MASTER COPY

IF YOU NEED A BOOK, THE PRINTER'S ASSISTANT WILL MAKE YOU A COPY !!

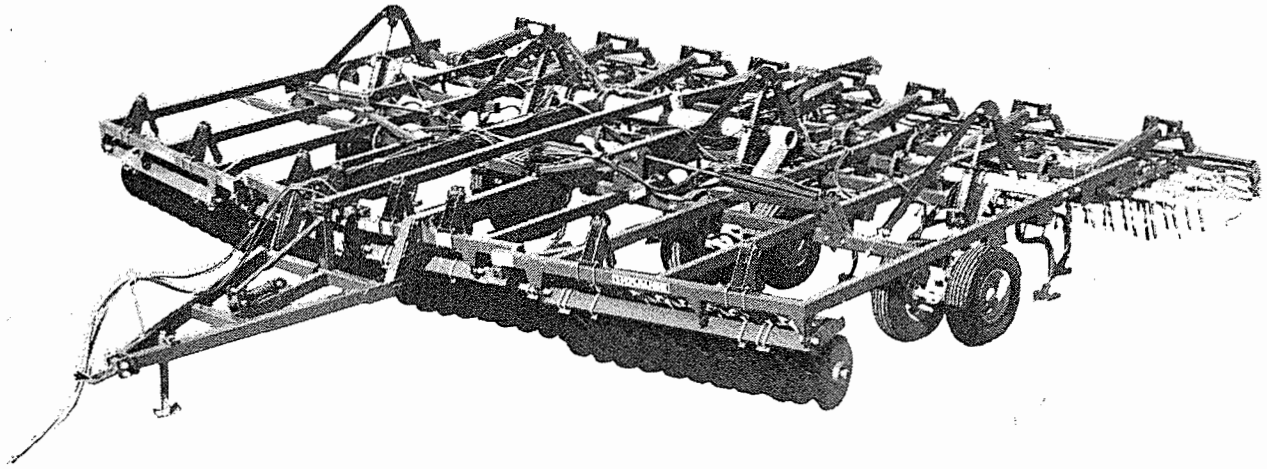
DO NOT TAKE FROM FILE

OWNER'S MANUAL

Serial No.

1001

ON



LANDSTAR

MODELS

6324, 6327, 6331

REVISED

JAN 1995

KRAUSE

305 SOUTH MONROE STREET HUTCHINSON, KANSAS 67501

Congratulations

You have just purchased a quality designed and manufactured Krause tillage tool. Advanced features have been designed into the implement for modern farming operations. As with any investment, a return is expected, and the return received from this investment will be in the form of maximum tillage performance during many years of dependable service.

In order to maintain quality performance of the new Krause implement, it is important that all of the information in the manual be reviewed and studied carefully before operation. The contents provide operating instructions, maintenance instructions, and information on how to make adjustments.

SAFETY ALERT SYMBOL

BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY. THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES. CAREFULLY READ THE MESSAGE THAT FOLLOWS.

MODEL NUMBER_____ SERIAL NUMBER_____

PURCHASE RECORD -- DATE _____

Warranty

KRAUSE PLOW CORPORATION
Hutchinson, Kansas

The Krause Plow Corporation, Hutchinson, Kansas, expressly warrants each new product manufactured by it to be free from defects in material and workmanship under normal use and service for a period of one year after delivery to the original retail purchaser or first user of the product.

Krause's obligation under this warranty is limited to repairing and/or replacing, at its option, any part or parts within the applicable one year period, as set out above, which shall be returned by the owner or any Krause authorized dealer to the factory and which upon examination shall disclose to Krause's satisfaction to be defective.

Krause may, at its option, elect to grant adjustments in the field through an authorized representative and may thereby elect to waive the requirement that parts be returned to Krause's factory.

A new warranty period is not established for replacements. Replacements are warranted for the remaining portion of the one year original warranty period. The repair or replacement of defective parts under this warranty will be made without charge to the owner except for transportation.

Krause does not warrant disc blades, tires, chisel shanks, hydraulic cylinders, accessories and other parts not manufactured by it, but supplied with or as a part of its products. Krause will, however, obtain and pass on any adjustments provided by the manufacturers of such parts under these manufacturer's warranties.

The provisions of this warranty do not apply to any product or parts which have been subject to misuse, negligence or accident, or which have been repaired or altered outside of Krause's factory in any way so as in the judgement of Krause to affect adversely its performance and reliability. Neither does this warranty apply to normal maintenance service and parts, or to normal deterioration due to wear and exposure.

To the extent allowed by applicable law, this warranty is expressly in lieu of other warranties, expressed or implied, in fact or by law, including any implied warranty of merchantability or fitness for a particular purpose. The remedies of repair or replacement as set forth are the only remedies under this warranty. Krause disclaims any obligations or liability for loss of time, inconvenience, commercial loss or direct, consequential, special or incidental damages. This warranty is in lieu of any other obligation or liability of Krause of any nature whatsoever by reason of the manufacture, sale, lease or use of such products and Krause neither assumes, nor authorizes anyone to assume for it, any other obligation or liability in connection with such products.

6300 SERIES LANDSTAR
DEALER PREDELIVERY CHECK SHEET
TO BE CHECKED BY DEALER

CUSTOMER_____ DATE_____

ADDRESS_____ COUNTY_____

DEALER_____

ADDRESS_____ COUNTY_____

MODEL NUMBER_____ SERIAL NUMBER_____

DEALER CHECK:

1. ____Check to see that all rocker shaft bolts are tight and pins are in place.

2. ____Check to see that hydraulic cylinders are full of oil (air bled out of cylinders). Clevis pins with hairpin clips should be in place. Models 6324, 6327 and 6331 require 24 Quarts / 22.7 Liters of oil.

3. ____Examine hydraulic hoses to see that they are protected from damage.

4. ____Bolts attaching the walking tandem to the wheel arms should be tight. Check to see that bearings have been adjusted and greased.

5. ____Check lug bolt holding wheels to the hub to see that they are torqued at from 90 to 95 Ft. Lbs. / 120 N•m.

6. ____See placement page A17 through A22 for correct size tires and their locations. Inflate all tires to the following pressures:

9.5L x 15	6–Ply	TO	32 PSI
9.5L x 15	8–Ply	TO	44 PSI
10.00 x 15	8–Ply	TO	40 PSI

7. ____Check to see that bolts and pins attaching hitch frame and clevis weldment to hitch are in place and tightened.

8. ____Jack should be operational for support of tongue when implement is not attached to a tractor.

9. ____Road lock and wing lock are correctly installed and operate satisfactorily.

10. ___Restrictors are installed in wing lift cylinder rod end ports.

11. ___All decals are in place per page P48 of this owner's manual.

12. ___Customer review sheet is filled out and signed.

13. ___A safety chain is provided with a strength rating equal to or greater than the gross weight of the Landstar with attachments.

14. ___Review lighting requirements. Light kits are available.

DELIVERED BY:_____

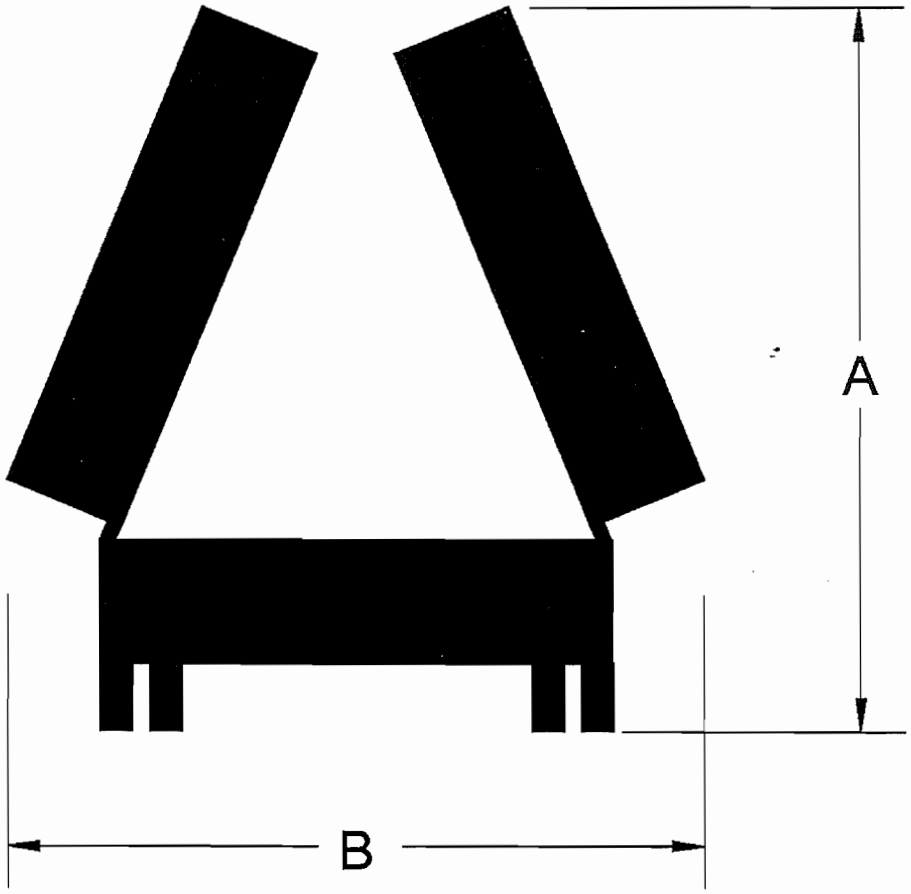
DATE:_____

6300 LANDSTAR SPECIFICATIONS

MODEL	CUT WIDTH FEET	CUT WIDTH METRES	NUMBER DISC	DISC SPACING	DISC BLADE SIZE	NUMBER SHANKS 9" SPACING
6324	24' 0"	7.32	32	9–1/8"	20"	32
6327	27' 0"	8.23	36	9–1/8"	20"	36
6331	31' 6"	9.60	40	9–1/8"	20"	42

6300 LANDSTAR TRANSPORT WIDTH & HEIGHT

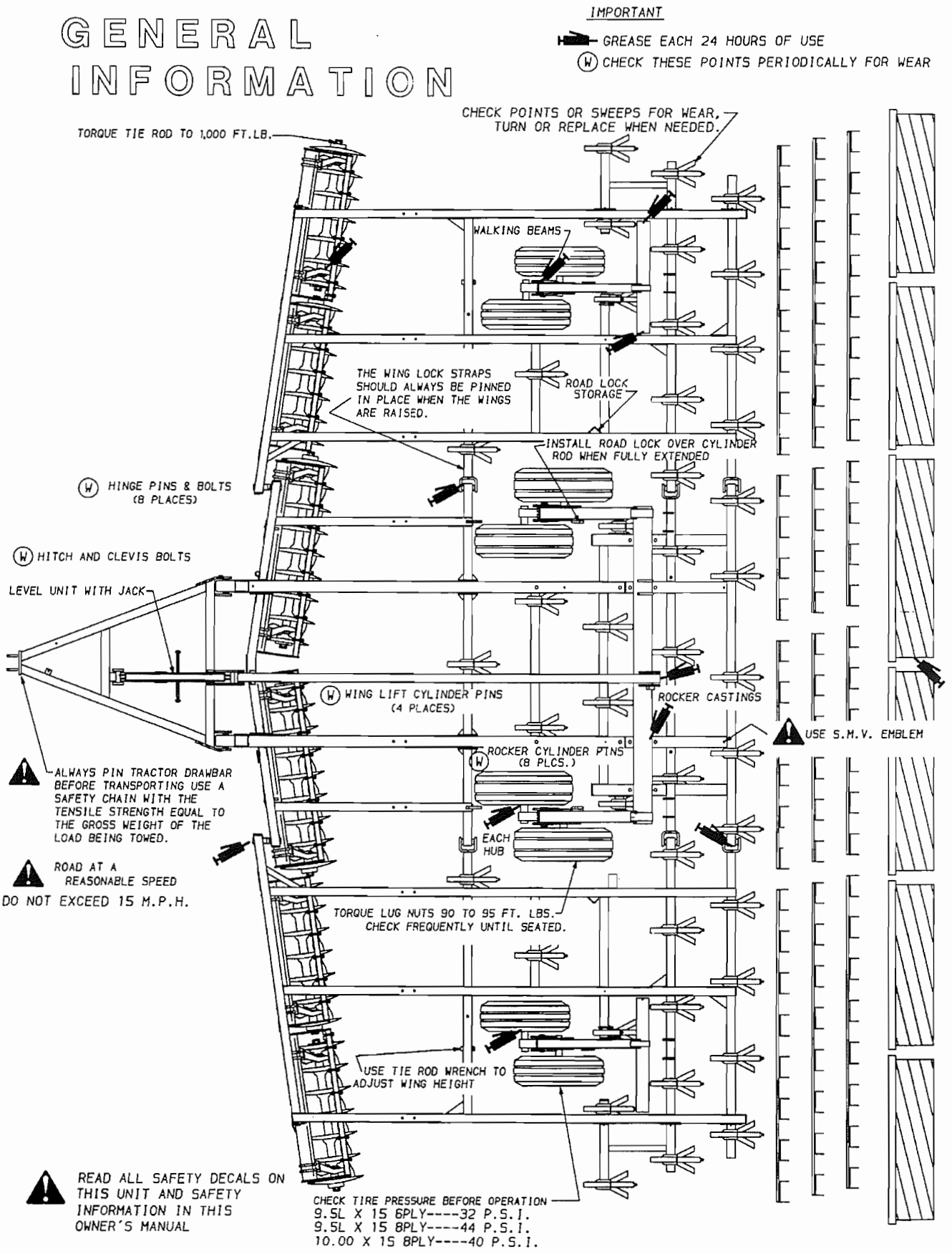
MODEL	DIMENSION 'A'	DIMENSION 'B'
6324	12' 6"	12' 0"
6327	12' 6"	14' 11"
6331	14' 6"	14' 11"



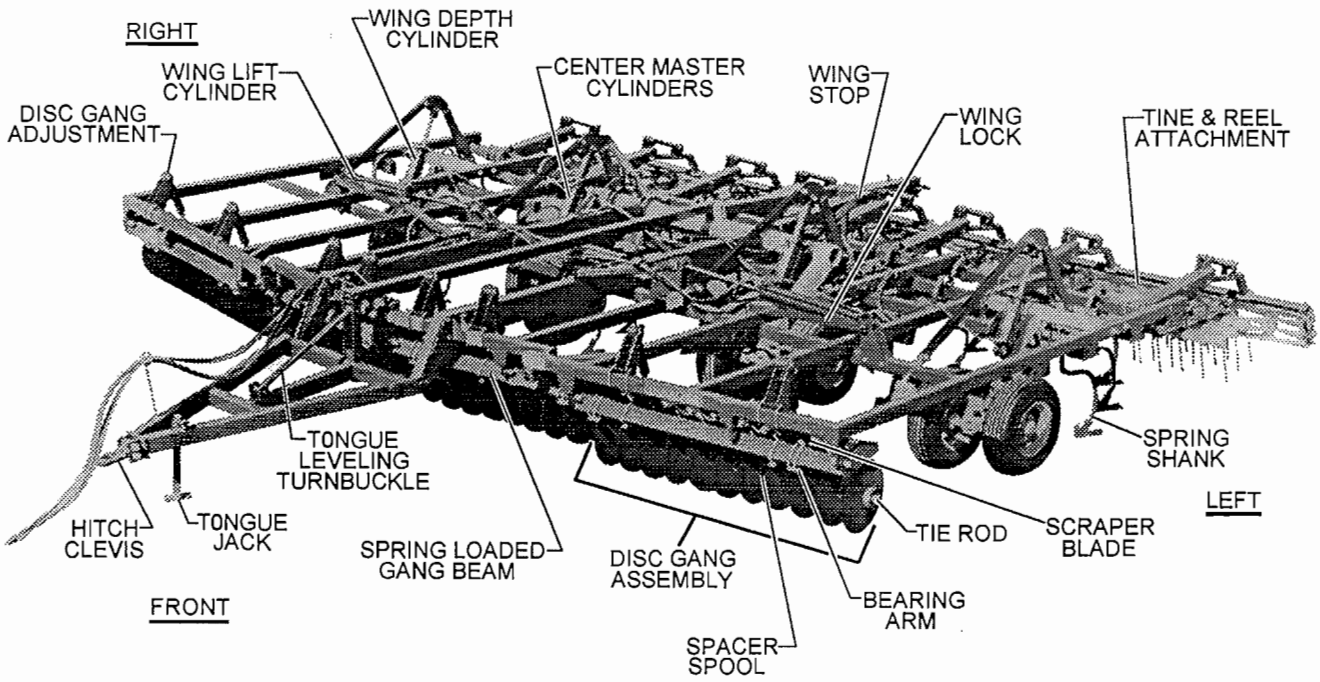
*** WIDTH & HEIGHT MAY VARY WITH FINISHING ATTACHMENT**

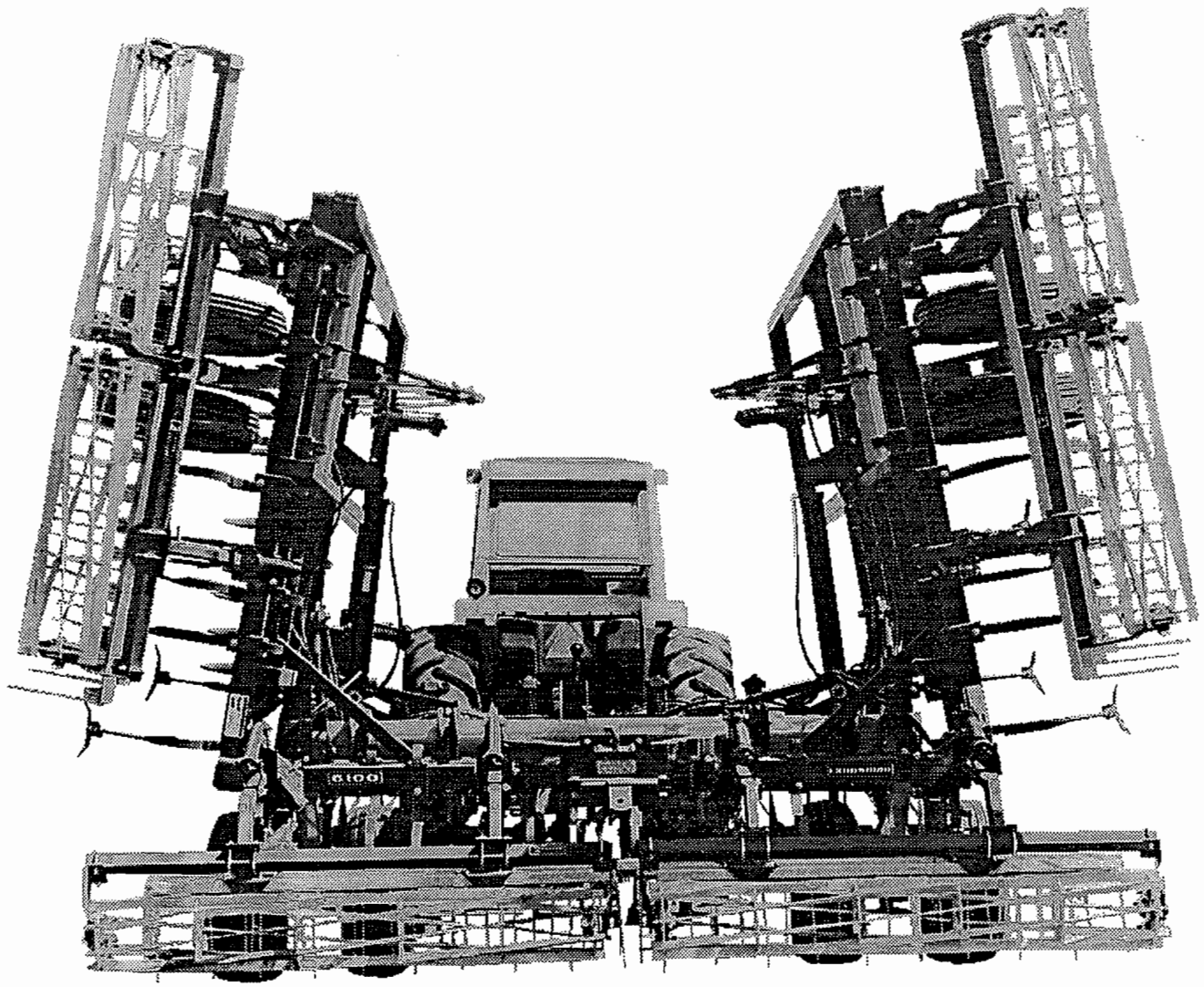
12/94

GENERAL INFORMATION



M6100–139
Revised 10/94


RIGHT
WING DEPTH CYLINDER
WING LIFT CYLINDER
CENTER MASTER CYLINDERS
WING STOP
DISC GANG ADJUSTMENT
WING LOCK
TINE & REEL ATTACHMENT
SPRING SHANK
LEFT
TONGUE LEVELING TURNBUCKLE
HITCH CLEVIS
TONGUE JACK
SPRING LOADED GANG BEAM
DISC GANG ASSEMBLY
TIE ROD
SCRAPER BLADE
BEARING ARM
FRONT
SPACER SPOOL



OPERATING SECTION

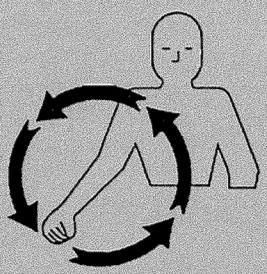
SAFETY ALERT SYMBOL

BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY.

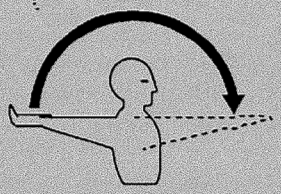
THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES.

CAREFULLY READ THE MESSAGE THAT FOLLOWS.

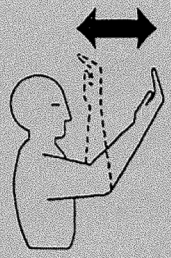
TEN MOST COMMON HAND SIGNALS USED IN THE FIELD



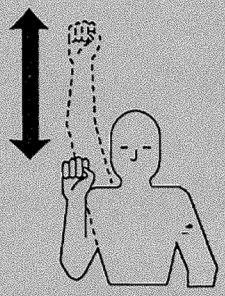
START THE ENGINE



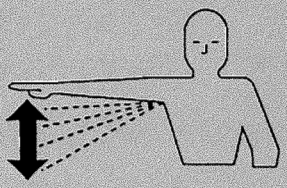
MOVE OUT OR TAKE OFF



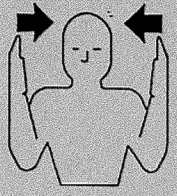
MOVE TOWARD ME



SPEED IT UP

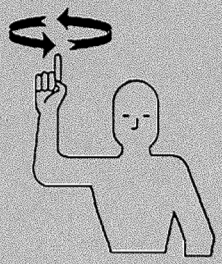


SLOW IT DOWN

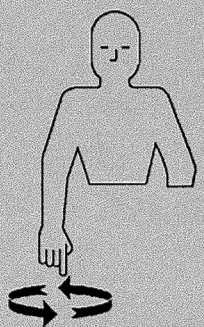


THIS FAR TO GO

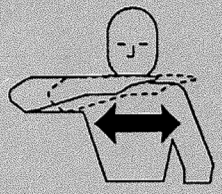
STOP



RAISE THE EQUIPMENT



LOWER THE EQUIPMENT



STOP THE ENGINE

Notes

PROTECT YOURSELF FROM CHEMICALS AND PESTICIDES

SUGGESTED PROTECTIVE GEAR:

1. HARD HAT: Should be washable, have a brim to collect chemicals. Replace headband if contaminated. Wash entire unit daily.

2. GOGGLES AND FACE SHIELD: Protect eyes, face. Goggles should fit snuggly, comfortably. Shield should cover entire face.

3. RESPIRATOR: To prevent inhaling of chemical dust vapors. Use canisters specified for chemicals being used. Replace canisters as specified.

4. GLOVES: Rubber with long sleeves so cuff can be made. Unlined is best — cloth linings are hard to wash and decontaminate.

5. APRON / SMOCK: Protects clothing from splashes, spills. Smock gives more body protection. Wash or replace as needed.

6. COVERALLS: Wear as outer layer for easy removal, if contaminated. Tight knit, closable at neck, wrists. Wash when contaminated.

7. RUBBER BOOTS: Protect against spills on your regular boots or shoes. Important because leather is hard to decontaminate.

NOTE: DIRTY, CONTAMINATED OR IMPROPERLY WORN PROTECTIVE CLOTHING AND EQUIPMENT MAY BE AS BAD AS USING NO SAFETY GEAR AT ALL. FOLLOW THESE LAUNDERING INSTRUCTIONS.

Change all clothing daily.

Keep clothing contaminated (worn while handling, applying) with pesticides separate from other family laundry. Keep it in a plastic bag if it is not washed immediately.

Use hot water (140° Fahrenheit) and fill machine to normal full level. Do not overload clothing.

Use recommended amount of a heavy–duty phosphate–type detergent.

Dry clothing immediately after washing, preferably in an automatic clothes dryer.

PESTICIDES AND CHEMICALS CAN ENTER YOUR BODY IN SEVERAL WAYS, SO IT IS ESSENTIAL TO WEAR A PROTECTIVE BARRIER WHILE HANDLING THEM. **THE MOST CRITICAL AREAS NEEDING PROTECTION ARE YOUR EYES, SKIN AND LUNGS.**

DON'T SMOKE OR EAT UNTIL AFTER THOROUGHLY WASHING WITH SOAP AND WATER.

USE COMMON SENSE.

SAFETY DECALS

⚠ CAUTION

READ AND UNDERSTAND YOUR OPERATOR'S MANUAL. OBSERVE ALL CAUTION, WARNING &/OR DANGER INSTRUCTIONS AND OTHER SAFETY PRACTICES

1. Stop tractor engine and set hand brake before working on or under implement.
2. Do not allow anyone to ride on implement. Do not allow anyone on tractor except operator.
3. Make certain that everyone is clear before moving implement or activating any controls that may cause movement of implement, hydraulics, or any components.
4. Operate with increased caution on slopes and near ditches where there is a possibility that the tractor or implement could overturn.
5. Before transporting, install wing locks, transport locks, and safety chain. The towing vehicle must weigh more than the implement.
6. Before transporting, clean off reflectors and make certain SMV emblem is clearly visible.
7. Maximum transport speed is 15 MPH on best road surface.
8. Store with wings and implement on ground.
9. Lower wings when working on or around implement.
10. Regularly inspect bolts & pins in hitch, wheel hubs, cylinders & transport locks.

FAILURE TO OBSERVE SAFETY INSTRUCTIONS AND SAFETY PRACTICES CAN CAUSE PROPERTY DAMAGE, SERIOUS BODILY INJURY, &/OR DEATH.

74-117

⚠ WARNING

Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

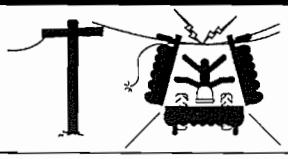
INSPECT the hose assembly before each use.

REPLACE the hose assembly immediately if:

A. The jacket of the hose appears abnormal.
B. You have reason to believe it may be abnormal.
C. There is any fluid leakage.
D. The couplings are damaged.
E. The hose is damaged or kinked.
F. The reinforcement is visible through the jacket.

74-276

⚠ WARNING



CONTACT WITH A POWER LINE OR OTHER OBSTRUCTION CAN CAUSE DAMAGE, SERIOUS BODILY INJURY OR DEATH.

BE AWARE OF THE IMPLEMENT TRANSPORT WIDTH AND HEIGHT. WATCH WIDTH AND HEIGHT CLEARANCES WHEN MOVING THE IMPLEMENT.

HARROW ATTACHMENTS WILL ADD TO TRANSPORT HEIGHT AND WIDTH. FOR YOUR SAFETY, MEASURE OVERALL WIDTH AND HEIGHT OF THE IMPLEMENT AFTER INSTALLING HARROWS OR ANY OTHER ATTACHMENT TO THE IMPLEMENT.

74-121

⚠ WARNING

CYLINDERS MUST BE CHARGED WITH OIL BEFORE IMPLEMENT OR WINGS ARE LOWERED. LOWERING WITHOUT PURGING ALL AIR FROM THE HYDRAULIC CYLINDERS MAY RESULT IN PERMANENT AND EXTENSIVE DAMAGE.

1. Remove rod end pins from cylinders.
2. Block up rod end of cylinder to allow freedom of movement while extending and retracting cylinder rod.
3. Cycle cylinder sufficient times to remove all air.
4. Reconnect cylinder rod end pin.

74-113

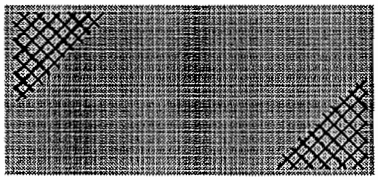
⚠ WARNING

PINCH POINT

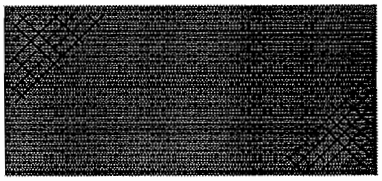
STAY CLEAR OF THE LATCH AREA!

SERIOUS PERSONAL INJURY MAY OCCUR.

74-348



74-107 AMBER REFLECTOR



74-108 RED REFLECTOR

⚠ CAUTION

BOTH ROAD LOCKS MUST BE IN PLACE BEFORE TRANSPORTING.

74-365

⚠ WARNING

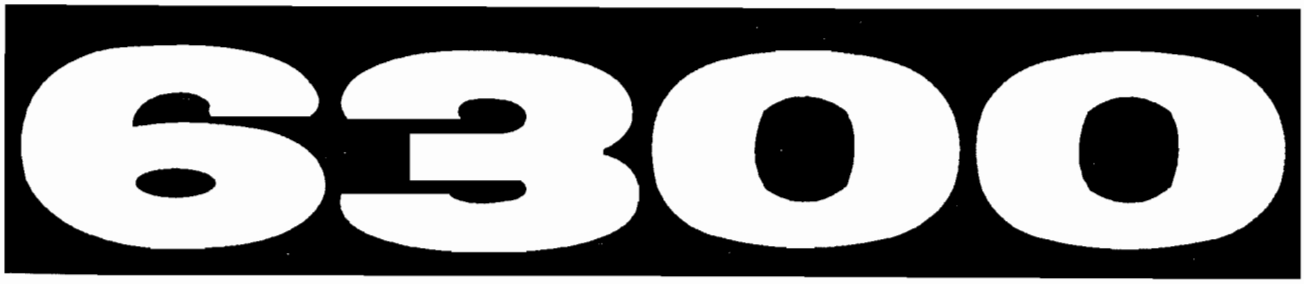
FAILURE OF HYDRAULIC COMPONENTS OR ACCIDENTAL OPERATION OF HYDRAULIC CONTROLS CAN ALLOW IMPLEMENTS OR WINGS TO FALL AND CAUSE SERIOUS BODILY INJURY OR DEATH!

1. Keep everyone clear when raising or lowering implement.
2. Install all transport lock pins when working on or under implement.
3. Check for adequate overhead and side-to-side clearance before raising or lowering wings.
4. Make certain all hydraulic systems are full of oil and free of air before raising or lowering wings or implement. Check operator's manual for detailed instructions.

74-102

See page P48 in this manual for proper location on implement.

INFORMATIVE DECALS



74-427

See page P48 in this manual for proper location on this implement.

OPERATING INSTRUCTIONS

Do not allow anyone to operate this implement who has not been trained in its safe operation. Read all safety decals on the implement, and review the safety first suggestions on the back cover of this manual to refresh your memory. Watch for the safety symbol and read the information. This is for your own protection. If you do not understand any safety decal or instructions in this manual, contact your dealer for assistance.

ABOUT YOUR LANDSTAR

This Landstar Tillage tool has been designed for one–trip secondary tillage. Hinged wing sections, spring–loading of the disc gangs, shanks and attachments make it flexible enough to follow the contour of most field conditions. Wings will float down 7° and up 20°. It is designed to be used for seed bed preparation and chemical incorporation, with a maximum working depth of 6 inches. The Landstar works best at field speeds of 5 to 7–1/2 M.P.H., however, rocky conditions may require a slower field speed. Horsepower requirements, will generally be 6 to 8 drawbar horsepower per foot of cut. Krause offers two different attachments for finish tillage: three rows of tines followed by reels, or three rows of tine harrows. Caution should be used in adding any other rear attachment that will add weight to the unit.

Caution: Adding of excess additional weight could cause frame or axle failures resulting in loss of control during transport.

PREPARING THE LANDSTAR FOR OPERATION

1. The wings should be down and implement lowered to the ground. All hydraulic cylinders should be pinned and full of oil.

   Caution: Lower the implement to the ground before making the following inspections. With the implement lowered, enter the framework by stepping over, do not crawl under the framework. If the implement is not lowered, any hydraulic failure could cause the implement to drop suddenly, causing personal injury.

2. The wing locks should be in the storage position and the road lock stops pinned to the storage brackets.
3. Check for loose bolts and tighten if needed. Check again for loose bolts after the first half day of operation.
4. Check disc gangs for tight tie rod nuts and clinched cotter pins.
5. Check the shank locations, and attachment locations with the placement diagram to be sure unit has been set–up properly.
6. Make sure that all grease zerk locations have been sufficiently greased. Grease zerks will be found on the rocker shaft bearings, walking beams, wheel hubs, and hinges.

7. Check tire pressure. Inflate all tires: 9.5L x 15, 6–Ply to 32 P.S.I.
   9.5L x 15, 8–Ply to 44 P.S.I.
   10.00 x 15, 8–Ply to 40 P.S.I.

Caution: **Frequently check to see that the wheel lug bolts are torqued from 90 to 95 Ft. Lbs. particularly during the initial transport and operation of the tillage tool. The bolts may work loose, resulting in the loss of a wheel and subsequent loss of control of the tractor and / or implement.**

8. Check and adjust tightness of wheel bearings and walking beams before operation, after the first week, and periodically thereafter. (See service section on page O15)

PREPARING THE TRACTOR

Read your tractor owner's manual. It will describe safe methods of operation. Make sure your tractor has proper added ballast, and that its hydraulic system is full of oil and working properly. Check tractor brakes and warning lights, make sure that they are in working order.

HYDRAULIC SAFETY (PLEASE READ CAREFULLY)

If the implement hydraulic system has never been used, stored over a period of time or disassembled for any reason, unpin the rod ends of the cylinders and support the cylinders so the rod ends will clear frame members when fully extended. Back the tractor to the front of the implement and connect the hydraulic hoses. Check the tractor hydraulic reservoir and make sure it is full of the manufacturer's recommended oil. If you are sure the implement hydraulic hose connections are tight, begin filling the system by extending and retracting the cylinders. Hold the control lever open and pause at the end of each stroke to bleed the air from the system. Continue the cycles until the cylinders respond with immediate solid actuation. When you are sure the systems are free of air, pin the rod ends of the cylinders to the implement cylinder lugs.

Warning: **Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.**

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

AVOID HEATING NEAR PRESSURIZED HYDRAULIC HOSES

Flammable spray can be generated by heating near pressurized hydraulic hoses, resulting in severe burns to yourself and bystanders. Do not heat by welding, or using a torch near hoses. Hose can be accidentally cut when heat goes beyond the immediate flame area.

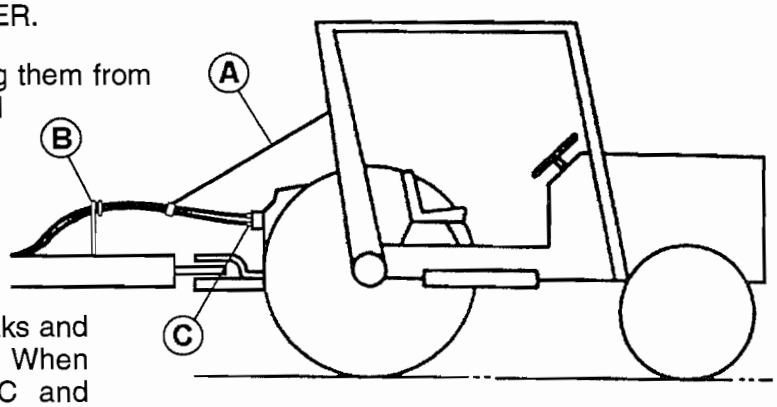
THE FOLLOWING **WARNINGS** PERTAIN TO THE MORE COMMON ABUSES OF HYDRAULIC HOSE:

1. **INSPECT** the hose assembly before each use.
2. **REPLACE** the hose assembly immediately if:
   a) The jacket of the hose appears abnormal.
   b) You have reason to believe it may be abnormal.
   c) There is any fluid leakage.
   d) The couplings are damaged.
   e) The hose is damaged or kinked.
   f) The reinforcement is visible through the jacket.
3. DO NOT **EXCEED** the maximum recommended working pressure of the hose.

4. DO NOT **KINK** the hose assembly.
5. DO NOT **BEND** the hose assembly beyond its minimum recommended bend radius of 3.25 in.
6. DO NOT **EXPOSE** to temperatures in excess of 225° Fahrenheit.
7. DO NOT USE AS A **STRENGTH MEMBER** for pulling or lifting equipment.

Caution: If replacing hydraulic hose, use only hose that meets of exceeds 3,000 PSI working pressure.

IMPORTANT: REPAIR OF HYDRAULIC CYLINDERS SHOULD BE MADE BY AN AUTHORIZED KRAUSE DEALER.



Prevent damage to trail hoses by supporting them from the tractor with an elastic strap "A" . Avoid having excess hose between the implement support "B" and the tractor connection "C" . Either reposition the hose farther back on the implement or request a shorter hose from your dealer.

Inspect the hydraulic system for tell–tale leaks and loose fittings. Tighten if needed. When assembling your hydraulic system, if JIC and O–Ring fittings and hoses are to be used, the use of a tape or liquid sealer is not necessary. MAKE SURE a restrictor (YELLOW COLOR) is installed in the rod end port of the wing lift cylinder.

Caution: Air in hydraulic system will allow implement or wings to drop suddenly.

Warning: Do not operate the hydraulics until you have read *"Hydraulics"* in the service section of this manual.

The Landstar is equipped with two separate hydraulic systems; one to control the wheels, and the other to raise and lower the wing for transport.

Wheels — Models 6324 Through 6331

Two master cylinders are mounted in the center on the main rocker shaft and they in turn are connected to a slave cylinder on each wing. Each cylinder in this system is a rephasing cylinder. This means there is an internal bypass in each cylinder that will let oil circulate when the cylinder is extended to its maximum stroke. All four cylinders should work together. If cylinders are out of phase, hold the tractor valve open to extend the cylinder rod. Hold valve open until all cylinders reach their maximum stroke, then continue to hold valve open for an additional 20 to 30 seconds.

The wing lift cylinders are plumbed together. In some conditions, one wing may lift before the other, this is normal. The wings will fold and unfold slowly, because of the restrictor in the rod end of each wing cylinder. Make sure these restrictors are installed in the rod end port of the wing lift cylinders. See pages P34–P37. If not previously filled, your hydraulic system will require approximately: 24 Quarts / 22.7 Liters for Models 6324, 6327 and 6331

Use oil recommended by your tractor manufacturer. Read the service section "HYDRAULIC SAFETY" on page O6 before filling the system. See "Hydraulic Cylinders Service Manual" for additional information.

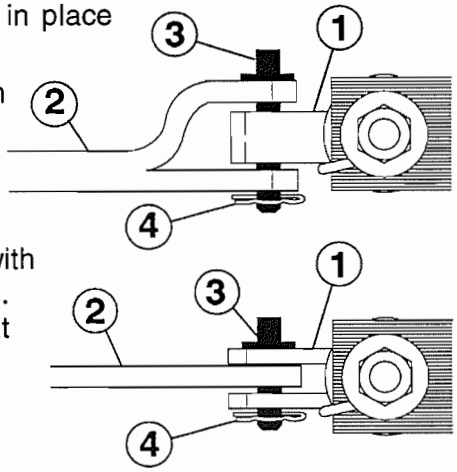
Disc Gangs

The optional hydraulic cylinders in this system are all rephasing and each is the same size and stroke. If the cylinders are not moving in unison, or one cylinder is lagging behind the system is "out–of–phase". To rephase the cylinders simply raise the disc gangs completely and hold the tractor lever open for 30–45 seconds. This will allow oil to bypass through the rephasing grooves in each cylinder and bring all cylinders back into phase. All cylinders should now operate in unison. Repeat the raise–hold cycle anytime that the cylinders are "out–of–phase".

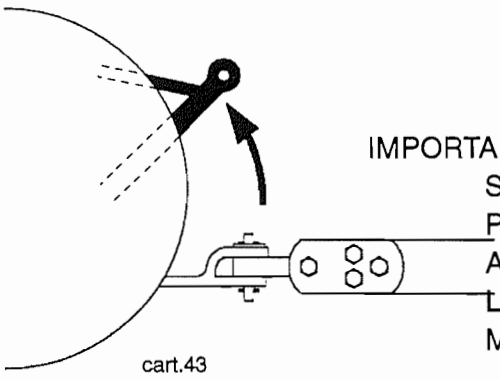
HITCHING AND UNHITCHING

Caution: Do not allow any person to stand between the tractor and the implement while backing into position. Sudden loss of control could cause serious injury or death to a person caught between the tractor and implement. Tell your helper to wait until you signal that the tractor is in park or neutral and the hand brake is set and engine is shut off.

1. The implement must be in a raised position and road lock in place before hitching to tractor.
2. Unpin the tractor drawbar so it can be moved from side–to–side.
3. Adjust tongue jack height of tractor drawbar.
4. Back the tractor to the implement.
5. Attach clevis to tongue hitch 1 to tractor drawbar 2 with a clevis pin 3 that fits the tractor drawbar and the clevis. Make sure the pin is locked or bolted in place 4 to prevent loss.
6. Connect the hydraulic hose to the tractor.
7. Place tongue jack in storage position.



IMPORTANT: REPIN TRACTOR DRAWBAR FOR TRANSPORT. DO NOT PIN TRACTOR DRAWBAR FOR FIELD WORK. cart.11.1


cart.43

IMPORTANT: BEFORE MOVING THE IMPLEMENT BE SURE THAT THE LOWER ARMS OF THE THREE POINT HITCH HAVE BEEN RAISED TO THE TOP AND SECURED TO PREVENT DAMAGE TO THE LANDSTAR CLEVIS AND TONGUE WHEN MAKING TURNS.

UNHITCHING LANDSTAR FROM THE TRACTOR

If the implement is not to be used for the remainder of the day, select a good parking place that will permit the lowering of the wings. The implement should be parked in the storage position with the exception of unpinning the rod ends of the wing cylinders. If the implement is to remain parked for storage over a long period of time, be sure to read storage suggestions.

1. To unhitch from the implement, extend the wheel cylinders and place road locks in place.
2. Place the tractor in park or neutral and set hand brake. If tractor and implement are on an incline, block the center implement tires.
3. Unpin the wing locks and place straps in storage position.

4. Have all personnel stand clear and lower wings. Extend wing lift cylinders to their maximum.
5. With tractor in park, turn off tractor engine and relieve any pressure that might be in the implement hydraulic system by moving the tractor control levers back and forth; or place lever in "float" position.
6. Lower tongue jack and adjust until hitch pin is free.

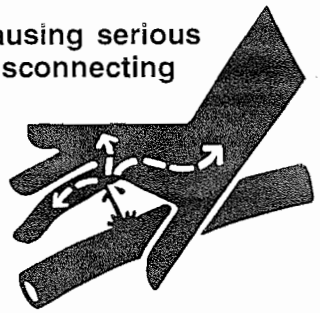
Caution: Do not stand on or straddle a tongue when unhitching. If attachments have been added to the rear of the implement, it may affect the balance of the implement, causing the tongue to come up suddenly when unhitching.

7. Disconnect the hydraulic hoses and remove the hitch pin. The tractor may be moved away from the parked implement.

Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



Transporting

Check specification pages and be aware of the transport height and width of your model of Landstar.

Warning: Always use the transport road locks when transporting the implement to prevent unit from falling due to hydraulic failure, or accidental activation of the operator's controls. Lowering of the tool during transporting could result in loss of control of implement and / or tractor. The tractor drawbar must always be pinned for transport.

Wing Lift

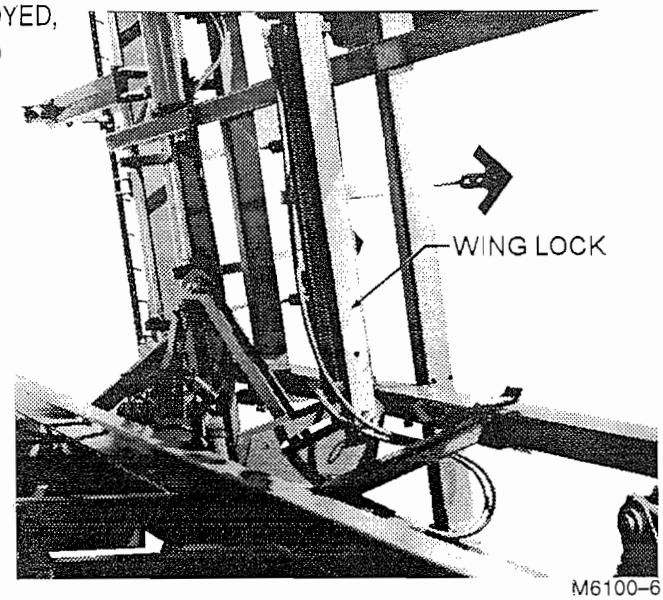
If the implement hydraulic system is full of oil, extend the rocker cylinders fully and then begin to fold the wings.

Warning: Always stand clear of the wings when raising or lowering.

Hydraulic failure or accidental activation of the hydraulic controls could result in serious injury to anyone under the wings.

IMPORTANT: KEEP ALL WARNING DECALS CLEAN AND IN PLACE AT ALL TIMES. DECALS MUST BE REPLACED IF THEY ARE DESTROYED, MISSING, PAINTED OVER, OR DAMAGED SO THAT THEY CAN NO LONGER BE READ.

When the wing lift cylinders are fully retracted, place the slotted end of the wing lock straps onto the pin extending through the side plates. Retain the lock straps in place with Klik Pins. (Make sure lock straps are unpinned before extending cylinders to lower wings)



M6100–6

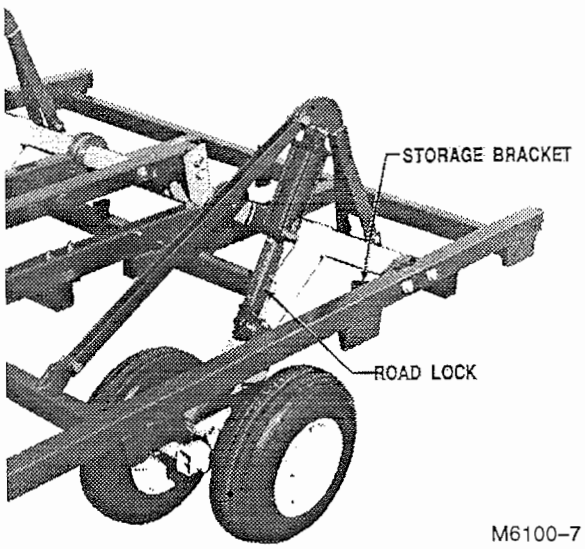
Road Locks

After the wings are fully folded and locked, walk in from the side of the unit and place a road lock on each center rocker hydraulic cylinder rod.

Retain it in place by inserting the pin provided under the cylinder rod.

Caution: Be aware of wing shank locations. Serious head injury can result from walking into a shank or point.

STORAGE — When road locks are not in use, fasten them to the brackets provided.

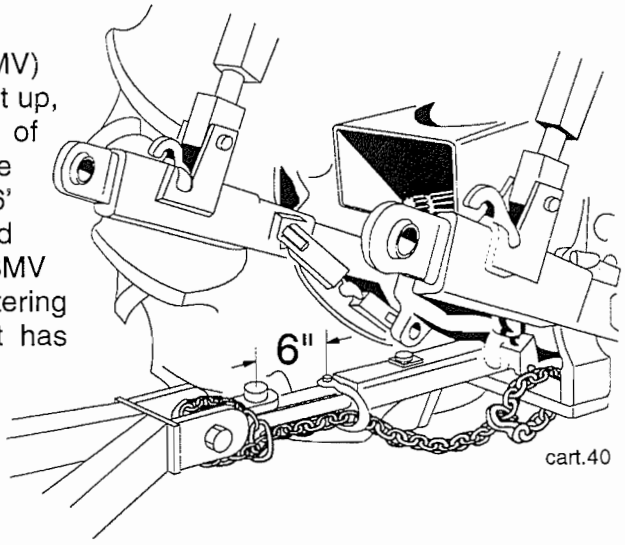


M6100–7

Transport Safety

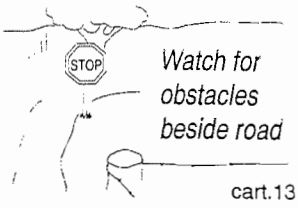
Use the ASAE Slow–Moving–Vehicle (SMV) emblem. The emblem is to be mounted point up, in a plane perpendicular to the direction of travel ±10°. It shall be placed centrally at the rear of the vehicle unobscured, and 2' to 6' (0.61 to 1.8m) above the ground, measured from the lower edge of the emblem. The SMV emblem should be wiped clean before entering the road or highway. A mounting bracket has been provided.

Use a safety chain with a tensile strength rating equal to or greater than the gross weight of the Landstar and its attachments.



cart.40

Always comply with state and local laws pertaining to lighting and road widths. Turn on flashing lights whenever traveling on a highway except where it is prohibited by law. If the implement obscures the tractor warning lamp, a lamp must be added to the left of the implement. Transport during daylight hours only. Watch your clearance. Be aware of obstacles on the side of the road that the Landstar might snag when passing by. Pull over to the side of the road to permit safe clearance for any oncoming traffic and passing vehicles. Keep the red and yellow reflectors clean and visible. Replace the reflectors if they become faded or damaged. Watch for narrow bridges and re–route if necessary. Watch for pedestrians on the side of the roadway that need to be warned of your presence.

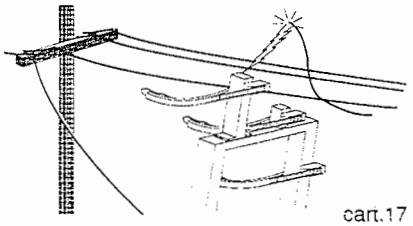


cart.13

⚠ Caution: Always check conditions of transport lock pins, tires, wheels, hubs, safety chain, hitch bolts and clevis pin before transporting the Landstar.

Be aware of the transport height as well as the width of your implement. Care should be taken not to snag low hanging telephone or electrical service lines.

THE REAR FINISHING ATTACHMENT MAY VARY THE OVERALL TRANSPORT WIDTH AND HEIGHT OF YOUR IMPLEMENT.


cart.17

It is best to use a tractor to transport the Landstar to another location. If using another type of vehicle for towing, it should never be allowed to exceed 15 M.P.H., since the implement tires are not constructed to be operated at higher speeds. The weight of the towing vehicle should always equal or exceed the gross weight of the unit and attachments.

Always check the tire pressure before transporting and look for damaged tires. Wobble the tires from side to side. If excessive play is noted, adjust the hub spindle nut before roading to prevent damage to the hub or bearings.

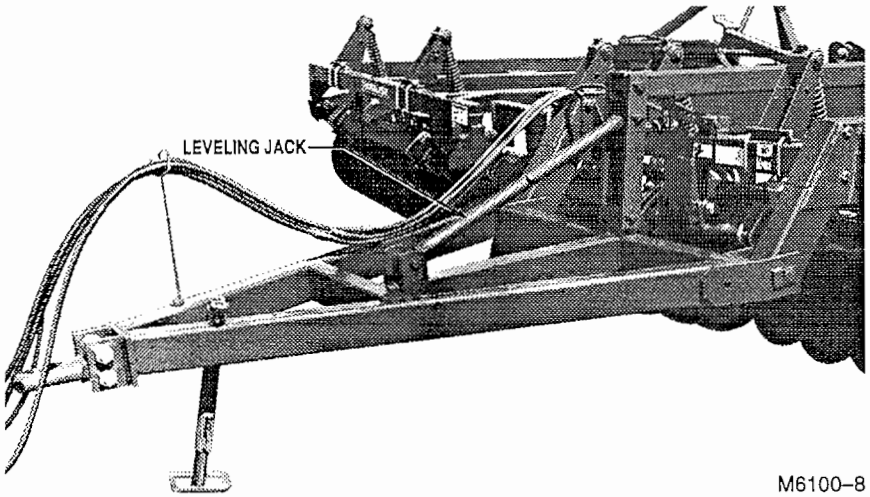
⚠ Caution: It is very important to check wheel lug bolts after the first 1/2 mile of initial transport (delivery). If loose, tighten to 90 to 95 Ft. Lbs. of torque. Continue to check frequently until they remain firmly seated.

Hitch Pin

Use the proper size hitch pin with a means for holding it in place so it cannot work itself out during transport. The hitch pin should be inspected for wear or cracks before using it to transport your implement.

FIELD ADJUSTMENTS

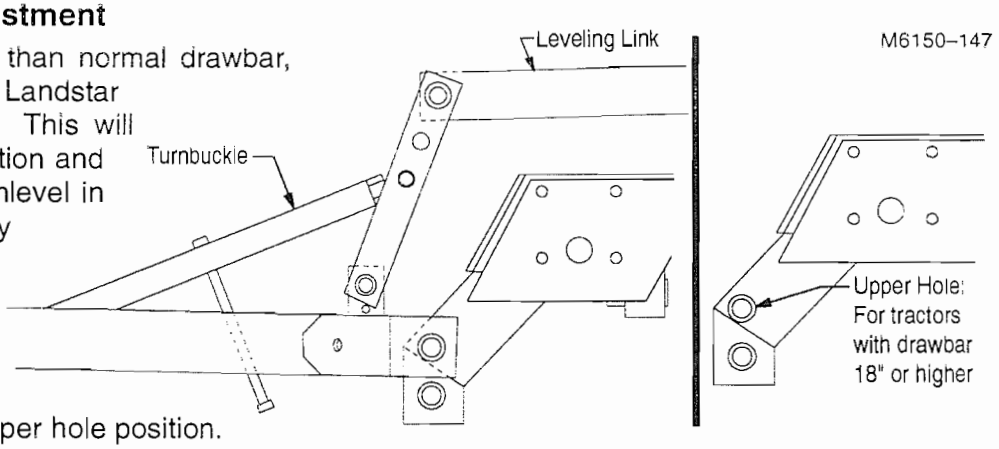
For preliminary setting of the Landstar, place the unit on level ground and lower the unit until the sweeps touch the ground. Adjust the tongue leveling jack to level the unit from front–to–rear. **Extend** the jack to ***raise*** the front, **shorten** the jack to ***lower*** the front.

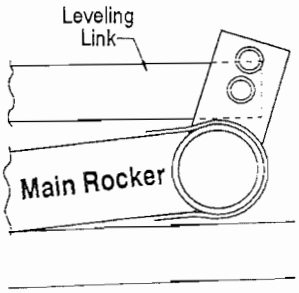


M6100–8

Tongue Height Adjustment

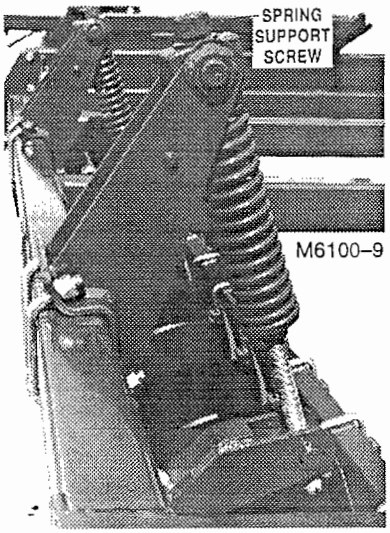
Tractors with a higher than normal drawbar, may lift the front of the Landstar during field operation. This will limit disc gang penetration and cause the unit to be unlevel in the field. This is likely to occur with tractors having a drawbar height over 18". To correct the problem, raise the tongue the upper hole position.



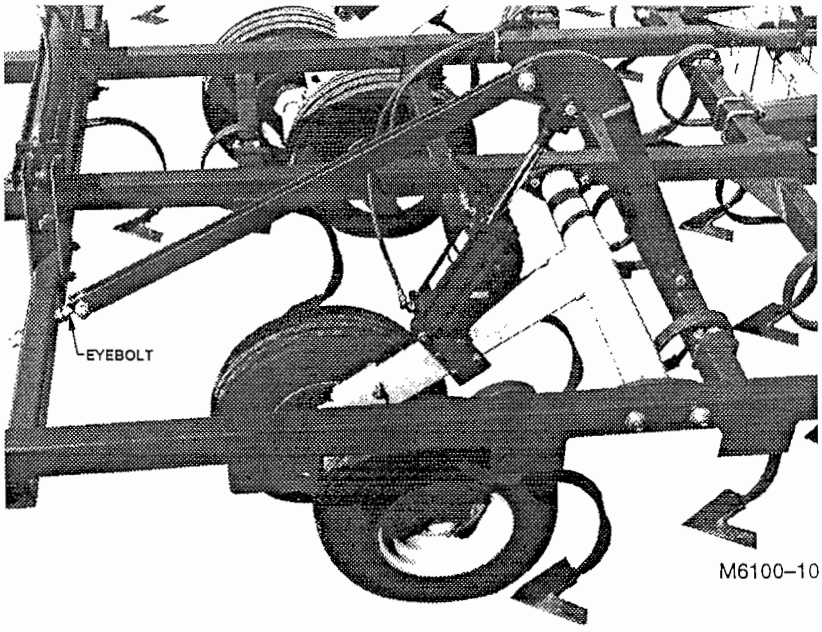


If the front of the Landstar is too high in transport, the leveling link can be moved to the lower hole to lessen tongue movement.

Adjust the SPRING SUPPORT SCREWS using the tie rod wrench until the blades touch the ground. If the gang has (TWO) Spring Supports, alternate turning each screw. Turn screw ***counter–clockwise*** to **lower** the gang, ***clockwise*** to **raise** the gang. See photo to the right.



Warning: Lower implement to the ground before entering framework to make adjustments.

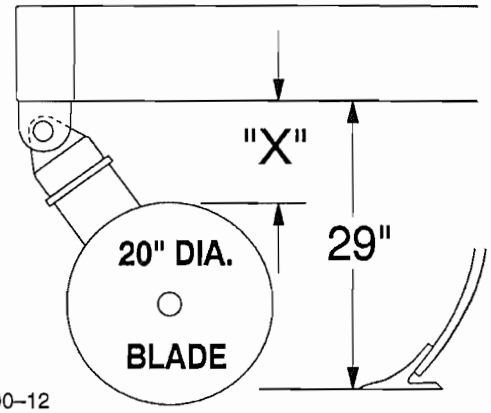


Adjust the wings to be approximately level with center frame by adjusting the eyebolt connected to cylinder bracket link. The tie rod wrench can be used to make this adjustment. The wings may require readjustment when in the field at the desired depth. See photograph to the left.

Depth Of Disc Blades

The depth of the disc blades can be changed by turning the SPRING SUPPORT SCREW counter–clockwise to increase depth and clockwise to decrease depth. The tie rod wrench can be used to make this adjustment. The disc blades should be run deep enough to cut trash and level the ridges from previous tillage operations. Adjust each gang as necessary. Larger gangs and those in the tractor tracks may require more spring pressure than other gangs. To check the depth of each gang, measure between the disc blade and the bottom of the frame.

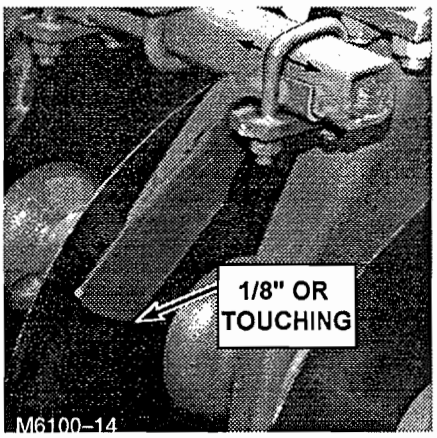
"X" DISTANCE	AS COMPARED TO SWEEP HEIGHT
5"	4" ABOVE
7"	2" ABOVE
9"	EVEN



M6100–12

Scrapers

Each scraper can be adjusted. For most conditions, the scraper blade should be positioned so that the scraper blade is touching on the disc blade surface.



M6100–14

Sweeps

Ten inch sweeps with 47° stem angle are standard with 2–Piece K–Tines.

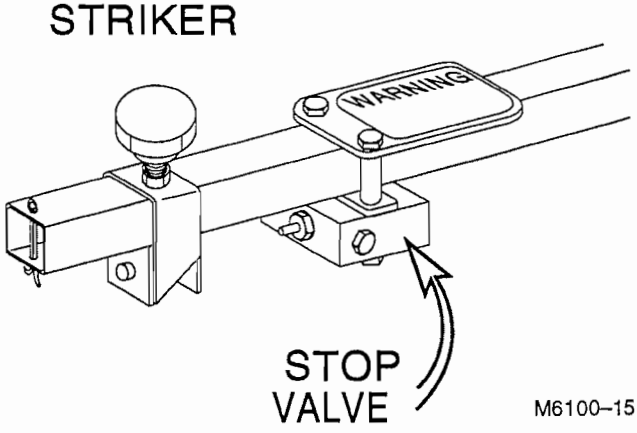
12" Sweeps with 47° Stem angle are standard with XT–270 Shanks.

Working Depth

The working depth of your Landstar is controlled by the remote cylinder control lever of the tractor. The wheels will act a gauge wheels to regulate working depth. For uniform working depth of the soil, carry some weight on the wheels at all times. Maximum working depth is 6 inches. Incorporating chemicals may require high field speeds, but high speed may make it difficult to attain desired depth. Disc gangs, cultivator shanks, and rear attachments are spring protected; however, when working in extremely rocky conditions field speeds should be reduced.

Hydraulic Depth Control

The STOP VALVE controls the unit depth. When a depth change is required, loosen the knob and slide the striker closer to the valve to decrease depth or further away to increase depth. Moving the striker 3/8" will effect actual depth by 1". Tighten the knob securely, but **do not** use a wrench or excessive force on the knob. If the unit depth varies during field operation, see problem solving section in this manual.

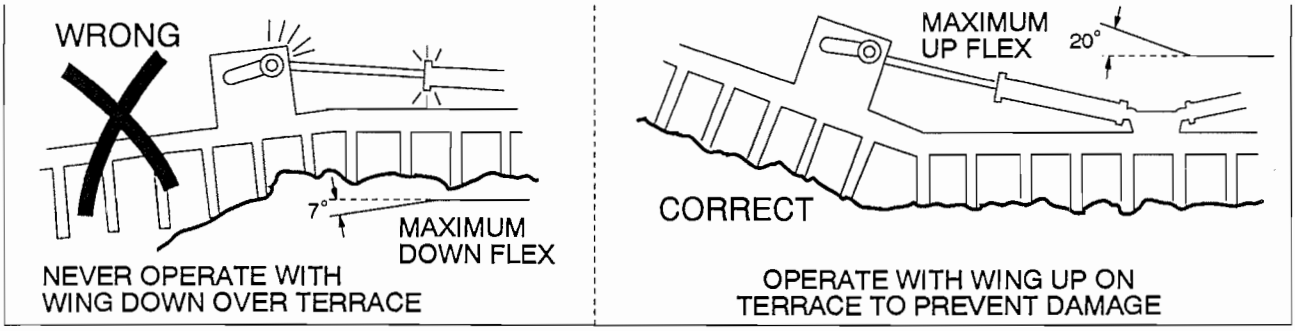


M6100–15

Flexibility

ALWAYS WORK WITH THE WINGS DOWN: Major damage may occur to shanks and frame members if used with the wings up. For maximum flexibility, make sure the wing hydraulic cylinders are fully extended after the wings are down.

When working terraced ground, place the wing up on the terrace, not down over the terrace as the wing is limited in its downward movement, but not as much in its upward movement.



cart.7

Turning In The Field

Short turns at working depth may result in driving the outside shanks deeper into the ground, causing damage to shanks or frame members. If short turns must be executed, raise the implement out of the ground and cornplete the turn before engaging the tool for further tilling.

When lifting the implement completely out of the ground, hold the tractor hydraulic valve open for a second or two to resynchronize the slave cylinders.

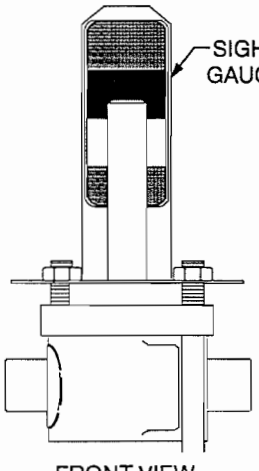
IMPORTANT: 4–WHEEL DRIVE TRACTORS CAUSE SEVERE SIDE STRAIN ON TONGUE AND CLEVIS UNLESS THE DRAWBAR IS ALLOWED SOME FREEDOM TO SWING DURING FIELD OPERATION. DRAWBAR MUST BE PINNED FOR TRANSPORT.

Field Speed

While high field speeds of around 6–1/2 M.P.H. may be recommended for weed killing purposes in light soil and shallow depth, a slower speed is recommended for heavy soils and deep work. Slower speed will also add life to points and sweeps.

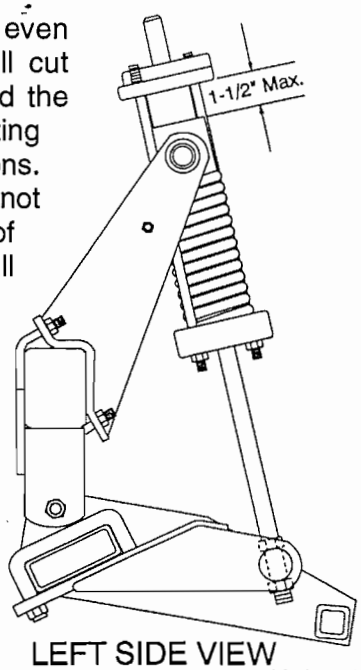
Hydraulic Disc Gangs

The hydraulic cylinders can vary the depth of the disc blades from even with the sweeps to 5" above the sweeps. The disc blades will cut residue and level ridges at the correct depth. The spring around the barrel of the cylinder allows the disc gang to flex when contacting obstructions or uneven field conditions. When adjust the depth of the gangs do not set the cylinders with more than 1–1/2" of additional spring compression. This will provide adequate preload for most field conditions. See illustration to the right.



M6100–122

A SIGHT GAUGE is provided to indicate the relative depth of the disc gang. This can be installed on any cylinder that is convenient to view from the tractor. See illustration to the left.



M6100–121

STORAGE SUGGESTIONS

Make sure transport road locks are in place. Coat the blades and hydraulic cylinder shafts with rust preventative during extended periods of storage. Cylinder rods may be unpinned and the cylinders retracted to protect the polished surface of the cylinder rods.

For added safety lower the unit to the ground during long periods of storage. Inspect the unit for worn or damaged parts and replace as needed to avoid delays the next season.

GENERAL INFORMATION

If problems are encountered in the field, and the operator requires aid or a possible remedy for the problem, a special section has been added at the end of the Operating Section in this manual called "Suggested Remedies For Field Problems" see pages O20 – O21.

SERVICING

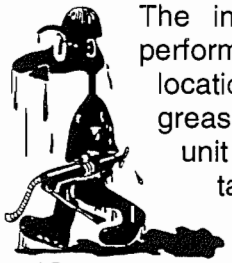
General Maintenance

All bolts should be checked and tightened after the first half day's operation and periodically thereafter. Torque wheel bolts from 90 to 95 Ft. Lbs.

Check disc gang tie rods frequently. To tighten, attach five foot pipe over tie rod wrench handle. Tighten the nut to 1,000 Ft. Lbs. by applying approximately 200 lbs. of weight to the end of the five foot pipe.

⚠ Caution: Be sure gang is locked with a tie rod wrench on the opposite end before force is applied.

Lubrication


cart.3

The initial lubrication of all grease fittings will assure long life and satisfactory performance from the implement. Use a multi–purpose type grease at all grease zerk locations after each 24 hours of operation. Rocker shaft bearing clamps will accept grease more efficiently if the whole unit is lowered to the ground with the weight of the unit removed from the wheels. Other points of lubrication are: wing hinges, walking tandem bearings, and wheel hubs. Disc gang bearings should be greased with a high quality multi–purpose type grease after each use and after long periods of storage. FLUSH ROLLING REELS WITH GREASE DAILY.

⚠ For Your Safety: When lubricating or adjusting your Landstar, watch for obstructions or protrusions. Lower implement to the ground and enter framework by stepping over. DO NOT walk on tires.

Wheel Bearings

Grease wheel bearings every 24 hours of use. Check for excessive end play each time that the bearings are greased. Once a year, clean and repack the wheel bearings with EP#2 Grease. Replace seals each time that the bearings are removed. Replace any worn or damaged parts. Use light oil on the seal surface and use extreme care when pushing seal over the spindle. Install outer bearings, flat washer, and slotted nut. Then back off nut from 1 to 2 slots until hub turns freely without end play. Secure nut with clinched cotter pin.

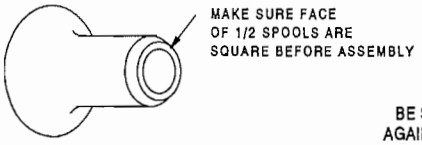
Walking Beam

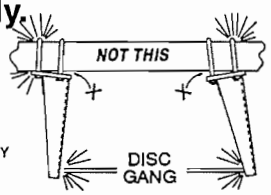
Grease the walking beam every 24 hours of use. When greasing the bearings, lower the unit onto the points or sweeps and raise the walking beams off the ground. Check each walking beam for any slack in the pivot bearings. When slack is found, tighten the axle nut until slack is eliminated and tighten 5 to 10 Ft. Lbs. of preload on the bearings. DO NOT BACK THE AXLE NUT OFF. Check, clean, and repack the walking beam bearings each year in a procedure that is similar to that of wheel bearings.

Disc Gangs

Refer to the Assembly Section of this manual when replacing the blades, bearings or spools. Use the same procedure as described when setting up a new unit. Leave bearing bolts one turn loose until bearing arms are in place on the frame. Tighten tie rod to 1,000 Ft. Lbs. Tighten one bearing arm to the frame then tighten its bearing bolts. Make sure the other bearing arm top plate is parallel with the bottom of the frame before tightening its U–Bolts. Tighten other bearing bolts. See page A9 for further details.

Danger: Due to their sharpness and weight, serious injury can be inflicted by disc blades and gangs if not handled safely. Watch for unsafe conditions. Keep co–workers safety in mind. Should personal injury occur, have medical treatment administered immediately.





BE SURE THE BEARING ARM FITS FLAT AGAINST THE GANG BEFORE TIGHTENING THE U-BOLTS.

cart.25

Repair Parts

Refer to the Assembly Section of this owner's manual when repairing or replacing parts, and follow the same procedure as used when assembling a new unit. Reverse this procedure for disassembly. The Parts Section of this manual will show a breakdown of assemblies, location of parts and part numbers.

It is recommended that KRAUSE replacement parts be used. KRAUSE PARTS WERE DEVELOPED AND TESTED FOR THESE IMPLEMENTS.

Caution: Replacement tires for Models 6327 and 6331 require 3,700 lbs. at 10 m.p.h. Model 6324 requires 2,850 lbs.

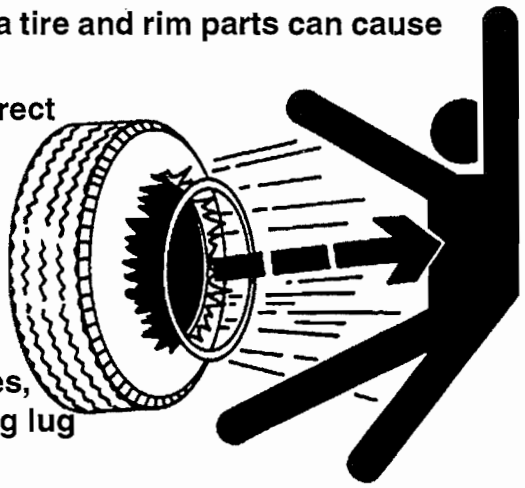
Danger: The wing mounted shanks and points can cause serious injury to anyone that gets too close. Never under any circumstances should anyone be allowed to work under a wing that is in the raised position.

Caution: If replacing hydraulic hose, use only hose that meets or exceeds 3,000 PSI working pressure.

IMPORTANT: REPAIR OF HYDRAULIC CYLINDERS SHOULD BE MADE BY AN AUTHORIZED KRAUSE DEALER ONLY.

Caution: Explosive separation of a tire and rim parts can cause serious injury or death.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Inspect tires and wheels daily. Do not operate with low pressure, cuts or bubbles, damaged rims or missing lug bolts and nuts.



M5650–76

TEST PROCEDURE TO LOCATE INTERNAL LEAKING IN A REPHASING SYSTEM

For Your Safety: Be sure to read and understand all of the hydraulic safety information on pages O6–O7 of this manual.

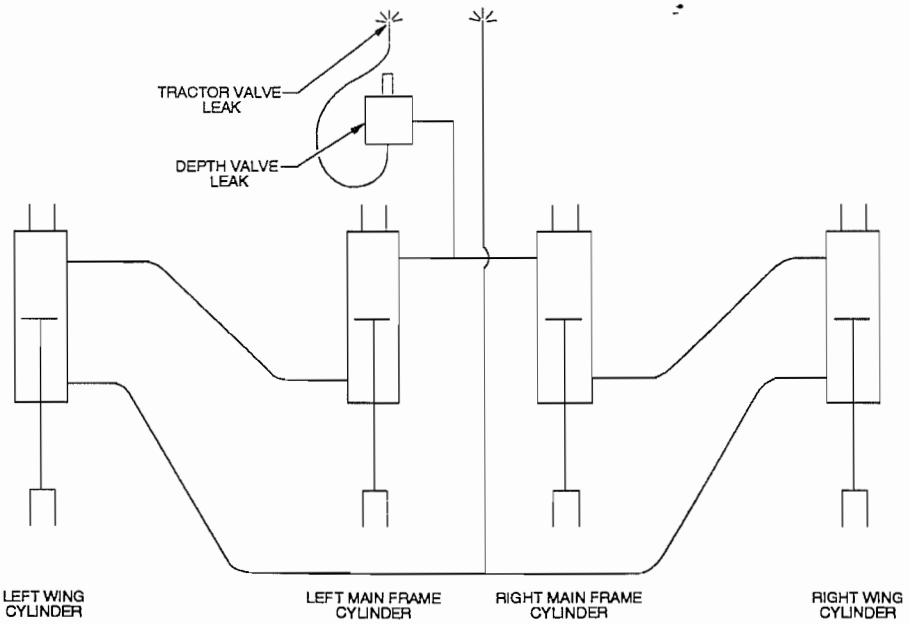
1. Lower the unit until the disc blades and shanks are 4" to 5" above the ground, engage the depth valve and move the tractor lever to "float" position.
2. Measure the length of the rocker cylinders and record those lengths.
3. Allow the unit to sit for a period of time until there is a measurable change in one or all of the cylinder lengths. This may require an hour or two (preferably overnight).
4. Measure the length of each cylinder again and note whether or not the cylinder extended or retracted.
5. Match your results to one of the six case studies shown on the following pages to locate the leak.

CASE 1: Field Symptom: Wing Model Landstar will not maintain set depth

Probable Causes: (A) Depth valve leak
(B) Tractor valve leak

Test Results: (See page O17) All cylinders are retracting or extending at the same rate.

Location of Leak: **IF** all cylinders are extending in the field at the same rate, the tractor valve is leaking. IF all the cylinders are retracting at the same rate, the leak is in the depth valve.



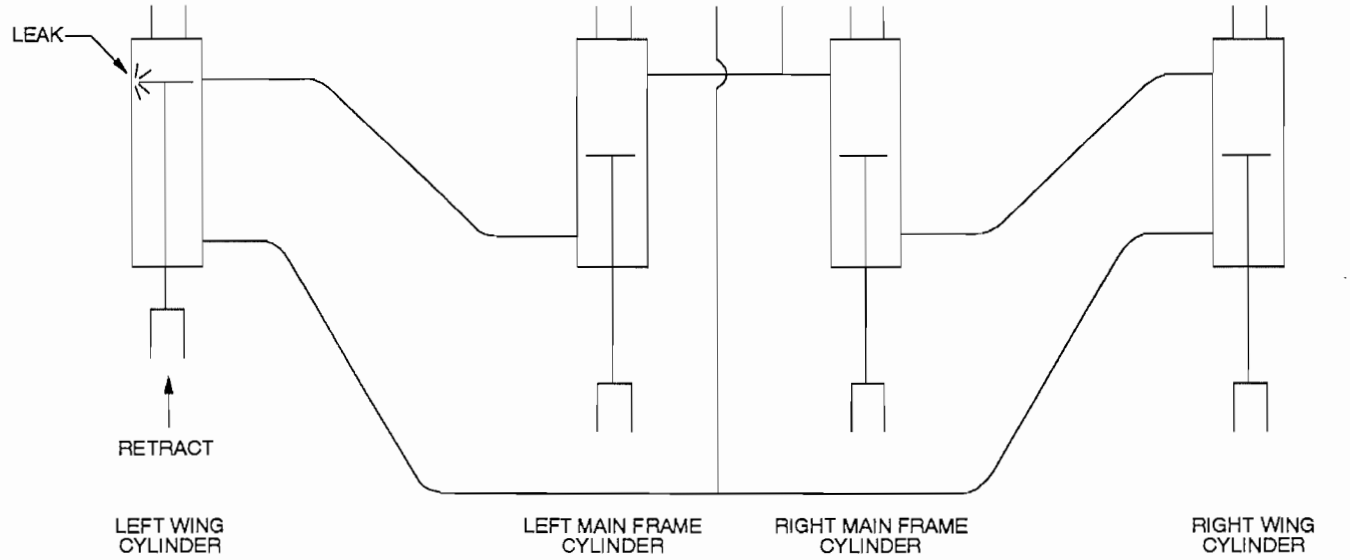
M6100–20

CASE 2: Field Symptom: Left wing lowering as the unit is pulled through the field

Probable Causes: (A) Left wing cylinder piston leaks

Test Results: (See page O17) Left cylinder retracts, all others do not change.

Location of Leak: Left wing rocker cylinder piston seal leak.



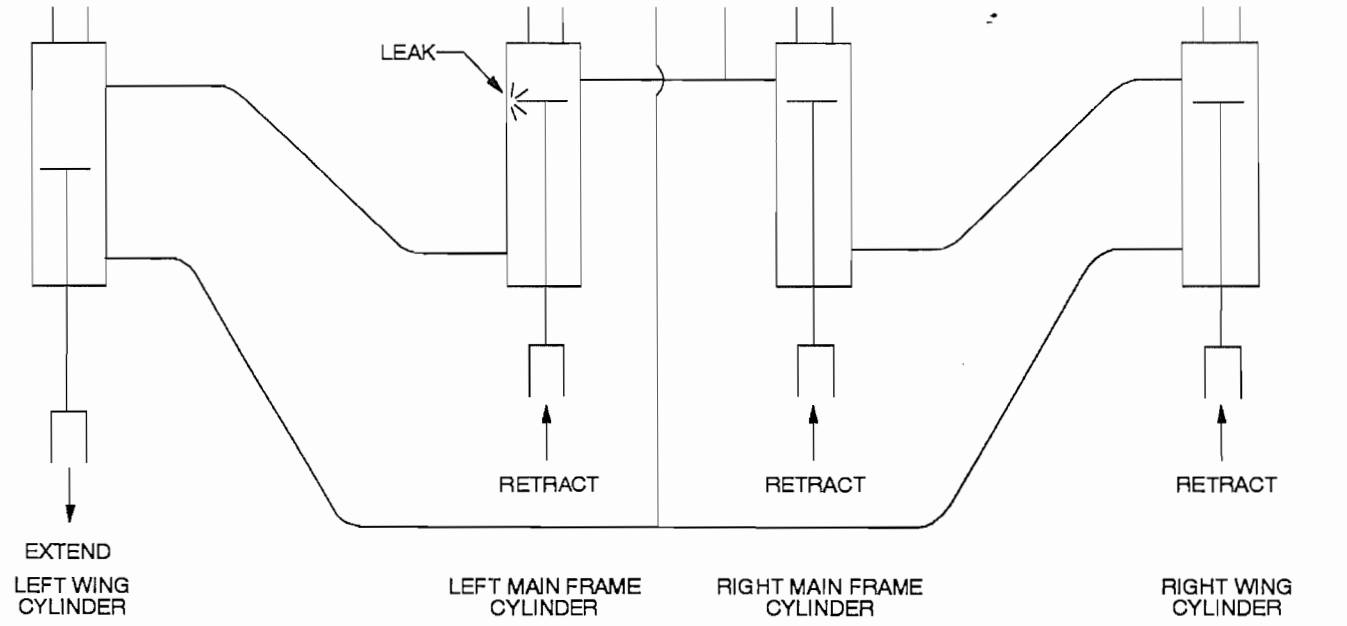
M6100–21

CASE 3: Field Symptom: Left wing raising as unit is pulled through the field

Probable Causes: (A) Left main frame piston seal leak.

Test Results: (See page O17) Left wing cylinder extends, all other cylinders retract.

Location of Leak: Left main frame rocker cylinder piston seal leak.



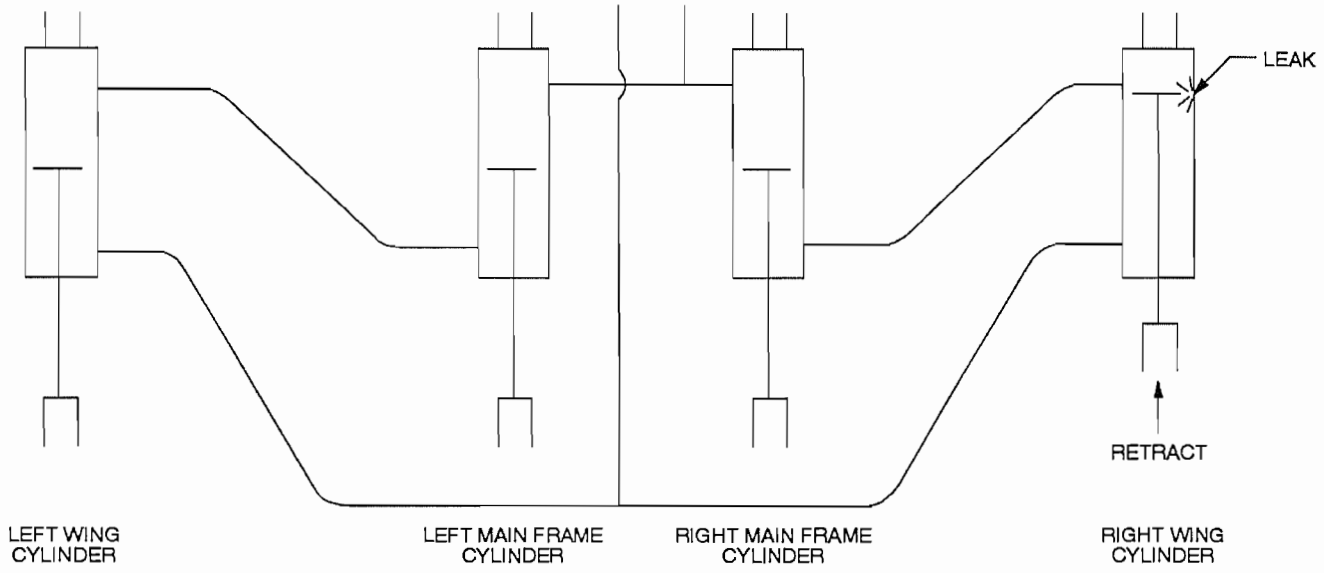
M6100–22

CASE 4: Field Symptom: Right wing lowering as the unit is pulled through the field

Probable Causes: (A) Right wing cylinder piston leaks

Test Results: (See page O17) Right wing cylinder retracts, all other cylinders do not change.

Location of Leak: Right wing rocker cylinder piston seal leak.



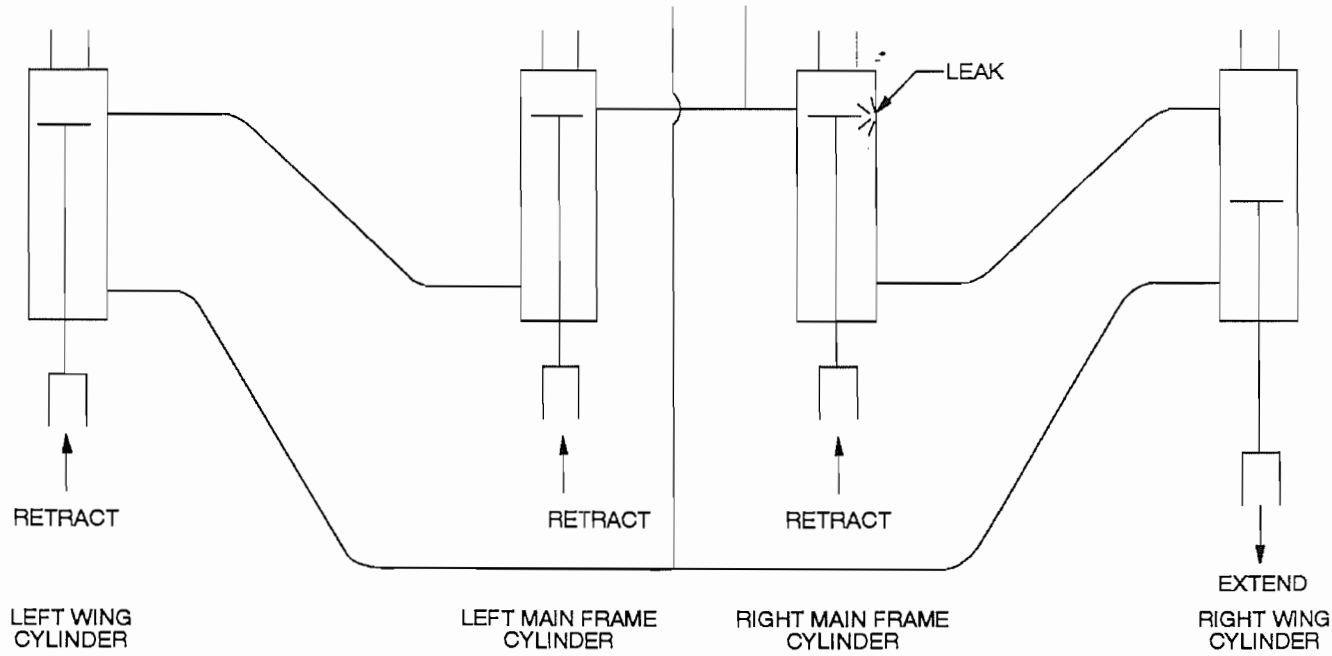
M6100–23

CASE 5: Field Symptom: Right wing raising as unit is pulled through the field

Probable Causes: (A) Right main frame piston seal leak.

Test Results: (See page O17) Right wing cylinder extends, all other cylinders retract.

Location of Leak: Right main frame rocker cylinder piston seal leak.



M6100–24

POSSIBLE REMEDIES FOR FIELD PROBLEMS

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Leaving center ridge	Excessive speed	Reduce speed
	Front of unit is not level	Adjust tongue
	Disc too close to center	Spread apart. More pressure on reel or tines.
	Shank missing	Replace.
Furrow on outside	Outside of wing too low	Readjust eyebolt to level wing.
	Some shanks out of place or missing	Readjust position or replace
	Wing wheels out of phase with center wheels	Rephase
Outside too shallow	Outside of wing too high	Readjust eyebolt to level wing.
	Wing will not flex down	Wing lift cylinder not completely extended
	Wing wheels out of phase with center wheels	Rephase
Not level from front–to–rear with uneven penetration	Tongue not adjust properly	Readjust tongue leveling
	Tire not same size	Replace with same size and ply tire
Center section not level from side–to–side	Uneven tire PSI	Check tire PSI
	Tire not same size	Replace with same size and ply tire
Plugging (Disc)	Wet conditions	Allow to dry if possible
	Worn or improper adjustment of scraper blade	Readjust scraper
Plugging (Shanks)	Wet conditions	Allow to dry if possible
	Straw is dragging	Work deeper
	Shanks positioned wrong	Recheck shank spacing
		Relocate shank
Plugging (Tines & Reels)	Wet conditions	Allow to dry if possible
	Reel not turning	Check bearing; rock or trash lodged in reel
Excessive ridges	Loose sweep bolts	Tighten bolts or replace if missing
	Improper shank spacing or wrong position	Check placement page; relocate shanks
	Bent or lost sweep	Replace sweep
	Frame not level	Check front–to–rear leveling and side–to–side leveling. See page O11
	Bent shank	Straighten or replace
	Sweeps with old residue will cause soil build–up and prevent necessary scouring for even soil flow	Remove trash and residue. Clean Landstar after operation. Use rust preventative before storage
Implement will not penetrate	Incorrect setting of depth stop	Readjust stop for desired depth
	Ground too hard	Wait for better conditions
	Disc blades dull	Replace or sharpen disc blades
	Sweeps have wrong angle	Use correct stem angle. See page O13
	Excessive field speed	Slow down

IMPORTANT: DO NOT REMOVE SHANKS OR WORK WITH WINGS UP.

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
Disc gang does not revolve	Obstruction in disc gang	Check for rocks, mud, roots, etc.
	Scrapers adjusted too tight against blade	Readjust scrapers. See page O13
	Seized bearing	Replace
	Plugging at bearing	Try removing scraper at this location
Disc blades have excessive wobble	Tie rod nut loose	Retorque tie rod nut to 1,000 Ft. Lbs.
Wheels have excessive wobble	Loose wheel bolts	Immediately stop and torque wheel bolts to 90 – 95 Ft. Lbs.
	Loose spindle nut	Tighten nut until tight; then back off 1 slot
	Walking beam loose	Readjust bearings
		Replace bearings in walking beam
Inadequate transport clearance	Low tractor drawbar height	Tractor with unusually low drawbar. Adjust tongue leveling jack for clearance
Wing will not raise to field position	Plugged restrictor	Relieve hydraulic pressure. Remove restrictor from rod end and check the orifice for foreign material. Replace restrictor.
	Insufficient hydraulic pressure	Check tractor hydraulic system
Wings will not lower to field position	Plugged restrictor	Relieve hydraulic pressure. Remove restrictor from rod end and check orifice for foreign material. Replace restrictor.
	Wings are locked with pins	Remove both wing lock straps
	Hose couplers not locked into tractor disconnect socket	Check hydraulic hose connector
Implement will not lower to field position	Road locks engaged	Disengage both road locks
	Hose couplers not locked into tractor disconnect socket	Check hydraulic hose connector
	Oil not flowing through system	Plugged line of cylinder port. Depth control poppet valve not open.
	Depth stop striker in wrong position	Readjust depth stop
Implement continually settling or going deeper	Hydraulic system	Replace poppet valve seal. Check for leaks in system. Install new cylinder seal kit in faulty cylinder. See cylinder page in Parts Section in this manual.
Tractor tracks evident behind finishing attachmenr	Compaction of soil	Remove excess tractor weight
		Wait for drier field conditions
		Install shank extenders to fracture deeper compaction
		Add additional shanks in tractor tracks

HYDRAULIC DISC GANG PROBLEM SOLVING:

NOTE: THE **NUMBER 1** CAUSE OF HYDRAULIC CYLINDER FAILURE IS CONTAMINATED OIL.

To evaluate any cylinder problems, begin by repeating the raise–hold cycle several times to insure that all air is bled from the system. Then raise the disc gangs and lower the unit until the sweeps are at field operating depth. Lower the disc gangs and compress the cylinder springs approximately 1–1/2". Allow the unit to sit for a period of time until there is a noticeable change in the amount that the springs are compressed.

CASE 1: Test Results: All cylinders are retracting or extending at the same rate

Field Symptom: Depth of all disc gangs change during field usage.

Probable Causes: Lock valve leak

CASE 2: Test Results: 1 or more cylinders settle back other cylinders hold springs compressed.

Field Symptom: 1 or more disc gangs change depth and are repeatedly out–of–phase with other disc gangs.

Probable Causes: Cylinder piston leak in cylinder(s) that settle back.

CASE 2: Test Results: Unable to operate disc gang cylinders.

Probable Causes: (a) Hoses are not coupled to tractor properly

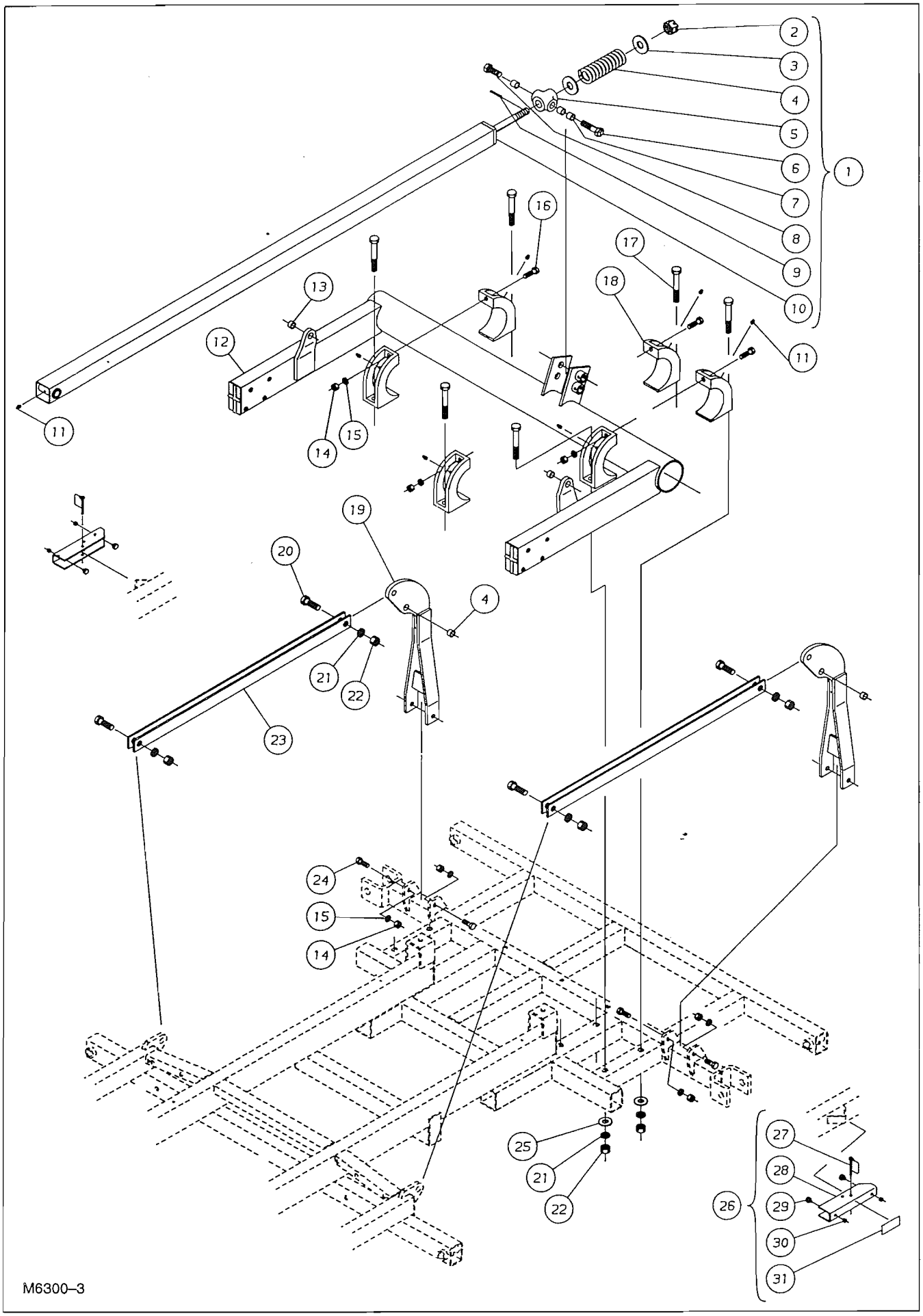
(b) Hoses not routed correctly between cylinders

(c) Restrictor fitting in 1st cylinder plugged.

PARTS SECTION

THE FOLLOWING ILLUSTRATED PARTS SECTION HAS BEEN COMPILED TO REFLECT PART NUMBERS REQUIRED TO ORDER PARTS, AND TO SUPPORT THE ASSEMBLY SECTION FOR DIMENSIONS AND DESCRIPTIONS OF ALL PARTS, BOLTS, PINS, ETC. THE OPERATOR CAN ALSO IDENTIFY PART NAMES TO CLARIFY PROPER OPERATIONAL STEPS.

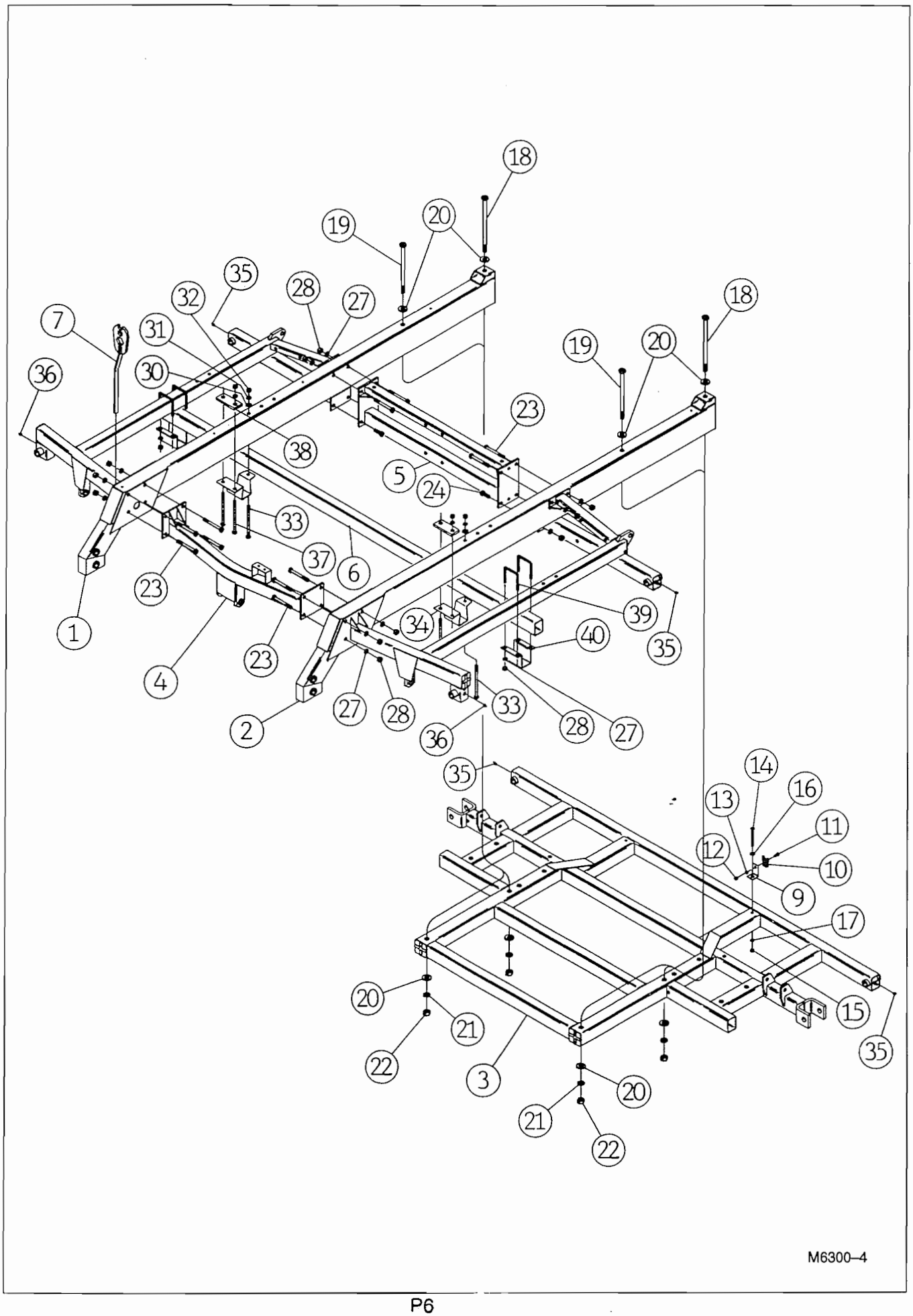
Notes


M6300–3

CENTER ROCKER

FOR MODELS – 6324 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	6121–75–0	Spring Link Assembly	1
2	63–128	1–1/2NC Slotted Nut	1
3	64–129	1–1/2" STD. Flat Washer	2
4	76–164	Spring	1
5	2426–35–1	Trunnion	1
6	62–237	1NC x 3" Cap Screw	1
7	53–102	Wear Bushing	3
8	62–234	1NC x 2" Cap Screw	1
9	60–617	3/8" DIA. x 2–1/2" Roll Pin	1
10	6121–76–0	Link Weldment	1
11	65–101	1/8NPT Zerk	7
12	6118–10–0	Main Rocker Weldment	1
13	53–102	Wear Sleeve	4
14	63–112	3/4NC Hex Nut	7
15	64–112	3/4" STD. Lock Waqsher	7
16	62–195	3/4NC x 2–1/2" Cap Screw	3
17	62–250	3/4NC x 6–1/2" Cap Screw	6
18	2145–0–16	Rocker Shaft Clamp Half	6
19	6327–86–0	Cylinder Bracket Weldment	2
20	62–237	1NC x 3" Cap Screw	4
21	64–118	1" STD. Lock Washer	10
22	63–117	1NC Hex Nut	10
23	6136–87–0	Cylinder Bracket Link Weldment	2
24	62–421	3/4NC x 2" Cap Screw	4
25	64–119	1" STD. Flat Washer	6
26	6124–17–0	Road Lock Assembly	2
27	60–103	5/16" DIA. P.T.O. Pin	1
28	6124–17–1	Road Lock	1
29	44–107	Threaded Bumper	2
30	63–102	3/8NC Hex Nut	2
31	74–365	Road Lock Decal	1

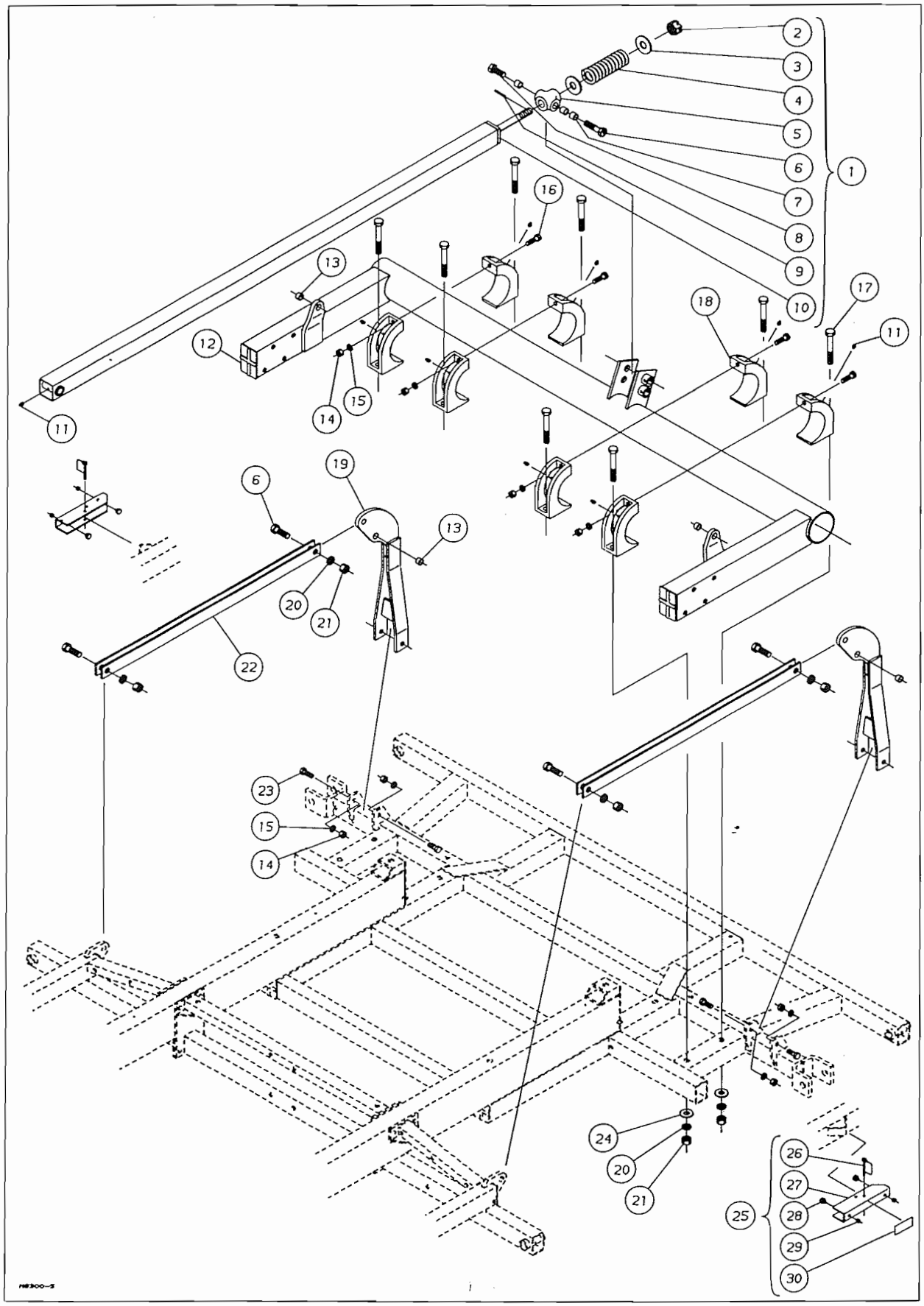

M6300–4

MAIN FRAME ASSEMBLY

FOR MODELS – 6327, 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	6127–4–0A	Right Main Frame Weldment	1
2	6127–5–0A	Left Main Frame Weldment	1
3	6327–1–0	Rear Main Frame Weldment	1
4	6127–40–0A	Center Gang Hinge Weldment	1
5	6127–42–0A	Frame Connector Weldment	1
6	★	Beam – 133" Long	1
7	6127–25–0	Tie Rod Wrench Weldment	1
8			
	4515–59–0	Lamp Bracket Assembly	1
9	4515–59–1	Lamp Bracket	1
10	74–144	Socket Lamp Bracket	1
11	62–131	7/16NC x 1" Carriage Bolt	1
12	63–104	7/16NC Hex Nut	1
13	64–105	7/16" STD. Lock Washer	1
14	62–458	1/2NC x 5" GD. 5 Cap Screw	1
15	63–107	1/2NC Hex Nut	1
16	64–108	1/2" STD. Flat Washer	1
17	64–107	1/2" STD. Lock Washer	1
18	62–606	1NC x 16" Machine Bolt	2
19	62–269	1NC x 14" Machine Bolt	2
20	64–119	1" STD. Flat Washer	8
21	64–118	1" STD. Lock Washer	4
22	63–117	1NC Hex Nut	4
23	62–210	3/4NC x 6" GD. 5 Cap Screw	12
24	62–421	3/4NC x 2" GD. 5 Cap Screw	4
25			
26			
27	64–112	3/4" STD. Lock Washer	28
28	63–112	3/4NC Hex Nut	28
29			
30			
31	64–109	5/8" STD. Lock Washer	2
32	63–109	5/8NC Hex Nut	2
33	62–546	5/8NC x 9–1/2" GD. 5 Cap Screw	2
34	6167–454–0	Box Clamp Weldment	2
35	65–100	1/8NPT x 45 Zerk	4
36	65–101	1/8NPT STD. Zerk	2
37	62–224	3/4NC x 10" Machine Bolt	4
38	6167–0–2	Bolt Plate	2
39	61–232	3/4" DIA. U–Bolt	4
40	6300–0–1	Box Clamp	2

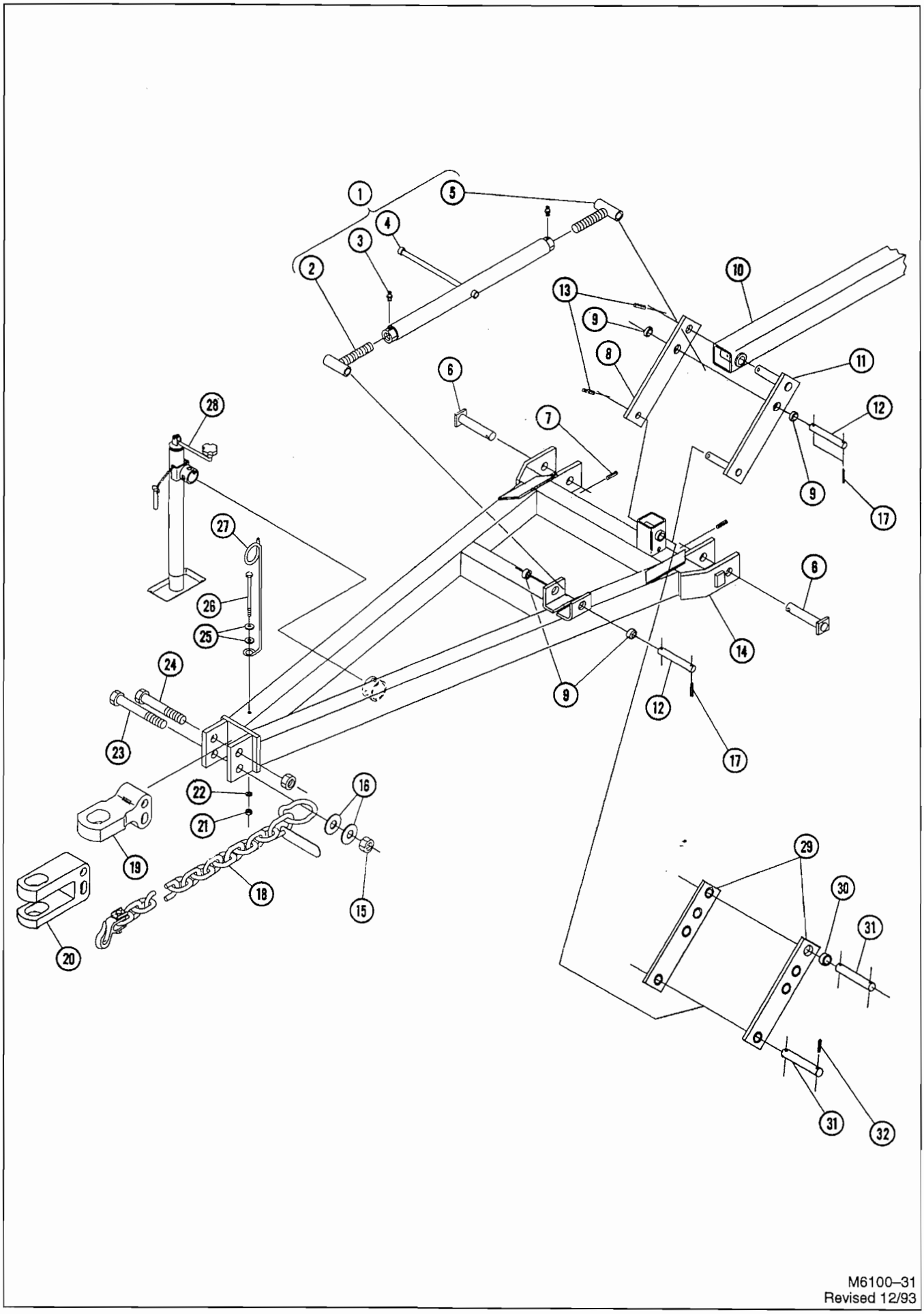
★ See placement pages for part numbers and locations.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

CENTER ROCKER

FOR MODELS – 6327, 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
41	63–128	1–1/2NC Slotted Nut	1
42	64–129	1–1/2" STD. Flat Washer	2
43	76–164	Spring	1
44	2426–35–1	Trunnion	1
45	62–237	1NC x 3" Cap Screw	5
46	63–102	Wear Bushing	3
47	62–234	1NC x 2" Cap Screw	1
48	60–617	3/8" DIA. x 2–1/2" Roll Pin	1
49	6131–76–0	Link Weldment	1
50	65–101	1/8NPT Zerk	9
51	6127–10–0	Main Rocker Weldment	1
52	53–102	Wear Sleeve	4
53	63–112	3/4NC Hex Nut	8
54	64–112	3/4"STD. Lock Washer	8
55	62–195	3/4NC x 2–1/2" Cap Screw	4
56	62–250	3/4NC x 6–1/2" Cap Screw	8
57	2145–0–16	Rocker Shaft Clamp Half	8
58	6327–86–0	Cylinder Bracket Weldment	2
59	64–118	1" STD. Lock Washer	12
60	63–117	1NC Hex Nut	12
61	6136–87–0	Cylinder Bracket Link Weldment	2
62	62–421	3/4NC x 2" Cap SCrew	4
63	64–119	1" STD. Flat Washer	8
64	6124–17–0	Road Lock Assembly	2
65	60–103	5/16" DIA. P.T.O. Pin	1
66	6124–17–1	Road Lock	1
67	44–107	Threaded Bumper	2
68	63–102	3/8NC Hex Nut	2
69	74–365	Road Lock Decal	1



M6100–31
Revised 12/93

TONGUE & JACK ASSEMBLY

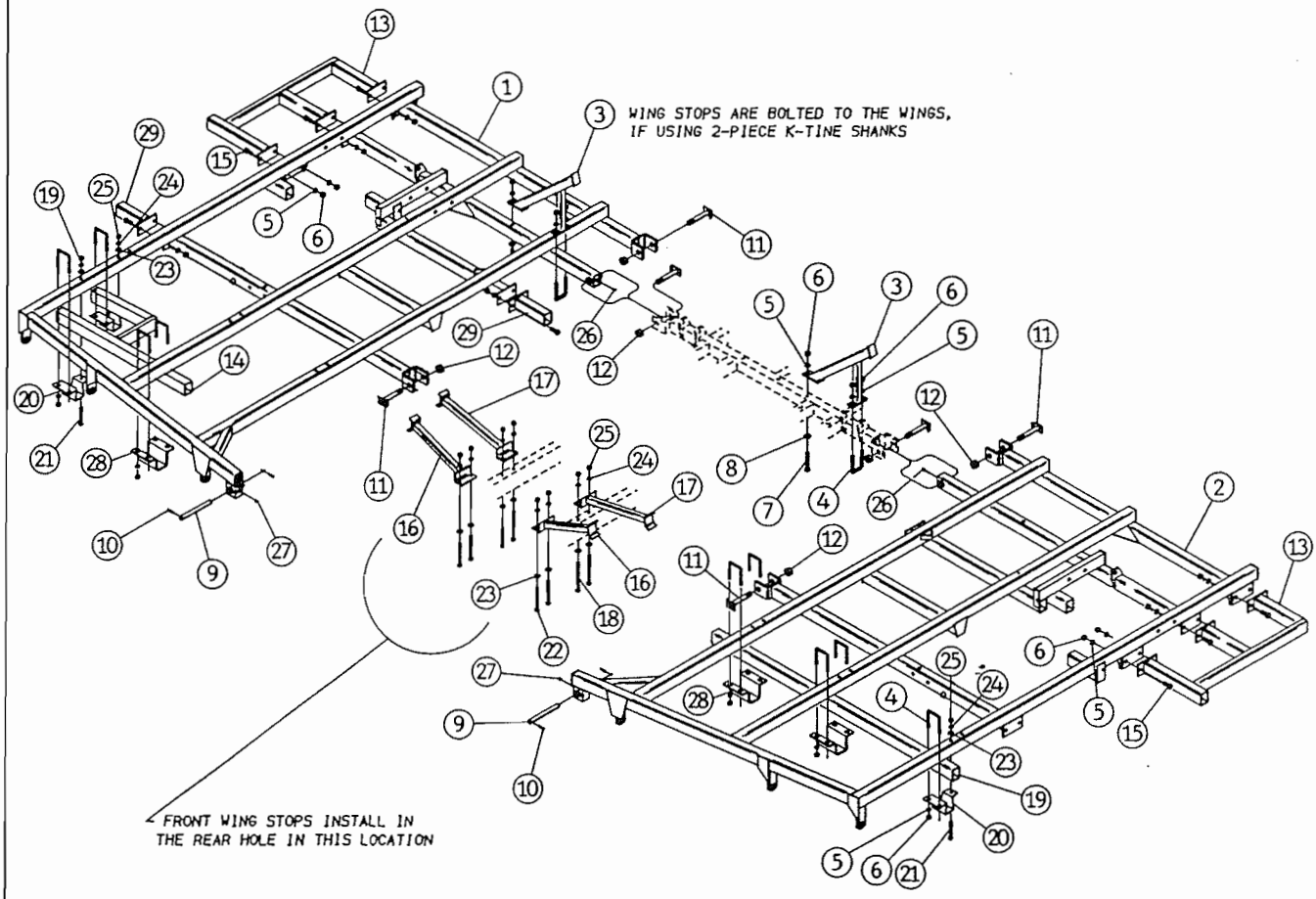
FOR MODELS – ALL

12/94

Item	Part Number	Part Description	Qty.
1	★ 6127–80–0	Jack Assembly	1
2	6127–78–0	Right Hand Threaded End	
3	65–101	1/8NPT STD. Zerk	2
4	6127–77–0	Jack Body Weldment	1
5	6127–79–0	Left Hand Threaded End	1
1	6142–80–0	Jack Assembly	1
2	• 6142–82–0	Right Hand Threaded End	1
3	65–101	1/8NPT STD. Zerk	2
4	6142–81–0	Jack Body Weldment	1
5	6142–83–0	Left Hand Threaded End	1
6	★ 6118–83–0	Tongue Pin Weldment	2
	• 6127–83–0	Tongue Pin Weldment	2
7	★ 60–614	3/8" DIA. x 1–3/4" Roll Pin	4
	• 60–615	3/8" DIA. x 2" Roll Pin	4
8	★ 6118–77–0	Strap	1
9	★ 53–116	Wear Bushing	4
	• 53–113	Wear Bushing	4
10	★ 6121–75–0	Spring Link Assembly	1
	• 6131–75–0	Spring Link Assembly	1
11	★ 6127–76–0	Link Weldment	1
12	★ 3950–0–2	Pin	2
	• 6127–0–11	Pin	2
13	60–614	3/8" DIA. x 1–3/4" Roll Pin	2
14	★ 6118–30–0A	Tongue Weldment	1
	• 6127–30–0A	Tongue Weldment	1
15	63–126	1–1/4NC STD. Lock Nut	2
16	64–126	1–1/4" STD. Lock Washer	2
17	★ 60–605	1/4" DIA. x 1–1/2" Roll Pin	2
18	★ 72–351	10,000# Safety Chain	1
	• 72–352	20,000# Safety Chain	1
19	5215–0–4007A	Hitch Clevis Casting (2.00" Maximum Pin Diameter)	1
	3950–0–10	Single Hitch Clevis Casting (1.50" Maximum Pin Diameter)	1
20	3950–0–11	Double Hitch Clevis Casting (1.38" Maximum Pin Diameter)	1
21	63–106	1/2NC Hex Nut	1
22	64–107	1/2" STD. Lock Washer	1
23	62–279	1–1/4NC x 8–1/2" Bolt	1
24	62–275	1–1/4NC x 7–1/2" Bolt	1
25	64–108	1/2" STD. Flat Washer	2
26	★ 62–352	1/2NC x 5–1/2" Cap Screw	1
	• 62–547	1/2NC x 6–1/2" Cap Screw	1
27	24–100	Hose Stand	1
28	73–100	Jack	1
29	• 6142–77–0A	Strap Assembly	2
30	• 53–113	Bushing	1
31	• 6127–0–11	Turnbuckle Pin	1
32	• 60–606	1/4" DIA. x 2" Roll Pin	2

★ Used for Model 6324

• Used for Model 6327, 6331


WING STOPS ARE BOLTED TO THE WINGS, IF USING 2-PIECE K-TINE SHANKS
FRONT WING STOPS INSTALL IN THE REAR HOLE IN THIS LOCATION

WING FRAME ASSEMBLY

FOR MODELS – 6324, 6327 AND 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	6327–18–0	Right Wing Frame Weldment	1
2	6327–20–0	Left Wing Frame Weldment	1
3	6127–27–0A	Wing Stop Weldment	2
4	61–232	3/4" DIA. U–Bolt	12
5	64–112	3/4" STD. Lock Washer	26/46
6	63–112	3/4NC Hex Nut	26/46
7	62–207	3/4NC x 5–1/2" GD. 5 Cap Screw	2
8	64–113	3/4" STD. Flat Washer	2
9	6127–0–9	Hinge Pin	2
10	60–614	3/4" DIA. x 1–3/4" roll Pin	4
11	6127–88–0	Hinge Bolt Weldment	6
12	63–126	1–1/4NC Self Locking Nut	6
13	6331–35–0	Extension Weldment	2
14	▲ 6327–35–0	Shank Box Weldment	2
15	■ 62–421	3/4NC x 2" GD. 5 Cap Screw	20
16	★ 6118–28–0	Wing Stop Weldment	2
17	● 6127–28–0	Wing Stop Weldment	2
18	● 62–546	5/8NC x 9–1/2" GD. 5 Cap Screw	2
19	○ 2885–163–1	Beam – 97" Long (Optional)	2
20	6150–454–0	Box Clamp Weldment	2
21	62–566	5/8NC x 5–1/2" GD. 5 Cap Screw	2
22	★ 62–433	5/8NC x 7–1/2" GD. 5 cap Screw	2
23	64–110	5/8" STD. Flat Washer	6
24	64–109	5/8" STD. Lock Washer	6
25	63–109	5/8NC Hex Nut	6
26	65–100	1/8NPT x 45 Zerk	2
27	65–101	1/8NPT STD. Zerk	2
28	6300–0–1	Box Clamp	4
29	★ 4200–42–0	2 Shank Extension Weldment	4

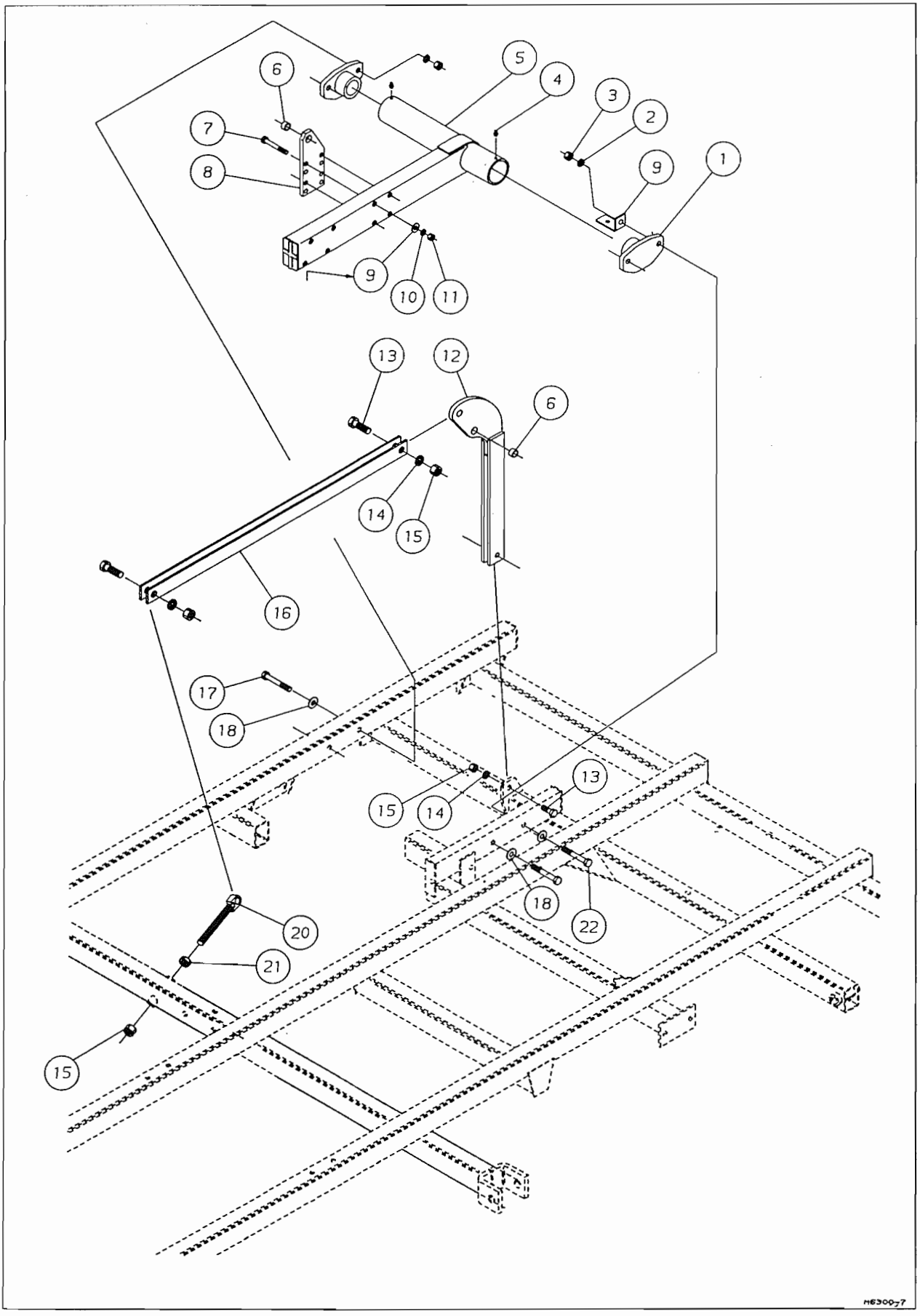
★ Used on Model 6324 ONLY

▲ Used with ALL XT Shanks ONLY

■ Used on Model 6331 ONLY

○ Used with 1–Row XT Shanks ONLY

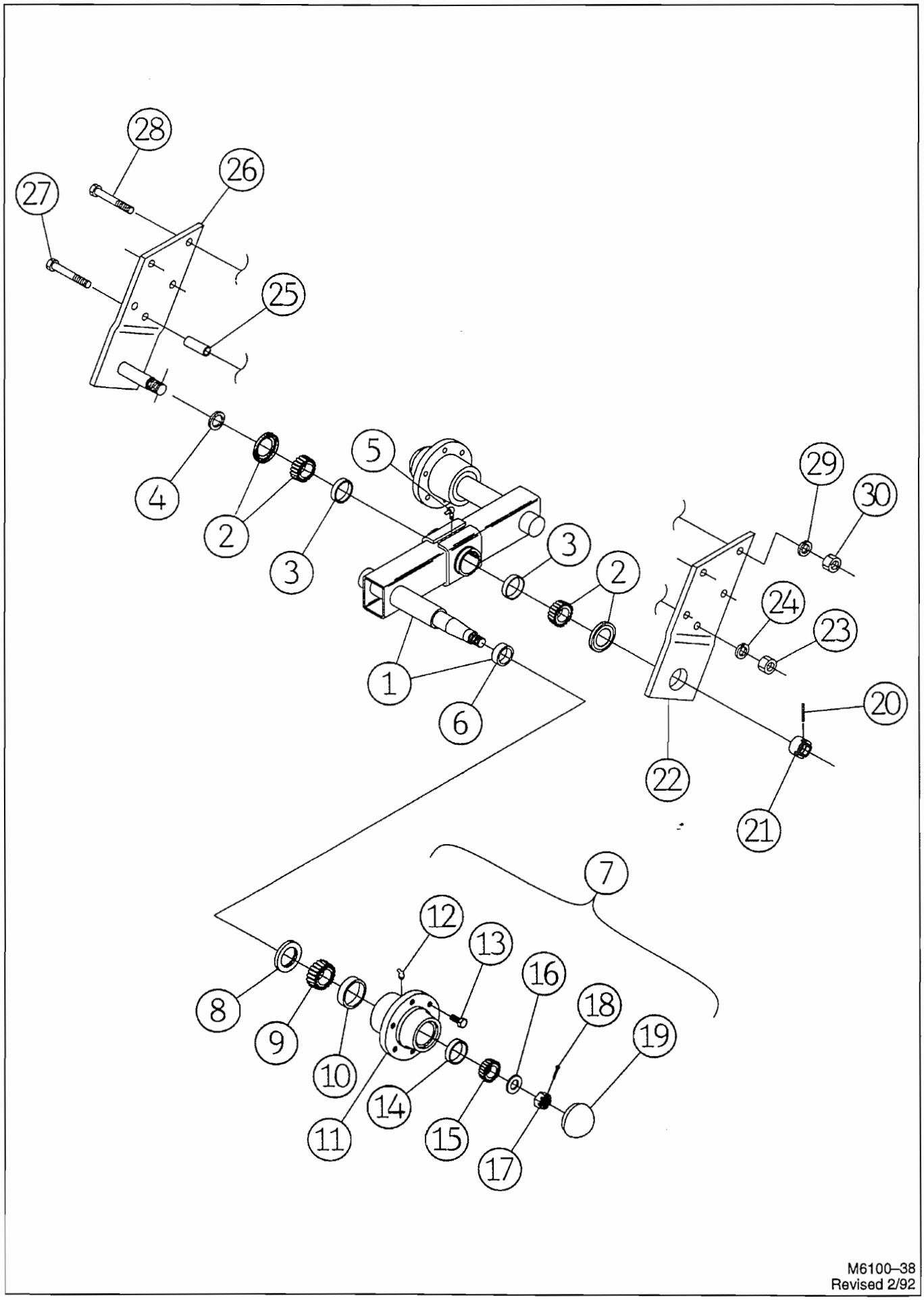
● Used on Models 6327 and 6331


6
5
4
3
2
7
8
9
1
9
10
11
13
12
6
14
15
16
17
18
13
15
14
18
22
20
21
15
M6300-7

WING ROCKER

FOR MODELS – 6324, 6327, 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	4122–0–8A	Rocker Bearing	2
2	64–112	3/4" STD. Lock Washer	4
3	63–112	3/4NC Hex Nut	4
4	65–110	1/8" Thread Cutting Zerk	2
5	6327–12–0	Right Wing Rocker Weldment (SHOWN)	1
	6327–13–0	Left Wing Rocker Weldment	1
6	53–102	Wear Sleeve	4
7	62–339	5/8NC x 4–1/2" Cap Screw	4
8	6127–89–0	Wing Cylinder Lug Assembly	1
9	4809–0–2	Hose Bracket	1
10	64–109	5/8" STD. Lock Washer	4
11	63–109	5/8NC Hex Nut	4
12	6331–86–0	Cylinder Bracket Weldment	1
13	62–237	1NC x 3" Cap Screw	3
14	64–118	1"STD. Lock Washer	3
15	63–117	1NC Hex Nut	4
16	6136–87–0	Cylinder Bracket Link Weldment	1
17	62–205	3/4NC x 5" Cap Screw	2
18	64–113	3/4" STD. Flat Washer	4
19			
20	6127–87–0A	Eyebolt Weldment	1
21	63–118	1NC Jam Nut	1
22	62–200	3/4NC x 4" Cap Screw	2



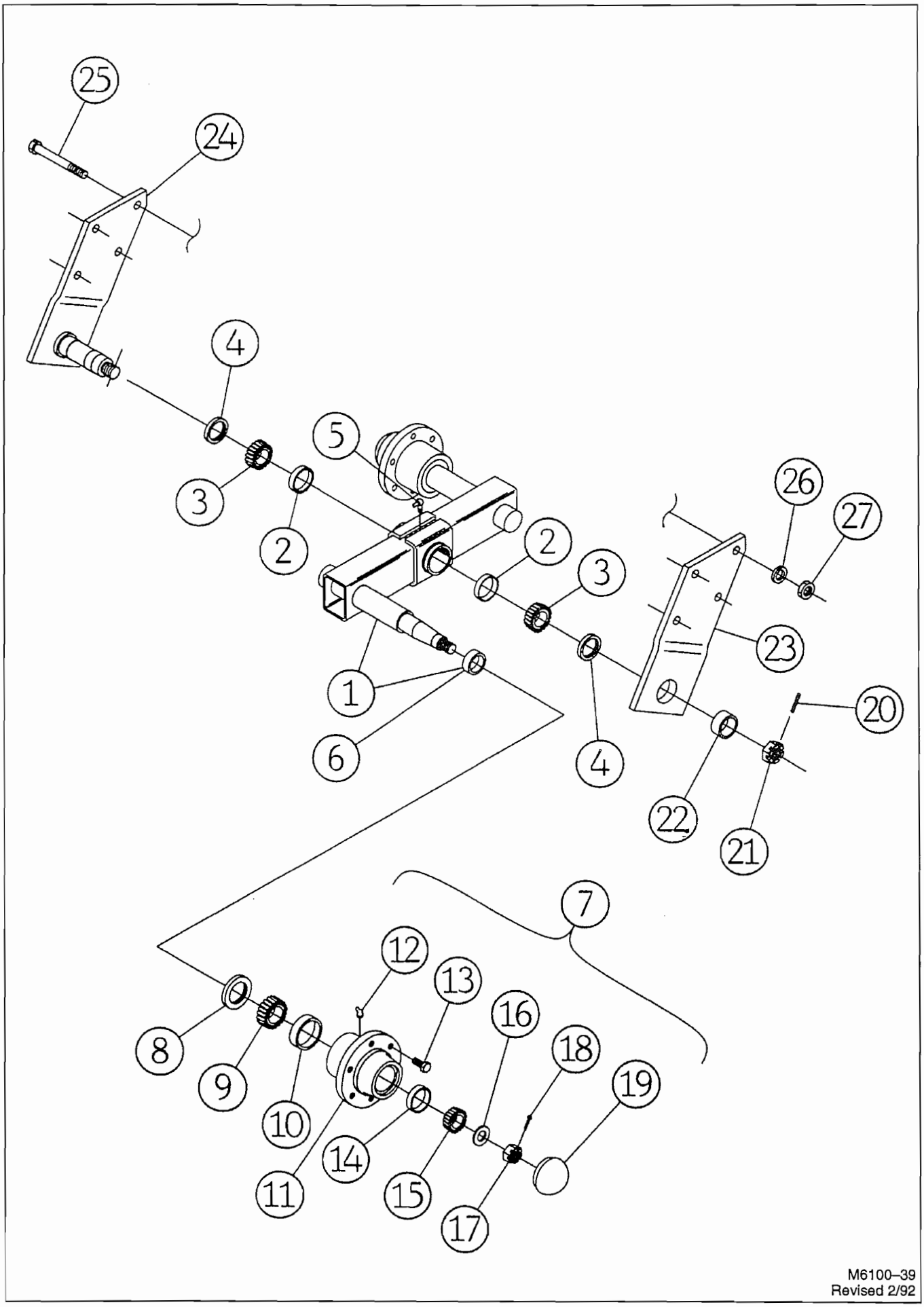
M6100–38
Revised 2/92

WALKING BEAM ASSEMBLY

FOR MODELS – 6324 — CENTER & WING SECTIONS 12/94
6327, 6331 — WING SECTION ONLY

Item	*Part Number*	*Part Description*	*Qty.*
	6127–52–0	Right Walking Beam Assembly (SHOWN)	1
	6127–53–0	Left Walking Beam Assembly	1
1	6127–54–0	Repair Right Walking Beam & Sleeve	1
	6127–55–0	Repair Left Walking Beam & Sleeve	1
2	41–121	Cone and Seal Assembly	2
3	41–208	Cone	2
4	4218–13–3	Special Washer	1
5	65–107	1/8NPT x 90 Zerk	1
6	53–105	Wear Ring	2
7	4218–8–0	Hub Assembly (Includes Items 8 through 19)	2
8	42–108	Seal	1
9	41–113	Cone	1
10	41–209	Cup	1
11	1918–14–0A	Repair Hub (Includes Items 10, 11. 13 and 14)	1
12	65–104	1/4NPT x 67–1/2 Zerk	1
13	62–295	Wheel Bolt	6
14	41–208	Cup	1
15	41–112	Cone	1
16	64–120	1" SAE Flat Washer	1
17	63–204	1NF Slotted Hex Nut	1
18	60–702	3/16" DIA. x 1–1/2"Cotter Pin	1
19	52–302	Hub Cap	1
20	60–114	1/4" DIA. x 2" Spiral Expansion Pin	1
21	4218–13–2	Axle Nut	1
22	6127–52–1	Left Side Plate	1
23	63–112	3/4NC Hex Nut	1
24	64–112	3/4" STD. Lock Washer	1
25	6127–52–2	Spacer Tube	1
26	6127–48–0	Right Side Plate	1
27	62–205	3/4NC x 5" Cap Screw	1
28	★ 62–205	3/4NC x 5" Cap Screw	4
29	★ 64–112	3/4" STD. Lock Washer	4
30	★ 63–112	3/4NC Hex Nut	4

★ Not part of Assembly



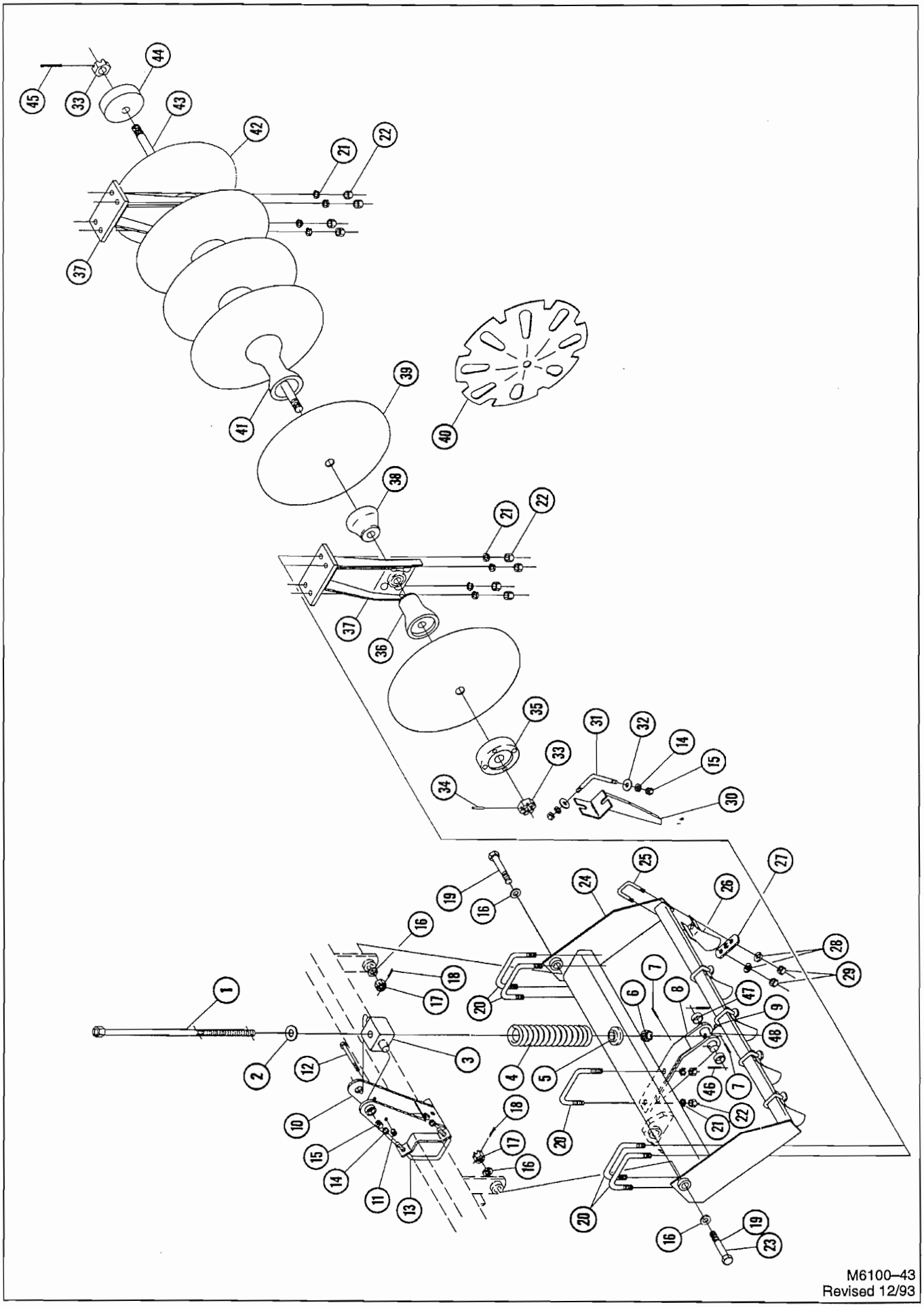
M6100–39
Revised 2/92

WALKING BEAM ASSEMBLY

FOR MODELS – 6327, 6331 CENTER SECTION 12/94

Item	*Part Number*	*Part Description*	*Qty.*
	6136–57–0A	Left Walking Beam Assembly	1
	6136–58–0A	Right Walking Beam Assembly	1
1	6136–75–0A	Repair Left Walking Beam & Sleeve	1
	6136–76–0A	Repair Right Walking Beam & Sleeve	1
2	41–210	Cup	1
3	41–114	Cone	2
4	42–131	Seal	2
5	65–107	Zerk	1
6	53–108	Wear Sleeve	2
7	4031–8–0	Heavy Duty Hub Assembly (Includes Items 8 – 19)	2
8	42–109	Seal	1
9	41–114	Cone	1
10	41–210	Cup	1
11	2135–14–0A	Repair Hub (Includes Items 10, 11, 13, and 14)	1
12	65–104	Zerk	1
13	62–295	Wheel Bolt	6
14	41–208	Cup	1
15	41–112	Cone	1
16	64–120	1" Heat Treated Washer	1
17	63–204	1NF Slotted Nut	1
18	60–702	3/16" DIA. x 1–1/2" Cotter Pin	1
19	52–302	Hub Cap	1
20	60–114	1/4" DIA. x 2" Spiral Pin	1
21	63–231	1–1/4NF Slotted Nut	1
22	6136–57–2	Bushing	1
23	6136–57–1	Side Plate	1
24	6136–52–0	Side Plate Weldment	1
25	★ 62–210	3/4NC x 6" Cap Screw	4
26	★ 64–112	3/4" STD. Lock Washer	4
27	★ 63–112	3/4NC Hex Nut	4

★ Not Part of Assembly



M6100–43
Revised 12/93

DISC GANG ASSEMBLY

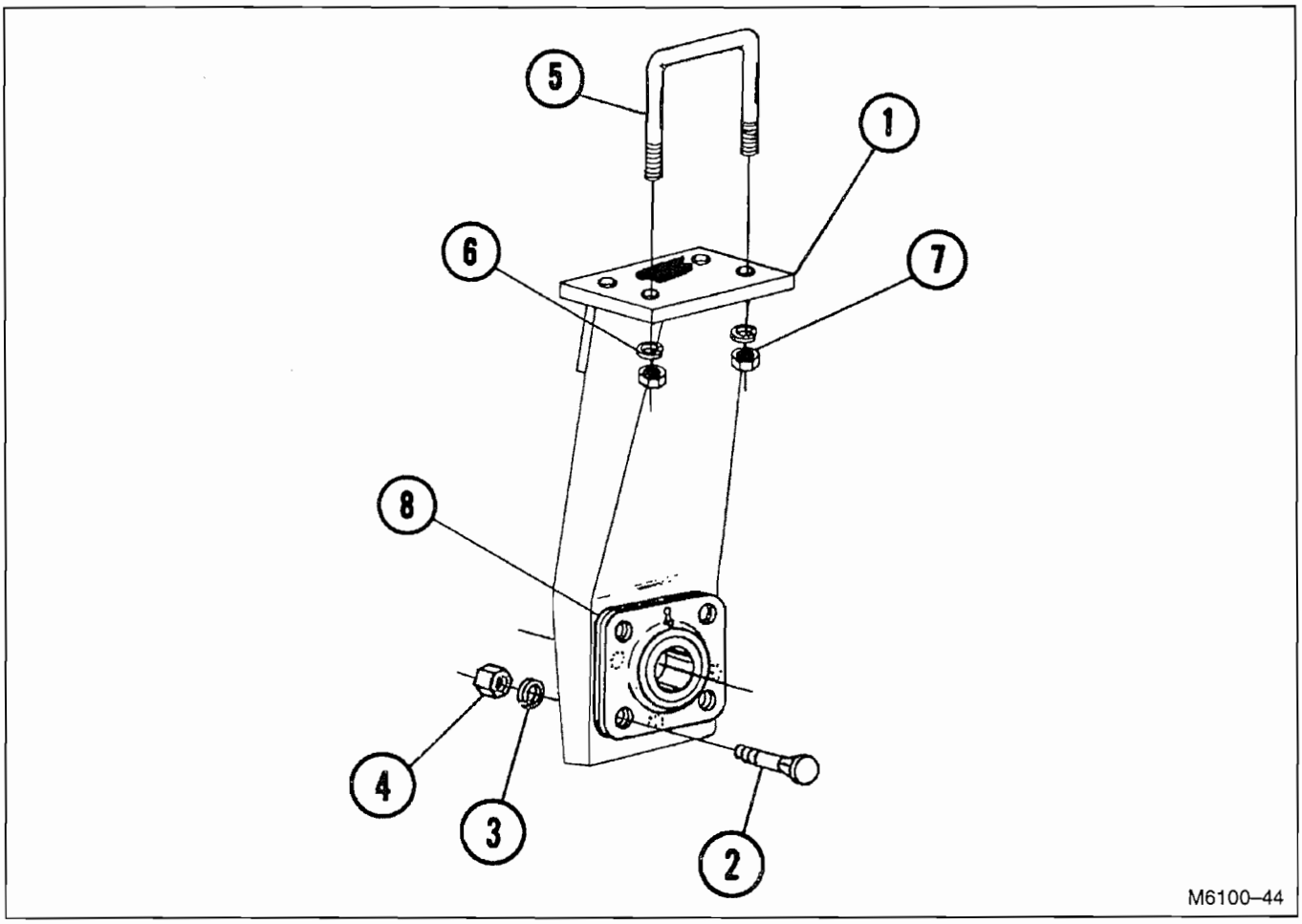
FOR MODELS – ALL

12/94

Item	Part Number	Part Description	Qty.
	6127–90–0A	Spring Support Assembly	1–12
1	6127–96–0	Adjustment Screw Weldment	1
2	64–155	1" SAE Flat Washer	1
3	3127–30–1	Trunnion	1
4	76–132	Compression Spring	1
5	6127–90–1	Spring Washer Casting	1
6	63–120	1NC Slotted Hex Nut	1
7	60–626	3/16" DIA. x 1–1/2" Roll Pin	2
8	6127–94–0A	Arm Weldment	1
9	65–101	1/8NPT STD. Zerk	1
10	6127–93–0	Spring Support Weldment	1
11	63–134	3/8NC Lock Nut	1
12	62–562	3/8NC x 4–1/2" GD. 5 Bolt	1
13	61–228	5/8" DIA. U–Bolt	
14	64–109	5/8" STD. Lock Washer	
15	63–109	5/8NC Hex Nut	
16	64–141	Hardened Flat Washer	
17	63–120	1NC Slotted Nut	
18	60–703	3/16" DIA. x 1–1/2" Cotter Pin	
19	62–318	1NC x 4–1/2" Pivot Bolt	
20	61–143	3/4" DIA. U–Bolt	
21	64–112	3/4" STD. Lock Washer	
22	63–112	3/4NC Hex Nut	
23	3131–84–1	Pivot Bolt (Model 6331 ONLY)	
24	6118–52–0	Gang Beam 51"	
	6118–53–0	Gang Beam 51"	
	6121–70–0	Gang Beam 85–1/2"	
	3112–46–0	Right Gang Beam	
	3112–47–0	Left Gang Beam	
	6131–46–0	Gang Beam 52"	
	6131–47–0	Gang Beam 52"	
	6131–48–0	Gang Beam	
25	61–115	1/2" DIA. U–Bolt	
26	32–101	R.H. Scraper Blade	
	32–102	L.H. Scraper Blade	
27	1483–286–1	Clamp	
28	64–107	1/2" STD. Lock Washer	

Item	Part Number	Part Description	Qty.
29	63–106	1/2NC Hex Nut	
30	3131–157–0	Right Trash Bar	
	3131–158–0	Left Trash Bar	
31	950–20–4	"L" Bolt	
32	64–110	5/8" STD. Flat washer	
33	63–128	1–1/2NC Slotted Hex Nut	
34	60–615	3/8" DIA. x 2" Roll Pin	
35	3950–0–5	End Washer	
36	364–0–9	Long Half Spool	
37	1918–10–0	Bearing Arm Assembly	
38	1280–0–10	Short Half Spool	
39	30–208	20" Disc Blade (Standard)	
40	30–167	20" Incorp. Blade (Optional)	
41	364–0–7	Spacer Spool	
42	30–104	18" Disc Blade	
43		Tie Rod (See page P23)	
44	2212–18–2	End Washer	
45	60–713	5/16" DIA. x 3" Cotter Pin	
46	60–608	1/4" DIA. x 2–1/2" Roll Pin	2
47	53–146	Wear Bushing	2
48	6127–90–2	Trunnion	1

BEARING ARM ASSEMBLY

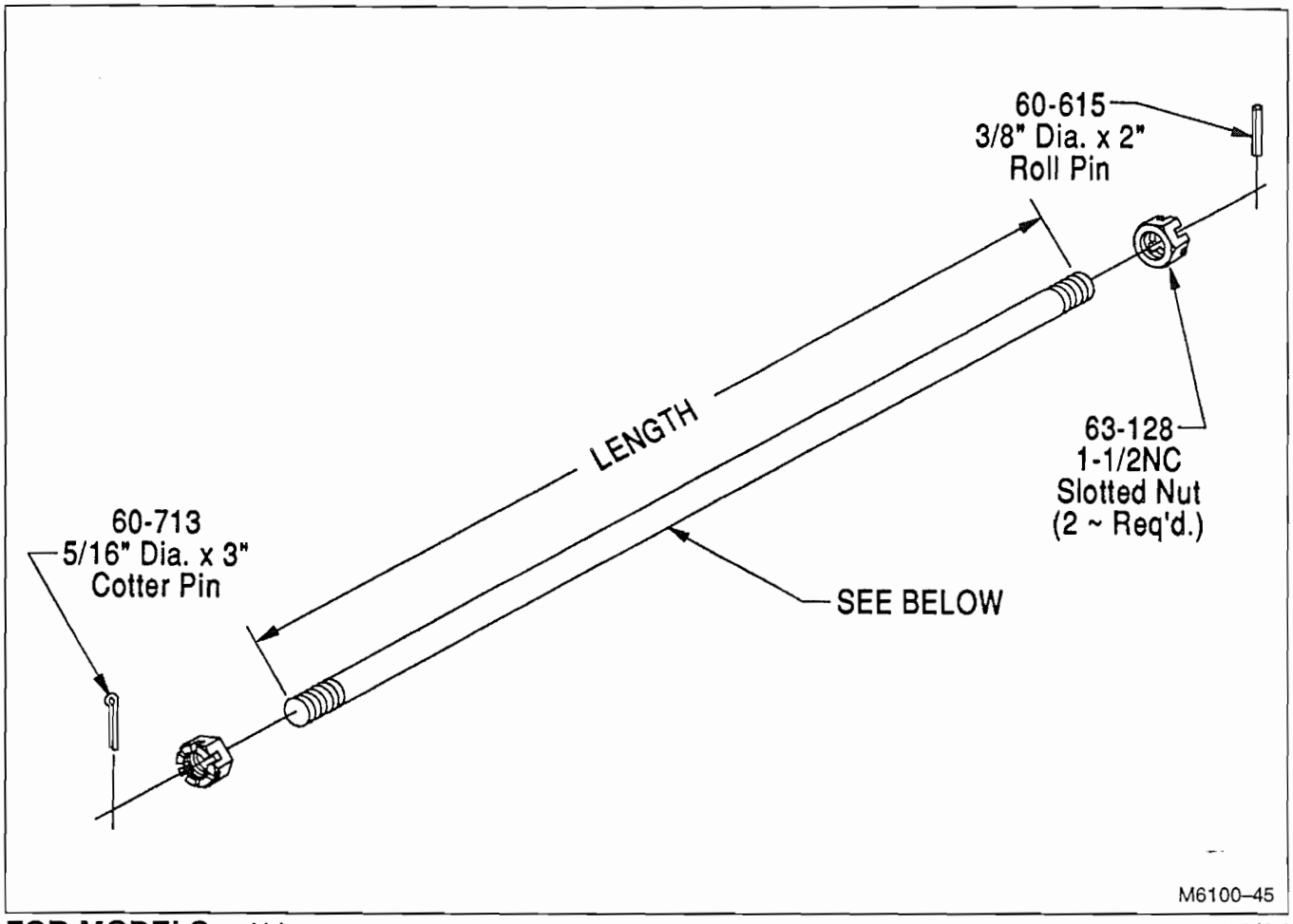


FOR MODELS – ALL 2/92

Item	*Part Number*	*Part Description*	*Qty.*
	1918–10–0	Regreaseable Bearing Arm Assembly	1
1	1963–9–0	Bearing Arm Weldment	1
2	62–137	1/2NC x 1–1/2" Carriage Bolt	4
3	64–107	1/2" STD. Lock Washer	4
4	63–106	1/2NC Hex Nut	4
5	★ 61–143	3/4" DIA. U–Bolt	2
6	★ 64–112	3/4" STD. Lock Washer	4
7	★ 63–112	3/4NC Hex Nut	4
8	40–109	Bearing Assembly	1

★ Not part of Assembly

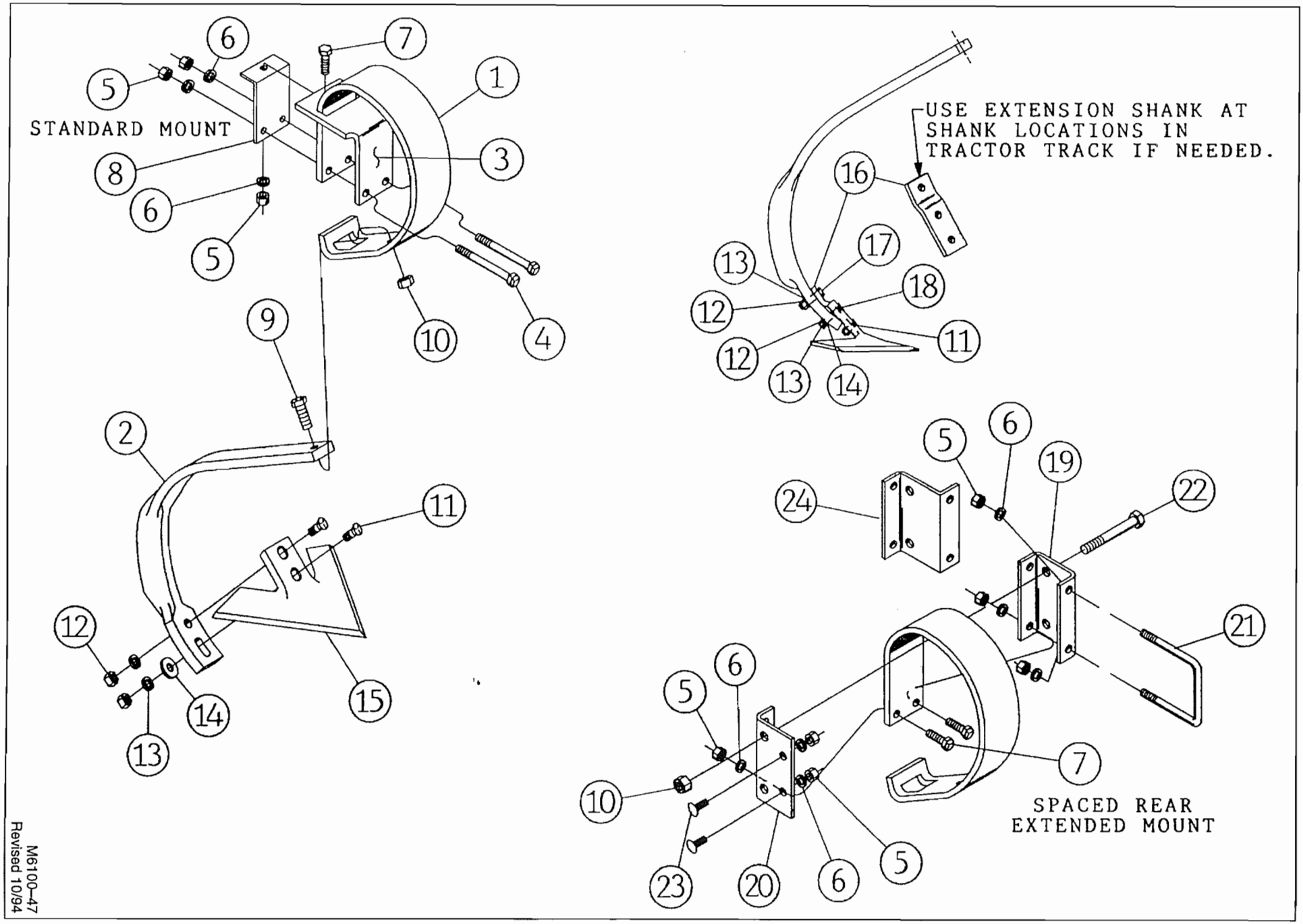
TIE RODS



FOR MODELS – ALL

12/94

Model	Location	Length	Number Of Disc	Tie Rod Number
6324	Left & Right Center	51–3/4"	6	2146–82–1
	Left & Right Wing	88–1/4"	10	2225–18–1
6327	Left & Right Center	70–3/8"	8	2212–18–1
	Left & Right Wing	88–1/4"	10	2225–18–1
6331	Left & Right Center	70–3/8"	8	2212–18–1
	Left & Right Wing	51–3/4"	6	2146–82–1

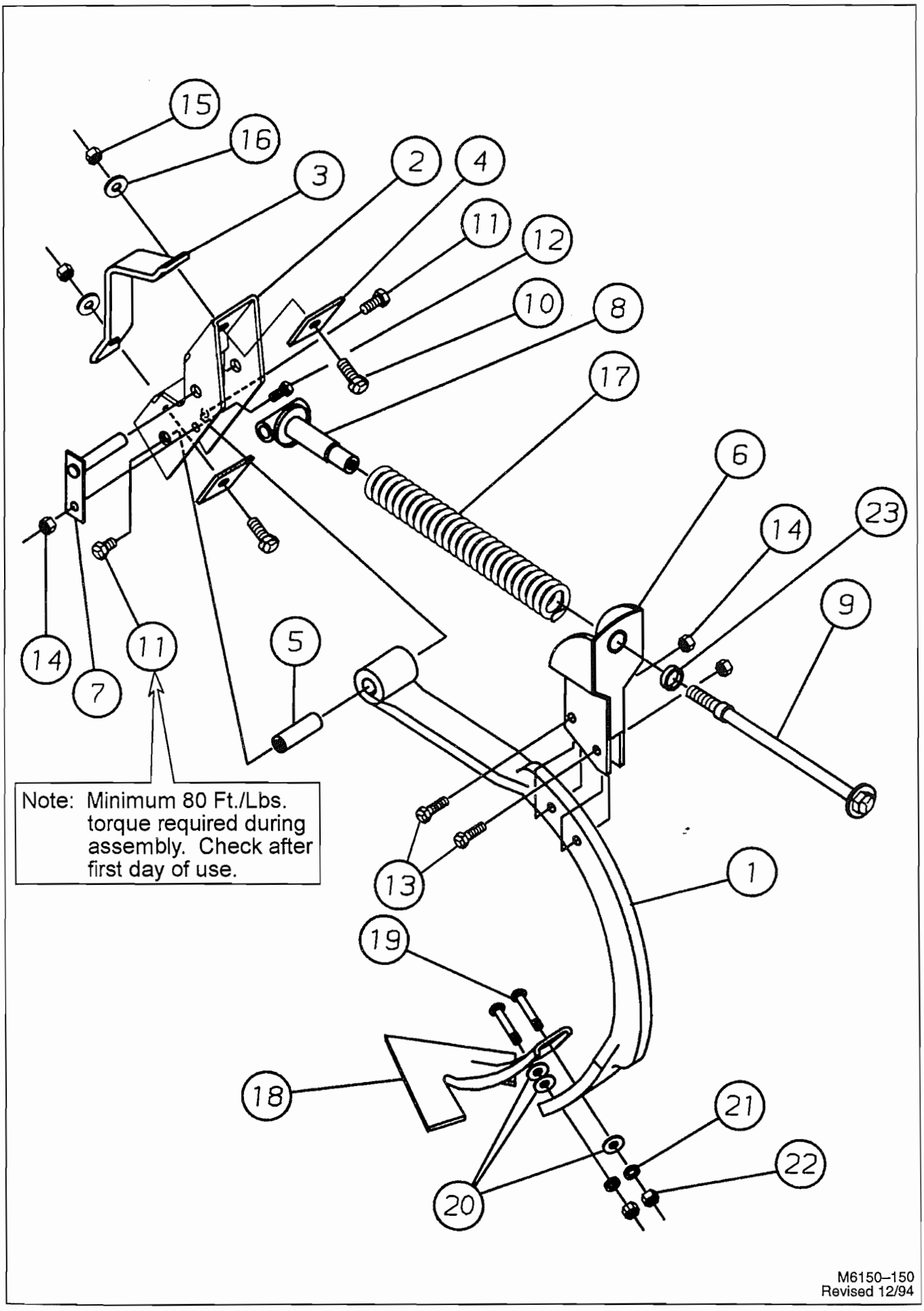


M6100-47
Revised 10/94

2 PIECE K-TINE SHANK ASSEMBLY

FOR MODELS – ALL 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	31–179	Shank Mount	1
2	31–180	Shank	1
3	6127–0–14A	Shank Mount Clamp	1
4	62–458	1/2NC x 5" GD. 5 Cap Screw	2
5	63–106	1/2NC Hex Nut	Spec.
6	64–107	1/2" STD. Lock Washer	Spec.
7	62–569	1/2NC x 1–1/2" GD. 5 Cap Screw	1
8	6127–0–15	Clamp	1
9	62–169	5/8NC x 2" GD. 5 Cap Screw	1
10	63–110	5/8NC Self Locking Nut	1
11	62–317	7/16NC x 1–1/2" GD. 5 #3 Plow Bolt	Spec.
12	63–104	7/16NC Hex Nut	Spec.
13	64–105	7/16" STD. Lock Washer	Spec.
14	64–106	7/16" STD. Flat Washer	Spec.
15	33–119	10" Sweep 47 Stem Angle	1
16	33–101	9" Sweep 47 Stem Angle	1
17	4100–0–9	Extension Shank	1
18	62–407	7/16NC x 1–1/2" GD. 5 Cap Screw	1
19	62–132	7/16NC x 2–1/4" GD. 5 #3 Plow Bolt	1
20	5660–0–28	Extended Bracket	1
21	6127–0–12	Extension Bracket	1
22	61–160	1/2" DIA. U–Bolt	1
23	62–339	5/8NC x 4–1/2" GD. 5 Cap Screw	1
24	63–109	5/8NC Hex Nut	1
25	64–109	5/8" STD. Lock Washer	1
26	62–526	1/2NC x 1" Carriage Bolt	2
27	5600–0–21	Extended Bracket	1



M6150–150
Revised 12/94

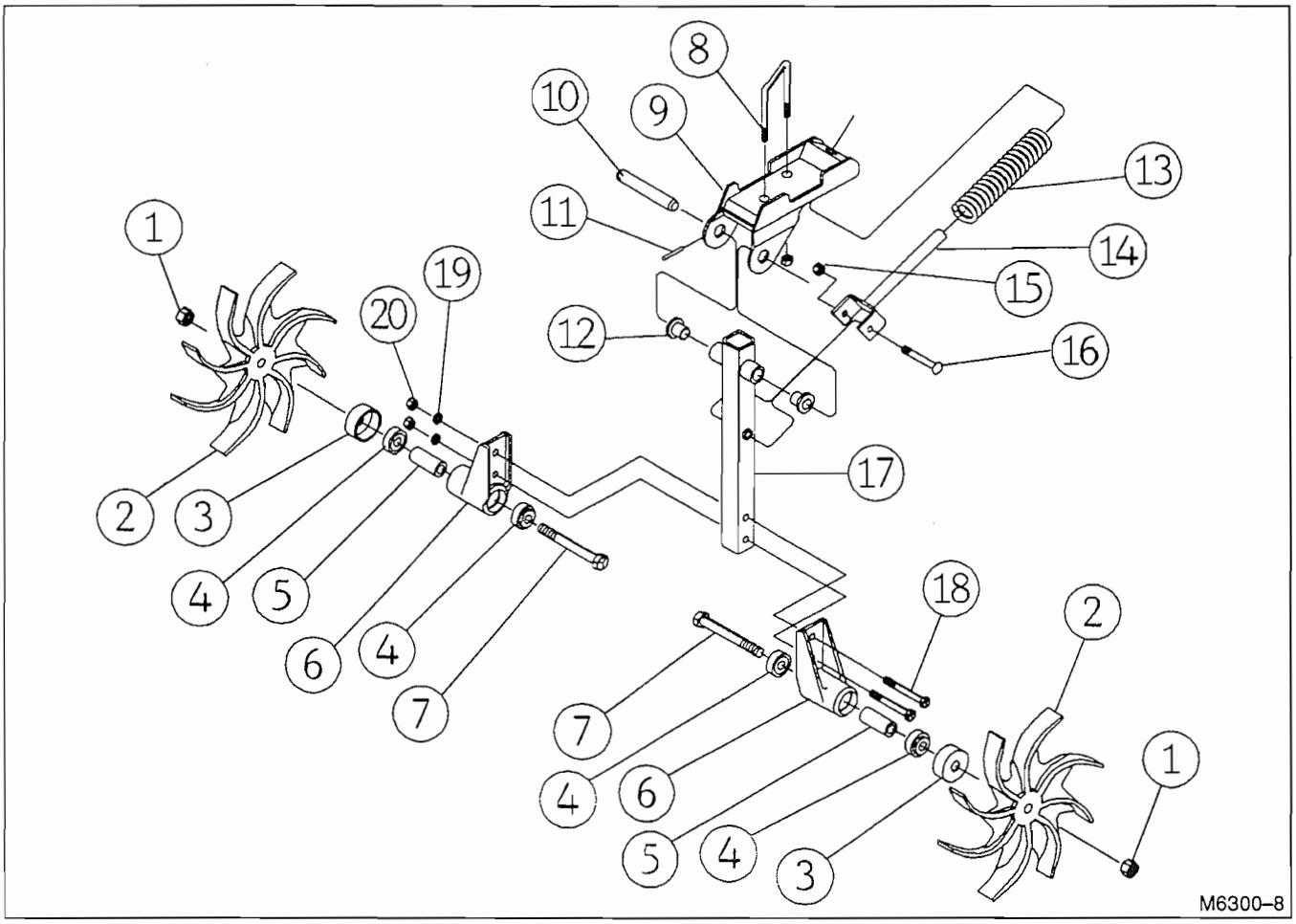
XT270 SHANK ASSEMBLY

FOR MODELS – ALL

12/94

Item	*Part Number*	*Part Description*	*Qty.*
	6150–25–0	26" XT Shank Assembly	1
1	31–182	3/4" x 2" Cultivator Shank	1
2	6150–25–1	Mounting Channel	1
3	6150–25–2	Mounting Strap	1
4	6150–25–3	Doubler	2
5	6150–25–4	Bushing	1
6	6150–26–0	Spring Mount Weldment (Includes Item #23)	1
7	6150–30–0	Pin Weldment	1
8	6150–31–0	Spring End Weldment	1
9	6150–32–0	Tension Bolt Weldment	1
10	62–169	5/8NC x 2" GD. 5 Cap Screw	2
11	62–295	9/16NF x 1–1/8" GD. 5 Wheel Bolt	2
12	62–300	1/2NC x 1" GD. 5 Cap Screw	1
13	62–414	1/2NC x 1–3/4" GD. 5 Cap Screw	2
14	63–107	1/2NC Lock Nut	3
15	63–110	5/8NC Lock Nut	2
16	64–110	5/8" STD. Flat Washer	2
17	76–207	Spring – Compression	1
18	★ 33–178	12" Sweep	1
	★ 33–101	9" Sweep	1
	★ 33–119	10" Sweep	1
19	★ 62–132	7/16NC x 2–1/4" GD. 8 #3 Plow Bolt	2
20	★ 64–106	7/16" STD. Flat Washer	3
21	★ 64–105	7/16" STD. Lock Washer	2
22	★ 63–104	7/16NC Hex Nut	2
23	★ 53–109	Bushing	1
★ Not part of Shank Assembly			

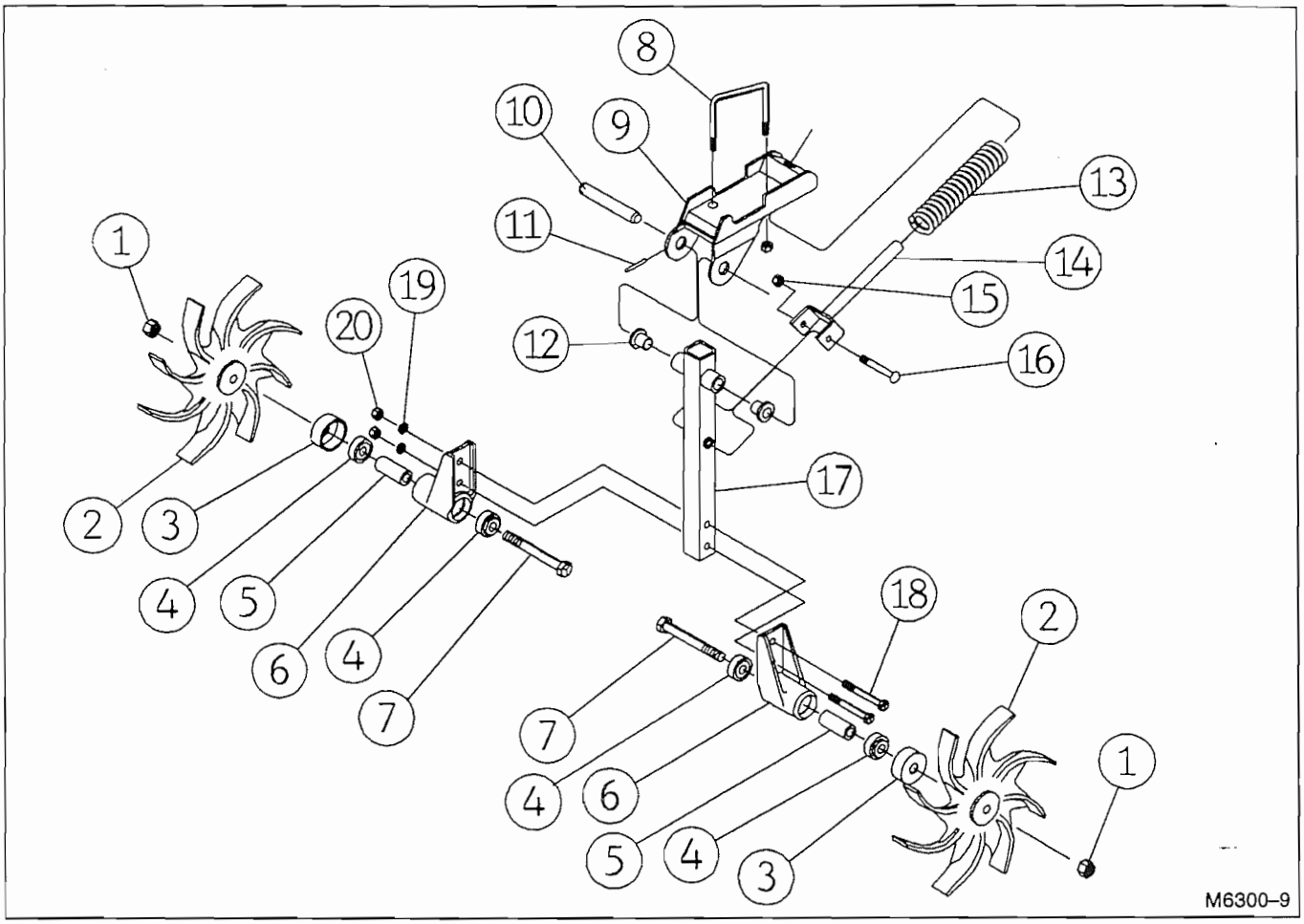
LEFT STAR WHEEL ASSEMBLY



FOR MODELS – ALL 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	63–114	3/4" STD. Lock Nut	2
2	6300–40–1	Left Star Wheel	2
3	6300–35–1	Shield	2
4	40–155	Ball Bearing	4
5	6300–35–2	Bushing	2
6	6300–40–3	Hub	2
7	62–212	3/4NC x 6–1/2" Cap Screw	2
8	61–162	3/4" DIA. U–Bolt	2
9	6300–43–0	Left Star Wheel Mounting	1
10	6300–40–4	Pivot Pin	1
11	60–606	1/4" DIA. x 2" Roll Pin	1
12	6300–46–0	Bushing	2
13	76–193	Spring	1
14	6300–45–0	Spring Tube Weldment	1
15	63–108	1/2NC Nylon–Top Lock Nut	
16	62–465	1/2" DIA. x 3–1/2" Carriage Bolt	1
17	6300–42–0	Star Wheel Arm	1
18	62–154	1/2NC x 3–1/2" GD. 5 Cap Screw	2
19	63–106	1/2NC Hex Nut	2
20	64–107	1/2" STD. Lock Washer	2

RIGHT STAR WHEEL ASSEMBLY

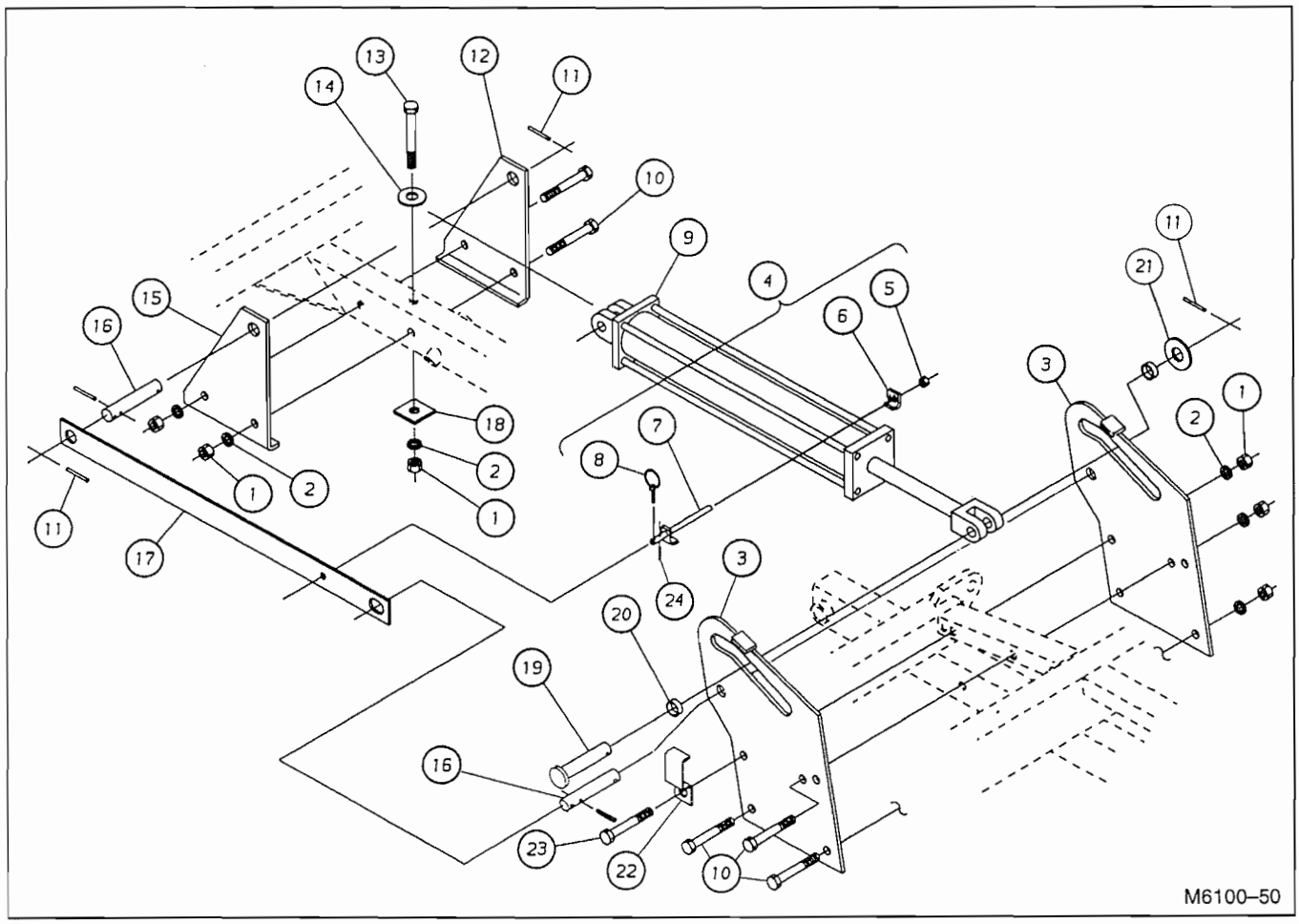


FOR MODELS – ALL

12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	63–114	3/4" STD. Lock Nut	2
2	6300–40–2	Right Star Wheel	2
3	6300–35–1	Shield	2
4	40–155	Ball Bearing	4
5	6300–35–2	Bushing	2
6	6300–40–3	Hub	2
7	62–212	3/4NC x 6–1/2" Cap Screw	2
8	61–162	3/4" DIA. U–Bolt	2
9	6300–44–0	Right Star Wheel Mounting	1
10	6300–40–4	Pivot Pin	1
11	60–606	1/4" DIA. x 2" Roll Pin	1
12	6300–46–0	Bushing	2
13	76–193	Spring	1
14	6300–45–0	Spring Tube Weldment	1
15	63–108	1/2NC Nylon–Top Lock Nut	
16	62–465	1/2" DIA. x 3–1/2" Carriage Bolt	1
17	6300–42–0	Star Wheel Arm	1
18	62–154	1/2NC x 3–1/2" GD. 5 Cap Screw	2
19	63–106	1/2NC Hex Nut	2
20	64–107	1/2" STD. Lock Washer	2

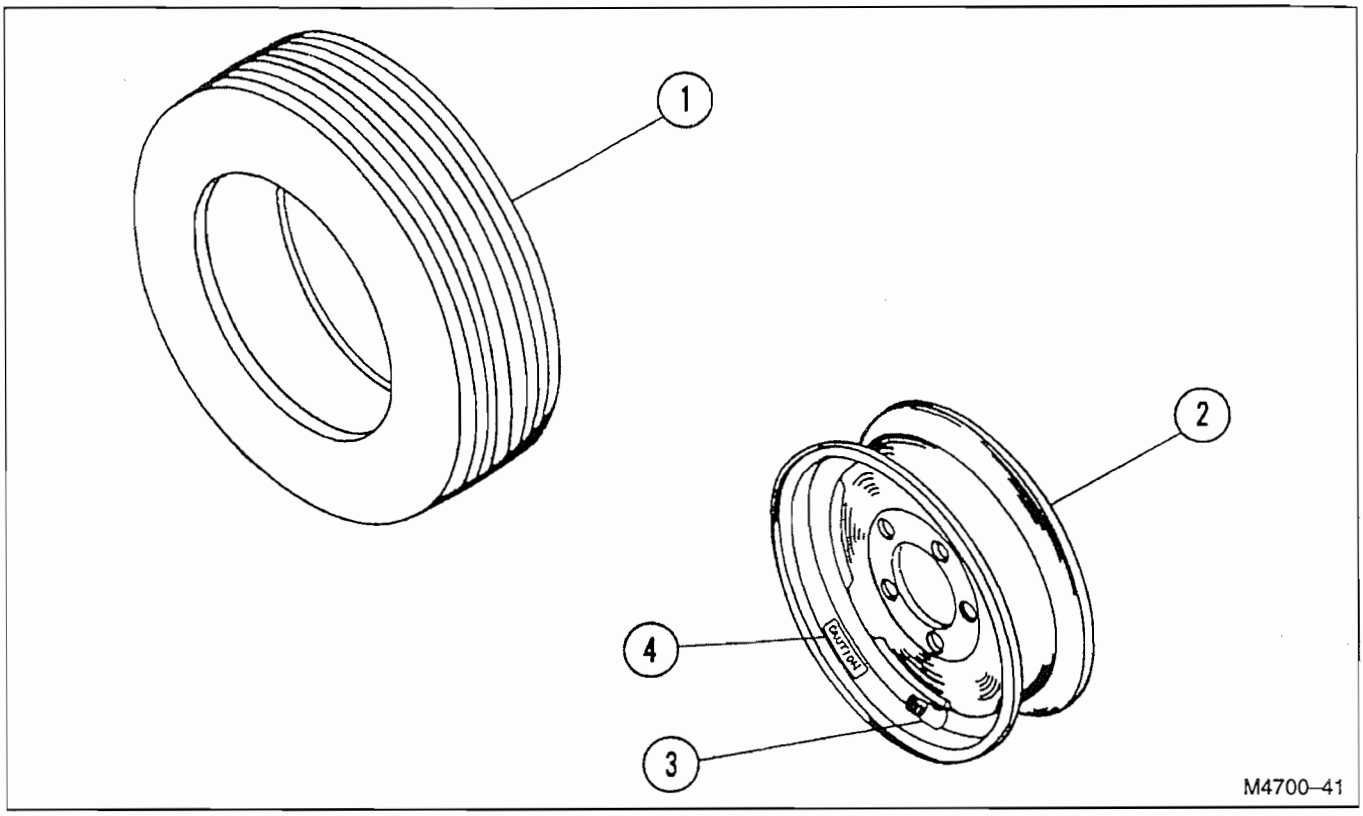
WING LIFT GROUP



FOR MODELS – 6324 – 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	63–112	3/4NC Hex Nut	7
2	64–112	3/4" STD. Lock Washer	7
3	6124–43–0	Side Plate Weldment	2
4	6124–46–0A	Stud Clamp Assembly	1
5	63–108	1/2NC Nylon–Top Lock Nut	1
6	6124–47–2	Clamp	1
7	6124–47–0A	Stud Clamp Weldment	1
8	60–120	3/16" DIA. Klick Pin	1
9	21–117	4" x 24" Prince Cylinder Assembly	1
10	62–205	3/4NC x 5" GD. 5 Cap Screw	6
11	60–606	1/4"DIA. x 2" Roll Pin	5
12	6127–0–5	Left Cylinder Lug	1
13	62–210	3/4NC x 6" GD. 5 Cap Screw	1
14	64–113	3/4" STD. Flat Washer	1
15	6127–0–4	Right Cylinder Lug	1
16	3755–0–12	Wing Lift Pin	2
17	6127–0–2A	Wing Lock Strap	1
18	3755–12–2	Flat	1
19	3131–77–0	Cylinder Clevis Pin	1
20	53–109	Wear Sleeve	2
21	64–126	1–1/4" STD. Flat Washer	1
22	3127–83–1	Hose Clamp	1
23	62–207	3/4NC x 5–1/2" GD. 5 Cap Screw	1
24	60–602	Roll Pin (Included in Item 4 Stud Clamp Assembly)	1

WHEELS & TIRES



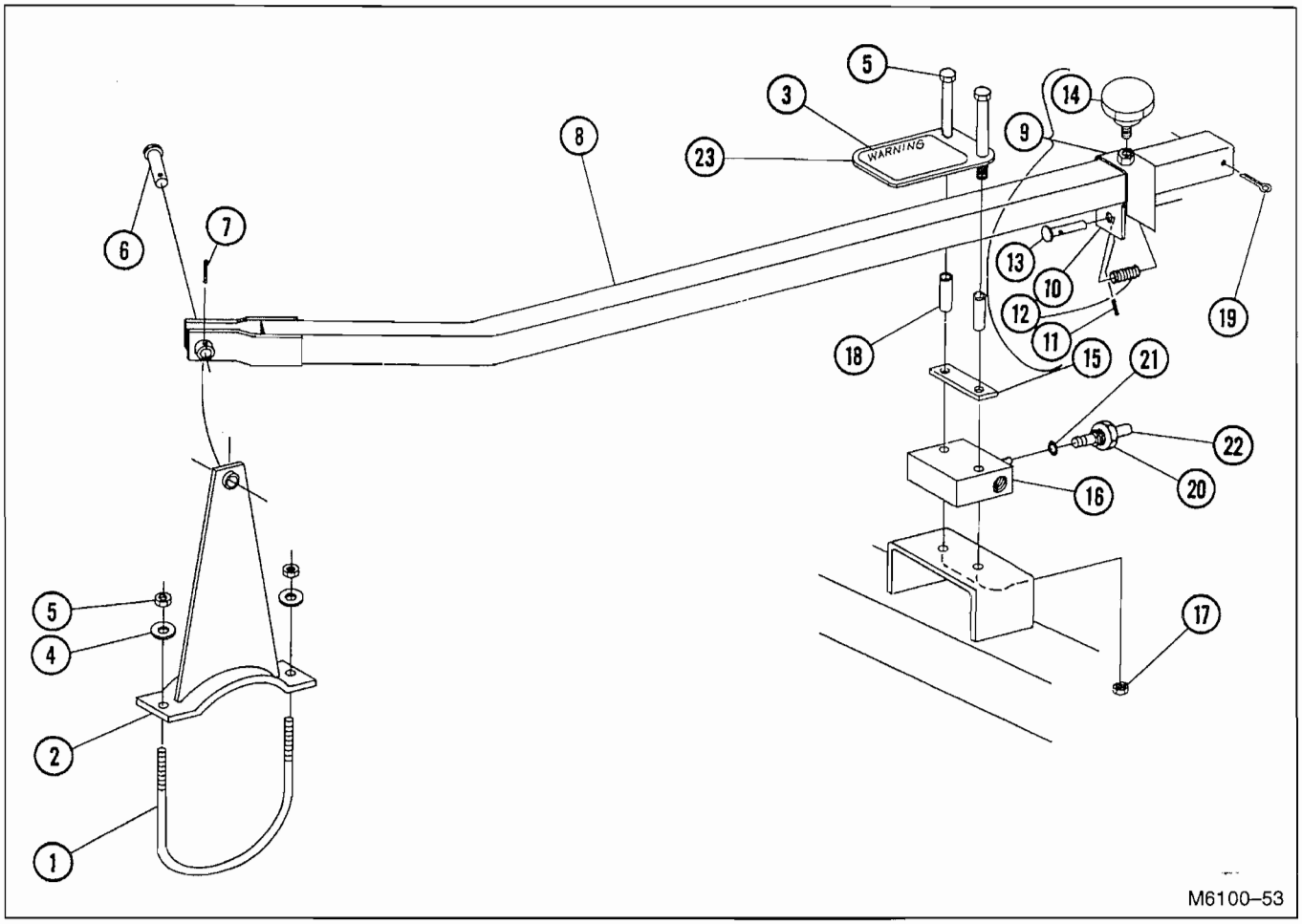
FOR MODELS – ALL

10/94

Item	*Part Number*	*Part Description*	*Qty.*
	1000–95568–0	Wheel Assembly	1
1	51–101	Tire 9.5L x 15, 6–Ply	1
2	52–102	Wheel 15" x 8"	1
3	51–107	Valve Stem	1
4	74–109	Decal – CAUTION Check Wheel Bolts	1
	1000–10580–0	Wheel Assembly	1
1	51–103	Tire 10.00 x 15, 8–Ply	1
2	52–103	Wheel 15" x 10"	1
3	51–107	Valve Stem	1
4	74–109	Decal – CAUTION Check Wheel Bolts	1
	1000–11560–0	Wheel Assembly	1
1	51–105	Tire 11L x 15, 6–Ply	1
2	52–103	Wheel 15" x 10"	1
3	51–107	Valve Stem	1
4	74–109	Decal – CAUTION Check Wheel Bolts	1
	1000–95588–0	Wheel Assembly	1
1	51–102	Tire 9.5L x 15, 8–Ply	1
2	52–102	Wheel 15" x 8"	1
3	51–107	Valve Stem	1
4	74–109	Decal – CAUTION Check Wheel Bolts	1

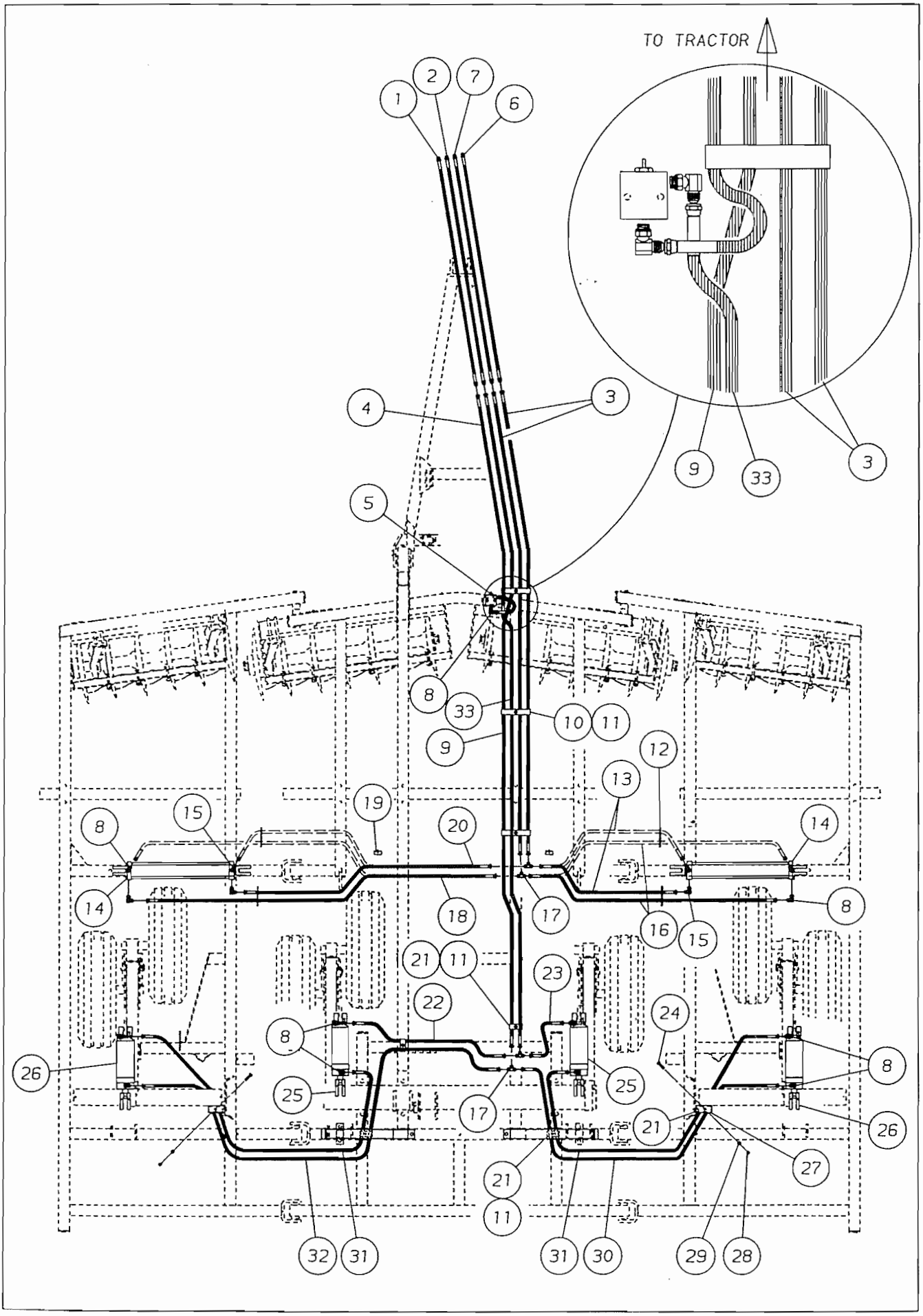
This page intentionally left blank.

DEPTH VALVE ASSEMBLY



FOR MODELS – ALL 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	61–217	3/8" DIA. U–Bolt (Models 6318 through 6331)	1
2	3112–105–0	Actuator Arm (Models 6318 through 6331)	1
3	74–348	Decal – WARNING	1
4	64–104	3/8" STD. Flat Washer	2
5	62–562	3/8NC x 4–1/2" Cap Screw	2
6	60–211	1/2" DIA. x 1–1/2" Clevis Pin	1
7	60–632	5/32" DIA. x 3/4" Roll Pin	1
8	6127–107–0	Linkage Weldment	1
9	3112–91–0A	Striker Assembly	1
10	3112–92–0A	Striker Weldment	1
11	60–602	3/16" DIA. x 1" Roll Pin	1
12	76–102	Spring	1
13	60–126	1/2" DIA. x 2–1/4" Headed Pin	1
14	99–165	Fluted Plastic Knob	1
15	3112–69–2	Bolt Strap	1
16	25–297	Depth Valve Assembly	1
17	63–134	3/8NC Nylon–Top Lock Nut	4
18	3112–69–1	Spacer	2
19	60–704	3/16" DIA. x 2" Cotter Pin	1
20	22–472	Retainer Assembly	1
21	22–329	O–Ring	1
22	22–240	Plunger	1
23	3112–69–3	Decal Plate	1

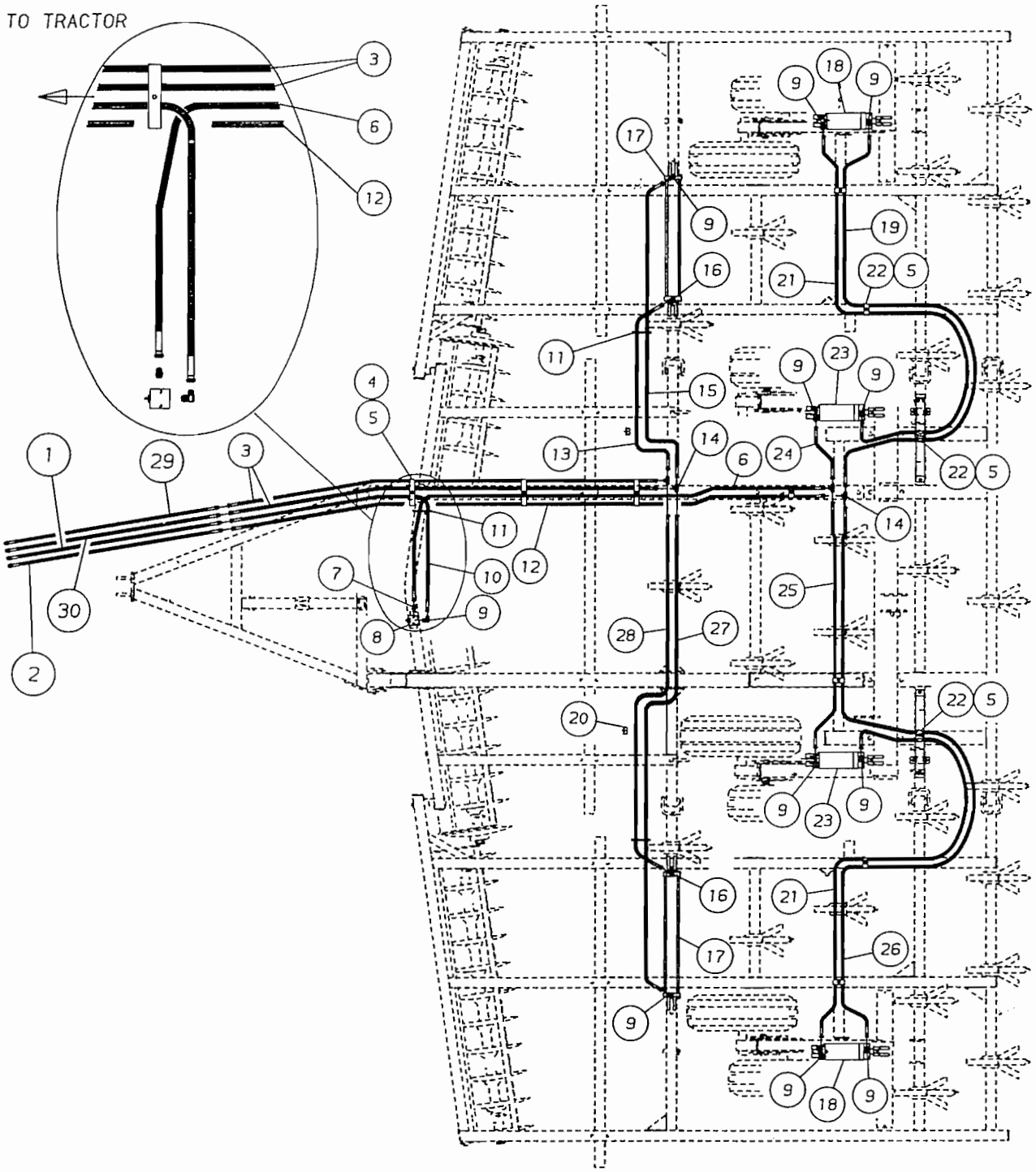

TO TRACTOR
1
2
7
6
4
3
5
8
33
10
11
9
12
13
19
15
20
14
8
14
18
17
16
15
8
21
11
23
22
24
8
26
25
25
8
17
21
26
27
21
11
32
31
31
30
29
28

HYDRAULIC HOSE GROUP

FOR MODELS – 6324 12/94

Item	Part Number	Part Description	Qty.
1	• 4990–75–0	Hose 1/2" DIA. x 92" 100R2 with Red/Red Grip	1
2	• 4990–76–0	Hose 1/2" DIA. x 92" 100R2 with Yellow/Yellow Grip	1
3	24–222	Hose 3/8" DIA. x 125"	2
4	24–353	Hose 1/2" DIA. x 65"	1
5	25–297	Depth Valve Assembly	1
6	• 4990–77–0	Hose 3/8" DIA. x 92" 100R2 with Red/Black Grip	1
7	• 4990–78–0	Hose 3/8" DIA. x 92" 100R2 with Yellow/Black Grip	1
8	25–301	O–Ring 37° Flare 90° Adapter	12
9	24–307	Hose 1/2" DIA. x 172"	1
10	6118–0–3	Hose Clamp	3
11	62–115	3/8NC x 1–3/4" Thread Cutting Screw	★9/11■
12	25–128	Hose Wraplock (Use where required)	
13	24–206	Hose 3/8" DIA. x 57"	1
14	21–117	4" x 32" Prince Hydraulic Cylinder Assembly	2
15	4956–75–0	O–Ring 37° Flare 90° Restrictor Assembly w/Tag	2
16	24–214	Hose 3/8" DIA. x 89"	1
17	25–303	37° Flare Male Tee	4
18	24–291	Hose 3/8" DIA. x 120"	1
19	3127–83–1	Hose Clamp	2
20	24–213	Hose 3/8" DIA. x 86"	1
21	3514–0–2	Hose Clamp	★6/8■
22	24–206	Hose 3/8" DIA. x 57"	1
23	24–200	Hose 3/8" DIA. x 24"	1
24	62–343	1/2NC x 2" GD. 5 Cap Screw	2
25	22–109	Eaton 4" x 10" Series Hydraulic Cylinder Assembly	2
26	22–108	Eaton 3–3/4" x 10" Series Hydraulic Cylinder Assembly	2
27			
28	63–106	1/2NC Hex Nut	2
29	64–107	1/2" STD. Lock Washer	2
30	24–241	Hose 3/8" DIA. x 154"	1
31	24–225	Hose 3/8" DIA. x 140"	2
32	24–233	Hose 3/8" DIA. x 184"	1
33	24–369	Hose 1/2" DIA. x 125"	1

• See page P48 for parts listing


TO TRACTOR
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

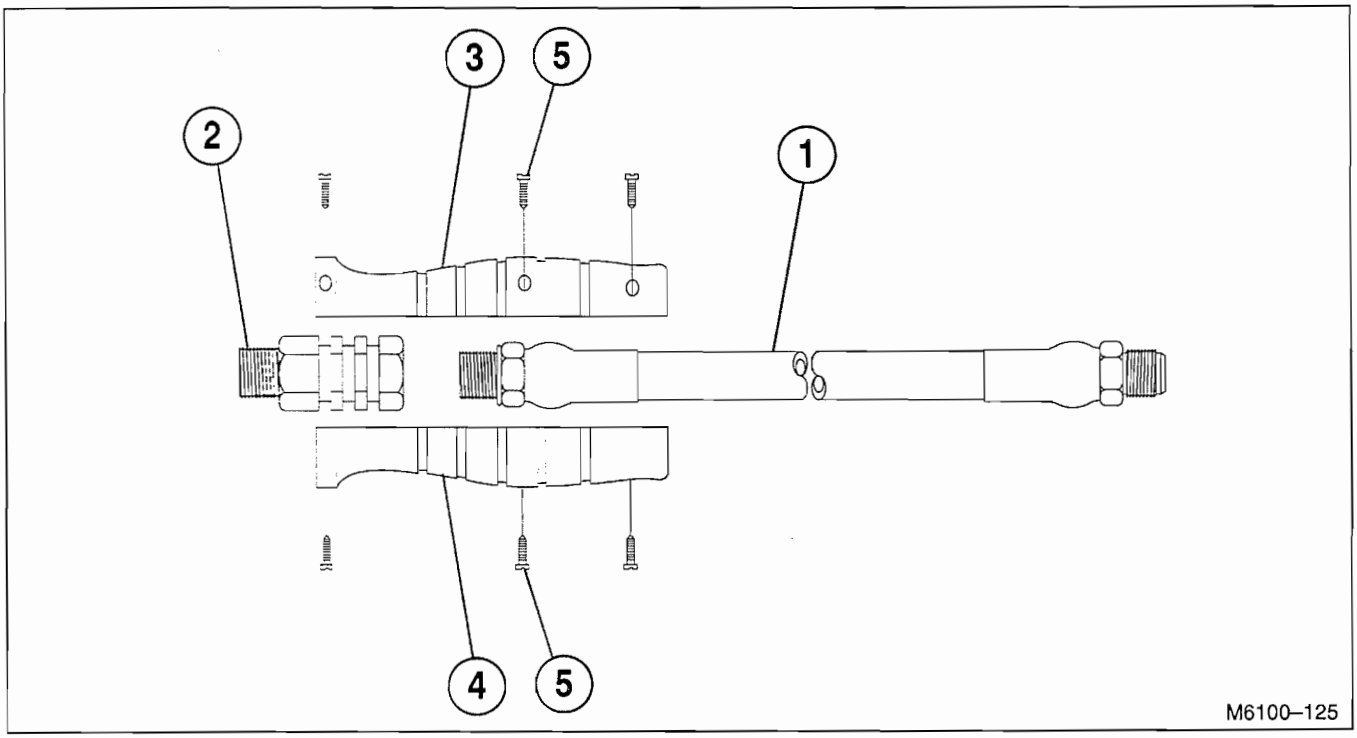
HYDRAULIC HOSE GROUP

FOR MODELS – 6327, 6331 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	• 4990–75–0	Hose 1/2" DIA. x 92" 100R2 with Red/Red Grip	1
2	• 4990–76–0	Hose 1/2" DIA. x 92" 100R2 with Yellow/Yellow Grip	1
3	24–265	Hose 3/8" DIA. x 135"	2
4	2426–170–5	Hose Clamp	3
5	62–115	3/8NC x 1–3/4" Thread Cutting Screw	11
6	24–329	Hose 1/2" DIA. x 157"	1
7	25–300	O–Ring 37° Flare Adapter	1
8	25–297	Depth Valve Assembly	1
9	25–301	O–Ring 37° Flare 90° Elbow	11
10	24–340	Hose 1/2" DIA. x 107"	1
11	25–126	Panduit Stay Strap	Spec.
12	24–333	Hose 1/2" DIA. x 186"	1
13	24–244	Hose 3/8" DIA. x 61"	1
14	25–303	O–Ring 37° Flare Male Tee	4
15	24–258	Hose 3/8" DIA. x 94"	1
16	4956–75–0	O–Ring 37° Flare 90° Restrictor Assembly w/Tag	2
17	21–117	4" x 32" Prince Hydraulic Cylinder Assembly	2
18	22–108	Eaton 3–3/4" x 10" Series Hydraulic Cylinder Assembly	2
19	24–229	Hose 3/8" x 157"	1
20	3127–83–1	Hose Clamp	2
21	24–225	Hose 3/8" DIA. x 140"	2
22	3514–0–2	Hose Clamp	8
23	22–109	Eaton 4" x 10" Series Hydraulic Cylinder Assembly	2
24	24–268	Hose 3/8" DIA. x 27"	1
25	24–212	Hose 3/8" DIA. x 79"	1
26	24–248	Hose 3/8" DIA. x 214"	1
27	24–228	Hose 3/8" DIA. x 149"	1
28	24–221	Hose 3/8" DIA. x 116"	1
29	• 4990–77–0	Hose 3/8" DIA. x 92" 100R2 with Red/Black Grip	1
30	• 4990–78–0	Hose 3/8" DIA. x 92" 100R2 with Yellow/Black Grip	1

• See page P38 for parts listing

HYDRAULIC HOSE WITH PLASTIC GRIP ASSEMBLIES

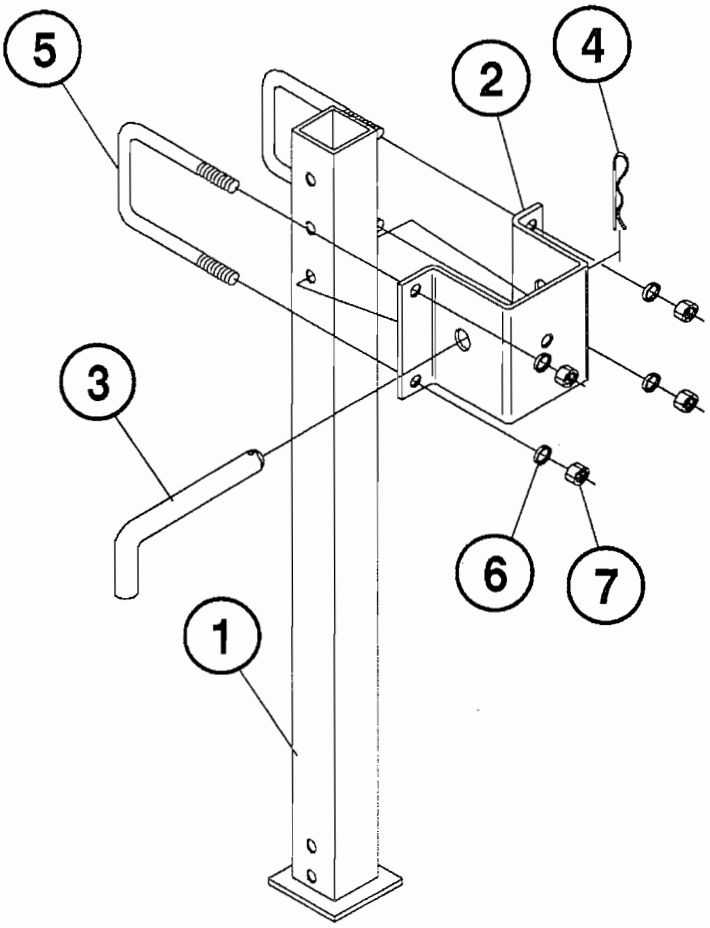


FOR MODELS – ALL

12/93

Item	*Part Number*	*Part Description*	*Qty.*
	4990–75–0	Hose 1/2" DIA. x 92" 100R2 with Red/Red Grip Assembly	1
1	24–330	1/2" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25–2295	3/4"ORB to 1/2"NPT Hydraulic Fitting	1
3	25–2289	Hose Grip Half – Red	1
4	25–2289	Hose Grip Half – Red	1
5	62–656	Screw	6
	4990–76–0	Hose 1/2" DIA. x 92" 100R2 with Yellow/Yellow Grip Assembly	1
1	24–330	1/2" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25–2295	3/4" ORB to 1/2"NPT Hydraulic Fitting	1
3	25–2290	Hose Grip Half – Yellow	1
4	25–2290	Hose grip Half – Yellow	1
5	62–656	Screw	6
	4990–77–0	Hose 1/2" DIA. x 92" 100R2 with Red/Black Grip Assembly	1
1	24–330	1/2" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25–2295	3/4" ORB to 1/2"NPT Hydraulic Fitting	1
3	25–2289	Hose Grip Half – Red	1
4	25–2291	Hose Grip Half – Black	1
5	62–656	Screw	6
	4990–78–0	Hose 1/2" DIA. x 92" 100R2 with Yellow/Black Grip Assembly	1
1	24–330	1/2" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25–2295	3/4" ORB to 1/2"NPT Hydraulic Fitting	1
3	25–2290	Hose Grip Half – Yellow	1
4	25–2291	Hose Grip Half – Black	1
5	62–656	Screw	6

REAR JACK MOUNTING



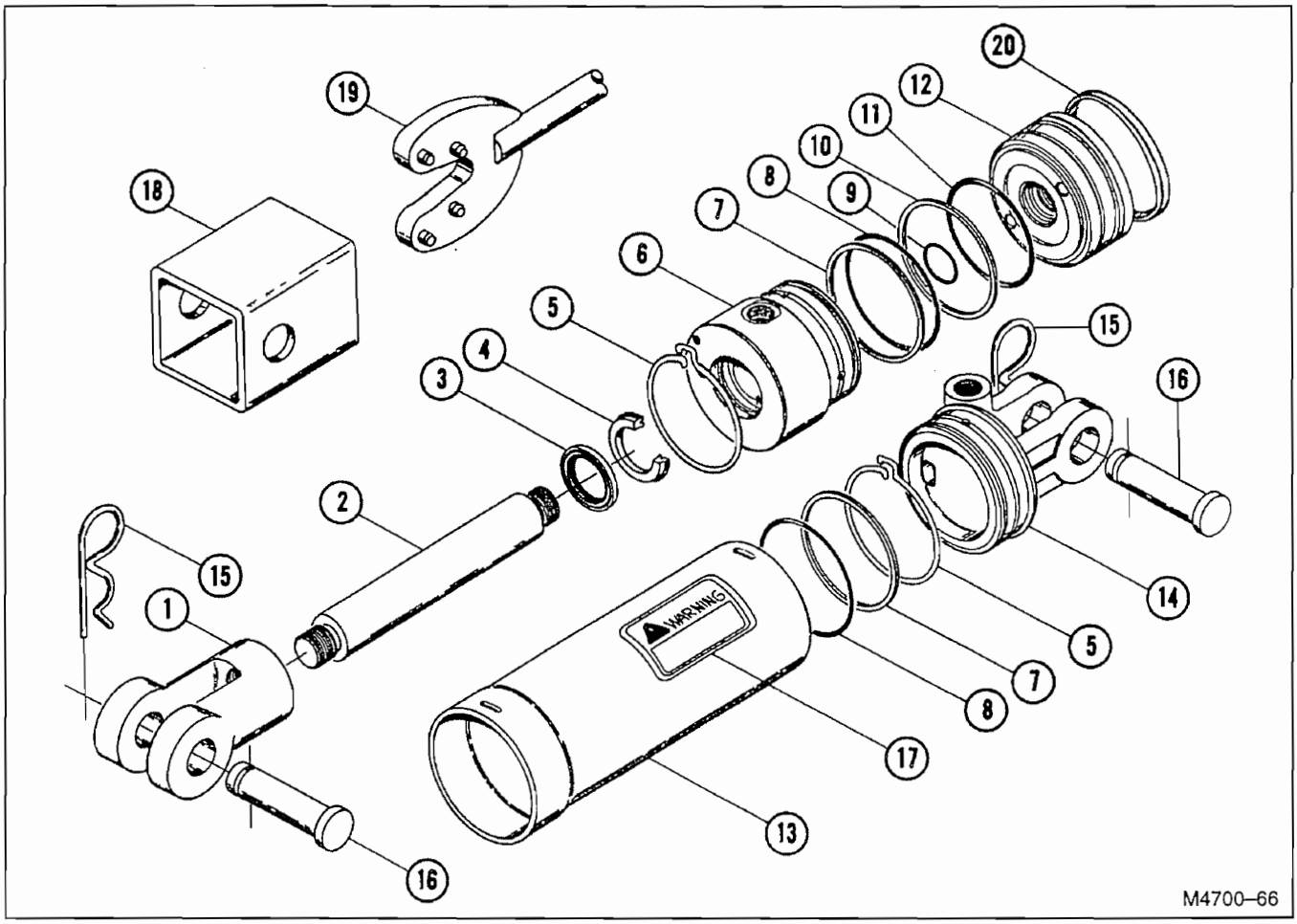
M6100–59

FOR MODELS – ALL

12/92

Item	*Part Number*	*Part Description*	*Qty.*
1	4218–27–0	Stand Weldment	2
2	4218–0–5	Stand Bracket	2
3	4600–0–28	Stand Pin	2
4	60–716	#3 Hair Pin Cotter	2
5	61–160	1/2" DIA. U–Bolt	4
6	64–107	1/2" STD. Lock Washer	8
7	63–106	1/2NC Hex Nut	8

EATON HYDRAULIC CYLINDER

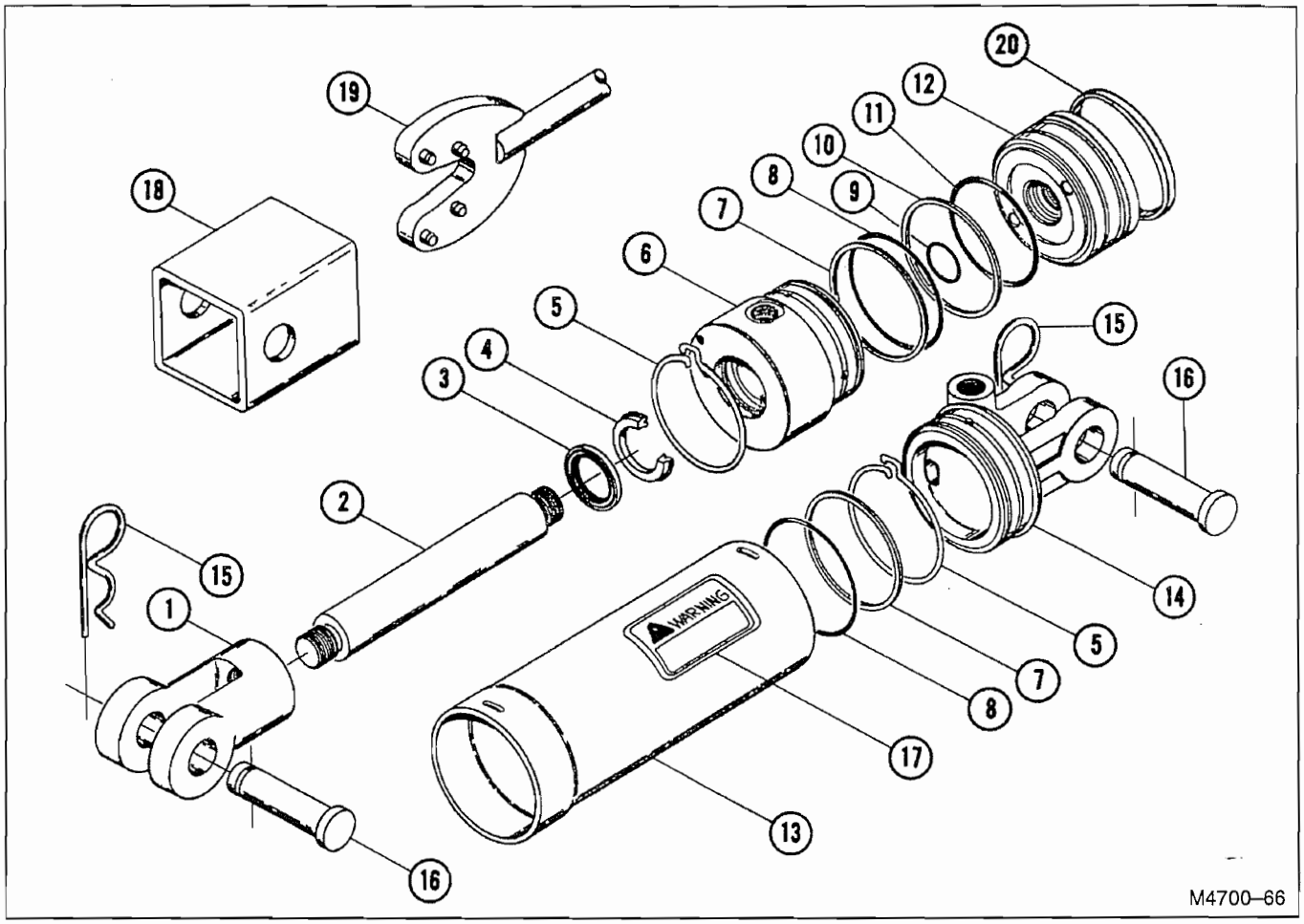


22–109 4" X 10" EATON HYDRAULIC CYLINDER ASSEMBLY 12/92

Retracted – 22–1/4" Stroke – 10" Extended – 32–1/4" Rod – 1–3/8"

Item	*Part Number*	*Part Description*	*Qty.*
1	22–521	Rod End	1
2	22–526	Piston Rod	1
3	★ 22–276	Wiper Seal	1
4	★ 22–516	Rod Seal	1
5	★ 22–498	Lock Ring	2
6	22–522	Bearing	1
7	★ 22–215	Back–Up Ring	2
8	★ 22–213	O–Ring	2
9	★ 22–282	O–Ring	1
10	★ 22–291	Slipper Ring	1
11	★ 22–214	O–RIng	1
12	22–518	Piston	1
13	22–525	Barrel	1
14	22–517	Head	1
15	22–234	Spring Lock Pin	2
16	22–508	U–Set Clevis Pin	2
17	74–113	Cylinder Warning Decal	1
	• 22–444	Seal Kit (★ Items Included in Kit)	
	• 4901–79–0	Cessna Cylinder Tool Kit (For Repairs ONLY)	1
18		Clevis Stop	1
19		Spanner Wrench	1
20	22–383	Wear Ring	1
	• Not included in Hydraulic Cylinder Assembly		

EATON HYDRAULIC CYLINDER

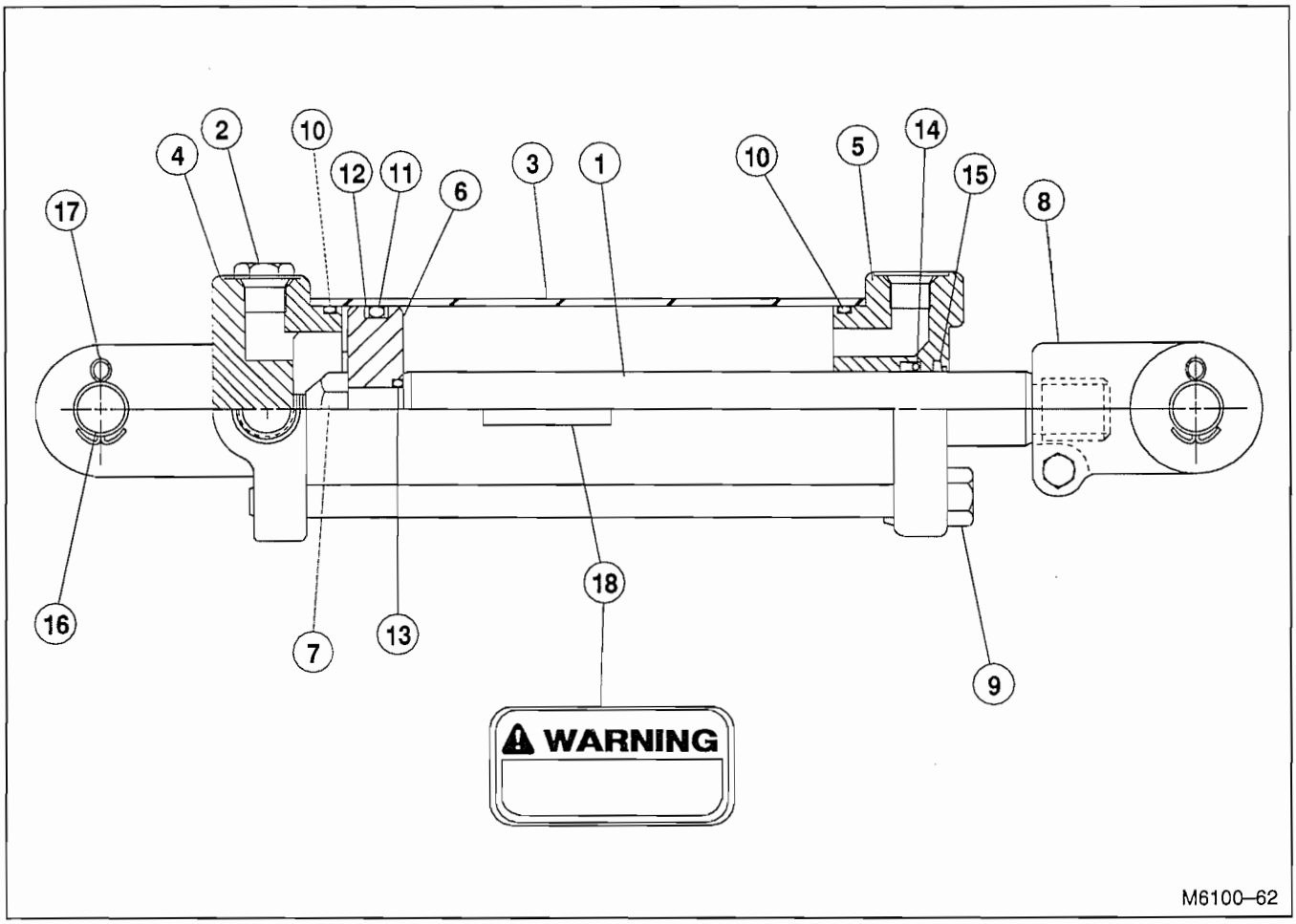


22–108 3–3/4" X 10" EATON HYDRAULIC CYLINDER ASSEMBLY 12/92

Retracted – 22–1/4" Stroke – 10" Extended – 32–1/4" Rod – 1–3/8"

Item	*Part Number*	*Part Description*	*Qty.*
1	22–513	Rod End	1
2	22–524	Piston Rod	1
3	★ 22–276	Wiper Seal	1
4	★ 22–516	Rod Seal	1
5	★ 22–515	Lock Ring	2
6	22–514	Bearing	1
7	★ 22–280	Back–Up Ring	2
8	★ 22–281	O–Ring	2
9	★ 22–282	O–Ring	1
10	★ 22–283	Slipper Ring	1
11	★ 22–284	O–RIng	1
12	22–510	Piston	1
13	22–523	Barrel	1
14	22–509	Head	1
15	22–234	Spring Lock Pin	2
16	22–508	U–Set Clevis Pin	2
17	74–113	Cylinder Warning Decal	1
	• 22–441	Seal Kit (★ Items Included in Kit)	
	• 4901–79–0	Cessna Cylinder Tool Kit (For Repairs ONLY)	1
18		Clevis Stop	1
19		Spanner Wrench	1
20	22–440	Wear Ring	1
	• Not included in Hydraulic Cylinder Assembly		

PRINCE HYDRAULIC CYLINDER

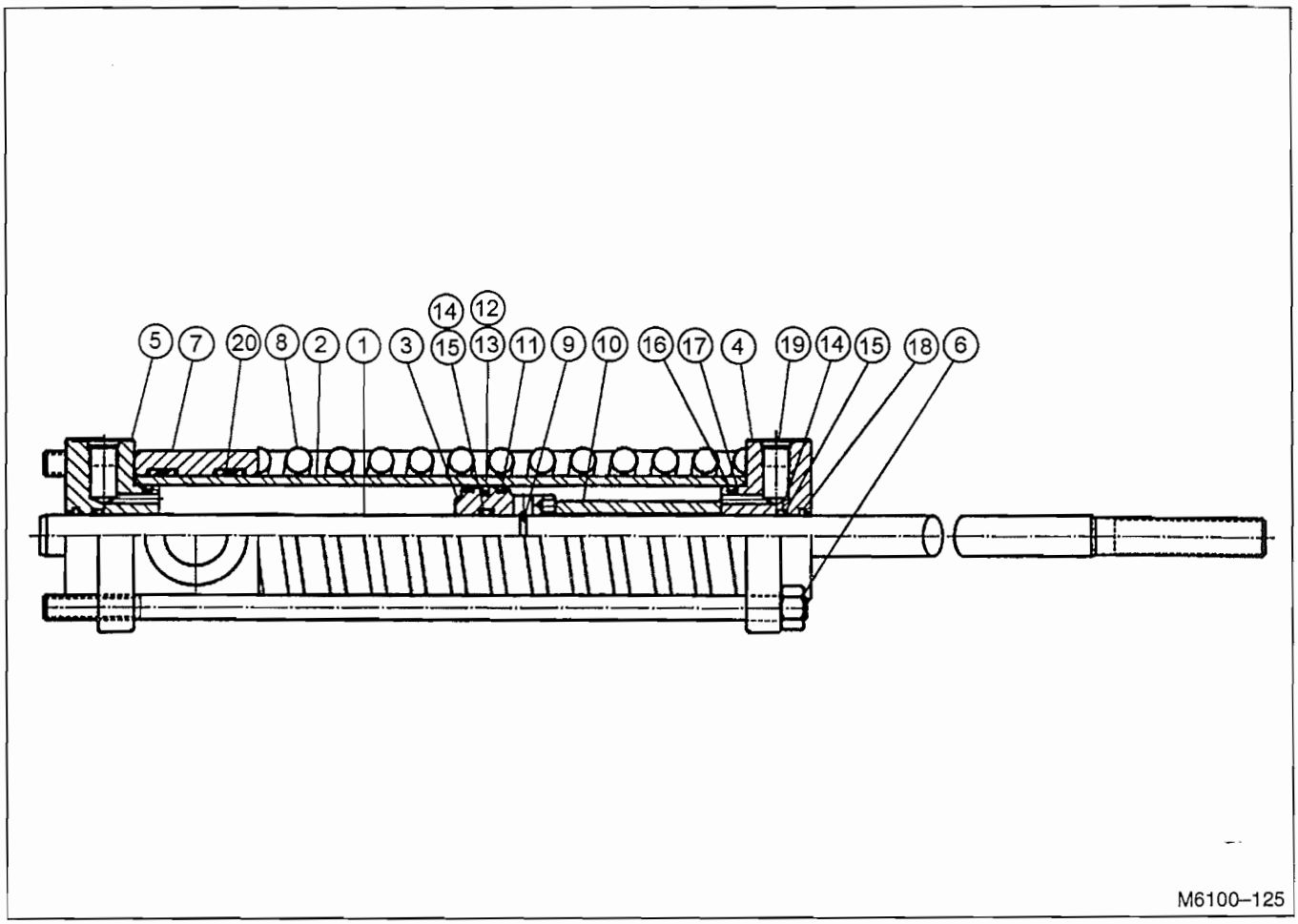


21–117 4" X 32" PRINCE HYDRAULIC CYLINDER ASSEMBLY 6/90

Retracted – 42–3/4" Stroke – 32" Extended – 74–3/4" Rod – 1–1/2"

Item	*Part Number*	*Part Description*	*Qty.*
1	21–265	Piston Rod	1
2	21–404	#8 SAE Plug	1
3	21–266	Tube	1
4	21–283	Butt	1
5	21–223	Gland	1
6	21–224	Piston	1
7	21–225	Lock Nut	1
8	21–509	Clevis Assembly	1
9	21–526	Tie Rod	4
10	★ 21–289	O–Ring	2
11	★ 21–290	O–Ring	1
12	★ 21–291	Back–Up Washer	2
13	★ 21–228	O–Ring	1
14	★ 21–350	U–Cup	1
15	★ 21–231	Wiper	1
16	21–741	Clevis Pin	2
17	21–639	Cotter Pin	4
18	74–113	Cylinder Warning Decal	1
	• 21–232	Seal Kit (★ Items Included in Kit)	
	• Not included in Hydraulic Cylinder Assembly		

PRINCE HYDRAULIC CYLINDER ASSEMBLY

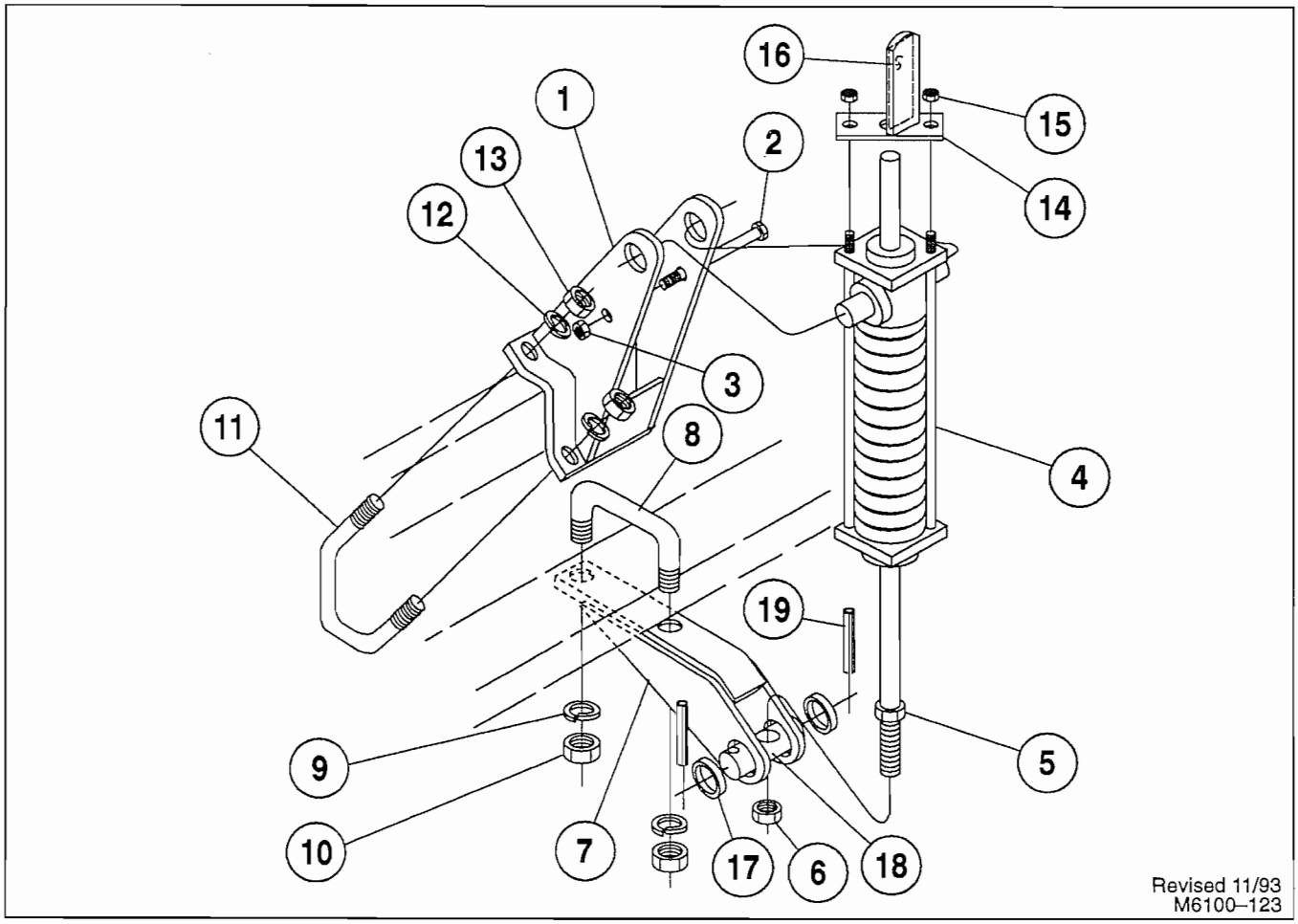


21–166 2" X 5–7/8" PRINCE HYDRAULIC CYLINDER ASSEMBLY 11/93

Stroke – 5–7/8" Rod – 13/16"

Item	*Part Number*	*Part Description*	*Qty.*
1	21–285	Piston Rod	1
2	21–833	Tube	1
3			
4	21–835	Gland	1
5	21–836	Gland	1
6	21–837	Tie Rod	4
7	6100–0–1	Trunnion Casting	1
8	76–201	Spring	1
9			
10	21–841	Spacer	1
11	★ 21–842	Bearing Ring	2
12	★ 21–843	Teflon Seal	1
13	★ 21–844	O–Ring	1
14			
15			
16	★ 21–675	O–Ring	2
17	★ 21–677	Back–Up Washer	2
18	★ 21–847	Wiper	2
19	21–848	ORB Plug	2
20	21–855	Bearing Ring	2
	• 21–821	Seal Kit (★ Items Included in Kit)	
	• Not included in Hydraulic Cylinder Assembly		

CYLINDER SUPPORT ASSEMBLY



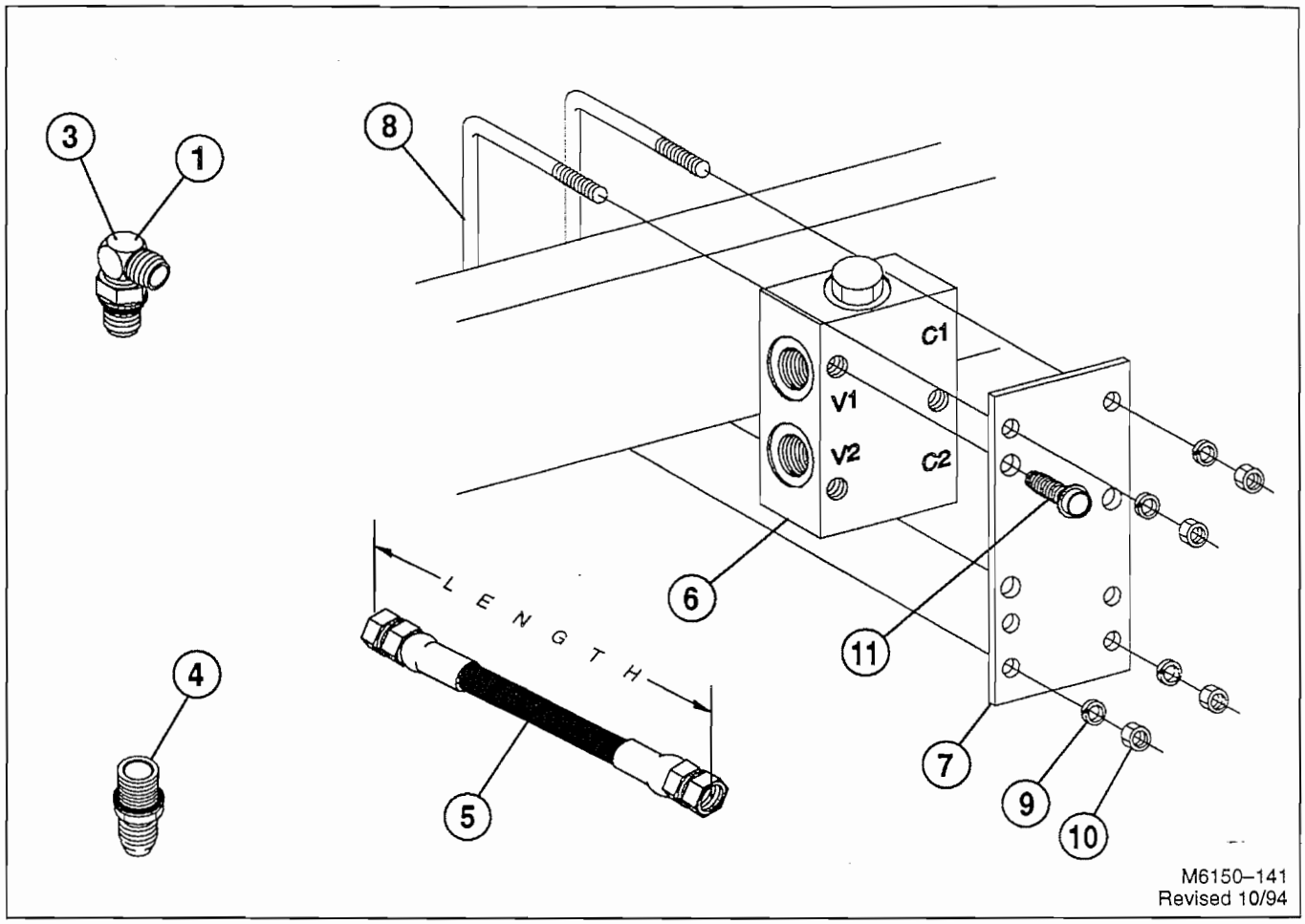
Revised 11/93
M6100–123

FOR MODELS – ALL

11/93

Item	*Part Number*	*Part Description*	*Qty.*
	6127–210–0A	Cylinder Support Assembly	1
1	6127–212–0	Cylinder Support Weldment	1
2	62–562	3/8NC x 4–1/2" GD. 5 Cap Screw	1
3	63–134	3/8NC Self Locking Nut	1
4	21–166	Hydraulic Cylinder Assembly	1
5	63–230	3/4NF Hex Jam Nut	1
6	63–234	3/4NF Hex Lock Nut	1
7	6127–94–0A	Arm Weldment	1
8	★ 61–143	3/4" DIA. U–Bolt	1
9	★ 64–112	3/4" STD. Lock Washer	2
10	★ 63–112	3/4NC Hex Nut	2
11	★ 61–228	5/8" DIA. U–Bolt	2
12	★ 64–109	5/8" STD. Lock Washer	4
13	★ 63–109	5/8NC Hex Nut	4
14	★ 6100–208–0	Depth Gauge Weldment	1
15	★ 63–235	1/2NF Hex Jam Nut	2
16	★ 74–391	Decal – Depth Gauge	1
17	53–142	Bushing (Included in Item 7 Arm Weldment)	2
18	6127–210–1	Trunnion	1
19	60–608	1/4" DIA. x 2–1/2" Roll Pin	2
	★ Not part of Cylinder Support Assembly		

HYDRAULIC HOSE & FITTINGS



M6150–141
Revised 10/94

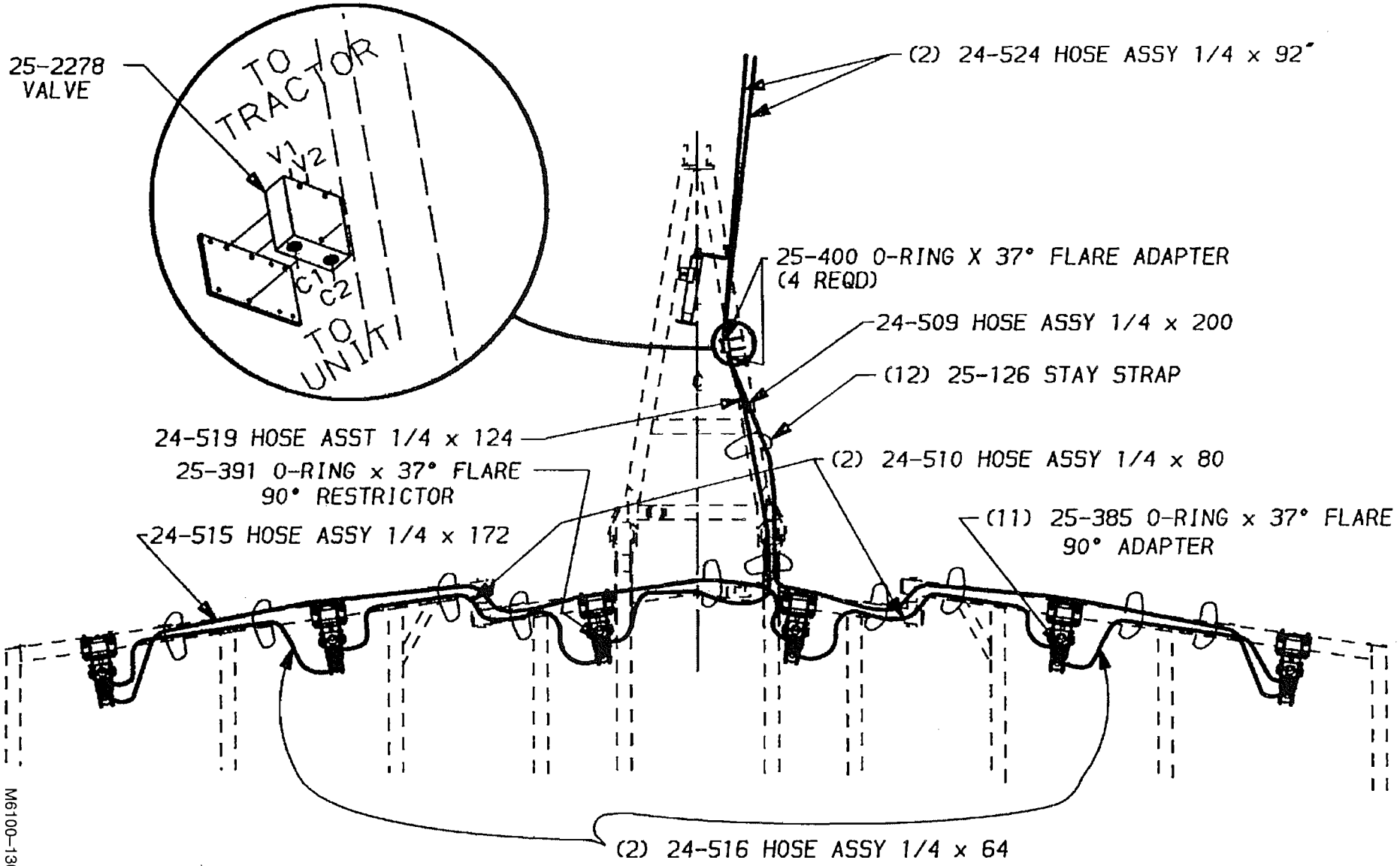
FOR MODELS – With Hydraulic Disc Gangs 10/94

Item	*Part Number*	*Part Description*	*Qty.*
1	25–385	9/16"O–Ring (Male) – 1/2"JIC (Male) 90° Fitting	1
2			
3	25–391	9/16"O–Ring (Male)–1/2"JIC (Male) 90° Restrictor Fitting	1
4	25–400	9/16" (Male) O–Ring – 1/2 (Male) JIC Hydraulic Fitting	4
5	24–505	1/4" x 72" JIC Hose Assembly	
	24–508	1/4" x 30" JIC Hose Assembly	
	24–509	1/4" x 200" JIC Hose Assembly	
	24–511	1/4" x 100" JIC Hose Assembly	
	24–512	1/4" x 208" JIC Hose Assembly	
	24–515	1/4" x 172" JIC Hose Assembly	
	24–516	1/4" x 64" JIC Hose Assembly	
	24–519	1/4" x 124" JIC Hose Assembly	
	24–522	1/4" x 46" JIC Hose Assembly	
	24–524	1/4" x 92" (Female)JIC–NPT Hose	

Item	*Part Number*	*Part Description*	*Qty.*
6	25–2278	Valve	1
7	6118–0–6	Plate	1
8	61–250	U–Bolt (Models 6158–6164)	2
	61–251	U–Bolt (Models 6167–6171)	2
9	64–100	1/4" STD. Lock Washer	4
10	63–100	1/4NC Hex Nut	4
11	62–510	5/16NC Self Threading Bolt	3

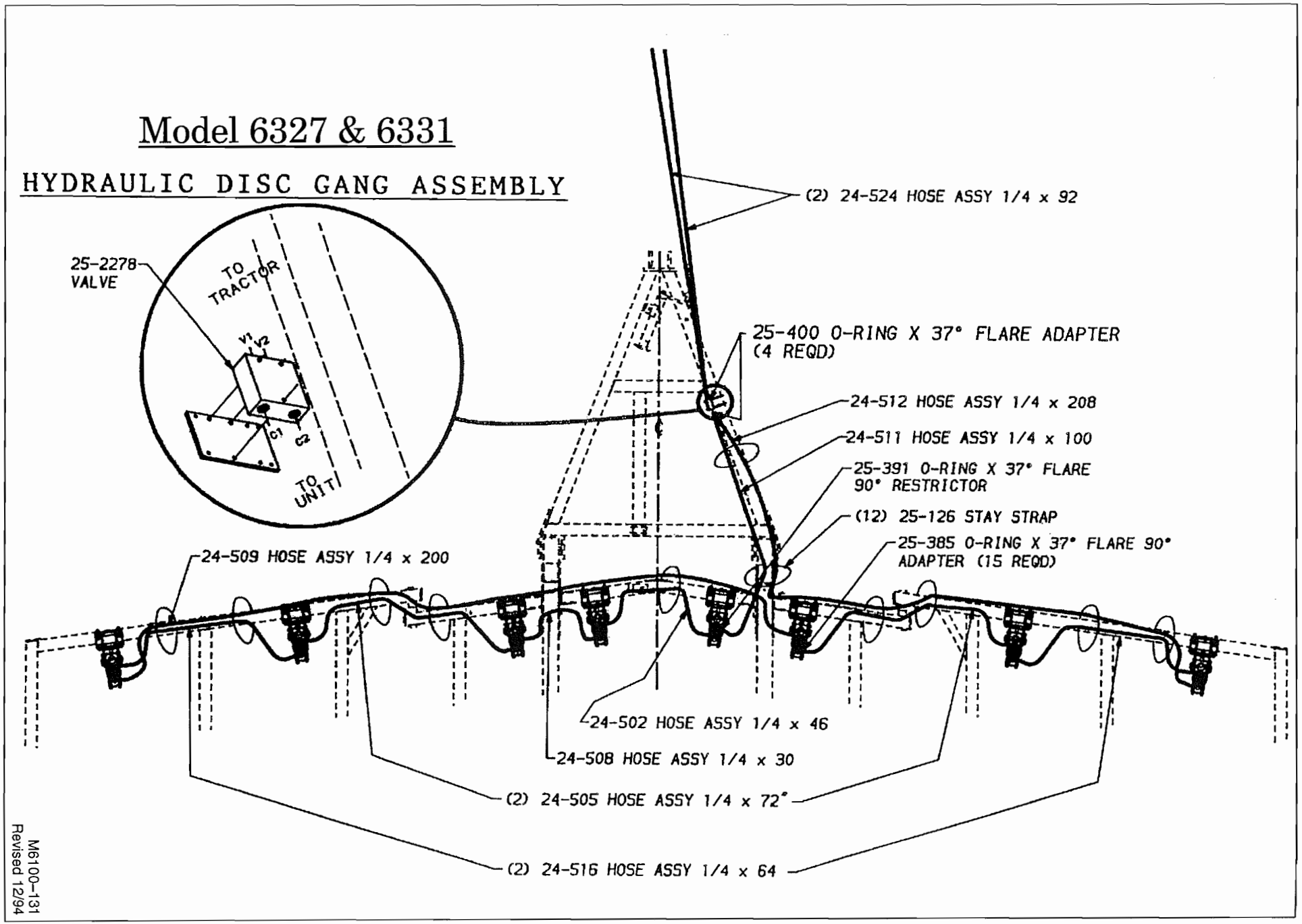
Model 6324

HYDRAULIC DISC GANG ASSEMBLY



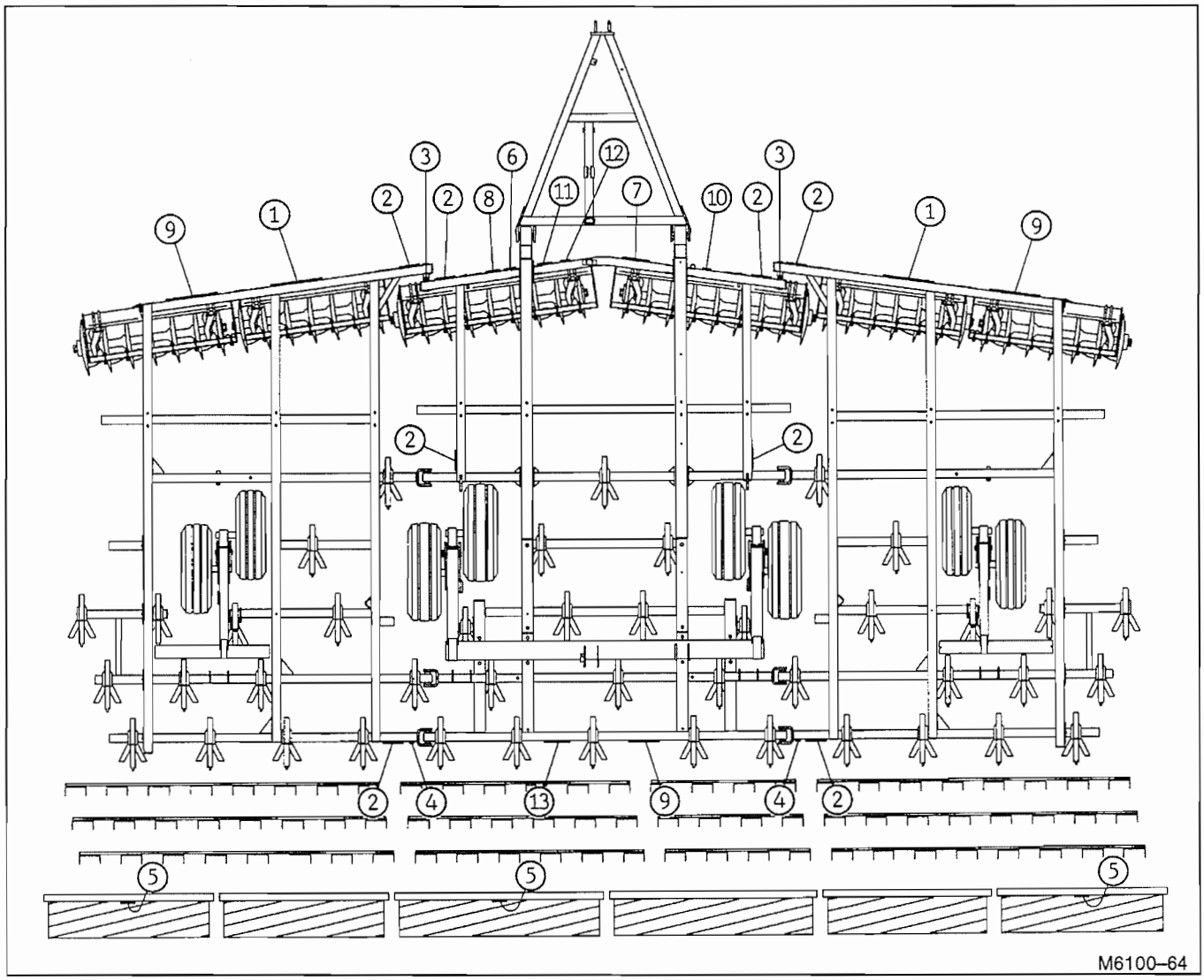
Model 6327 & 6331

HYDRAULIC DISC GANG ASSEMBLY



M6100-131
Revised 12/94

DECALS & REFLECTORS



FOR MODELS – ALL 12/94

Item	*Part Number*	*Part Description*	*Qty.*
1	74–100	Krause Decal (Large)	1
2	74–102	Stand Clear of Wing Decal	8
3	74–107	Amber Reflector	2
4	74–108	Red Reflector	2
5	74–110	Krause Decal (Small)	3
6	74–115	Name Plate	1
7	74–117	Implement Safety Decal	1
8	74–121	Width / Height Decal	1
9	74–426	Landstar Decal	3
10	74–424	XT270 Shank Decal	1
11	74–276	Warning – Hydraulic Safety Decal	1
12	74–348	Pinch Point Decal	1
13	74–424	6300 Series Decal	1

ASSEMBLY SECTION

THE FOLLOWING SECTION ILLUSTRATES A GENERAL METHOD FOR THE ASSEMBLY OF THIS SERIES KRAUSE TILLAGE TOOL. YOU MUST KNOW THE MODEL NUMBER OF THE UNIT BEING ASSEMBLED WHENEVER MAKING REFERENCE TO THIS SECTION. THE FOLLOWING PICTURES AND DRAWINGS WILL SHOW BOLTS, PINS, NUTS AND ETC., WITH THE DESCRIPTIVE SIZE AND LENGTHS IN THE ACCOMPANYING PARAGRAPH AND A PARTS LISTING REFERENCE PAGE NUMBER. IF ANY DIFFICULTY SHOULD BE ENCOUNTERED DURING THE ASSEMBLY, RECHECK THE ILLUSTRATIONS, ASSEMBLY STEPS AND PARTS LIST DRAWINGS.

PROPER BOLT USE

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

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

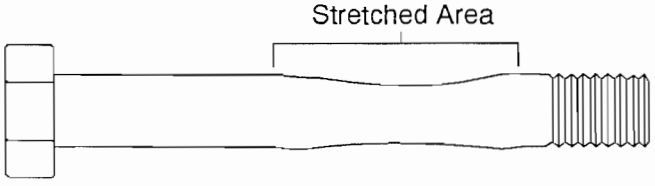
Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Tighten plastic insert or crimped steel–type lock nuts to approximately 110 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated–type lock nuts to the full torque value.

NOTE: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

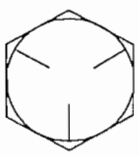
BOLT SIZE	BLACK OR PLATED BOLTS		OILED BOLTS	
	GRADE 2	GRADE 5	GRADE 2	GRADE 5
3/8"	20	33	16	26
7/16"	32	52	26	41
1/2"	50	80	39	63
5/8"	100	160	78	125
3/4"	175	280	140	225
7/8"	175	450	140	360
1"	270	675	210	540
1–1/8"	375	850	300	675
1–1/4"	530	1200	425	950
1–1/2"	930	1400	725	1250

TIE ROD TIGHTENING TORQUE	
1–1/2" Dia. Rods	1000 Ft. Lbs.
1–3/4" Dia. Rods	1400 Ft. Lbs.
2" Dia. Rods	1600 Ft. Lbs.



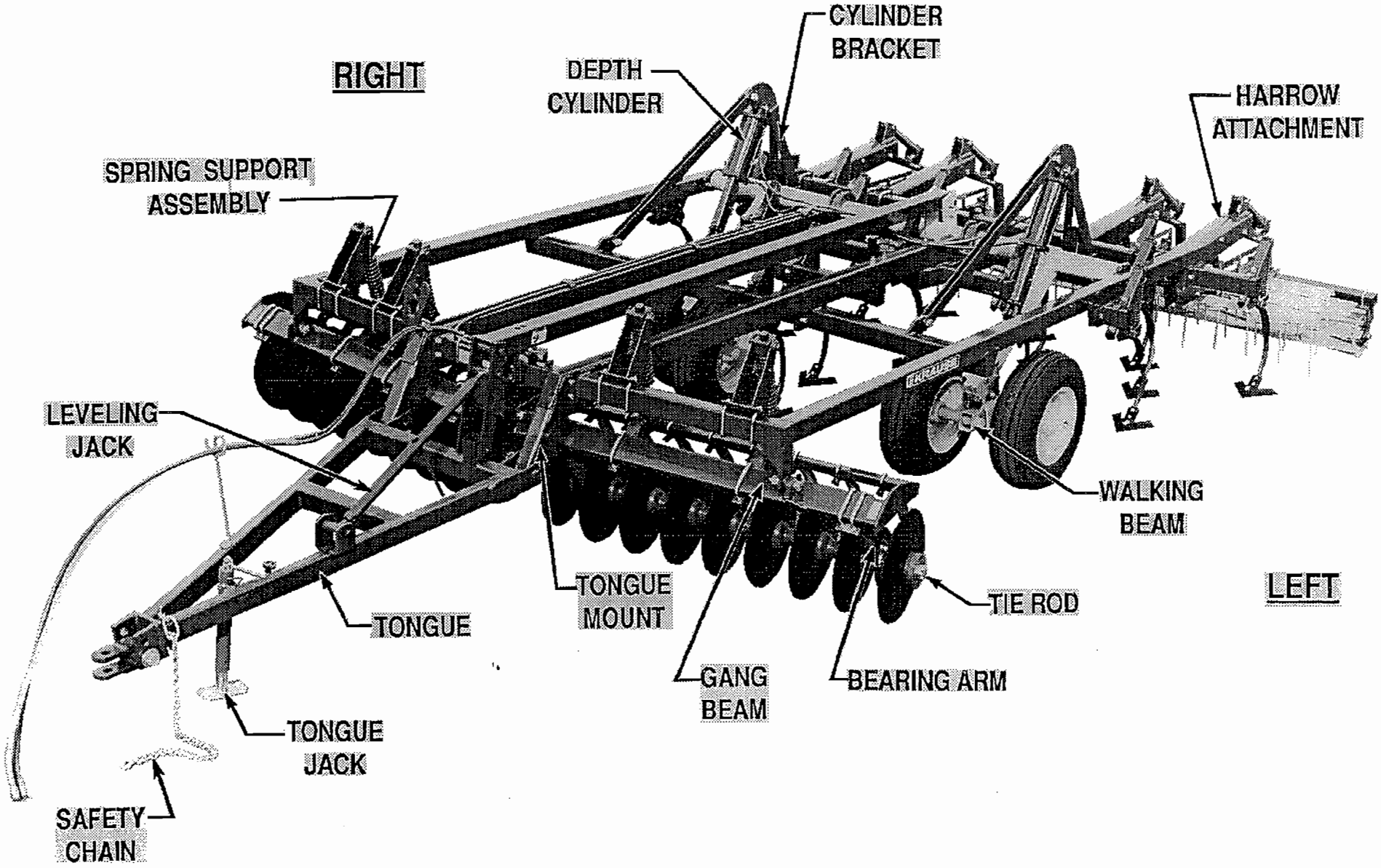
Over Torqued Bolt

SAE GRADE 2



SAE GRADE 5

Notes


RIGHT
CYLINDER BRACKET
DEPTH CYLINDER
HARROW ATTACHMENT
SPRING SUPPORT ASSEMBLY
LEVELING JACK
WALKING BEAM
TONGUE MOUNT
LEFT
TONGUE
TIE ROD
GANG BEAM
BEARING ARM
TONGUE JACK
SAFETY CHAIN

ASSEMBLY INSTRUCTIONS

STUDY NAMES AND LOCATIONS OF THE PARTS AND FAMILIARIZE YOURSELF WITH THE LANDSTAR BEFORE STARTING THE ASSEMBLY. READING THE STEP–BY–STEP INSTRUCTIONS THAT FOLLOW WILL BE HELPFUL.

SAFETY

READ ALL OF THE SAFETY NOTATIONS IN THE ASSEMBLY INSTRUCTIONS FOR YOUR PROTECTION. ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE CAUSE OF AN ACCIDENT BEFORE IT CAN HAPPEN.

ASSEMBLY AREA

Select an area for assembly that will be large enough to accommodate the completed implement. The surface of the work area should be as level as possible. Leave room in front of the Landstar to hook up to a tractor to charge the hydraulic system and fold the unit. Use the proper hand tools to insure proper bolt tightness. Refer to the page titled "Proper Bolt Use" for the recommended torque values for different size bolts. Weights of major parts are MAIN FRAMES – 1,600 LBS.; MAIN ROCKER SHAFT – 410 LBS., TONGUE – 330 LBS.; therefore, stands will have to support the combined weight of 2,500 Lbs. Make sure that the chains and handling equipment are adequate for this weight.

PART LOCATIONS

FRONT – the front of the frame can be determined by the location of the name plate that has been attached to the front frame member.

RIGHT and LEFT sides can be established by standing behind the frame and looking toward the front, or the direction of travel.

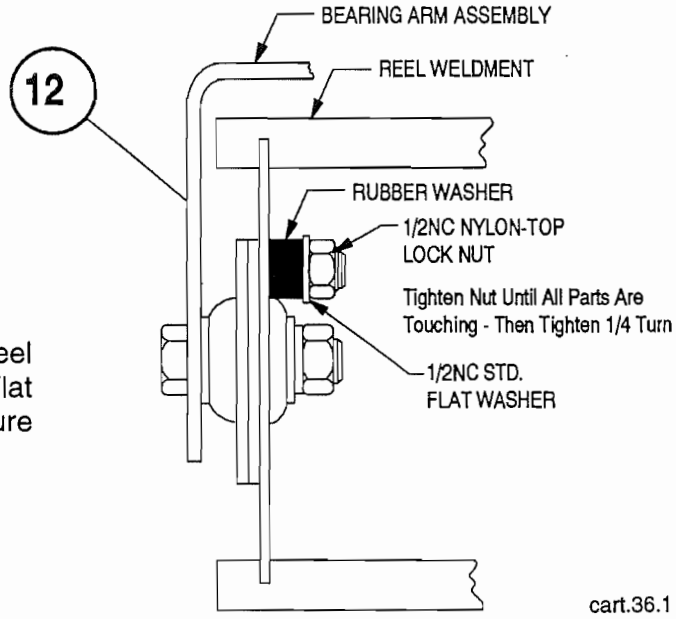
TOP – To be sure that the frame is right side up, position the front hitch members of the frame pointing **down**.

ASSEMBLY STEPS

Assemble the Landstar following the steps shown in this section. Each step for part attachment is reflected by a matching number on the accompanying drawing or photograph.

Example:

Mount Bearing Arm **12** to each end of the Reel Assembly. Assemble with 1/2NC Hex Nuts, Flat Washers, and Rubber Bushings. Make sure bearing grease zerk is in cut–out provided.



cart.36.1

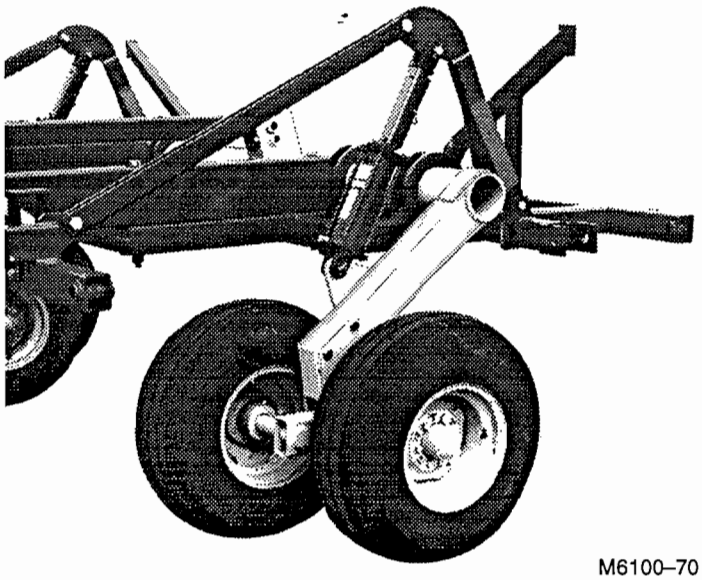
MODEL NUMBER

Know the model number of the Landstar being assembled. Use this model number whenever referring to the assembly, parts listing pages or placement pages. The number is stamped on the Name Plate which is located on the front frame member.

Refer to the Parts Illustration to identify the parts during the assembly procedure. Read each step through before beginning the actual assembly process.

I. CENTER FRAME ASSEMBLY

1. Model 6324 — refer to illustration on page P4. Place the center frame on suitable stands, 40" high. The tongue mounts should point down.
   - A. Bolt (2) CYLINDER BRACKET LINKS **23** to frame and cylinder bracket with 1NC x 3" Bolts, Lock Washers and Hex Nuts.
   - B. Pin (2) 4" x 10" cylinders, 22–109, to the cylinder bracket and rocker lugs. The cylinder rod end should point up. Loosen both port plugs to allow cylinders to extend.
   - C. Pin a ROAD LOCK **26** over each extended cylinder rod.
   - D. Place LEVELER LINKAGE **1** on top of center frame. Place end of linkage between lugs on rocker and fasten with TWO 1NC Bolts and Wear Bushings.
   - E. Follow Step II.
2. Models 6327, 6331 — refer to the illustration on page P6. Place the REAR FRAME **3** on suitable stands 40" high. The lugs should be on the top side and the wing hinges to the rear.
   - A. Place the RIGHT **1** and LEFT **2** MAIN FRAMES on top of the rear frame and on suitable stands. The tongue mounts should point down.
   - B. Bolt the main frames to the rear frame with 1NC x 14" Bolts, and 1NC x 16" Bolts, Flat Washers, Lock Washers, and Hex Nuts. DO NOT TIGHTEN BOLTS UNTIL COMPLETING STEP D.
   - C. Position the FRAME CONNECTOR WELDMENT **5** between the main frames with the smaller box on top. Bolt the frame connector to each main frame with 3/4NC x 6" & 3/4NC x 2" Bolts, Lock Washers and Hex Nuts.
   - D. Position the FRONT CONNECTOR WELDMENT **4** at the front with the hinge pivots down. Fasten it to the main frames with 3/4NC x 6" Bolts, Lock Washers, and Hex Nuts. TIGHTEN ALL BOLTS.
   - E. Bolt CYLINDER BRACKET LINKS **22** to cylinder bracket and frame with 1NC x 3" Bolts, Lock Washers, and Hex Nuts. Refer to the illustration on page P8.
   - F. Pin (2) 4" x 10" Cylinders 22–109, to cylinder bracket and rocker lugs. The cylinder rod ends should point up. Loosen both port plugs to allow cylinders to extend.
   - G. Pin a ROAD LOCK **25** over each extended cylinder rod.
   - H. Tighten all bolts; rocker must be free to pivot.
   - I. Place LEVELER LINKAGE **1** on top of center frame. Place end of linkage between lugs on rocker and fasten with BOLTS **6** and **8**.
   - J. Follow Step II.



M6100–70

II. TONGUE ASSEMBLY

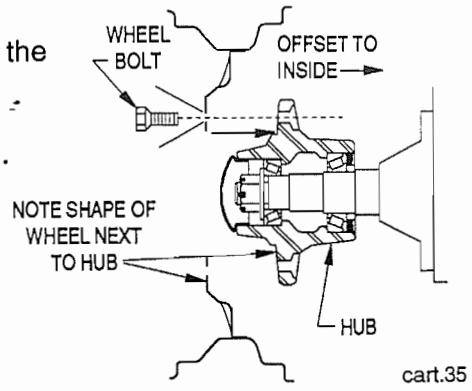
1. Refer to the illustration on page P10. Connect TONGUE **14** to center frame using SQUARE HEADED PINS **6** and 3/8" DIA. x 1–3/4" Roll Pins. The box lug should be on the top side.
2. Pin TONGUE JACK **28** to tongue.
3. Insert LINK WELDMENT **11** through box lug and through LEVELER LINK **10**. Place STRAP **8** over the pins and retain with 3/8" DIA. x 1–3/4" Roll Pins. NOTE: Models 6327 thru 6331 assemble (2) LEVELER LINKS **29** over pins **31** .
4. Place end of TURNBUCKLE ASSEMBLY **1** between straps on LEVELER LINK **11** and fasten with PIN **12** and Roll Pins.
5. Adjust jack assembly or adjust tongue jack to align with holes in tongue, and fasten in place with PIN **12** and Roll Pins.
6. Place HITCH CLEVIS **19** or CLEVIS **20**, in end of tongue. Fasten with 1–1/4NC x 7–1/2" Bolt, and hardware per illustration.
7. If assembling Model 6327 thru 6331, bolt safety chain to tongue with 1–1/4NC x 8–1/2" Bolt, (2) Flat Washers and Lock Nut.
8. If assembling a 6324, loop safety chain around tongue box and through end ring of chain.
9. Bolt HOSE CARRIER **27** to tongue with a 1/2NC x 5–1/2" Bolt (6327 and 6331: use 1/2NC x 6–1/2"), (2) Flat Washers, Lock Washer and Hex Nut.
10. Proceed to Step III.

III. WALKING BEAM

1. Walking Beam assembly. Refer to illustrations on pages P16 and P18.
   A. Locate the walking beam assembly with the grease zerk on top and the front hub positioned as shown in the placement pages.
   B. Loosen the clamp bolt, if required, to slide the side plates onto the wheel arm.
   C. Fasten the walking beam with 3/4NC x 5" Bolts, Lock Washers, and Hex Nuts. (6327 and 6331 center rocker uses 3/4NC x 6" Bolt, Lock Washers and Jam Nuts.)
   D. Tighten all bolts.
   E. Remove the WHEEL BOLTS from the hubs and attach the wheel and tire assemblies to the hubs.

TORQUE ALL WHEEL BOLTS FROM 90 TO 95 FT. LBS.

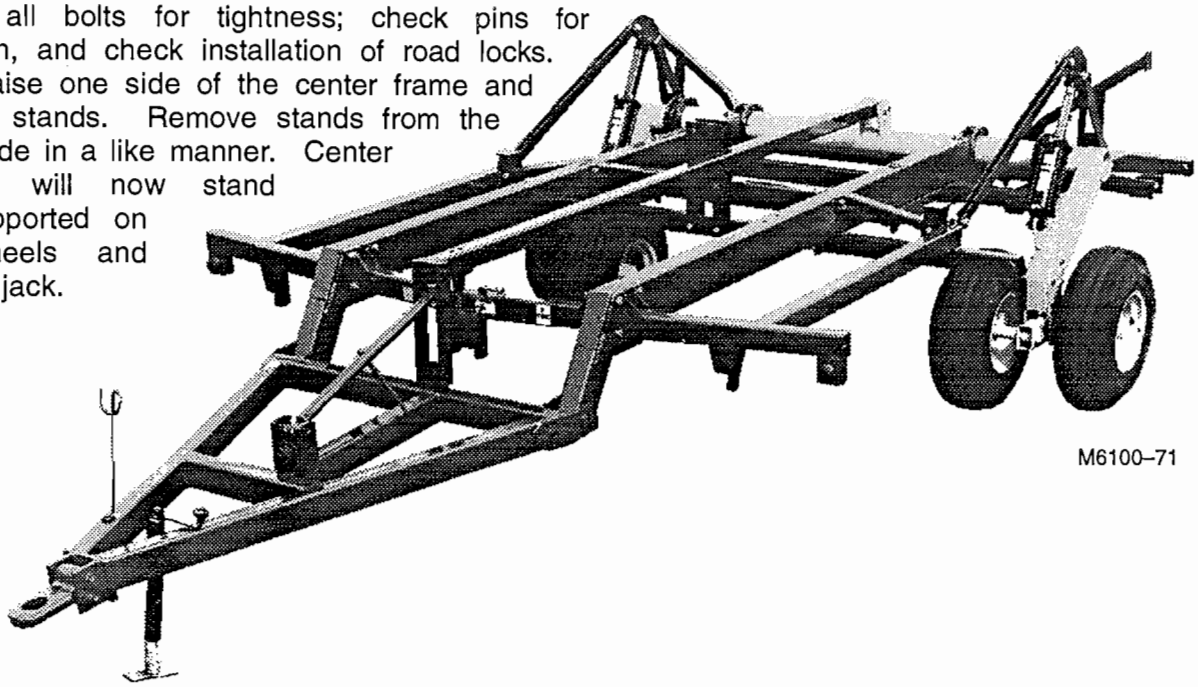
NOTE: See placement pages at the back of this manual for correct tire size for center and wing locations.



cart.35

IV. SELF–SUPPORTING CENTER SECTION

Check all bolts for tightness; check pins for retention, and check installation of road locks. Then raise one side of the center frame and remove stands. Remove stands from the other side in a like manner. Center Section will now stand self–supported on its wheels and tongue jack.

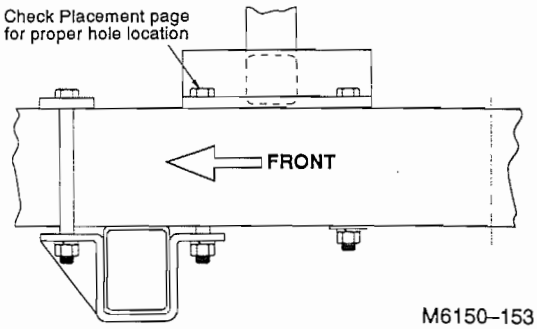


M6100–71

V. WING FRAMES

1. Refer to the illustration on page P12.
   A. Position wing frames with disc gang hinges in front pointed down.
   B. Place HINGE BOLT **11** through the back three hinges. Slide wing frame rearward and check thrust contact at each hinge. Insert a 1–1/4" Flat Washer on the thrust side, if clearance allow it. Insert HINGE PIN **9** through front hinge. Install 3/8" DIA. x 1–3/4" Roll Pins in the hinge pin and 1–1/4NC Lock Nuts on the hinge bolts. Tighten hinge bolts until snug.
   C. Place support stands under outer wing frame members. Stands will need to support about 600 Lbs., until hydraulic cylinders are plumbed and actuated.
   D. Bolt (2) WINGS STOPS **3** at the rear of the center frame with 3/4NC x 5–1/2" bolts, Lock Washers, and Hex Nuts; and 3/4" DIA. U–Bolt, Lock Washers, and Hex Nuts.

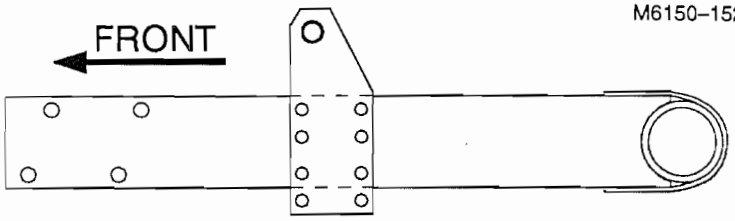
E. Models 6327, 6331 ONLY: Position front WING STOP **17** as shown in illustration to the right. Placement drawings will show correct location. Fasten with (1) 5/8NC x 10" Bolt. (Model 6324 uses 5/8NC x 8" Bolt), Lock Washer and Hex Nut. Do not tighten until unit is folded and stops are positioned against wings.



M6150–153

VI. WING ROCKER ASSEMBLY

1. Models 6324, 6327, and 6331 – – refer to illustration on page P14.



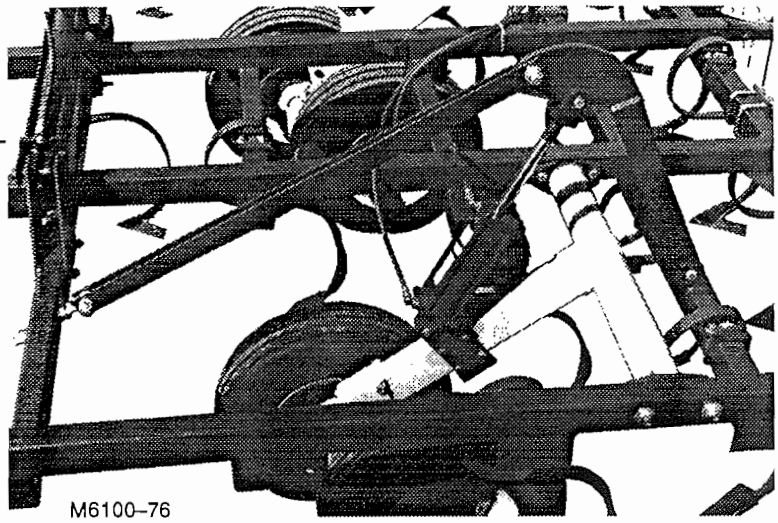
M6150–152

A. Place CYLINDER LUG **8** on the outside of each wheel arm with 5/8NC x 4–1/2" Bolts, Lock Washers and Hex Nuts.

B. Thread a 1NC Jam Nut onto EYEBOLT **20** and place through frame member. Retain eyebolt with a 1NC Hex Nut.

C. Connect CYLINDER BRACKET LINKS **16** to cylinder bracket and eyebolt with 1NC x 3" Bolts, Lock Washers, and Hex Nuts.

D. Pin a 3–3/4" x 10" hydraulic cylinder to the cylinder bracket and the wheel arm. The cylinder rod should point up. Loosen both port plugs to allow cylinder to extend.


M6100–76

E. Install (2) 1/8" DRIVE THREAD ZERKS into each rocker pipe.

F. Tighten all bolts; rocker must pivot freely.

G. Repeat Step III. to install walking beam.

VII. WING FOLD ASSEMBLY

1. Models 6324, 6327 and 6331 – – refer to illustration on page P30.

A. Bolt (2) WING FOLD PLATES **3** to each side of the center frame with 3/4NC x 5" Bolts, Lock Washers and Hex Nuts. Do not tighten until cylinder clevis is in place.

B. Fasten a RIGHT and LEFT CYLINDER LUG **12** and **15** to the wing with 3/4NC x 5" Bolts, Lock Washers and Hex Nuts. A 3/4NC x 6" Bolt and Flat Washer is inserted vertically with a SQUARE WASHER **18**, Lock Washer and Hex Nuts on the bottom.

C. Pin base end of CYLINDER **9** between right and left cylinder lugs. The cylinder ports should be on the ***top side***. Retain cylinder with PIN **16** and 1/4" DIA. x 2–1/2" Roll Pins. The end of the pin with TWO holes should be on the front side.

D. Place round hole of WING LOCK STRAP **17** over PIN **16** and retain with 1/4" DIA. x 2–1/2" Roll Pin.

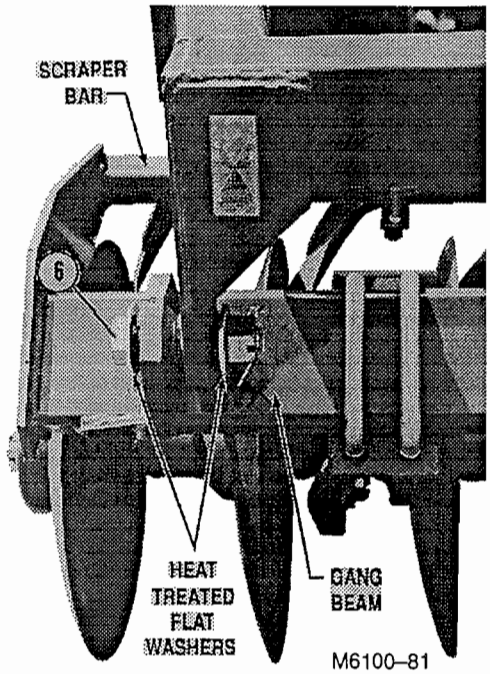
E. Install STUD CLAMP ASSEMBLY **4** over the cylinder's tie rods and place WING LOCK STRAP **17** over end of clamp assembly. Retain with KLIK PIN **8**.

IMPORTANT: DO NOT PIN THE ROD ENDS OF THE WING LIFT CYLINDERS UNTIL ALL PLUMBING IS COMPLETE AND THE ENTIRE SYSTEM IS FULL OF OIL, AND PURGED OF AIR.

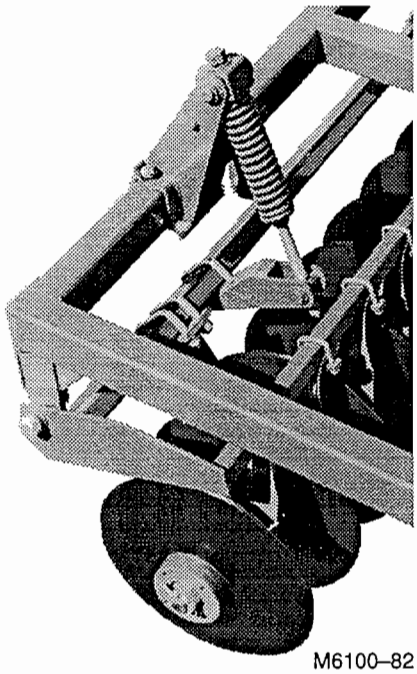
VIII. GANG BEAMS – SCRAPER BAR

Danger: **Due to their sharpness and weight, serious injury can be inflicted by blades and gangs if not handled safely. Watch for unsafe conditions. Keep your co–workers safety in mind. Should personal injury occur, have medical treatment administered immediately.**

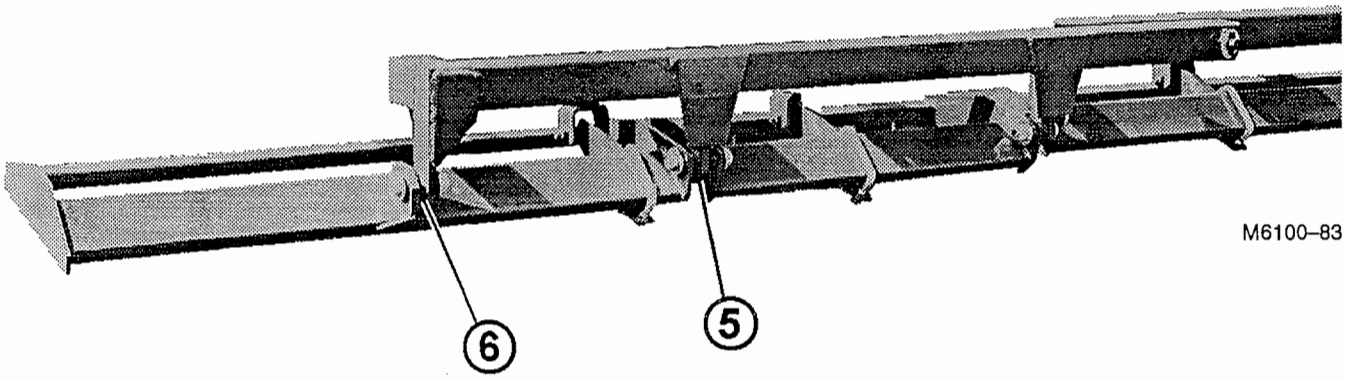
1. Position a Center Disc Gang Assembly under the center section, so that the long flat side of the End Plate is down and the scraper is to the rear.
2. Raise gang beam until Pivot Tubes line up and bolt with (2) 1NC x 4–1/2" Cap Screws. The lug on the gang beam will be on the outside of the lug on the frame. Use Heat Treated Flat Washers on both sides of hinge and secure with Slotted Hex Nut. Tighten slotted nut snug, but leave gang beams free to swing.



M6100–81

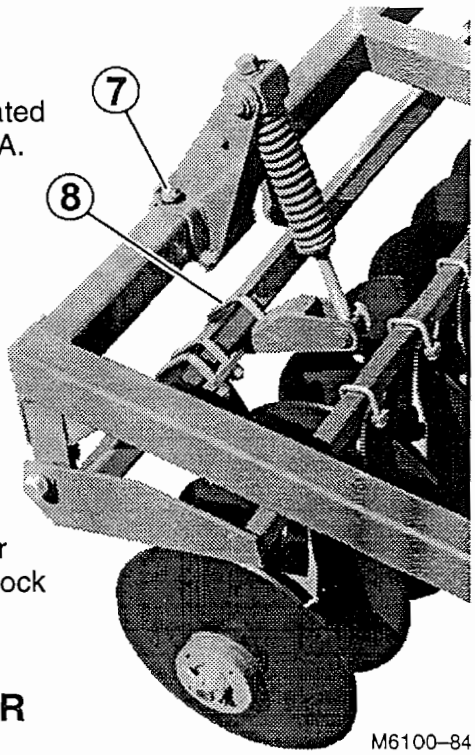

M6100–82

3. Refer to the Placement pages at the back of this manual for position of wing gang beams. Place them under the wings in the same manner as the center section.
4. Raise Wing Gang and pin inside pivot with 1NC x 4–1/2" Cap Screw, (2) Heat Treated Flat Washers and Slotted Hex Nut, and 3/16" DIA. x 1–3/4" Cotter Pin.
5. For Model 6331 ONLY: In the opposite end start a 1NC x 6" Cap Screw with a Heat Treated Flat Washer under the head. Insert just far enough to hold inner gang. Raise the outside disc gang to position and push 1NC x 6" Cap Screw through.



M6100–83

6. Secure outer end with 1NC x 4–1/2" Cap Screw, Heat Treated Flat Washer on each side, Slotted Hex Nut and a 3/16" DIA. x 1–3/4" Cotter Pin. Tighten all bolts so gangs will be free to swing. NOTE: Models 6324 and 6327 will not use hinge point at 5. Model 6331 is shown at bottom of the previous page.
7. Refer to Shank Placement pages for positions of Disc Spring Support Assembly. Fasten assembly to the frame with U–Bolt (#61–228), Lock Washers, and Hex Nuts. Gangs of 9 Discs or larger will have (2) Spring Assemblies. See Optional Hydraulic Disc Gang Assembly on page A16.
8. Swing GANG BEAMS so that the scraper bar is to the rear and secure to spring supports with U–BOLT (#61–143), Lock Washers, and Hex Nuts.

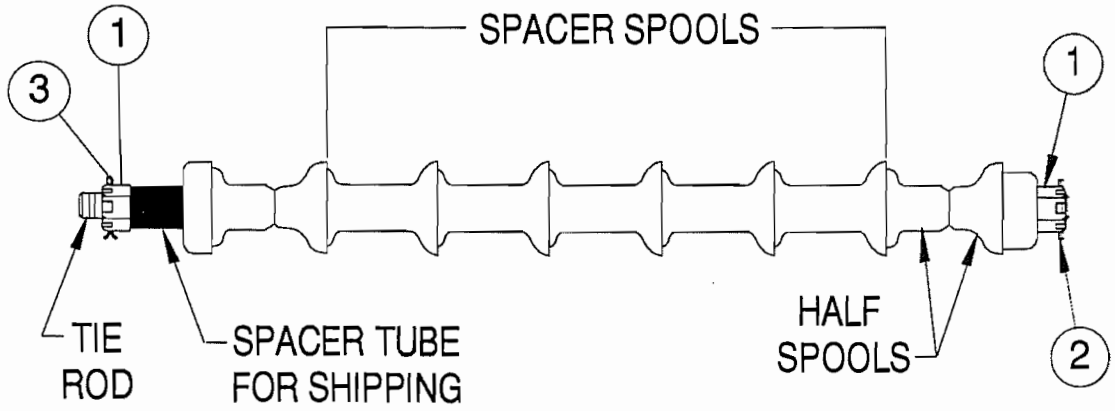


M6100–84

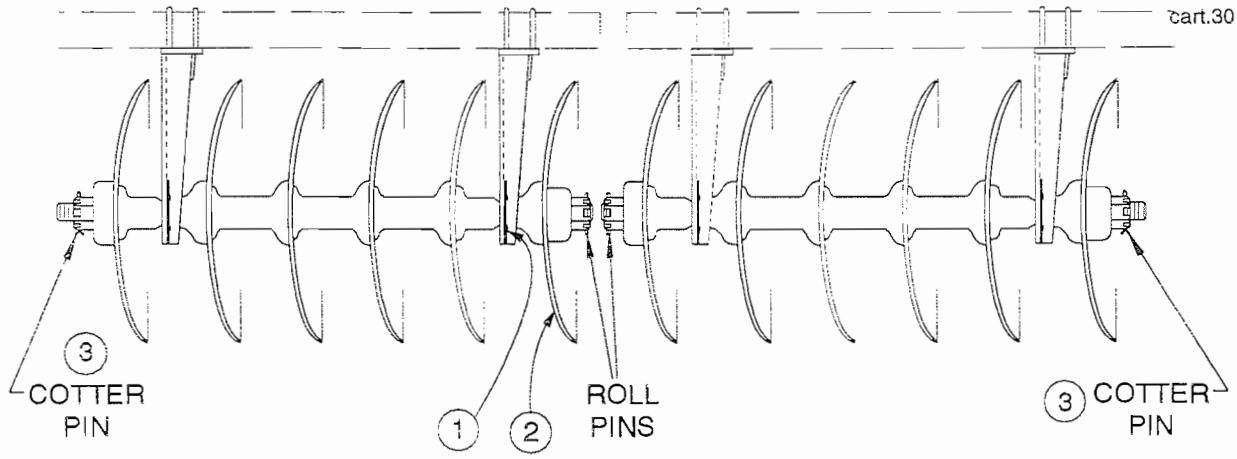
IX. UNASSEMBLED DISC GANGS OR REPAIR SEQUENCE

1. A few general steps to follow during disc gang assembly will insure correct gang attachment to the frame, and prevent future tear–downs due to improper assembly. Study the placement drawing for each gang and determine the following information.
   A. The correct tie rod and spacer spools.
   B. Note the direction of travel in relation to the disc blade position on the tie rod, and the location of the tie rod roll pin if at the hinge line.
   C. Taper blades are added to assemblies as shown in the drawing.
2. The first tie rod shipping group selected for assembly will have washers, half spools and spacer spools on the tie rod with a 1–1/2NC SLOTTED HEX NUT 1 on each end. One nut is secured with a ROLL PIN 2 on one end of the tie rod and the nut on the opposite end is secured with a 3/8" DIA. x 3–1/2" COTTER PIN 3. Remove the cotter pin and disassemble the tie rod shipping group. The nut and cotter pin will be used at the end of the completed gang assembly. The shipping spacer tube can be discarded.

TYPICAL TIE ROD SHIPPING GROUP cart.37



3. Using the preceding information and the placement drawings on A17 through A22 assemble the disc gangs. Note that all contact surfaces of the castings have been machined to fit the contour of the disc blades. ALWAYS place the bearing arm on the tie rod so that the BEARINGS 1 are located on the thrust side, or on the CONVEX SIDE 2 of the disc blades. Loosen (4) carriage bolts in bearing flange before gang assembly.

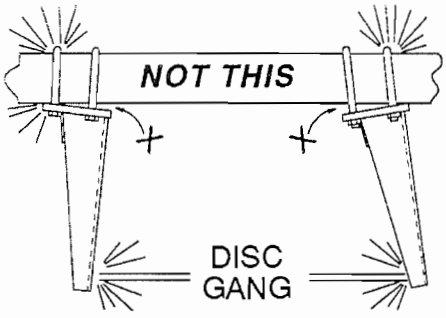


When the gang has been assembled, replace the slotted hex nut and torque to approximately 1,000 Ft. Lbs. Secure the nut with the 3/8" DIA. x 3–1/2" COTTER PIN 3. Clinch or spread the cotter pin to prevent loss.

4. Roll the completed gang assemblies under the frames at their specific locations.

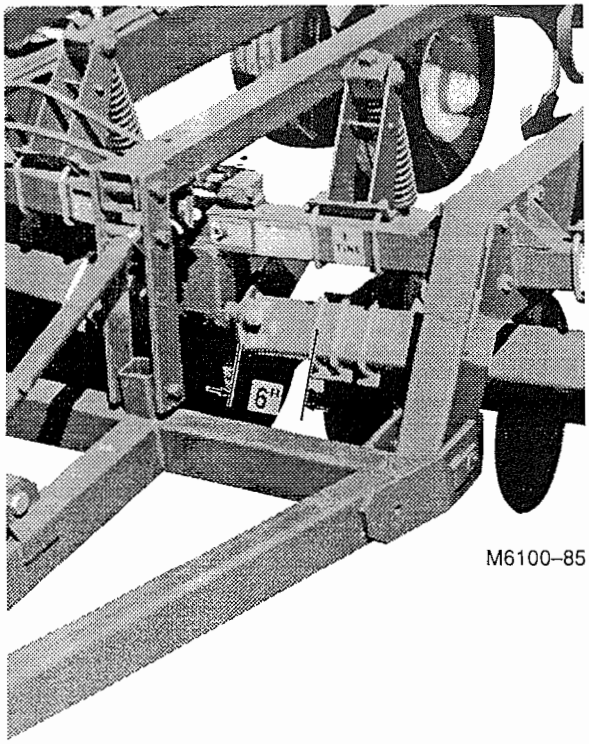
5. Starting at the center gang, loop a length of chain under the center spacer spool and over the frame member and raise the gang until the bearing arm top plates touch the bottom of the frame. The loose flangette carriage bolts will allow the bearing arm to be adjusted square with the frame member.

   Attach the bearing arm top plate to the bottom of the frame with (2) U–BOLTS 1, and (4) 3/4" STD. Lock Washers, and 3/4NC Hex Nuts. Adjust the gang to the dimension shown and tighten the U–Bolts. As the U–Bolts are drawn up tight, be sure the top plate raises flat against the frame and **not tilted to one side**, causing a lever action that preloads the bearings. See illustration below.



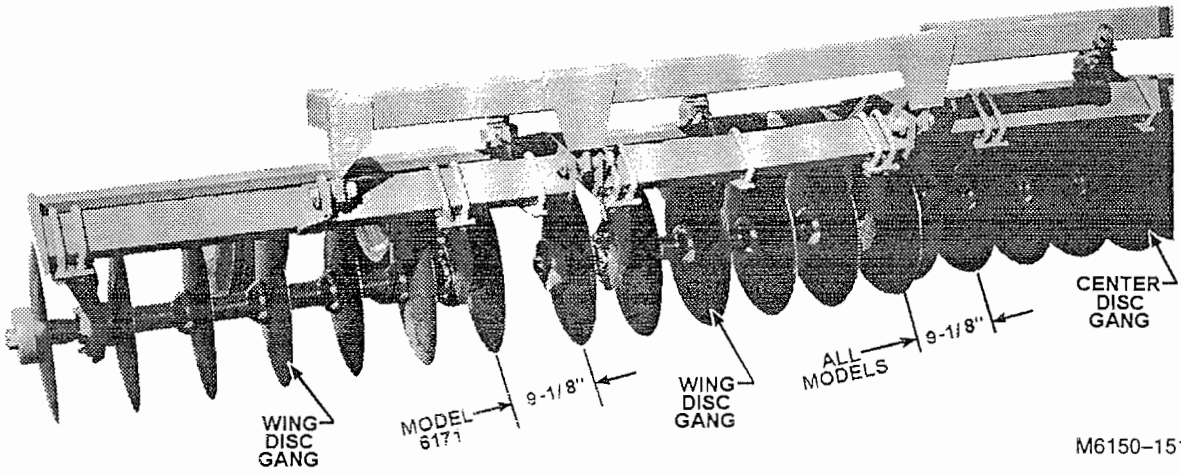
BE SURE THE BEARING ARM FITS FLAT AGAINST THE GANG BEFORE TIGHTENING THE U-BOLTS.

cart.28



M6100–85

6. Attach Wing Disc Gangs in the same manner. Slide gang until there is an 9–1/8" Space between the disc blades.

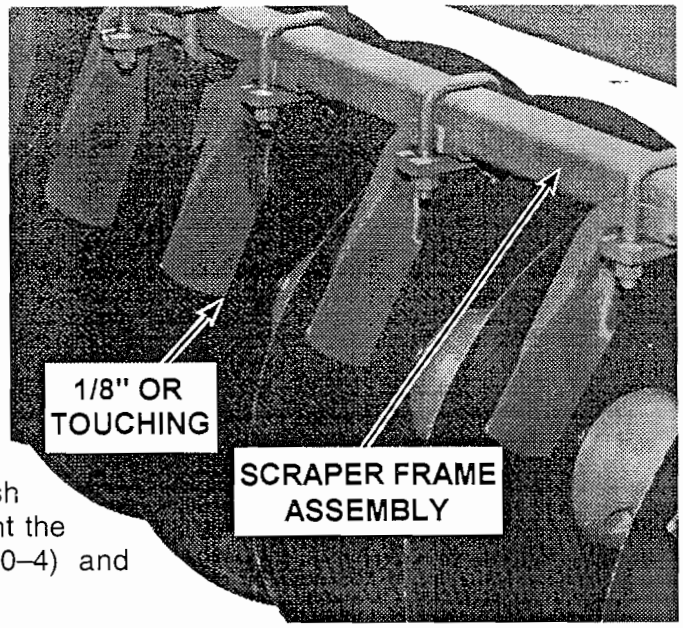


7. Tighten all U–Bolts. As the U–Bolts are drawn up tight, be sure that the top plate raises flat against the frame and not tilted to one side, causing a lever action that preloads the bearings.
8. Tighten the carriage bolts in the bearing flange.

X. DISC SCRAPERS

1. Position each scraper blade under scraper frame. NOTE: Check the placement drawings on pages A17 – A22 for location of each scraper. There will be right and left blades; position so that the long point of blade is next to bell of spool.
2. Place U–Bolt over scraper frame and clamp bar under blade with dimple up to engage hole in scraper blade.
3. Adjust each scraper blade within 1/8" of the disc blade.
4. Model 6331 will use a 3131–157–0 Left Trash Bar and a 3131–158–0 Right Trash Bar between the Wing Disc Gangs. Mount the trash bars with "L" Bolt (Part #950–20–4) and 5/8NC Hex Nuts and Lock Washers.

M6100–87



IMPORTANT: DO NOT RESTRICT THE ROTATION OF THE GANG BY FORCING THE SCRAPER BLADE AGAINST THE DISC BLADES.

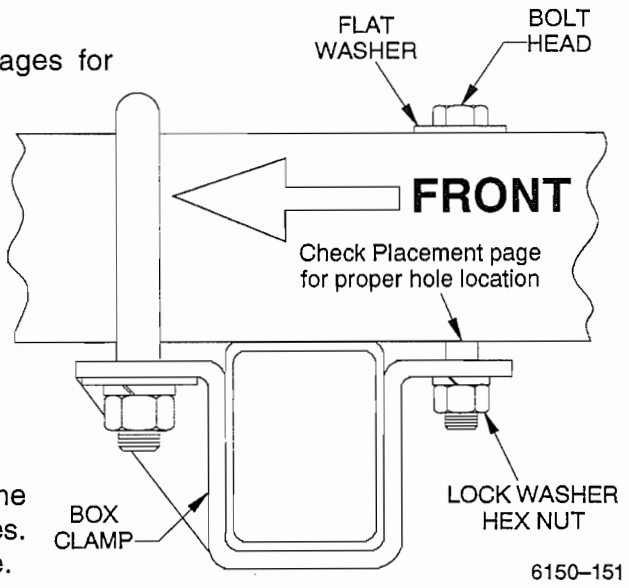
XI. SHANK BOX ASSEMBLY

Refer to the frame illustrations and placement pages for model being assembled.

1. Place the center frame shank box under the frame and center bar laterally. Fasten with box clamp, using 3/4" DIA. U–Bolt, 5/8" Bolts, Flat Washers, Lock Washers and Hex Nuts.

   NOTE: Some locations use 3/4" Bolts and a bolt strap instead of a U–Bolt, or may use (2) U–Bolts refer to the placement pages.

2. Place the wing frame shank bar under the frame in the position shown on the placement pages. Fasten the box with box clamp and hardware.



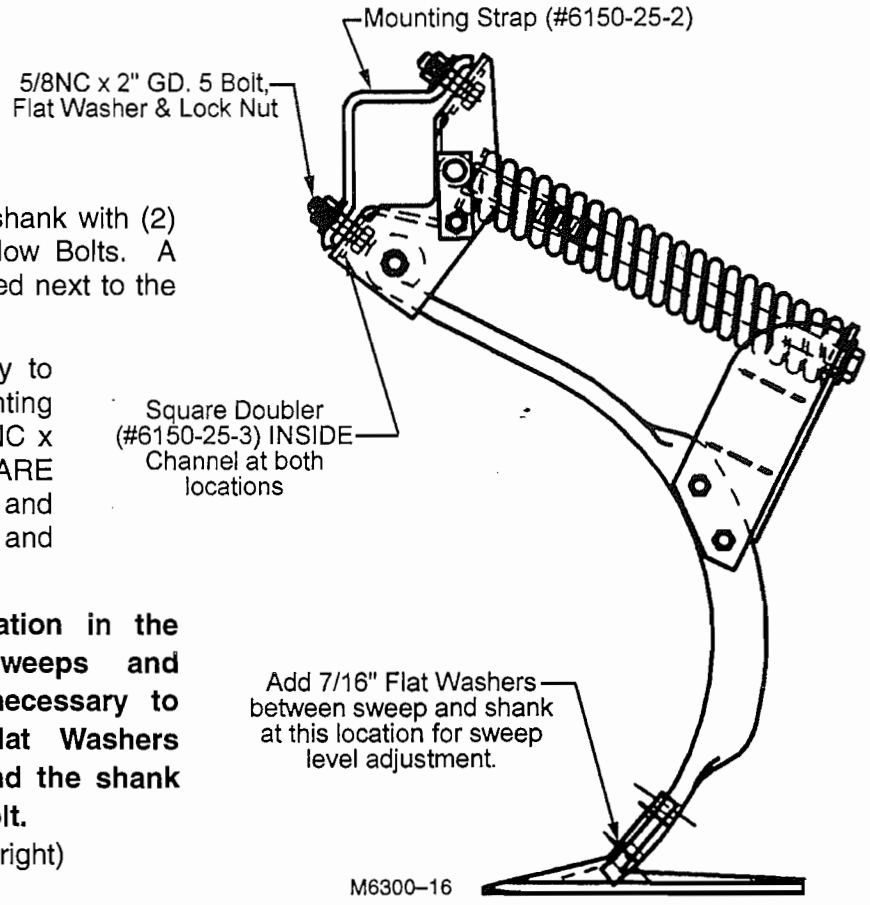
XII. SHANK EXTENSION ASSEMBLY

Refer to frame illustrations for extension part numbers and hardware. Refer to placement pages for extension positions for the model being assembled.

XIII. SPRING SHANK ASSEMBLY

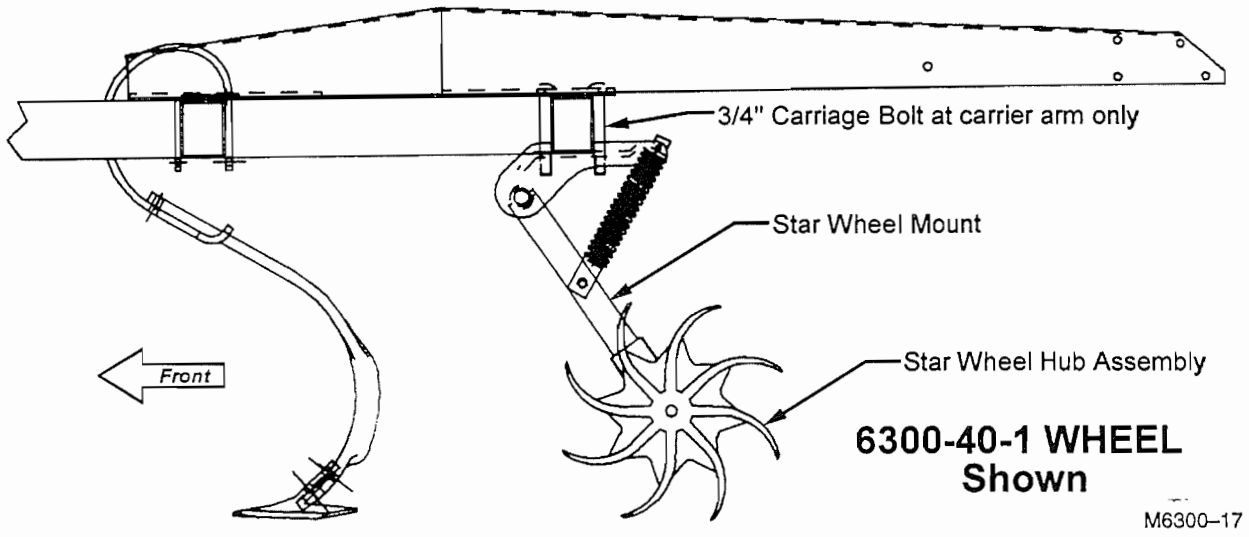
1. Refer to the placement drawing at the back of this manual for shank locations.
2. Bolt SWEEP or POINT to shank with (2) 7/16NC x 1–1/2" GD. 5 Plow Bolts. A 7/16" Flat Washer is required next to the slotted hole.
3. Clamp the shank assembly to the frame box with a Mounting Strap (#6150–25–2) a 5/8NC x 2" GD. 8 Bolt, SQUARE DOUBLERS (#6150–25–3) and 5/8NC Self Locking Nuts, and 5/8" STD. Flat Washers.

   NOTE: Due to variation in the manufacturing of sweeps and shanks, it may be necessary to insert 7/16" STD. Flat Washers between the sweep and the shank on the lower plow bolt.
   (See illustration to the right)



XIV. STAR WHEEL ASSEMBLY

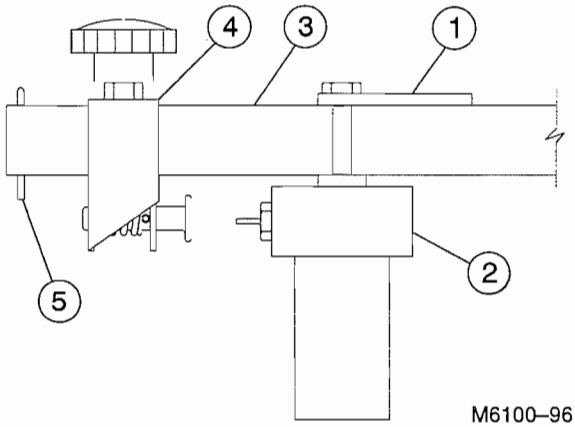
1. Begin by sorting the Right and Left Mount Arm Assemblies into 2 groups. In addition, see parts Pages P28 & P29.
2. Place the 1st arm assembly near the center of the unit, under the rear frame box, as shown on the placement drawing. The arm should point towards the outside of the unit. Fasten with a 3/4" U–Bolt, Lock Washer, and Hex Nut.
3. Add remaining Star Wheel mounts as shown on the placement page. NOTE: Some cultivator shank types require the star wheel mount to be bolted to the harrow carrier arm. 3/4" Carriage bolts are used inside the carrier arm and through the Star Wheel mount.



4. Separate the Star Wheel Hub Assemblies into 4 groups. NOTE: 2 different types of wheel are used, and the hub is bolted to either side of the star wheel.
5. The Star Wheels with part number 6300–40–1 are used on the left half on the unit and part number 6300–40–2 wheels are used on the right half. The part number and an 'L' or 'R' is cast into the face of the wheel.
6. Bolt an inside and outside left hub assembly (wheel #6300–40–1) to each mount on the left half of the unit, using (2) 1/2NC x 3–1/2" Cap Screw, Lock Wahsers and Hex Nut. NOTE: The tips of the star wheel should be pointing down as shown in Step 3 above.
7. Bolt an inside and outside Right Hub Assembly (wheel #6300–40–2) to each mount on the right half of the unit, using (2) 1/2NC x 3–1/2" Cap Screws, Lock Washers, and Hex Nuts. NOTE: If assembling a 6324 unit, a single star wheel is used in the center. See placement drawing.
8. Bolt the remaining harrow carrier arms in the positions shown on the placement drawing. **Do Not Tighten Bolts until after assembling the harrow.**

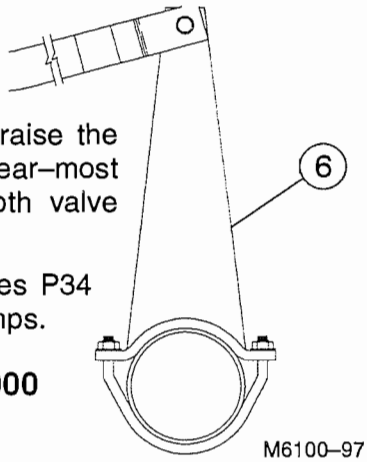
XV. HYDRAULICS ASSEMBLY

1. Bolt GUIDE ASSEMBLY to the DEPTH VALVE ASSEMBLY and the bracket on the frame with (2) 3/8NC x 4–1/2" Bolts. The VALVE PLUNGER must be towards the front of the unit.
2. Insert LINKAGE through the GUIDE ASSEMBLY and place STRIKER ASSEMBLY over the linkage. Retain striker by inserting a 3/16" DIA. x 2" Cotter Pin through the end holes of linkage.
3. Assemble ACTUATOR ARM with 3/8" DIA. U–Bolt to the main rocker. The actuator arm should be in–line with the valve bracket at the front of the frame. DO NOT tighten the U–Bolt.



M6100–96

4. Connect LINKAGE to the actuator arm with a 1/2" DIA. x 1–1/2" Clevis Pin. The bend in the linkage should be down.
5. The ACTUATOR ARM is positioned after all the hydraulic plumbing has been installed and the system bled of air. Then raise the wheels completely off the ground and slide the linkage to the rear–most position, tighten U–Bolt securely. Raise the unit and test depth valve operation by positioning striker and lowering the unit.
6. Refer to the hydraulic plumbing pages in the Parts Section (pages P34 – P37) for the correct assembly of hoses, fittings, and hose clamps.



M6100–97

⚠ Caution: Use only hose that meets or exceeds 3,000 P.S.I. working pressure.

Note: No tape or liquid sealer is necessary on O–Ring Fittings or 37° Flare fittings.

IMPORTANT: A 90° RESTRICTOR SHOULD BE ASSEMBLED INTO ALL WING–LIFT CYLINDER ROD END PORTS. THE PROPER LOCATION OF THESE FITTINGS IS IMPORTANT TO PREVENT WINGS FROM FREE–FALLING IF A HYDRAULIC FAILURE OCCURS.

A. Before filling system, place blocks of wood under each wing cylinder so that the cylinder rods will extend up and over the lugs to prevent damage to the cylinder while filling and purging the system of air.

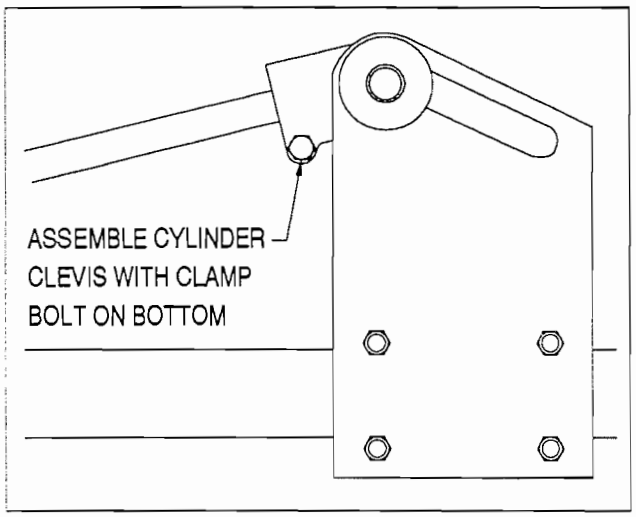
7. CHARGING THE CYLINDERS :
   A. After all hose and fittings are assembled, check the blocks under the wing cylinders. Make sure that they are raised high enough to clear any attaching lugs.
   B. Attach hydraulic hoses to the tractor and pin to drawbar. Check the tractor hydraulic reservoir and make sure it is full of the manufacturer's recommended oil.
   C. If you are sure all connections are tight and leakproof, begin filling the system by extending and retracting the wing fold cylinders.
   D. The rocker shaft cylinders have rephasing grooves that will allow the oil to pass by the piston when the unit is fully raised. Hold the control lever open during each cycle, when the unit is raised and the cylinders are fully extended for 30 to 45 seconds. This will force oil through the rephasing grooves and allow the series cylinder to be charged with oil. Remove stands under wings and road locks, then cycle cylinders. Hold valve open until master and slave cylinders extend to their maximum.
   E. Continue the cycles until the cylinders respond with immediate solid actuation.

Warning: **Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.**

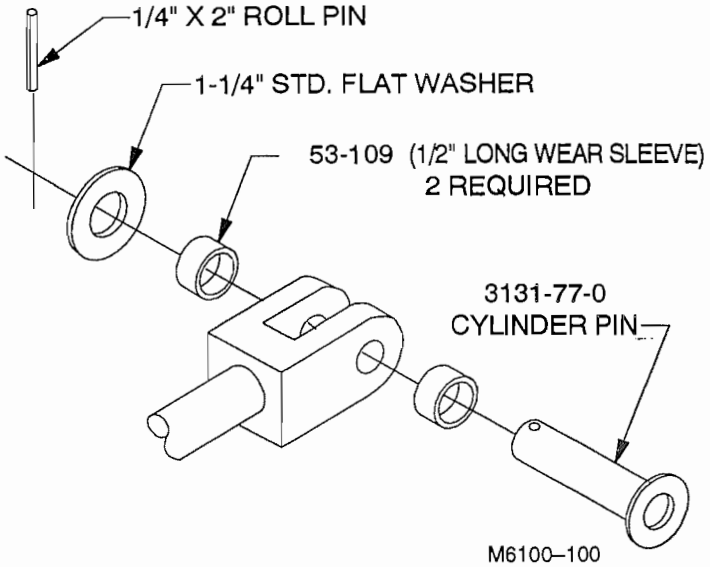
Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

F. After the wing cylinders are full, extend them to maximum length and remove the wood blocks.
Pin the rod end of the wing cylinders to the wing lugs using the special pins, wear sleeves, 1–1/4" STD. Flat Washers, and 1/4" DIA. x 2" Roll Pins as shown in the drawing below.



M6100–98



M6100–100

ALL WING MODELS

XVI. DECALS

The DECALS are important to the safety of the operators, and to others, and must be attached to the unit at the proper locations. Some DECALS are applied to the proper location at the factory; however, these should be checked for location, and to be sure that they have not been damaged during shipping or set–up. Remove the protective backing from each remaining decal, and attach to the Landstar at the locations shown on the parts drawing on page P48.

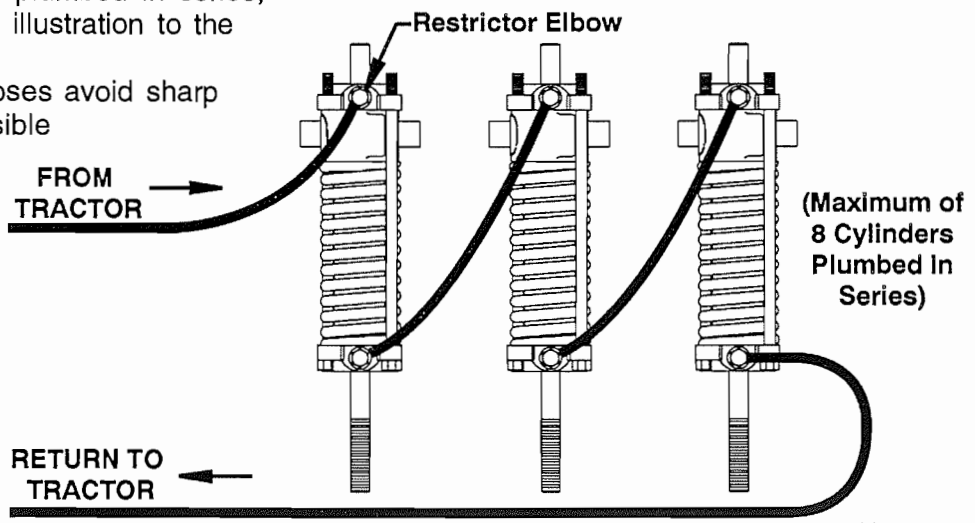
XVII. ASSEMBLE REAR HARROW AS DIRECTED IN THE HARROW ATTACHMENT BOOK

XVIII. DISC GANG HYDRAULICS ASSEMBLY

1. Refer to the hydraulic plumbing pages in the Parts Section for positions of the hydraulic cylinder support assembly. Fasten assembly to frame with U–Bolt (#61–228), Lock Washers, and Hex Nuts. Gangs of 9 discs or larger will have (2) assemblies.
2. Swing gang beam so that scraper is to the rear and secure arm weldment to gang beam with U–Bolt (#61–143), Lock Washers, and Hex Nuts. Loosening cylinder plugs will aid in extending cylinder.
3. Refer to the hydraulic plumbing pages in the Parts Section for the correct assembly of hoses, fittings, and hose clamps.

⚠ Caution: If replacing hydraulic hose, use only hose that meets or exceeds 3,000 P.S.I. working pressure.

A. A restrictor elbow is required in the top port of the first cylinder plumbed to the tractor.
B. Each cylinder is plumbed in series, as shown in the illustration to the right.
C. When routing hoses avoid sharp edges and possible pinch points. Allow extra slack at the hinge joint.



M6100–126

4. CHARGING THE CYLINDERS:
   A. Attach the hoses to the tractor and pin hitch clevis to drawbar. Check the tractor hydraulic reservoir and make sure it is full of the manufacturer's recommended oil.
   B. If you are sure all connections are tight and leakproof, begin filling the system by raising the disc gangs. As each cylinder fills and raises the gang, it will bypass oil to allow the next cylinder to fill and raise.
   C. When all gangs are raised, hold the lever 30 – 45 seconds to insure all cylinders are filled. Lower disc gangs and raise back up, they should move in unison. If not, repeat "raise–hold" cycle.

⚠ Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

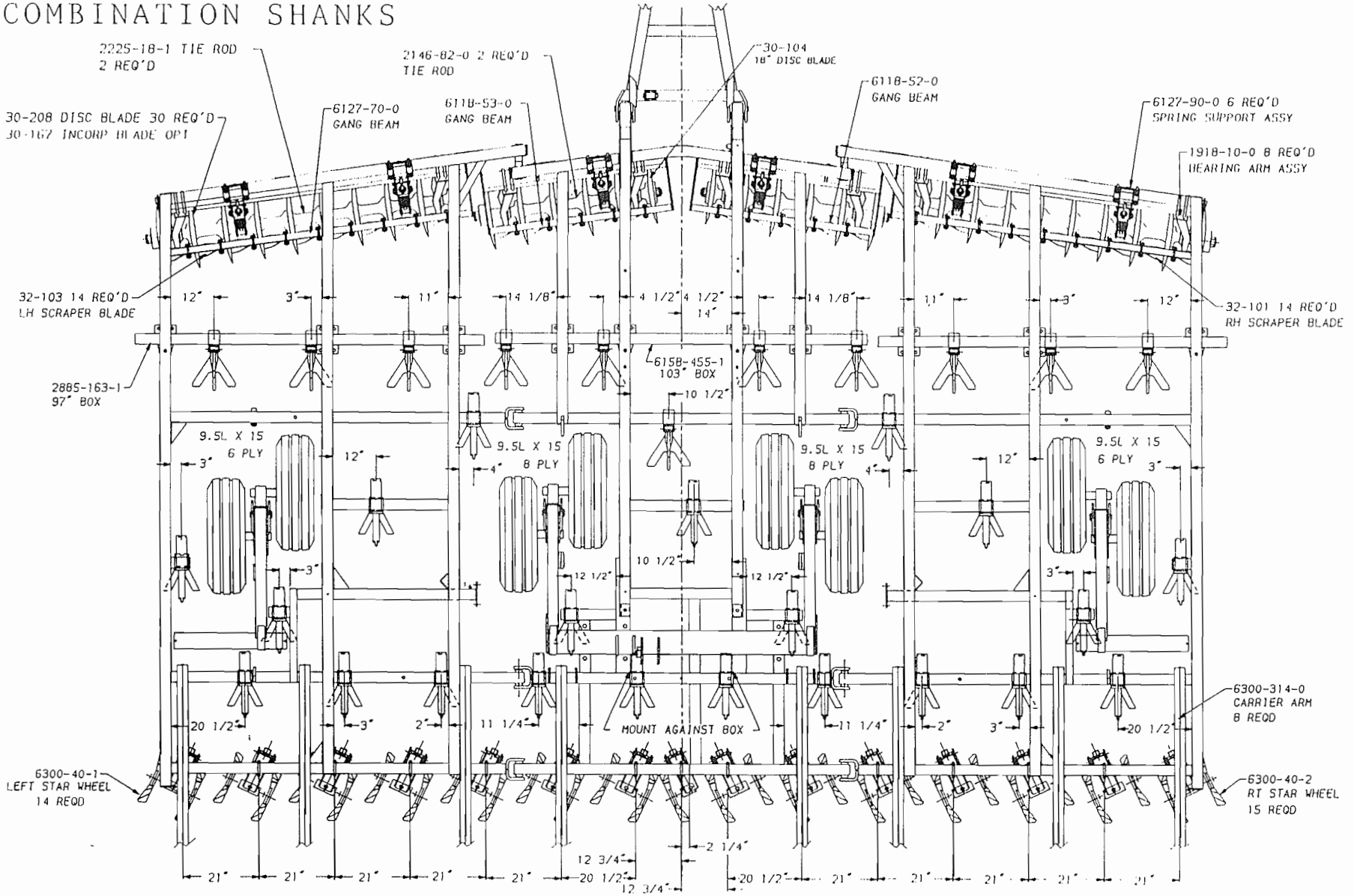

M5650–1

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

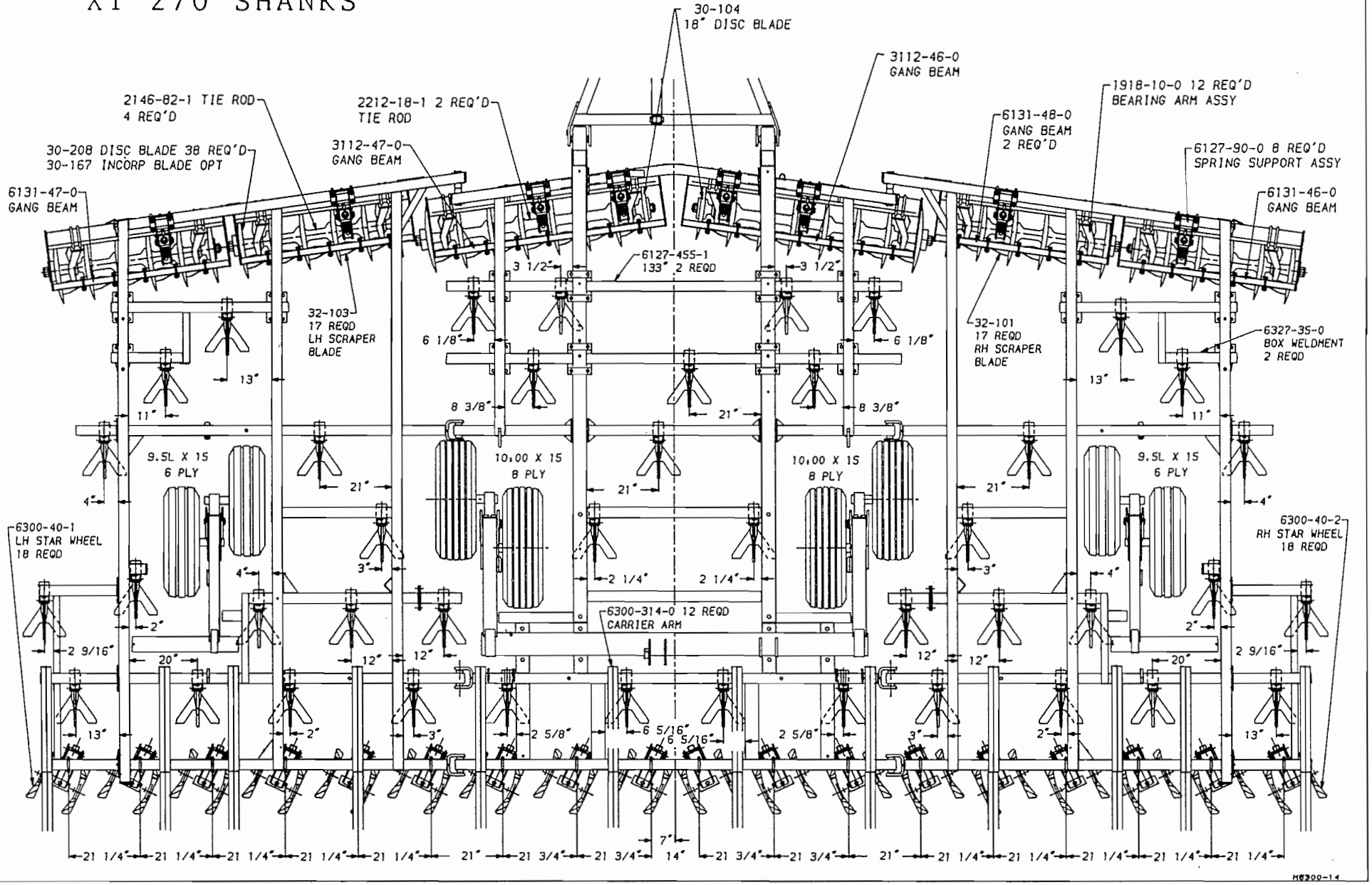
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

5. Install Depth Gauge Indicator on one cylinder that is easily viewed from the tractor. It should be positioned behind the cylinder rod when the cylinder rod raises out of the cylinder gland. Fasten the gauge with (2) 1/2NF Jam Nuts. DO NOT OVER–TIGHTEN.

6324 LANDSTAR
COMBINATION SHANKS



6331 LANDSTAR
XT 270 SHANKS



⚠ SAFETY FIRST

Be observant and safety minded. Recognize and correct or avoid hazardous conditions before an accident can happen. Most accidents can be prevented by practicing simple fundamental safety rules.

1. Read and understand the implement and tractor owner's manuals before operating.
2. Be sure safety decals and reflectors are clean and in place.
3. Do not climb or walk on gangs or frames or tires.
4. Never position yourself under any portion of implement unless the transport lock is engaged or entire unit is lowered to the ground.
5. Stop engine before leaving the operator's position to adjust, lubricate, clean or unclog the machine.
6. Do not stand between the implement and tractor unless the tractor brakes are locked and engine is shut off.
7. Do not stand on or straddle a tongue when unhitching.
8. Always store a winged implement with the wings down.
9. Never remove locking pins until hydraulic cylinders and lines are full of oil and free of air. See Operating Instructions for proper method of removing air.
10. Never use machinery until all safety devices are in place.
11. Release all hydraulic pressure before shutdown periods.
12. Comply with Federal, State and local laws.
13. Use a Slow-Moving-Vehicle (SMV) emblem when transporting.
14. Always use a safety chain of tensile strength equal to the gross weight of the implement and attachments when roading.
15. Towing vehicle weight must exceed weight of towed implement.
16. Check wheel bolts before and during transport.
17. Always use wing locks and road locks to hold raised positions.
18. Never permit riders on implement.
19. Do not road an implement over 15 miles per hour on the best surface conditions. Reduce speed when going up or down hills and when approaching ditches.
20. Keep small children away from farm equipment.
21. Never modify an implement without permission from the Krause Engineering Department.
22. Always use authorized Krause parts.