pull hitch attachment

operator's manual

DMI yield-till® system...Helping Plant Thrive®
600 East Peoria Street • P.O. Box 65 • Goodfield, Illinois 61742-0065

01/04

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TO THE OPERATOR

The manufacturer has built performance, features, reliability, and long life into this product, but it is your responsibility to operate and service this machine properly in order to realize these built in benefits.

The manufacturer urges you to read and understand this manual and to instruct all who will operate the implement to proper operation and service.

When ordering parts, provide the complete model number and serial number of the machine (should be filled in below), in addition the part number and part description.

MODEL NUMBER _____ SERIAL NUMBER _____

DATE PURCHASED _____ DEALER PHONE NUMBER _____

DEALER NAME _____

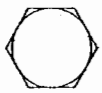
NOTE: When the term "Right" or "Left" is used, it means from a position behind the implement and facing the front.

BOLT TORQUE

READ THESE INSTRUCTIONS FIRST:

1. Improperly tightened bolts will result in damage, breakage, expense, and down-time.
2. Always replace bolts with the specified grade and type.
3. Torque properly before first use of the machine and every 2-4 hours of use until you are sure bolts are staying tight.
4. The chart below is a guide for proper torque. Use it unless a specified torque is called out elsewhere in the manual.
5. Torque is the force you apply to the wrench handle or the cheater bar, times the length of the handle or bar.
6. Use a torque wrench whenever possible.

The following table shows torque as measured in ft-lbs.

BOLT DIA. AND THREADS PER INCH	 GRADE 2	 GRADE 5 OR  A-325	 GRADE 8
3/8 - 16	25	35	50
7/16 - 14	35	55	80
1/2 - 13	55	85	125
9/16 - 12	75	125	175
5/8 - 11	105	170	235
3/4 - 10	185	305	425
7/8 - 9	170	445	690
1 - 8	260	670	1030
1 1/8 - 7	365	900	1460
1 1/4 - 7	515	1275	2060
1 3/8 - 6	675	1675	2700
1 1/2 - 6	900	2150	3500
1 3/4 - 5	1410	3500	5600

NOTE: Torque values given are for lubricated hardware. Increase values given by 10% non-lubricated hardware. Use 65% of torque value given for jam nuts.

02/02

TABLE OF CONTENTS

SAFETY SECTION:

OPERATION SECTION:

PARTS SECTION:

ASSEMBLY SECTION:

SAFETY SECTION

Throughout this manual, the term IMPORTANT is used to indicate that failure to observe can cause damage to equipment. The terms CAUTION, WARNING, and DANGER are used in conjunction with the Safety-Alert Symbol, (a triangle with the exclamation mark), to indicate the degree of hazard for items of personal safety.

The Safety-Alert Symbol means ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!

CAUTION Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

WARNING Indicates a potentially hazardous situation, that if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.

DANGER Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

IMPLEMENT SAFETY

- Before operating your **Pull Hitch** attachment, thoroughly read and understand your operator's manual. If you do not understand any portion of the Operator's Manual, contact your DMI dealer immediately for clarification.
- Furnish this manual to a new owner if the implement is ever sold.
- Tow with tractor only. Never transport the implement in excess of 20 MPH. Maintain a safe speed.
- Use a Slow-Moving-Vehicle (SMV) Emblem when transporting.
- Be sure Safety Decals are clean and readable. All safety related decals must be replaced if the implement is painted or the decals are otherwise rendered unreadable.
- Install transport stops before transporting.
- Never permit riders on the implement or tractor.
- Never allow children near equipment.
- Proceed slowly on rough or slippery roadways, on side hills, and around curves.
- Reduce speed when approaching ditches and corners. Do not make sharp turns with brakes.
- Always have tractor coupled to applicator when folding or unfolding wings and raising or lowering machine.
- Keep everyone clear of the machine when folding and unfolding the wings.
- Do not modify, or permit anyone to modify this implement, any of its components, or any equipment function without first consulting a DMI equipment dealer.
- Do not lubricate, adjust, or repair when the implement is in motion.
- Machinery should be operated only by persons familiar to the tractor, the implement, and the safety related items.
- Check with state and local authorities for additional guidelines concerning lighting for implements being towed on public roads.
- Be sure to comply with all state and local requirements for implement transport.
- Do not stand on the **Pull Hitch** when unhitching.
- Never position yourself under any portion of the implement unless transport stops are installed, or the entire machine is lowered to the ground.
- Lower the implement, if possible, when making adjustments or repairs; otherwise block and pin securely to prevent accidental lowering.
- Keep fingers, hands and feet away from pivot links when servicing or adjusting shank trip mechanisms.
- Never install additional equipment on top of the implement such as spray tanks, etc. Hub and spindle failure may occur.
- Always store a wing implement with the wings down and when raising and lowering machine.
- Use only approved replacement parts.
- To prevent serious injury from high pressure fluid, **NEVER** attempt to inspect, service or disassemble any part of the hydraulic system until all pressure is relieved by lowering the implement to the ground (or secure with cylinder transport stops provided) and placing remote control levers in float position.

- Before disconnecting hydraulic hoses, make sure hydraulic pressure has been relieved by shutting off tractor, lowering the implement to the ground, and placing remote control levers in float position.

- High pressure fluid is nearly invisible, but has enough force to penetrate the skin. **NEVER** use the hands to search out a suspected leak. If injured by escaping fluid, obtain medical attention at once to minimize chance of infection. Wear safety glasses or goggles to avoid eye injury when working on the hydraulic system.

- Always check torque on wheel bolts before transporting.

- Never unhook implement from tractor with wings in transport position.

- Always check for overhead obstacles during transport and before folding or unfolding the wings

SPECIFICATIONS AND FEATURES

A-FRAME MOUNT	Fits Category II 3-Point Hitch on Toolbar
WHEEL MOUNTS	Fits 4" x 4" and 4" x 6" Vertical Tube
TRANSPORT CLEARANCE HEIGHT	9-1/2" with 33" Shank
LIFT CYLINDERS	3-1/2" Bore x 10" Stroke and 3-1/4" Bore x 10" Stroke Rephasing Cylinders
TRANSPORT WHEEL	11L x 15 8-Ply

OPERATION SECTION

Before raising and lowering the machine or folding the wings, be sure that all hydraulic hoses are tied down properly so they don't interfere with the raising, lowering and folding operation. Hoses must be fastened securely, especially near the wing hinge area.

OPERATING THE PULL HITCH APPLICATOR

IMPORTANT: Before moving the implement be sure the tractor's 3-point hitch has been raised to the top to prevent damage to the clevis and tongue when making turns.

CHANGING FROM OPERATING POSITION TO TRANSPORT POSITION

Prior to transporting the **Pull Hitch** and applicator, the lift cylinders should be recharged, the wings should be folded and the transport stops installed. The tractor operator should perform the folding and locking operations and he should be the only person in the tractor cab or around the unit for safety.

1. Extend the depth control cylinders and hold the tractor hydraulic lever for 30-60 seconds to purge air from the synchronized system. Install the transport stop on the lift cylinders.
2. Retract the wing lift cylinders slowly until wings are fully raised.

IMPORTANT: The machine must be on level ground, with tires properly inflated, to raise and lower the wings.

DANGER: Keep everyone clear of the machine when raising or lowering the wings.

IMPORTANT: Never attempt to raise or lower wings while applicator shanks are in or on the ground. Damage to the cylinders, shanks or frame could result.

WARNING: When transporting the **Pull Hitch** and the applicator on public roadways at night or during the day, always use accessory lights or devices and SMV emblem. Be sure SMV is clean and properly displayed on back of tractor or applicator. Always check with local law enforcement office for area regulations.

Always use a safety chain with tensile strength equal to the gross weight of the unit, plus any attachments, when transporting.

IMPORTANT: Measure overall transport height.

IMPORTANT: Never lower or raise the wings under full tractor hydraulic pressure. Always slowly lower the wings by partially opening the valve on the tractor.

IMPORTANT: Make sure that wing hydraulic cylinders are fully extended to allow wings to follow the contour of the ground.

CHANGING FROM TRANSPORT POSITION TO OPERATING POSITION

1. Lower the wings slowly. Fully extend the wing lift cylinders.
2. Remove the transport stop on the lift cylinders.

TIRE SIZE	TIRE PRESSURE
11L-15	40 PSI

CHARGING THE HYDRAULIC SYSTEM

SYNCHRONIZED SYSTEM (REPHASING)

Each of these rephasing cylinders are equipped with a bypass port located at the rod end of the cylinder. This port allows air to be purged from the system and the cylinders to be rephased.

Because the cylinders are connected in a series it takes more time and care to properly bleed the system. After all cylinders are in place, lines properly connected and the hoses hooked to a tractor, raise the unit and hold the hydraulic lever for 30-60 seconds. Repeat this procedure several times to be certain the system is purged of air. Check the tractor hydraulic reservoir and add oil as required.

BLEEDING THE REPHASING SERIES SYSTEM

Cylinders can get out of phase (retracted length on one cylinder 1/4" - 1/2" longer or shorter than others) for a number of reasons:

1. The system is cycled many times without fully extending the cylinders. Raising the unit completely out of the ground for turning at the field ends is usually all that is necessary to keep the system synchronized.
2. If the **Pull Hitch** is allowed to sit in the raised position for a period of time, oil can leak by the piston allowing the cylinder to get out of sequence.
3. Air in the system. To force the air out, extend the cylinder. After all cylinders are fully extended, hold the lever for 30-60 seconds. Air may enter the system by a leaky fitting, mismatched couplers, or low oil in the tractor.
4. Internal leak in the cylinder. Repack the cylinder to solve this problem.

IMPORTANT: It is wise to rephase the cylinders every two hours to insure that the wings and main frame are running level.

CAUTION: If cylinders had not been bled as described, wings or shanks could drop unexpectedly, causing injury or death.

ADJUSTING & OPERATING

The **Pull Hitch** comes standard with cylinder stroke control segments to be used to limit the depth of the applicator. The segments are of various lengths so that the desired depth can be achieved.

IMPORTANT: Never use a cylinder stroke control segment larger or smaller than the cylinder rod as damage to the cylinder may result.

SETTING THE KNIVES AND COULTER DEPTH

1. Set the depth of the A.A. knives by using stroke control segments on the **3-1/2" x 10" cylinder only**.
2. Level the implement as shown in Figure #1 below.

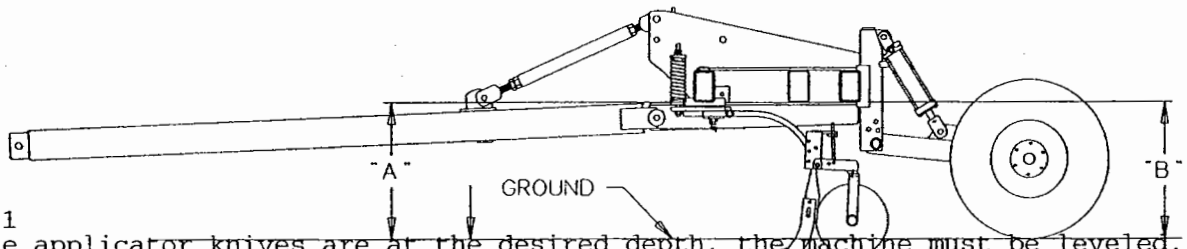


Figure 1

Once the applicator knives are at the desired depth, the machine must be leveled. A low front end will cause the front knives to be in the ground deeper than the rear knives. With the knives in the soil, measure distance "A" and "B" (Fig. #1) from level ground to the bottom of the frame - THIS DISTANCE MUST BE THE SAME. Once this distance is obtained, step back approximately 50 feet and view the machine. The applicator should appear level to the ground. If not, make certain the ground is level. The applicator can be leveled by changing the position of the hitch clevis and the length of the turnbuckle.

IMPORTANT: Make sure the turnbuckle is in the top hole on the applicator 3-point hitch.

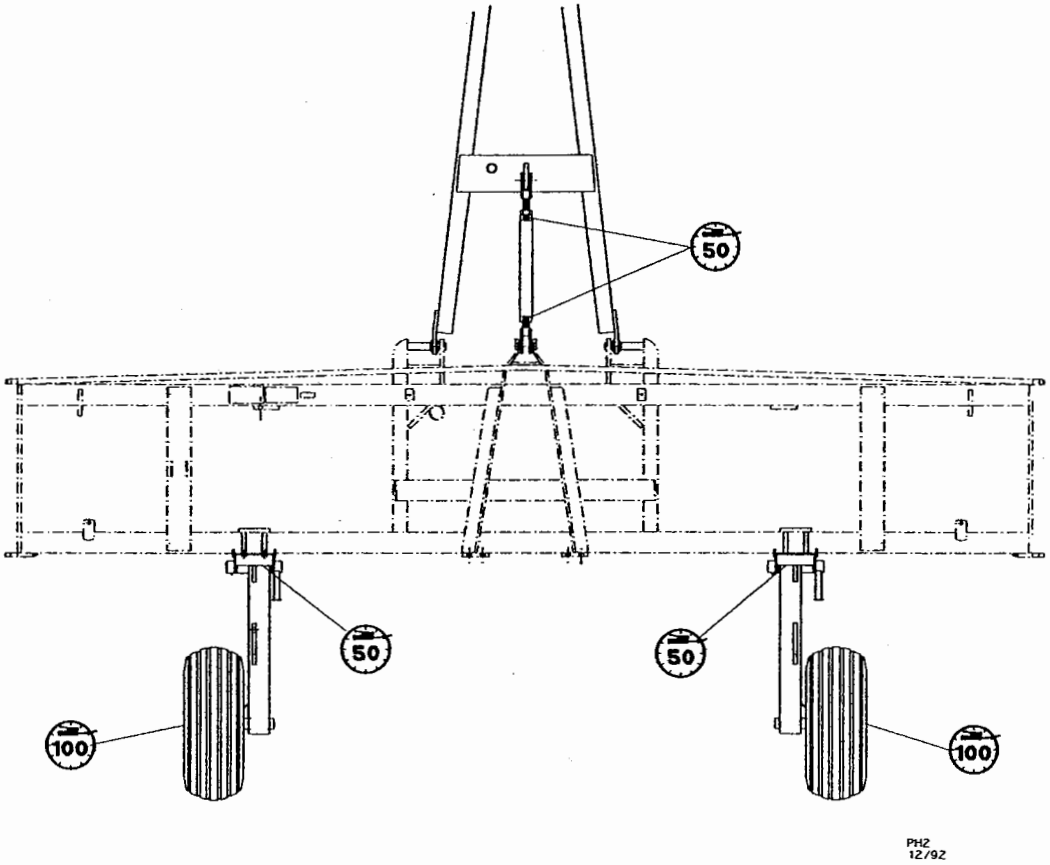
PROBLEM PREVENTION AND TROUBLE SHOOTING

TO THE OWNER: DMI equipment is designed for tough conditions. Our products have innovative features that greatly improve performance and reduce operating costs if the product is properly used.

Improper use of these same features can result in excessive costs, premature failure, and poor field performance. The key to proper use is knowledge and awareness on your part. This section is designed to give you that awareness.

POTENTIAL PROBLEMS	PROBABLE CAUSE	PREVENTION
TOOL BAR JUMPS SIDE TO SIDE	Pitch of knife not correct.	Adjust length of the turnbuckle. Normally, length must be shortened if jumping occurs. Be sure rear bar is not lower than front bar.
INSUFFICIENT DEPTH OR MACHINE FLOATS OUT	Frame of machine not level when operating (knives riding on the heel).	Level frame by adjusting turnbuckle.
MACHINE PULLS HARD	Implement frame not level.	Level by adjusting turnbuckle.
MACHINE PULLING CROOKED	Tire pressure uneven.	Inflate to equal pressure.

LUBRICATION



50 LUBRICATE EVERY 50 HOURS OR ONCE WEEKLY
THE AXLE PIVOT, AND TURNBUCKLE.

100 LUBRICATE EVERY 100 HOURS OR ONCE A YEAR.
WHEEL BEARINGS

* Always lubricate your implement thoroughly before taking it to the field.
* Always lower your implement until all shank points rest on the ground and stop the tractor engine prior to lubricating the machine.
* Grease fittings are provided at all points indicated in the illustration above.
* Be sure all fittings are free form dirt and paint so the lubricant is certain to enter the proper areas.
* If any grease fittings are damaged or missing, replace them immediately. Clean the fittings thoroughly before using the grease gun.
* Use a lubricating gun and No. 2 multi-purpose lithium grease at the hourly intervals indicated on the symbols.

PREVENTIVE MAINTENANCE

Clean and inspect wheel bearings before season and repack once a year or every 250 hours of use, which ever occurs first with a good multi-purpose Wheel Bearing Grease. Tighten nut on spindle, draw up the nut tight, then back off one (1) slot. When not in use for some time, coat the exposed portion of depth control cylinder rods with a light coating of oil or grease; disconnect one end of wing lift cylinder, and retract the piston fully. This will protect piston surfaces against corrosion.

PRE-SEASON CHECK

1) Carefully review the safety suggestions in this manual.

2) Check all bolts for proper tightness.

3) Check tires for proper inflation. All tires should be inflated equally to avoid side draft. (See Page 7.)

4) Inflate tires to recommended pressure.

5) Check the wheel lug bolts daily. Keep wheel bolts tight. Torque 100 ft/lbs.

6) Grease all fittings. (Refer to Lubrication Section.)

7) Inspect, repack or replace wheel bearings and seals (if necessary).

8) Check hoses, hose routing and hydraulic cylinders. Any indication of leakage or fraying of hoses should be corrected.

OFF-SEASON STORAGE

Service life and satisfaction will be extended by following these suggestions:

1) The chief enemies of your **Pull Hitch**, rust and corrosion, are busy year around. A little time and effort spent cleaning your machine before storing will repay in longer service, easier operation, and higher resale value.

2) Inspect for worn or damaged parts. Replace if required, and avoid delays the next season.

3) Repaint all areas where the original paint is worn off.

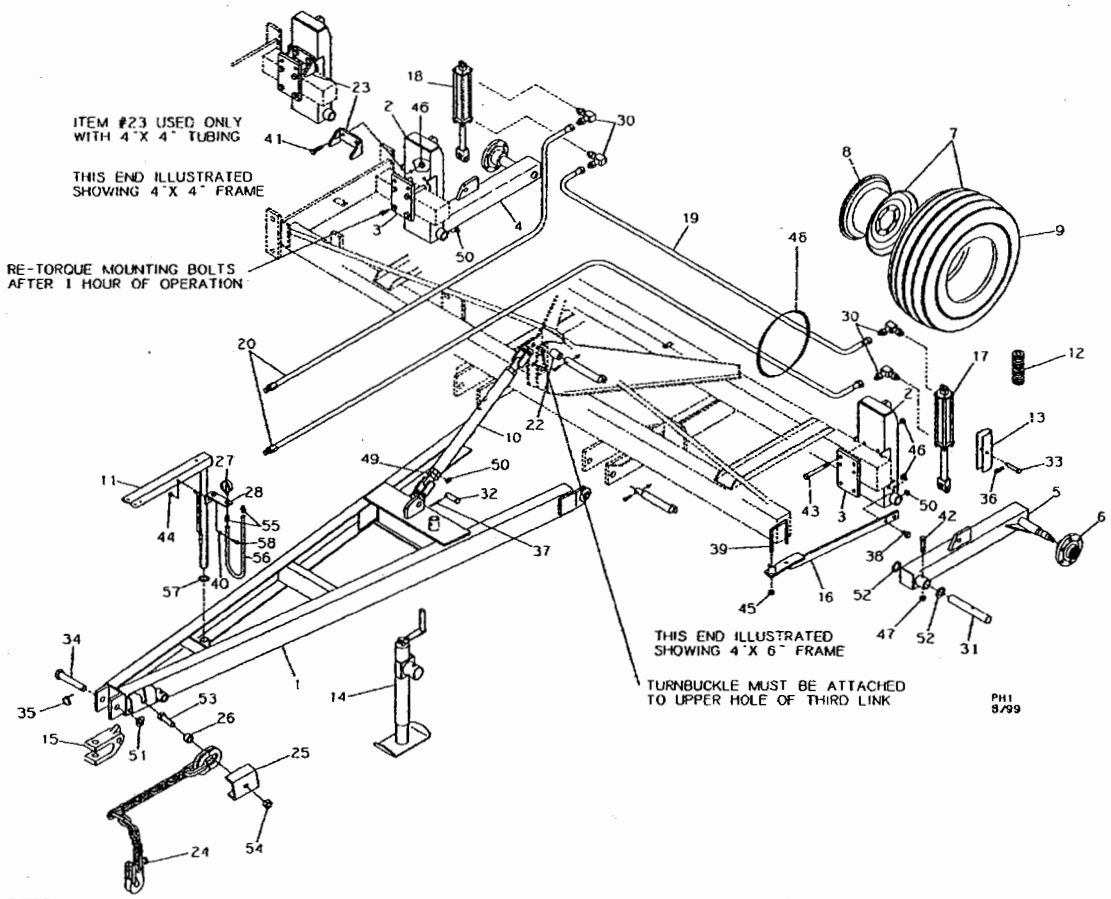
4) Lubricate your implement. (See Lubrication Section.)

5) Store the unit inside a shed to protect from weather and on a level area with wings down. The ground working parts should rest on boards.

6) Retract cylinders in storage, or coat cylinder rods with a light coat of oil or grease.

PARTS SECTION

PULL HITCH ASSEMBLY

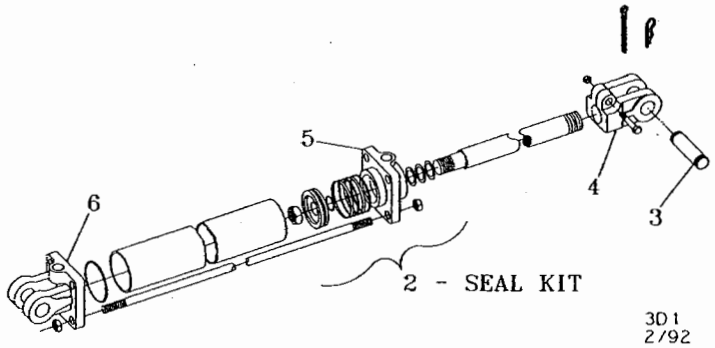


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	02366100	1	**Pull Hitch** A-Frame
2	02393100	2	Spindle Arm Mount Bracket
3	02393150	2	Mounting Plate
4	02393250	1	Spindle Arm RH with Hub
5	02393350	1	Spindle Arm LH with Hub
6	28178300	2	783 Hub Assembly (See Page 12)
7	10010152	2	11L x 15 8-Ply Tire Assembly
8	10110154	2	10 x 15 6-Hole
9	NSI	2	11L x 15 8-Ply Tire (1980927C1)
10	32409510	1	Turnbuckle without Pins
11	05302150	1	Hose and Gauge Stand
12	25800010	1	Stroke Control Kit - 1-1/4" Dia. Rod
13	04632710	2	Cylinder Stop 9-1/8"
14	32230000	1	3000# Jack (See Page 12)
15	20092051	1	Double Clevis
16	02393400	2	Brace
17	25032100	1	3-1/4" x 10" Hyd. Cylinder (See Page 11)
18	25035100	1	3-1/2" x 10" Hyd. Cylinder (See Page 11)
19	25600674	1	3/8" Hydraulic Hose x 154" Lg.
20	25610683	2	3/8" Hydraulic Hose x 275" Lg.
21	25610718	2	3/8" Hydrualic Hose x 178" Lg.
22	02393190	1	Bushing
23	02393160	2	Support Brace
24	63506C3	1	20,200 lbf ASAE Safety Chain
25	04681210	1	Bracket, Black
26	04681211	1	Bushing
27	34599060	1	60p.s.i. A.A. Gauge
28	04681830	1	Gauge Mount

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
			Pull Hitch Hardware:
30	218-5106	4	3/4" JICM x 3/4" SAEM 90° Elbow
31	14892687	2	1-5/8" OD x 11" Lg. Pin
32	14820180	1	1-1/4" OD x 2.40 EL Clevis Pin
33	14810251	2	5/8" OD x 3-1/8 EL Clevis Pin
34	14820445	1	1-1/4" OD x 5-1/2" EL Clevis Pin
35	A30338	1	1/4" OD x 1-3/4" Klik Pin
36	NSI	2	1/8" x 2" Hair Pin (14720411)
37	432-1632	2	1/4" x 2" Cotter Pin
38	413-1232	2	3/4" x 2" NC Hex Bolt Gd. 5
39	16310011	2	5/8" x 4" x 5-1/2" U-Bolt (4" x 4" Tube)
	87427170	2	5/8" x 4" x 8" U-Bolt (4" x 6" Tube)
40	495-21044	1	3/8" Std. Washer, Z.P.
41	413-1240	4	3/4" x 2-1/2" Hex Bolt Gd. 5
42	413-848	2	1/2" x 3" NC Hex Bolt Gd. 5
43	413-12104	8	3/4" x 6-1/2" NC Hex Bolt Gd. 5
44	425-106	1	3/8" NC Hex Nut
45	425-1010	4	5/8" NC Hex Nut
46	425-1012	14	3/4" NC Hex Nut
47	231-4248	2	1/2" NC Hex Lock Nut
48	386170C1	8	30" Plastic Hose Tie
49	25-1420	1	1-1/4" NC Hex Jam Nut
50	219-86	4	1/8" Self Tap Zerk
51	17421021	1	1-1/4" Heavy Washer
52	17627010	4	1-5/8" x 14 Ga. Machine Bushing
53	413-1648	1	1" x 3" NC Hex Bolt, Gd. 5, ZP
54	86992219	1	1" NC Hex Lock Nut, ZP
55	15040251	A/R	1/4" NPT x 3/8" Hose Barb
	15040252	A/R	1/4" x 1/2" Hose Barb
56	25630601	A/R	3/8" I.D. x 166' Long A.A. Hose
	25630801	A/R	1/2" I.D. x 166' Long A.A. Hose
57	17624021	1	1-1/2" Machinery Bushing - 14 Ga.
58	413-616	1	3/8" x 1" NC Hex Bolt, Gd. 5

A/R - AS REQUIRED
NSI - NOT A SERVICE ITEM

HYDRAULIC CYLINDER ASSEMBLY

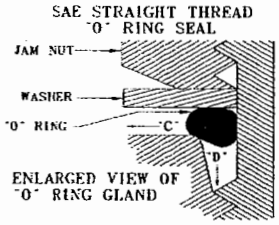


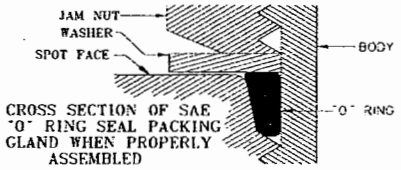
REF. NO.	3-1/4" X 10"	3-1/2" x 10	QTY.	DESCRIPTION
1	25032100		1	3-1/4" Bore x 10" Stroke Hydraulic Cylinder (20-1/4" Closed)
		25035100	1	3-1/2" Bore x 10" Stroke Hydraulic Cylinder (20-1/4" Closed)
2	25803200	25803535	1	Seal Kit - 1-1/4" Rod
3	25890100	25890100	1	1"Cylinder Pin Bag of Parts
4	25803001	25803001	1	Clevis
5	25803202	25803536	1	Cylinder Head 3/4" SAE Ports
6	25803205	25803534	1	Cylinder Base 3/4" SAE Ports

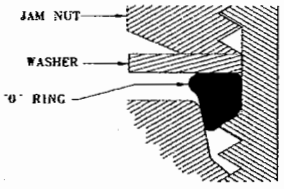
IMPORTANT
READ THIS BEFORE INSTALLING ADAPTERS

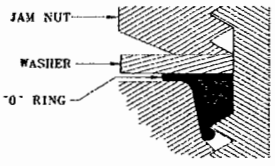
SAE ADAPTER INSTALLATION INSTRUCTIONS

1. Jam nut and washer must be to the back side of the smooth portion of the elbow adapter.
2. Lubricate the "O" Ring - **VERY IMPORTANT!**
3. Thread into port until washer bottoms onto spot face.
   NOTE: Is the spot face large enough for the washer?
   Does hex of the straight adapter fit into spot face?
4. Position elbows by backing up the adapter.
5. Tighten jam nut.









WHY "O" RING LUBRICATION IS IMPORTANT:

1. Fitting engaged to point where "O" Ring touches face of boss. Lubrication on "O" Ring permits it to move in direction "D"
2. When "O" Ring and boss are dry, rotary motion of assembly can cause friction and "O" Ring can move in direction "C".
3. Jam nut and washer cannot bottom fully if the "O" Ring is between the washer and the face of the boss.

WHAT HAPPENS WHEN THE JAM NUT AND WASHER ARE NOT BACKED UP PRIOR TO ASEMBLY:

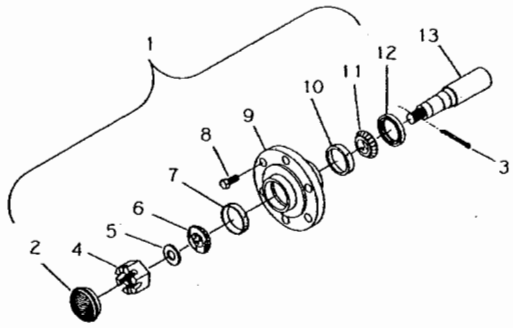
1. When jam nut and washer have not been backed up, there is not enough room for the "O" Ring Seal when the squeeze takes place.
2. Washer can't seat properly on the face of the boss. The compressed rubber between the washer and the boss face will cold flow out from compression and the fitting will be loose and usually leak.

783 HUB & SPINDLE

REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
	28078305	1	Hub and Spindle Assembly
1	28178300	1	783 6-Bolt Hub Assembly
2	28477700	1	Hub Cap
3	432-1024	1	5/32" x 1-1/2" Cotter Pin
4	425-1314	1	7/8" NF Slotted Nut
5	495-61094	1	7/8" Washer 2" OD **1996 & Before Prod.**
	17915000	1	7/8" Washer, Black **1997 & After Prod.**
6	651818R91	1	1.25 Bore Cone Timken #LM67048
7	651817R1	1	2.33 OD Cup Timken #LM67010
8	549962R1	6	1/2" NF x 1-15/32" Lug Bolt
9	NSI	1	Hub w/cups (28278300)
10	663558R1	1	2.89 OD Cup Timken #LM501310
11	663557R91	1	1.625" Bore Cone Timken #LM501349
12	145769C91	1	1.875" ID x 3.005" OD Seal
13	NSI	1	Spindle 2" Straight (28378305)

NSI - NOT A SERVICE ITEM

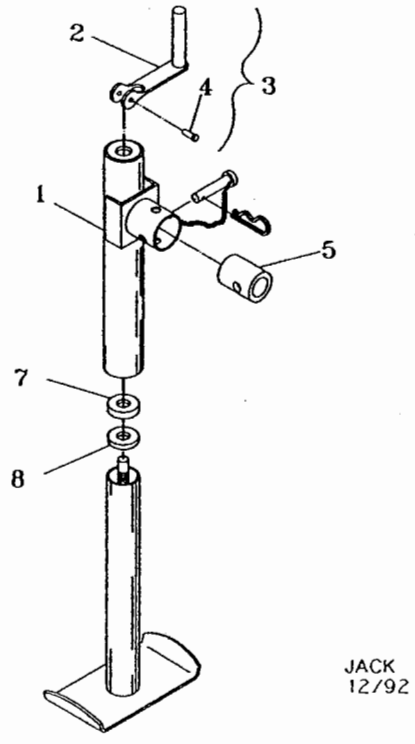
NOTE: CHECK HUB NO. BEFORE ORDERING PARTS
IMPORTANT: TORQUE 1/2" WHEEL BOLTS TO 100 FT.-LBS.



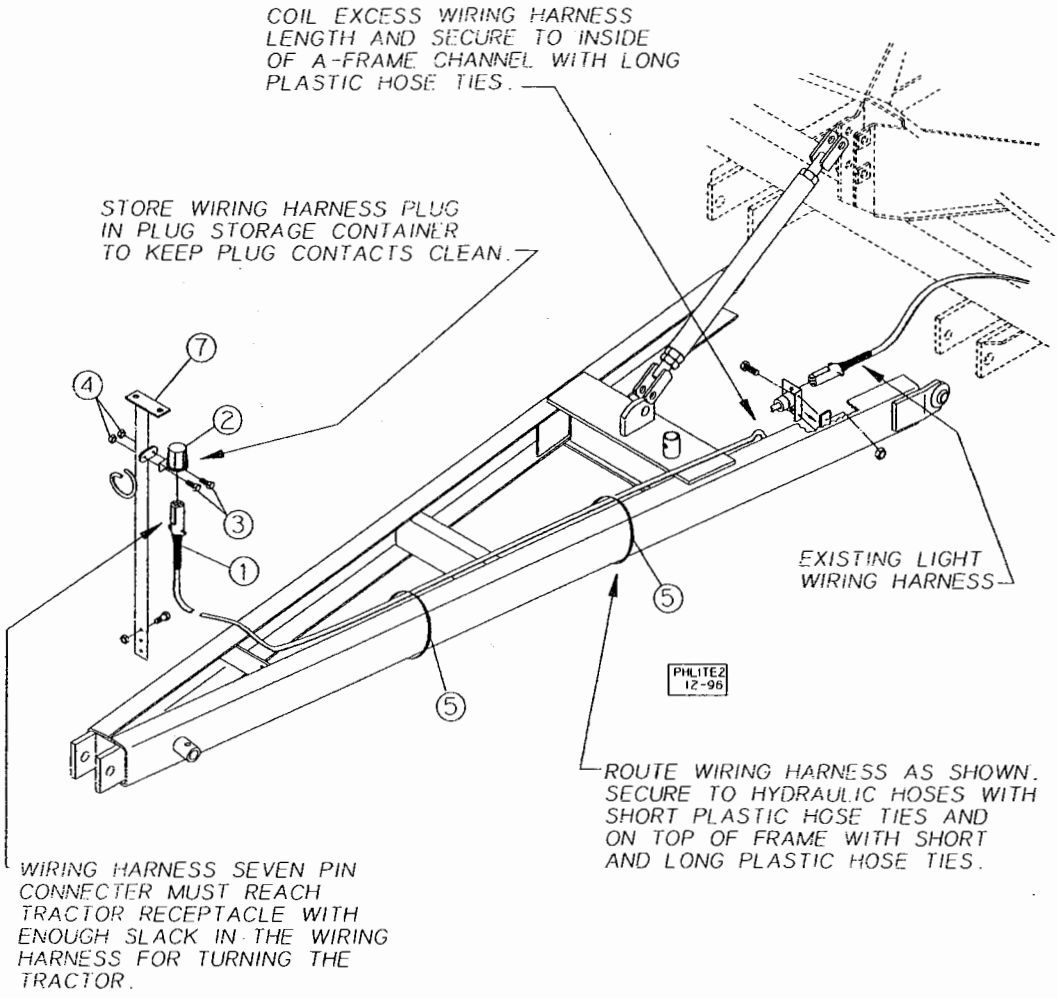
JACK ASSEMBLY

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	32230000	1	Jack Assembly 3000#
2	NSI	1	Jack Handle
3	32230100	1	Handle Replacement Kit (Incl. #2, 4, 9)
4	NSI	1	1/4" x 1" NC Std. Hex Bolt
5	09311040	1	Mounting Bracket
7	NSI	1	Thrust Bearing
8	NSI	1	Thrust Washer
9	NSI	1	1/4" Lock Nut

NSI - NOT A SERVICE ITEM



PULL HITCH
WARNING AND TAILLIGHT KIT



REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
1	27601266	1	Wire Harness Extension
2	27601214	1	Plug Storage Container
3	413-412	2	1/4" x 3/4" NC Hex Bolt
4	86992211	2	1/4" NC Lock Nut
5	386170C1	A/R	30" Plastic Hose Tie
6	30007000	A/R	20" Plastic Hose Tie
7	04631200	1	Hose Support Weld (Not Included with Light Kit)

NSI - NOT A SERVICE ITEM
A/R - AS REQUIRED

ASSEMBLY SECTION

The following text describes procedure for assembling the **Pull Hitch**. Place all bundles where they will be convenient. Part numbers are stamped on each bag. It may be helpful to open the bags for easier identification, but do not mix parts from different bags, and keep the bag number with the bundle of loose parts. Study and refer to the assembly drawings in this manual and proceed with the step-by-step instructions. All bolts should be torqued to the recommended torque shown on Bolt Torque Chart on inside cover unless otherwise specified.

FRAME ASSEMBLY

Refer to parts drawing and reference numbers on Page #10.

Hardware bags: 02366320 and 02366330

1) The applicator should be placed on stands approximately 36" on a level surface.

2) Pin the A-frame (#1) to the lower hitch links of the applicator's 3-point hitch. Secure with the category II pins.

3) Attach one end of the turnbuckle (#10) to the A-frame (#1) with the 1-1/4" clevis pin (#32) and cotter pin (#37).

   Connect the other end to the top hitch link of 3-point hitch, making sure to pin through the top hole. A 1-1/4" O.D. bushing (#22) is provided if the top pin is 1" in diameter. Adjust turn buckle so the applicator is level in field operation.

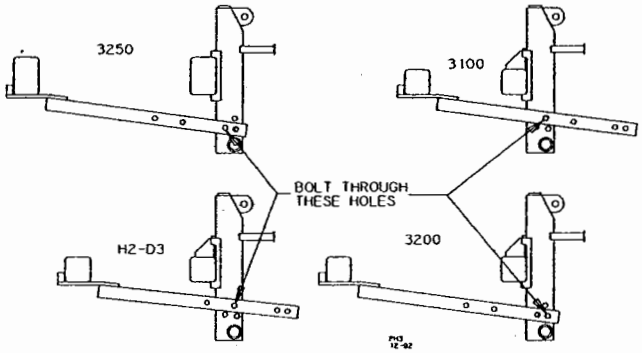
4) Install clevis (#15), jack (#14), and hose stand (#11) onto the A-frame (#1).

IMPORTANT: Torque the 3/4" mounting bolts to 325 ft/lbs. Retorque the 3/4" mounting bolts after one (1) hour of operation.

NOTE: Model 3250 Applicator.
Locate the inside edge of the spindle arm mount about 48-1/2" from the center of the machine. This will give a 120" tread width. The shank in front of the wheel will need to be mounted on the front bar of the applicator. In some cases, an offset bar is needed.

NOTE: Other Models.
On applicators other than the 3250, locate the spindle arm mounts to the outside of the frame, 120" to 140" wheel tread. The wider the wheel tread, the better the unit will function. In some cases, shanks, coulters and sealers may need to be moved to mount the wheel assemblies and/or use an offset bar.

5) Mount the spindle arm mount (#2) to the applicator with the 3/4" x 6-1/2" bolts (#43), 3/4" nuts (#46) and mounting plates (#3). On applicators with 4" x 4" tubing, attach the support brace (#23) to the spindle arm mount (#2) with the 3/4" bolt (#41) and nut (#46).



6. Attach the brace (#16) to the spindle arm mounts (#2) using the 3/4" bolt (#38) and nut (#46) as shown above. Mount the brace to the front bar with the 5/8" U-bolt (#39) and nut (#45).

NOTE: On other applicators, another 13/16" diameter hole may have to be drilled in the brace for the holes to line up.

7. Mount the right hand and left hand spindle arms (#4 and #5) to the spindle arm mounts (#2) using the pivot pins (#31). If space permits, insert the machinery bushings (#52) between the spindle arm and spindle arm mount. Secure the pivot pin using the 1/2" bolt (#42) and nut (#47).

8) Mount the two tire and wheel assemblies (#7) to the spindle arms and torque the wheel bolts to 100 ft/lbs.

9) Connect the 3-1/2" x 10" hydraulic cylinder (#18) to the right hand spindle arm and spindle arm mount. Connect the 3-1/4" x 10" hydraulic (#17) to the left hand spindle arm and spindle arm mount.

10) Install the 3/4" SAEM x 3/4" JICM 90° elbows (#30) in the cylinder ports.

11) Attach one end of the 3/8" x 275" hose (#20) to the ram end (top) of the 3-1/2" x 10" hydraulic cylinder (#18).

Next use the 3/8" x 154" hose (#19) to connect the rod end (bottom) of the 3-1/2" x 10" hydraulic cylinder (#18) to the ram end (top) of the 3-1/4"x 10" hydraulic cylinder (#17). Attach the other 3/8" x 275" hose (#20) to the ram end (bottom) of the 3-1/4" x 10" hydraulic cylinder (#17). See Page 5 for charging of the hydraulic cylinders.

12) Two 3/8" x 178" hydraulic hoses are provided to extend the wing lift hoses to the tractor. Also, two 1/4" x 144" hydraulic hoses are provided to extend hoses for a hydraulic shutoff valve.

13) Depth control segments are provided to set the working depth.

IMPORTANT: Only one set of depth control segments is needed because of the synchronized hydraulic system. Damage may occur if depth control segment are put on each cylinder - especially if unequal.

14) Transport lock channels are supplied to lock cylinders in transport. Storage locations are provided on the spindle arm mounts.

WARRANTY

One YEAR LIMITED WARRANTY

The manufacuturer warrants to the original purchaser of each new **DMI pull hitch** attachment that the product will be free from defects in material and workmanship for the following periods:

All components except tires . . . . . One (1) year

This warranty does not cover replacement parts or tires. Tires on **DMI** equipment are warranted through the respective tire manufacturer. Contact a dealer of the manufacturer in your local area. Parts are warranted to be free of defects in material and workmanship for a period of ninety (90) days from the date of delivery.

This Warranty covers only defective material or workmanship. It does not cover normal wear or maintenance or repair resulting from accident, improper maintenance, improper use, or alteration of the product. The cost of normal maintenance, service, and repair items shall be paid by the owner.

Under this Warranty, the manufacturer shall, at its option, either repair or replace, free of charge, any defective part or parts. The part or parts must be returned to the manufacturer within thirty (30) days from the date of failure through the dealer from whom the product was purchased. Transportation charges are paid. The only remedies are those which are outlined herein. The manufacturer will not be liable for incidental or consequential damages, including, but not limited to, loss of crops, loss because of delay in harvesting, or any expense or loss incurred for labor, supplies, substitute machinery or rental.

This Warranty is subject to any existing conditions of supply which affect the manufacturer's ability to obtain materials or manufacture replacement parts.

The manufacturer reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners of products previously sold.

No one is authorized to alter, modify, or enlarge this Warranty nor its exclusions, limitations, and reservations.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE.

TITAN/ARMSTRONG TIRES: Warranty claims on **DMI pull hitch** attachment equipped with Armstrong ag tires can be filed by contacting your local Titan Tire/Armstrong Ag Tire Dealer or by calling the Armstrong Claim Service at **1-800-219-6239**, for both United States and Canada.

or write to the Company at:

Titan Tire Corporation
2345 E. Market Street
Des Moines, Iowa 50317