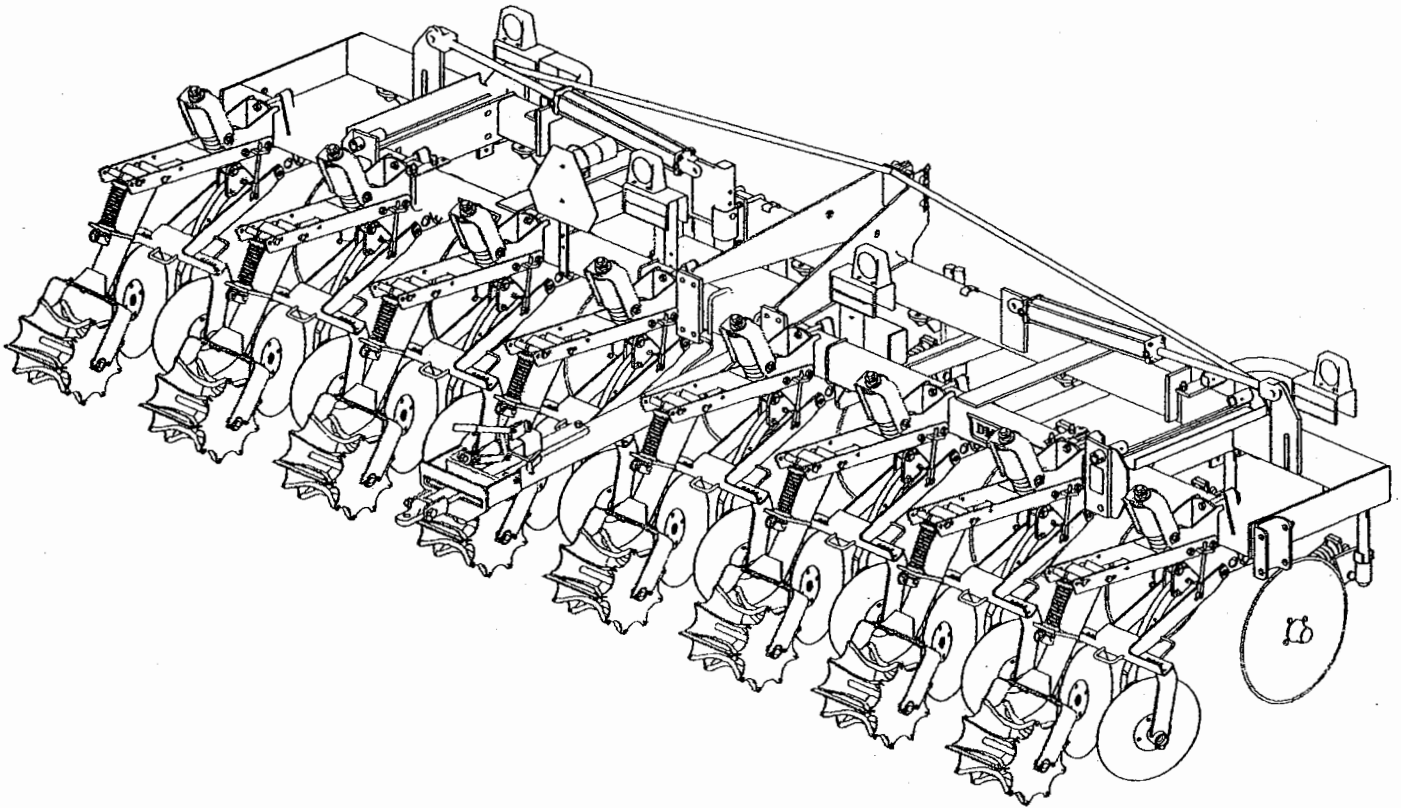


nutri-till'r

Model 5310

3-point mounted 6 & 8 Row



operator's manual parts catalog



Helping Plants Thrive®

600 East Peoria Street • P.O. Box 65 • Goodfield, Illinois 61742-0065

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.

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NOTE: **nutri-till'r**[®], HCS™ shanks, **tru-trak'r**[®], **uni-seal'r**[®], and **wagon-mate**[®] are trademarks and registered products of CNH America LLC.

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 to indicate the degree of hazard for items of personal safety.

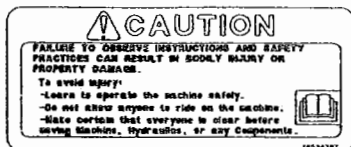


This Safety-Alert Symbol means ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!

-  **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.

IMPORTANT: Be sure to keep all safety signs and reflectors clean and readable. If a safety sign or reflector is defaced or becomes unreadable, order the below safety signs and reflectors per part number and refer to Page #21 for location on your **nutri-till'r 5310**. When replacing signs or reflectors, remove loose pieces of old sign and clean surface. Peel off backing of new sign and position as closely as possible to original location.

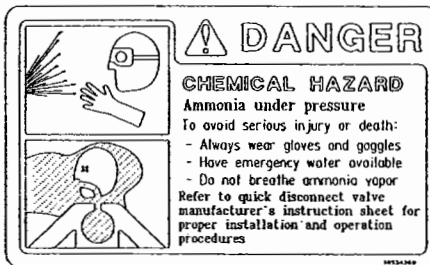
SAFETY SIGNS AND REFLECTORS



PART NO. 18534387



PART NO. 18534361



PART NO. 18534368



PART NO. 18534243



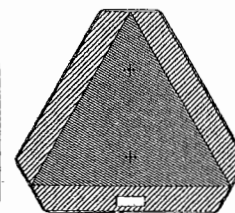
PART NO. 18534244



PART NO. 18534227



PART NO. 18534362



PART NO. 18581100



IMPLEMENT SAFETY

nutri-till'r Model 5310

In addition to design and configuration of equipment, safety and accident prevention are dependent upon the awareness, concern and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment. Failing to follow these safety messages can result in machine damage, property damage, personal injury, and/or death.



OPERATIONAL SAFETY

- Before operating your **nutri-till'r** model 5310 unit, thoroughly read and understand your operator's manual. **If you do not understand any portion of the Operator's Manual, contact your yield-till system dealer/distributor immediately for clarification.**
- Machinery should be operated only by qualified persons familiar to the tractor and equipment, **nutri-till'r** model 5310 unit, and the safety related items. Do not let children operate machinery.
- Never permit riders on **nutri-till'r** model 5310 unit or tractor.
- Never position yourself under any portion of the **nutri-till'r** model 5310 unit. Lower machine to the ground, turn off tractor and remove key before making adjustments or repairs. Otherwise, block securely to prevent accidental lowering.
- Always store a wing implement with the wings down.
- Always have tractor coupled to the **nutri-till'r** model 5310 unit when folding or unfolding wings and raising or lowering machine.
- Raise **nutri-till'r** model 5310 unit entirely out of the ground when passing through a ditch or waterway.
- Always check for overhead obstacles during transport and before folding or unfolding the wings.
- Keep everyone clear while operating hydraulics or controls and also when machine is in motion.
- Keep everyone clear when folding and unfolding row markers.
- Be sure safety signs are clean and readable. All safety related signs must be replaced if the **nutri-till'r** model 5310 unit is painted or the signs are otherwise rendered unreadable.
- Furnish this manual to a new operator.



TRANSPORT SAFETY

- Never transport the **nutri-till'r** model 5310 unit in excess of 20 m.p.h. Maintain a safe speed.
- Proceed slowly on rough or slippery roadways, on side hills, and around curves.
- Reduce speed when approaching ditches or corners. Do not make sharp turns with brakes.
- Check with state and local authorities for additional guidelines concerning lighting for implements being towed on public roads and comply.
- Test and maintain lights before towing on public roads.
- Be sure unit is equipped with a Slow-Moving-Vehicle (SMV) emblem when transporting.
- Be sure to comply with all state and local requirements for implement transport.



SERVICE AND MAINTENANCE SAFETY

- Do not modify or permit anyone to modify this **nutri-till'r** model 5310 unit, any of its components, or any equipment function without first consulting your **yield-till system** equipment dealer/distributor.
- Blades have extremely sharp edges. Care must be taken when handling to avoid injury.
- **NEVER** attempt to inspect, service, or disassemble any part of the hydraulic system including the hydraulic hoses until all pressure is relieved by shutting off tractor, lowering the **nutri-till'r** model 5310 unit to the ground and placing remote control levers in float or neutral position.
- Do not cut or drill on **hot** steel tubing. Drill a vent hole on **cold** tubing **before** welding. Keep yourself and others away from vent hole while welding.
- 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 immediately. Fluid must be surgically removed or gangrene will result. Wear safety glasses or goggles to avoid eye injury when working on the hydraulic system.
- Compressed springs have potentially dangerous stored energy. Always assemble and disassemble properly.
- Keep fingers, hands, and feet away from pivot links when servicing, or adjusting shank trip mechanisms.
- Do not lubricate, adjust, or repair when **nutri-till'r** model 5310 unit is in motion.
- Automatic reset mechanisms operate quickly and forcefully. Use extreme caution when working around mechanisms.
- Never install additional equipment on top of **nutri-till'r** model 5310 units such as spray tanks, etc. Hub and spindle failure may occur.
- Use only approved replacement parts.



A.A. SAFETY

- Before operating your **nutri-till'r** model 5310 unit, thoroughly read and understand your Operator's Manual. If you do not understand any portion of the Operator's Manual, contact your **yield-till system** dealer/distributor immediately for clarification.
- Before operating your **nutri-till'r** model 5310 unit, thoroughly read and understand your Parker quick disconnect coupling operating instructions pamphlet. If you do not understand any portion of the operating instruction pamphlet, contact your **yield-till system** dealer/distributor immediately for clarification.
- Always wear a full face mask with ammonia type canister, tight fitting safety goggles and protective gloves made of rubber or other material impervious to ammonia.
- A container of no less than five (5) gallons of readily available clean water should be on or near every tank of ammonia.
- Never look directly into hose, meter, quick coupler or shut off.
- Do not attempt to connect or disconnect the coupling until lines are completely bled and flow from open bleed valves has stopped.
- When transporting ammonia the discharge hose should be securely fastened on both ends. Hose end valves should be turned off while in transport, service, or storage. Precautionary measures must be taken to prevent accidental opening of these valves (especially quick opening or 1/4 turn valves).
- Before storage or service, close all hose end and tank valves. Bleed all A.A. hoses. Be sure to actuate hydraulic ball shutoff valves to release trapped ammonia inside the ball.
- Read and understand all safety signs and keep them in their proper places.
- Always teach all persons involved in the handling of ammonia that it is dangerous and must be handled with care. Carelessness may cause serious injury or death.
- No ammonia should be transported on wagons or applicators that are not safe for road travel.
- Work upwind whenever practical.
- Provide a warning to prevent filling of tank past 85% capacity.
- Use only approved replacement parts.
- Never allow children near equipment.
- Replace Quic-Coupler and anhydrous ammonia hoses in accordance with state regulations or manufacturer's recommendations, whichever is sooner.
- The hose from the wagon to the Quic-Coupler should not be wrapped or tied to applicator. The Quic-Coupler must be free to detach if wagon accidentally unhooks.
- The Quic-Coupler safety swing stand must pivot freely. Check before using.

AMMONIA FACTS

The following information is taken from the joint publication of the American National Standard Institute and Compressed Gas Association. (ANSI K61.1/CGA G-2.1)

- * Ammonia is extremely hard to ignite and is a relatively stable compound. However, the release of ammonia gas into a tightly enclosed or inadequately ventilated space may result in the accumulation of a flammable mixture that can cause a combustion explosion if a high temperature ignition source is present.
- * Under some circumstances ammonia and ammonium compounds can react with other chemicals to form explosive products. Ammonia should never be combined with other chemicals unless the possible reactions have been adequately investigated and appropriate precautions taken.
- * Ammonia Exposure. At low concentrations, ammonia gas is irritating to the eyes, skin and mucous membranes of the nose, throat, and lungs. At higher concentrations, ammonia is corrosive to human tissue and possibly life threatening.
- * The U.S. Occupational Safety and Health Administration (OSHA) has adopted a short-term exposure limit (STEL) of 35 parts per million (ppm) (27 mg/m³). This is for an employee's 15 minute time-weighted average (TWA) exposure which may not be exceeded at any time during a work day.

GENERAL INFORMATION

FEATURES

The **nutri-till'r** model 5310 mounted applicators are the result of over 30 years of using imagination and foresight to create original and unique nutrition systems for smart farming. The **nutri-till'r** model 5310 is truly the strongest and most dependable applicator available. It can handle any tillage practice by cutting residue and optionally deep placing anhydrous ammonia or liquid/dry plant nutrients in the root zone.

The manufacturer has designed every feature, every function and every resulting operation with the predominant needs of today's dealers and progressive farmers in mind.

I. MAIN FRAME

Main frame bars are vertical 4 x 6 tubes, and the main frame is of double bar welded construction. Heavy duty 3-point links are welded to both the front and rear bar providing superior strength in both field and transport positions. The 3-point link also allows adequate clearance for 46" diameter tires.

II. WINGS

The wings are constructed from vertical 4 x 6 heavy wall tubes with offset channel bracing providing superior strength with less weight. The large hinge rank means less stress on the hinge pins.

III. WHEELS

The **nutri-till'r** model 5310 has optional pin-adjust gauge wheels.

IV. WAGON HITCH OPTION

The **wagon-mate** hitch has the largest extending and swinging hookup pattern in the industry, with the added convenience of single lever action.

V. SHANKS

Available with **HCS** or rigid shanks and strip-till knives to change soil tillth and raise strip.

VI. COULTERS

24" heavy-duty spring coulters are standard equipment to slice through residue. The coulters swing side to side and adjust up and down for proper depth. 24" coulters are spring cushioned to ride up and over obstructions. 16° taper on coulters keeps blades sharp to cut without bulldozing.

VII. ANHYDROUS AMMONIA OPTIONS

The unit is equipped with a single manifold and with 3/8" A.A. plumbing. 1" high pressure A.A. hose feeds from the regulator to the manifolds. 1-1/4" Quic-Coupler with 1-1/4" feeder hose on a 180° safety swing mount provides maximum safety for the operator as well as maximum capacity.

VII. berm-build'rs

Double disc 18" blades are mounted independent of shank to provide a continuous, uniform berm even when the shank trips or operating depth is changed.

VIII. berm condition'r

11.5" wide by 14" diameter rolling baskets are mounted independent of the HCS shanks and **berm build'rs**. The unique concave bar design sizes clods and pre-settles the berm. The notched side plates enhance performance in various field conditions.

IX. ROW MARKER

The **nutri-till'r** model 5310 features a mechanical single-fold row marker design.

SPECIFICATIONS

HORSEPOWER REQUIREMENTS	15 -25 hp. per shank. Actual horsepower varies with soil conditions, operating depth, knife type, etc.			
3-POINT HITCH	Category III			
SHANK SPACING	A.A. Knives on 30"centers			
SHANKS	HCS or rigid type shanks with 32" clearance from knife to bottom of frame.			
COULTERS	24" diameter			
WORKING DEPTH.....	A.A. Knives - 5" to 8" Coulters - 2" to 4"			
WORKING SPEED.....	5 – 7.5 m.p.h.			
SWATH WIDTH	#	SHANK	WORKING	TRANSPORT
	SHANKS	SPACING	WIDTH	WIDTH
5310				
6-Row	6	30"	15'	16'
8-Row	8	30"	20'	17' 3"
Frame	4" x 6" Hi-Strength Tubing with Offset Channel Bracing.			

OPERATION SECTION

▲ CAUTION: Do not allow children or unqualified operators to operate equipment. In addition to design and configuration of equipment, safety and accident prevention are dependent upon the awareness, concern and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

IMPORTANT:

- 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.
- The machine must be on level ground with tires properly inflated to raise and lower the wings.
- Measure overall transport height.
- Never lower or raise the wings under full tractor hydraulic pressure. Always slowly lower the wings by partially opening the valve on the tractor.
- Make sure that wing hydraulic cylinders are fully extended to allow wings to follow the contour of the ground.
- Be sure to comply with all state and local requirements for implement transport, day and night.
- When transporting, always use a safety chain with tensile strength equal to the gross weight of the unit, plus any attachments.

▲ WARNING: Keep everyone clear of the machine when folding or unfolding the wings.

DEPTH ADJUSTMENTS

- WARNING:**
- Keep everyone clear while operating controls or machine.
 - Do not lubricate, adjust or repair when **nutri-till'r** model 5310 unit is in motion.
 - Blades have extremely sharp edges. Care must be taken when working around or adjusting to avoid injury.

1. Set the depth of the A.A. knives by adjusting the tractor 3-point lever.
2. Level applicator as shown in Figure #1.
3. Set the coulters depth. The coulters are adjusted independent of the A.A. knives. Loosen the 3/4" set screw on the mounting bracket and slide the coultershaft up or down to the desired height.

Once the applicator knives are at the desired depth, the machine must be leveled. 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 with the ground. The applicator can be leveled by changing the length of the top link of the 3-point.

4. Do not run the coulters any deeper than what is needed to cut the residue. Running the coulters deeper than necessary increases the draft on the tractor and increases coulters wear.

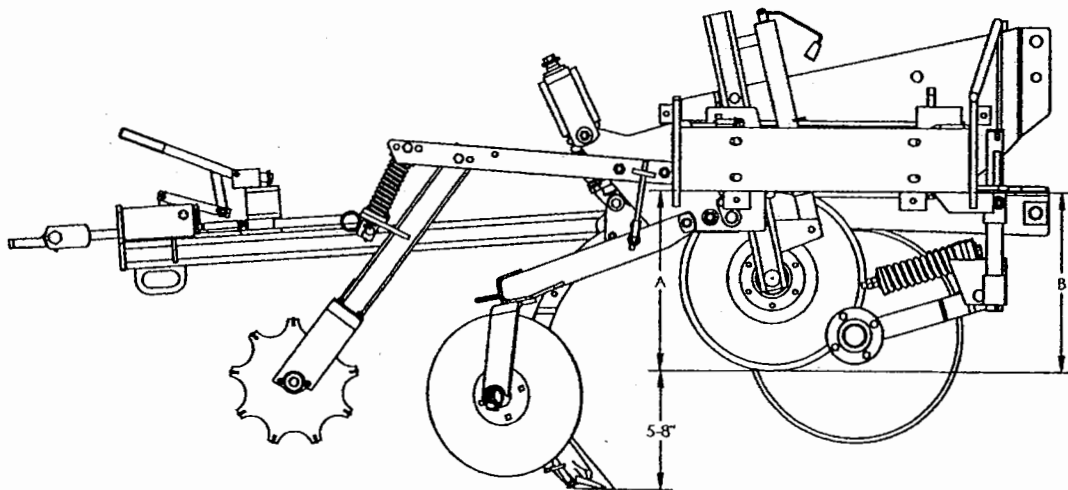


Figure 1

berm-build'r ADJUSTMENTS

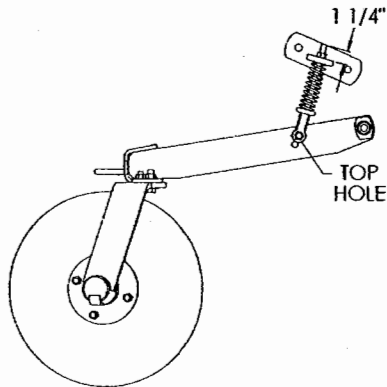
- A) **ATTACK ANGLE OF BLADE:**
- B) **EQUAL ANGLE IS IMPORTANT:** To create an uniform berm.
- C) **WIDTH OF SETTING:** Set per soil and residue conditions.
- D) **SPRING PRESSURE:** Adjustment is quickly made by changing the hole used to BOLT the rod end linkage bolt to the frame.

In the case where the knife depth used is very shallow, it may be necessary to back off the nuts at the top of the spring bolt to allow the blades to drop far enough to contact the soil.

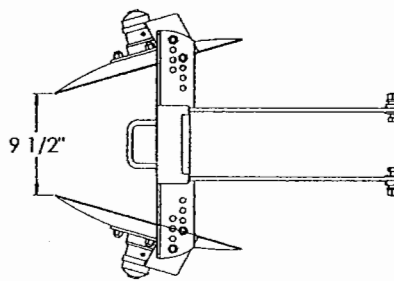
An increased spring pressure will minimize bouncing in rough fields and will provide more soil penetration; but it will result in more trenching and ridging.

Use the lightest spring pressure that will provide satisfactory berm.

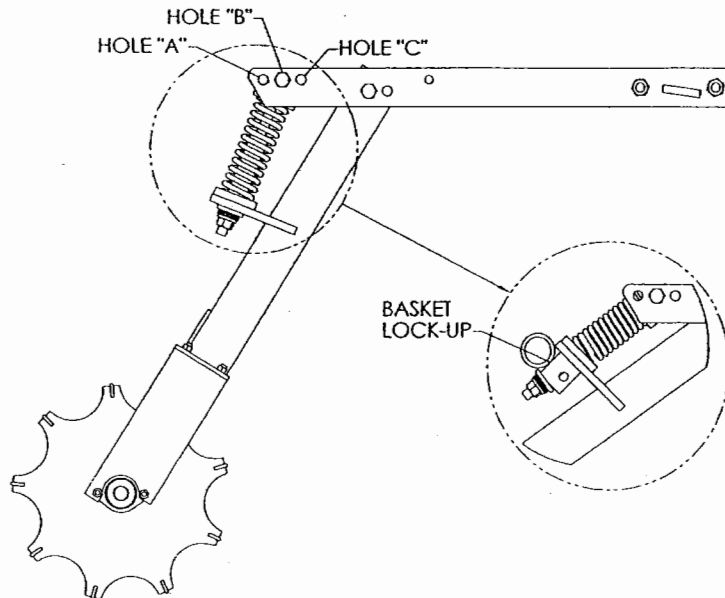
BOLT LOCATION FOR SPRING PRESSURE



BLADE POSITION



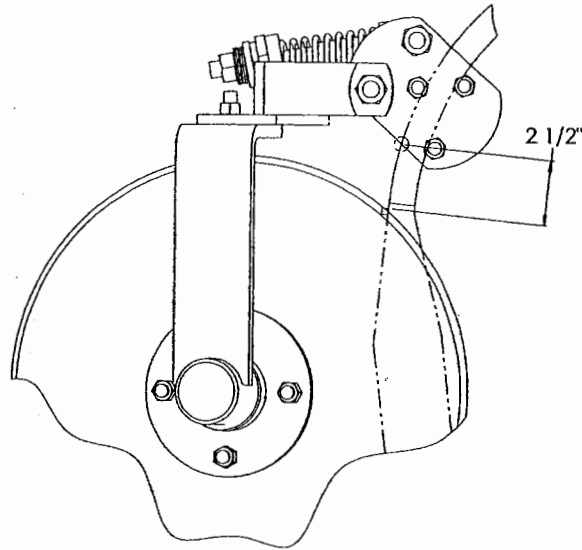
berm condition'r ADJUSTMENTS



- A) **DOWN PRESSURE** - Spring down pressure can be increased by moving spring to hole "A". Decrease down pressure by placing spring in hole "C".

- B) **DISENGAGE BASKETS** - Lift basket and insert lockout. See diagram above.

18" disc seal'r FOR 1" X 2" RIGID SHANK ADJUSTMENTS



- A) Position the 18" **disc seal'r** on the 1" x 2" shank so there is 2-1/2" space between the bottom of the sealer mounting bracket and the pin located on the back of the 1" x 2" shank.
- B) Position the blades so there is approximately 9-1/2" between the blades at the rear of the sealer and adequate space between the blades at the front of the sealer so all of the soil coming from the strip-till knife is contained within the **disc seal'r** blades. Adjust as necessary from this position as conditions indicate.

TROUBLE SHOOTING

TO THE nutri-till'r model 5310 OWNER: The 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.

THIS SECTION COVERS FIELD PROBLEMS, CAUSES, AND REMEDIES. A FOLLOWING SECTION DISCUSSES CONDITIONS THAT CAN LEAD TO COMPONENT BREAKAGE, ALONG WITH THE PROBABLE CAUSES AND HOW TO PREVENT OR REMEDY THE PROBLEM.

FIELD PROBLEM REMEDIES

POTENTIAL PROBLEM	PROBABLE CAUSES	REMEDIES
LACK OF PROPER AMOUNT OF NH ₃ PER ACRE	Clogged screen in regulator. A.A. tubes clogged with dirt. Broken diaphragm in regulator. Hose too small from tank. Regulator not set properly.	Remove and clean often. Remove dirt. Replace. Replace with larger hose. Review setting instructions.
TOOL BAR JUMPS SIDE TO SIDE	Pitch of knife not correct.	Adjust length of top link of 3-point hitch. Normally length must be shortened if jumping occurs.
BALLING AND FREEZING	Knife collecting residue is primary cause of balling and freezing.	Use coulters to cut residue.
INSUFFICIENT DEPTH OR MACHINE FLOATS OUT.	Dull or broken knives. Frame of machine not level (knives riding on the heel). Coulters too deep.	Replace. Level frame. Raise coulters. Coulters tend to hold machine out of ground if set too deep.
MACHINE PULLS HARD	Coulters blades are too deep. Dull or broken points. Implement frame is not level. Coulters not in line with shanks.	Excessive depth consumes power. Raise blades. Replace. Level the machine. Adjust setting on gauge wheels (optional) for proper depth control. Adjust coulters and/or knives so coulters are in line with shanks.

POTENTIAL PROBLEM	PROBABLE CAUSES	REMEDIES
MACHINE IS PULLING CROOKED.	<p>Shanks and/or coulters are spaced differently on one side compared to the other side.</p> <p>Coulters are not directly ahead of shanks.</p>	<p>Adjust shank spacing.</p> <p>Adjust and align.</p>
MACHINE PLUGGING	<p>Coulter blades are running too deep.</p> <p>Coulter blades are not deep enough.</p> <p>Dull coulter blades.</p> <p>Coulters are not directly ahead of shanks.</p> <p>Large amount of residue.</p> <p>Dull/damaged coulters.</p>	<p>Best depth is 3"-4". Maximum depth is 4". Raising blades helps to cut residue rather than pushing it ahead and not cutting. Deep blades put the hubs and disc mount parts too close to surface and creates plugging in heavy residue.</p> <p>In soft, wet ground and tough stalks, it may be necessary to lower blades to cut heavy residue. 4" disc depth is recommended maximum depth.</p> <p>Sharpen or replace.</p> <p>Adjust coulter or disc position to directly ahead of shanks.</p> <p>Reverse berm build'r blades.</p> <p>Sharpen or replace.</p>

berm build'rs AND berm condition'rs

PROBLEM	PROBABLE CAUSES	REMEDIES
INADEQUATE BERM HEIGHT	<p>Not enough soil lifted by strip-till knife</p> <p>berm build'r blades set too far apart</p> <p>Inadequate blade angle (berm build'r blades)</p> <p>Insufficient down pressure on berm build'r blades</p>	<ul style="list-style-type: none"> • Run knife deeper. • Check and replace worn knives • Run knife shallower if running at 8+" in compacted soils • Raise coulter • Increase speed to 5 - 7 m.p.h. <p>Position disc blades closer. See page #10</p> <p>Increase disc angle. See page #10</p> <p>Move spring eyebolt to lower hole. See page #10</p>
berm-build'r CUTS EXCESSIVE GROOVE OR FURROW	<p>Excessive down pressure on berm build'r</p> <p>Excessive blade angle</p>	<ul style="list-style-type: none"> • Move spring eyebolt to upper hole. See page #10 • Tighten eyebolt to raise builder. <p>Reduce disc angle. See page #10</p>
BERM SIZE OR SHAPE IS NOT UNIFORM	<p>No berm condition'r baskets</p> <p>Blades not at equal angle</p> <p>Insufficient down pressure on berm condition'r basket</p>	<p>Install optional berm condition'rs</p> <p>Adjust berm-build'r blades to exact same angle</p> <p>Change berm condition'r spring assembly to more aggressive hole. See page #10</p>
LARGE CLODS OR CHUNKS IN STRIP	<p>No berm condition'r baskets</p> <p>Insufficient down pressure on berm condition'r basket</p> <p>Running knife too deep</p>	<p>Install optional berm condition'rs</p> <p>Change berm condition'r spring assembly to more aggressive hole. See page #10</p> <p>Run knives shallower</p>
RESIDUE OR MUD PLUGGING BASKETS	<p>berm build'r blades too much angle</p> <p>Conditions too wet</p>	<p>Decrease disc angle. See page #10</p> <p>Lock-up berm condition'r baskets</p>

COMPONENT BREAKAGE

PROBLEM	PROBABLE CAUSES	REMEDIES
<p>DAMAGE/BREAKAGE OF BLADE SHAFTS AND/OR BLADE MOUNT PARTS</p>	<p>Turning with blades in ground.</p> <p>Extreme soil conditions such as very heavy ground, frozen ground or heavy rocks.</p> <p>Running blades too deep (especially with above conditions).</p> <p>Speed too fast for conditions.</p>	<p>Avoid this.</p> <p>Avoid wherever possible. Otherwise, adjust speed to match tough conditions.</p> <p>Raise blades enough to just cut residue.</p> <p>Reduce speed in rocks or other adverse conditions.</p>
<p>BREAKAGE OR EXCESSIVE DAMAGE TO BLADES.</p>	<p>Turning with blades in the ground.</p> <p>Heavy rock conditions, especially combined with:</p> <ul style="list-style-type: none"> a. Speed is too fast. b. Blades are too deep. c. Turning with blades in ground. <p>Running in hard frozen ground.</p>	<p>Avoid sharp turns with blades in the ground.</p> <ul style="list-style-type: none"> a. Reduce speed in rocks or other adverse conditions. b. Run blades only deep enough to cut residue. c. Do not turn with blades in ground. <p>Avoid this.</p>
<p>NOTE: Blade breaks where the layers of steel split apart (laminated) and straight breaks are usually due to defective materials. These types of breaks are warranted. Blades with irregular breaks, chips, dented edges and/or a center break-out (around the flanges) indicate excessive flexing and side stresses and are NOT warranted.</p>		

A.A. GAUGES

The A.A. gauges give the manifold pressure for each side of the machine. Unequal gauge pressure can be caused by:

1. Knife tube wear - Knife tubes create pressure and must be the same type (open tube or closed and drilled) and have same hole diameter.
2. With double regulators, adjust each for the swath they control. For example: On a 15-shank machine, one regulator controls 7 shanks while the other controls 8 shanks.

PARKER QUICK DISCONNECT COUPLING



DANGER: To prevent serious bodily harm, read and understand instructions completely before starting installation.



WARNING: If the coupling fails to connect or disconnect in a normal manner; if the poppets fail to close or move easily; or if there is any corrosion on the coupling or nipple, replace the unit immediately. Failure to bleed the pressure from both halves of the coupling before connecting or disconnecting may result in hazardous ammonia spray.

For maintenance, service and operating, see the Parker Quick Disconnect Coupling Instruction pamphlet. If the pamphlet becomes illegible or lost, contact DMI immediately for replacement part no. 00100940.

See Warranty Section for claims.

CONTINENTAL REGULATOR

SETTING INSTRUCTIONS

Simplicity in setting the CONTINENTAL METER MATIC is one of its outstanding features and is based on the following known values:

1. Desired amount of 'N' to be applied in pounds per acre.
2. Swath width (in feet).
3. Tractor speed (MPH)

HOW TO SET METER MATIC FOR APPLICATION RATES SHOWN ON DIAL FORMULA FOR SETTING C4100

If appropriate charts are not available, use the formula (Lbs. Nitrogen x Swath Feet x MPH x .1212 = Lbs. Nitrogen in one hour).

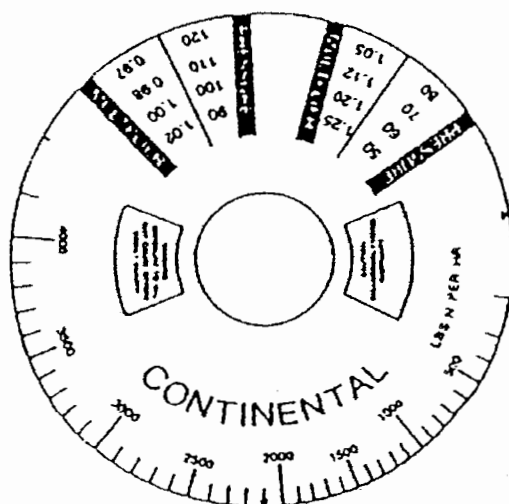
Example: Lbs. Nitrogen per acre 100
 Swath width in feet 30
 Tractor speed 5

Lbs. Nitrogen x swath feet x MPH x .1212 = Nitrogen applied in one hour
 100 x 30 x 5 x .1212 = 1818 Lbs. Nitrogen per hour

This will be the dial setting at 100 p.s.i. tank pressure in a normal fitting arrangement. (12 feet hose x hose valve x 1" QDC x 3' of 1" hose).

NOTE A: 1 1/4" QDC will have less pressure drop, so less vapor formation and about 10% more flow. (So 10% less dial setting)

This setting number is then multiplied by the tank pressure multiplier on the dial (if not 100 lbs. tank pressure) in order to get the actual dial setting.



If using charts, find setting number X tank pressure multiplier = dial setting.

MULTIPLIERS FOR DIFFERENT TANK PRESSURES

PRESSURE	MULTIPLIER	
50	1.25	
60	1.20	Lbs. N x 1.22 = Lbs. NH ₃
70	1.15	
80	1.10	Lbs. NH ₃ x .82 = Lbs. Nitrogen
90	1.05	

PRESSURE	MULTIPLIER
100	1.00
110	0.97
120	0.95
130	0.93
140	0.92

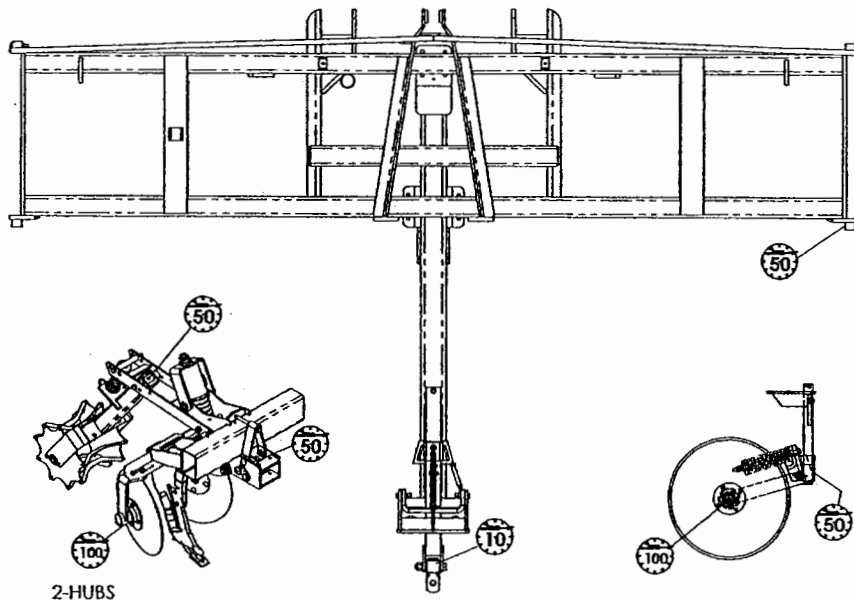
FORMULA FOR CHART: #N x SWATH FT. x MPH x .1212 = # NITROGEN PER HOUR AT 100# TANK PRESSURE




EXAMPLE: 100 x 30 x 5 x .1212 = 1818# NITROGEN PER HOUR AT 100# TANK PRESSURE

See Warranty Section for claims.

MAINTENANCE SECTION

LUBRICATION



-  = LUBRICATE EVERY 10 HOURS OR ONCE DAILY
-  = LUBRICATE EVERY 50 HOURS OR ONCE WEEKLY
-  = LUBRICATE EVERY 100 HOURS OR ONCE A SEASON

(SEE NOTE "A")

- 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 from 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.

WHEEL HUBS: Clean and inspect bearings before the season and repack with wheel bearing grease.

COULTERS ARM: Lubricate grease zerks on individual coulter arms every 50 hours or once each week.

COULTER HUB: Lubricate grease zerk on individual coulter hubs every 100 hours or once a season.

NOTE: Approximately 10 pumps from the grease gun will adequately lubricate hubs. (Some cases may vary.)

NOTE A: In muddy conditions disc hubs should be pumped with grease every 200 acres to purge out dirt.

PREVENTIVE MAINTENANCE



- WARNING:**
- Never position yourself under any portion of the **nutri-till'r** model 5310 unit. Lower machine to the ground, turn off tractor and remove key before making adjustments or repairs. Otherwise, block securely to prevent accidental lowering.
 - Be sure safety signs are clean and readable. All safety related signs must be replaced if the **nutri-till'r** model 5310 unit is painted or the decals are otherwise rendered unreadable.
 - Use only approved replacement parts.

WHEEL HUB BEARINGS: There are grease zerks in his shown hubs which can be used during the season; however it is important to inspect bearings and seals. Repack once a year or every 250 hours of use, whichever occurs first, with a good multi-purpose wheel bearing grease. Tighten slotted nut on spindle, draw up the nut tight, and then back off one (1) slot.

CYLINDER RODS: When not in use for some time, coat the exposed portion of cylinder rods with grease. This will protect rod surfaces against corrosion.

PRE-SEASON CHECK LIST

1. Carefully review all of the safety suggestions in this manual.
2. Check all bolts for proper tightness. (See Bolt Torque Chart.) When implement is new, check after (1) hour and every few hours of operation.
3. Replace ground tools that are severely worn, broken or damaged.
4. Grease all fittings. (See Lubrication Section, Page #18.)
5. Inspect, repack, or replace (if necessary) wheel bearings and seals.
6. Check regulators - make sure they operate properly.
7. The Quic-Coupler safety swing stand must pivot freely. Check before using.

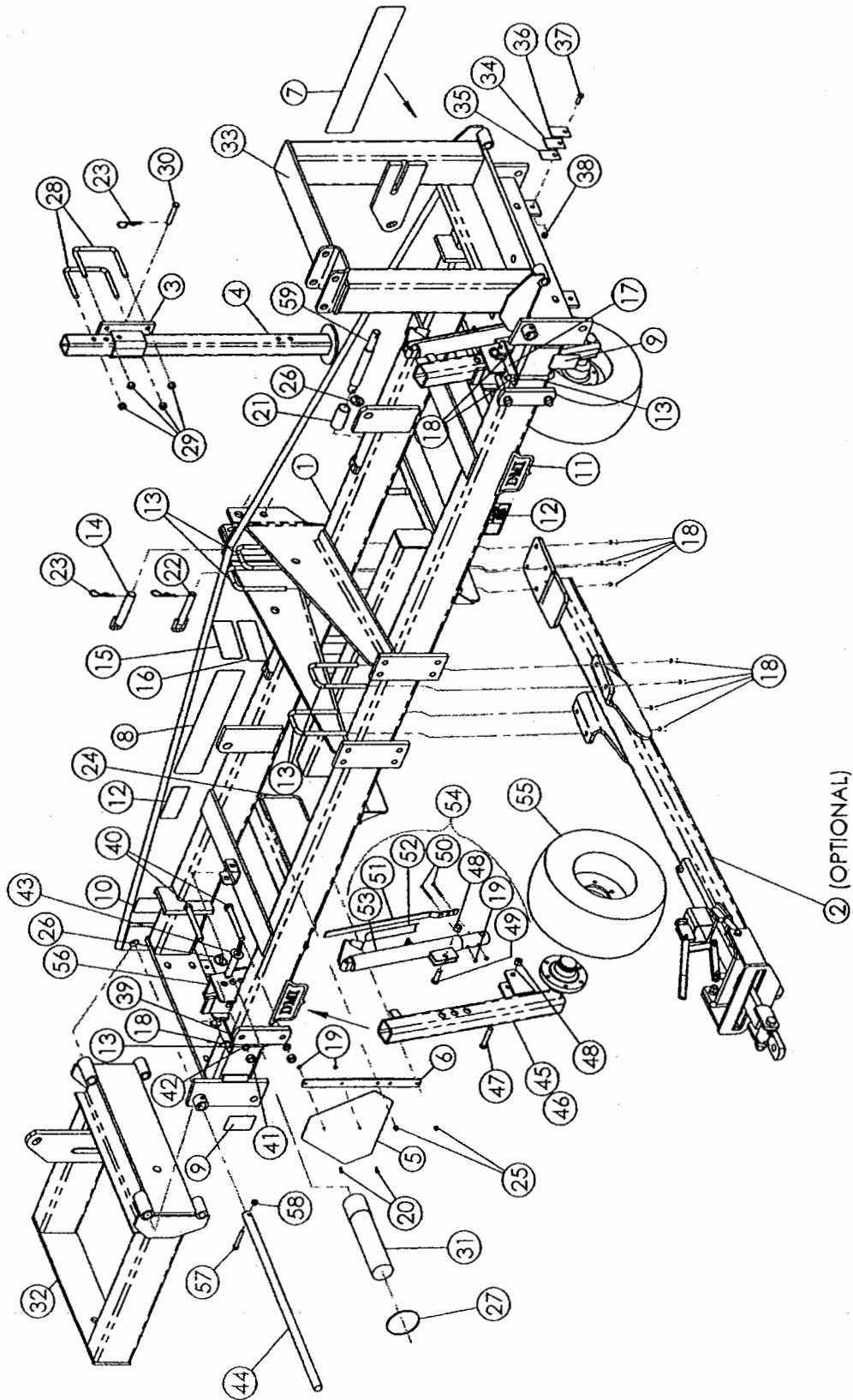
OFF-SEASON STORAGE CHECK LIST

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

1. The chief enemies of your **nutri-till'r** model 5310, 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, to avoid delays the next season.
3. Repaint all areas where the original paint is worn off.
4. Lubricate your implement. (See Lubrication Section, Page #18.)
5. Grease all exposed metal surfaces of ground tools.
6. Store the unit on a level area inside a shed to protect from weather. The ground working parts should rest on boards.
7. DMI recommends that during the off-season, when the applicator is not in use, the regulators and Quic-Couplers should be removed, cleaned and lubricated. Regulators and Quic-Couplers should be stored uncoupled to prevent damage to internal parts.

PARTS SECTION

MAIN FRAME



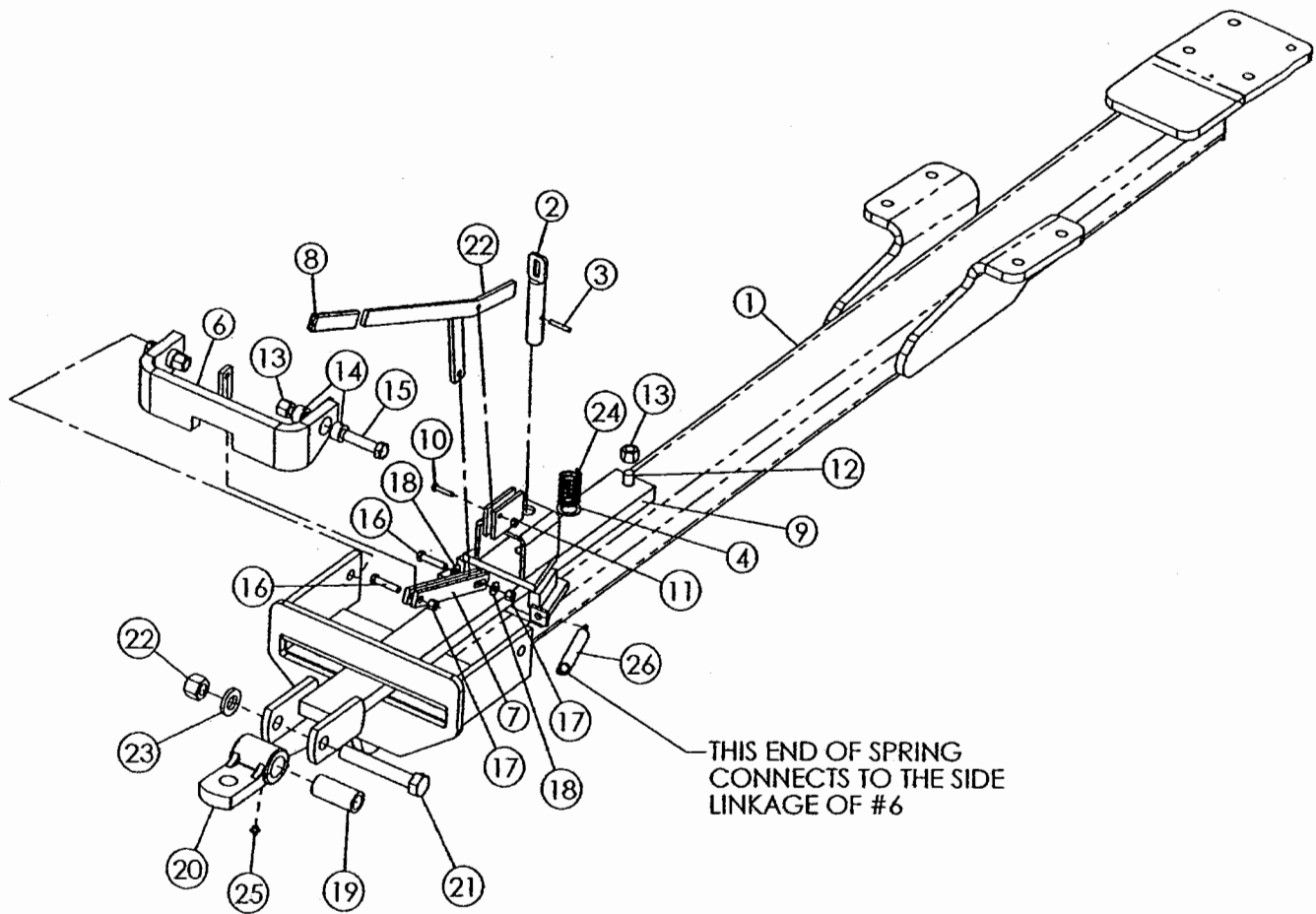
MAIN FRAME (CONTINUED)

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	02394005	1	5310 Main Frame, 6 Row
	02395000	1	Rear Hitch Assembly (Refer to Page #22 for Parts List)
3	09661260	1	Parking Stand Bracket
4	09661250	1	Parking Stand
5	311860A1	1	SMV, Steel Back
6	06000099	1	SMV Bracket
7	18534276	1	nutri-till'r Decal
8	18534425	1	5310 Decal
9	18534244	2	Red Reflector
10	18534243	1	Amber Reflector
11	18534259	2	DMI Logo Decal
12	18534227	2	Danger Decal
13	16310049	6	5/8" x 4" x 8" U-bolt
14	14820358	1	1-1/4" Dia. Pin
15	18534228	1	Caution Sign (Pull Type)
16	18534361	1	Warning Sign, Hitching Hazard
17	02394010	2	Bracket
18	231-42410	12	5/8" NC Lock Nut
19	86992211	6	1/4" Stover Lock Nut
20	413-412	2	1/4" x 3/4" NC Hex Bolt
21	02305000	2	Cat. III Hitch Pin Spacer
22	14816395	1	1" Dia. Clevis Pin
23	1978738C1	2	3/16" x 3" Hair Pin
24	16309101	1	3/8" x 4" x 6" U-bolt
25	86992213	2	1/2" Stover Lock Nut
26	A33509	1	7/16" x 1-3/4" Klik Pin
27	214-1452	1	Worm Gear Clamp
	87427168	2	5/8" x 6" x 5-1/2" U-bolt
	425-1010	4	5/8" NC Hex Nut
30	14810270	1	5/8" x 3-1/2" E.L. Clevis Pin

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
31	30026030	1	Manual Canister
32	02392650	1	Wing, 32" Left Hand
33	02392600	1	Wing, 32" Right Hand
34	04626130	1	Shim, .113" Thick
35	04626120	1	Shim, .076" Thick
36	04626140	1	Shim, .250" Thick
37	413-824	1	1/2" x 1-1/2" NC Hex Bolt
38	231-4248	1	1/2" NC Lock Nut
39	09576610	2	Flat
40	413-12104	4	3/4" x 6-1/2" NC Hex Bolt
41	425-1012	4	3/4" NC Hex Nut
42	492-11075	4	3/4" Standard Lock Washer
43	14816348	2	Pin
44	14892088	2	Hinge Pin
45	09661280	1	Spindle Weld, L.H.
46	09661290	1	Spindle Weld, R.H.
47	413-1056	2	5/8" x 3-1/2" NC Hex Bolt
48	86992216	4	5/8" NC Stover Lock Nut
49	413-1032	2	5/8" x 2" NC Hex Bolt
50	413-444	4	1/4" x 2-3/4" NC Hex Bolt
51	09661286	2	Indicator Strip
52	18534292	2	Depth Indicator Decal
53	09661286	2	Indicator Strip
54	09661285	2	Screw Jack Assembly
55	10008160	2	20.5 x 8 6-Bolt Wheel Assembly
56	09661270	2	Gauge Wheel Mounting Bracket
	09661320	2	Gauge Wheel Mounting Bracket (Optional)
57	413-848	2	1/2" x 3" NC Hex Bolt
58	86992215	1	1/2" NC Stover Lock Nut
59	14892360	2	Comb. 3-Point Pin Painted

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REAR HITCH (Optional)



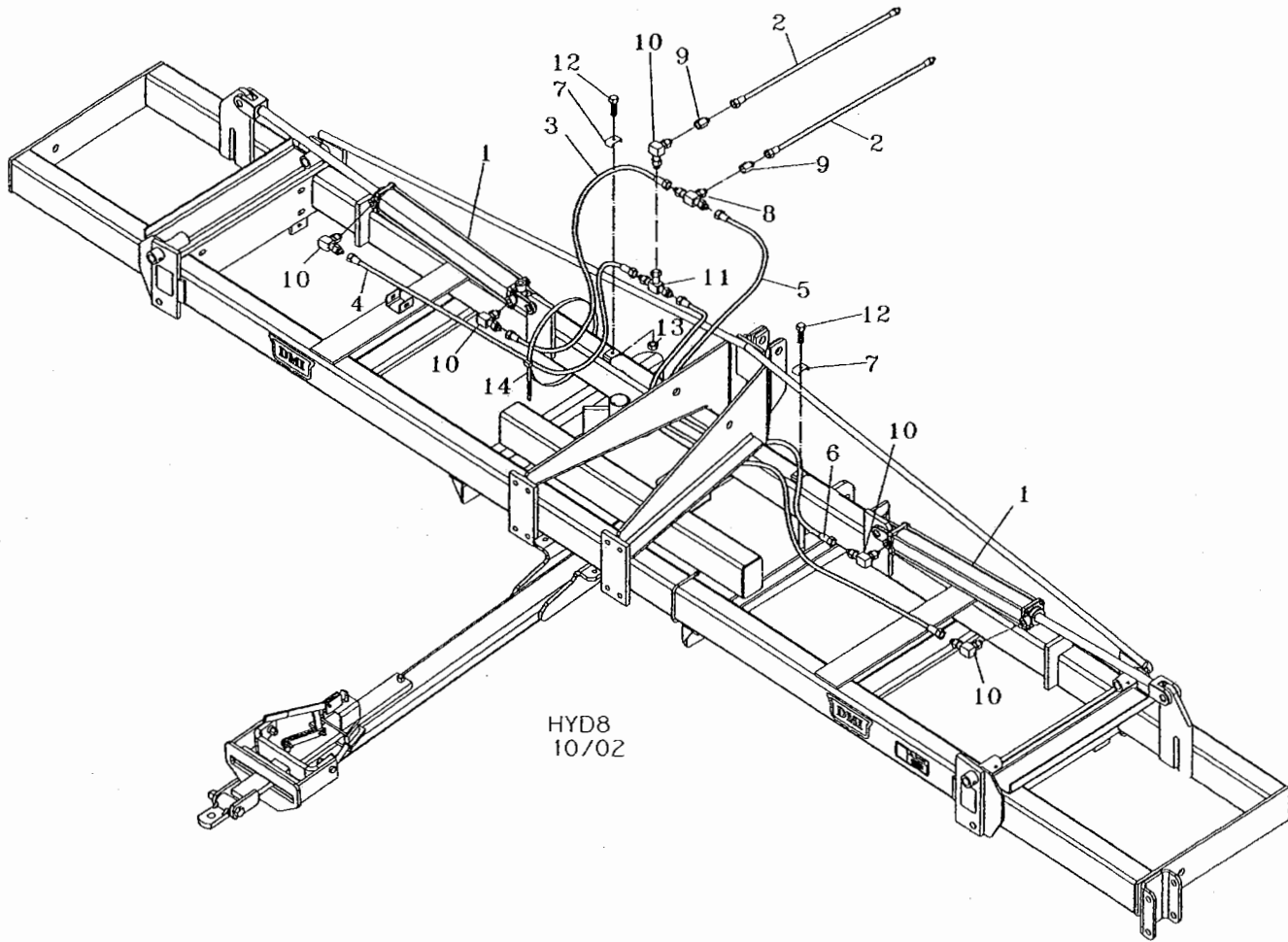
REF. PART NO. NO.	QTY. NO.	DESCRIPTION
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1	02395000	1	Rear Hitch
2	14816168	1	Pin Weldment
3	438-11624	1	1/4" Roll Pin
4	17616021	1	1" Machine Bushing, 14 Ga.
5	04664210	1	Handle Weld
6	04664510	1	Drawbar Stop, Flipper
7	04664131	2	Link
8	30011100	1	Vinyl Handle
9	04664415	1	Tow Bar Weld
10	413-420	1	1/4" x 1-1/4" NC Hex Bolt
11	86992211	1	1/4" NC Stover Lock Nut
12	413-1028	1	5/8" x 1-3/4" NC Hex Bolt

REF. PART NO. NO.	QTY. NO.	DESCRIPTION
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13	86992216	3	5/8" NC Stover Lock Nut
14	44006201	4	Heat Treated Bushing
15	413-1040	2	5/8" x 2-1/2" NC Hex Bolt
16	413-628	2	3/8" x 1-3/4" NC Hex Bolt
17	86992213	2	3/8" NC Stover Lock Nut
18	495-21038	2	5/16" Washer
19	44009370	1	Bushing
20	20092084	1	Single Clevis Casting
21	16901420	1	7/8" x 5-1/2" NC Hex Bolt
22	86992218	1	7/8" NC Stover Lock Nut
23	17414012	1	7/8" Washer
24	24111201	1	Compression Spring
25	219-86	1	1/8" Grease Zerk
26	24312001	1	Extension Spring

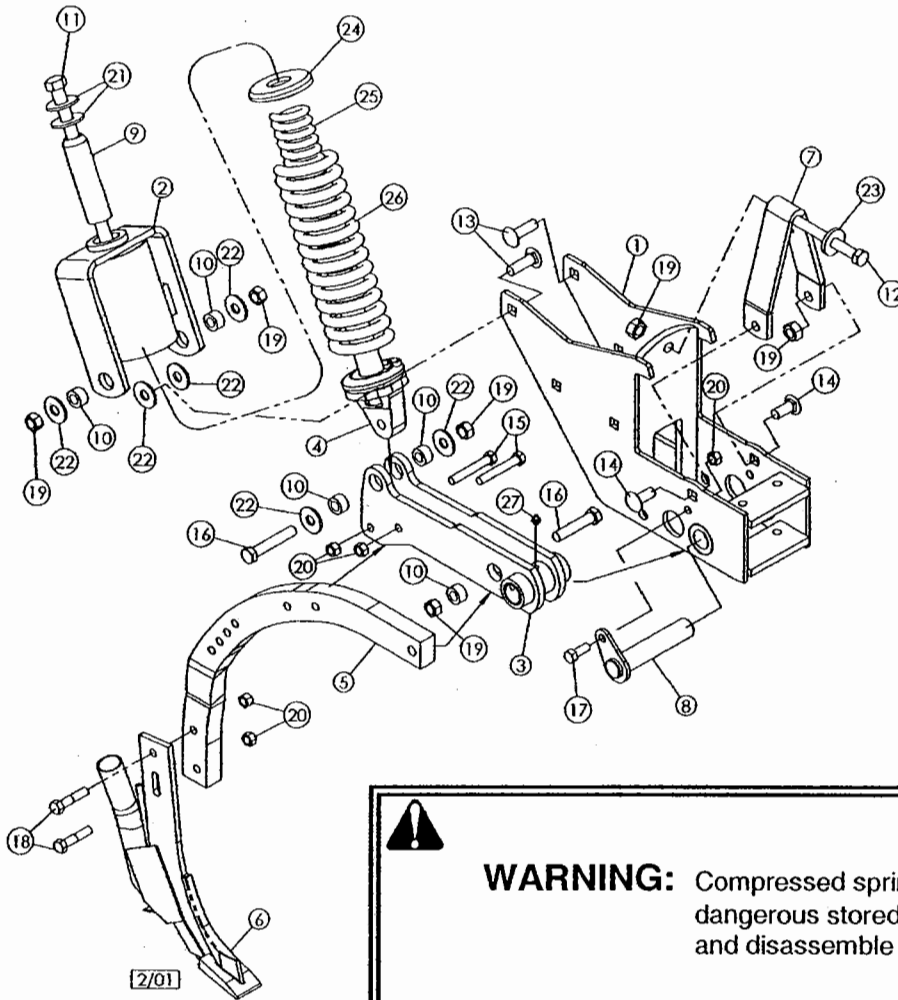
HYDRAULICS (8-Row Only)



REF. PART NO.	QTY. NO.	DESCRIPTION
1 25335242	2	3-1/2" X 24" Hydraulic Cylinder – 3,000 p.s.i.
2 25600647	2	3/8" Hydraulic Hose x 48" Long
3 25600622	1	3/8" Hydraulic Hose x 22" Long
4 25600655	1	3/8" Hydraulic Hose x 55" Long
5 25600655	1	3/8" Hydraulic Hose x 55" Long
6 25600678	1	3/8" Hydraulic Hose x 78" Long
7 06200125	2	Hose Clamp

REF. PART NO.	QTY. NO.	DESCRIPTION
8 218-5183	1	3/4" JICM x 3/4" SAEM Tee
9 25405013	2	Throttle Valve, Purple
10 218-5106	5	3/4" JICM x 3/4" SAEM 90 Degree Elbow
11 218-840	1	3/4" JICM x 3/4" JICF Tee
12 413-624	2	3/8" x 1-1/2" NC Hex Bolt
13 425-106	2	3/8" NC Hex Nut
14 386170C1	8	30" Hose Tie

HCS SHANK ASSEMBLY

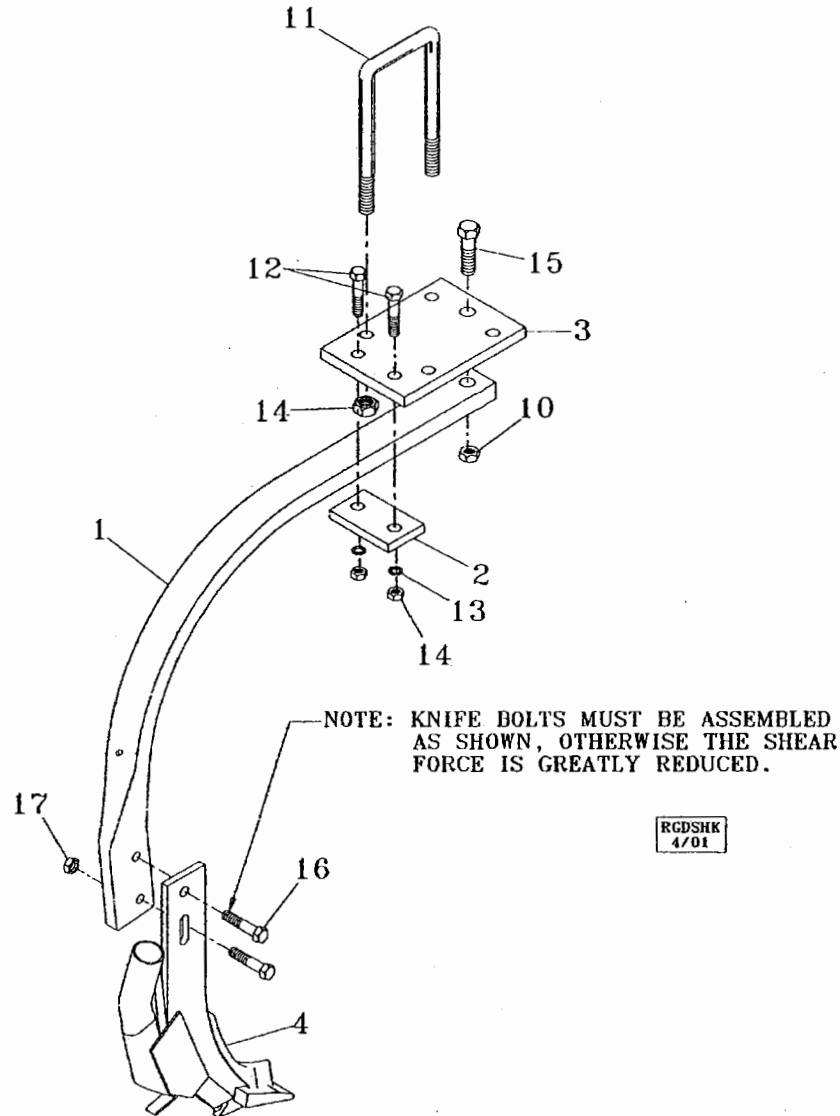


TO DISASSEMBLE SPRINGS: BACK OFF THE 3/4" BOLT (#21) ABOUT 1/4" TO 1/2". PLACE A COLLAR OR OTHER SPACER UNDER THE DOUBLE WASHERS (#21), FILLING AS MUCH SPACE AS POSSIBLE BETWEEN THE WASHERS (#21) AND THE CANISTER WELDMENT (#2). TIGHTEN THE 3/4" BOLT DOWN UNTIL THE SPRING (#25) IS COMPRESSED ENOUGH TO TAKE THE LOAD OFF THE CARRIAGE BOLTS (#13). REMOVE CARRIAGE BOLTS, BACK OFF THE 3/4" BOLT UNTIL THE SPRING IS FULLY EXTEND AND CAN BE REMOVED.

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION	REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	04691800	1	HCS Shank Assy Complete (Does Not Incl. Knife & Hardware)	14	433-1024	2	5/8" x 1-1/2" NC Carriage Bolt
1	04691710	1	Shank Mount Weldment	15	16908128	2	1/2" x 3" NC A-325 Hex Bolt
2	04691730	1	Spring Canister Weldment	16	413-1056	2	5/8" x 3-1/2" NC Hex Bolt, Gd. 5 ZP
3	04691735	1	Shank Pivot Weldment	17	413-820	1	1/2" x 1-1/4" NC Hex Bolt, Gd. 5, ZP
4	04691725	1	Spring Bolt Weldment	18	413-836	2	1/2" x 2-1/4" NC Hex Bolt, Gd. 5 ZP
5	33020031	1	Formed Shank	19	86992216	7	5/8" NC Stover Lock Nut
6	33607130	1	Strip-Till Knife, Dry Only	20	86992215	5	1/2" NC Stover Lock Nut
	33607135	1	Strip-Till Knife, NH ₃ (A.A.) Only	21	495-21081	2	3/4" Washer
7	04691717	1	Flip-Up Stop	22	495-21069	6	5/8" Washer
8	14820475	1	Flag Pin Weldment, 1-1/4" Dia.	23	17411012	1	11/16" I.D. x 1-3/4" O.D. x 1/4" Washer
9	04691721	1	Wear Tube	24	20090124	1	Spring Casting
10	44006201	5	Bushing	25	24143815	1	Compression Spring
11	16901244	1	3/4" x 11-1/2" NC Special Bolt	26	24162505	1	Compression Spring
12	413-10120	1	5/8" x 7-1/2" NC Hex Bolt, Gd. 5 ZP	27	219-86	1	1/8" NPT Self Tapping Grease Zerk
13	433-1032	2	5/8" x 2" NC Carriage Bolt				

A/R - AS REQUIRED

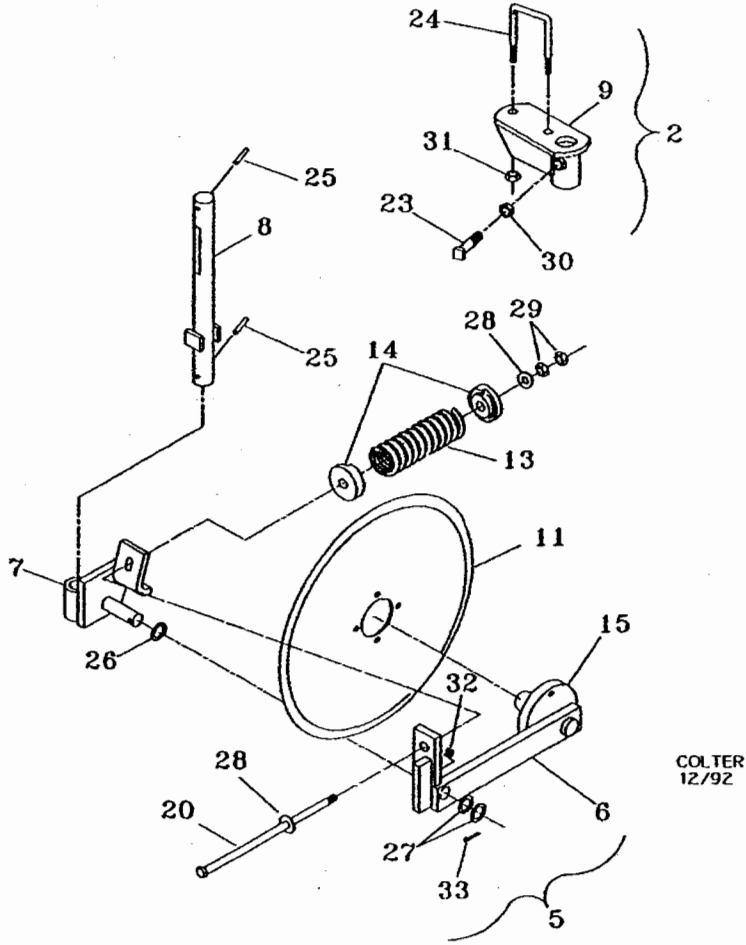
RIGID SHANK



REF. NO.	PART NO.	QTY. NO.	DESCRIPTION	REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	P0466018	1	Rigid Mount 4" x 6" with Hardware	10	425-1012	A/R	3/4" NC Hex Nut
1	33020017	1	Shank, Side Mount	11	87427170	2	5/8" x 4" x 8" U-bolt
2	09236000	1	Clamp Plate	12	424-1048	2	5/8" x 3" NC Hex Bolt
3	04620510	1	Plate	13	492-11062	2	5/8" Lock Washer
4	33607130	1	Mole Knife (Dry & NH ₃)	14	425-1010	A/R	5/8" NC Hex Nut
	33607135	1	Mole Knife (NH ₃ Only)	15	413-1248	1	3/4" x 3" NC Capscrew Gd. 5
				16	413-832	2	1/2" x 2" NC Capscrew Gd. 5
				17	425-108	2	1/2" NC Hex Nut

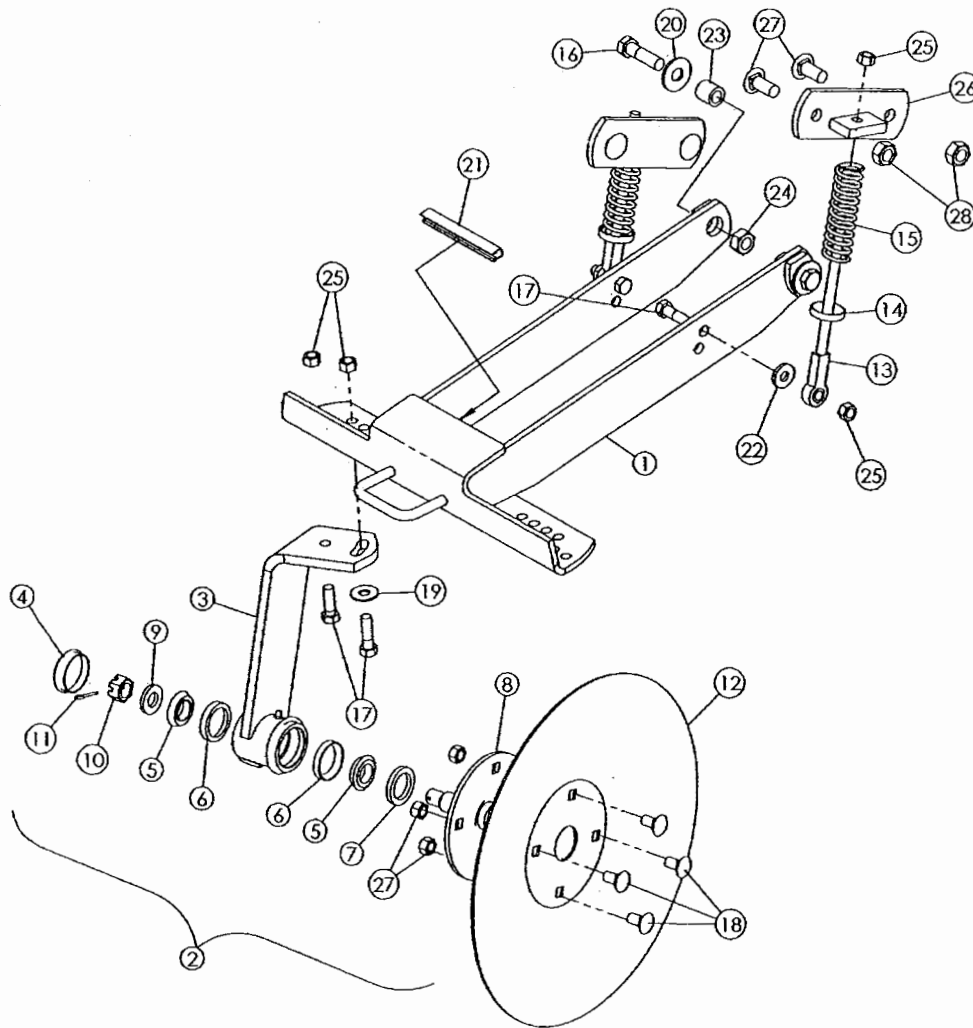
A/R - AS REQUIRED

24" SPRING COULTER



REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
2	04663400	1	Std. Mount with Hardware 24" Coultter	20	413-10216	1	5/8" x 13-1/2" Hex Bolt - 24" Coultter
4	04663700	1	24" Coultter Assy. less Mount. (incl. #5,8,11)	23	16812084	1	3/4" x 2" NC Sq. Hd. Set Screw
5	04663050	1	24" Coultter Arm Assy.	24	87427182	2	3/4" x 4" x 8" U-Bolt
6	04663300	1	Coultter Arm 24"	25	438-32840	2	7/16" x 2-1/2" Roll Pin
7	04663200	1	Coultter Pivot	26	17620030	1	1-1/4" Machine Bushing 10 Ga.
8	04663140	1	Coultter Shaft 24"	27	17620020	2	1-1/4" Machine Bushing 14 Ga.
	04663160	1	Coultter Shaft Offset	28	17411012	2	5/8" Washer x 1/4" Thk.
9	04663410	1	Standard Mount	29	425-1010	2	5/8" NC Hex Nut
	09661835	1	Coultter Mount for Coultter Shaft Offset	30	425-1412	1	3/4" NC Jam Nut
11	443638A1	1	24" Coultter Blade	31	425-1012	4	3/4" NC Hex Nut
13	24156205	1	Compression Spring - 24" Coultter	32	219-86	1	1/8" NPT Grease Zerk
14	20090050	2	Spring Holder Casting	33	432-1624	1	1/4" x 1-1/2" Cotter Pin
15	28063331	1	633 Hub & Spindle - 24" Coultter (See page #53)				

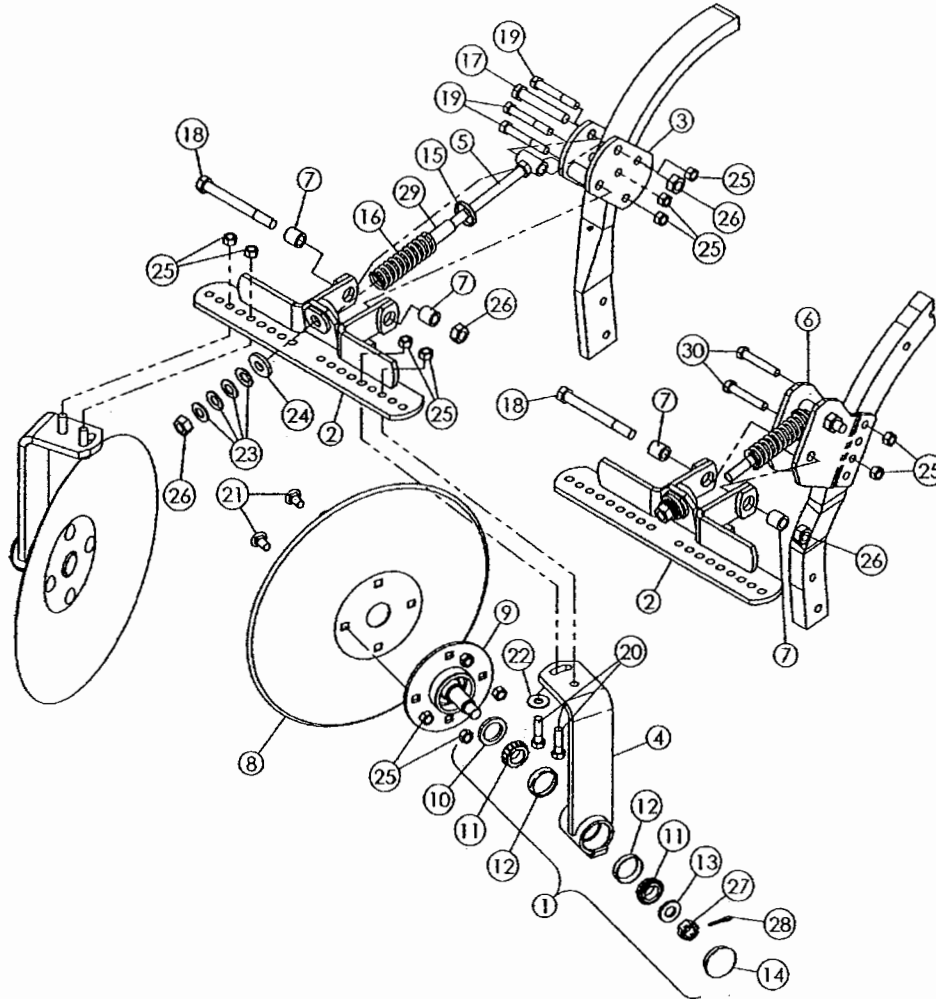
berm build'r PARTS



REF. NO.	PART NO.	QTY. NO.	DESCRIPTION	REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	04691600	1	berm build'r Frame	14	17506010	2	Cup Washer
2	04691605	1	Disc Mounting Arm Assy, RH (Incl #3-11)	15	24117700	2	Compression Spring
	04691610	1	Disc Mounting Arm Assy, LH (Incl #3-11)	16	413-1036	2	5/8" x 2-1/4" NC Hex Bolt Gd. 5, ZP
3	04691606	1	Disc Mount Arm Weldment, RH (Incl #6)	17	413-828	6	1/2" x 1-3/4" NC Hex Bolt, Gd. 5, ZP
	04691611	1	Disc Mount Arm Weldment, LH (Incl #6)	18	433-816	8	1/2" x 1" NC Carriage Bolt, Gd. 5, ZP
4	28420021	2	Grease Cap	19	495-21056	2	.562" x 1.375" x .109" Washer
5	463911R91	4	Bearing Cone, Timken #L44643	20	495-21069	2	5/8" Standard Washer
6	572564R1	4	Bearing Cup, Timken #L44610	21	04691609	1	Trim
7	21931375	2	1/37" Dia. Seal, CR #533468	22	495-81025	2	.531" x 1.25" x .179" Washer
8	09103110	2	Disc Spindle Weldment	23	44006204	2	Bushing, H.T.
9	17412001	2	3/4" I.D. Washer, H.T.	24	86992216	2	5/8" NC Stover Lock Nut
10	425-1312	2	3/4" NF Slotted Nut, Gd. 5	25	86992215	16	1/2" NC Stover Lock Nut
11	432-816	2	1/8" x 1" Cotter Pin	FOR USE WITHOUT BERM CONDITION'R			
12	443625A1	2	Disc Blade (Dull)	26	04692226	1	Sealer Spring Stop, LH
13	04691604	2	1/2" Rod End Linkage		04692228	1	Sealer Spring Stop, RH
				27	433-1024	1	5/8" x 1-1/2" NC Carriage Bolt, Gd. 5 ZP
				28	86992216	4	5/8" NC Stover Lock Nut

NSI - NOT A SERVICE ITEM

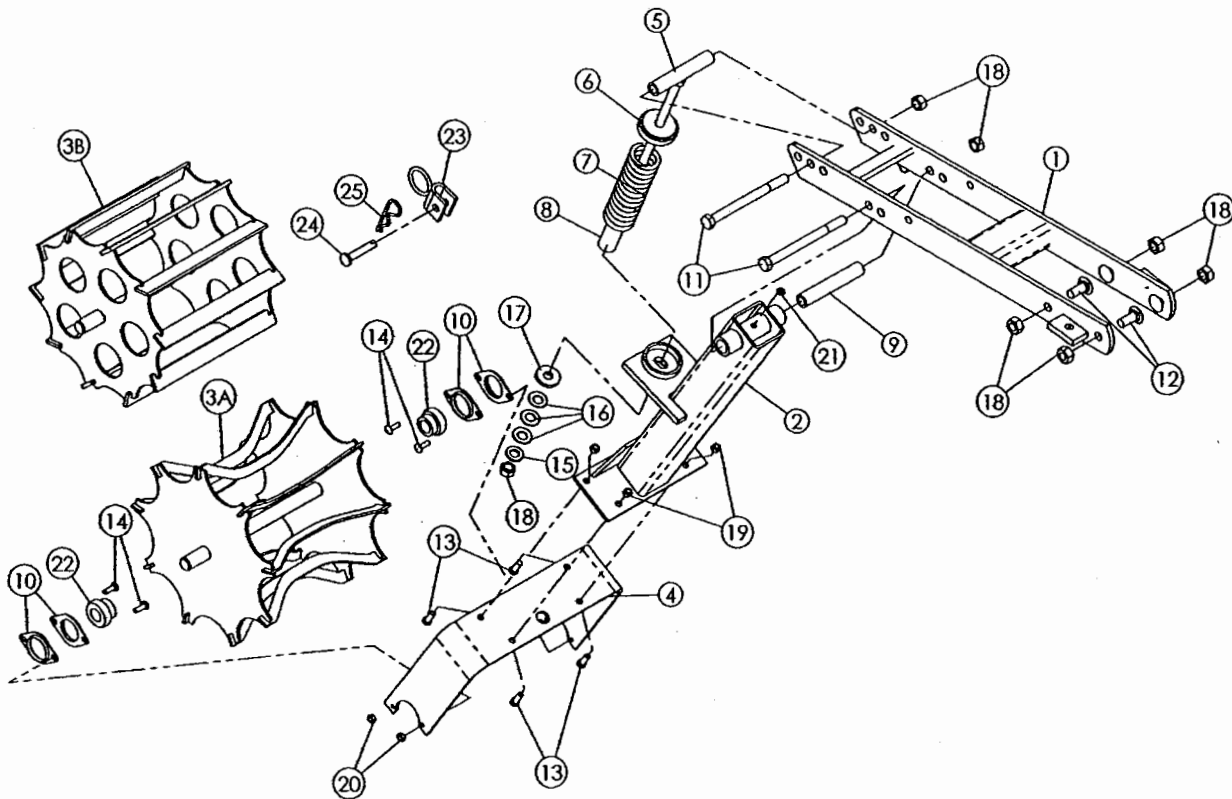
18" disc seal'r (1" X 2" SHANK)



REF. NO.	PART NO.	QTY.	DESCRIPTION
	04693185	1	18" Spring Disc Sealer, Dull, 1" x 2" Shank
	04693175	1	Reverse Spring 18" Disc Sealer, Dull
1	02337230	2	Sealer Arm Assy (Incl #'s 4, 9, 10, 11, 12, 13, 14, 27, & 28)
2	04693145	1	Sealer, H-frame Weldment
3	04693195	1	1" x 2" Sealer Mount
4	02337233	2	Sealer Arm Weld w/Cups
5	04693150	1	T-bolt Weldment
7	44006204	2	Bushing
8	443625A1	2	18" Disc Blade - Dull
9	09103120	2	Disc Spindle Weld
10	21931375	2	1.37" Seal
11	463911R91	4	1.00" Bore Cone (Timken #L44643)
12	572564R1	4	1.980" Cup (Timken #L44610)
13	17412001	2	3/4" I.D. Washer, Heat Treated

REF. NO.	PART NO.	QTY.	DESCRIPTION
14	28420021	2	Grease Cap
15	17506020	1	0.656" I.D. Cup Washer
16	24120702	1	Compression Spring
17	413-1064	1	5/8" x 4" NC Hex Bolt, Gd. 5, Z.P.
18	413-1096	1	5/8" x 6" NC Hex Bolt, Gd. 5 Z.P.
19	413-856	3	1/2" x 3-1/2" NC Hex Bolt Gd. 5
20	413-828	4	1/2" x 1-3/4" NC Hex Bolt, Gd. 5
21	433-816	8	1/2" x 1" Carriage Bolt
22	495-21056	2	1/2" Standard Washer
23	17511000	4	11/16" Spring Washer
24	17411012	1	11/16" I.D. x 1-3/4" x .25" Washer
25	86992215	15	1/2" NC Stover Lock Nut
26	86992216	3	5/8" NC Stover Lock Nut
27	425-1312	2	3/4" NF Slotted Hex Nut
28	432-816	2	1/8" x 1" Cotter Pin
29	04693158	1	Tube

berm condition'r PARTS

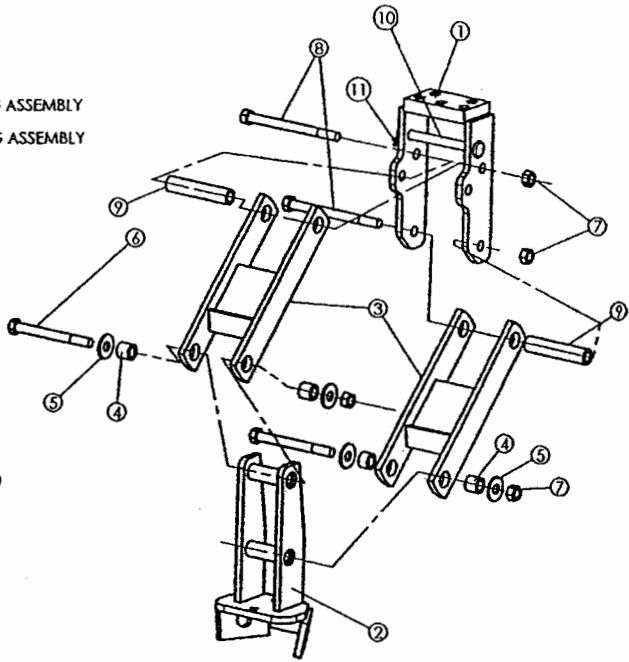
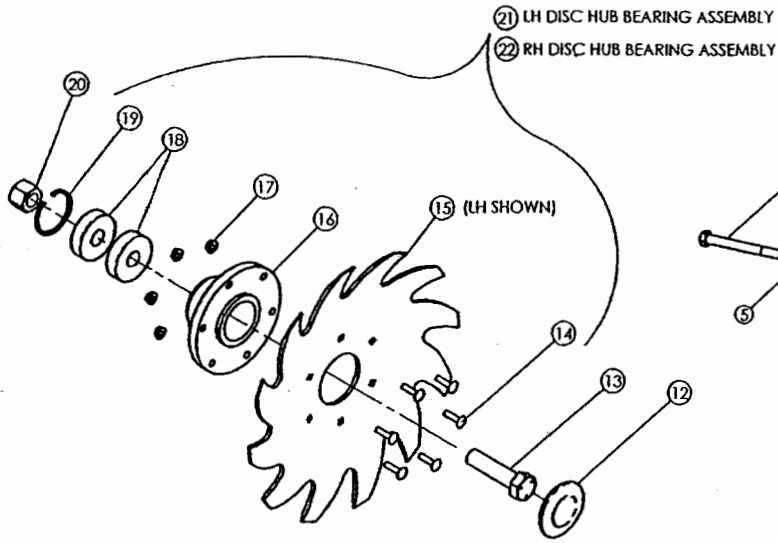


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	04691580	1	Upper Arm Weldment
2	04691590	1	Lower Arm Weldment
3A	04691565	1	Basket Weldment
3B	87407861	1	Flat Bar Basket Weldment
4	04691555	1	Basket Bracket
5	04691595	1	Pivot Bolt Weldment
6	09666402	1	Washer Weldment
7	24131202	1	Compression Spring
8	09662040	1	Tube
9	04691597	1	Inner Tube
10	21892300	4	Flangette for 1" Flange Bearing
11	326-10120	2	5/8" x 7-1/2" NC Hex Bolt, Gd. 5, ZP
12	433-1024	4	5/8" x 1-1/2" NC Carriage Bolt, Gd. 5, ZP

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
13	413-616	4	3/8" x 1" NC Hex Bolt, Gd. 5, ZP
14	434-516	4	5/16" x 1" NC Carriage Bolt, Gd. 5, ZP
15	NSI	1	5/8" Washer (17411011)
16	17511000	3	11/16" Spring Washer
17	17411012	1	11/16" I.D. x 1-3/4" O.D. x 1/4" Washer
18	86992216	7	5/8" NC Stover Lock Nut
19	86992213	4	3/8" NC Stover Lock Nut
20	86992212	4	5/16" NC Stover Lock Nut
21	219-86	1	1/8" NPT Self Tapping Grease Zerk
22	21801601	2	Flange Bearing w/Locking Collar
23	04691569	1	Basket Hold-Up Weldment
24	14808201	1	1/2" x 2-1/2" E.L. Clevis Pin
25	NSI	1	1/8" x 2" Hair Pin (14720411)

NSI - NOT A SERVICE ITEM

ROW CLEANER PARTS

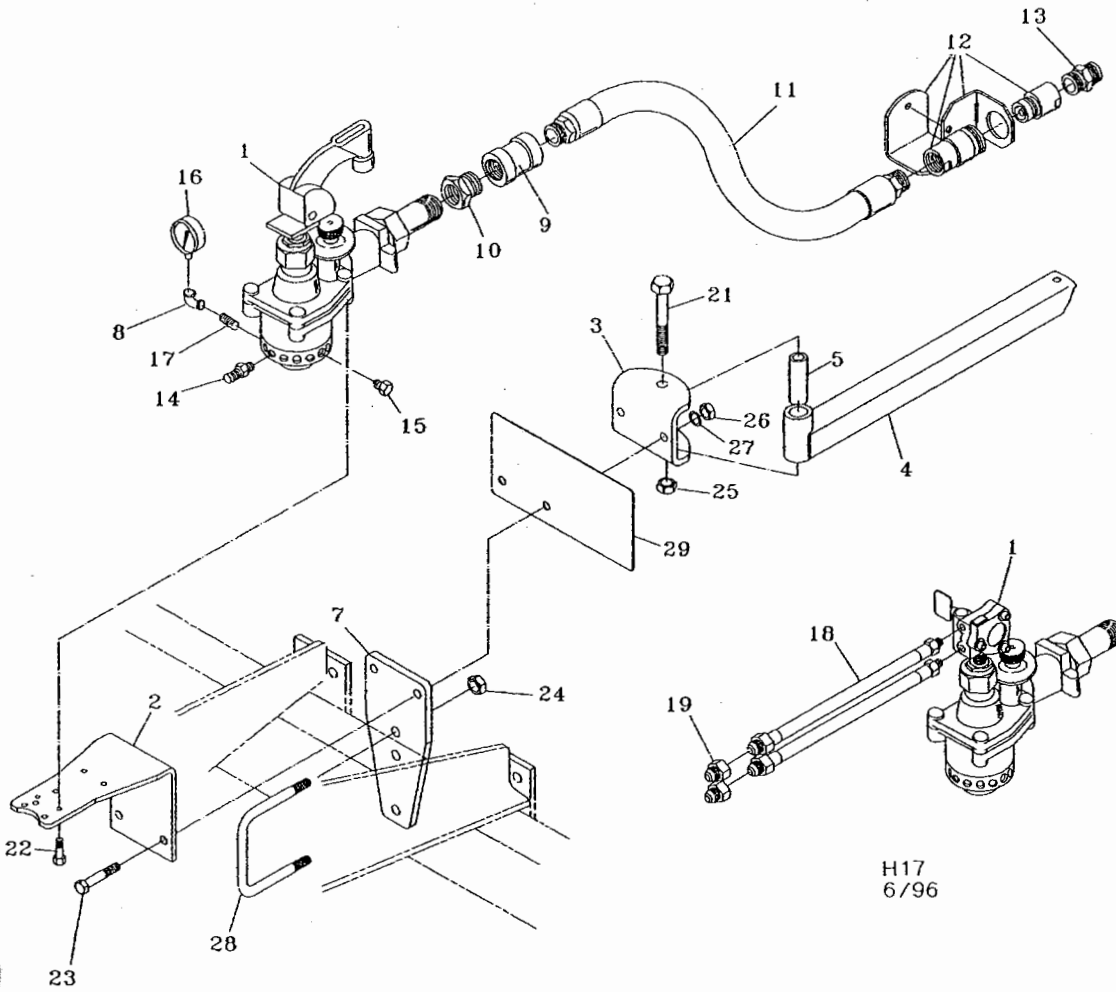


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	04694044	1	Mount Weldment
2	04694062	1	Blade Mount
3	04694063	2	Link Weldment
4	04694059	4	Bushing
5	495-21056	4	1/2" Std. Flat Washer
6	413-880	2	1/2" x 5" NC Hex Bolt
7	86992215	4	1/2" NC Stover Lock Nut
8	413-888	2	1/2" x 5-1/2" NC Hex Bolt
9	04694043	2	Tube
10	14808400	1	1/2" x 5" E.L. Pin
11	NSI	2	1/8" x 2" Hair Pin (14720411)
12	87413883	2	Hub Cap

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
13	413-1248	2	3/4" x 3" NC Hex Bolt
14	86508769	4	1/4" x 1" NC Carriage Bolt
15	87413884	1	Disc Blade, L.H.
	87413885	1	Disc Blade, R.H.
16	87413886	2	Row Cleaner Hub
17	231-5344	12	1/4" Flange Nut
18	87413887	4	2" x .75" Bearing (Fafnir 205KPR2)
19	87413888	2	2" Internal Snap Ring
20	429-1012	2	3/4" NC Hex Nut
21	87413889	1	Disc Hub Bearing Assy. L.H. (Incl. Item #s 14, 15(L), 16, 17, 18, & 19)
22	87413890	1	Disc Hub Bearing Assy. R.H. (Incl. Item #s 14, 15(R), 16, 17, 18, & 19)

NSI - NOT A SERVICE ITEM

SINGLE CONTINENTAL ASSEMBLY (WITH 1 MANIFOLD)



H17
6/96

REF. PART NO.	QTY. NO.	DESCRIPTION
1	34104100	1 C4100 Cont. Regulator with 13 Outlet Manifold with Hydraulic Shut Off (See Page #32)
2	34104113	1 C4100-RPR Cont. Regulator with 13 Outlet Manifold
2	04660310	1 Regulator Stand
3	04660320	1 Bracket
4	04660330	1 Extension Pivot Mount
5	04660340	1 Pivot Tube
7	02391118	1 Regulator Stand Bracket
8	15060120	1 1/8"NPT x 1/4" 90° Elbow
9	15071251	1 1-1/4" NPT Coupling
10	15031259	1 1-1/4" x 1" NPT Reducer
11	25675320	1 1-1/4" ID A.A. Hose x 32"
12	02600040	1 1-1/4" Quick Coupler Assembly
13	34314100	1 1-3/4" ACME x 1-1/4" NPTM Adapter
14	15040121	A/R 1/8" NPT x 3/8" Barb
15	15040122	A/R 1/8" NPT x 1/2" Barb
15	15020120	A/R 1/8" Pipe Plug

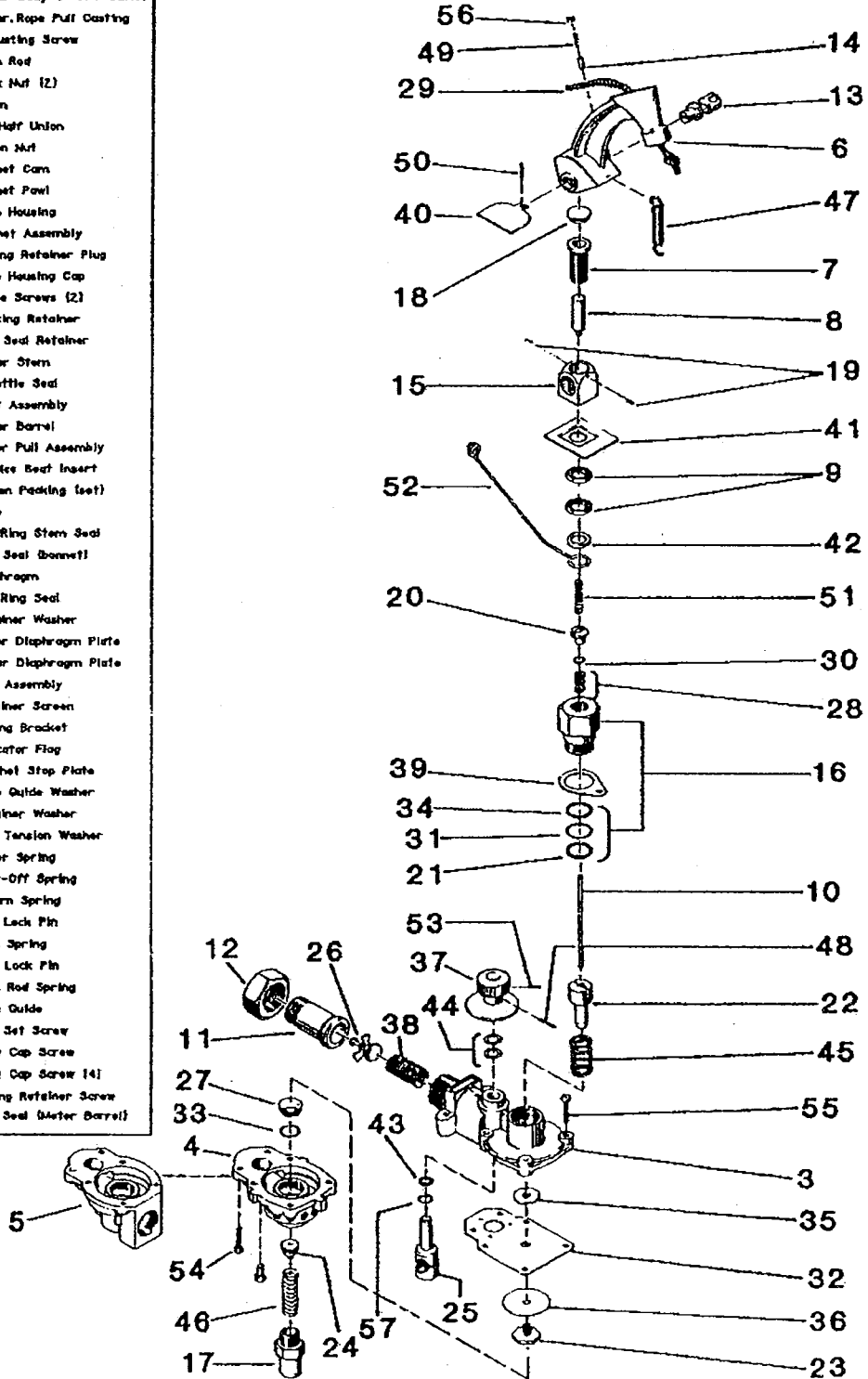
REF. PART NO.	QTY. NO.	DESCRIPTION
16	34599060	1 Dial Gauge - 60 p.s.i.
17	15010121	1 1/8" NPT x 1-1/2" Nipple
18	25600472	2 1/4" ID Hydraulic Hose x 72"
19	217-1109	2 1/4" NPTF x 1/2" NPTM Adapter
20	25630601	A/R 3/8" ID x 166' A.A. Hose
21	413-1296	1 3/4" x 6" NC Hex Bolt Gd. 5
22	413-512	2 5/16" x 3/4" NC Hex Bolt
23	413-1040	2 5/8" x 2-1/2" NC Hex Bolt Gd. 5
24	425-1012	2 3/4" NC Hex Nut
25	86992217	1 3/4" NC Stover Lock Nut
26	425-1010	2 5/8" NC Hex Nut
27	492-11062	2 5/8" Lock Washer
28	16312240	1 3/4" NC x 4" x 6" Square U-Bolt
29	04681850	1 Danger Plate with Danger Sign
30	18534368	1 Danger Sign (Not Shown)

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

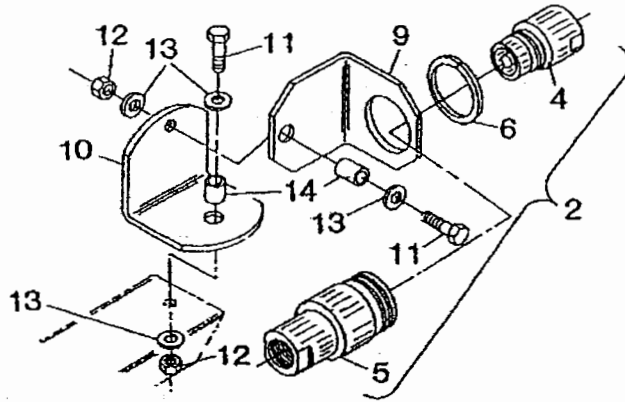
C4100 CONTINENTAL REGULATOR

REF. NO.	DWG. NO.	CONTINENTAL NO.	DESCRIPTION
1	34104100	C-4100-R6572	Cont. Reg. (Rotary Act.)
	34104101	C-4103-RPR	Cont. Reg. (Single Outlet)
	34104113	C-4100-RPR	Cont. Reg. (W/ Manifold)
2	34104120	A-4125 RS	Repair Kit (Incl. 28, 30, 32, 33, 44, 48, 57)
3	NSI	A41-01	Upper Body Assembly W/ Meter Barrel & Dial
4	NSI	41-02A	Lower Body-14 Outlet
5	NSI	41-03A	Lower Body-1" FPT Outlet
6	NSI	01-04	Lever, Rope Pull Casting
7	NSI	06-11B	Adjusting Screw
8	NSI	05-13	Cam Rod
9	NSI	01-14	Lock Nut (2)
10	NSI	41-15	Stem
11	NSI	05-18	1" Hgt Union
12	NSI	05-19	Union Nut
13	NSI	05-20	Ratchet Cam
14	NSI	01-21	Ratchet Pawl
15	NSI	01-22	Cam Housing
16	NSI	A41-24	Bonnet Assembly
17	NSI	41-26	Spring Retainer Plug
18	NSI	01-30B	Cam Housing Cap
19	NSI	01-3003	Drive Screws (2)
20	NSI	01-31	Packing Retainer
21	NSI	05-33B	Cap Seal Retainer
22	NSI	05-34	Lower Stem
23	NSI	05-35	Throttle Seal
24	NSI	A-05-37	Seat Assembly
25	NSI	41-39	Meter Barrel
26	NSI	A-41-41	Filter Pull Assembly
27	NSI	41-53	O-rings Beaf Insert
28	NSI	01-60F	Teflon Packing (set)
29	NSI	01-64F	Rope
30	NSI	01-70F	O' Ring Stem Seal
31	NSI	05-71BF	Cap Seal Bonnet
32	NSI	41-72	Diaphragm
33	NSI	41-73	O' Ring Seal
34	NSI	05-75	Retainer Washer
35	NSI	01-80	Upper Diaphragm Plate
36	NSI	05-81	Lower Diaphragm Plate
37	NSI	A41-82BF	Dial Assembly
38	NSI	41-83FX	Strainer Screen
39	NSI	41-84F	Spring Bracket
40	NSI	01-85F	Indicator Flag
41	NSI	01-86F	Ratchet Stop Plate
42	NSI	01-87	Rope Guide Washer
43	NSI	01-88	Retainer Washer
44	NSI	01-89	Dial Tension Washer
45	NSI	05-90	Meter Spring
46	NSI	05-91	Shut-Off Spring
47	NSI	01-92	Return Spring
48	NSI	01-92BF	Dial Lock Pin
49	NSI	01-93	Pawl Spring
50	NSI	01-94F	Flag Lock Pin
51	NSI	01-95	Cam Rod Spring
52	NSI	01-97	Rope Guide
53	NSI	01-83Z-25	Dial Set Screw
54	NSI	01-2520-100	Body Cap Screw
55	NSI	01-2520-125	Body Cap Screw (4)
56	NSI	01-3110-25	Spring Retainer Screw
57	NSI	01-71BF	Cap Seal (Meter Barrel)

NSI - NOT A SERVICE ITEM



1-1/4" QUIC-COUPLER

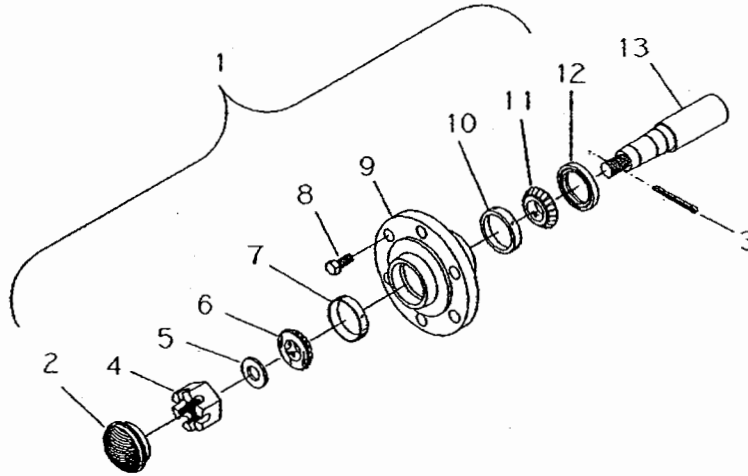


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
2	02600040	1	1-1/4" Quic-Coupler Assembly with Bracket (Incl. #4, 5, 6, 9-14)
4	34410032	1	1-1/4" Quic-Coupler - Male
5	34410033	1	1-1/4" Quic-Coupler - Female
6	103-11250	1	Retaining Ring
7	34410034	1	Gasket Kit (Consists of (2) O-Rings)
9	02628012	1	Upper Swivel Bracket (Incl. #11-14)
10	02138100	1	Lower Swivel Bracket with Bushing
11	413-824	2	1/2" x 1-1/2" NC Cap Screw
12	231-4248	2	1/2" NC Hex Lock Nut
13	495-21056	4	1/2" Standard Washer
14	02138110	2	Pipe

NSI - NOT A SERVICE ITEM

633 HUB & SPINDLE

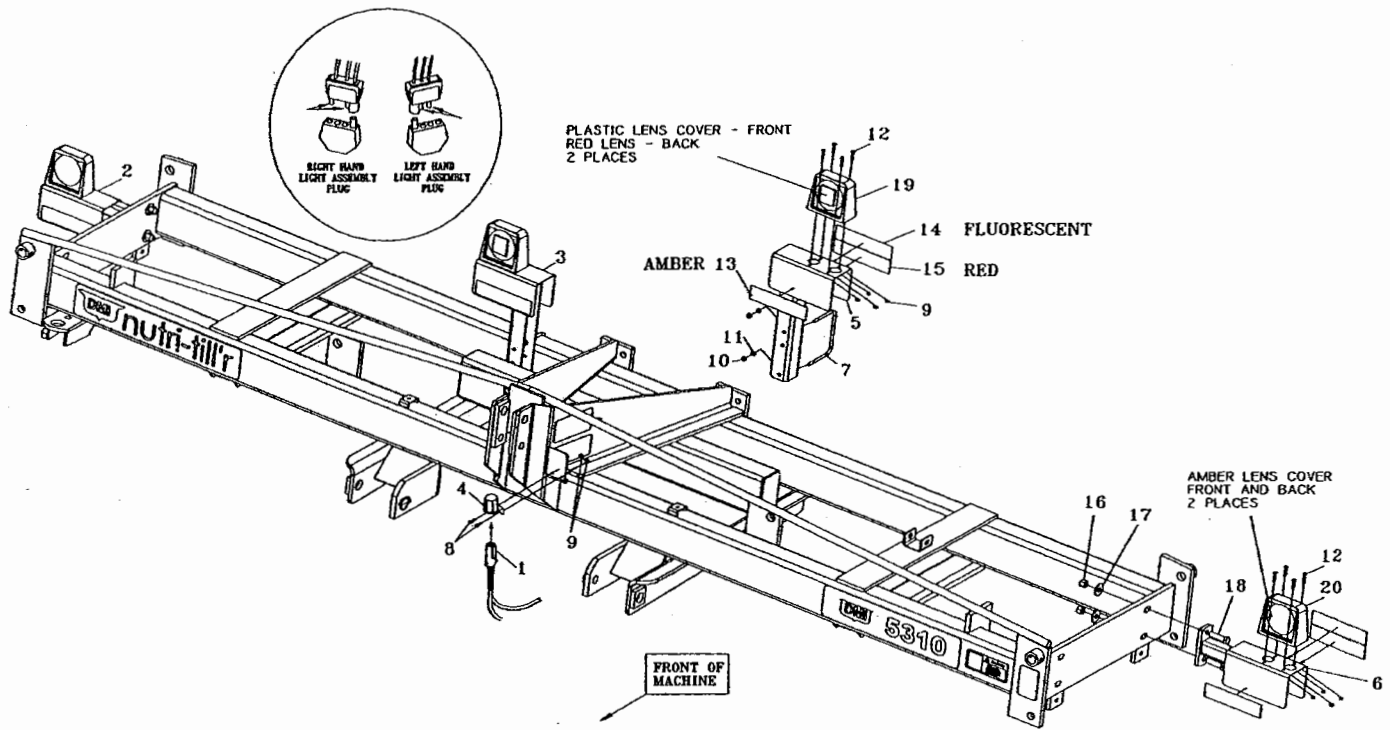
NOTE: CHECK HUB NO. BEFORE ORDERING PARTS
 IMPORTANT: TORQUE 1/2" WHEEL BOLTS
 TO 100 FT.-LBS.



REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
	28063331	1	Hub & Spindle Assy. (4-1/2")
1	28163311	1	633 4-Bolt Hub Assy.
2	28463300	1	Hub Cap
3	432-1024	1	5/32" x 1-1/2" Cotter Pin
4	425-1312	1	3/4" NF Slotted Nut
5	495-11081	1	3/4" SAE Washer
6	651815R91	1	.75" Bore Cone Timken #LM11949
7	651814R1	1	1.78" O.D. Cup Timken #LM11910
8	414-820	4	1/2" x 1-1/4" NF Flat Head Bolt
9	NSI	1	633 Hub (28263340)
10	651817R1	1	2.33" O.D. Cup Timken #LM67010
11	651818R91	1	1.25" Bore Cone Timken #LM67048
12	126621C1	1	1.50" I.D x 2.33" O.D. Seal CR #14975
13	NSI	1	Spindle (28363331)

NSI NOT A SERVICE ITEM

WARNING AND TAILLIGHT KIT 6-Row Unit



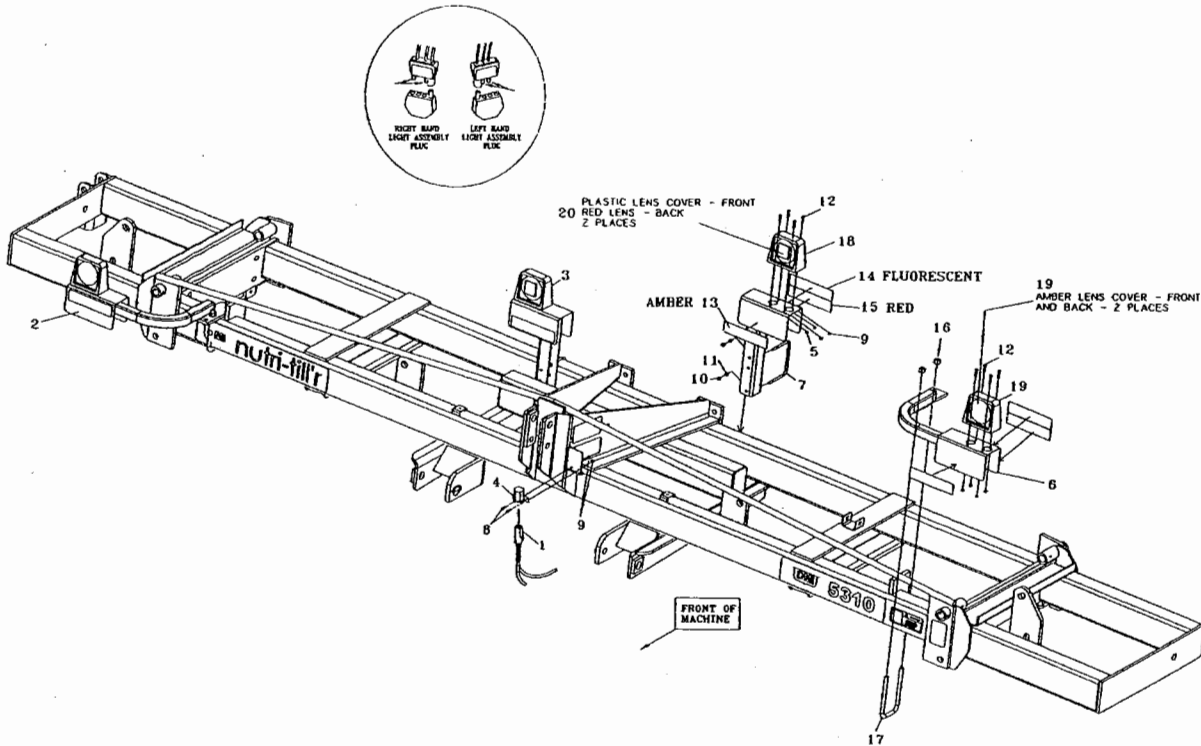
REF. NO.	PART NO.	QTY NO.	DESCRIPTION
1	27602314	1	Wiring Harness
2	27602414	1	Side Light Fixture - R.H.
3	27602415	1	Bracket Assembly R.H. Short
4	27601214	1	Plug Storage Container
5	27602410	1	Bracket Assembly, L.H. Short
6	27602412	1	Side Light Bracket, L.H.
7	16309101	2	3/8" x 4.9" x 6.06" U-bolt
8	413-412	2	1/4" x 3/4" NC Hex Bolt
9	86992211	18	1/4" NC Stover Lock Nut
10	425-106	4	3/8" NC Hex Nut
11	492-11038	4	3/8" Spring Lock Washer

REF. NO.	PART NO.	QTY NO.	DESCRIPTION
12	413-420	16	1/4" x 1-1/4" NC Hex Bolt
13	311864A1	A/R	Amber Reflector
14	311865A1	A/R	Fluorescent Reflector
15	311863A1	A/R	Red Reflector
16	86992216	2	5/8" NC Stover Lock Nut
17	495-21069	2	5/8" Std. Washer
18	413-1040	2	5/8" x 2-1/2" NC Hex Bolt
19	27602202	2	Red Light
20	27602201	2	Amber Light
21	27601215	A/R	Replacement Lens - Amber
22	27601216	A/R	Replacement Lens - Red

*See pages #42 and 43 for Light Kit installation instructions.

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

WARNING AND TAILLIGHT KIT 8-Row Unit



REF. NO.	PART NO.	QTY NO.	DESCRIPTION
1	27602314	1	Wiring Harness
2	09661350	1	Light Bracket - R.H.
3	27602415	1	Bracket Assembly R.H. Short
4	27601214	1	Plug Storage Container
5	27602410	1	Bracket Assembly, L.H. Short
6	09661360	1	Light Bracket - L.H.
7	16309101	2	3/8" x 4.9" x 6.06" U-bolt
8	413-412	2	1/4" x 3/4" NC Hex Bolt
9	86992211	18	1/4" NC Stover Lock Nut
10	425-106	4	3/8" NC Hex Nut
11	492-11038	4	3/8" Spring Lock Washer

REF. NO.	PART NO.	QTY NO.	DESCRIPTION
12	413-420	16	1/4" x 1-1/4" NC Hex Bolt
13	311864A1	A/R	Amber Reflector
14	311865A1	A/R	Fluorescent Reflector
15	311863A1	A/R	Red Reflector
16	86992216	4	5/8" NC Stover Lock Nut
17	87427170	2	5/8" x 4" x 8" U-bolt
18	27602202	2	Red Light
19	27602201	2	Amber Light
20	27601215	A/R	Replacement Lens - Amber
21	27601216	A/R	Replacement Lens - Red

*See pages #42 and 44 for Light Kit installation instructions.

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

ASSEMBLY SECTION

The following text describes procedure for assembling the **nutri-till'r** model 5310. 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 of cover unless otherwise specified.

- ⚠ WARNING:**
- Never position yourself under any portion of the **nutri-till'r** applicator. Lower machine to the ground, turn off tractor and remove key before making adjustments or repairs. Otherwise, block securely to prevent accidental lowering.
 - Compressed springs have potentially dangerous stored energy. Always assemble and disassemble properly.

FRAME

Refer to the parts drawing and reference numbers on Page #20.

- 1) Place main frame (Item #1) on stands approximately 36" high on a level surface. Install hitch hardware (found in bag #04671010) as shown in Parts Section.
- 2) Install the wings by positioning into the main frame. Be sure to support the wings on the outside for stability. Install the 1-1/4" dia. hinge pin (Item #34) through the hinge flats. Secure with 1/2" hex bolt (Item #35) and 1/2" stover lock nut (Item #40).
- 3) Refer to Page #20 for the rear hitch. Mount the rear hitch assembly (#2) to the main frame using the 5/8" x 4" x 8" U-bolts (Item #14) and 5/8" lock nuts (Item #9).
- 4) Refer to Page #20 and mount SMV sign (Item #5) on the rear frame bar, as near center or left of center as possible. (SMV sign and hardware is located in Bag #18584000.)

WING HYDRAULICS (8-ROW ONLY)

IMPORTANT: The wing folding hydraulic system must be charged before initial operation.

Refer to parts drawing and reference numbers on Page #23. Wing hydraulic hardware is found in Bag #02390002.

- 1) Install the ram end of the 3-1/2" hydraulic cylinders (Item #1) on the cylinder lug on the main frame, then connect the rod end of the hydraulic cylinder to the cylinder lug on the wing.
- 2) Install the 3/4" SAEM x 3/4" JICM 90° elbows (Item #10) in the hydraulic cylinder ports.
- 3) Refer to Page #23 to determine correct location for each hose. Connect proper hoses to the ram end of each cylinder and connect these hoses together with 3/4" JICM x 3/4" SAEM Tee (Item #8).
- 4) Connect hoses to the rod end of cylinder and connect these together with 3/4" JICM x 3/4" JICF tee (Item #11).
- 5) Connect the 3/4" SAEM x 3/4" JICM 90° elbow (Item #10) to the 3/4" JICM x 3/4" JICF tee (Item #11).
- 6) Install one throttle valve (Item #9) to the 3/4" JICM x 3/4" SAEM tee (Item #8). Connect the other throttle valve (Item #9) to the 3/4" SAEM x 3/4" JICM 90° elbow (Item #10).

IMPORTANT: Throttle valves are used to control wing fold and unfold speeds. Failure to install the throttle valves can cause damage to the applicator as well as personal injury or death.

- 7) Connect the 3/8" x 48" hydraulic hoses (Item #2), one to the throttle valve (Item #9) and the other to the 3/4" JICM x 3/4" JICF 90° fitting (Item #11).

HYDRAULICS



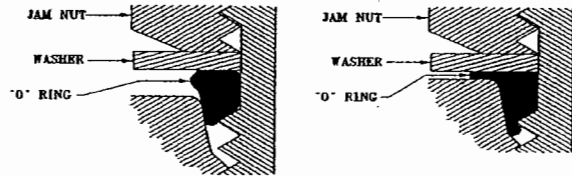
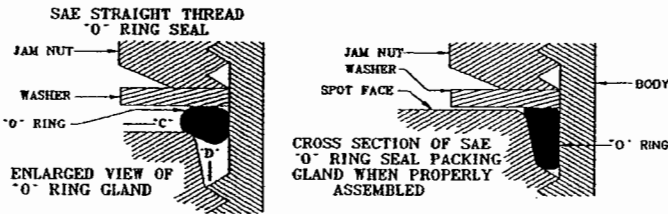
WARNING:

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 immediately. Fluid must be surgically removed or gangrene will result. Wear safety glasses or goggles to avoid eye injury when working on the hydraulic system.

IMPORTANT: READ THIS BEFORE INSTALLING ADAPTERS.

SAE ADAPTER INSTALLATION INSTRUCTIONS

1. Jam nut and washer must be to the backside 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 HAPPEN WHEN THE JAM NUT AND WASHER ARE NOT BACKED UP PRIOR TO ASSEMBLY:

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.

PIN-ADJUST GAUGE WHEELS

Refer to the parts drawing and reference numbers on Page #20. Gauge wheel hardware is found in Bag #02380020.

1. Attach gauge wheel mounting brackets (Item #56) to the rear bar (typical) of the main frame in the locations shown on Page #20 with the 3/4" bolts (Item #40), nuts (Item #41), flat (Item #39), and lock washer (Item #42). Bolts must be drawn down squarely on bar by tightening nuts evenly to 325 ft-lbs.
2. Mount the tire and wheel assembly (Item #55) to the gauge wheel spindle arms (Item #45 and #46) and torque wheel bolts to 100 ft-lbs. Inflate 20.5 x 6 tire to 32 p.s.i.
3. Insert the gauge wheel spindle arm into the gauge wheel mount and secure with the 1" pin (Item #43) and klik pin (Item #26).

SEALERS

18" disc seal'rs

Mount disc sealer H-frame to shank 3" above the projection on the back of the shank with two 1/2" U-bolts, and 1/2" stover lock nuts. Attach sealer arm assemblies to H-frame with 1/2" x 1-3/4" carriage bolts and 1/2" stover lock nuts. Mount disc blades to sealer arm hubs with 1/2" x 1" carriage bolts and 1/2" stover lock nuts. See page #11 for adjustments.

WARNING: Blades have extremely sharp edges. Care must be taken when handling to avoid injury.

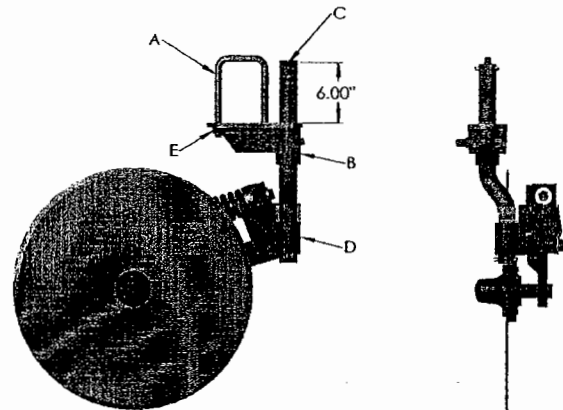
COULTERS

Attach coulters mounting brackets to the 4" x 6" bar per location on pages #45 and 46. Coulters assembly drawings are on page #26. All coulters hardware is in hardware bags 04660014, 04663001, and 04660015.

NOTE: The center of the 3/4" U-bolt is the center of the coulters when assembled. Attach the standard coulters mount (B) to the bar using the 3/4" U-bolt (A) and nuts (E). Insert the coulters shaft (C) through the bottom of the mount, aligning the milled surface with the set screw location. Insert the 3/4" set screw and 3/4" jam nut into the coulters mount (B). Slide the coulters shaft up until the 5.00" dimension is obtained. Use this only as a guide for coulters depth. After desired coulters depth is obtained, **tighten and loosen the set screws three times.**

Tighten jam nut after the set screw has been tightened for the third time. Slide the coulters arm assembly onto the shaft and secure with the 7/16" x 2-1/2" roll pins (Item #25) on both ends of the shaft. Attach coulters blade to coulters arm assembly.

The center two coulters use offset shafts (ref. "Shank Location" pages 45 & 46). Locate mounts next to hitch plate and insert offset coulters shaft to place coulters under hitch plate.

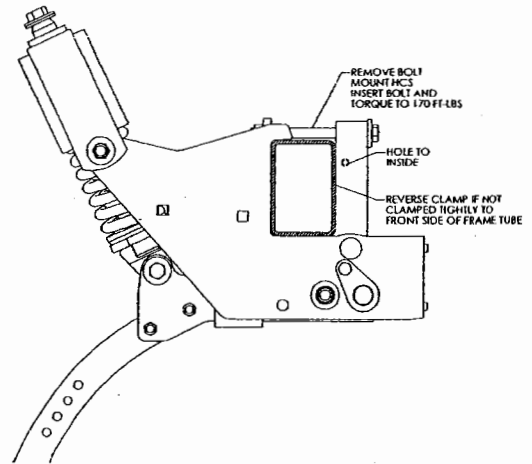


SHANK INSTALLATION

Shank locations are found on pages #45 and 46. For rigid shank mountings, the hardware is in bags 04660010 and 04660016. After mounting the shank, install the knife on the shank with the 1/2" bolts and nuts from bags 02400018, 02400058, and 02400089. Make sure to insert the bolt through the knife first and then the shank. This allows for the full body of the bolt to resist the load. Inserting from the shank through the knife puts the load on the threads and greatly decreases the shear strength.

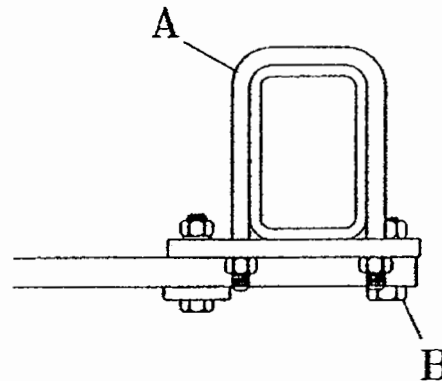
HCS SHANK INSTALLATION

After mounting the shank, install the knife on the shank with the 1/2" bolts and nuts from bag #04692225. Make sure to insert the bolt through the knife first and then the shank. This allows for the full body of the bolt to resist the load. Inserting from the shank through the knife puts the load on the threads and greatly decreases the shear strength.



RIGID SHANK INSTALLATION

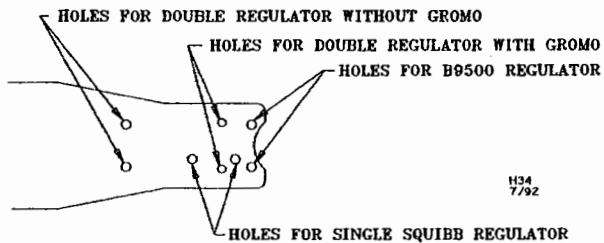
Attach rigid shank to the bar as shown below using 5/8" U-bolts. The 5/8" U-bolts (A) must be drawn down squarely on the bar by tightening the nuts evenly to 170 ft-lbs. Assemble the clamp plate with 5/8" x 3" NC hex bolts and torque nuts to 170 ft-lbs. Torque the 3/4" x 3" bolt, nut and jam nut (B) that holds the front end of the shank to the plate to 325 ft-lbs.



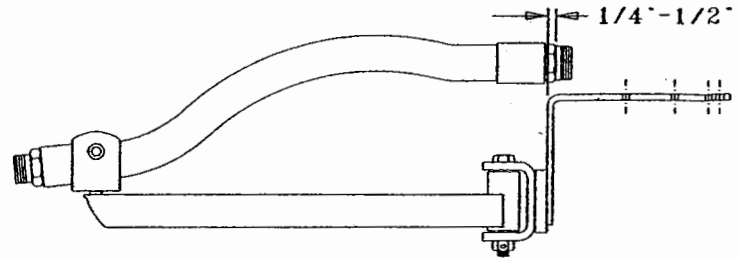
A.A. COMPONENTS

Refer to the Single Continental Assembly on page #30 for specific component placement and assembly.

Mount the regulator stand bracket to the rear bar, making sure to clear shank. Attach the regulator stand and extension pivot mount assembly to the regulator stand bracket with the 5/8" x 2-1/2" bolt and nut. Mount the regulator assembly on the regulator stand using the hole locations shown below. Attach 1-1/4" x 32" hose and Quic-Coupler to regulator and extension pivot mount assembly.



IMPORTANT: If another regulator or hydraulic shutoff is used, mount them so the end of the fitting on the hose is in the location shown below for proper and safe operation.



IMPORTANT: The 1-1/4" x 32" hose must have some slack so the Quic-Coupler can disconnect.

Mount manifold bracket (Item #18, page #20) with U-bolt (Item #14, page #20) to rear main frame bar near each hinge, as shown in Main Frame diagram (page #20).

Bolt the manifolds to the brackets and connect the 1" x 104" large A.A. hose to the manifold and regulator. Using the 3/8" or 1/2" A.A. hose, hose clamps, and hose clips, start on the middle shank and connect the hose from the center knife to the left manifold. Continue connecting knives on the left side to the left manifold and knives on the right side to the right manifold. Connect a hose from each manifold to each A.A. gauge to the stand on the pull frame.

Take care when routing all A.A. hoses so that they do not get cut or pinched when folding the machine. Recheck, making sure all fittings are tight.

WARNING AND TAILLIGHT INSTALLATION INSTRUCTIONS

See pages #35 or 36 for parts list and pages #43 or 44 for diagram.

1. Lay out parts:

- A. Unroll the wiring harness. The seven-pin connector will plug into the receptacle on the rear of the tractor. The longer of the two wiring harness leads will go to the left hand light assembly. The shorter lead goes to the right hand assembly. The seven-pin receptacle goes to the rear of the machine.
- B. Identify the left hand and right hand light assemblies by referring to the connector diagram on pages #35 or 36. (Note the different pin locations.)
- C. Identify the light brackets by referring to pages #35 or 36.
- D. Locate and identify hardware:
 - The light parts box includes all 1/4" fasteners for both light assemblies and the plug storage container.
 - Light mounting kit contains right hand and left hand brackets, 3/8" and 5/8" U-bolts plus 3/8" and 5/8" hex nuts.

2. Test System

- A. Lay out the wiring harness on the machine with the longer lead to the left light assembly.
- B. Plug the two light assemblies into the plugs on the two leads.

IMPORTANT: Left hand and right hand light assemblies must be mounted on their respective sides or the warning lamps will not work properly as turn signals. Refer to the connector diagrams on pages # 35 or 36.

To make sure that light assemblies will be mounted correctly, check the following:

- From the rear of machine, amber lights should be on top and red lights on the bottom of both light assemblies.
 - From the front of machine, only the amber lights should be visible.
- C. Clean the tractor receptacle and plug the seven-pin connector into the tractor receptacle.
 - D. Test the light system.
 - Red taillights should work with the red taillights on the tractor and the tractor head lights.
 - Amber lights should flash with the amber warning lights on the tractor and flash correctly with the tractor turn signals.

NOTE: If you experience a problem with the lights operating properly, besides checking the lights and wire harness, you will want to:

- Check for loose wires on the tractor receptacle.
- Have the tractor ignition key in the "running" position or have the tractor engine "running" to have the lights work correctly.

3. Attach light brackets to the frame tube of the machine with the 3/8" or 5/8" U-bolts and 3/8" or 5/8" hex nuts as shown on pages #35 or 36. Then attach lights to the correct light bracket using 1/4" x 1-1/4" hex bolts and 1/4" lock nuts. **Do not over tighten fasteners on the plastic light assemblies.**

4. Refer to diagram on pages #43 or 44. Plug left hand and right hand harness leads. Route leads along the frame tube until reaching the right hand A frame tubes. Then route to the front of the machine similar to hydraulic hoses. Coil and tie up any excess wire.

5. Secure wiring harness with hose ties as shown in diagram on pages #43 or 44 **after** hydraulic hoses have been installed.

IMPORTANT: Wiring harness must be routed as shown and secured to prevent damage.

- Do not stretch leads too tight.
- Secure leads so they cannot be snagged.
- Use plenty of plastic hose ties.

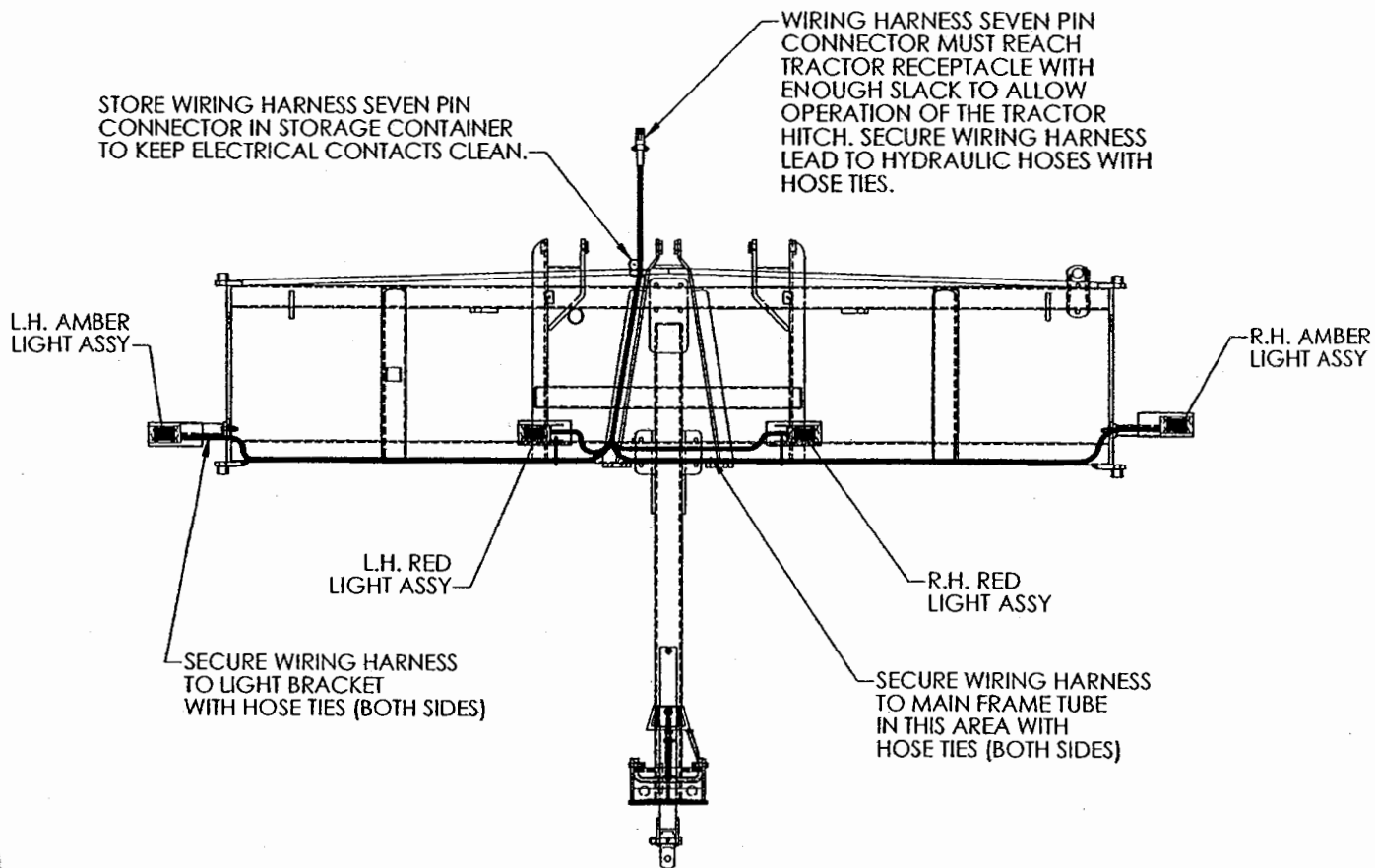
6. Plug the seven-pin connector into the tractor receptacle and allow enough slack for tractor maneuvering.

7. Attach plug storage container (#4) to the 3-pt frame using 1/4" x 3/4" hex bolts (#8) and 1/4" lock nuts (#9). **Do not over tighten fasteners on the plastic container.**

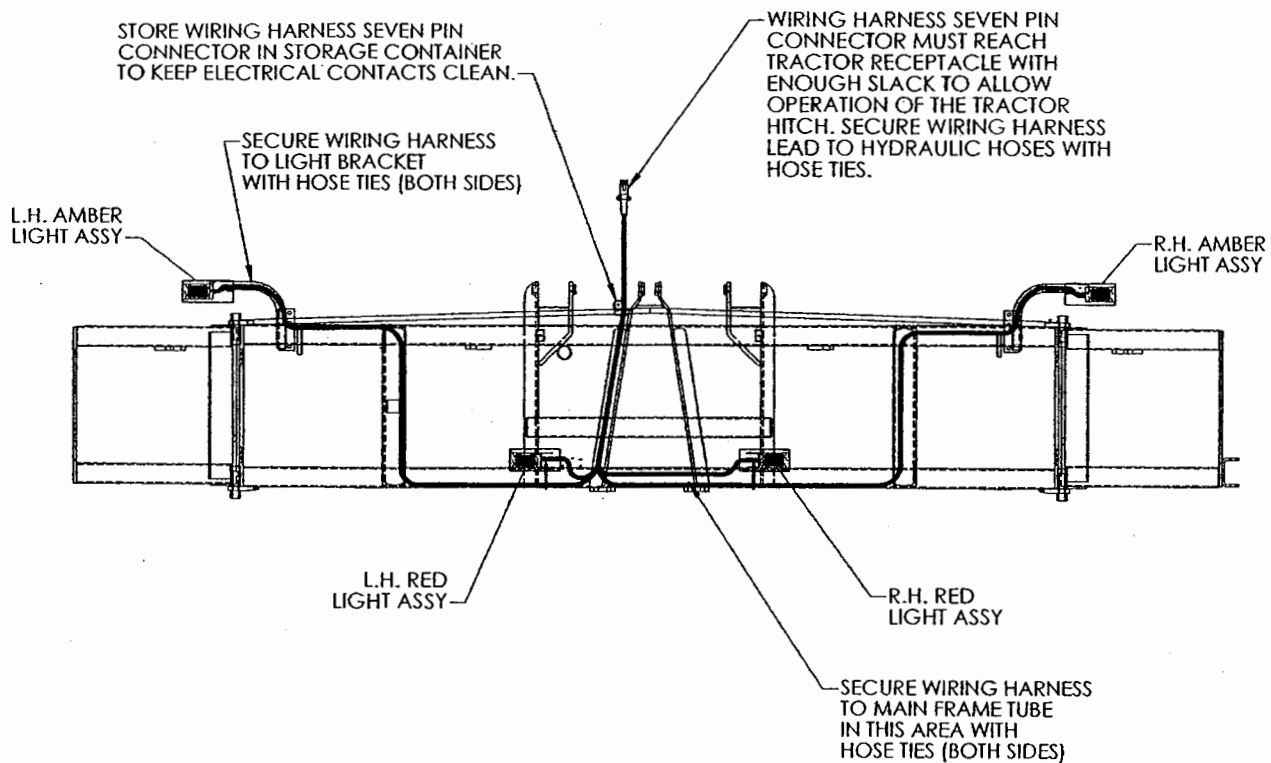
8. Retest the light system.

9. When not in use, store the seven-pin connector in the plug storage container to keep it clean. Align the rib on the connector with one of the slots in the bottom of the container, push the connector up into the container and turn one-quarter turn for storage.

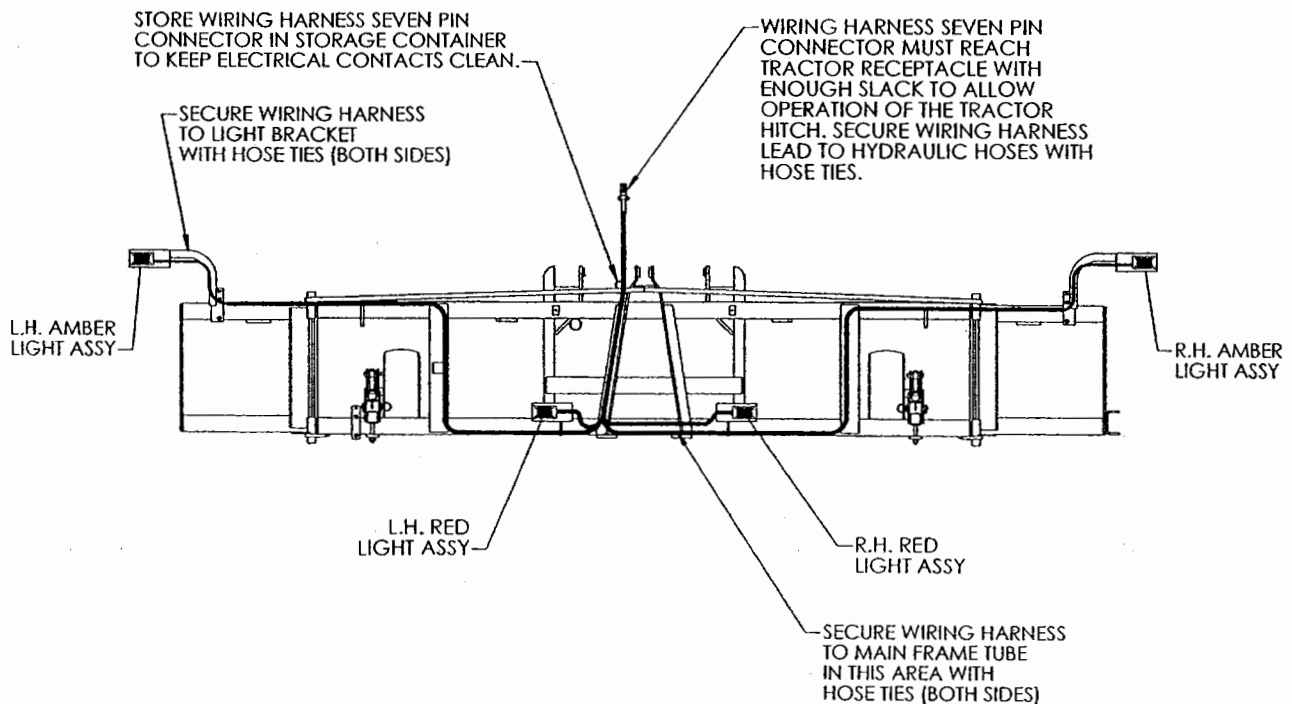
WIRE ROUTING DIAGRAM 6-ROW UNIT



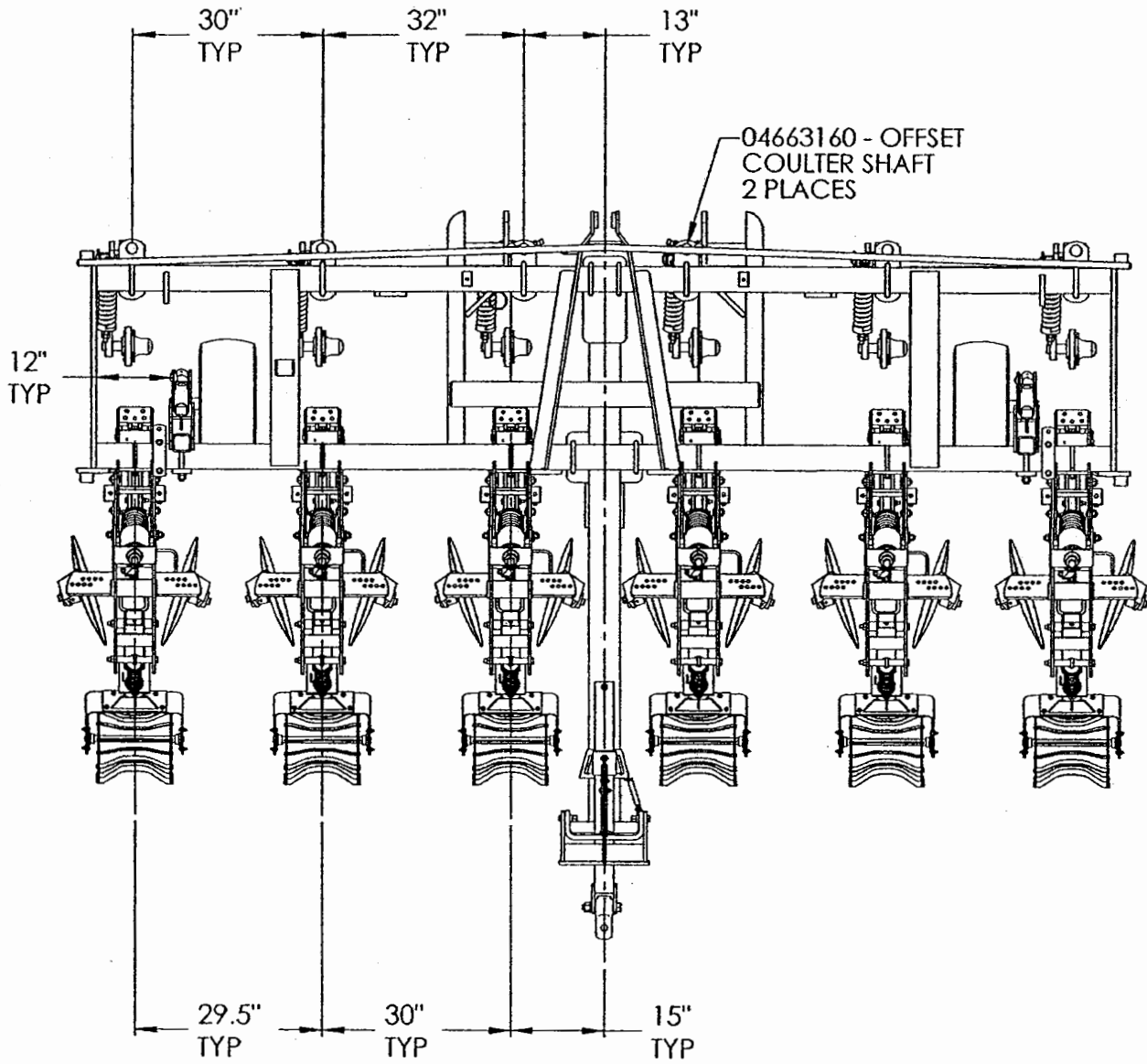
WIRE ROUTING DIAGRAM 8-ROW UNIT (FOLDING WINGS)



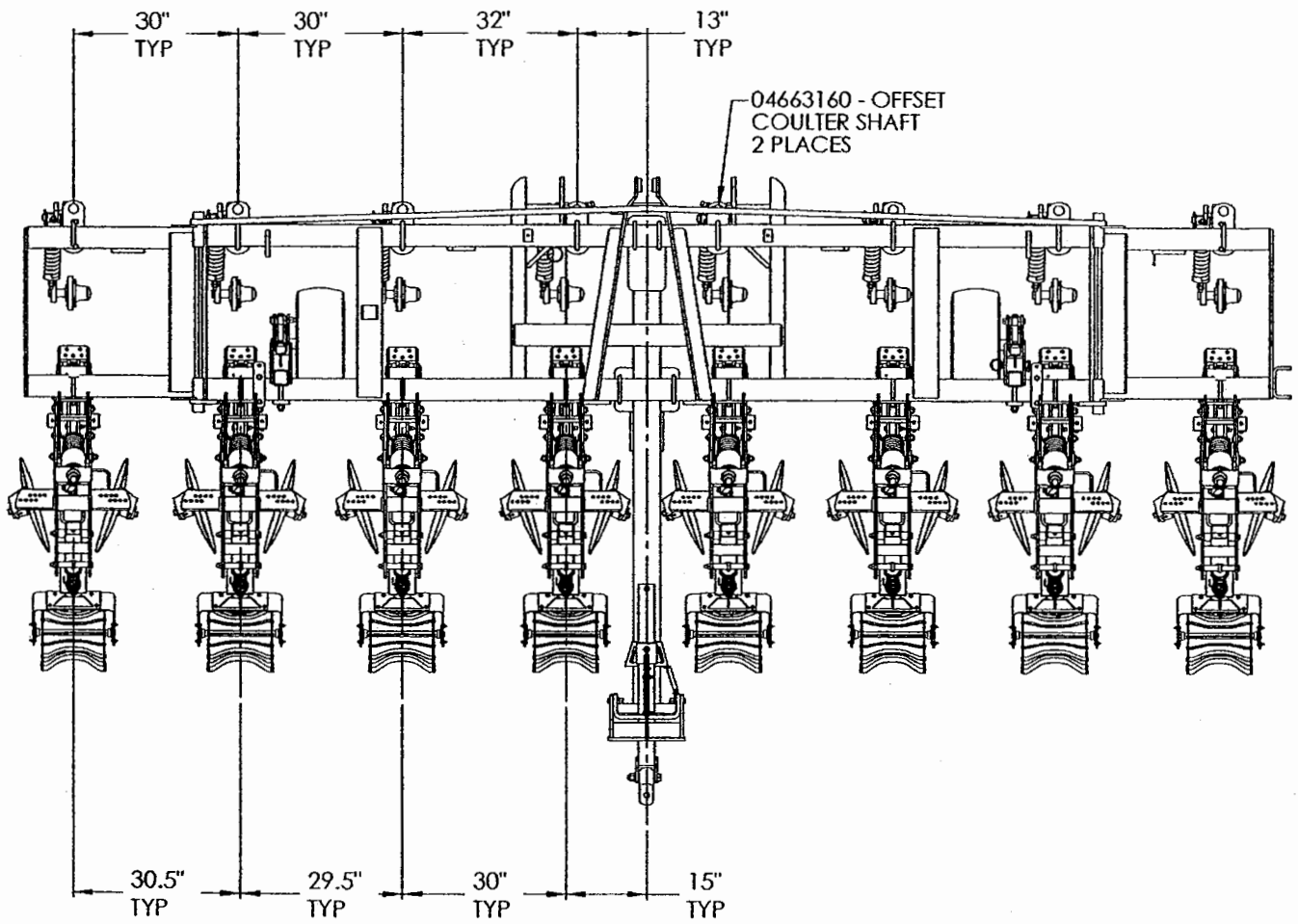
8-ROW UNIT (NON-FOLDING WINGS)



SHANK LOCATION 6-ROW UNIT

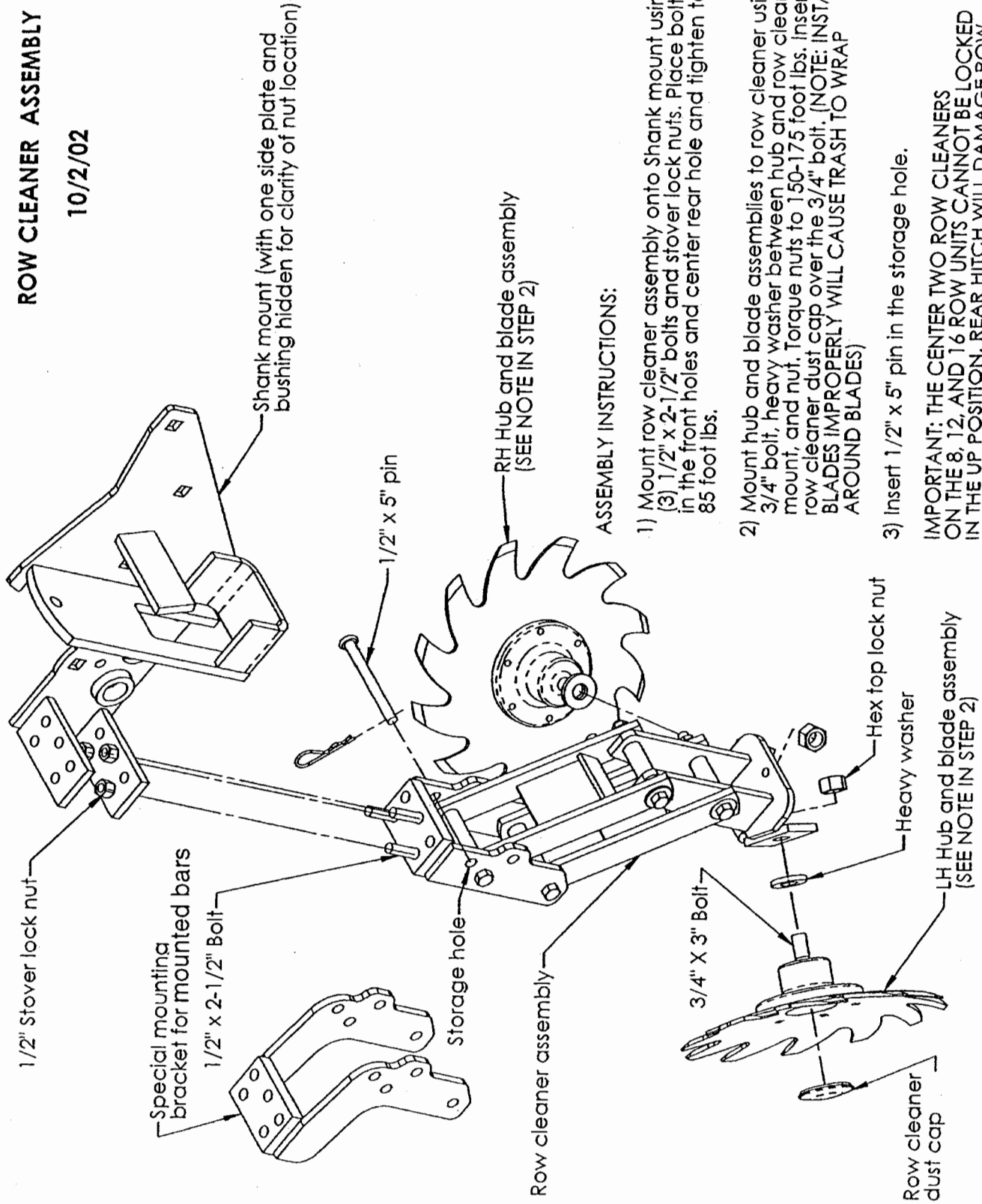


SHANK LOCATION 8-ROW UNIT



ROW CLEANER ASSEMBLY

10/2/02



ASSEMBLY INSTRUCTIONS:

- 1) Mount row cleaner assembly onto Shank mount using (3) 1/2" x 2-1/2" bolts and stover lock nuts. Place bolts in the front holes and center rear hole and tighten to 85 foot lbs.
 - 2) Mount hub and blade assemblies to row cleaner using 3/4" bolt, heavy washer between hub and row cleaner mount, and nut. Torque nuts to 150-175 foot lbs. Insert row cleaner dust cap over the 3/4" bolt. (NOTE: INSTALLING BLADES IMPROPERLY WILL CAUSE TRASH TO WRAP AROUND BLADES)
 - 3) Insert 1/2" x 5" pin in the storage hole.
- IMPORTANT: THE CENTER TWO ROW CLEANERS ON THE 8, 12, AND 16 ROW UNITS CANNOT BE LOCKED IN THE UP POSITION. REAR HITCH WILL DAMAGE ROW CLEANERS IF PUT IN THE LOCKED UP POSITION.**

WARRANTY SECTION

MISCELLANEOUS WARRANTIES

CONTINENTAL REGULATOR

All warranty claims must be filed, or regulator sent directly to:

Continental NH3 Products Co., Inc
Box 5423
Dallas, Texas 75200
Phone No. (214) 741-6081

For maintenance, service and operating instructions, see the Continental Operator's Manual.

PARKER QUICK DISCONNECT COUPLING

All warranty claims must be filed, or coupling sent directly to:

Parker Fluid Connectors
8145 Lewis Road
Minneapolis, MN 55427
Phone No. (612) 544-7781

THREE YEAR LIMITED WARRANTY

The manufacturer warrants to the original purchaser of each new **DMI nutri-till'r** model 5310 that the product will be free from defects in material and workmanship for the following periods:

Basic, Main and Wing Frame Weldments **Three (3) Years**
All Other Components, except Tires **One (1) Year**

This warranty does not cover replacement parts or tires. Tires on the 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 accidents, 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, through the dealer from whom the product was purchased, within thirty (30) days from the date of failure. 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 **nutri-till'r** model 5310 units 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

