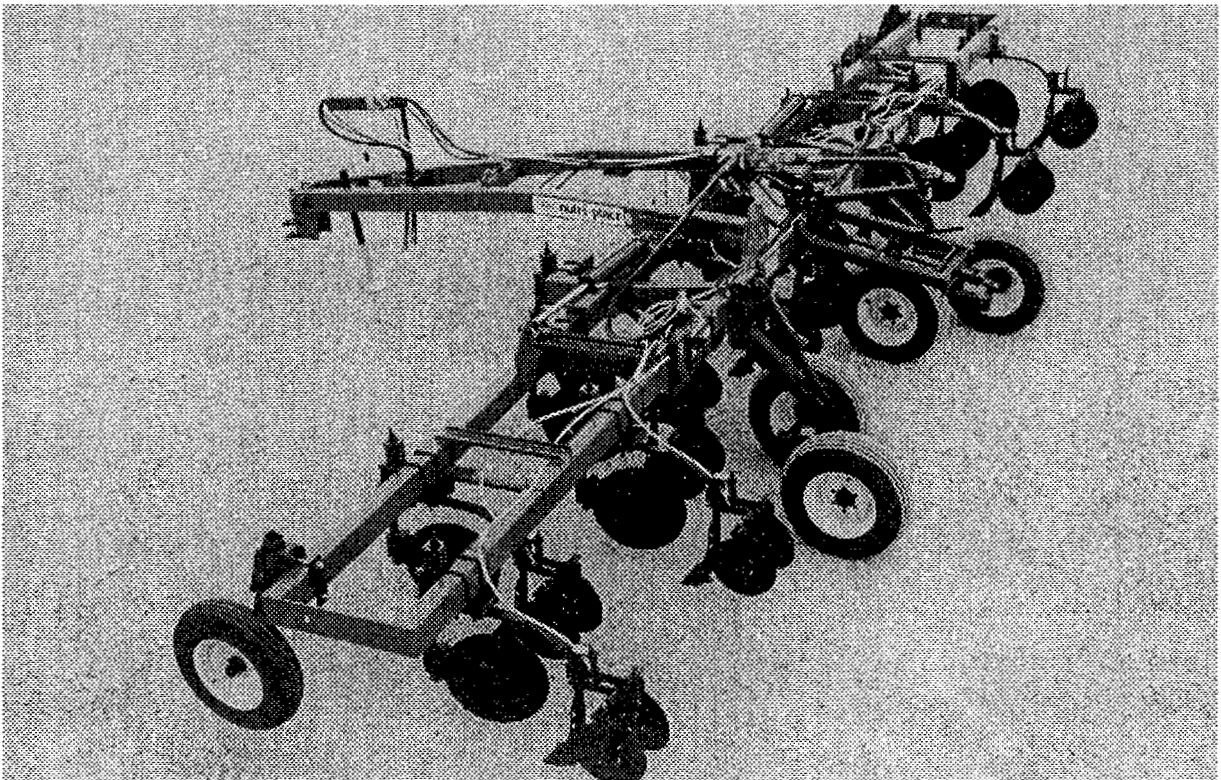


nutri-placr[®]

3300

operator's manual



DMI yield-till[®] system... Helping Plants Thrive[®]

600 E. 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-placr**[®], **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.

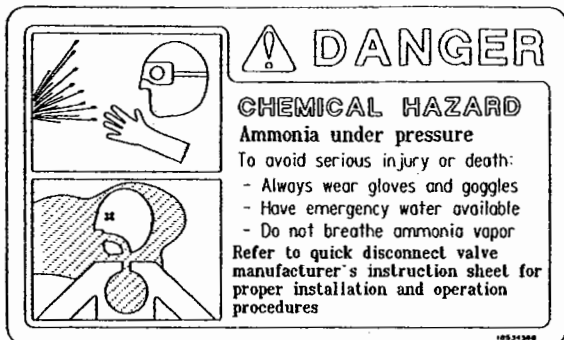
 **WARNING** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.

 **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 #22 for location on your **nutri-placr 3300**. 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.

THE **3300** SIGN KIT #18530033 INCLUDES ALL SIGNS AND REFLECTORS FOR ENTIRE MACHINE (EXCEPT SMV WHICH IS INCLUDED IN KIT #1858400).

SAFETY SIGNS AND REFLECTORS

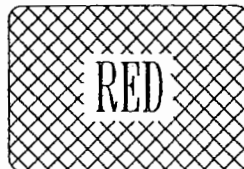


DANGER
CHEMICAL HAZARD
Ammonia under pressure
To avoid serious injury or death:
- Always wear gloves and goggles
- Have emergency water available
- Do not breathe ammonia vapor
Refer to quick disconnect valve manufacturer's instruction sheet for proper installation and operation procedures

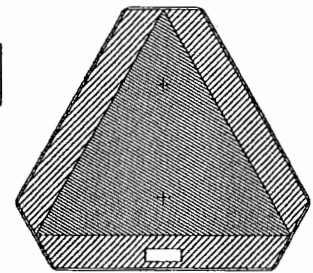
PART NO. 18534368



PART NO.
18534243



PART NO.
18534244



PART NO. 18581100



DANGER
TO AVOID INJURY OR DEATH
KEEP EVERYONE CLEAR OF
MACHINE WHEN FOLDING
OR UNFOLDING WINGS

PART NO. 18534227



CAUTION
Failure to observe Instructions and Safety practices can result in serious Bodily Injury.
To avoid injury:
- Read and understand your Operator's Manual before servicing or operating the machine.
- Learn to operate and adjust the machine safely.
- Do not allow anyone to ride on the machine or tractor.
- Install all hydraulic cylinder stops and retract hydraulic cylinders before servicing or transporting machine.
- Make certain that everyone is clear before moving the Machine, Hydraulics, or any Component.

PART NO. 18534228

IMPLEMENT SAFETY

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.

- Before operating your **nutri-placr 3300**, 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.**
- Machinery should be operated only by qualified persons familiar to the tractor and equipment, **nutri-placr 3300**, and the safety related items. Do not let children operate machinery.
- Tow with tractor only. Never transport **nutri-placr 3300** in excess of 20 m.p.h. Maintain a safe speed.
- Be sure unit is equipped with a Slow-Moving-Vehicle (SMV) emblem when transporting.
- 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. Make sure lights are not obstructed by residue hanging from shanks or sealers before towing on public roads.
- Be sure to comply with all state and local requirements for implement transport.
- Install transport stops before transporting.
- Always check torque on wheel bolts before transporting.
- Keep everyone clear while operating hydraulics or controls and also when machine is in motion.
- Never permit riders on **nutri-placr 3300** or tractor.
- Do not stand on, or straddle, the **nutri-placr 3300** tongue when unhitching.
- Never position yourself under any portion of the **nutri-placr 3300**. Lower machine to the ground, turn off tractor and remove key before making adjustments or repairs. Otherwise, block securely to prevent accidental lowering.
- Do not lubricate, adjust, or repair when **nutri-placr 3300** is in motion.
- Always store a wing implement with the wings down.
- Keep fingers, hands, and feet away from pivot links when servicing, or adjusting shank trip mechanisms.
- Always have tractor coupled to applicator when folding or unfolding wings and raising or lowering machine.
- Compressed springs have potentially dangerous stored energy. Always assemble and disassemble properly.
- When transporting, always use an ASAE approved (ANSI/ASAE S338.2) safety chain with tensile strength equal to the gross weight of the unit, plus any attachments. The proper size for the **nutri-placr 3300** is a 20,200 lbf rated chain.
- Do not modify or permit anyone to modify this **nutri-placr 3300**, any of its components, or any equipment function without first consulting a DMI equipment dealer.
- 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-placr 3300** to the ground (or secure with cylinder transport stops provided), and placing remote control levers in float or neutral 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 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.
- Be sure safety signs are clean and readable. All safety related signs must be replaced if the **nutri-placr 3300** is painted or the signs are otherwise rendered unreadable.
- Use only approved replacement parts.
- Furnish this manual to a new operator.
- Always check for overhead obstacles during transport and before folding or unfolding the wings.

A.A. SAFETY

- Before operating your **nutri-placr 3300**, 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.
- Before operating your **nutri-placr 3300**, 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 DMI dealer 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 **DMI nutri-placr 3300** pull type applicators are the result of over 30 years of using imagination and foresight to create original and unique nutrition systems for smart farming. It can handle any tillage practice by cutting residue and deep placing anhydrous ammonia or liquid/dry plant nutrients in the root zone.

DMI 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, providing superior strength in both field and transport positions.
- II. **PULL FRAME**
Pull frame attaches to both front and rear bar for even distribution of pull. The pull frame tube is formed down to prevent frame interference with the tractor 3-point hitch. Adjustable combination single/double clevis hitch with one pin adjustment for leveling machines with various tractor drawbar heights. All welded construction.
- III. **WINGS**
The wings are constructed from vertical 4 x 6 Hi-Strength Tubing with offset channel bracing providing superior strength with less weight. The large hinge rank means less stress on the hinge pins. The 145° fold on the **nutri-placr 3300** reduces transport width for added convenience.
- IV. **WHEELS**
The **nutri-placr 3300** unit has pin-adjust wing gauge wheels standard with single transport wheels or walking tandem transport wheels for a smoother ride over rough terrain.
- V. **WAGON HITCH**
The Wagon-Mate hitch has the largest extending and swinging hookup pattern in the industry, with the added convenience of single lever action.
- VI. **SHANKS**
1 x 2 side mount shanks pull easier because of less wandering and side draft than coil shanks. Side mount provides easy mounting of knives. Spring, rigid, C-S or spring C-S mountings are available.
- VII. **COULTERS**
Both the 20" and 24" heavy-duty spring coulters are available to slice through residue. The coulters assemblies swing side to side and adjust up and down for proper depth. Both 20" and 24" coulters are spring cushioned to ride up and over obstructions. 16E taper on coulters blades keeps blade sharp to cut without bulldozing.
- VIII. **SEALERS**
Regular double disc, reversible spring double disc, or uni-sealer for accurate knife slot sealing in all conditions.
- IX. **ANHYDROUS AMMONIA OPTIONS**
The 22-1/2' models are equipped with a single manifold and with either 3/8" or 1/2" A.A. plumbing. The 27-1/2' and 32-1/2' models can be equipped with either 3/8" or 1/2" A.A. plumbing from the remote double manifolds (standard). 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° extension pivot mount provides maximum safety for the operator as well as maximum capacity.

WARNING AND TAILLIGHTS

This machine includes warning and taillights as standard equipment.

When properly installed and connected to a tractor with a properly functioning seven-pin light system receptacle, this system will comply with ANSI/ASAE Standard S279.9 - JUL93 for warning and taillights. They will provide the following features.

- The location of the lights will show approaching traffic and approximate width and length of the machine.
- The red taillights will work with the tractor red tail lights.

- The amber lights, which are visible from both front and rear, will flash in unison with the tractor flashing amber warning lights.
- If the tractor is equipped with turn signals, the amber lights will flash in unison with the turn signals on the tractor.


IMPORTANT: Test and maintain the warning and tail lights before transporting the machine on public roads. Make sure lights are not obstructed by residue hanging from shanks or sealers before towing on public roads.

- A storage container is provided to keep the seven-pin connector clean when not in use.

SPECIFICATIONS


HORSEPOWER REQUIREMENTS.....	10-12 hp. per shank. Actual horsepower varies with soil conditions, operating depth, knife type, etc.				
FRAME.....	4" x 6" Hi-Strength Tubing with Offset Channel Bracing.				
SHANK SPACING.....	Knives on 30", 36" or 38" centers				
SHANKS.....	1" x 2" Spring Loaded or Rigid. 32" clearance from knife to bottom of frame				
COULTERS.....	24" diameter or 20" diameter				
WORKING DEPTH.....	Knives - 5" to 8" Coulters - 2" to 4"				
WORKING SPEED.....	5-6 m.p.h.				
TRANSPORT WHEEL.....	11L x 15 8-ply (single) or 9.5L X 15 8-ply (tandem)				
PIN ADJUST GAUGE WHEEL.....	7.50 X 14 4-ply				
LIFT CYLINDERS - 3,000 p.s.i.....	3-1/4" Bore x 10" Stroke Rephasing and 3-1/2" Bore x 10" Stroke Rephasing				
WING LIFT CYLINDER - 3,000 p.s.i.....	3-1/2" Bore x 24" Stroke (Standard) 4" Bore x 24" Stroke (Optional with row markers)				
SWATH WIDTH.....	#	SHANK	WORKING	TRANSPORT	TRANSPORT
	SHANKS	SPACING	WIDTH	WIDTH	HEIGHT
	9	30"	22-1/2'	17'3"	8' 11"
	11	30"	27-1/2'	17'3"	10' 5"
	12	30"	30'	17'3"	11' 2"
	13	30"	32-1/2'	17'3"	11' 11"
3300					

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 moving the implement be sure the three point hitch has been raised to the top to prevent damage to the clevis and tongue when making turns.
- 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.
- Never attempt to raise or lower wings while applicator shanks are in or on the ground.
- 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.
- Never install additional equipment on top of **nutri-placr 3300** except approved **DMI** accessories. Failure to comply will void your warranty.

 **WARNING:** Keep everyone clear of the machine when folding or unfolding the wing.

OPERATION OF HYDRAULIC WING LIFT CHANGING FROM OPERATING POSITION TO TRANSPORT POSITION

Prior to operating the hydraulic wing lift, the hydraulic system must be fully charged. See Charging the Hydraulic System.

Prior to transporting the **nutri-placr 3300** unit, 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 level for 30-60 seconds to purge the air from the synchronized system. Install the transport stops on both lift cylinders (main frame).
2. Retract the wing lift cylinders slowly until wings are fully raised.

CHANGING FROM TRANSPORT POSITION TO OPERATING POSITION

- 1) Lower the wings slowly. Fully extend the wing lift cylinders.
- 2) Remove the transport stops on the lift cylinders (main frame).

CHARGING THE HYDRAULIC SYSTEM SYNCHRONIZED (REPHASING) LIFT SYSTEM

Each of these rephasing cylinders is 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.

When lifting the applicator completely out of the ground, it is best to hold the tractor hydraulic valve open for a second or two to resynchronize the slave cylinder, thereby keeping both wings level with the center section.

FOLDING SYSTEM

All wing folding cylinders are plumbed together. In some situations one wing may lift before the other; this is normal. The wings will fold and unfold slowly because of the throttle valve in the hydraulic hoses. **MAKE SURE THESE THROTTLE VALVES ARE INSTALLED IN THE HYDRAULIC SYSTEM, SEE PAGE #25.**

Before proceeding to charge the wing fold cylinders raise the unit onto its wheels and install the transport stops on each main axle.

Charge the wing folding hydraulic system in the following manner. Disconnect the rod end of each wing cylinder. Block the cylinder so that the piston rod is free to move its full stroke. Hydraulically extend and retract the tractor hydraulic lever, adding oil as required. Reconnect the rod ends of all wing lift cylinders to their respective cylinder lugs. Making certain no one is near the machine, raise the wings into transport position.

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 **nutri-placr 3300** unit 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.

NOTE: It is wise to rephase the **nutri-placr 3300** unit every 2 hours to insure that the frame is level (side to side).



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

CHECKING THE SYNCHRONIZED SYSTEM

After fully extending all cylinders retract them to any length, and they should be within 1/4". If they are not, it is likely that a cylinder is in the wrong location. Use the hydraulic system diagram in the Owner's Manual (Page #25) to check the plumbing and cylinder locations.

SIDE DRESSING

When side dressing with the **nutri-placr 3300**, it may be necessary to use a side dress bar in conjunction with the gauge wheel if there is a coultter or coultter shank mount on the front bar of the wing. Again, before folding wings, refer to the operation section on "Folding Wings From Operating Position".

TIRE INFLATION

IMPORTANT: To maintain consistent depth, be sure tires are inflated to recommended pressure:

7.50 X 14	4-ply	32 p.s.i.
9.5L x 15	8-ply	44 p.s.i.
11L x 15	8-ply	40 p.s.i.



- WARNING:**
- Keep everyone clear while operating controls or machine.
 - Do not lubricate, adjust or repair when **nutri-placr 3300** is in motion.
 - Blades have extremely sharp edges. Care must be taken when working around or adjusting to avoid injury.

ADJUSTABLE WIDTH TANDEM

The **nutri-placr 3300** can be equipped with adjustable width tandems. To set the width on the tandems, remove the 1/2" bolt from the spindle tube and slide the hub and spindle in or out. Align the holes in the spindle tube and the spindle and replace the 1/2" bolt and hex lock nut.

NOTE: If the spindle does not move freely in the spindle tube, remove hub and spindle completely, clean all dirt build up from spindle tube and spindle. Lubricate spindle and reassemble.

DEPTH ADJUSTMENTS

The applicator 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" MAIN FRAME CYLINDER ONLY.
- 2) Level applicator as shown in Fig. #1 below.

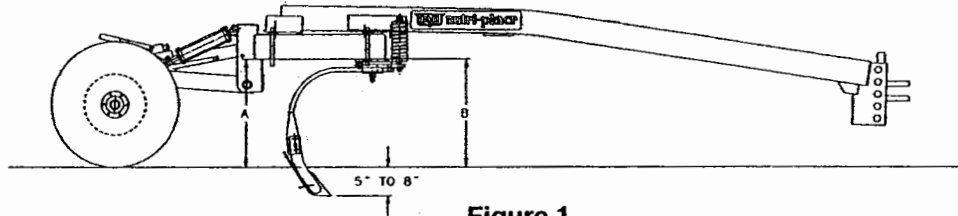


Figure 1

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, which has an adjustment range of 10-1/2 inches (Fig. #2).

**NOTE: Do Not Use
Top Mount Hole**

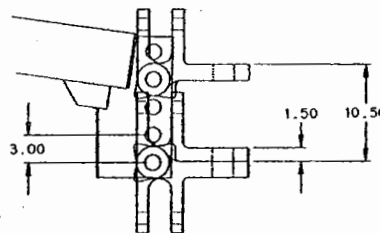
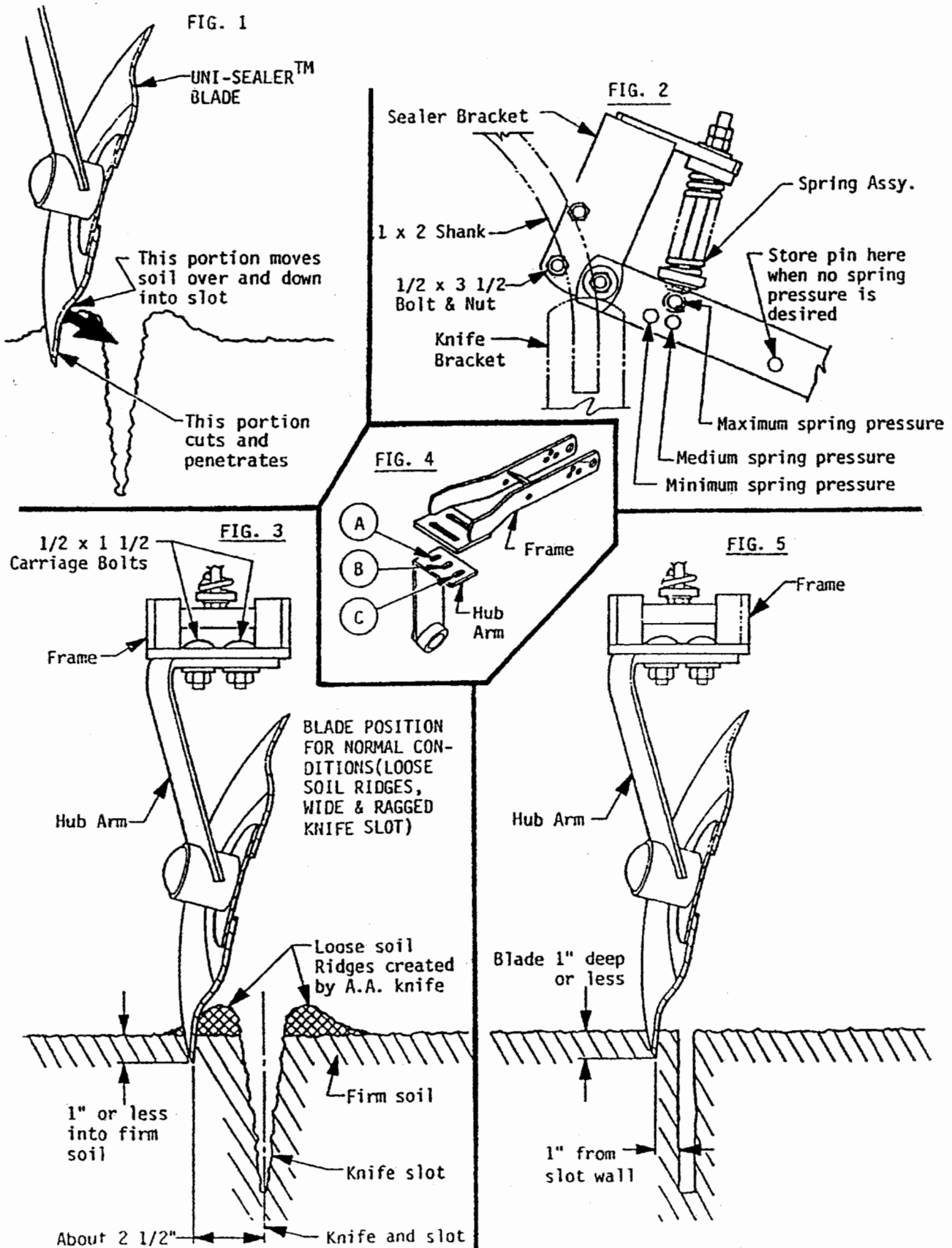


Figure 2

**NOTE: For
1-1/2"
increments, flip
clevis over.**

- 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 coulters shaft up or down to the desired height.
- 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.
- 5) A thin, sharp A.A. knife minimizes the amount of soil disturbed or ridged and thus reduces the power required to pull the knife through the soil. It also helps to seal the A.A. because of a smaller slit through the soil and thus is easier to cover the slot created by the knife. This is extremely helpful in heavier (gumbo type) or wet soils.
- 6) A large, thick, blunt edged knife (large insert or excess hard surfacing) provides longer knife wear but creates a larger knife slot thus making it harder to seal the A.A. It pulls harder due to more soil disturbance, thus using more fuel. The large, thick, blunt edged knife is most effective in light sandy soils which seal easiest and wear the knives the most.

uni-seal'r



uni-seal'r ADJUSTMENTS

- A) **ATTACK ANGLE OF BLADE:** Increasing the angle will move the loose soil ridge farther sideways so as to "gather" in all the loose ridge soil and still move it over to seal the slot. However, the wider angle may "throw" the loose soil beyond the slot and will slightly decrease blade penetration and trash cutting ability.
- B) **DISTANCE OF BLADE FROM KNIFE SLOT:** Distance can be increased or decreased by sliding the hub arm in the frame slot. Holes "B" and "C" can be used for additional side adjustment. (See Figure #4, Page #12.)
- C) **BLADE INTERFERES WITH A.A. KNIFE:** If the front of the **uni-seal'r** blade contacts the knife or A.A. hose with the implement raised, attach the hub arm and disc assembly in the rear slot of the **uni-seal'r** frame for additional clearance. (See Figure #4, Page #12.)
- D) **SPRING PRESSURE:** (See Figure #2, Page #12.) Adjustment is made quickly by changing the hole used to pin the spring T-bolt to the frame. Note that there is a storage hole for the pin in case no spring pressure is desired at all.

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 **uni-seal'r** to drop far enough to contact the soil.

An increased spring pressure will cut trash better, 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 sealing.

Using the factory settings, the disc edge **DIRECTLY BELOW THE HUB** will be about 2-1/2" to the side of the knife's centerline with the disc resting on the ground. The blade will "gather" in most or all of the one loose soil ridge, move the soil over, and direct it down to seal the slot. (See Figure #3, Page #12.)

NOTE: Figure #3, Page #12, shows the normal positioning for typical conditions where the knife slot is wide and irregular, and loose soil ridges are thrown up by the A.A. knife.

In the less typical condition where the knife slot is narrow and "clean", there may be little or no loose soil ridges created by the knife. In this case, move the blade closer to the knife slot. (See Figure #5, Page #12.) Reduce the blade attack angle somewhat to prevent the sliced off firm soil from being tossed beyond the slot and to get the best soil penetration in the firm soil.

TROUBLE SHOOTING

TO THE nutri-placr 3300 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.

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 MATERIAL PER ACRE	<p>Clogged screen in regulator.</p> <p>A.A. tubes clogged with dirt.</p> <p>Broken diaphragm in regulator.</p> <p>Hose too small from tank.</p> <p>Regulator not set properly.</p>	<p>Remove and clean often.</p> <p>Remove dirt.</p> <p>Replace.</p> <p>Replace with larger hose.</p> <p>Review setting instructions.</p>
TOOL BAR JUMPS SIDE TO SIDE	<p>Pitch of knife is not correct.</p>	<p>Adjust hitch clevis up or down to level implement fore and aft. Be sure rear bar is not lower than front bar.</p>
BALLING AND FREEZING	<p>Knife collecting trash is primary cause of balling and freezing.</p>	<p>Use coulters to cut trash.</p>
INSUFFICIENT DEPTH OR MACHINE FLOATS OUT.	<p>Dull or broken knives.</p> <p>Frame of machine not level (knives riding on the heel).</p> <p>Coulters too deep.</p>	<p>Replace. Forward swept knives provide better suck in.</p> <p>Level frame.</p> <p>Raise coulters. Coulters tend to hold machine out of ground if set too deep.</p>
MACHINE PULLS HARD	<p>Blades are too deep.</p> <p>Dull or broken points.</p> <p>Implement frame is not level.</p> <p>Insufficient tire pressure.</p> <p>Coulters not in line with shanks.</p>	<p>Excessive depth consumes power. Raise blades.</p> <p>Replace.</p> <p>Level the machine.</p> <p>Inflate both transport tires equally: 7.50 x 14 to 32 p.s.i. 9.5L x 15 to 44 p.s.i. 11L x 15 to 40 p.s.i.</p> <p>Adjust coulters and/or knives so coulters are in line with shanks.</p>

POTENTIAL PROBLEM	PROBABLE CAUSES	REMEDIES
MACHINE IS PULLING CROOKED.	<p>Unequal tire inflation.</p> <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>Gauge wheels not set evenly.</p>	<p>Inflate both transport tires equally: 7.50 x 14 to 32 p.s.i. 9.5L x 15 to 44 p.s.i. 11L x 15 to 40 p.s.i.</p> <p>Adjust shank spacing.</p> <p>Adjust and align.</p> <p>Adjust gauge wheel evenly.</p>
MACHINE PLUGGING	<p>Blades are running too deep.</p> <p>Blades are not deep enough.</p> <p>Dull blades.</p> <p>Coulters are not directly ahead of shanks.</p> <p>Large amount of trash.</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 blade setting place the hub 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 coulters or disc position to directly ahead of shanks.</p> <p>Add coulters.</p> <p>Sharpen or replace.</p>
WARNING AND TAIL LIGHTS WORK IMPROPERLY	<p>Burned out bulbs.</p> <p>Bad connections in the plug connection(s).</p> <p>Damage to wiring harness or light assemblies.</p> <p>Tractor 7-pin connector malfunctioning.</p>	<p>Replace bulbs.</p> <p>Clean contacts.</p> <p>Repair or replace.</p> <p>Try different tractor and repair tractor electrical system.</p>

COMPONENT BREAKAGE

POTENTIAL 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 trash.</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 there is any corrosion on the coupling or the 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.

SQUIBB REGULATOR

FIELD CALIBRATION

Tighten POINTER on stem (in any position). Rotate POINTER and STEM counter-clockwise until it stops. Repeat rotating to a firm positive stop several times. Loosen POINTER BINDER SCREW. Rotate pointer on stem "zeroing-in" to the "O". Then when sighting down the left (or straight) side of pointer, double check to be sure pointer "zeros-in" on "O". If necessary, repeat calibration procedure for proper adjustment.

DIAL SETTING INSTRUCTIONS

Calculate dial setting (NH₃/HR) by three known factors: tractor speed, pounds of "N" per acre, and swath width. Formula to be used is also located at top of dial plate.

Note: Swath is in inches, and 81.5 is a constant.

$$\frac{\text{Speed (MPH)} \times \text{lbs. "N" per acre} \times \text{swath (in.)}}{81.5} = \text{NH}_3/\text{HR.}$$

Example: Speed = 5.5 mph. "N" per acre = 100 lbs Swath = 30 ft. x 12 = 360 in.
$$\frac{5.5 \times 100 \times 360}{81.5} = 2,429 \text{ NH}_3/\text{HR.}$$

Set pointer on 2,429 when tank pressure is higher than 125. When tank pressure is below 125 p.s.i., follow curved lines on dial to proper setting.

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 C-4100 AND B-9500

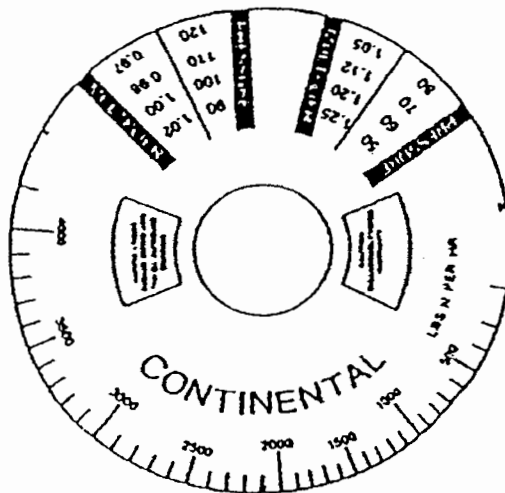
If appropriate charts are not available, use the formula (Lbs. Nitrogen x Swath Feet x MPH x .1212 = Lbs. Nitrogen in one hour).

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	PRESSURE	MULTIPLIER
50	1.25	100	1.00
60	1.20	110	0.97
70	1.15	120	0.95
80	1.10	130	0.93
90	1.05	140	0.92

Lbs. N x 1.22 = Lbs. NH₃
 Lbs. NH₃ x .82 = Lbs. Nitrogen

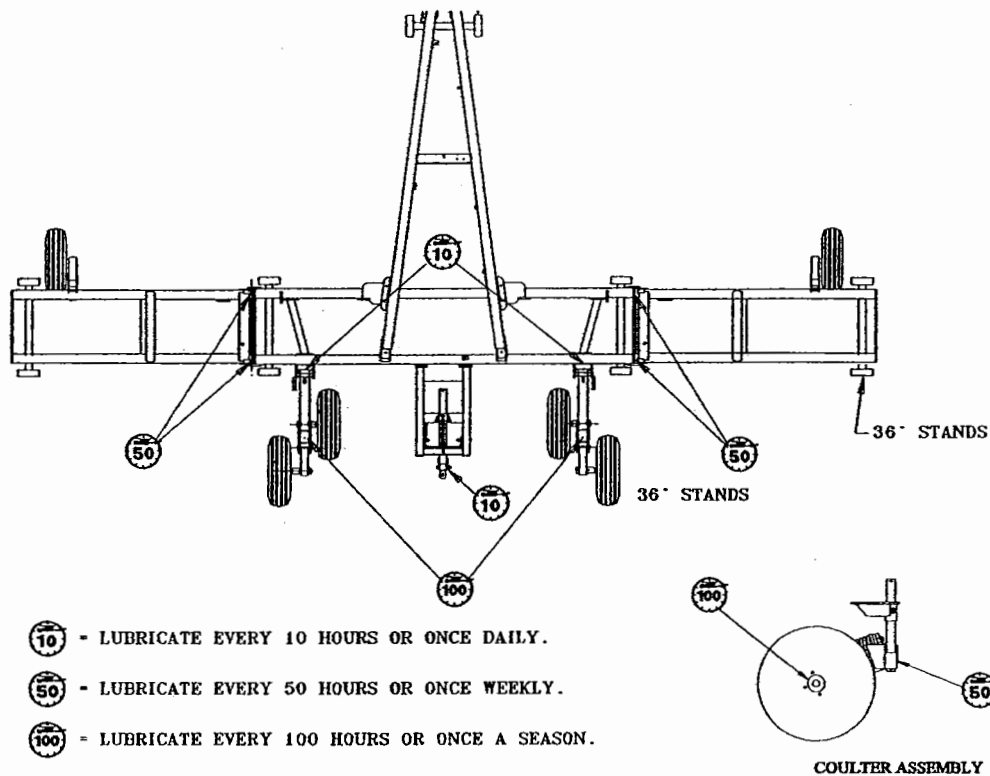
FORMULA FOR CHART: #N x SWATH FT. x MPH x .1212 = # NITROGEN PER HOUR AT 100# TANK PRESSURE

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

See Warranty Section for claims.

MAINTENANCE SECTION

LUBRICATION



- 10** - LUBRICATE EVERY 10 HOURS OR ONCE DAILY.
- 50** - LUBRICATE EVERY 50 HOURS OR ONCE WEEKLY.
- 100** - 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 coulters arms every 50 hours or once each week.

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

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

PREVENTIVE MAINTENANCE



- WARNING:**
- Never position yourself under any portion of the **nutri-placr 3300** 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-placr 3300** 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.

WALKING TANDEM AXLE

Check the tandem axle pivot at least once a year. Loosen the 3/8" x 1" sq. hd. set screw and torque the nut to 150-175 ft-lbs. Tighten the set screw.

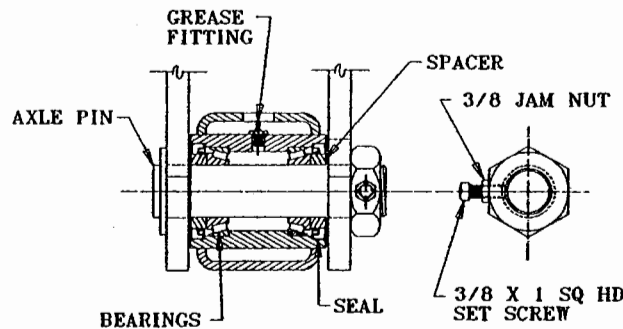


fig #1

If the tandem axles are removed for servicing, assemble as follows: Refer to Figure #1.

- 1) After reassembling the axle pivot bearings, place the spacers against the bearings, then press seals into place over the spacers flush with tube.
- 2) Seat the bearing assembly by torquing the nut to 260 ft-lbs. (Rotate axle up and down.)
- 3) Loosen the nut until it can be turned by hand. Retorque the nut to 150-175 ft-lbs. Tighten the set screw and jam nut. Lubricate the fitting until grease appears at both sides.

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. Check tires for proper inflation. All tires should be inflated equally to avoid side draft. (See Tire Inflation, Page #10.)
5. Check the wheel lug bolts daily, keep wheel bolts. Torque to 90 - 110 ft-lbs.
6. Grease all fittings; refer to Lubrication Section, Page #19.
7. Inspect, repack, or replace (if necessary) wheel bearings and seals.
8. Check hoses, hose routing and hydraulic cylinders. Any indication of leakage or fraying of hoses should be corrected.
9. Check regulators - make sure they operate properly.
10. The Quic-Coupler safety swing stand must pivot freely. Check before using.
11. Check torque on walking tandem axle pivot. Refer to Page #20.
12. Check warning lights. Replace bad bulbs if necessary.

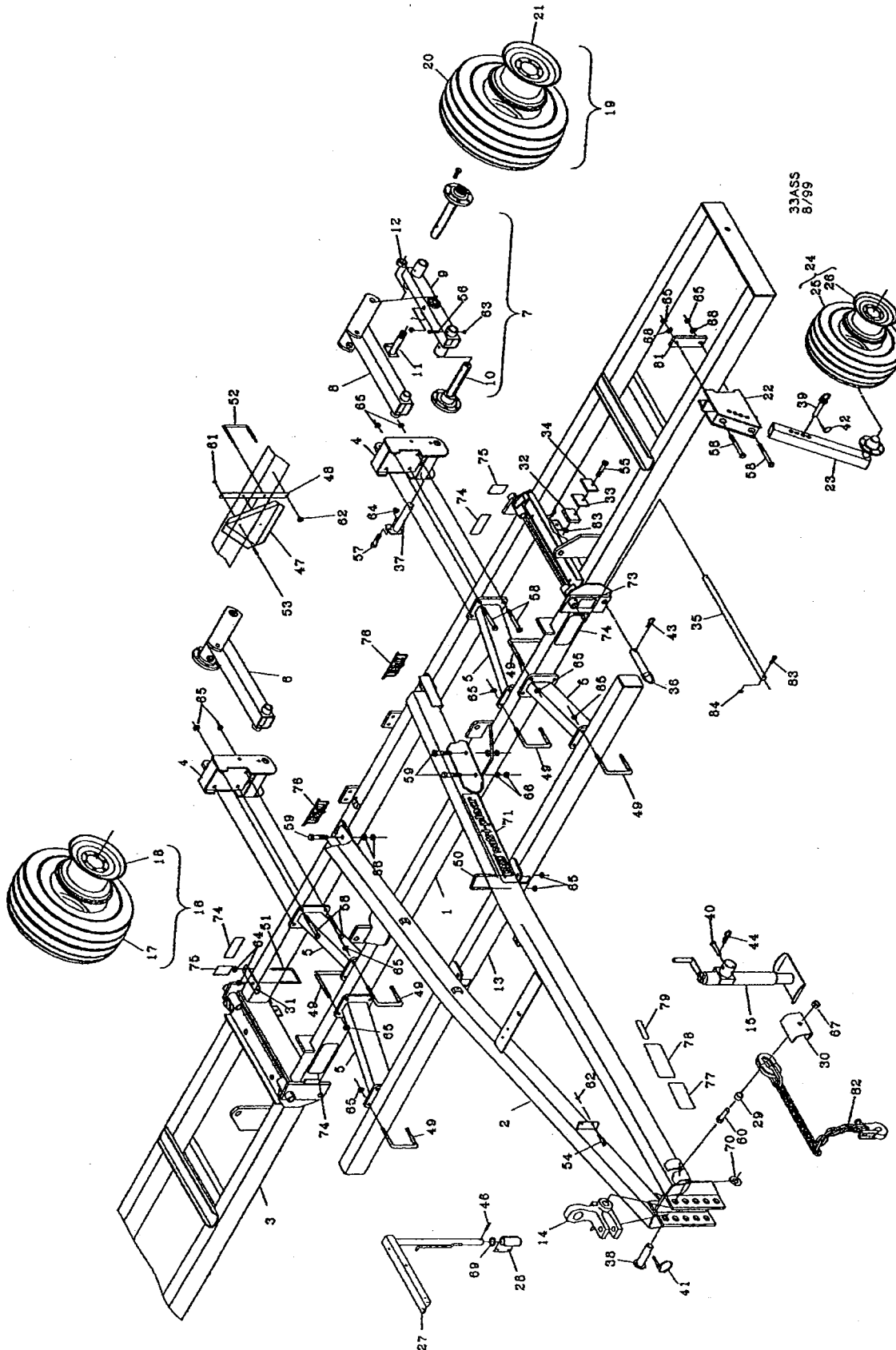
OFF-SEASON STORAGE CHECK LIST

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

1. The chief enemies of your **nutri-placr 3300**, 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 #19.)
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. The manufacturer 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.
8. Retract cylinders in storage or coat cylinder rods with a light coat of oil or grease.
9. Store warning light seven-pin connector in storage receptacle to prevent corrosion.

PARTS SECTION

MAIN FRAME

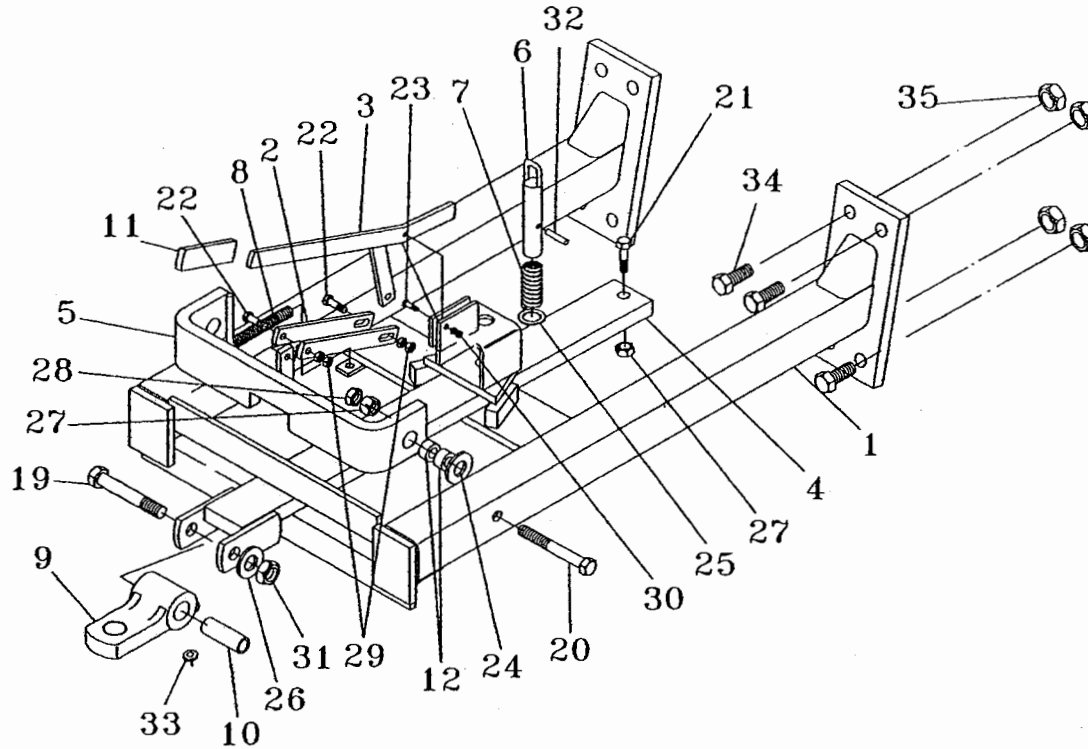


MAIN FRAME

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION	REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	02491100	1	Main Frame	38	14820525	1	1-5/8" O.D. Hitch Pin
2	02491200	1	A-Frame	39	14816348	2	Pin Weldment
3	02394120	1	Wing 44" RH 22-1/2' Machine	40	14810251	1	5/8" O.D. x 3-1/8" Clevis Pin
	02394150	1	Wing 44" LH 22-1/2' Machine	41	D33805	1	7/16" x 2" Klik Pin
	02394220	1	Wing 73" RH 27-1/2' Machine	42	A30338	2	1/4" x 1-3/4" Klik Pin
	02394250	1	Wing 73" LH 27-1/2' Machine	43	1978738C1	4	3/16" x 3" Hair Pin
	02394300	1	Wing 102" RH 32-1/2' Machine	44	14720411	1	1/8" x 2" Hair Pin
	02394350	1	Wing 102" LH 32-1/2' Machine	46	438-32840	1	7/16" x 2-1/2" Roll Pin
4	02491300	2	Wheel Mount	47	311860A1	1	SMV, Steel Back
5	02491500	4	Brace	48	06000099	1	SMV Bracket
6	02491410	1	Spindle Arm Single 783 LH	49	16312240	12	3/4" x 6" U-Bolt
	02491460	1	Spindle Arm Single 783 RH	50	87427182	2	3/4" x 7-1/2" U-Bolt
7	02491610	1	Spindle Arm Tandem Assy 783 RH	51	87427170	2	5/8" x 4" x 8" U-Bolt
	02491660	1	Spindle Arm Tandem Assy 783 LH	52	16309101	1	3/8" x 6" U-Bolt
8	02491710	2	Spindle Arm Assembly	53	413-412	2	1/4" x 3/4" NC Hex Bolt
9	02491810	1	Walking Axle Assembly RH	54	413-616	3	3/8" x 1" NC Hex Bolt
	02491860	1	Walking Axle Assembly LH	55	413-824	4	1/2" x 1-1/2" NC Hex Bolt Gd. 5
10	28078372	4	Hub and Spindle 783	56	424-852	4	1/2" x 3-1/4" NC Hex Bolt
11	04661850	2	Axle Pin	57	413-1032	2	5/8" x 2" NC Hex Bolt Gd. 5
12	14032408	2	1-1/2" Jam Nut with Set Screw	58	413-12104	12	3/4" x 6-1/2" NC Hex Bolt Gd. 5
13	02491950	1	Front Coultter Bar	59	413-1448	6	7/8" x 3" NC Hex Bolt Gd. 5
14	20092310	1	Combination Clevis	60	413-1648	1	1" x 3" NC Hex Bolt Gd. 5
15	32230000	1	3000# Swivel Jack	61	86992211	1	1/4" NC Stover Lock Nut
16	10010152	2	11L x 15 8 ply Tire Assy (Single Option)	62	425-106	4	3/8" NC Hex Nut
17	NSI	2	11L x 15 8 ply Tire (Single Option) (1980927C1)	63	231-4248	8	1/2" NC Hex Lock Nut
18	10110154	2	10 x 15 6-Hole Wheel (Single Option)	64	231-42410	6	5/8" NC Hex Lock Nut
19	10008156	4	9.5L x 15SL 8 ply Tire Assy (Tandem Option)	65	425-1012	40	3/4" NC Hex Nut
20	NSI	4	9.5L x 15 8 ply Tire (Tandem Option) (1980928C1)	66	425-1014	12	7/8" NC Hex Nut
21	10108154	4	8 x 15 6-Hole Wheel	67	86992219	1	1" NC Stover Lock Nut
22	04661320	2	Gauge Wheel Mounting Bracket	68	492-11075	4	3/4" Lock Washer
23	02391310	2	Spindle Arm, Pin Adjust 633	69	17624021	1	1-1/2" Machine Bushing
24	10005146	2	7.5L x 14 Tire Assembly	70	17426001	1	1-5/8" I.D. HD Washer
25	NSI	2	7.5L x 14 4-ply Tire (11007142)	71	18534249	2	nutri-placr Decal
26	10105146	2	5 x 14 4-Hole Wheel	72	18534287	1	3300 Decal (Not Shown)
27	05302150	1	Hose and Gauge Stand	73	18534243	1	Amber Reflector Decal
28	09983458	1	Hose Stand Mount	74	18534227	4	Danger Sign
29	04681211	1	Spacer	75	18534244	2	Red Reflector Decal
30	04681210	1	Bracket	76	18534259	2	DMI Logo Decal
31	02394010	2	Manifold Bracket	78	18534228	1	Caution Decal
	02394500	1	Wing Float Adjust Kit (Inc. Items #32, 33, 34, 55, & 63)	79	18534174	1	"Other Patents Applied For" Decal
32	04626140	8	.250" Thk Shim	80	18530033	1	Decal Kit (for Entire Machine)
33	04626130	4	.113" Thk Shim	81	09576610	2	Flat
34	04626120	4	.076" Thk Shim	82	63506C3	1	20,200 lbf Safety Chain
35	14892088	2	Pin	83	413-844	2	1/2" x 2-3/4" HC Hex Bolt, Gd. 5
36	14816395	4	1" Dia. x 4-7/8" E.L. Clevis Pin	84	86992215	2	1/2" NC Stover Lock Nut
37	14820640	2	1-5/8" O.D. Pin				

NSI - NOT A SERVICE ITEM

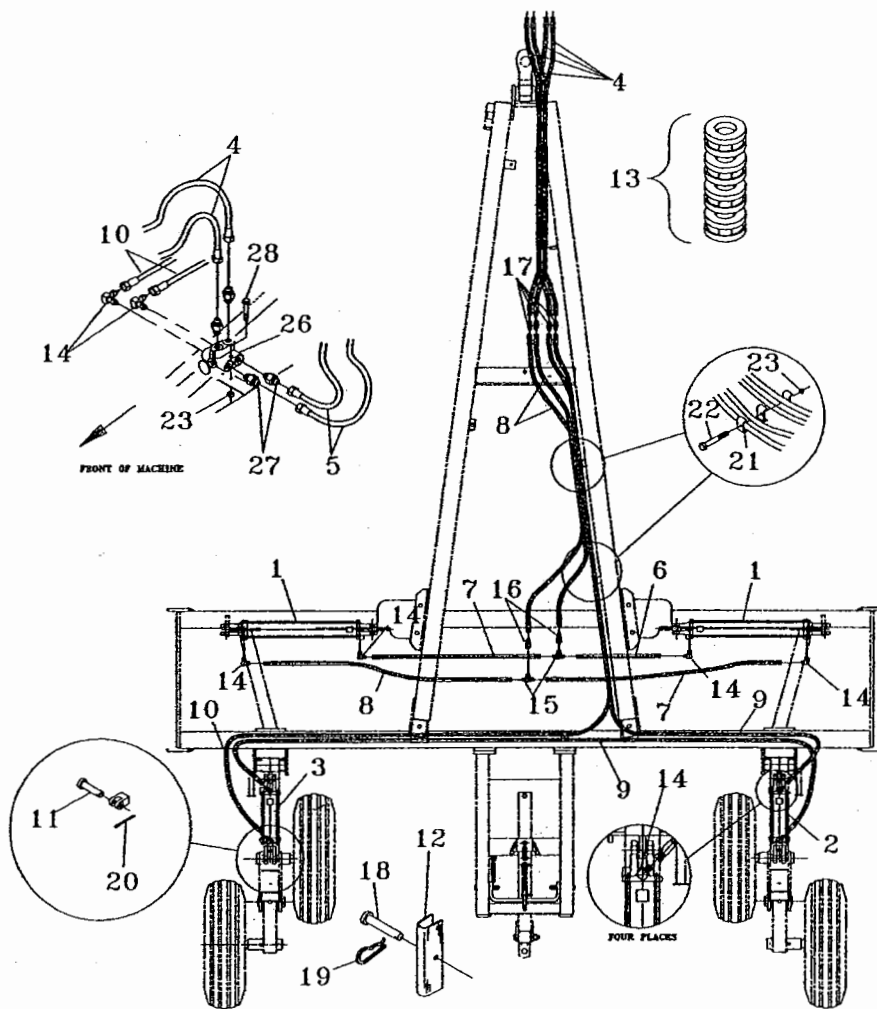
REAR HITCH



REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	02391200	1	Rear Hitch
2	04664130	2	Link
3	04664200	1	Handle
4	04664400	1	Tow Bar
5	04664300	1	Draw Bar Stop
6	14816166	1	Hitch Pin
7	24111200	1	Compression Spring
8	24312000	1	Extension Spring
9	20092085	1	Single Clevis
10	44009370	1	Bushing
11	30011100	1	Vinyl Grip
12	44006200	4	Bushing
19	16901420	1	7/8" x 5-1/2" NC Hex Bolt
20	413-1088	2	5/8" x 5-1/2" NC Hex Bolt Gd. 5
21	413-1028	1	5/8" x 1-3/4" NC Hex Bolt Gd. 5

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
22	413-632	2	3/8" x 2" NC Hex Bolt
23	413-424	1	1/4" x 1- 1/2" NC Hex Bolt
24	17618030	4	1-1/8" Mach. Bushing 18 Ga.
25	17616020	1	1" Mach. Bushing 14 Ga.
26	17414012	1	7/8" ID thk. Washer
27	425-1010	3	5/8" NC Hex Nut
28	425-1410	2	5/8" NC Hex Jam Nut
29	425-106	4	3/8" NC Hex Nut
30	425-104	2	1/4" NC Hex Nut
31	86992218	1	7/8" NC Hex Lock Nut
32	438-11624	1	1/4" x 1-1/2" lg. Roll Pin
33	219-86	1	1/8" NPT Self Tap Zerk
34	413-1240	8	3/4" x 2-1/2" NC Hex Bolt
35	425-1012	8	3/4" NC Hex Nut

HYDRAULICS



REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	25335242	2	3-1/2" x 24" Hydraulic Cylinder - 3,000 p.s.i.
	25340242	2	4" x 24" Hydraulic Cylinder - 3,000 p.s.i.
2	86990539	1	3-1/2" x 10" Hydraulic Cylinder - Rephase
3	86990538	1	3-1/4" x 10" Hydraulic Cylinder - Rephase
4	25610714	4	3/8" Hydraulic Hose x 125" Long
6	25600622	1	3/8" Hydraulic Hose x 22" Long
7	25600655	2	3/8" Hydraulic Hose x 55" Long
8	25600678	3	3/8" Hydraulic Hose x 78" Long
9	25600674	2	3/8" Hydraulic Hose x 154" Long
10	25600667	1	3/8" Hydraulic Hose x 187" Long
11	14816466	2	1" x 5.81" E.L. Clevis Pin
12	04632700	2	Cylinder Stop 9-3/4" Long, 3-Holes
13	25800010	1	Stroke Control Kit 1-1/4"
14	218-5106	8	3/4" JICM x 3/4" SAEM 90°
15	218-5183	2	3/4" JICM (2) x 3/4" SAEM Tee
16	25405015	2	Throttle Valve (Brown SAE)

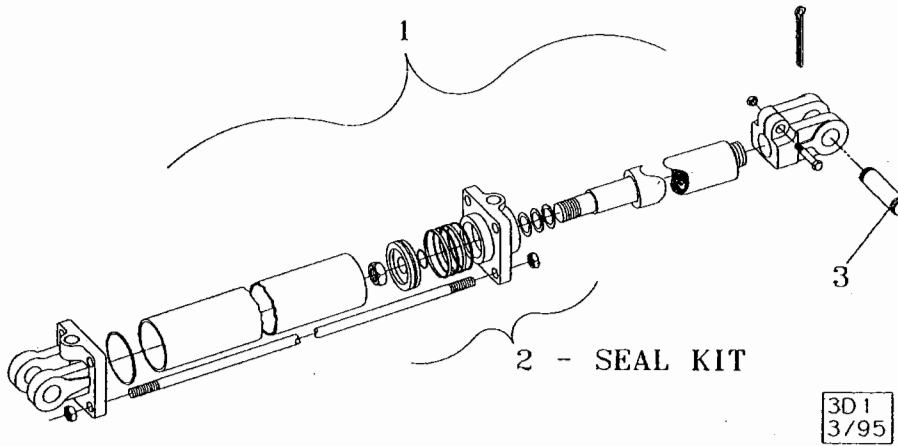
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
17	218-735	4	3/4" JICM Adapter
18	14810251	2	5/8" x 3-1/8" E.L. Clevis Pin
19	14720411	2	1/8" x 2" Hair Pin
20	432-1624	2	1-1/4" x 1-1/2" Cotter Pin
21	06200125	10	Hose Clamp
22	413-636	5	3/8" x 2-1/4" NC Hex Bolt
23	425-106	5	3/8" NC Hex Nut (14000601)
24	386170C1	12	30" Hose Tie (Not Shown)

SELECTOR VALVE ITEMS (P0466083)

14	218-5106	2	3/4" JICM X 3/4" SAEM 90°
23	425-106	2	3/8" NC Hex Nut
26	25401000	1	Selector Valve
27	218-5059	4	3/4" SAEM x 3/4" JICM Adapter
28	413-640	2	3/8" x 2-1/2" NC Hex Bolt

NSI - NOT A SERVICE ITEM

HYDRAULIC CYLINDER



REF. NO.	3-1/4" x 10"	3-1/2" x 10"	QTY.	DESCRIPTION
1	86990538		1	3-1/4" Bore x 10" Stroke Hydraulic Cylinder (20-5/16" Closed)
		86990539	1	3-1/2" Bore x 10" Stroke Hydraulic Cylinder (20-5/16" Closed)
2	25803300	25803500	1	Seal Kit
3	25890100	25890100	1	1" Cylinder Pin Bag of Parts
REF. NO.	3-1/2" x 24"	4" x 24"	QTY.	DESCRIPTION
1	25335242		1	3-1/2" Bore x 24" Stroke (34-1/4" Closed) - 3,000 p.s.i.
		25340242	1	4" Bore x 24" Stroke (34-1/2" Closed) - 3,000 p.s.i.
2	25833526	25834023	1	Seal Kit
3	25890100	25890100	1	1" Cylinder Pin Bag of Parts



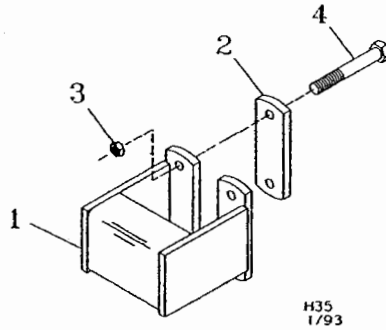
WARNING:

- 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.
- 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 shutting off tractor, lowering the **nutri-placr 3300** to the ground (or secure with cylinder transport stops provided), and placing remote control levers in flat or neutral position.

ACCESSORY WINGS

SIDE DRESS BAR

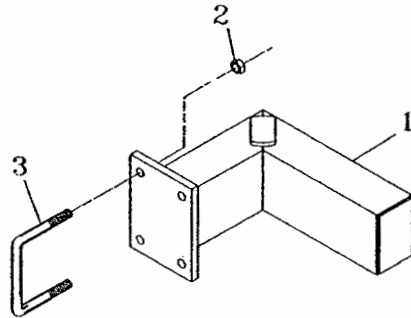
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	P0957150	1	Sidedress Bar with Hardware
1	09576750	1	Extension Bar
2	09576757	2	Flat
3	425-1014	4	7/8" NC Hex Nut
4	413-14104	4	7/8" x 6-1/2" NC Hex Bolt Gd. 5



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1/93

OFFSET BAR

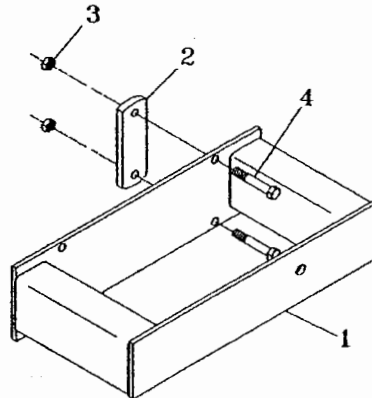
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	04662900	1	Offset Bar with Hardware
1	04662910	1	Offset Bar
2	425-1012	4	3/4" NC Hex Nut
3	16312240	2	3/4" x 6" NC U-Bolt



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1/93

EXTENSION WINGS

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	P0468280	1	28" Extension Wing w/Hardware
1	04681600	1	28" Extension Wing
2	09576610	2	Flat
3	425-1012	4	3/4" NC Hex Nut (14001201)
4	413-1240	4	3/4" x 2-1/2" NC Hex Bolt Gd. 5



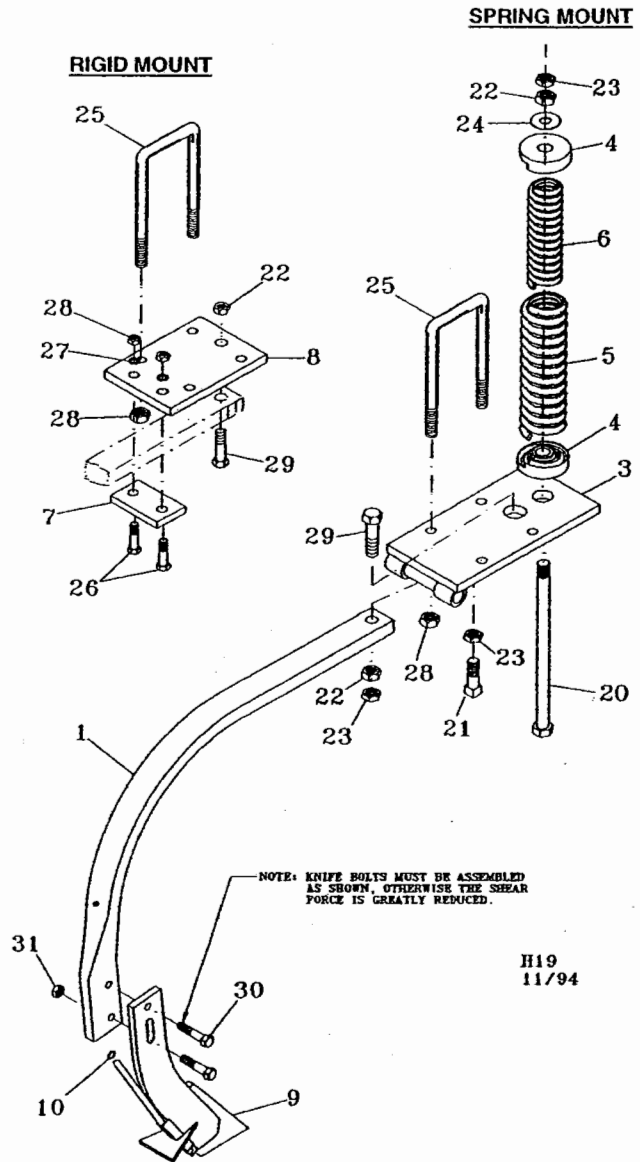
HEAVY DUTY SPRING AND RIGID SHANK

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
	P0466018	1	Rigid Mount 4" x 6" with Hardware
	04665090	1	H.D. Spring Mount 4" x 6" with Hardware
1	33020017	1	Shank, Side Mount
2	04665400	1	H.D. Spring Mount Assy. (Less #25 and #28)
3	04665410	1	H.D. Spring Mount
4	20090120	2	Double Spring Casting
5	24162504	1	Compression Spring 4-1/16" O.D.
6	24143812	1	Compression Spring 2-1/2" O.D.
7	09236000	1	Clamp Plate
8	04620510	1	Plate
9	A/R	1	Forward Swept Knife - See "Knives" Page #32
10	214-1406	2	Hose Clamp
11	22510803	1	Hose Clip

HARDWARE

20	16912606	1	3/4" x 15" NC Hex Bolt
21	16812084	1	3/4" x 2" Sq. Hd. Set Screw
22	425-1012	A/R	3/4" NC Hex Nut
23	425-1412	A/R	3/4" NC Hex Jam Nut
24	495-21081	1	3/4" Std. Washer
25	16310011	2	5/8" x 4" x 5-1/2" U-Bolt
	87427170	2	5/8" x 4" x 8" U-Bolt
26	424-1048	2	5/8" x 3" NC Hex Bolt
27	492-11062	2	5/8" Lock Washer
28	425-1010	A/R	5/8" NC Hex Nut
29	413-1248	1	3/4" x 3" NC Capscrew Gd. 5
30	413-832	2	1/2" x 2" NC Capscrew Gd. 5
31	425-108	2	1/2" NC Hex Nut

NSI - NOT SERVICE ITEM
A/R - AS REQUIRED



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11/94

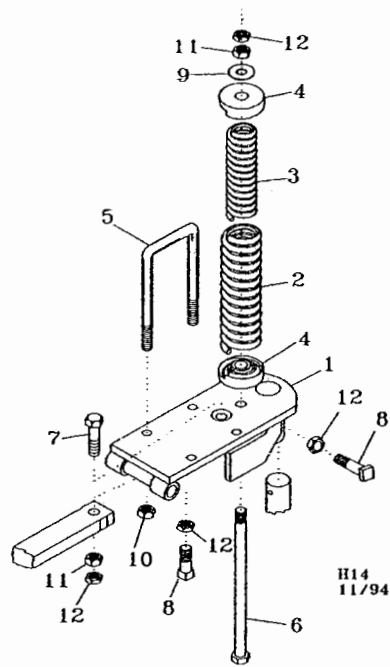
NOTE: Knife bolts must be assembled as shown, otherwise the shear force is greatly reduced.



WARNING: Compressed springs have potentially dangerous stored energy.
Always assemble and disassemble properly.

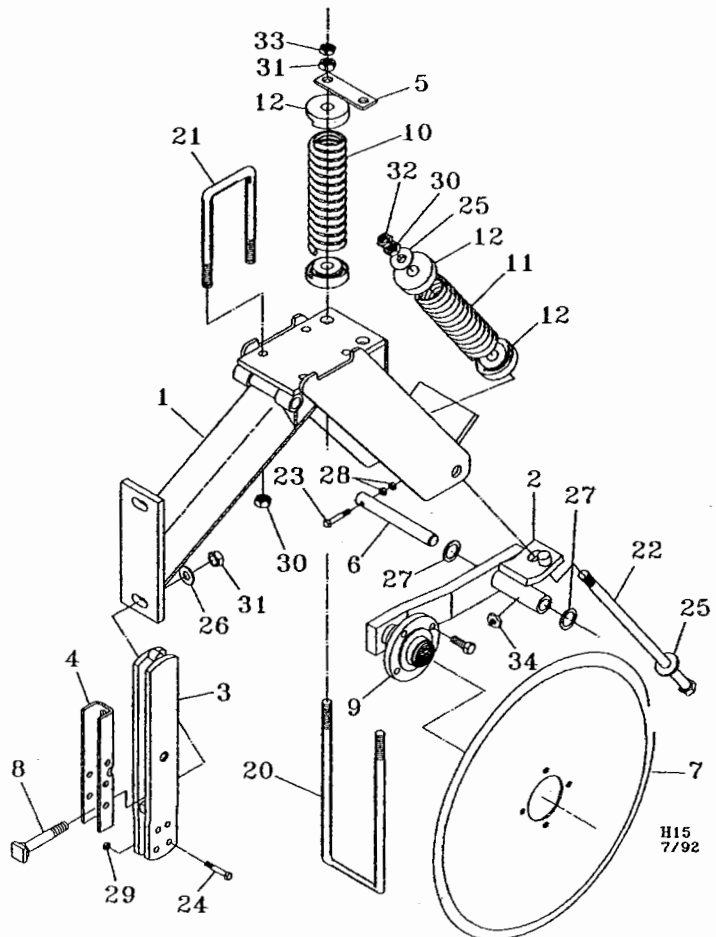
HEAVY DUTY SPRING C-S MOUNT

REF. NO.	PART NO.	QTY.	NO. DESCRIPTION
	04665070	1	H.D. Spring C-S Mounting 4" x 6" with Hardware
1	04665510	1	C-S Spring Mount
2	24162504	1	Compression Spring 4-1/16" O.D.
3	24143812	2	Compression Spring 2-1/2" O.D.
4	20090120	2	Double Spring Casting
5	16310011	2	5/8" x 4" x 5-1/2" U-Bolt
	87427170	2	5/8" x 4" x 8" U-Bolt
6	16912606	1	3/4" x 15" NC Hex Bolt
7	413-1248	1	3/4" x 3" NC HHCS Gd. 5
8	16812084	2	3/4" x 2" Sq. Hd. Set Screw
9	425-1010	4	5/8" NC Hex Nut
10	425-1012	2	3/4" NC Hex Nut
11	425-1412	4	3/4" NC Hex Jam Nut
12	425-1412	4	3/4" NC Hex Jam Nut



TRU-TRAK'R

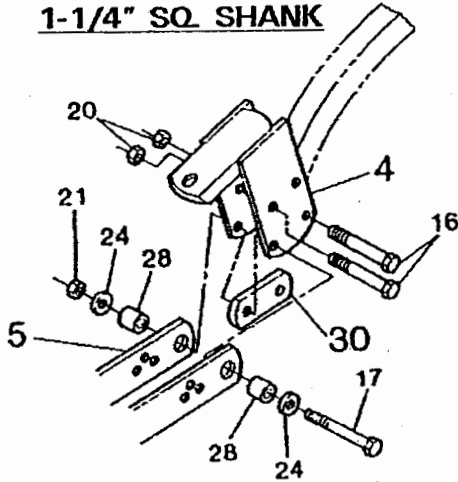
REF. NO.	PART NO.	QTY.	NO. DESCRIPTION
1	05202000	1	Tru-Trak'r
2	05201205	1	Coulter Pivot with Hub
3	05202100	1	Knife Bracket
4	05201190	1	Uni-Seal Bracket
5	09007001	1	Spacer Plate
6	05201700	1	Pin
7	443626A1	1	20" Coulter Plate
8	05202200	2	3/4" x 5" Bolt Retainer
9	28063331	1	633 Hub (See Page #46 for Parts List)
10	24156205	2	Compression Spring (11 Coils)
11	24156201	1	Compression Spring (8 Coils)
12	20090050	6	Spring Holder Castings
20	16312050	1	3/4" NC x 12-3/4" U-Bolt
21	87427170	2	5/8" NC x 4" x 8" U-Bolt
22	413-10192	1	5/8" NC x 12" Hex Bolt
23	413-532	1	5/16" x 2" NC Hex Bolt Gd. 5
24	424-832	2	1/2" x 2" NC Hex Bolt
25	17411012	2	11/16" ID x 1-3/4" OD x 1/4" Washer
26	17413011	2	13/16" ID x 1-3/4" OD x 1/4" Washer
27	17616020	2	1" Machine Bushing 14 gauge
28	425-105	2	5/16" NC Hex Nut
29	425-108	2	1/2" NC Hex Nut
30	25-1612	5	5/8" NC Heavy Hex Nut
31	425-1012	4	3/4" NC Hex Nut
32	425-1410	1	5/8" NC Hex Jam Nut
33	425-1412	2	3/4" NC Hex Jam Nut
34	219-86	1	1/8" NPT Grease Zerk
35	18534251	1	Tru-Trak'r Decal



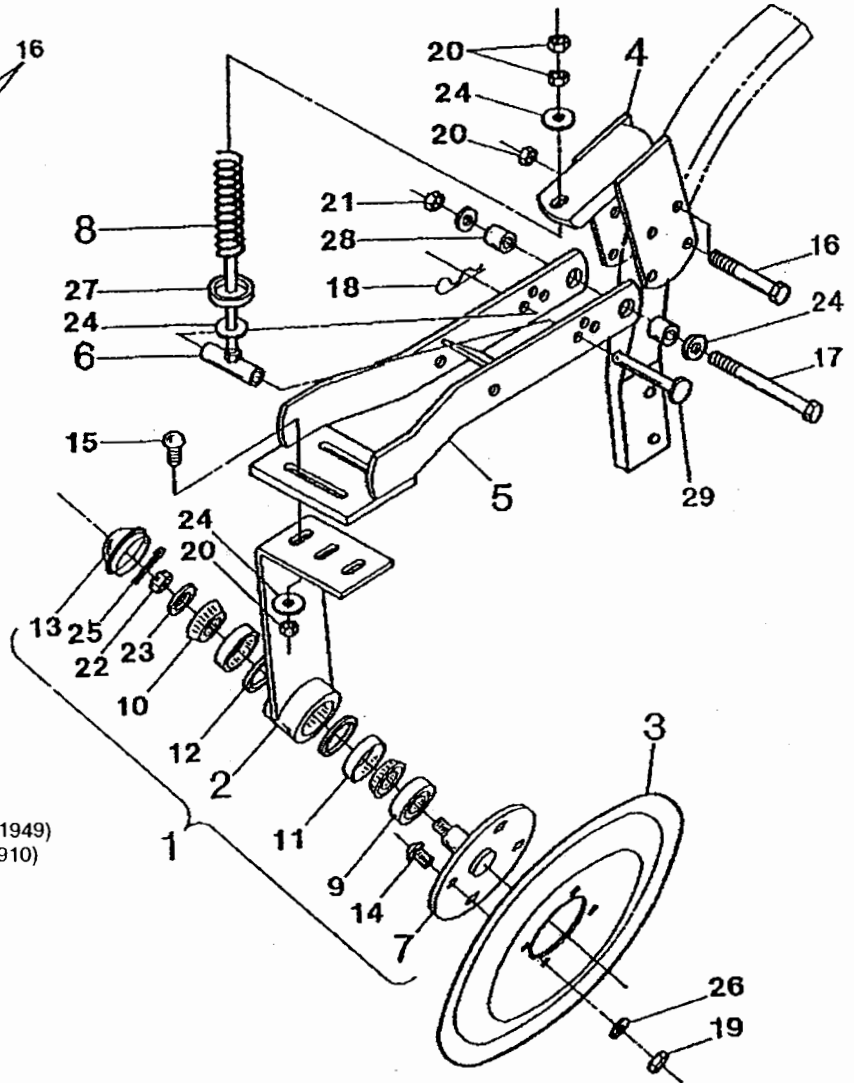
NSI - NOT A SERVICE ITEM

uni-sealr

1-1/4" SQ. SHANK

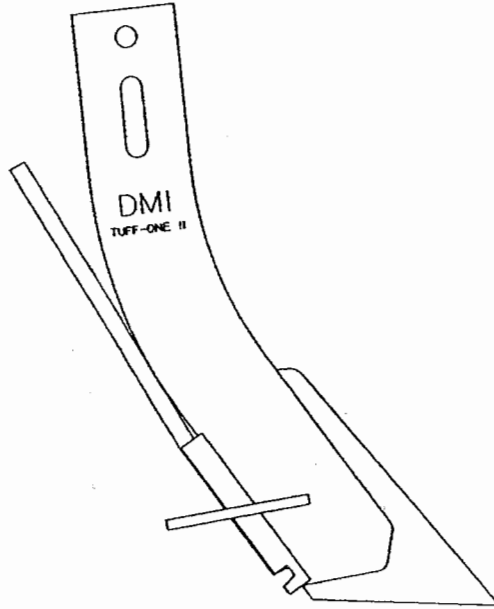


1" X 2" SHANK



REF. NO.	PART NO.	QTY.	DESCRIPTION
	02333000	1	Uni-Sealer Assy.
1	02333120	1	Bearing Housing Assy.
2		1	Replaced by Item #1
3	443622A1	1	Uni-Sealer Disc
4	02333300	1	Bracket Weld
5	02333200	1	Frame Weld
6	02333500	1	Pivot Bolt (1/2")
7	04666420	1	Hub & Spindle Weld
8	24117700	1	Spring
9	21931000	1	Seal (CR #10035)
10	651815R91	2	.75" Bore Cone (Timken #LM11949)
11	651814R1	2	1.78" OD Cup (Timken #LM11910)
12	100-21175	2	Internal Retaining Ring
13	28400400	1	Dust Cap
14	433-612	4	3/8" x 3/4" Carriage Bolt
15	433-824	2	1/2" x 1-1/2" NC Carriage Bolt
16	413-856	1	1/2" x 3-1/2" NC Capscrew
17	413-888	1	1/2" x 5-1/2" NC Capscrew
18	14720411	1	1/8" x 2" Hair Pin
19	425-106	4	3/8" NC Hex Nut
20	425-108	5	1/2" NC Hex Nut
21	231-4248	1	1/2" NC Locknut
22	425-1312	1	3/4" NF Slotted Hex Nut
23	495-11081	1	3/4" SAE Washer
24	495-21056	6	1/2" Standard Washer
25	432-816	1	1/8" x 1" Cotter Pin
26	492-11038	4	3/8" Lock Washer
27	17506010	1	Cup
28	02323001	2	Bushing (Heat Treated)
29	14808291	1	1/2" x 3-5/8" El Clevis Pin
30	02333350	2	Spacer Plate (1-1/4" Sq. Shank)

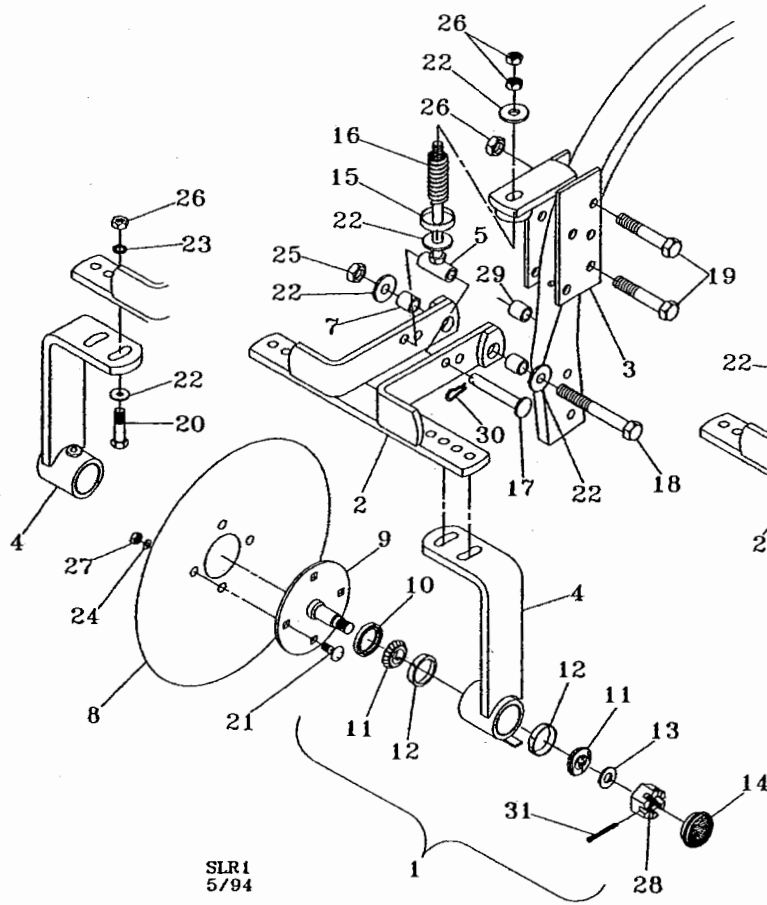
KNIVES



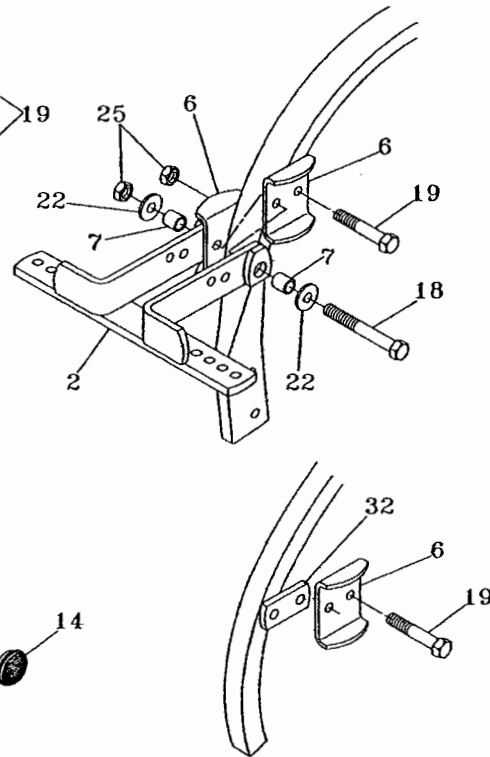
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	33601002	1	3/8" Forward Swept Knife with Sealer
2	33601007	1	Knife Tube only (3/8" Tube)
3	33601006	1	Knife Tube only (1/2" Tube)
4	33601008	1	Knife Sealer only
5	33607001	1	3/8" C.C. Tuff - One II Knife without Sealer
6	33607002	1	3/8" C.C. Tuff - One II Knife with Sealer
7	33607008	1	C.C. Tuff - One II Sealer only
8	33607007	1	3/8" C.C. Tuff - One II Tube Only
9	33607003	1	1/2 C.C. Tuff - One II Knife without Sealer
10	33607004	1	1/2 C.C. Tuff - One II Knife with Sealer

REGULAR DOUBLE DISC AND REVERSIBLE SPRING DOUBLE DISC SEALERS

SPRING - REVERSIBLE
DOUBLE DISC SEALER



REGULAR
DOUBLE DISC SEALER

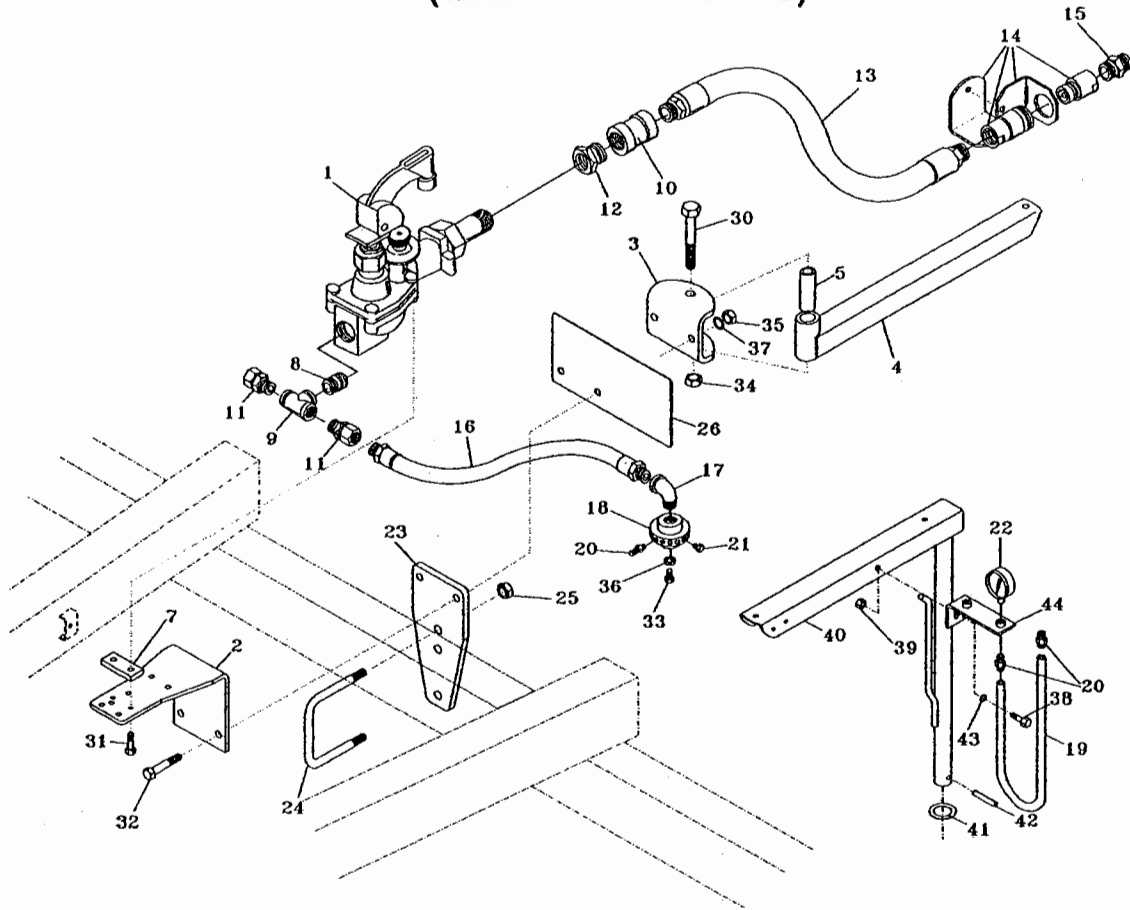


1 1/4" SQUARE SHANK
MOUNTING OPTION

REF. PART NO.	QTY. NO.	DESCRIPTION
02400100	1	Reversible Spring Disc Sealer (complete)
02330100	1	Regular Disc Sealer (complete)
1	02325200	1 Sealer Arm Assembly
2	02335300	1 Sealer Frame
3	02334000	1 Bracket
4	02325150	1 Sealer Arm with Cups
5	02333500	1 1/2" Dia. Spring Pivot Bolt
6	02335120	2 Shank Spacer (1" x 2" Shank)
	02335140	2 Shank Spacer (1-1/4" Square Shank)
7	02323100	2 Bushing
8	443623A1	2 14" Disc Blade
9	04666420	2 Hub and Shaft
10	21931000	2 Seal CR10035
11	651815R91	4 3/4" Bore Cone LM11949
12	651814R1	4 1.781" OD Cup LM11910
13	495-11081	4 3/4" SAE Washer
14	28400400	2 Grease Cap
15	17506010	1 Cup Washer

REF. PART NO.	QTY. NO.	DESCRIPTION
16	24120701	1 Compression Spring
17	14808291	1 1/2" x 3-5/8 EL Clevis Pin
18	413-888	1 1/2" x 5-1/2" NC Hex Bolt Gd. 5
19	413-852	2 1/2" x 3-1/4" NC Hex Bolt Gd. 5
20	413-828	4 1/2" x 1-3/4" NC Hex Bolt Gd.5
21	413-612	8 3/8" x 3/4" NC Carriage Bolt
22	495-21056	6 1/2" Flat Washer
23	492-11050	4 1/2" Lock Washer
24	492-11038	8 3/8" Lock Washer
25	231-4248	2 1/2" Hex Lock Nut
26	425-108	8 1/2" Hex Nut
27	425-106	8 3/8" Hex Nut
28	425-1312	2 3/4" NF Slotted Nut
29	02333410	1 Tube Spacer (Tru-Trakr only)
30	14720411	1 1/8" x 2" Hair Pin
31	432-816	1 1/8" x 1" Cotter Pin
32	02321000	2 Spacer Plate (1-1/4" Sq. Shank)

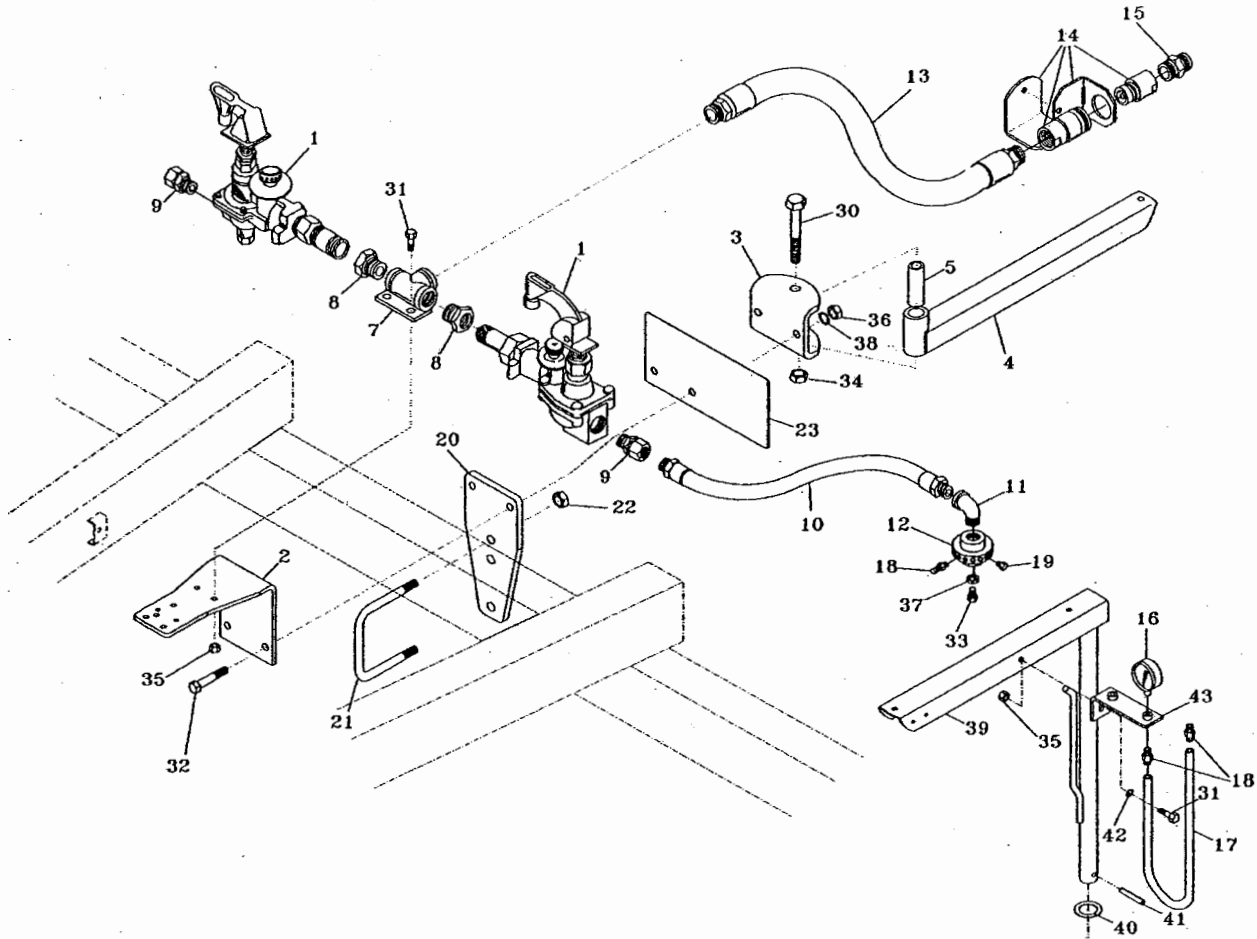
SINGLE CONTINENTAL ASSEMBLY (WITH 2 MANIFOLDS)



REF. NO.	PART NO.	QTY.	DESCRIPTION	REF. NO.	PART NO.	QTY.	DESCRIPTION
1	34104101	1	C4103 RPR Cont. Regulator with Single Outlet (See Page #41)	21	15020250	A/R	1/4" NPT Plug
2	04660310	1	Regulator Stand	22	15020120	A/R	1/8" Pipe Plug
3	04660320	1	Bracket	23	34599060	1	Dial Gauge - 60 p.s.i.
4	04660330	1	Extension Pivot Mount	24	02391118	1	Regulator Stand Bracket
5	04660340	1	Pivot Tube	25	16312240	1	3/4" x 6" U-bolt
7	04660019	1	Spacer Block	26	425-1012	2	3/4" NC Hex Nut
8	15011000	2	1" NPT x 1-1/2" Nipple	27	04681850	1	Decal Plate with Danger Sign
9	15051001	1	1" Pipe Tee - Blk. Malleable	28	18534368	1	Danger Sign (Not Shown)
10	15071251	1	1-1/4" NPT Coupling	30	413-1296	1	3/4" x 6" NC Hex Bolt Gd. 5
11	15081006	2	1" Swivel Pipe Coupling	31	413-524	2	5/16" x 1-1/2" NC Hex Bolt
12	15031259	1	1-1/4" x 1" NPT Reducer	32	413-1040	2	5/8" x 2-1/2" NC Hex Bolt Gd. 5
13	25675320	1	1-1/4" ID A.A. Hose x 32"	33	413-812	2	1/2" x 3/4" NC Hex Bolt
14	02600040	1	1-1/4" Quick Coupler Assembly	34	86992217	1	3/4" NC Hex Lock Nut
15	34314100	1	1-3/4" ACME x 1-1/4" NPTM Adapter	35	425-1010	2	5/8" NC Hex Nut
16	25674955	2	1" ID A.A. Hose x 126" Lg.	36	492-11050	2	1/2" Lock Washer
17	15001002	2	1" NPT x 90° Street Elbow	37	492-11062	2	5/8" Lock Washer
18	34199024	2	Continental Manifold, 14 Outlet	38	413-616	1	3/8" x 1" NC Hex Bolt
	34199012	2	Continental Manifold, 18 Outlet Wheat Machines	39	425-106	1	3/8" NC Hex Nut
19	25630601	A/R	3/8" ID x 166' Long A.A. Hose	40	05302150	1	Hose Stand
	25630801	A/R	1/2" ID x 166' Long A.A. Hose	41	17624021	1	1-1/2" Machinery Bushing
20	15040251	A/R	1/4" NPT x 3/8" Hose Barb	42	438-32840	1	7/16" x 2-1/2" Roll Pin
	15040252	A/R	1/4" NPT X 1/2" Hose Barb	43	495-21044	1	3/8" Standard Washer
	15040120	A/R	1/8" NPT x 3/8" Barb Orifice Wheat Machines Only	44	04681830	1	Gauge Bracket

A/R - AS REQUIRED

DOUBLE CONTINENTAL ASSEMBLY (WITH 2 MANIFOLDS)

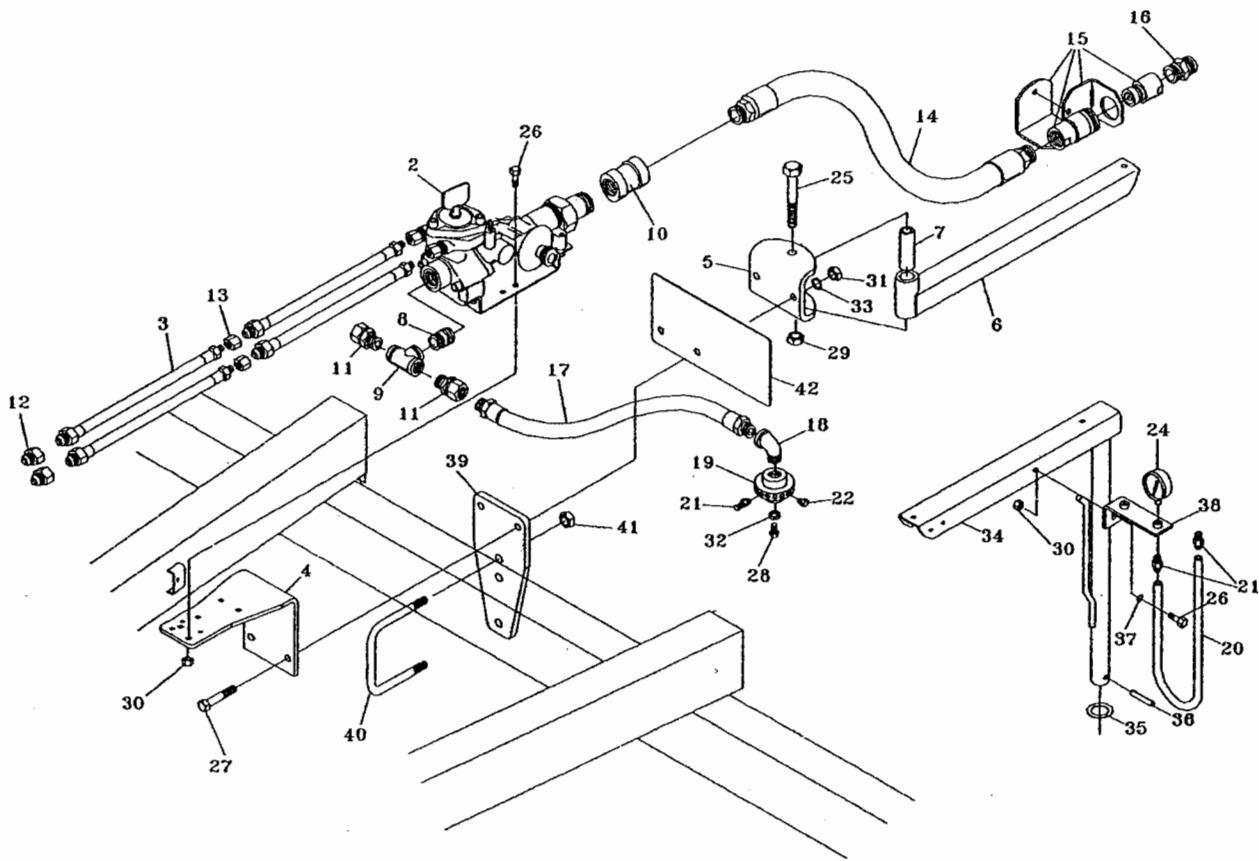


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	34104101	2	C4103 RPR Cont. Regulator with Single Outlet (See Page #41)
2	04660310	1	Regulator Stand
3	04660320	1	Bracket
4	04660330	1	Extension Pivot Mount
5	04660340	1	Pivot Tube
7	02259500	1	Double Regulator Bracket
8	15031259	2	1-1/4" x 1" NPT Reducer
9	15081006	2	1" Swivel Pipe Coupling
10	25674955	2	1" ID A.A. Hose x 126" Lg.
11	15001002	2	1" NPT x 90° Street Elbow
12	34199024	2	Continental Manifold, 14 Outlet
	34199012	2	Continental Manifold, 18 Outlet Wheat Machines
13	25675320	1	1-1/4" ID A.A. Hose x 32"
14	02600040	1	1-1/4" Quick Coupler Assembly
15	34314100	1	1-3/4" ACME x 1-1/4" NPTM Adapter
16	34599060	2	Dial Gauge - 60 p.s.i.
17	25630601	A/R	3/8" ID x 166' Long A.A. Hose
	25630801	A/R	1/2" ID x 166' Long A.A. Hose
18	15040251	A/R	1/4" NPT x 3/8" Hose Barb
	15040252	A/R	1/4" NPT x 1/2" Hose Barb
	15040120	A/R	1/8" NPT x 3/8" Barb Orifice Wheat Machines Only

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
19	15020250	A/R	1/4" NPT Plug
	15020120	A/R	1/8" Pipe Plug
20	02391118	1	Regulator Stand Bracket
21	16312240	1	3/4" x 6" U-bolt
22	425-1012	2	3/4" NC Hex Nut
23	04681850	1	Decal Plate with Danger Sign
24	18534368	1	Danger Sign (Not Shown)
30	413-1296	1	3/4" x 6" NC Hex Bolt Gd. 5
31	413-616	2	3/8" x 1" NC Hex Bolt
32	413-1040	2	5/8" x 2-1/2" NC Hex Bolt Gd. 5
33	413-812	2	1/2" x 3/4" NC Hex Bolt
34	425-1012	2	3/4" NC Hex Nut
35	425-106	3	3/8" NC Hex Nut
36	425-1010	2	5/8" NC Hex Nut
37	492-11050	2	1/4" Lock Washer
38	492-11062	2	5/8" Lock Washer
39	05302150	1	Hose Stand
40	17624021	1	1-1/2" Machinery Bushing
41	438-32840	1	7/16" x 2-1/2" Roll Pin
42	495-21044	1	3/8" Standard Washer
43	04681830	1	Gauge Bracket

A/R - AS REQUIRED

B-9500 ASSEMBLY

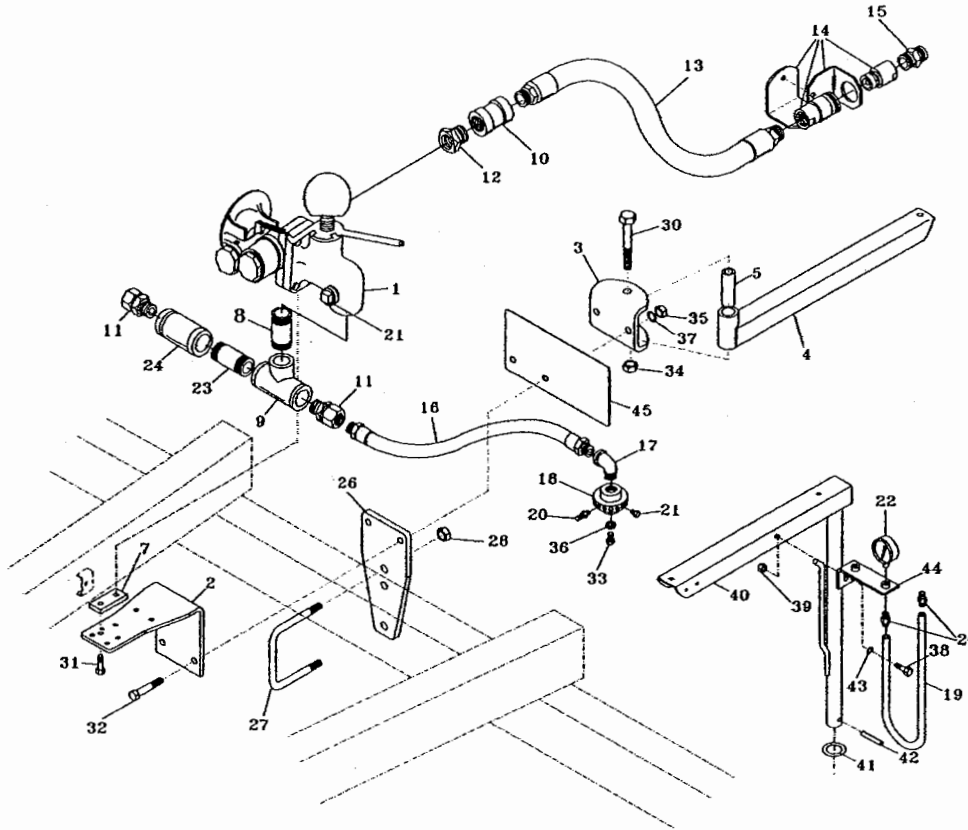


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	P1466079	1	B9500 Regulator w/hoses
2	34107100	1	B9500 Regulator (See Page #40)
3	25600412	2	1/4" ID Hydraulic Hose x 144"
4	04660310	1	Regulator Stand
5	04660320	1	Bracket
6	04660330	1	Extension Pivot Mount
7	04660340	1	Pivot Tube
8	15011000	2	1" NPT x 1-1/2" Nipple
9	15051001	1	1" Pipe Tee - Blk. Malleable
10	15071251	1	1-1/4" NPT Coupling
11	15081006	2	1" Swivel Pipe Coupling
12	217-1109	2	1/4" NPTF x 1/2" NPTM Adapter
13	217-1101	2	1/4" NPT Coupling
14	25675320	1	1-1/4" ID A.A. Hose x 32"
15	02600040	1	1-1/4" Quic-Coupler Assembly
16	34314100	1	1-3/4" ACME x 1-1/4" NPTM Adapter
17	25674955	2	1" ID A.A. Hose x 126" Lg.
18	15001002	2	1" NPT 90° Street Elbow
19	34199024	2	Continental Manifold, 14 Outlet
	34199012	2	Continental Manifold, 18 Outlet Wheat Machines
20	25630601	A/R	3/8" ID x 166' Long A.A. Hose
	25630801	A/R	1/2" ID x 166' Long A.A. Hose
21	15040251	A/R	1/4" NPT x 3/8" Hose Barb
	15040252	A/R	1/4" NPT x 1/2" Hose Barb
	15040120	A/R	1/8" x 3/8" Barb Orificed Wheat Machines Only

REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
22	15020250	A/R	1/4" NPT Plug
	15020120	A/R	1/8" Pipe
24	34599060	1	Dial Gauge - 60 p.s.i.
25	413-1296	1	3/4" x 6" NC Hex Bold Gd. 5
26	413-616	3	3/8" x 1" NC Hex Bolt
27	413-1040	2	5/8" x 2-1/2" NC Hex Bolt Gd. 5
28	413-812	2	1/2" x 3/4" NC Hex Bolt
29	86992217	1	3/4" NC Stover Lock Nut
30	425-106	2	3/8" NC Hex Nut
31	425-1010	2	5/8" NC Hex Nut
32	492-11050	2	1/2" Lock Washer
33	492-11062	2	5/8" Lock Washer
34	05302150	1	Hose Stand
35	17624021	1	1-1/2" Machinery Bushing
36	438-32840	1	7/16" x 2-1/2" Roll Pin
37	495-21044	1	3/8" Standard Washer
38	04681830	1	Gauge Bracket
39	02391118	1	Regulator Stand Bracket
40	16312240	1	3/4" x 6" U-bolt
41	425-1012	2	3/4" NC Hex Nut
42	04681850	1	Decal Plate with Danger Sign
43	18534368	1	Danger Sign (Not Shown)

A/R - AS REQUIRED

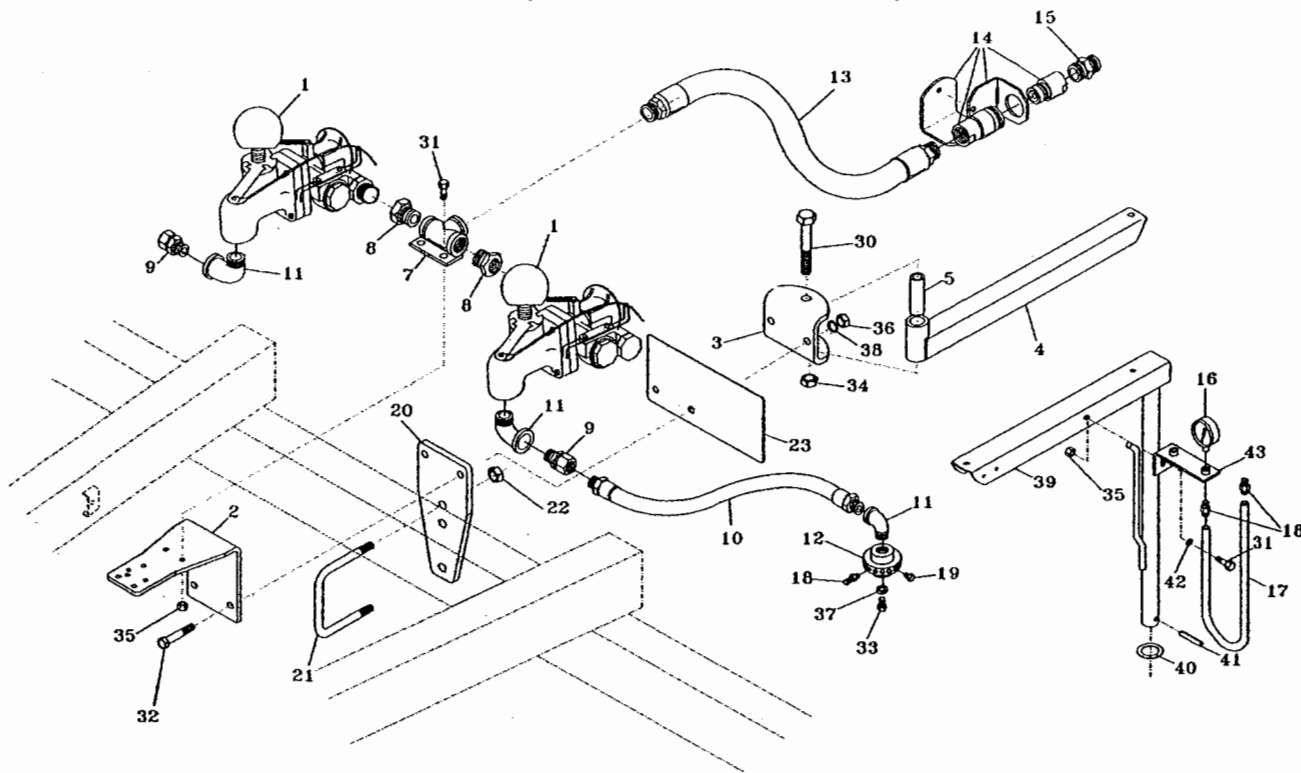
SINGLE SQUIBB ASSEMBLY (WITH 2 MANIFOLDS)



REF. NO.	PART NO.	QTY. NO.	DESCRIPTION	REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	34108100	1	Squibb Regulator 1661-A (See Page #42 & #43)	21	15020250	A/R	1/4" NPT Plug
2	04660310	1	Regulator Stand	15020120	A/R	1/8" Pipe Plug	
3	04660320	1	Bracket	22	34599060	1	Dial Gauge - 60 p.s.i.
4	04660330	1	Extension Pivot Mount	23	15011003	2	1" x 3" Pipe Nipple
5	04660340	1	Pivot Tube	24	15071001	1	1" Pipe Coupling
7	04660019	1	Spacer Block	25	15051003	1	1" x 1" x 1/4" Pipe Tee
8	15011000	2	1" NPT x 1-1/2" Nipple	26	02391118	1	Regulator Stand Bracket
9	15051001	1	1" Pipe Tee - Blk. Malleable	27	16312240	1	3/4" NC 6" U-bolt
10	15071251	1	1-1/4" NPT Coupling	28	425-1012	2	3/4" NC Hex Nut
11	15081006	2	1" Swivel Pipe Coupling	30	413-1296	1	3/4" x 6" NC Hex Bolt Gd. 5
12	15031259	1	1-1/4" x 1" NPT Reducer	31	413-624	2	3/8" x 1-1/2" NC Hex Bolt
13	25675320	1	1-1/4" ID A.A. Hose x 32"	32	413-1040	2	5/8" x 2-1/2" NC Hex Bolt Gd. 5
14	02600040	1	1-1/4" Quic-Coupler Assembly	33	413-812	2	1/2" x 3/4" NC Hex Bolt
15	34314100	1	1-3/4" ACME x 1-1/4" NPTM Adapter	34	86992217	1	3/4" NC Hex Lock Nut
16	25674955	2	1" ID A.A. Hose x 126" Lg.	35	425-1010	1	5/8" NC Hex Lock Nut
17	15001002	2	1" NPT x 90° Street Elbow	36	492-11050	2	1/2" Lock Washer
18	34199024	2	Continental Manifold, 14 Outlet	37	492-11062	2	5/8" Lock Washer
	34199012	2	Continental Manifold, 18 Outlet Wheat Machines	38	413-616	1	3/8" x 1" NC Hex Bolt
19	25630601	A/R	3/8" ID x 166' Long A.A. Hose	39	425-106	1	3/8" NC Hex Nut
	25630801	A/R	1/2" ID x 166' Long A.A. Hose	40	05302150	1	Hose Stand
20	15040251	A/R	1/4" NPT x 3/8" Hose Barb	41	17624021	1	1-1/2" Machinery Bushing
	15040252	A/R	1/4" NPT x 1/2" Hose Barb	42	438-32840	1	7/16" x 2-1/2" Roll Pin
	15040120	A/R	1/8" NPT x 3/8" Barb Orifice Wheat Machines Only	43	495-21044	1	3/8" Standard Washer
				44	04681830	1	Gauge Bracket
				45	04681850	1	Decal Plate with Danger Sign
				46	18534368	1	Danger Sign (Not Shown)

A/R - AS REQUIRED

DOUBLE SQUIBB ASSEMBLY (WITH 2 MANIFOLDS)

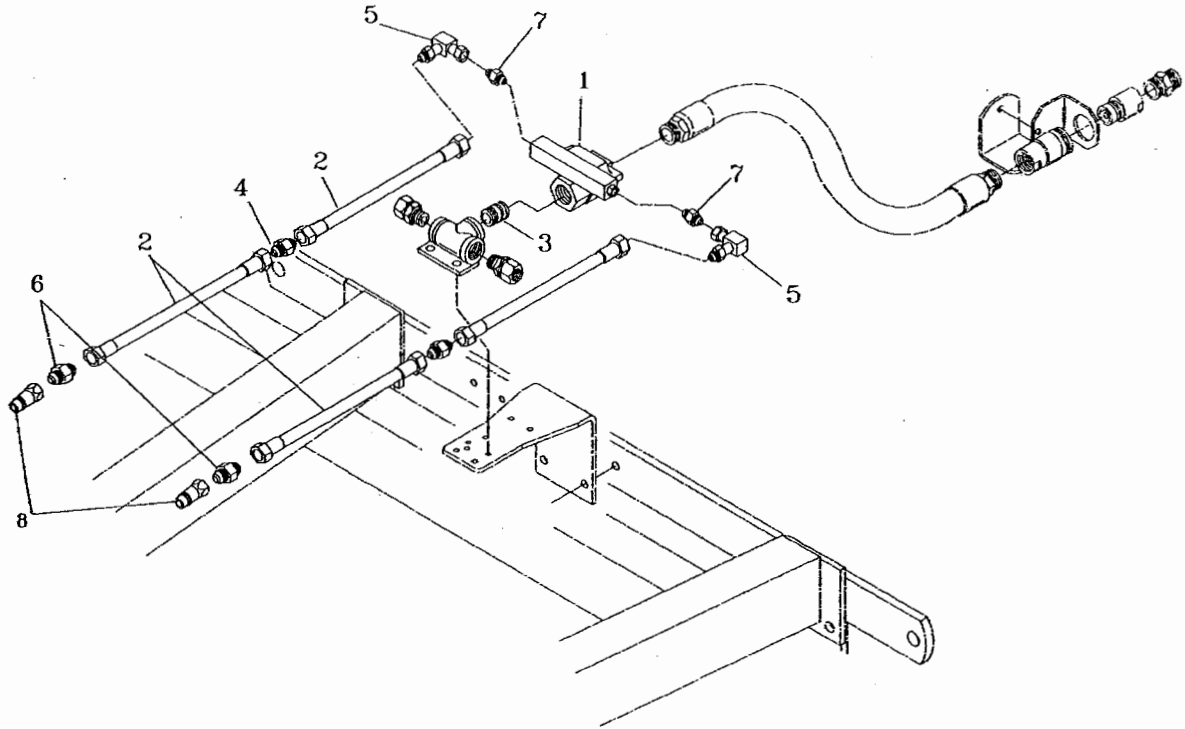


REF. NO.	PART NO.	QTY.	DESCRIPTION
1	34108100	2	Squibb Regulator 1661-A (See Page #42 & #43)
2	04660310	1	Regulator Stand
3	04660320	1	Bracket
4	04660330	1	Extension Pivot Mount
5	04660340	1	Pivot Tube
7	02259500	1	Double Regulator Bracket
8	15031259	2	1-1/4" x 1" NPT Reducer
9	15081006	2	1" Swivel Pipe Coupling
10	25674960	2	1" ID A.A. Hose x 104"
11	15001002	4	1" NPT x 90° Street Elbow
12	34199012	2	Continental Manifold, 14 Outlet
	34199014	2	Continental Manifold, 18 Outlet Wheat Machine
13	25675320	1	1-1/4" ID A.A. Hose x 32"
14	02600040	1	1-1/4" Quic-Coupler Assembly
15	34314100	1	1-3/4" ACME x 1-1/4" NPTM Adapter
16	34599060	2	Dial Gauge - 60 p.s.i.
17	25630601	A/R	3/8" ID A.A. x 166' Long Hose
	25630801	A/R	1/2" ID A.A. x 166' Long Hose
18	15040251	A/R	1/4" NPT x 3/8" Hose Barb
	15040252	A/R	1/4" NPT x 1/2" Hose Barb
	15040120	A/R	1/8" NPT x 3/8" Barb Orifice Wheat Machines Only

REF. NO.	PART NO.	QTY.	DESCRIPTION
19	15020250	A/R	1/4" NPT Plug
	15020120	A/R	1/8" Pipe Plug
20	02391118	1	Regulator Stand Bracket
21	16312240	1	3/4" x 6" U-bolt
22	425-1012	2	3/4" NC Hex Nut
23	04681850	1	Decal Plate with Danger Sign
24	18534368	1	Danger Sign (Not Shown)
30	413-1296	1	3/4" x 6" NC Hex Bolt Gd. 5
31	413-616	2	3/8" x 1" NC Hex Bolt
32	413-1040	2	5/8" x 2-1/2" NC Hex Bolt Gd. 5
33	413-812	2	1/2" x 3/4" NC Hex Bolt
34	86992217	2	3/4" NC Hex Nut
35	425-106	1	3/8" NC Hex Nut
36	425-1010	2	5/8" NC Hex Nut
37	425-1010	2	5/8" NC Hex Nut
38	492-11062	2	5/8" Lock Washer
39	05302150	1	Hose Stand
40	17624021	1	1-1/2" Machinery Bushing
41	438-32840	1	7/16" x 2-1/2" Roll Pin
42	495-21044	1	3/8" Standard Washer
43	04681830	1	Gauge Bracket

A/R - AS REQUIRED

1-1/4" GROMO III TO TRACTOR

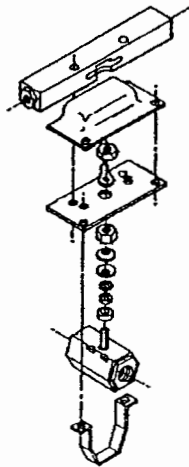


REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	34210300	1	1-1/4" Gromo III Shutoff
2	147779C1	4	1/4" Hydraulic Hose x 145" Lg.
3	15011251	1	1-1/4" x 3" Lg. Nipple
4	218-734	2	1/4" NPT Coupling
5	218-980	2	1/8" NPTM x 1/4" NPTF Elbow
6	218-5058	2	1/4" NPTF x 1/2" NPTM Adapter
7	218-453	2	1/8" NPTM x 9/16" JICM Adapter
8	25705041	2	3/4" SAEF-Male ISO Hydraulic Coupling

1-1/4 GROMO III SHUT-OFF

REF. PART QTY.
NO. NO. NO. DESCRIPTION

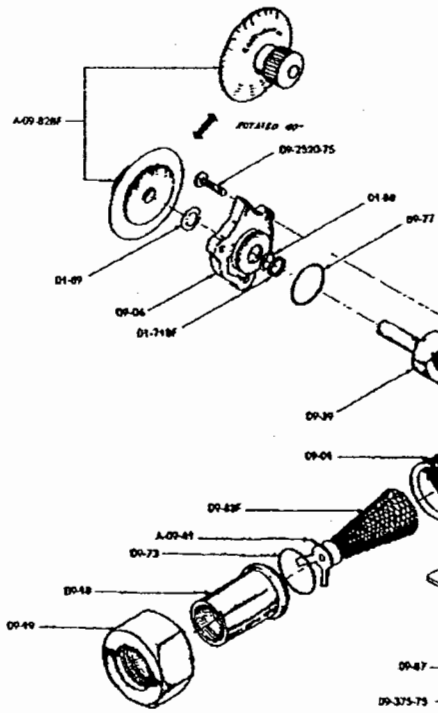
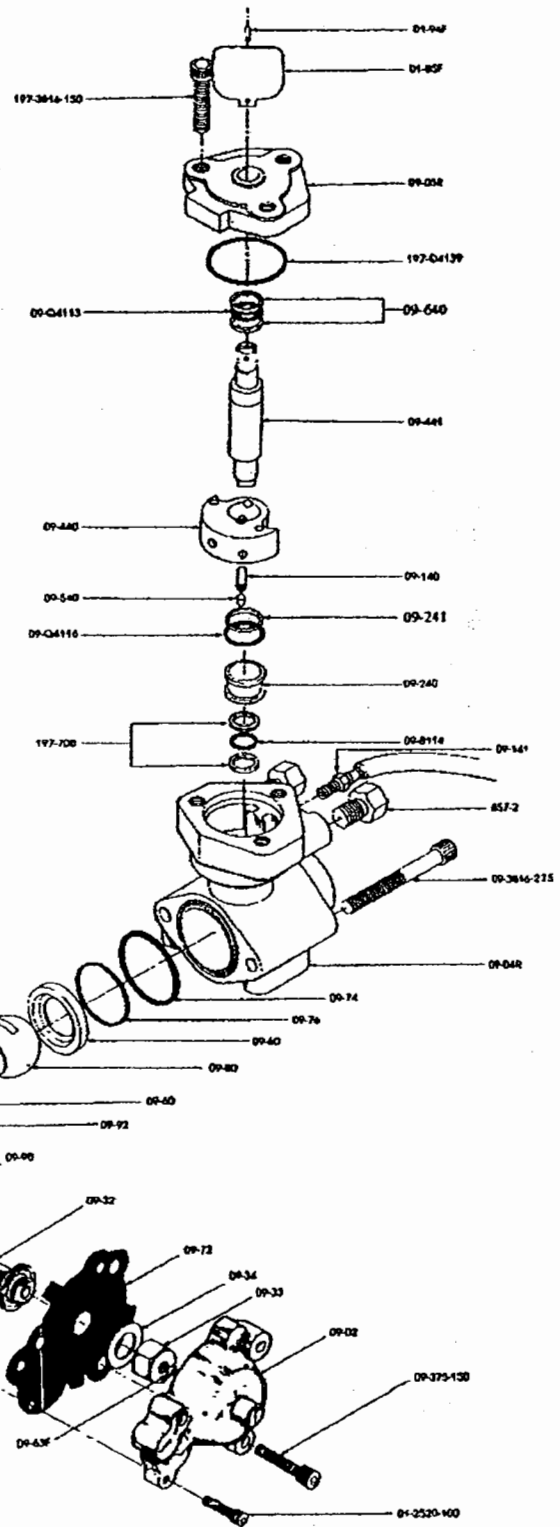
1	34210300	1	1-1/4" Gromo III Shut-off
2	34210301	1	Seal Kit
3	34210302	1	Stem Kit



B-9500 REGULATOR

DMI CONTINENTAL
 PART NO. PART NO. DESCRIPTION
 34107100 ----- B9500 Meter Matic Regulator Assembly

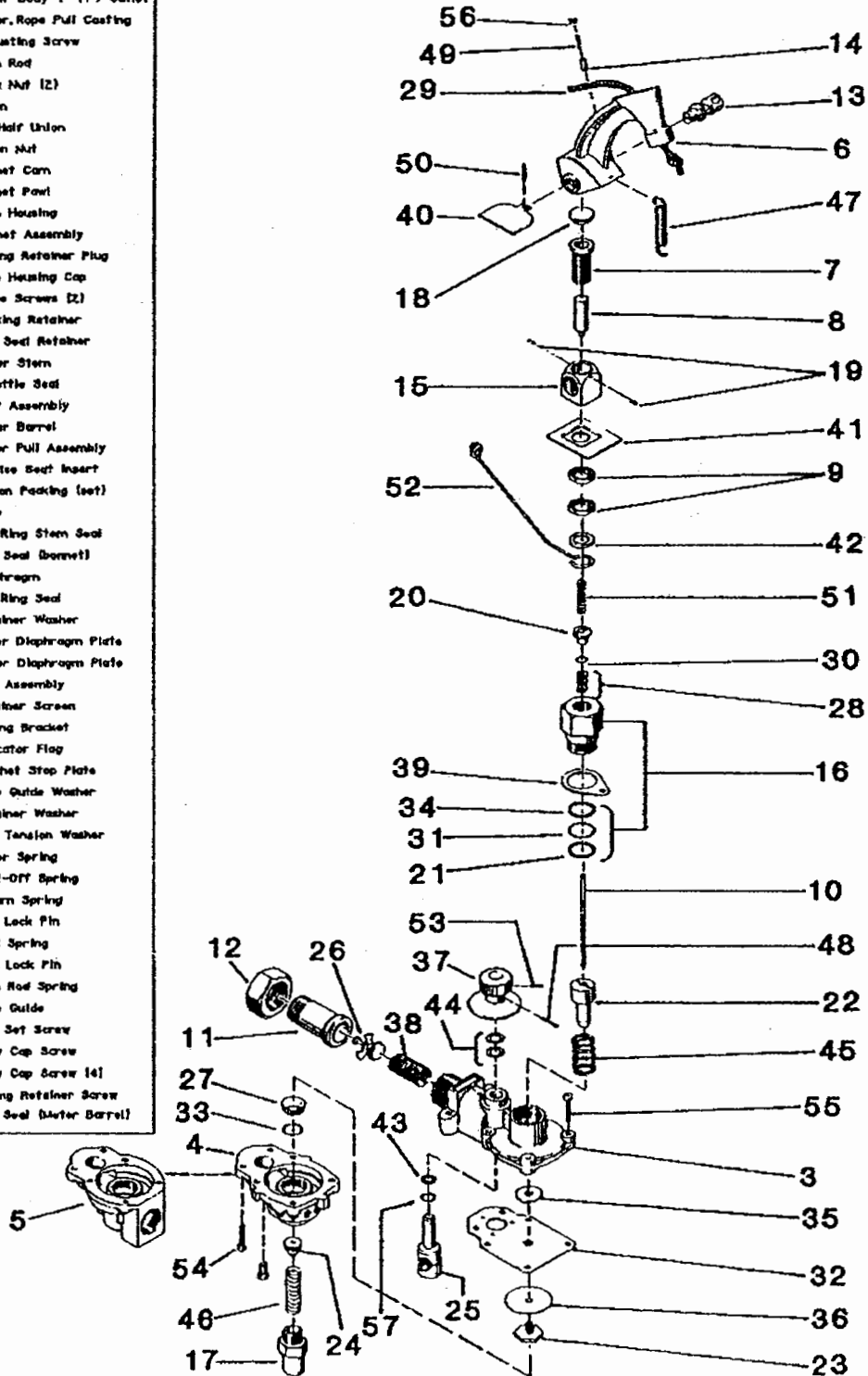
PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
01-37	DIAL BASE	01-85F	INDICATOR FLAG
01-38	DIAL KNOB	**01-94F	FLAG LOCK PIN
**01-71BF	CAP SEAL	09-04R	ROTOR SHUT OFF BODY
01-88	RETAINER WASHER	09-05F	ROTOR SHUT OFF BONNET
**01-87	DIAL TENSION WASHER	09-440	ROTOR
**01-72BF	DIAL LOCK PIN	09-441	SHUT OFF PINION
01-82Z-25	DIAL SET SCREW	09-140	ROTOR SHAFT PIN
01-2820-100	CAP SCREW	09-241	LOWER SHAFT SEAL BACK UP RING
09-01	METER BODY	09-240	SHAFT SEAL GLAND
09-02	METER BONNET	**09-60	BALL VALVE SEAL (2)
09-06	METER BARREL BONNET	09-540	WEAR PAD (FOR ROTOR PIN)
09-13	SLAVE VALVE	**09-74	BODY O' RING
09-18	HALF UNION	**09-76	O' RING SEAL: SHUT OFF BODY
09-19	UNION NUT	09-640	SEAL BACK UP WASHER (9/16" ID) (2)
09-32	THROTTLE STEM	197-700	SEAL BACK UP WASHER (2)
09-33	THROTTLE LOCK NUT	09-80	SHUT OFF BALL
09-34	DIAPHRAGM PLATE	09-92	BALL VALVE TENSION WASHER
09-39	METER BARREL	09-3816-276	SHUT OFF BODY CAP SCREW (2)
A-09-41	FILTER PULL ASSY.	**09-Q4113	UPPER SHAFT SEAL
09-50	METER BRACKET	**09-Q4116	LOWER SHAFT SEAL
09-63F	THROTTLE STEM GUIDE	**09-8115	CAP SEAL
09-72	DIAPHRAGM	197-3816-150	BONNET SCREW
09-73	UNION O' RING	**197-Q4139	BONNET QUAD RING
09-77	DIAL BONNET O' RING SEAL	657-2	CYLINDER ORIFICE ADAPTOR
09-82BF	DIAL ONLY	09-17	DRAIN HOSE CONNECTER
A-09-82BF	DIAL ASSY.	B-9500-B5	REPAIR KIT (FOR METER ONLY)
09-83F	STRAINER SCREEN	ITEMS MARKED *	
09-87	3/8" LOCK WASHER (4)	09-141	DRAIN HOSE CONNECTOR
09-90	METER SPRING	R-9500-BK	REPAIR KIT (ACTIVATOR ONLY)
09-91	SLAVE VALVE SPRING	ITEMS MARKED **	
09-375-75	BRACKET BOLT (4)		
09-375-150	METER BONNET CAP SCREW (3)		
09-2520-75	BONNET CAP SCREW (8)		



C-4100 CONTINENTAL REGULATOR

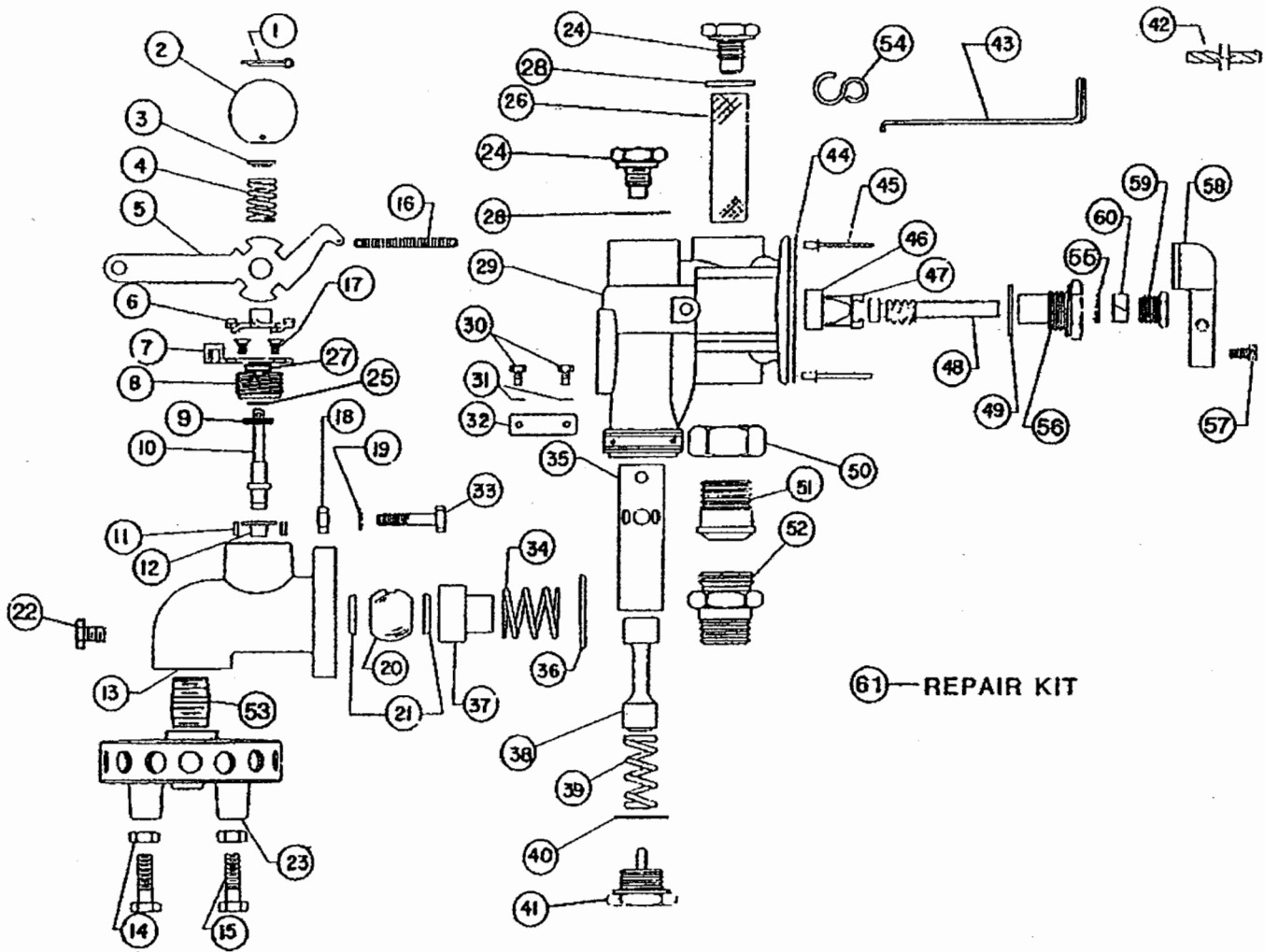
REF. NO.	QTY	CONTINENTAL NO.	DESCRIPTION
1		C-4100-R6572	Cont. Reg. (Rotary Act.)
		C-4103-RPR	Cont. Reg. (Single Outlet)
		C-4100-RPR	Cont. Reg. (W/ Manifold)
2		A-4129 RS	Repair Kit (Incl. 26, 30, 32, 33, 44, 48, 57)
3	NSI	A41-01	Upper Body Assembly W/ Meter Barrel & Dial
4	NSI	41-02A	Lower Body-1/4 Outlet
5	NSI	41-03A	Lower Body-1" FPT Outlet
6	NSI	01-04	Lever, Rope Pull Casting
7	NSI	65-11B	Adjusting Screw
8	NSI	65-13	Cam Rod
9	NSI	01-14	Lock Nut (2)
10	NSI	41-15	Stem
11	NSI	65-18	1" Half Union
12	NSI	65-19	Union Nut
13	NSI	65-20	Ratchet Cam
14	NSI	01-21	Ratchet Pawl
15	NSI	01-22	Cam Housing
16	NSI	A41-24	Barnet Assembly
17	NSI	41-26	Spring Retainer Plug
18	NSI	01-30B	Cam Housing Cap
19	NSI	01-30C	Drive Screws (2)
20	NSI	01-31	Packing Retainer
21	NSI	65-33B	Cap Seal Retainer
22	NSI	65-34	Lever Stem
23	NSI	65-35	Throttle Seal
24	NSI	A-65-37	Seat Assembly
25	NSI	41-39	Meter Barrel
26	NSI	A-41-41	Filter Pull Assembly
27	NSI	41-53	Orifice Seat Insert
28	NSI	01-60F	Teflon Packing (set)
29	NSI	01-64F	Rope
30	NSI	01-70F	"O" Ring Stem Seal
31	NSI	65-71BF	Cap Seal (Barnet)
32	NSI	41-72	Diaphragm
33	NSI	41-73	"O" Ring Seal
34	NSI	65-75	Retainer Washer
35	NSI	01-80	Upper Diaphragm Plate
36	NSI	65-81	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	65-90	Meter Spring
46	NSI	65-91	Shut-Off Spring
47	NSI	01-92	Return Spring
48	NSI	01-92BF	Dial Lock Pin
49	NSI	01-93	Post Spring
50	NSI	01-94F	Flag Lock Pin
51	NSI	01-95	Cam Rod Spring
52	NSI	01-97	Rope Guide
53	NSI	01-832-25	Dial Set Screw
54	NSI	01-2520-100	Body Cap Screw
55	NSI	01-2520-125	Body Cap Screw (4)
56	NSI	01-3118-25	Spring Retainer Screw
57	NSI	01-71BF	Cap Seal (Meter Barrel)

NSI - NOT A SERVICE ITEM



1661 SQUIBB REGULATOR

(REFER TO PAGE #43 FOR PARTS LIST)

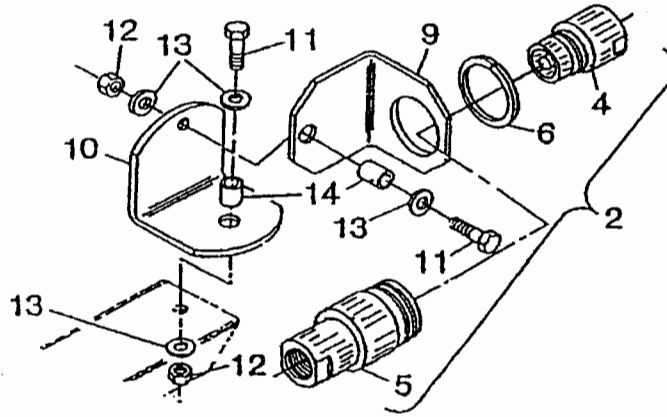


(1661 Squibb Regulator Continued)

REF. NO.	DMI PT. NO.	SQUIBB PT. NO.	NO. REQ.	DESCRIPTION	REF. NO.	DMI PT. NO.	SQUIBB PT. NO.	NO. REQ.	DESCRIPTION
1	NSI	1700-2027	1	1/8" x 1" Cotter Pin	33	NSI	1660-2057	1	5/16" x 1-1/2" NC Bolt Gd. 5
2	NSI	1660-2114	1	Flag	34	NSI	1660-2073	1	Spring
3	NSI	1660-5067	1	Retainer	35	NSI	1661-5002	1	Sleeve
4	NSI	1660-2066	1	Spring	36	NSI	1660-2055	1	Seal
5	NSI	1660-2065	1	Handle	37	NSI	1660-5054	1	Bushing
6	NSI	1660-5064	1	Ratchet	38	NSI	1660-5003	1	Spool
7	NSI	1660-2063	1	Return Stop	39	NSI	1660-2004	1	Spool Spring
8	NSI	1660C5063	1	Stem Guide	40	NSI	1660-2005	1	Gasket
9	NSI	1660-2077	1	Nylon Washer	41	NSI	1660-5006	1	Spring Plug
10	NSI	1660C5060	1	Index Stem	42	NSI	1660-2130	1	Rope
11	NSI	1660-2051	2	Roll Pin	43	NSI	1660-2035	1	Rope Guide
12	NSI	1660-2076	1	Hat Gasket	44	NSI	1660-2020	1	Dial
13	NSI	1660-5050	1	Elbow	45	NSI	1660-2017	2	Pop Rivet
14	NSI	1660-2056	2	3/8" NC Nut	46	NSI	1660-5015	1	Orifice Sleeve
15	NSI	1660-2055	2	3/8" x 1-1/2" NC Bolt	47	NSI	1660-5016	1	Orifice
16	NSI	1660-2070	1	Return Spring	48	NSI	1660-5018	1	Stem
17	NSI	1660-2074	2	Return Stop Screw	49	NSI	1660-2019	1	Bonnet Gasket
18	NSI	1660-2056	1	5/16" NC Nut	50	NSI	1660-5011	1	Union Nut
19	NSI	1660-2058	1	5/16" Lock Washer	51	NSI	1660-5012	1	Union Adaptor
20	NSI	1660-5053	1	Ball	52	NSI	1660-5013	1	1" Union Nipple
21	NSI	1660-3052	2	Seal	53	NSI	E16605076	1	1" Nipple
22	NSI	1660-5072	1	1/4" NPT Plug	54	NSI	1660-2038	1	S-Hook
23	NSI	1660-5071	1	Distributor (16 port)	55	NSI	1660-5022	1	Washer
24	NSI	1661-5008	2	Strainer Plug	56	NSI	1660-5021	1	Bonnet
25	NSI	1593-2001	1	O-Ring	57	NSI	1660-2016	1	1/4" x 1" NC Allen Head Screw
26	NSI	1660-2010	1	Strainer	58	NSI	1660-5014	1	Pointer
27	NSI	1660C2052	1	Wiper Seal	59	NSI	1660-5024	1	Packing Nut
28	NSI	1660-2025	1	Gasket	60	NSI	1660-2023	1	Packing
29	NSI	1661-5001	1	Body	61	34109047	1660-90	1	Repair Kit (Incl. #9, 12, 21, 36, & 60)
30	NSI	1660-2031	3	1/4" x 1/2" NC Bolt					
31	NSI	1600-2133	3	1/4" Star Washer					
32	NSI	1660-2075	1	Clamp					

NSI - NOT SERVICE ITEM

1-1/4" QUIC-COUPLER



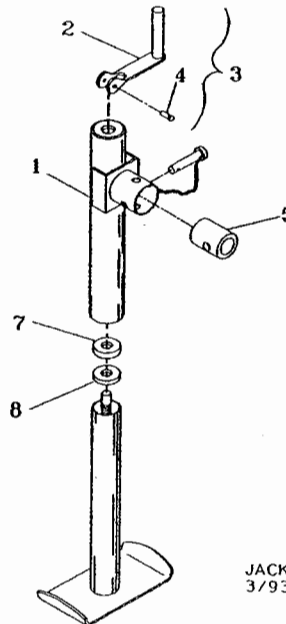
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
2	02600040	1	1-1/4" Quic-Coupler Assembly with Bracket (Incl. #4, 5, 6, 9-14)
4	34410032	1	1-1/4" Quic-Coupler - Male
5	34410033	1	1-1/4" Quic-Coupler - Female
6	103-11250	1	Retaining Ring
7	34410034	1	Gasket Kit (Consists of (2) O-Rings)
9	02628012	1	Upper Swivel 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

JACK ASSEMBLY

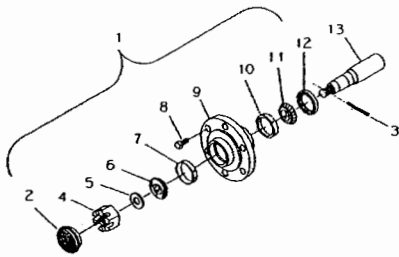
REF. NO.	PART NO.	QTY. NO.	DESCRIPTION
1	32230000	1	Jack Assembly 3000#
2	NSI	1	Jack Handle
3	32230100	1	Handle Replacement Kit (incl. #2, 4, 9)
4	NSI	1	1/4" x 1" NC Std. Hex Bolt
5	09311040	1	Mounting Bracket
7	NSI	1	Thrust Bearing
8	NSI	1	Thrust Washer
9	NSI	1	1/4" Lock Nut

NSI - NOT A SERVICE ITEM



633 HUB & SPINDLE

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

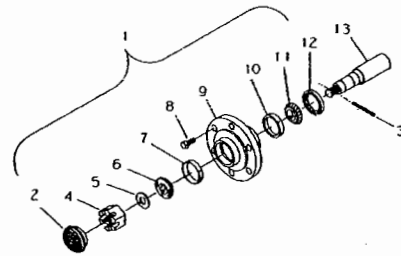


REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
	28063331	1	Hub & Spindle Assy. (4-1/2")
1	28163311	1	633 4-Bolt Hub Assy.
2	28463300	1	Hub Cap
3	432-1024	1	5/32" x 1-1/2" Cotter Pin
4	425-1312	1	3/4" NF Slotted Nut
5	495-11081	1	3/4" SAE Washer
6	651815R91	1	.75" Bore Cone Timken #LM11949
7	651814R1	1	1.78" 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

783 HUB & SPINDLE

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

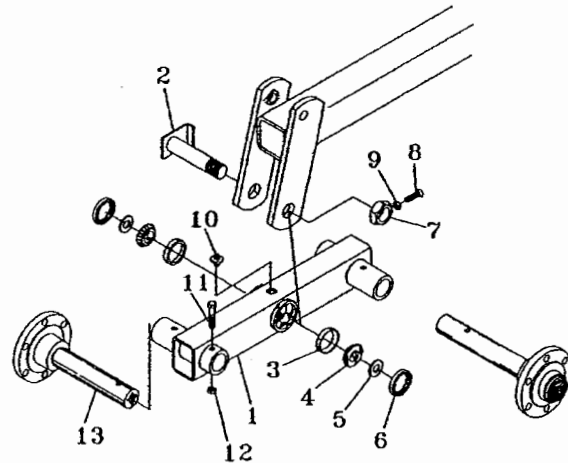


REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
	28078372	1	Hub and Spindle Assembly
1	28178300	1	783 6-Bolt Hub Assembly
2	28477700	1	Hub Cap
3	432-1024	1	5/32" x 1-1/2" Cotter Pin
4	425-1314	1	7/8" NF Slotted Nut
5	495-61094	1	7/8" Washer 2" O.D.
6	651818R91	1	1.25" Bore Cone Timken #LM67048
7	651817R1	1	2.33 O.D. cup Timken #LM67010
8	549962R1	6	1/2" NF x 1-14/32" Lug Bolt
9	NSI	1	Hub w/Cups (28278300)
10	663558R1	1	2.89" O.D. Cup Timken #LM501310
11	663557R91	1	1.625" Bore Cone Timken #LM501349
12	145769C91	1	1.875" I.D. x 3.005" O.D. Seal
13	28378371	1	1.875" Straight Spindle Adjust

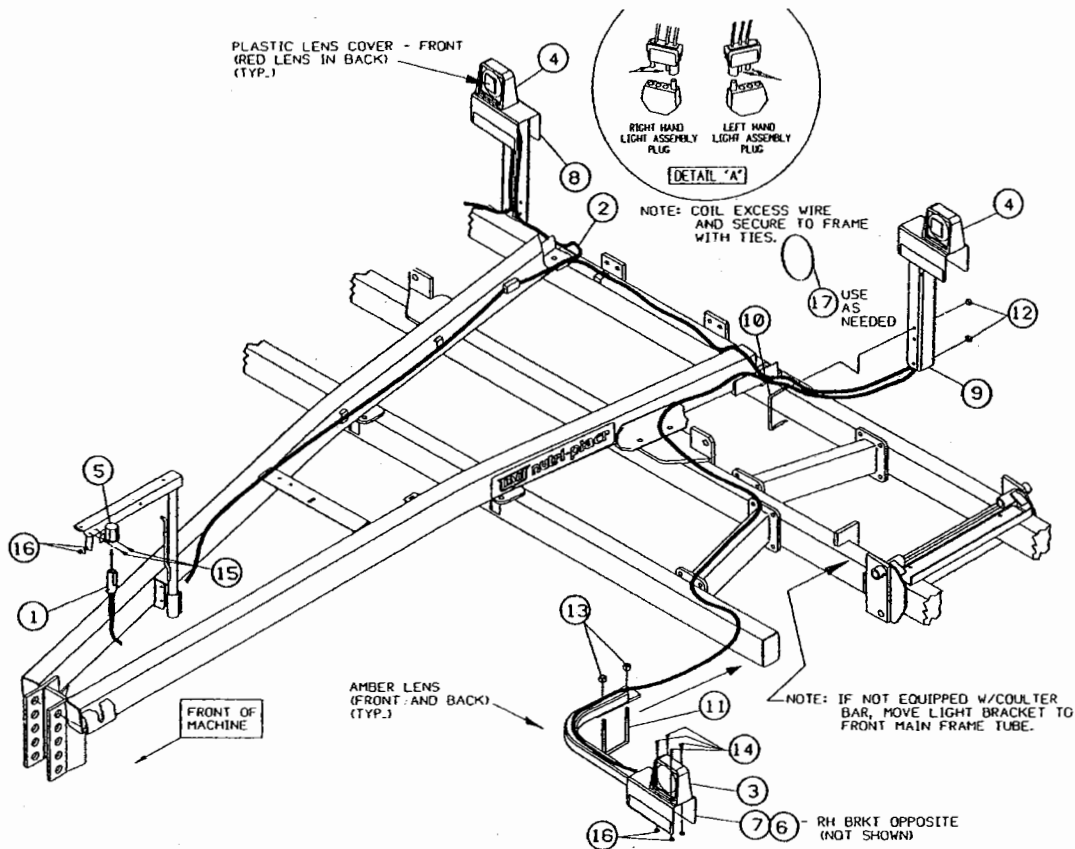
NSI - NOT A SERVICE ITEM

WALKING AXLE ASSEMBLY

REF. NO.	PART NO.	NO. REQ.	DESCRIPTION
	02491610	1	Walking Axle Assy 783 RH (incl. #1-10)
	02491660	1	Walking Axle Assy 783 LH (incl. #1-10)
1	02491810	1	Walking Axle Weld 783 RH
	02491860	1	Walking Axle Weld 783 LH
2	04661850	1	Axle Pin
3	160558C91	2	1.50" Bore Cone LM 29749
4	478793R1	2	2.56" O.D. Cup LM 29710
5	06201420	2	Spacer
6	21932090	2	2.094" I.D. Seal CR20952
7	14032408	1	1-1/2" NC Nut w/Set Screw
8	16806045	1	3/8 x 1 NC SQ Head Set Screw
9	425-146	1	3/8" NC Hex Jam Nut
10	219-86	1	1/8" NPT Self Tap Zerk
11	424-852	2	1/2" x 3-1/4" NC Hex Bolt
12	231-4248	2	1/2" NC Hex Nut
13	28078372	2	Hub and Spindle (783)



WARNING AND TAILLIGHT KIT



REF. NO.	PART NO.	QTY NO.	DESCRIPTION	REF. NO.	PART NO.	QTY NO.	DESCRIPTION
1	27602311	1	Front Wiring Harness	11	87427170	2	5/8" x 4" x 8" U-Bolt
2	27602234	1	Rear Wiring Harness	12	86992213	4	3/8" NC Stover Lock Nut
3	27602201	2	Single Light Fixture, Amber	13	86992216	4	5/8" NC Stover Lock Nut
4	27602202	2	Single Light Fixture, Red	14	413-420	16	1/4" x 1-1/4" NC Hex Bolt, Gd. 5
5	27601214	1	Plug Storage Container	15	413-412	2	1/4" x 3/4" NC Hex Bolt, Gd. 5
6	87413845	1	Front Light Bracket, RH	16	86992211	18	1/4" NC Stover Lock Nut
7	87413808	1	Front Light Bracket, LH	17	386170C1	A/R	28" Plastic Hose Tie
8	27602425	1	Rear Light Bracket, RH	18	27601215	A/R	Replacement Lens - Amber (Not Shown)
9	27602420	1	Rear Light Bracket, LH	19	27601216	A/R	Replacement Lens - Red (Not Shown)
10	16309101	2	3/8" x 4.9" x 6.06" U-Bolt	20	533959R1	A/R	12" Plastic Hose Tie

*See Pages #50 and #51 for Light Kit installation instructions.

A/R - AS REQUIRED

ASSEMBLY SECTION

The following text describes procedure for assembling the **nutri-placr 3300**. 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-placr 3300**. 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 Pages #22 and #23.

- 1) Place main frame (Item #1) on stands approximately 36" high on a level surface.
- 2) Place wheel mounts (#4) and braces (#5) in the appropriate locations for desired shank layout, see pages (#55 - 60). Next place wheel spindle assemblies (#6or #7) into wheel mounts (#4) using 1-5/8" pins (#37). Place the 5/8" bolt (#57) through the pin and tighten 5/8" nut (#64).
- 3) Mount the tire and wheel assembly (#16or #19) to lift wheel spindle assemblies and torque wheel bolts to 90 - 100 ft-lbs. **Re-torque after 1 hour of use.**
- 4) Place pull frame (#2) on top of the main frame and align the holes. Bolt the pull frame to the main frame using 7/8" x 3" bolts (#59) and 7/8" nuts (#66).
- 5) If so equipped, place front coulter bar (#13) under pull frame and attach to pull frame using 3/4" x 4" x 7-1/2" U-Bolts (#49) and 3/4" nuts (#65). Then attach braces (#5) to front bar and main frame using 3/4" x 6" x 6" U-Bolts (#49) and 3/4" nuts (#65).
- 6) Install hose stand mount (#28) onto pull frame using 3/8" x 1" bolt (#54) and 3/8" nut (#62).
- 7) Refer to Page #24 for the rear hitch. Mount the rear wagon hitch (#1) to the main frame using the 3/4" bolts (#34) and nuts(#35).
- 8) Install the wings (#3) by positioning into the main frame. Be sure to support the wings on the outside for stability. Install 1-1/4" dia. hinge pin (#35) through the hinge flats. Secure with 1/2" hex bolt (#45) and 1/2" hex lock nut (#63).
- 9) Refer to pages #22 and #23 and mount SMV sign (#47) on the rear main frame bar as near to the center or left of center as possible. (SMV sign and hardware is located in Bag #18584000.)

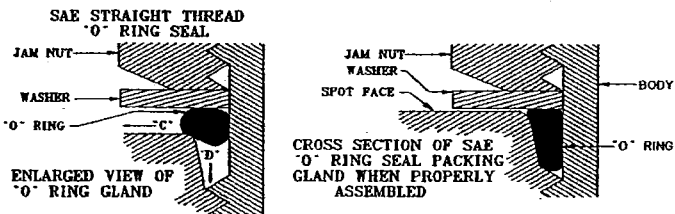
IMPORTANT: Torque 7/8" bolts of pull frame to main frame to 450 ft-lbs and double nut.

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

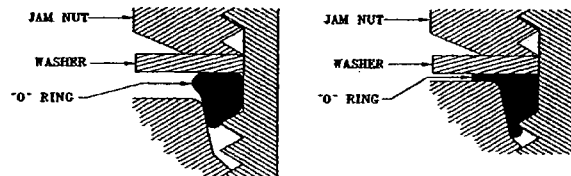
1. Jam nut and washer must be to the backside of the smooth portion of the elbow adapter.
2. Lubricate the "O" Ring - **VERY IMPORTANT!**



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.

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.



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.

3300 LIFT HYDRAULICS

- 1) Refer to page #25. Install ram end of the 3-1/2" x 10" hydraulic cylinder (#2) on the cylinder lug of the right hand wheel mount and the ram end of the 3-1/4" x 10" hydraulic cylinder (#3) to the cylinder lug of the left hand wheel mount. Then connect the rod end of both hydraulic cylinders to the cylinder lug on the spindle arms.
- 2) Install the 3/4" SAEM x 3/4" JICM 90E (#14) elbows in the cylinder ports.
- 3) Attach one end of the 3/8" x 154" hose (#9) to the elbow on the rod end of the right hand cylinder and the other end to the ram end of the left hand cylinder. Next attach a 3/8" x 154" hose (#9) to the ram end of the right hand cylinder and a 3/8" x 187" hose (#10) to the rod end of the left hand cylinder.

- 4) Attach a 3/8" x 125" hose (#4) to the 3/8" x 154" hose and to the 3/8" x 187" hose with 3/4" JICM Adapters (#17).

NOTE: FOR SELECTOR VALVE OPTION:

Connect the 3/8" x 78" hose (#8) to the left side of the selector valve (#26) using the 3/4" SAEM x 3/4" JICM adapters (#27). Insert 3/4" SAEM x 3/4" JICM adapters (#27) in the top of the selector valve and attach the 3/8" x 125" hoses (#4) to the top of the selector valve. Insert 3/4" SAEM x 3/4" JICM elbows (#14) to the right side of the selector valve. The 3/8" x 187" hose (#10) will attach to these.

WING HYDRAULICS

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

Refer to parts drawing and reference numbers on Page #25. Wing hydraulic hardware is found in Bag #02490010.

- 1) Install the ram end of the 3-1/2" or 4" x 24" hydraulic cylinders (#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 (#14) in the hydraulic cylinder ports.
- 3) Attach the 3/8" x 22" hose (#6) to the ram end of the right hand cylinder and a 3/8" x 55" hose (#7) to the ram end of the left hand cylinder. Next connect these two hoses together using a 3/4" SAEM Tee (#15).
- 4) Attach the 3/8" x 55" hose (#7) to the rod end of the right hand cylinder and the 3/8" x 78" hose (#8) to the rod end of the left hand cylinder. Next connect these two hoses together using a 3/4" x 3/4" SAEM Tee (#15).
- 5) Install the throttle valves (#16) to the 3/4" JICM x 3/4" SAEM Tees (#15) which connect the hydraulic cylinders together.

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.

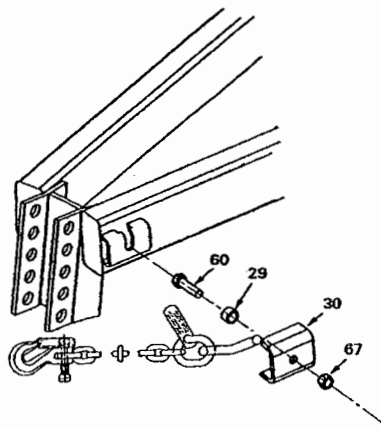
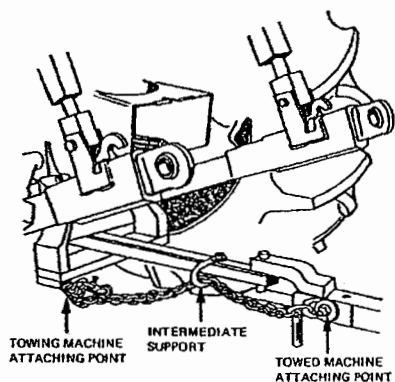
- 6) Connect the 3/8" x 78" hydraulic hoses (Item #8), the throttle valves (Item #16). Attach the 3/8" x 125" hoses (#4) to the 3/8" x 78" hoses using the 3/4" JICM coupler (#17).

NOTE: FOR SELECTOR VALVE OPTION. Connect the 3/8" x 97" hydraulic hose (#5) to the throttle valves (#16). Attach the other ends of the hose to the left side of the selector valve using the 3/4" SAEM x 3/4" JICM 90° elbows. See also 3300 Lift Hydraulic Section.

- 7) Charge the wing folding hydraulic system (Page #9) in the following manner. Disconnect the rod end of each wing cylinder. Block the cylinder so that the piston rod is free to move its full stroke. Hydraulically extend and retract the tractor hydraulic lever, adding oil as required. Reconnect the rod ends of all wing lift cylinders to their respective cylinder lugs. Making certain no one is near the machine, raise the wings into transport position.

SAFETY CHAIN

IMPORTANT: Use ASAE Approved (ANSI/ASAE S338.2)



This Standard covers the specifications for an auxiliary attaching system to retain a connection between towing and towed machines in the event of separation of the primary attaching system.

SAFETY CHAIN: The proper size for the **nutri-placr 3300** is a 20,200 lbf rated chain.

1. Slide head of 1" x 3" (#60) bolt into slot on the A - Frame Bracket.
2. Slide Spacer (#29) over bolt. Next slide safety chain attaching loop over spacer.
3. Attach capture bracket (#30) to A - Frame and torque Lock Nut (#67) to 670 ft-lbs.

PIN-ADJUST GAUGE WHEELS

Refer to the parts drawing and reference numbers on Pages #22 and #23 and shank location chart on Pages #55 through #60. Gauge wheel hardware is found in Bag #02380020.

1. Attach gauge wheel mounting brackets (Item #22) to the front bar of the wings in the locations shown on Page #22 with the 3/4" bolts (Item #58), nuts (Item #65), flat (Item #81), and lock washer (Item #68). Bolts must be drawn down squarely on bar by tightening nuts evenly to 325 ft-lbs.
2. Mount the tire and wheel assembly (Item #24) to the gauge wheel spindle arm (Item #23) and torque wheel bolts to 100 ft-lbs. Inflate 7.50 x 15 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 #39) and Klik pin (Item #42).

WARNING AND TAILLIGHT INSTALLATION INSTRUCTIONS

See Page #47 for parts list and diagrams.

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 Page #46. (Note the different pin locations.)
 - C. Identify the light brackets by referring to Page #46.
 - 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, 5/8" U-bolts 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 Page #47.

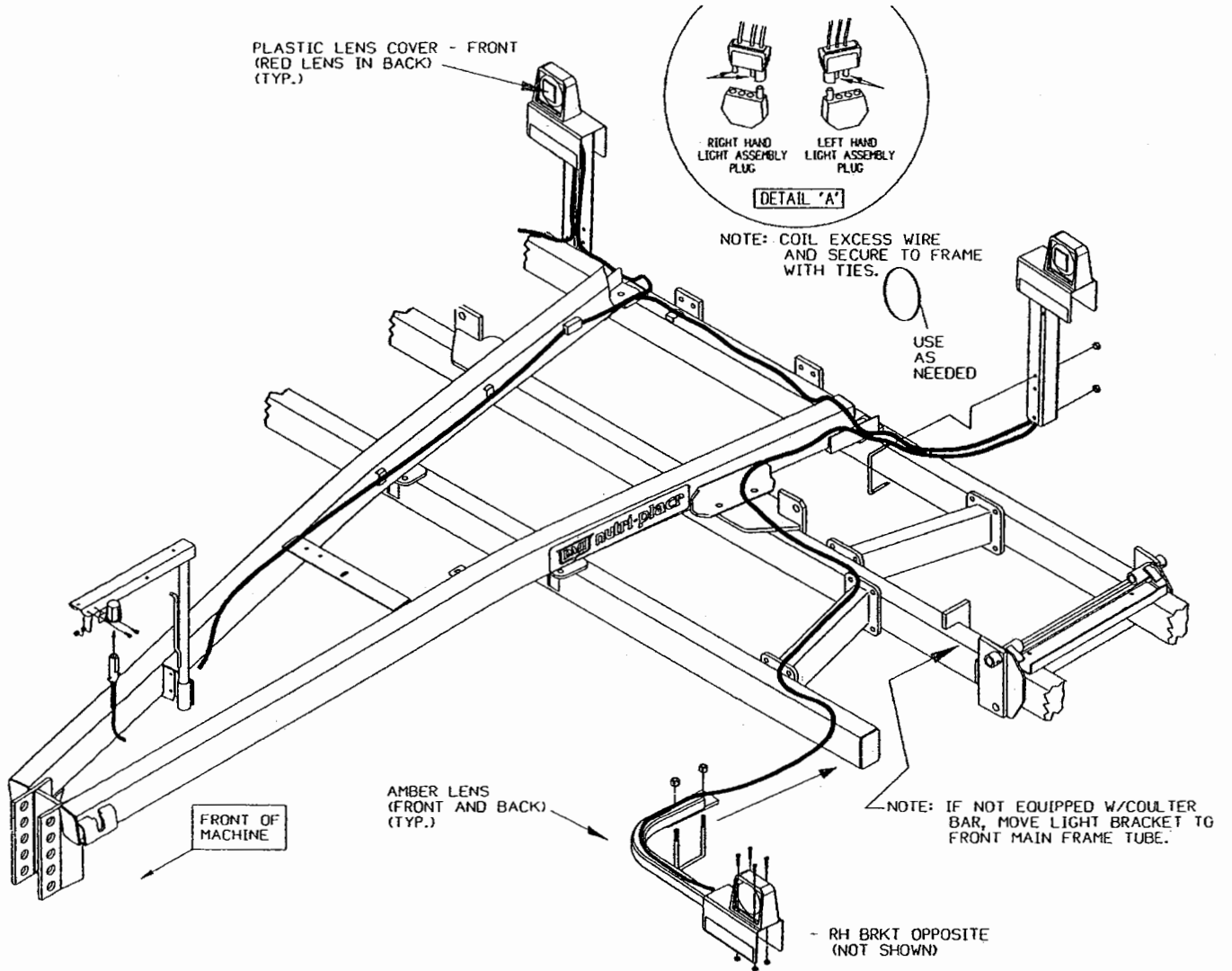
To make sure that light assemblies will be mounted correctly, check the following:

 - From the rear of the implement, amber lights should be visible from the outer brackets and red lights should be visible from the inner brackets.
 - From the front of the implement, 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 headlights.
 - 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 front light brackets (#5 & #6) to the outermost position of the couler bar or front main frame tube with the 5/8" U-bolts (#11) and 5/8" hex nuts (#13) as shown on page #47. Then attach lights (#2 & #3) to the correct light bracket using 1/4" x 1-1/4" hex bolts (#14) and 1/4" lock nuts (#16). Adjust assemblies outward until lights are visible from front and rear and are no more than 16" from outside of implement. **Do not over tighten fasteners on the plastic light assemblies.**
4. Install rear light brackets (#8 & #9) to the rear tube of the main frame using 3/8" U-bolts (#10) and 3/8" stover lock nuts (#12) as shown on page #47. Adjust brackets so they are each 2' to 5' from center of implement. Attach red lights (#4) to the light brackets using 1/4" x 1-1/4" hex bolts (#14) and 1/4" stover lock nuts (#16). **Do not over tighten fasteners on the plastic light assemblies.**
5. Refer to diagrams on pages #46& #51. 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.
6. Secure wiring harness with hose ties as shown in diagram on Page #51 **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.
7. Plug the seven-pin connector into the tractor receptacle and allow enough slack for tractor maneuvering.
8. Attach plug storage container (#5) to the hose support weld using 1/4" x 3/4" hex bolts (#15) and 1/4" lock nuts (#16). **Do not over tighten fasteners on the plastic container.**
9. Retest the light system.
10. When not in use, store the seven-pin connector in the plug storage container to keep it clean. Align the rib of 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



SEALERS

DISC SEALERS

Mount the disc sealer assembly to the shank above the projection on back of shank with the 1/2" bolt, nuts and lock washers in bag (02400025). Mount the two disc blades to the hub with the 3/8" carriage bolt, lock washer, and nuts in bag (02400025). (See Page #33.)

NOTE: The disc sealer must be free to pivot. The weight of the disc sealer should hold down the sealer.

uni-seal'r ATTACHMENT

(See Figure #2, Page #12). The **uni-seal'r** is shipped partially assembled. Assemble the disc blades to hub using the 3/8" bolts CAREFULLY. Be sure to install so that the curvature of the blade matches the curvature of the hub mounting flange.

- A) 1" x 2" flat shank: Install the **uni-seal'r** using the 1/2" x 3-1/2" cap screw and nut. (See Figure #2.)
- B) The unit can be mounted so the blade is either to the right or left of the A.A. knife. To change, remove the two 1/2" x 1-1/2" carriage bolts and rotate the hub arm to the other side of the frame. (See Figure #3, Page #12.)
- C) The unit is assembled at the factory using holes "A" and "B" (See Figure #4, Page #12) in the hub arm and bolted through the forward slot in the frame. The hub arm is factory assembled at an angle to the frame. That is, the leading edge of the blade will be farther away from the knife slot than the trailing edge. The factory set angle is about 15° with the direction of travel.

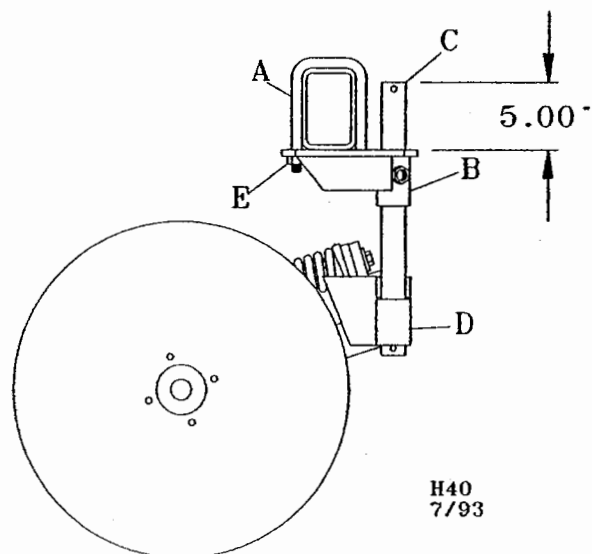


WARNING: Blades have extremely sharp edges. Care must be taken when handling to avoid injury.

COULTERS

Attach coulters mounting brackets to the 4"x 6" bar per locations on Pages #55 through #60. Coulters assembly drawings are on Page #31. All coulters hardware is in hardware bags 04660014, 04663001, and 04660015.

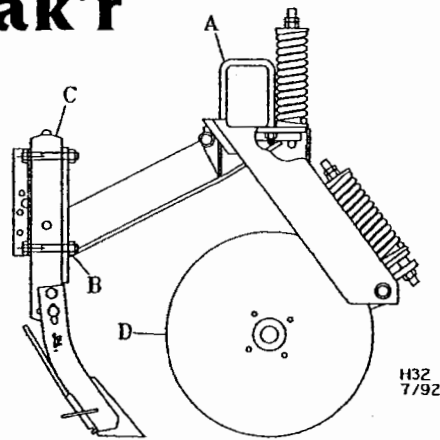
NOTE: The center of the 3/4" U-bolt is the center of the coulters when assembled. Attach the standard coulters mount (B) to the bar using the 3/4" U-bolt (A) and nuts (E). Insert the coulters shaft (C) through the bottom of the mount, aligning the milled surface with the set screw location. Insert the 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.



tru-trak'r

Attach the **tru-trak'r** to the bar as shown. The 5/8" U-bolts (A) must be drawn down squarely on the bar by tightening the nuts evenly to 170 ft-lbs.

Loosen Item "B", bolt retainers, to raise or lower knife also adjust knife bracket, Item "C", sideways until knife is aligned with coultter blade, Item "D". Then re-tighten bolts.



SHANK INSTALLATION

Shank locations are found on Pages #55 through #60. For spring shank mountings, the hardware is in bag 04660013. For rigid shank mountings, the hardware is in bags 04660010 and 04660016. For C-S shank mountings, the hardware is in bag 04660015. For spring C-S mounting, hardware is in bag 04660016 and 04665010. 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 decrease 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.

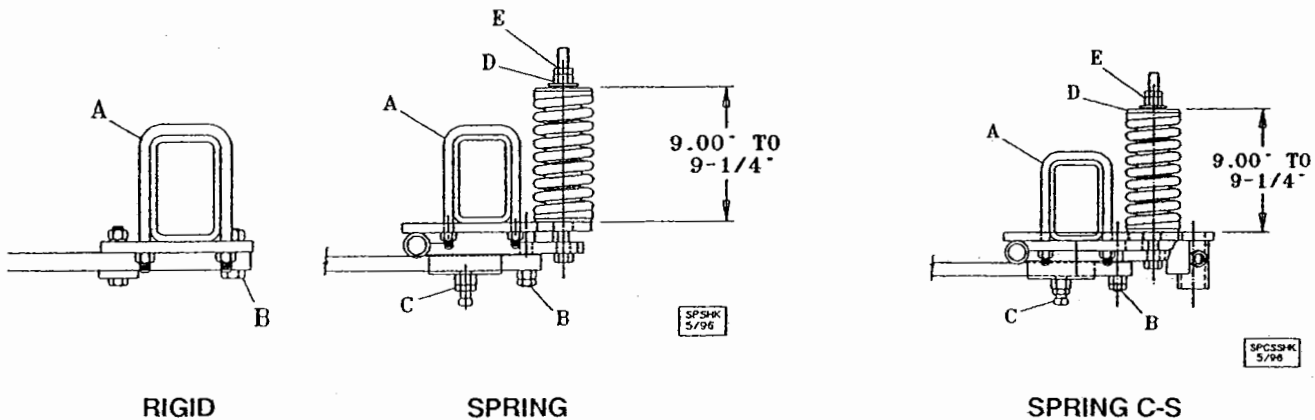
SPRING SHANK AND SPRING C-S MOUNT INSTALLATION

Attach spring shank to the bar as shown in the drawing below. The 5/8" U-bolts (Ref. A) must be drawn down squarely on the bar by tightening the nuts evenly to 170 ft-lbs.

Torque the 3/4" x 3" bolt, nut, and jam nut (Ref. B) that holds the front end of the shank to the pivot plate to 325 ft-lbs. Torque the 3/4" x 2" set screw (Ref. C) to 150 ft-lbs and lock jam nut.

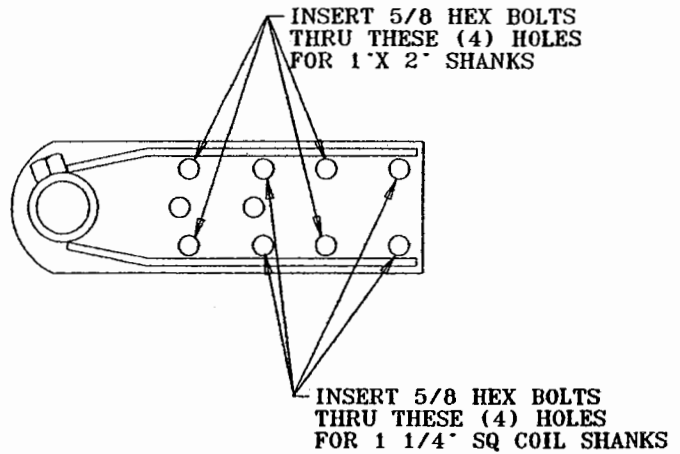
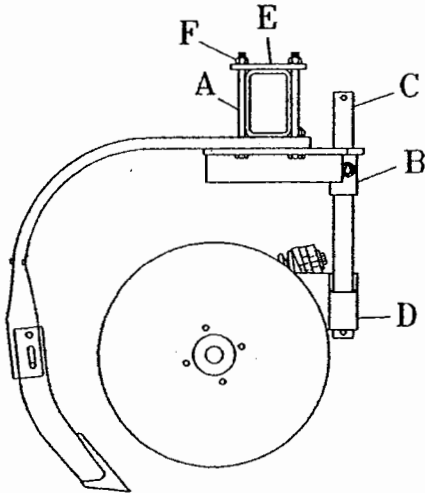
NOTE: The spring shank assembly is designed to work only when striking an obstruction and should not be allowed to "float" as this will cause the machine to pull hard and result in excessive wear of the spring shank assembly.

Be sure to maintain the factory set spring length of 9.00 inches.



RIGID C-S SHANK MOUNT INSTALLATION

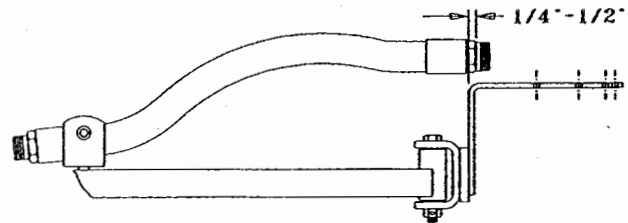
Attach the C-S mount to the bar as shown below. The 5/8" x 9" bolts (A) must be inserted through the bottom of the C-S mount (B) and then through the top plate (E), securing squarely with the 5/8" nuts to 105 ft-lbs. The shank is clamped between the C-S mount and the bar and is also secured with a 5/8" x 2-1/2" bolt and nut and torque to 105 ft-lbs.



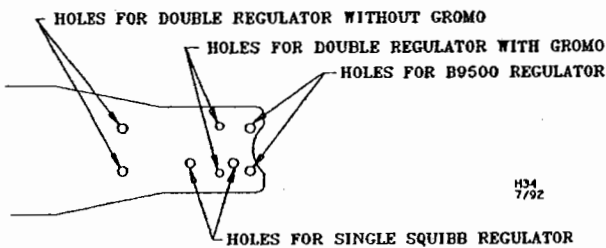
A.A. COMPONENTS

Refer to the Regulator Assemblies on Pages #34 through #38 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: The 1-1/4" x 32" hose must have some slack so the Quic-Coupler can disconnect.



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.

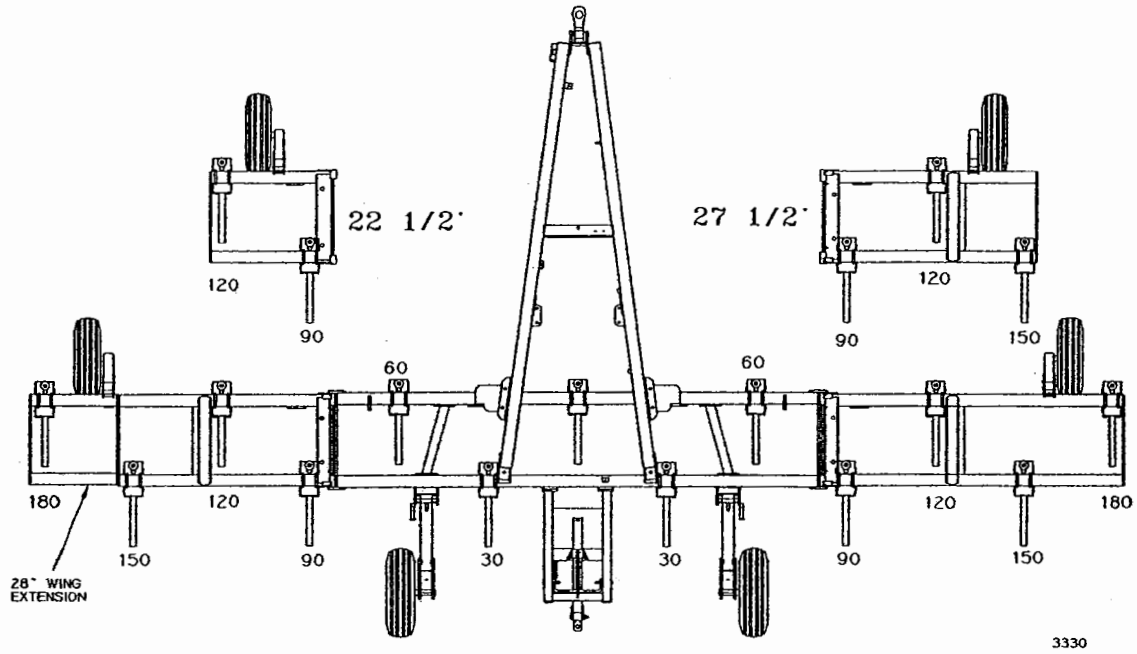
Mount manifold bracket (Item #31, Page #22) with U-Bolt (Item #51, Page #22) and 5/8" nuts (Item #64, Page #22) to rear main frame bar near each hinge, as shown in shank layout diagrams (Page #55 through #60).

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.

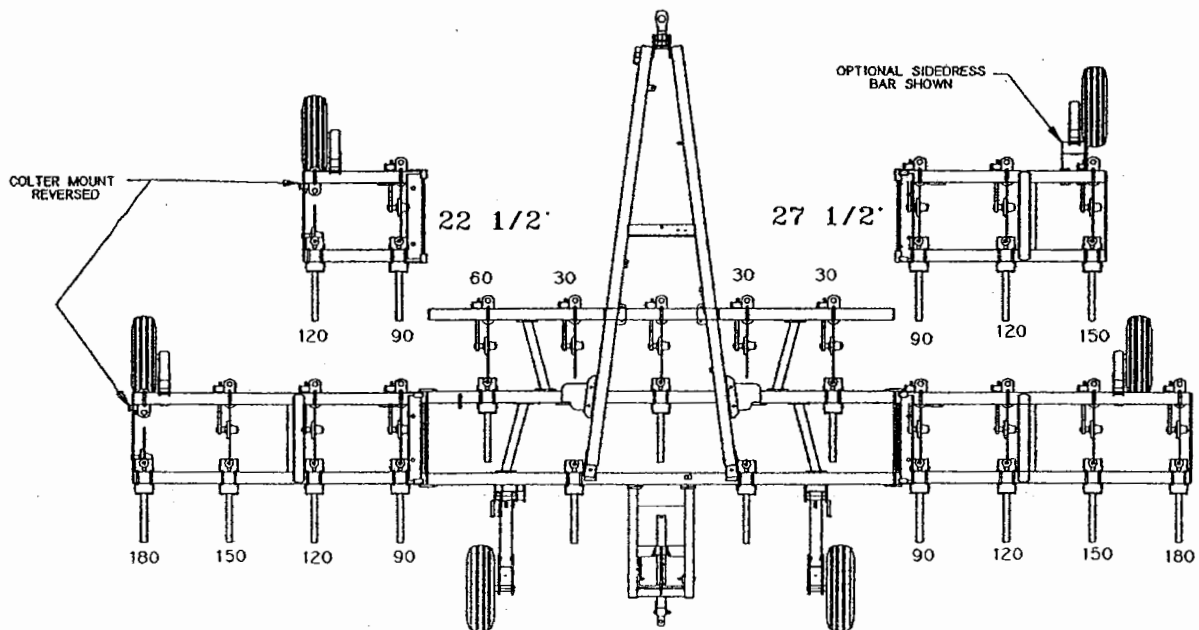
SHANK LOCATIONS

3300
30" SHANK SPACING
RIGID OR SPRING SHANKS
RIGID C-S OR SPRING C-S MOUNTS
SINGLE WHEELS



32 1/2'

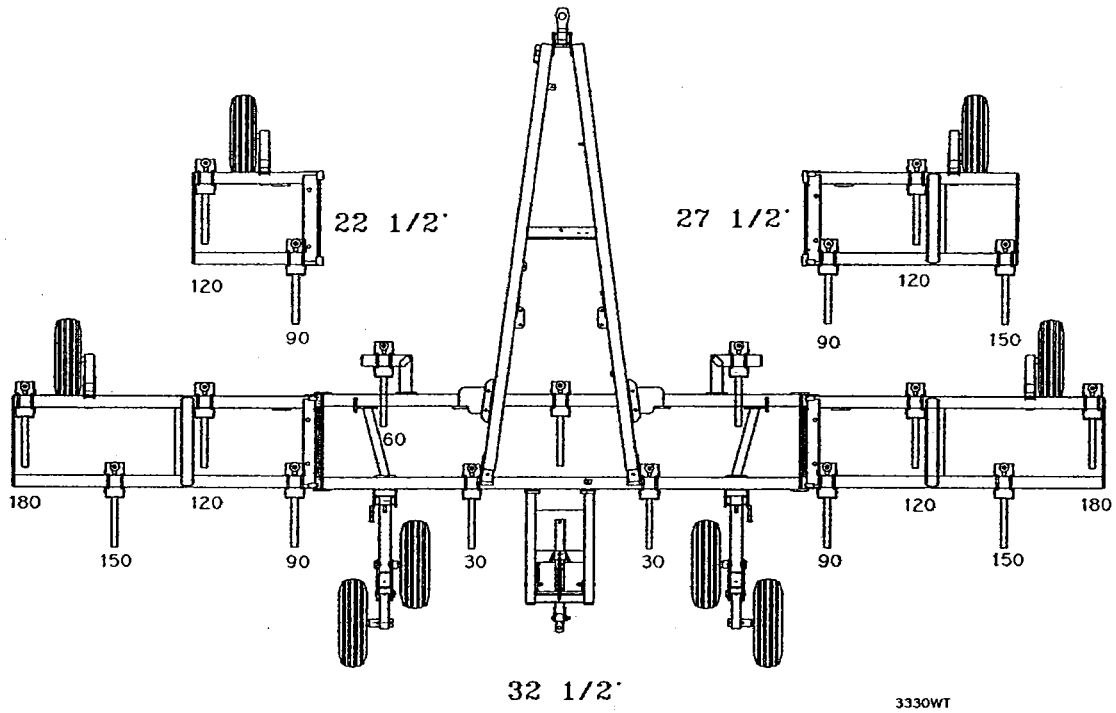
3300
30" SHANK SPACING
RIGID OR SPRING SHANKS
INDIVIDUAL COULTERS
SINGLE WHEELS



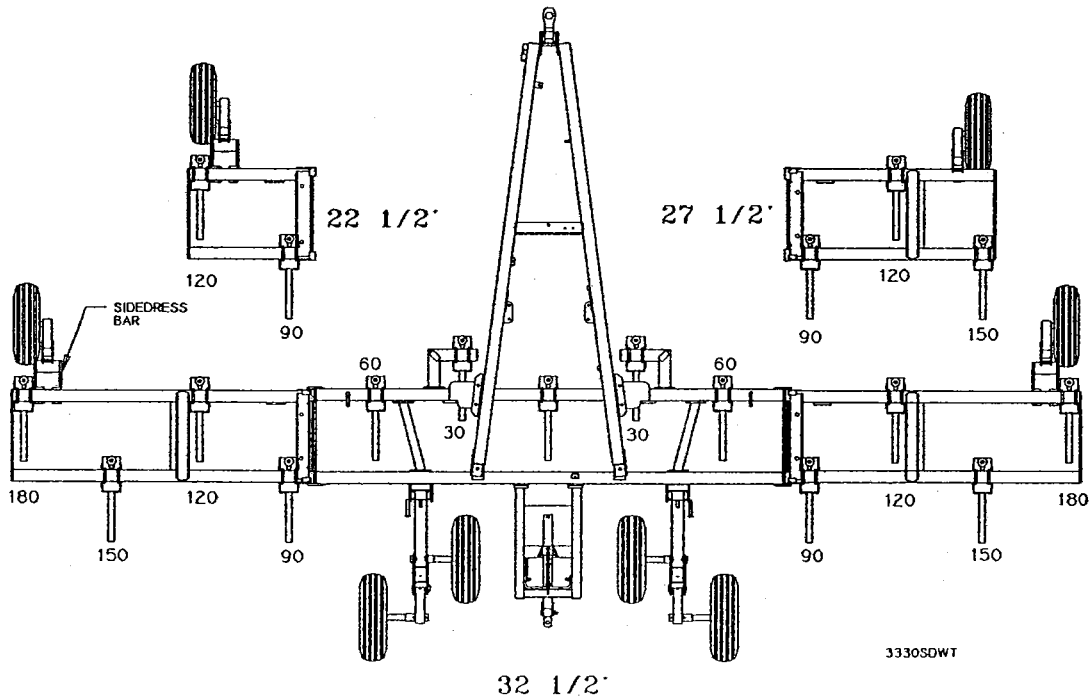
32 1/2'

3330C

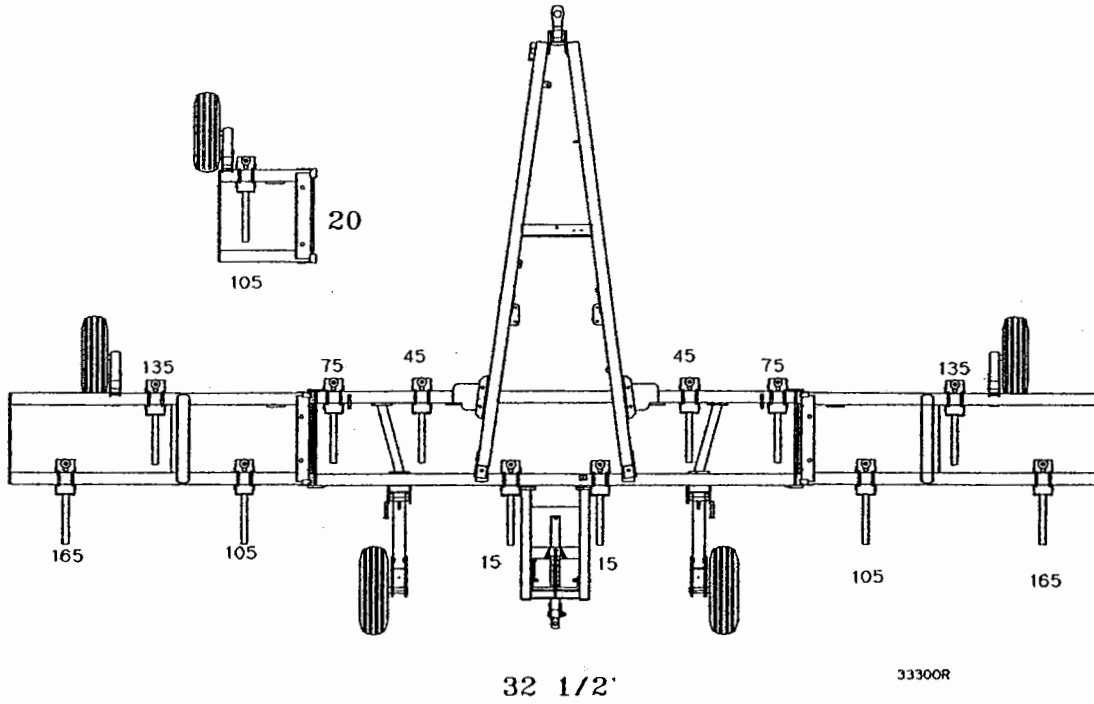
3300
 30" SHANK SPACING
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 WALKING TANDEM



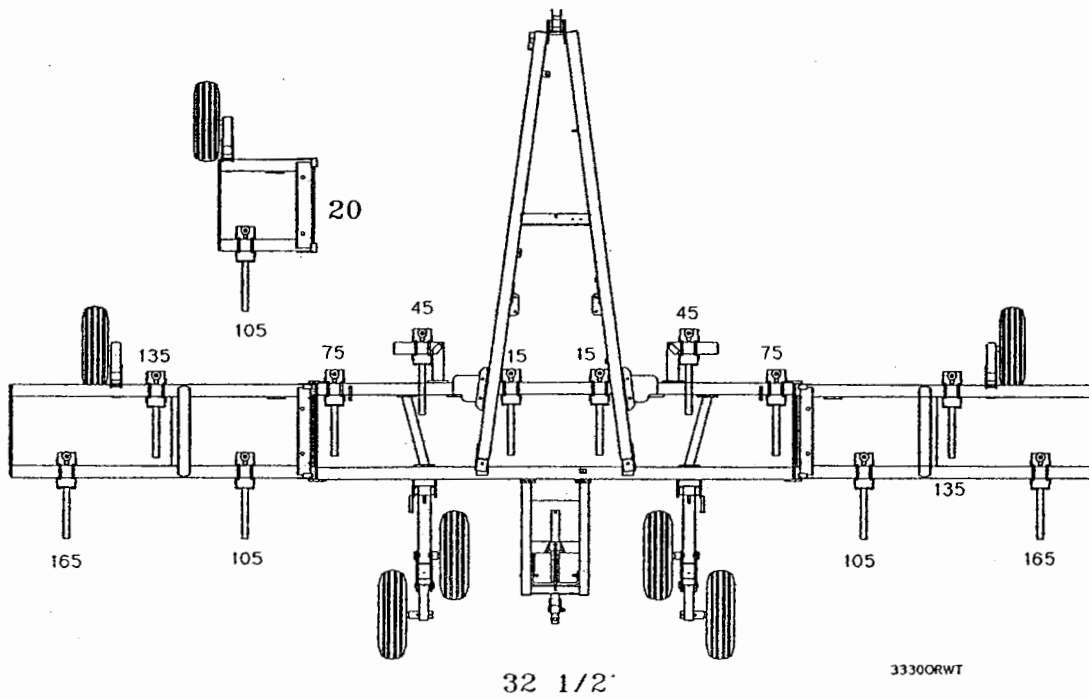
3300
 30" SHANK SPACING
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SIDE DRESS WITH WALKING TANDEM



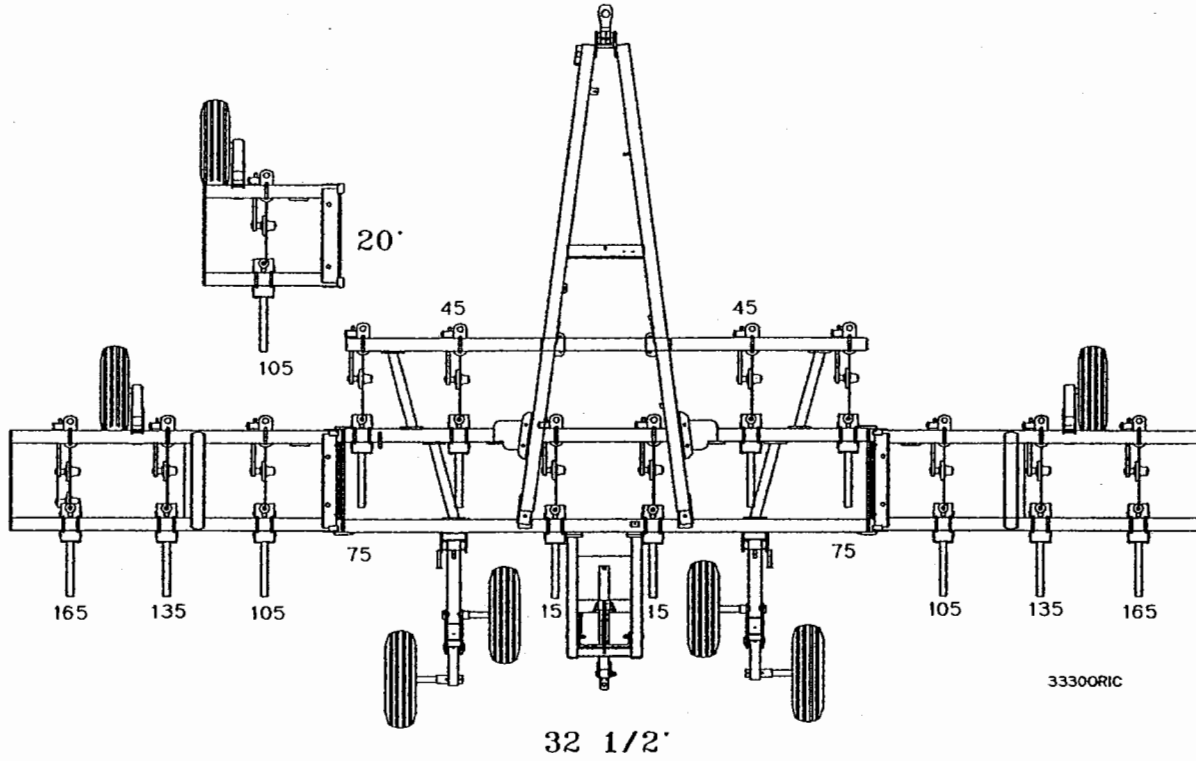
3300
 30" SHANK SPACING ON-ROW
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SINGLE WHEELS



3300
 30" SHANK SPACING ON-ROW
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 WALKING TANDEM

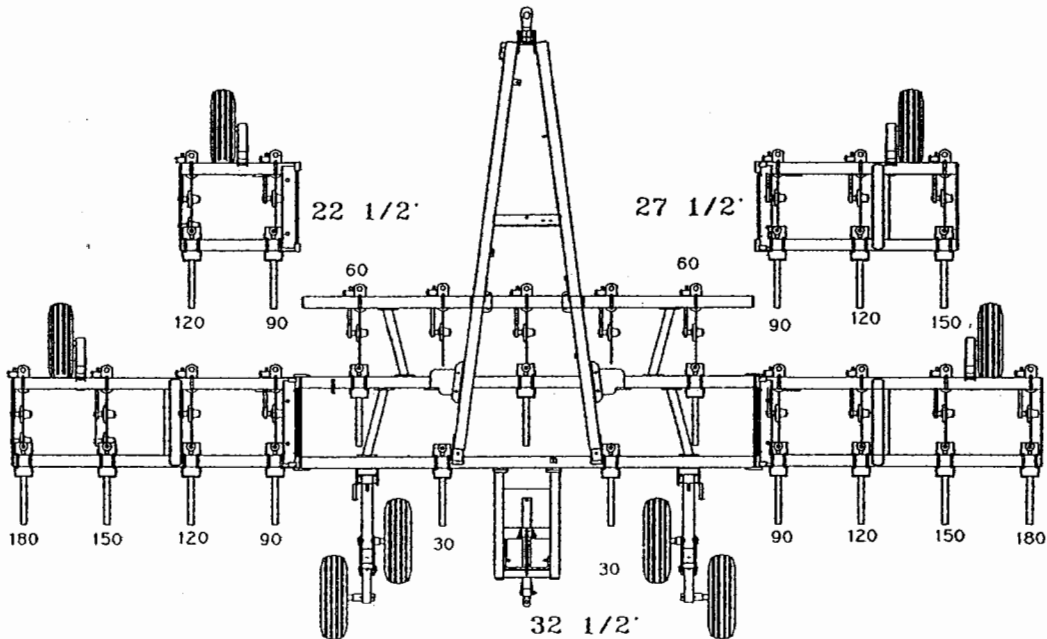


3300
 30" SHANK SPACING ON-ROW
 RIGID OR SPRING SHANKS
 INDIVIDUAL COULTERS
 TANDEM WHEELS



33300RIC

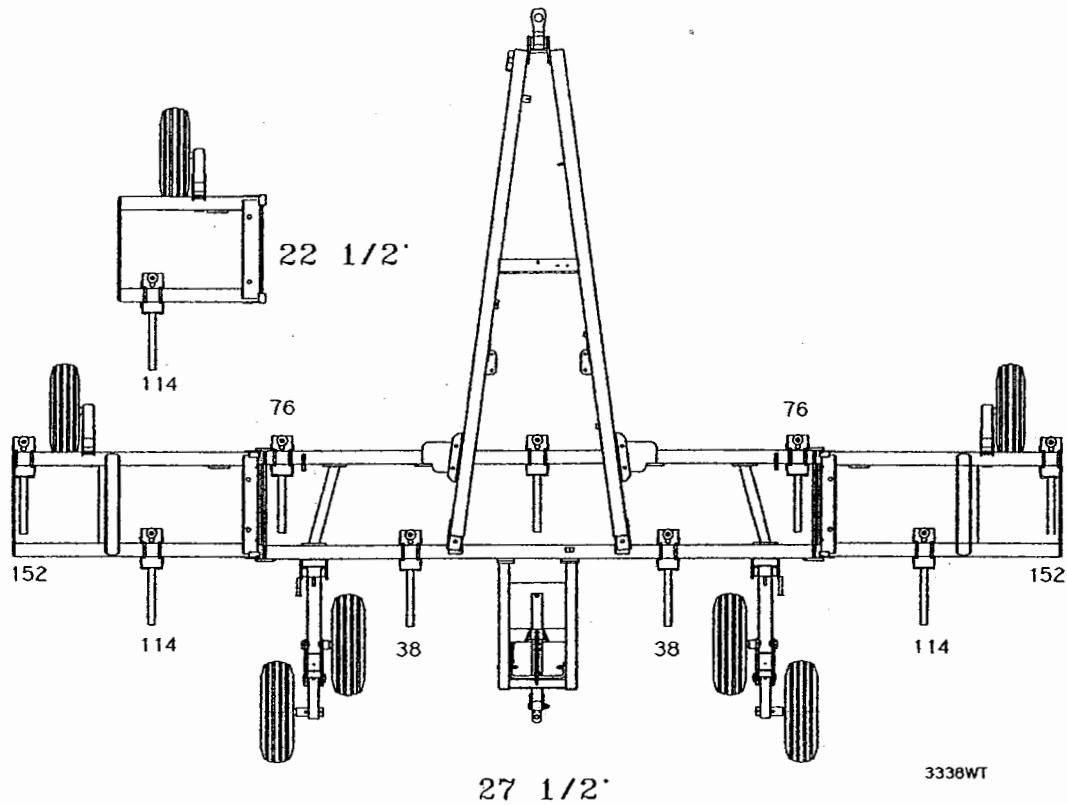
3300
 30" SHANK SPACING
 RIGID OR SPRING SHANKS
 INDIVIDUAL COULTERS
 TANDEM WHEELS
 PRE-PLANT ONLY (NO SIDEDRESS)



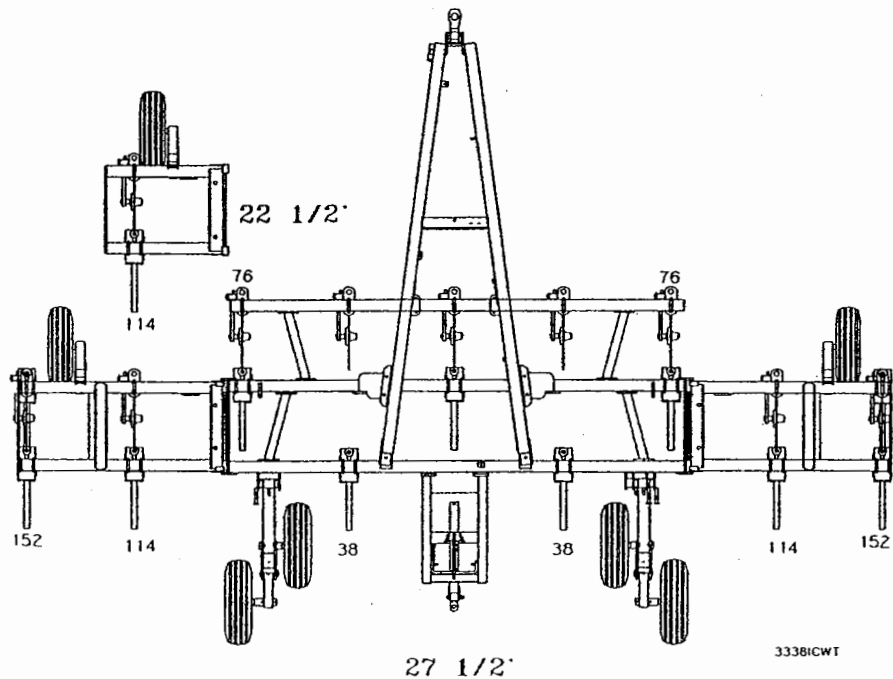
3330ICTW

NOTE: REDUCED CLEARANCE BETWEEN
 DOUBLE DISC SEALERS AND TIRES
 SEALER ADJUSTMENT LIMITED

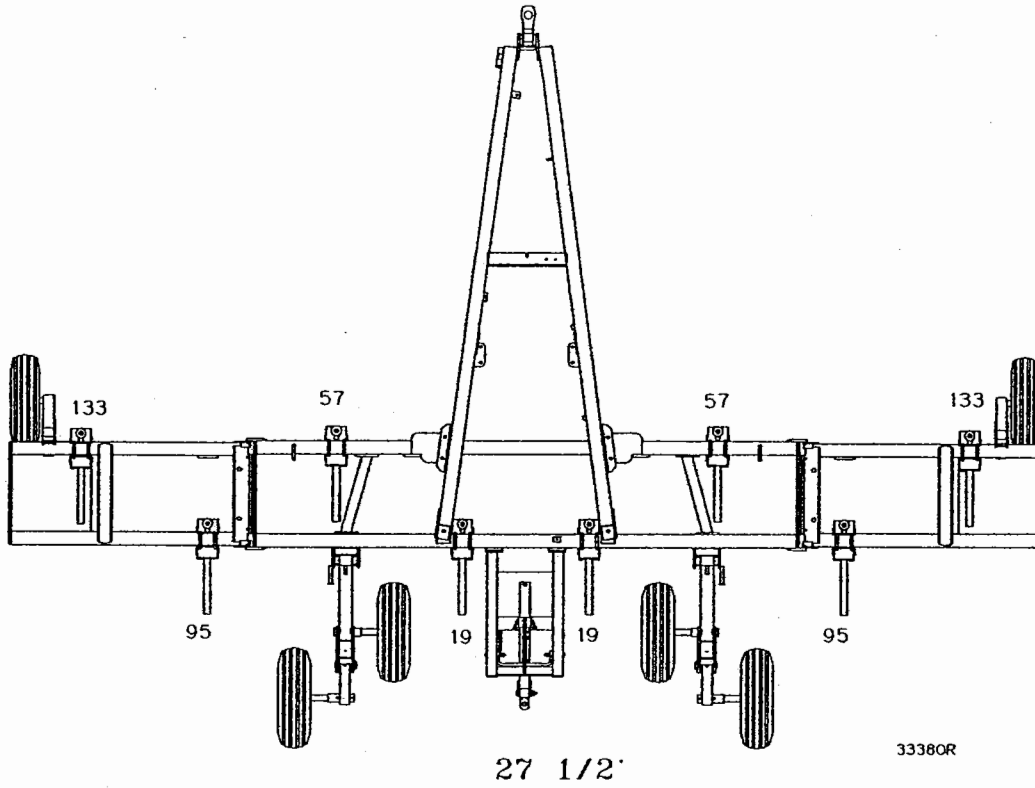
3300
 38" SHANK SPACING
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SINGLE WHEELS OR TANDEMS



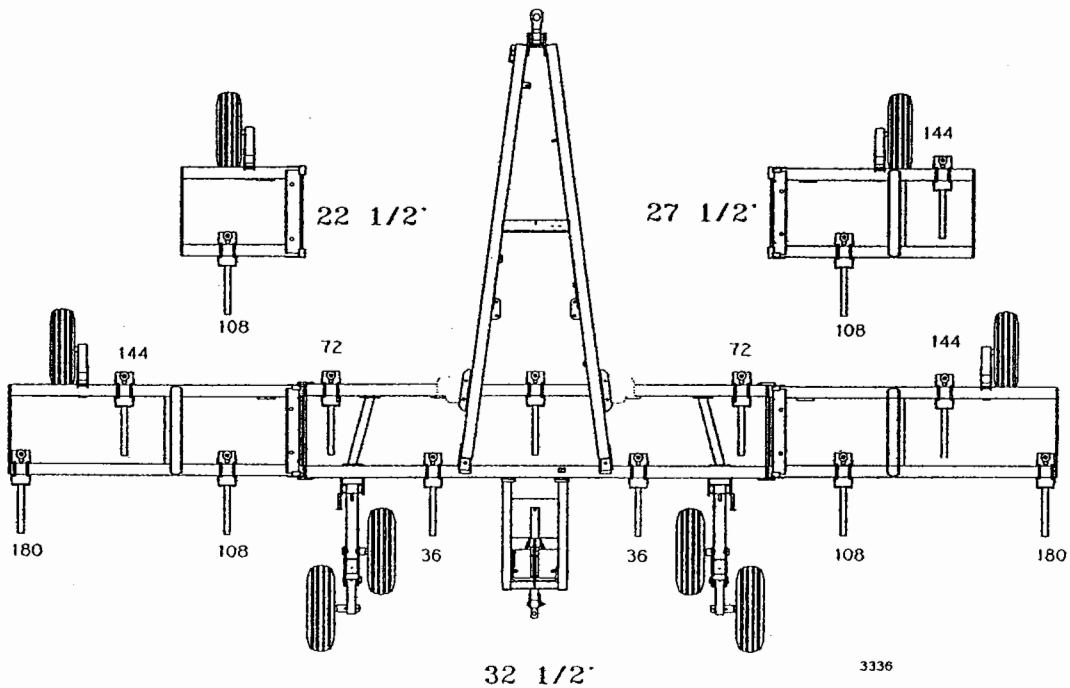
3300
 38" SHANKS SPACING
 RIGID OR SPRING SHANKS
 INDIVIDUAL COULTERS
 SINGLE WHEELS OR TANDEMS



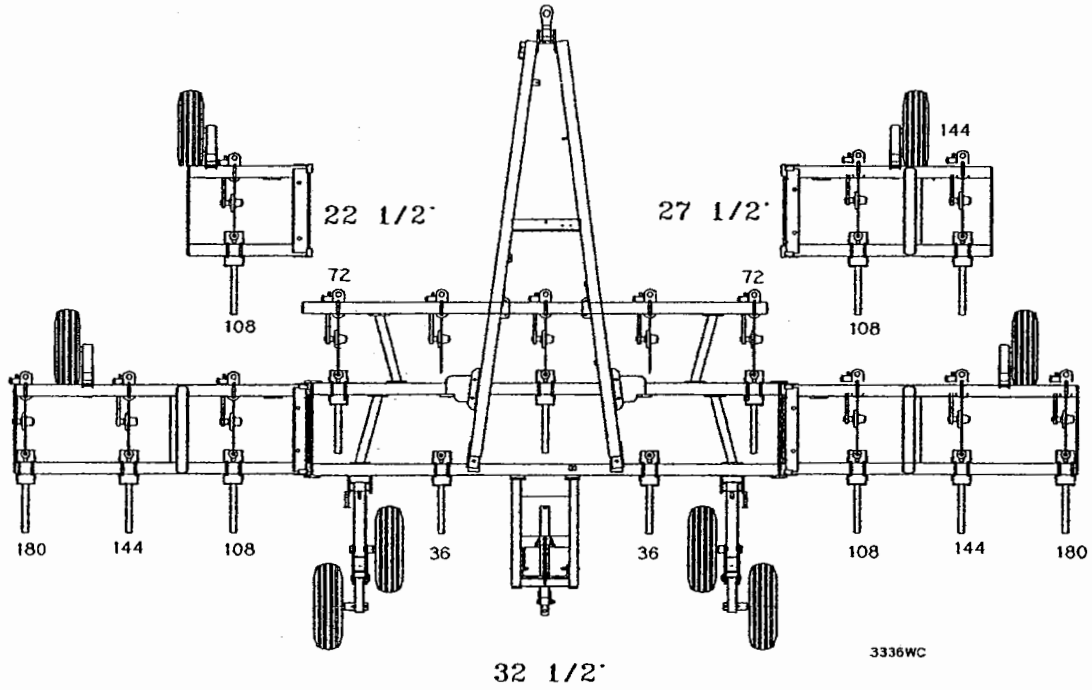
3300
 38" SHANK SPACING ON-ROW
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SINGLE WHEELS OR TANDEMS



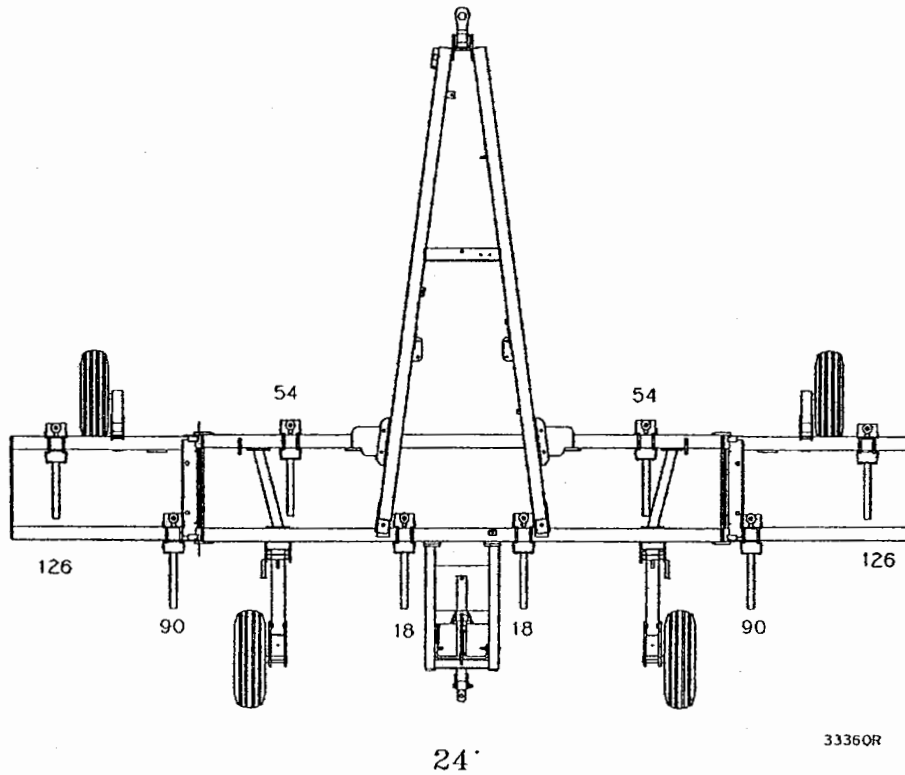
3300
 36" SHANK SPACING
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SINGLE WHEELS OR TANDEMS



3300
 36" SHANK SPACING
 RIGID OR SPRING SHANKS
 INDIVIDUAL COULTERS
 SINGLE WHEELS OR TANDEMS



3300
 36" SHANK SPACING ON-ROW
 RIGID OR SPRING SHANKS
 RIGID C-S OR SPRING C-S MOUNTS
 SINGLE WHEELS



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

SQUIBB REGULATOR

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

Squibb-Taylor
10807 Harry Hines Blvd.
Dallas, Texas 75220
Phone No. (214) 357-4591

TITAN/ARMSTRONG TIRES: Warranty claims on **nutri-placr** Model 3300 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

FIVE YEAR LIMITED WARRANTY

The manufacturer warrants to the original purchaser of each new **DMI nutri-placr 3300** that the product will be free from defects in material and workmanship for the following periods:

Basic, Main and Wing Frame Weldments **Five (5) Years**
All Other 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 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.