 HTX-S)
5.	CHM259	Hydraulic Line
6.	CHM257	Connector (6 F50X-S)
7.	CHM260	Counter Balance Valve
*	CHM261	Valve Cartridge
8.	CHM262	Connector Swivel (6 F650X-S)
9.	CHM263	Flow Divider
*	CHM264	Valve Cartridge
10.	CHM265	Flow Control
11.	CHM202	Male Connector (6-6 FTX-S)
12.	CHM242	Tee Swivel Run (6 R6X-S)
13.	CHM266	Connector Swivel Male (6-6 F6X-S)
14.	16SV339	Sequence Valve
*	CHM328	Valve Cartridge
15	CHM268	Elbow (6 C50X-S)

NOTE: * (MEANS NOT SHOWN)

FIGURE 17

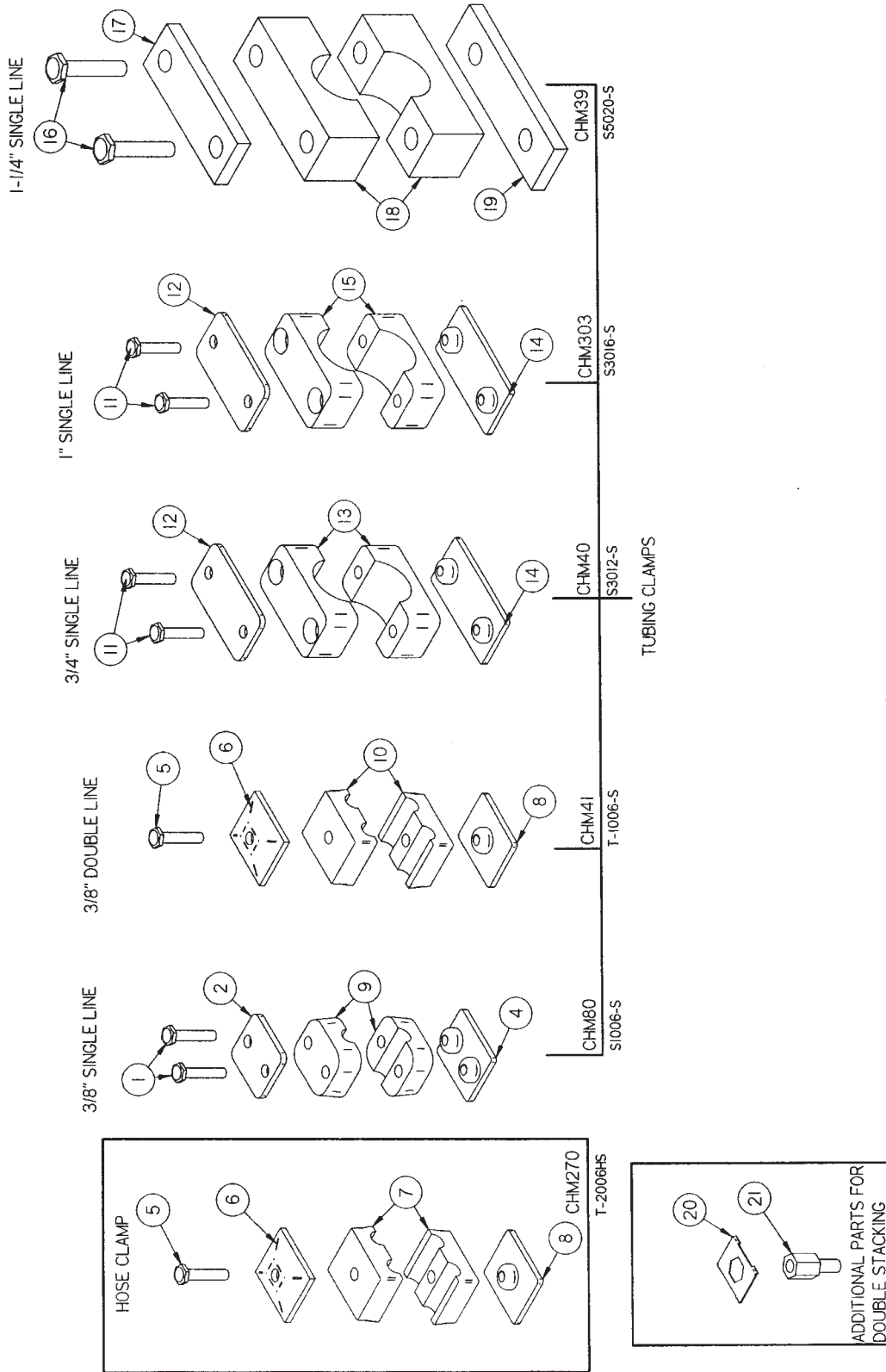


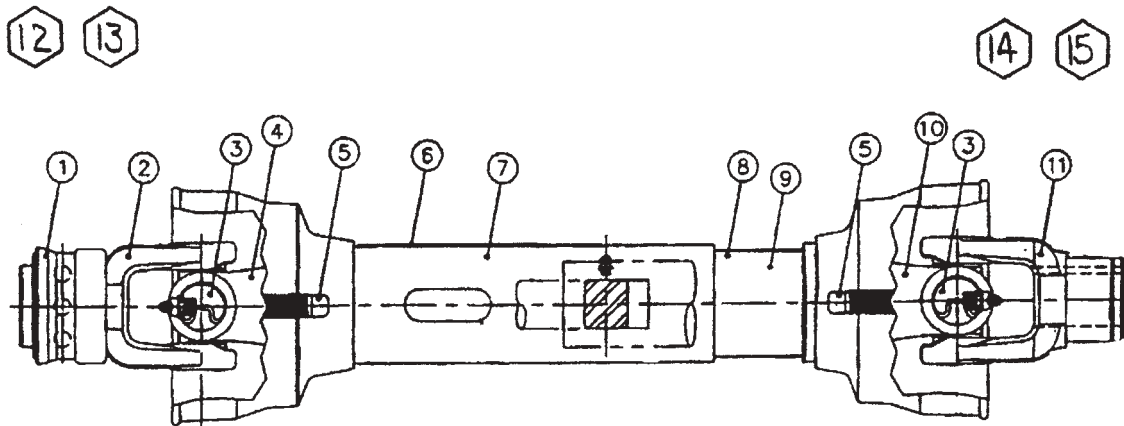
FIGURE 17
HYDRAULIC HOSE & TUBE CLAMPS

ITEM	PART NO.	DESCRIPTION
1.	CHM272	Hex Bolt
2.	CHM273	Cover Plate
4.	CHM275	Weld Plate
5.	CHM276	Hex Bolt
6.	CHM277	Cover Plate
7.	CHM278	Clamp Halves 3/8" Hose
8.	CHM279	Weld Plate
9.	CHM280	Clamp Halves 3/8" Tube
10.	CHM281	Clamp Halves 3/8" Tube
11.	CHM282	Hex Bolt
12.	CHM283	Cover Plate
13.	CHM284	Clamp Halves 3/4" Tube
14.	CHM285	Weld Plate
15.	CHM286	Clamp Halves 1" Tube
16.	CHM287	Hex Bolt
17.	CHM288	Cover Plate
18.	CHM289	Clamp Halves 1-1/4" Tube
19.	CHM290	Weld Plate
20.	CHM43	Safety Plate 3/8" Double Line
*	CHM293	Safety Plate 3/8" Single Line
*	CHM291	Safety Plate 3/4" & 1" Single Line
21.	CHM42	Stacking Bolt 3/8" Clamp Double Line
*	CHM294	Stacking Bolt 3/8" Clamp Single Line
*	CHM292	Stacking Bolt 3/4" & 1" Clamp Single Line

COMPLETE CLAMPS

*	CHM270	3/8" Hose Clamp (Double)
*	CHM80	3/8" Line Clamp (Single)
*	CHM41	3/8" Line Clamp (Double)
*	CHM40	3/4" Line (Single)
*	CHM303	1" Line Clamp (Single)
*	CHM39	1-1/4" Line Clamp (Single)

FIGURE 18



**FIGURE 18
PTO ASSEMBLY**

ITEM	PART NO.	DESCRIPTION
1.	S225	Spring Lock Repair Kit
2.	37N73	Spring Lock Yoke Assmby # 14121-1012
3.	14NW KIT	Cross & Bearing Kit (14R)
4.	DWM289	Yoke & Shaft
5.	4N20	Nylon Repair Kit
6.	DWM290	Safety Sign
7.	DWM291	Outer Guard
8.	DWM292	Inner Guard
9.	DWM293	Safety Sign (Not Shown)
10.	DWM294	Yoke, Tube & Slip Sleeve
11.	DWM295	Yoke
12.	DWM296	Joint & Shaft Half Assembly W/Guard
13.	DWM297	Joint & Shaft Half Assembly
14.	DWM298	Joint & Tube Half Assembly W/Guard
15.	DWM299	Joint & Tube Half Assembly
*	DWM300	Complete PTO

NOTE: * (MEANS NOT SHOWN)

PAGE NOT USED AT THIS TIME

30' CONTINUOUS HEAD MERGER SPECIFICATIONS

Your new 30' Continuous Head Merger has been manufactured of the finest quality materials and components. The performance you get from your machine is largely dependant upon how well you read and understand this manual and apply this knowledge. There is a right way and a wrong way to do everything. Please do not assume that you know how to operate and maintain your 30' Continuous Head Merger before reading this manual carefully. Keep this manual available for ready reference.

30' CONTINUOUS HEAD MERGER

	TRANSPORT	MERGING
BASE UNIT HEIGHT	9' 7"	9' 7"
BASE UNIT WIDTH	12' 6"	37'
BASE UNIT LENGTH	45'	29'
BASE UNIT WEIGHT	14,900 LBS.	
TONGUE WEIGHT	1,800 LBS.	
TIRE SIZE (FRAME)	13.50 X 15 FI	
INDIVIDUAL PICKUP WIDTH	15'	
CROSS CONVEYOR WIDTH	54"	
IN-CAB CROSS CONVEYOR DIRECTION CHANGE & SHUT-OFF	STANDARD	
TRACTOR SIZE	MIN 150 H.P. (1000RPM 1 3/8-21 SPLINE)	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:

Determine right or left side of Continuous Head Merger by viewing it from the rear. If instructions or parts lists call for hardened bolts see page 9 to identify.

H&S MANUFACTURING CO. INC.

2608 S. Hume Ave.
P.O. Box 768 - Telephone (715) 387-3414
FAX (715) 384-5463
MARSHFIELD, WI 54449



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