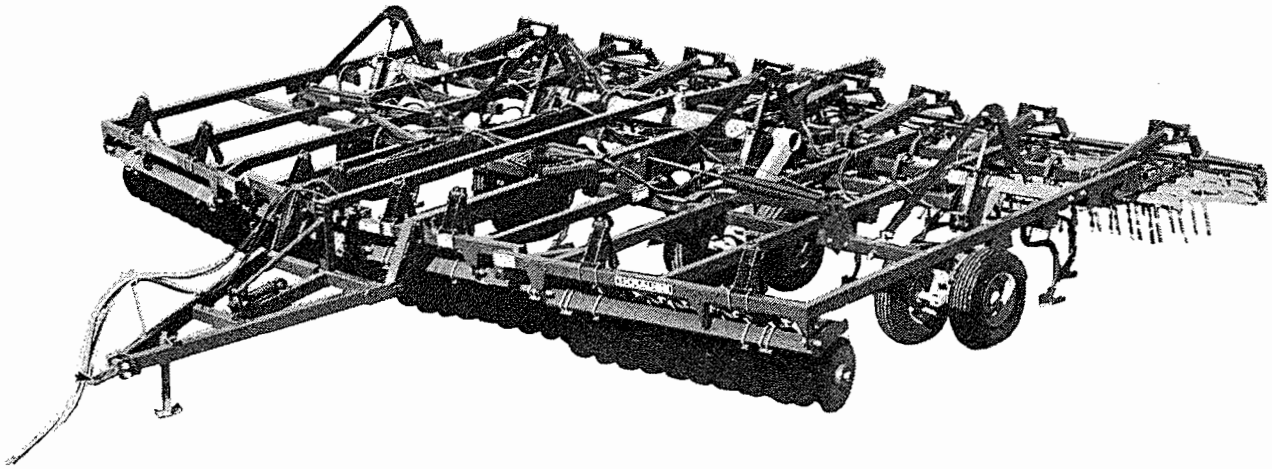
6150–1

OWNER'S MANUAL



LANDSMAN
LANDSMAN XT

6150 SERIES

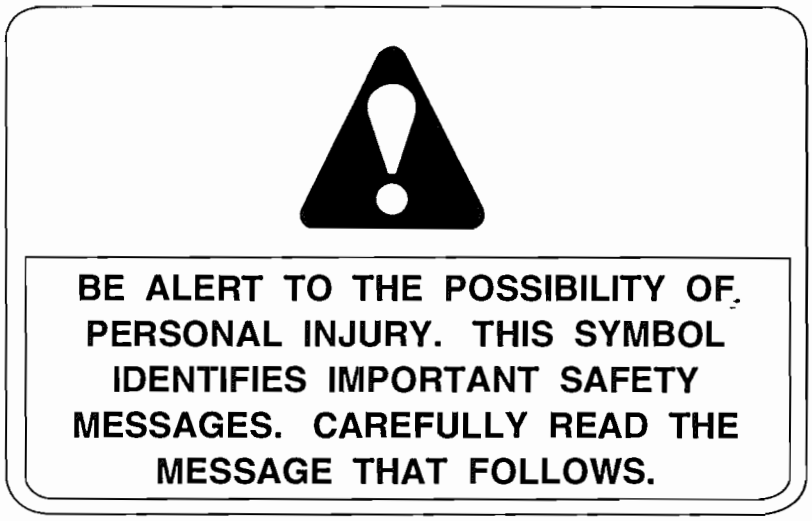
KRAUSE
305 SOUTH MONROE STREET HUTCHINSON, KANSAS 67501

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



MODEL NUMBER_____ SERIAL NUMBER_____

PURCHASE RECORD -- DATE _____

A note to our customers, parts managers and dealers:

This manual has been prepared to assist you in the proper use, daily care, and operation of your new Krause equipment. It contains specific information on the many built-in features of your equipment, the accessories and options that are available, general specifications, and instructions for making minor adjustments.

Read this manual carefully before operating your Krause equipment, and keep it in a convenient location for later reference.

In order to ensure that you have the most current owner's manual available for your implement, we have added a revision code to each manual. Please note the information listed below and specify when placing service calls or ordering parts.

Manual for Model: 6150

This manual covers models beginning with Serial No. 2641

Owner's Manual #: 6150-1

Parts Manual #: 6150-2

Rev.:

ISSUED TO:	ISSUED BY:
Owner's Name	*Krause Dealer*
Mailing Address	*City*
City	*State*
State	*Date of Purchase*

Establishing Customer Warranty

Customer's Obligation

1. The customer is responsible for reading the operator's manual supplied with each serial numbered unit. The manual describes the safe and correct operating procedures of the specific product. The operator's manual will also instruct the user on recommended lubrication and maintenance of the product.

2. The customer will advise the dealer of the anticipated start date of the product so a dealer representative can be on hand to make necessary field adjustments.

3. The owner is also responsible for inspecting the product during and after use. If a part has failed or is in need of repair, it should be replaced. When continued use of the product would result in excessive wear of other components, the part should be replaced before operation is continued. Continued use of the product may void warranty on other parts damaged from this condition. The user must make the machine available to the dealer for a warranty repair.

4. It is the customer's responsibility to deliver his machine to an authorized Krause dealer for completion of a warranty repair. If the dealer agrees to make a service trip to the customer's residence, it is an agreement between the dealer and the customer. Krause will not allow warranty credit for the cost of travel, mileage, or hauling.

5. Warranty labor consideration will only be given during the first year of warranty. Any labor charge for the 2nd or 3rd year on the limited warranty will be at the customer's expense.

This warranty gives you specific rights, and you may also have other rights which vary from state to state.

6150 SERIES LANDSMAN & LANDSMAN XT
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. Hydraulic system requires 6 Quarts / 5.7 Liters of oil for Models 6150, 6152 and 6155. Models 6158 and 6161 require 20 Quarts / 19 Liters of oil. Models 6164, 6167 and 6171 require 24 Quarts / 22.7 Liters of oil. Models 6177 and 6182 require 51 Quarts / 48 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 A23 for correct size tires and their locations. Inflate all tires to the following pressures:

9.5L x 15	8-Ply	TO	44 PSI
11L x 15	8-Ply	TO	36 PSI
10.00 x 15	8-Ply	TO	40 PSI
12.5L x 16	14-Ply	TO	56 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 P69 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 Landsman with attachments.
14. ___Review lighting requirements. Light kits are standard.
15. ___Check to see that the Owner's Manual is in the storage tube on the implement.

DELIVERED BY:_____

DATE:_____

6150 SERIES LANDSMAN & LANDSMAN XT
CUSTOMER REVIEW SHEET

CUSTOMER_____ DATE_____

ADDRESS_____ COUNTY_____

DEALER_____

ADDRESS_____ COUNTY_____

MODEL NUMBER_____ SERIAL NUMBER_____

1.___Owner's manual provided.

2.___Warranty card filled out and mailed.

3.___Review safety warnings and cautions as listed in this owner's manual.

4.___Review recommended maximum road speed, width, and height for implement.

5.___Review field operational speeds, horsepower, depth, and rock conditions.

6.___Demonstrate the proper use of road lock.

7.___Explain hydraulic cylinder stroke control for depth control of tillage tool.

8.___Review limitations of additional weight and transport speed when adding attachments.

9.___Explain the importance of maintaining the tool through lubrication, checking that bolts are kept tight, and replacement of worn or broken parts.

10.___Recommend that a safety chain be used with the tool.

11.___Check wheel lug bolts frequently until they become set.

12.___Explain lighting requirements for your area.

DEALER:_____ DATE_____

CUSTOMER:_____ DATE_____

Contents

Revised 8/00

PLACEMENT PAGES FOR MODEL:			
6150	A22-A23	6164	A34-A36
6152	A24-A25	6167	A37-A38
6155	A26-A27	6171	A39-A40
6150,6152,6155	A28	6164, 6167, 6171	A41
6158	A29-A30	6176	A42-A43
6161	A31-A32	6182	A44-A45
6158, 6161	A33	6177, 6182	A46

6150 LANDSMAN SPECIFICATIONS

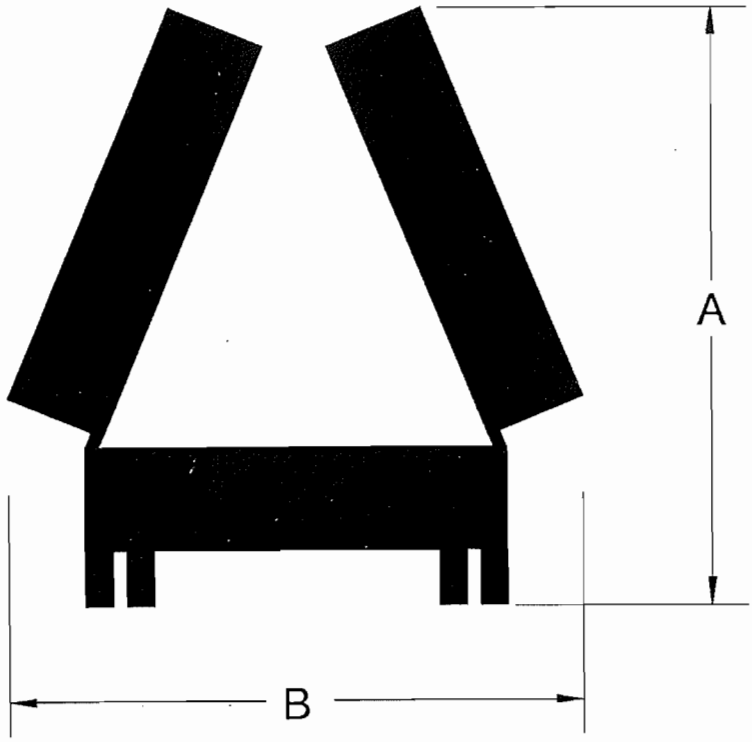
Rev. 10/97

MODEL	CUT WIDTH FEET	CUT WIDTH METRES	NUMBER DISC	DISC SPACING	DISC BLADE SIZE	NUMBER SHANKS 7" SPACING	NUMBER SHANKS 9" SPACING
6150	9' 0"	2.74	12	9-1/8"	20"	15	13
6152	12' 0"	3.66	16	9-1/8"	20"	21	17
6155	15' 0"	4.57	20	9-1/8"	20"	25	21
6158	18' 0"	5.49	24	9-1/8"	20"	31	25
6161	21' 0"	6.40	26	9-1/8"	20"	37	29
6164	24' 0"	7.32	32	9-1/8"	20"	41	33
6167	27' 0"	8.23	36	9-1/8"	20"	45	37
6171	31' 6"	9.60	40	9-1/8"	20"	53	43
6177	37' 0"	11.27	48	9-1/8"	20"	65	51
6182	42' 0"	12.80	54	9-1/8"	20"	73	57

6150 LANDSMAN TRANSPORT HEIGHT & WIDTH

Rev. 10/96

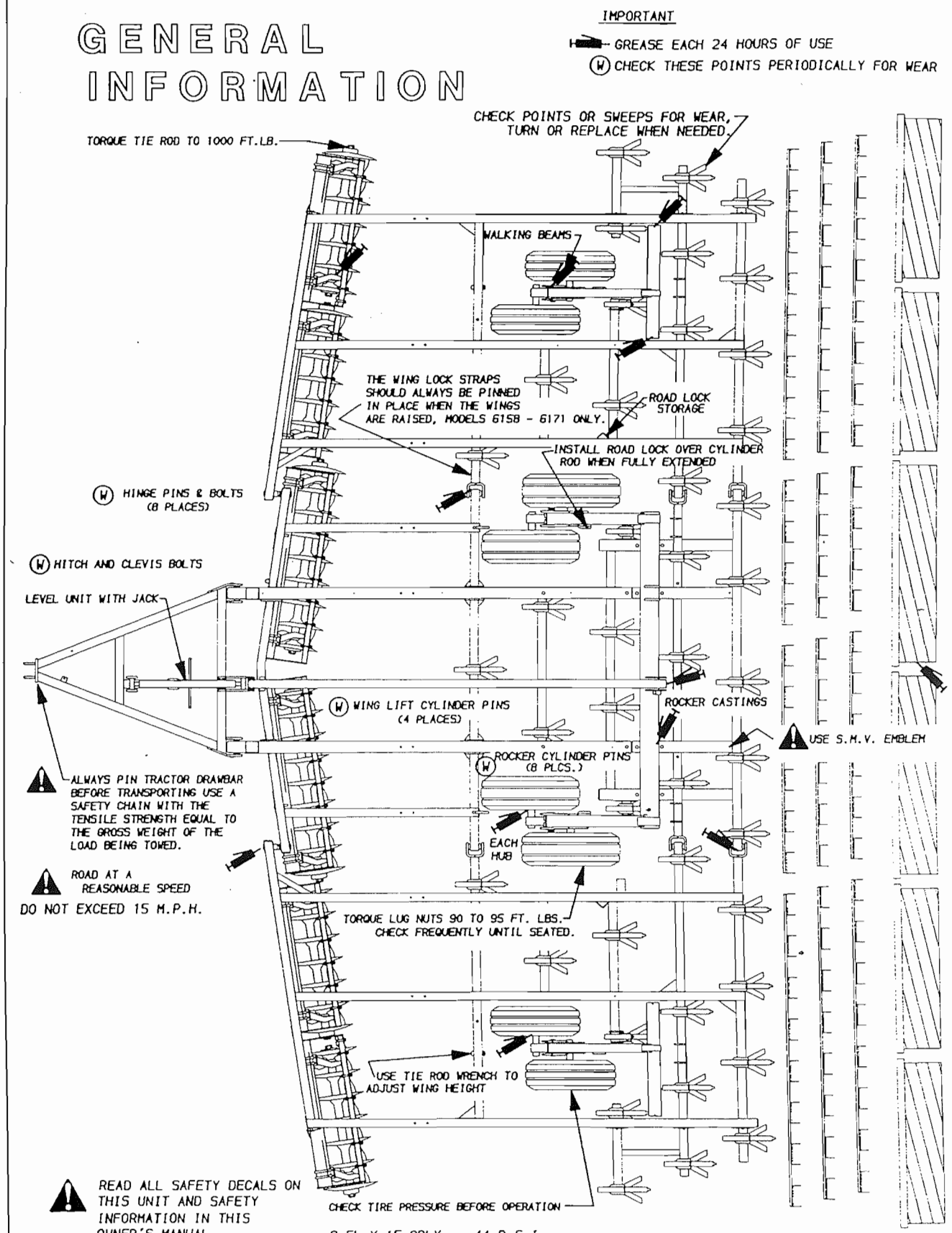
MODEL	DIMENSION 'A'	DIMENSION 'B'
6150	- - -	10' 0"
6152	- - -	12' 6"
6155	- - -	16' 3"
6158	9' 6"	12' 0"
6161	11' 0"	12' 0"
6164	12' 6"	12' 0"
6167	12' 6"	14' 11"
6171	14' 6"	14' 11"
6177	13' 6"	** 14' 11"
6182	13' 6"	** 14' 11"



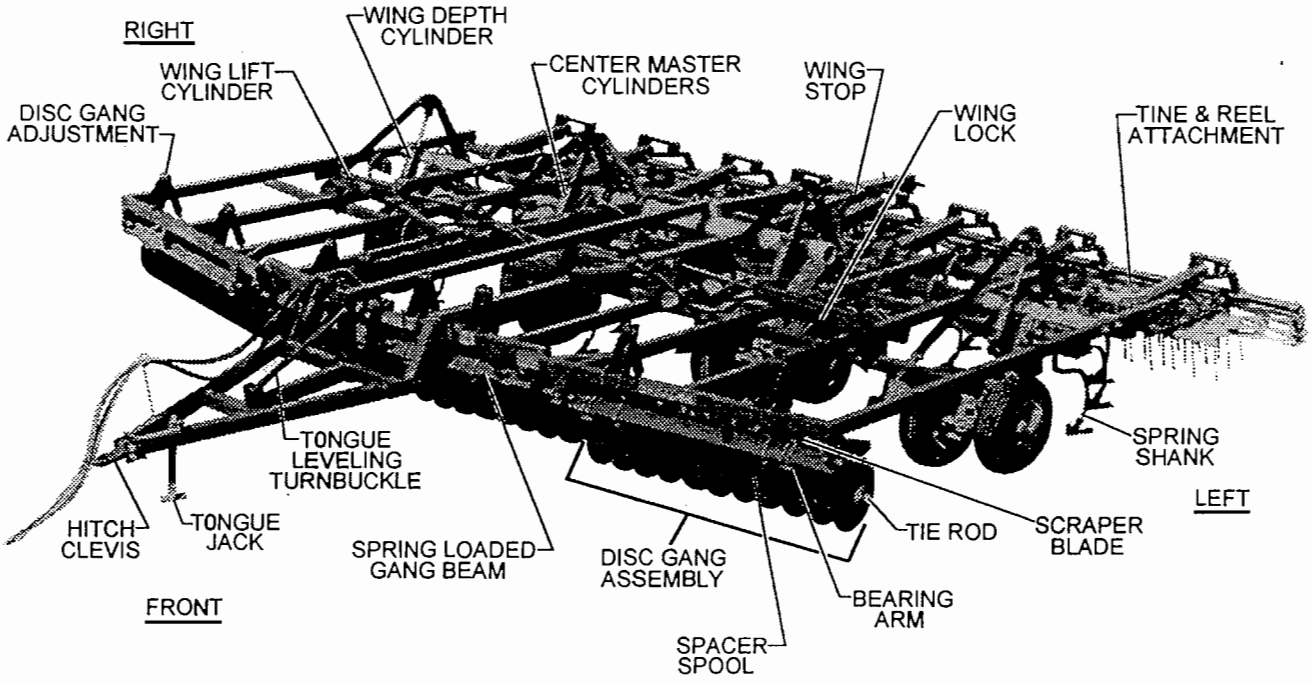
*** WIDTH & HEIGHT MAY VARY WITH FINISHING ATTACHMENT**

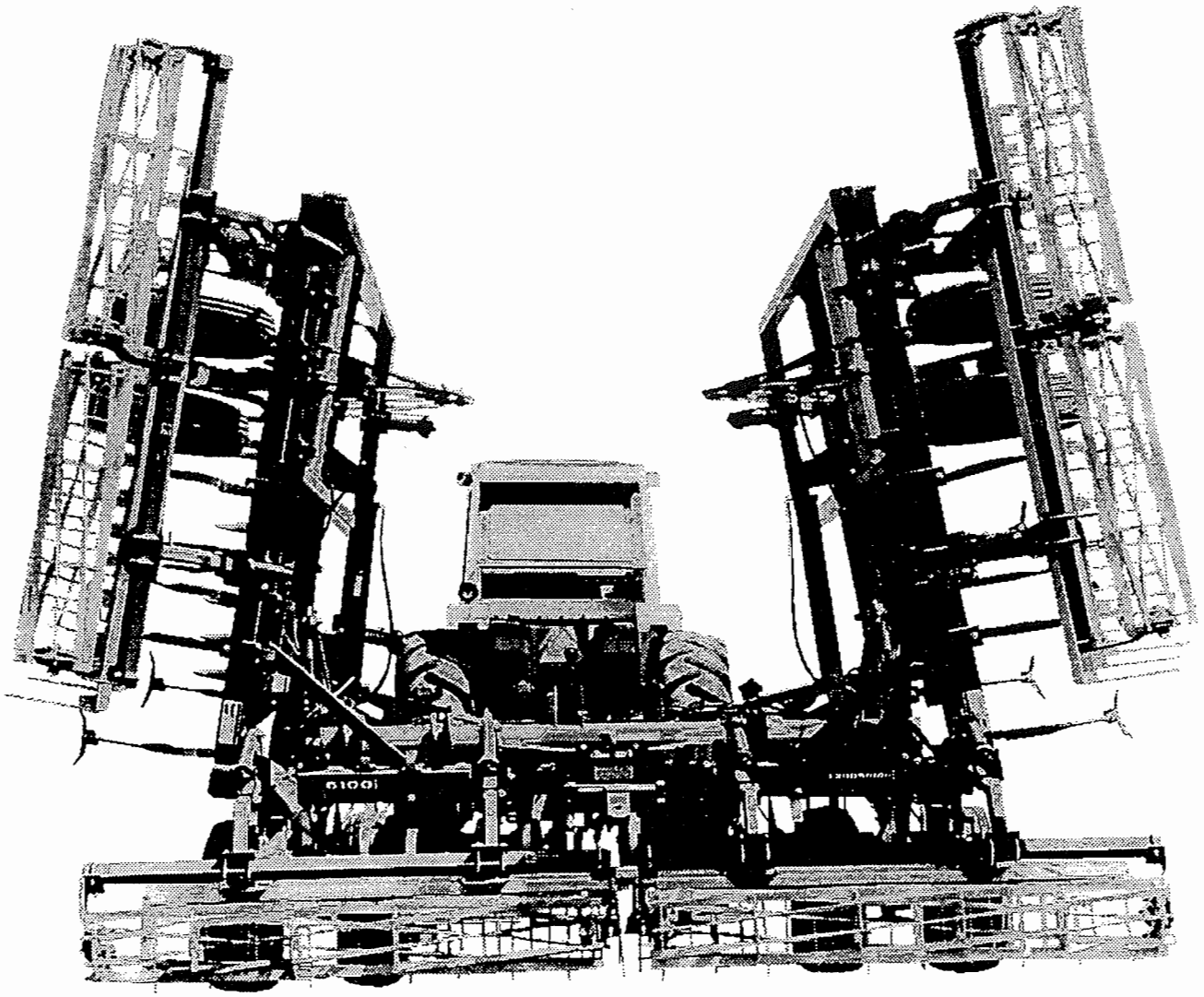
10/94

GENERAL INFORMATION



M6100-139
REV. 10/96


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



OPERATING SECTION

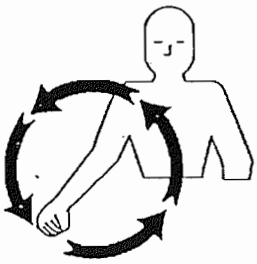
SAFETY ALERT SYMBOL

BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY.

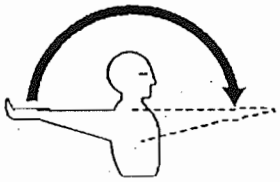
THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES.

CAREFULLY READ THE MESSAGE THAT FOLLOWS.

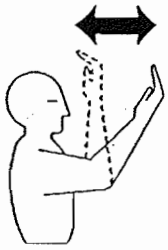
TEN MOST COMMON HAND SIGNALS USED IN THE FIELD



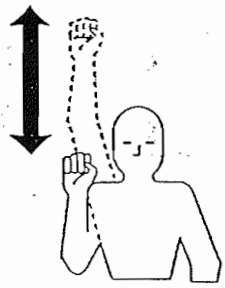
START THE ENGINE



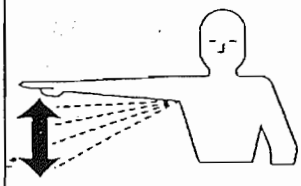
MOVE OUT OR TAKE OFF



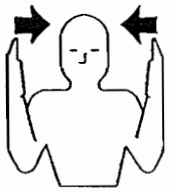
MOVE TOWARD ME



SPEED IT UP



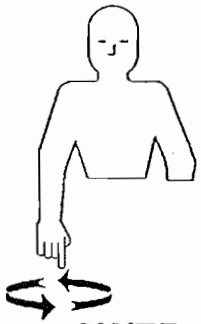
SLOW IT DOWN



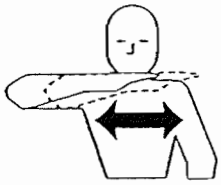
THIS FAR TO GO

STOP

RAISE THE EQUIPMENT



LOWER THE EQUIPMENT



STOP THE ENGINE

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 snugly, 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

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

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.

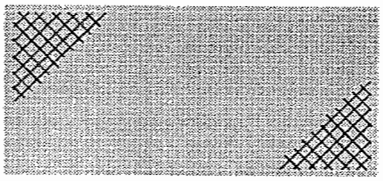
74-102

⚠ WARNING

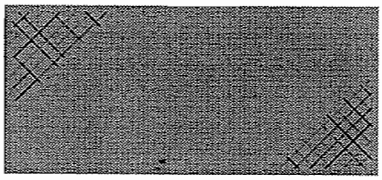
CYLINDERS MUST BE CHARGED WITH OIL BEFORE IMPLEMENT OR WINGS ARE LOWERED. LOWERING WITHOUT PURGING ALL AIR FROM THE HYDRAULIC CYLINDERS MAY RESULT IN PERMANENT AND EXTENSIVE DAMAGE.

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



74-107 AMBER REFLECTOR



74-108 RED REFLECTOR

⚠ WARNING

PINCH POINT

STAY CLEAR OF THIS AREA!

SERIOUS PERSONAL INJURY MAY OCCUR.

74-348

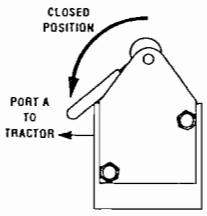
⚠ CAUTION

BOTH ROAD LOCKS MUST BE IN PLACE BEFORE TRANSPORTING.

74-365

⚠ WARNING

TO AVOID INJURY CLOSE LOCK VALVE BEFORE TRANSPORTING OR SERVICING MACHINE.



74-393

⚠ 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.

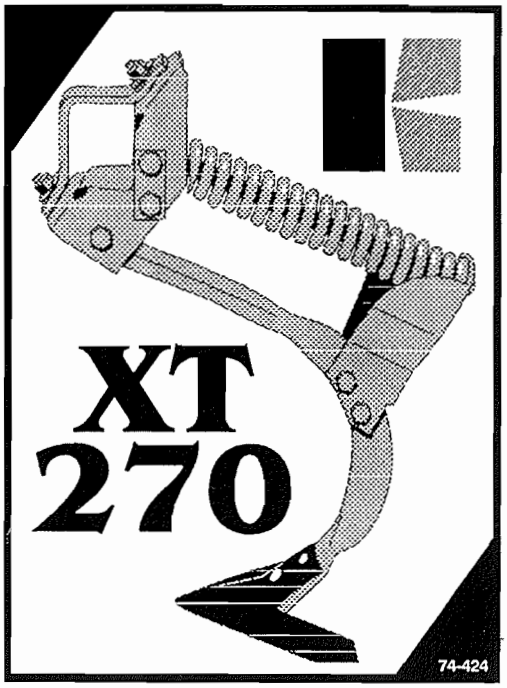
74-276

See page P69 in this manual for proper location on implement.

INFORMATIVE DECALS

KRAUSE ®
74-100

KRAUSE
HUTCHINSON, KAN. ®
74-110



Landsman XT
74-423

Landsman ®
74-151

6150
74-408

See page P69 in this manual for proper location on 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 LANDSMAN

This Landsman Tillage tool has been designed for one–trip 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 Landsman 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 several different attachments for finish tillage: five rows of spike harrows, three rows of spikes followed by reels, three rows of tines followed by reels, and three or four 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 LANDSMAN 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, 8–Ply to 44 P.S.I.
   11L x 15, 8–Ply to 36 P.S.I.
   10.00 x 15, 8–Ply to 40 P.S.I.
   12.5L x 16, 14–Ply to 56 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.

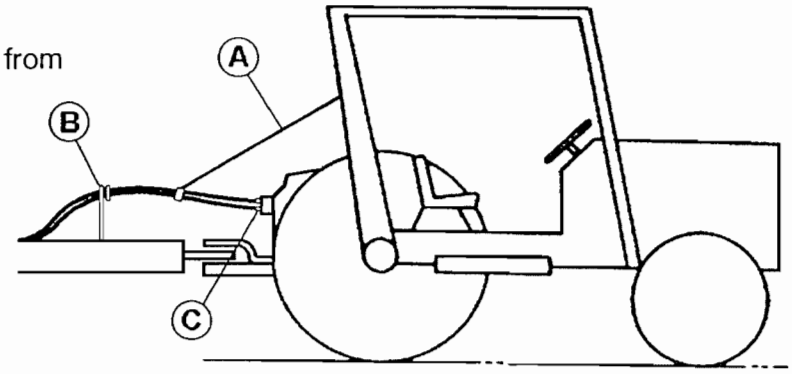
THE FOLLOWING **WARNINGS** PERTAIN TO THE MORE COMMON ABUSES OF HYDRAULIC HOSE:

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 kinked or damaged.
   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 (FITTING WILL BE TAGGED) is installed in the rod end port of each 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 Landsman 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 6158 Through 6182

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 fold cylinders are plumbed together. In some conditions, one wing may fold 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 fold cylinders. See pages P42-P49. If not previously filled, your hydraulic system will require approximately: 20 Quarts / 19 Liters for Models 6158 and 6161.
24 Quarts / 22.7 Liters for Models 6164, 6167 and 6171
51 Quarts / 48 Liters for Models 6177 & 6182

Models 6150, 6152 and 6155 use 6 Quarts / 5.7 Liters. Use oil recommended by your tractor manufacturer. Read the service section "HYDRAULIC SAFETY" on page O5 before filling the system.

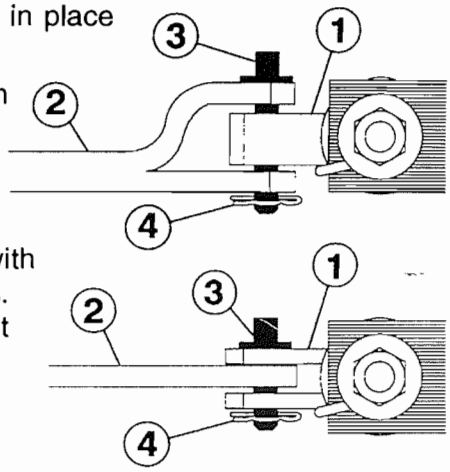
Disc Gangs

The 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".

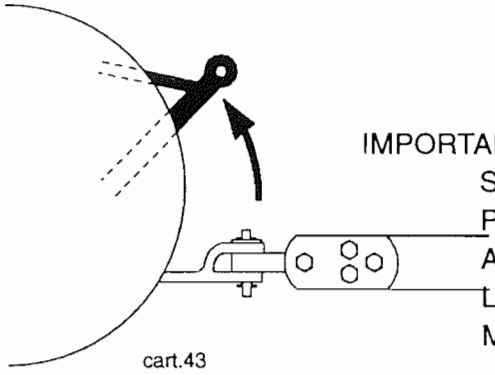
HITCHING AND UNHITCHING

⚠ 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 to the height of tractor drawbar.
4. Back the tractor to the implement.
5. Attach clevis or tongue hitch 2 to tractor drawbar 1 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 LANDSMAN CLEVIS AND TONGUE WHEN MAKING TURNS.

UNHITCHING LANDSMAN 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 Landsman.

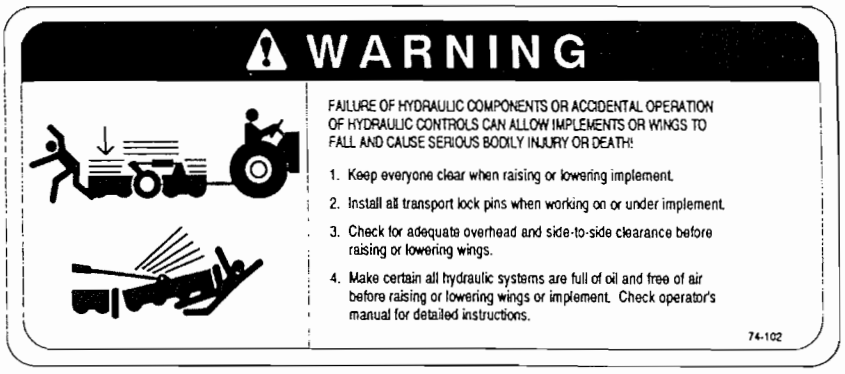
Warning: Always use the transport road locks when transporting the implement to prevent unit from falling due to hydraulic failure, or accidental activation of the operator's controls. Lowering of the tool during transporting could result in loss of control of implement and / or tractor. The tractor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

Wing Lift (Models 6158 through 6182)

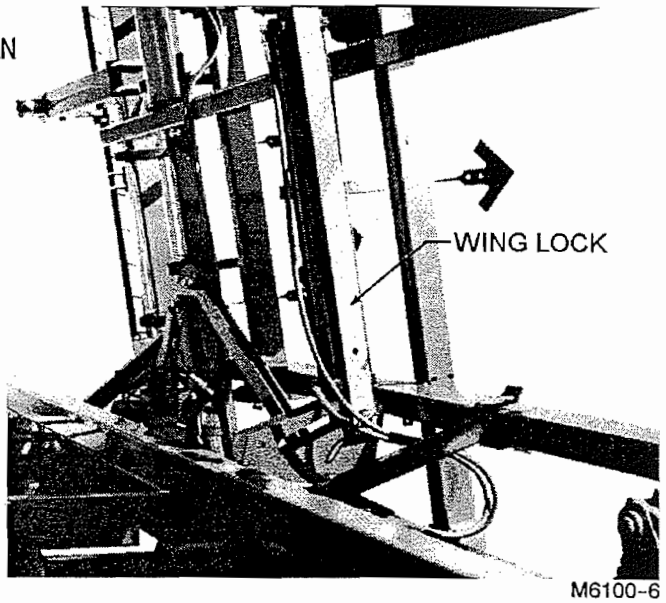
If the implement hydraulic system is full of oil, extend the rocker cylinders fully and then begin to fold the wings.

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.



M6100-6

Models 6158 - 6171:

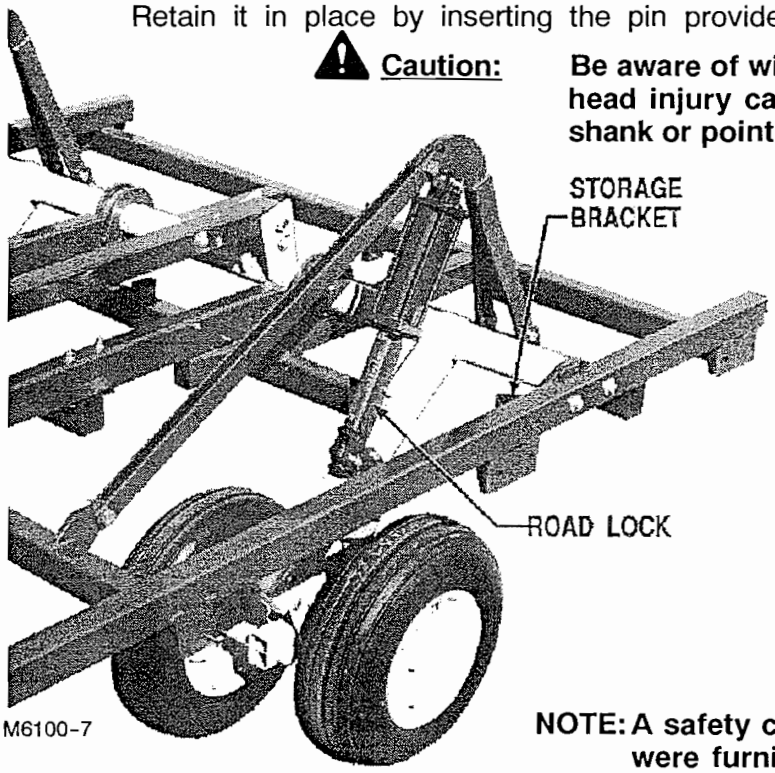
When the wing lift cylinders are fully retracted, place the slotted end of the wing lock straps onto the pin extending through the side plates. Retain the lock straps in place with Klik Pins. (Make sure lock straps are unpinned before extending cylinders to lower wings)

Models 6177 - 6182:

Fully raise the wings and close the transport lock valve.

Road Locks

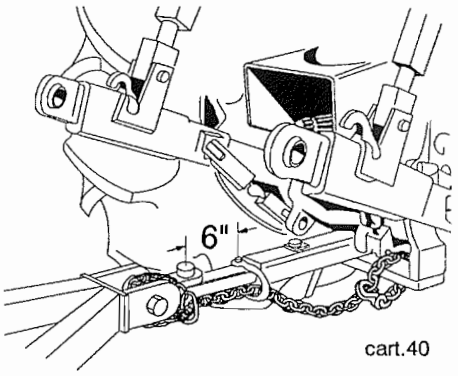
After the wings are fully folded and locked on a winged model, walk in from the side of the unit and place a road lock on each center rocker hydraulic cylinder rod. Retain it in place by inserting the pin provided under the cylinder rod.



M6100-7

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.



cart.40

NOTE: A safety chain, SMV emblem, and a light kit were furnished as standard equipment with your implement. Make sure they are in place, clean and in working order.

Transport Safety

Insert the ASAE Slow-Moving-Vehicle (SMV) emblem into the bracket provided. 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.

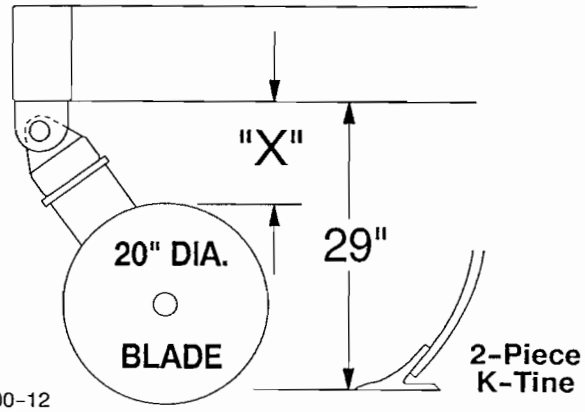
Danger: **Do not exceed 15 m.p.h. in transport on best surface. Exceeding this speed can result in failure in wheel hubs or spindles and loss of control of implement and/or tractor. Do not tow this implement if its weight exceeds 1-1/2 times the weight of the towing unit. Pin tractor drawbar to prevent side sway during tranport.**

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.

When operating the hydraulic disc gangs in the fully raised position, you have the potential to trip the gang weldment up and into contact with the main and wing frame members. There is minimal clearance between the scraper bar and the frame members of the machine. If you contact a large obstacle in the field (i.e. rocks) that requires the gangs to trip further damage will occur to the scraper bar.

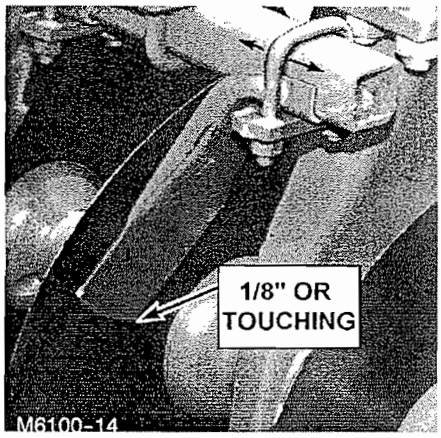
"X" DISTANCE	AS COMPARED TO SWEEP HEIGHT
5"	4" ABOVE
7"	2" ABOVE
9"	EVEN



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

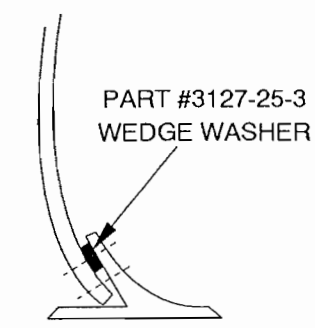
Ten inch sweeps with 47° stem angle are standard with C-Shanks and 2 Piece K-Tines.

Twelve inch sweeps with 47° stem angle are standard on XT270 shanks.

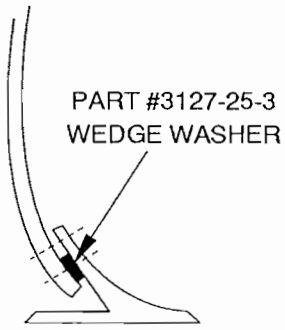
Placing a wedge washer in the top hole on the shank will change a 47° sweep to a 43° sweep. NOTE: Use of a wedge washer (part #3127-25-3) is normally not needed.

Use the wedge washer in the lower hole on the shank to change a 43° sweep to a 47° sweep if operating in extremely hard ground or if excessive shank mark is noticed.

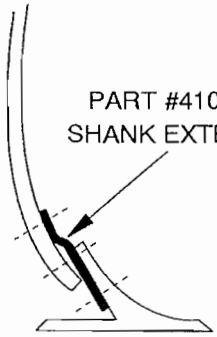
cart.45



CHANGES 47° TO 43°



CHANGES 43° TO 47°



LOWERS DEPTH 1"

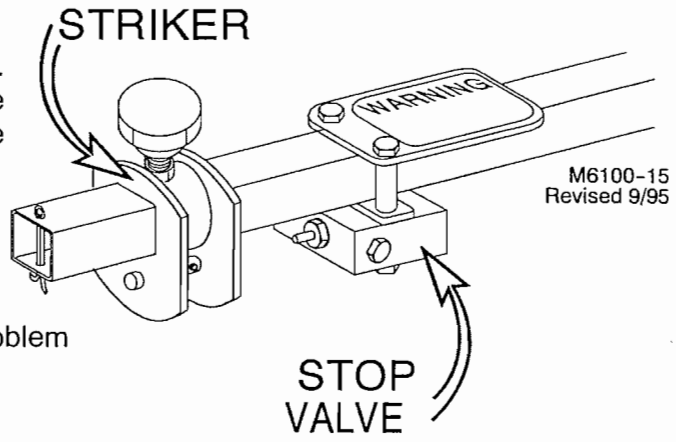
Shank extenders (part #4100-0-9) are for use on C-Shanks and K-Tines, located in back of the tractor tires. Their use allows sweeps to run deeper and relieve some of the soil compaction caused by the tractor.

Working Depth

The working depth of your Landsman 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 C-Shank and 2-Piece K-Tine 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.

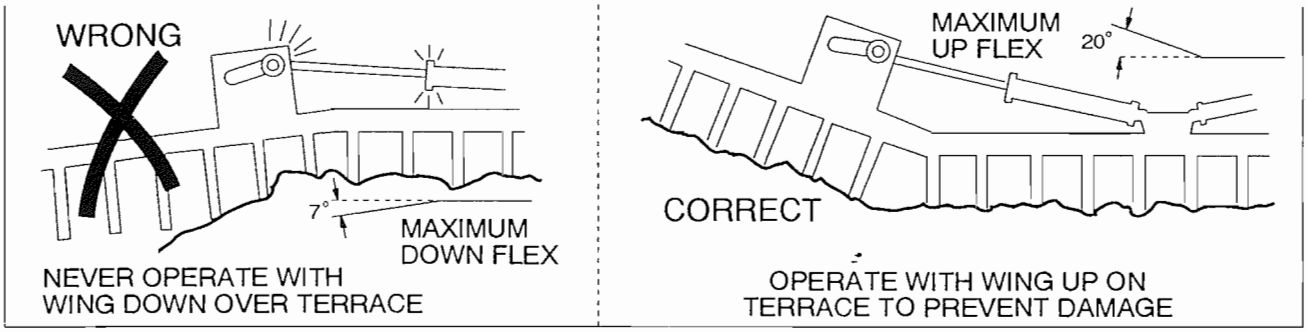


M6100-15
Revised 9/95

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 complete 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.

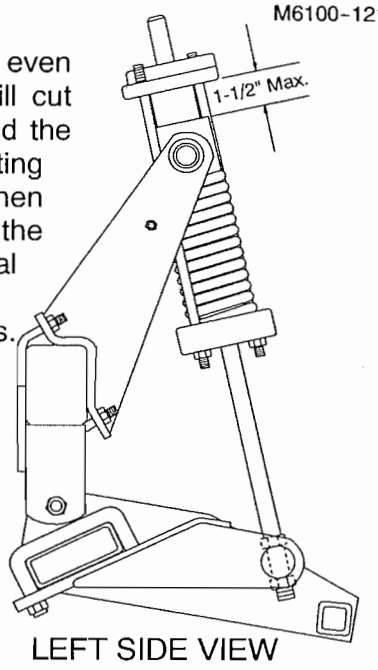
IMPORTANT: 4-WHEEL DRIVE TRACTORS CAUSE SEVERE SIDE STRAIN ON TONGUE AND CLEVIS UNLESS THE DRAWBAR IS ALLOWED SOME SWING DURING FIELD OPERATION. DRAWBAR MUST BE PINNED FOR TRANSPORT.

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.

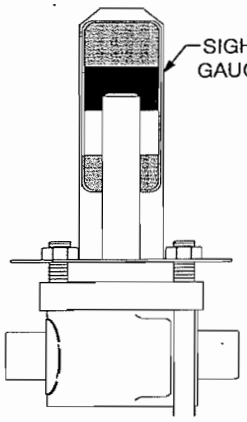
Hydraulic Disc Gangs

M6100-121



LEFT SIDE VIEW

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 adjusting 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.



FRONT VIEW

M6100-122

NOTE: If the disc gangs are fully raised and strike a large obstacle (i.e. rocks), the gang beam can be forced to trip into contact with the frame members causing possible damage.

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.

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 "Possible Remedies For Field Problems" see pages O21 - O22.

SERVICING

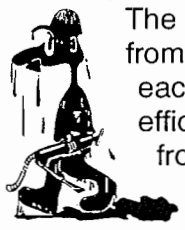
General Maintenance

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 Landsman, 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.

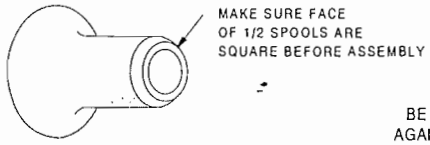
Walking Beam

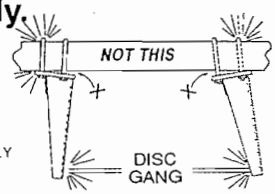
Grease the walking beam every 24 hours of use. When greasing the bearings, lower the unit onto the points or sweeps and raise the walking beams off the ground. Check each walking beam for any slack in the pivot bearings. When slack is found, tighten the axle nut until slack is eliminated and tighten 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.

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.**





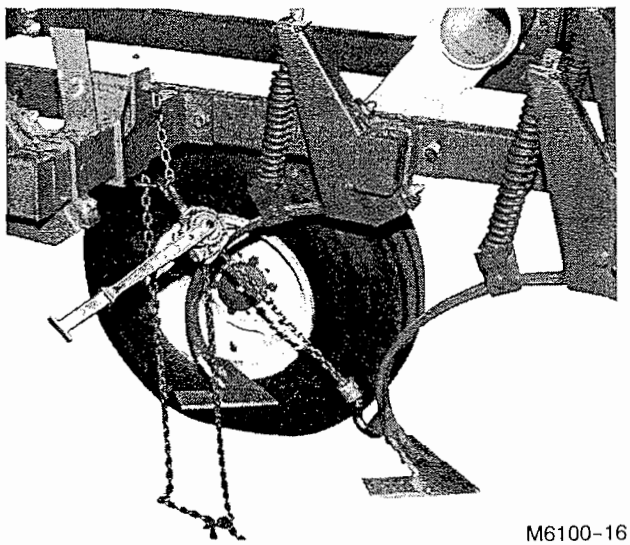
BE SURE THE BEARING ARM FITS FLAT AGAINST THE GANG BEFORE TIGHTENING THE U-BOLTS.

cart.25

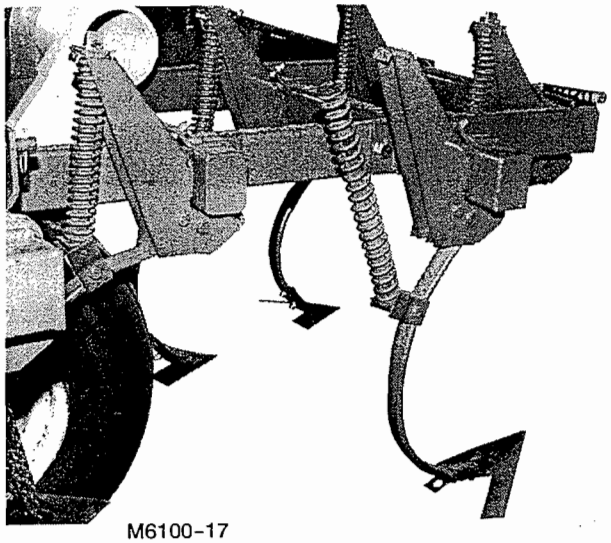
Spring Shank Repair (3127-25-0B)

Check spring shanks periodically for loose bolts and nuts, at this time check for broken springs.

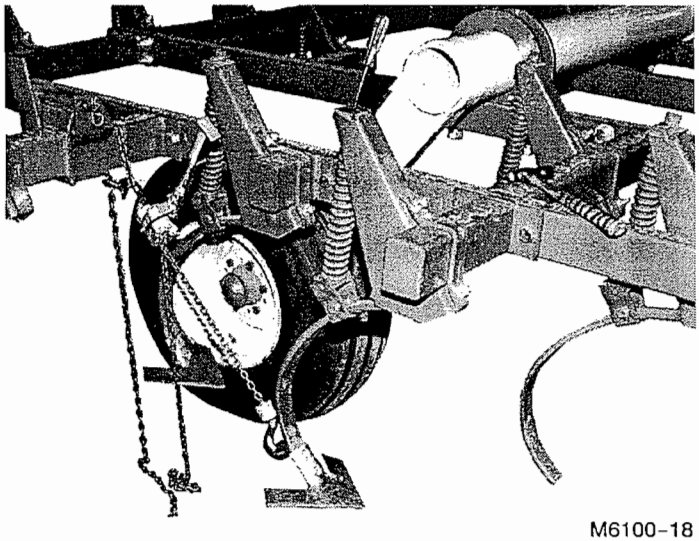
To replace a broken spring first attach a (part #4122-0-14) Winch Bracket to the upper sweep bolt, attach a chain or cable winch to this bracket and around the cultivator frame. Pull up on shank until roll pin is free.



M6100-16



M6100-17



M6100-18

Remove roll pin, lower shank and replace broken spring.

Guide spring rod through slot in the mounting channel with a screwdriver.

Replace Square Washer and Roll Pin. Remove the winch and the 4122-0-14 winch bracket; store bracket on a spring shock clamp bolt.

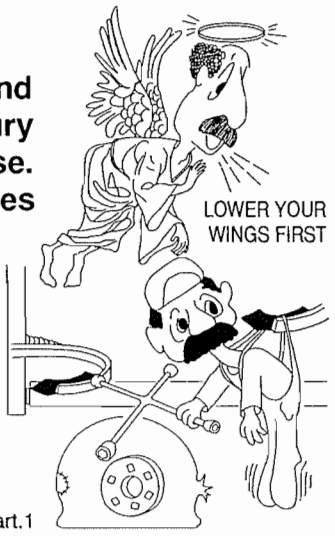
Repair Parts

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 the center section must have a minimum capacity of 4,784 lbs. at 10 m.p.h. for Models 6177 and 6182. Models 6167, 6171 require 3,700 lbs. at 10 m.p.h. Models 6158, 6161 and 6164 require 2,850 lbs. Model 6150 requires 2,850 lbs. with single tires. Models 6150, 6152 and 6155 require 2,320 lbs. with walking beams.

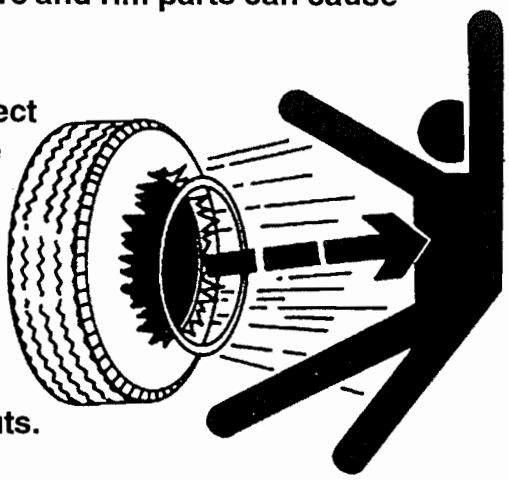
Danger: The wing mounted shanks and points can cause serious injury to anyone that gets too close. Never under any circumstances should anyone be allowed to work under a wing that is in the raised position.



cart.1

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, bubbles, damaged rims or missing lug bolts and nuts.



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 O5–O6 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.

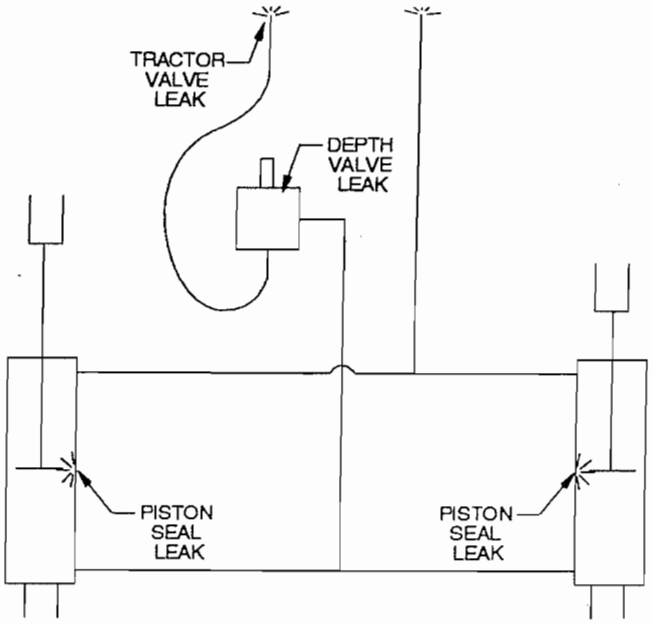
CASE 1: Field Symptom: Model 6150, 6152 or Model 6155 will not maintain set depth

Probable Causes: Tractor valve leak

Test Results: (See page O17) The cylinders are retracting or extending

Location of Leak: IF the cylinders are extending in the field, it is the tractor.

IF the cylinders are retracting it could be either the depth valve or cylinder piston leak.



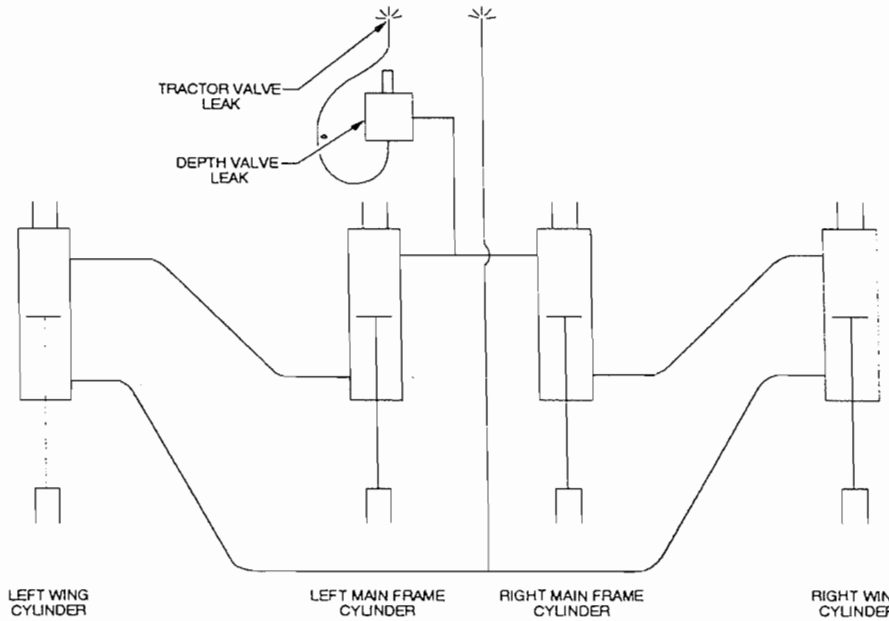
M6100–19

CASE 2: Field Symptom: Wing Model Landsman 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 in the depth valve.



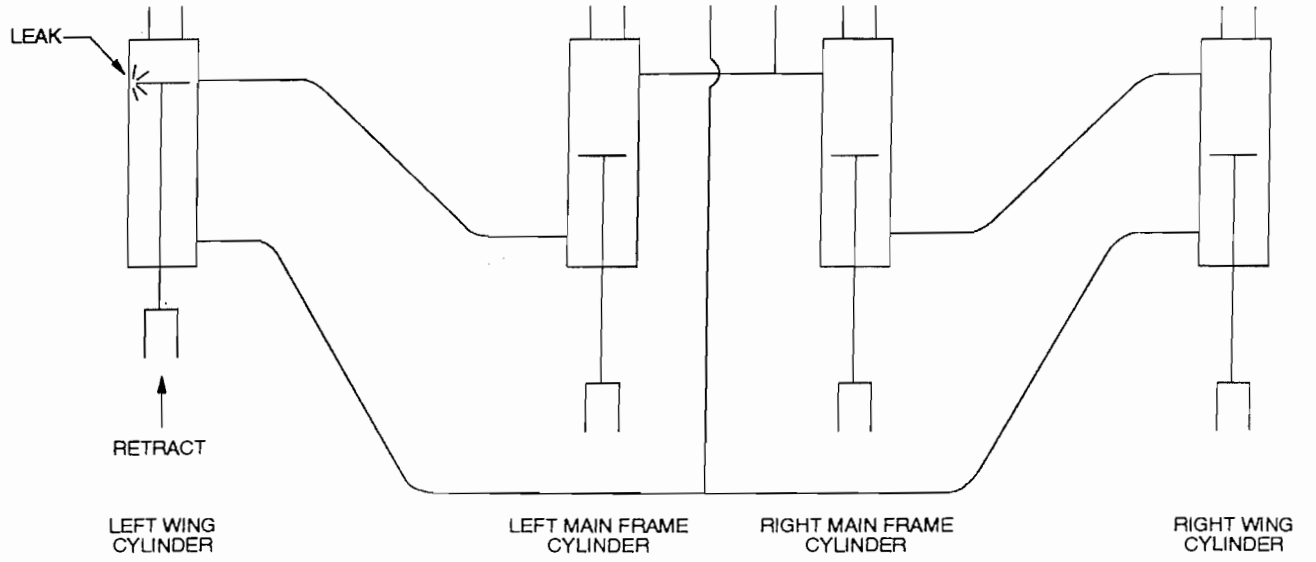
M6100–20

CASE 3: 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.



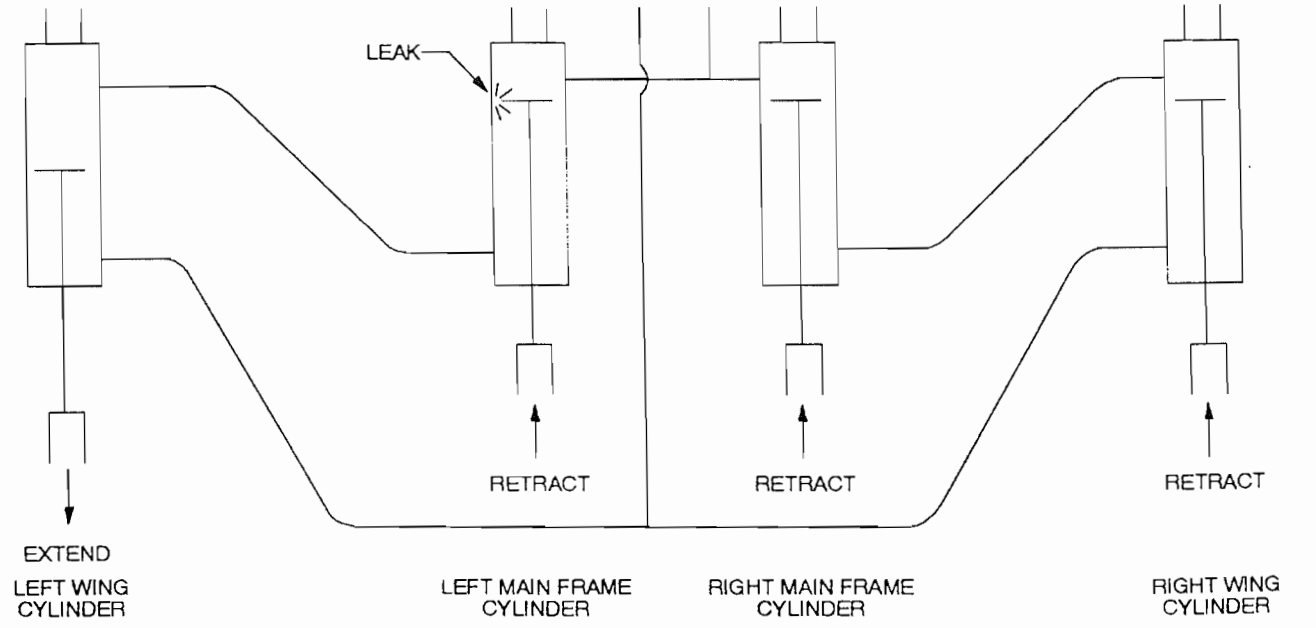
M6100–21

CASE 4: 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.



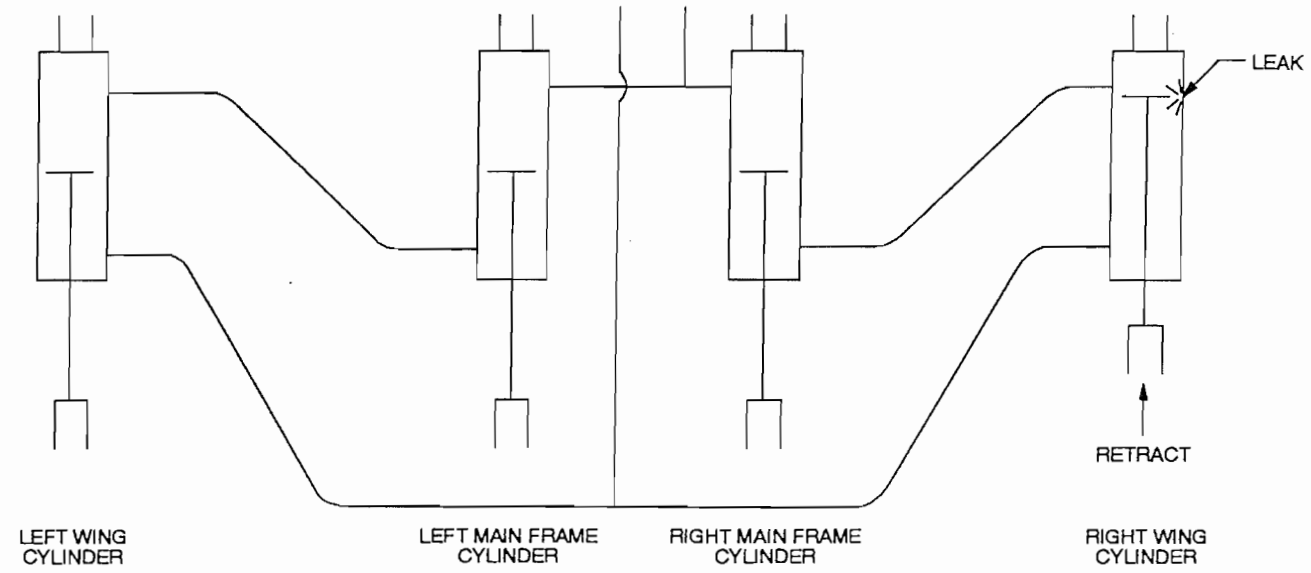
M6100–22

CASE 5: 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.



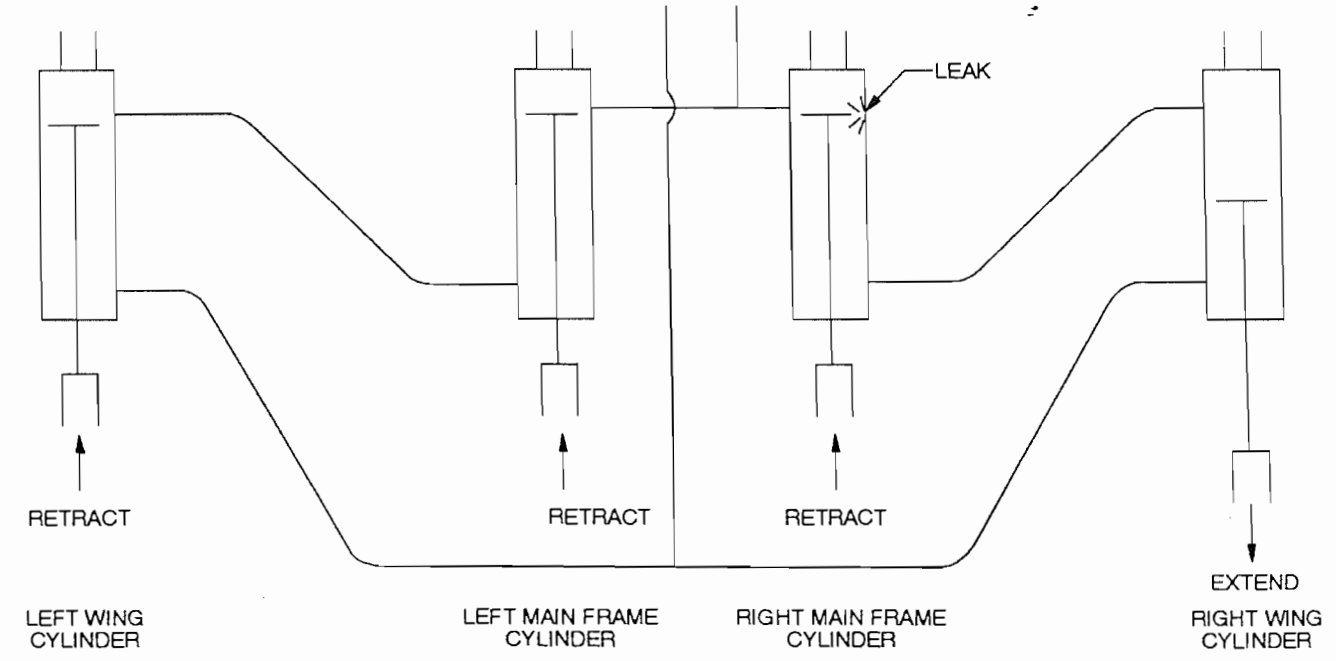
M6100–23

CASE 6: 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.
	Center 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 O10
	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 Landsman 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 O12
	Excessive field speed	Slow down

<u>IMPORTANT:</u> 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 O12
	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
	Wings too deep	Shorten wing eyebolt
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
	Models 6177-6182 , transport valve closed	Open valve
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 valve not plumbed correctly.
	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 unit	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.

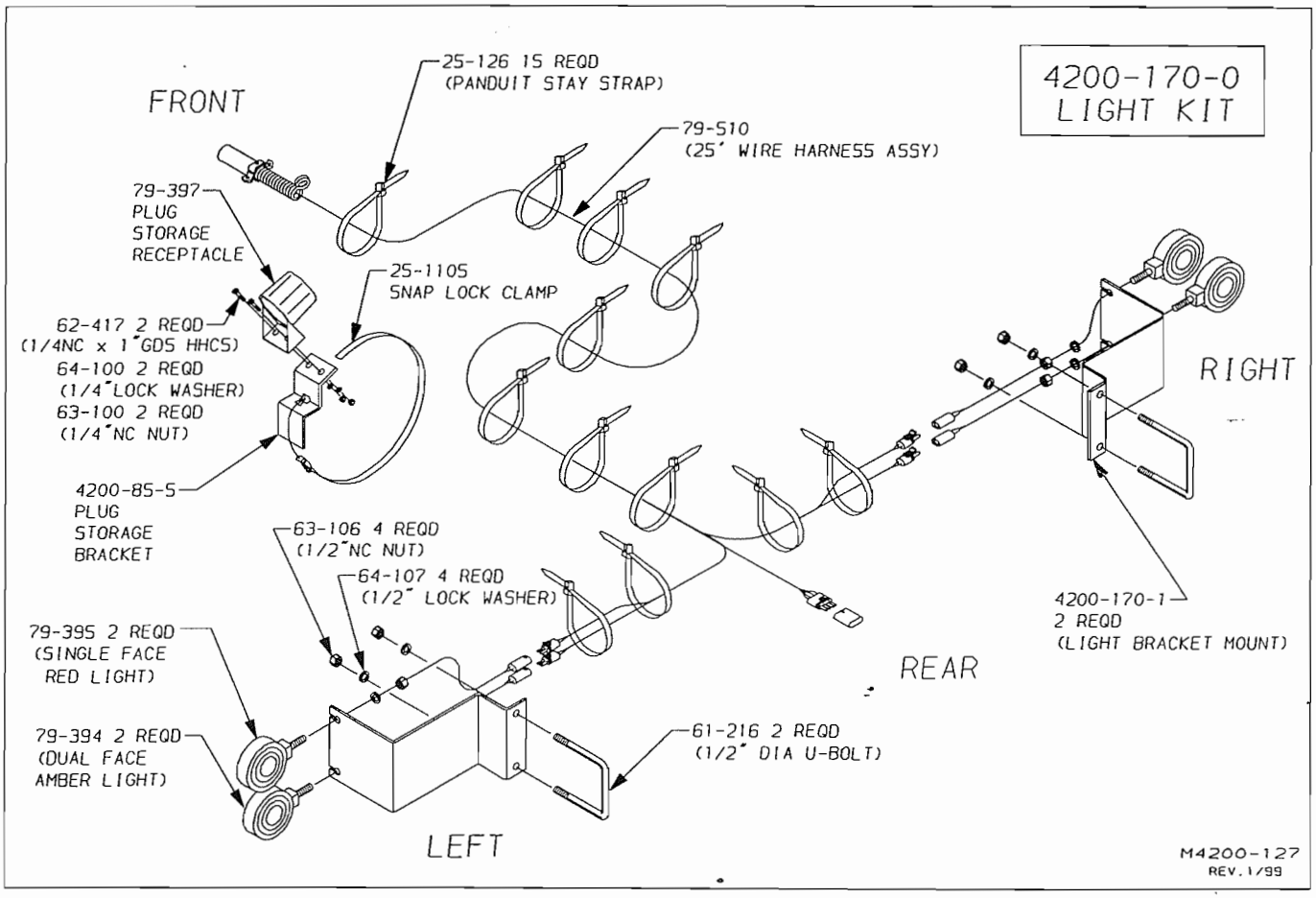
Probable Causes: Cylinder piston leak in cylinder(s) that settle back.

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

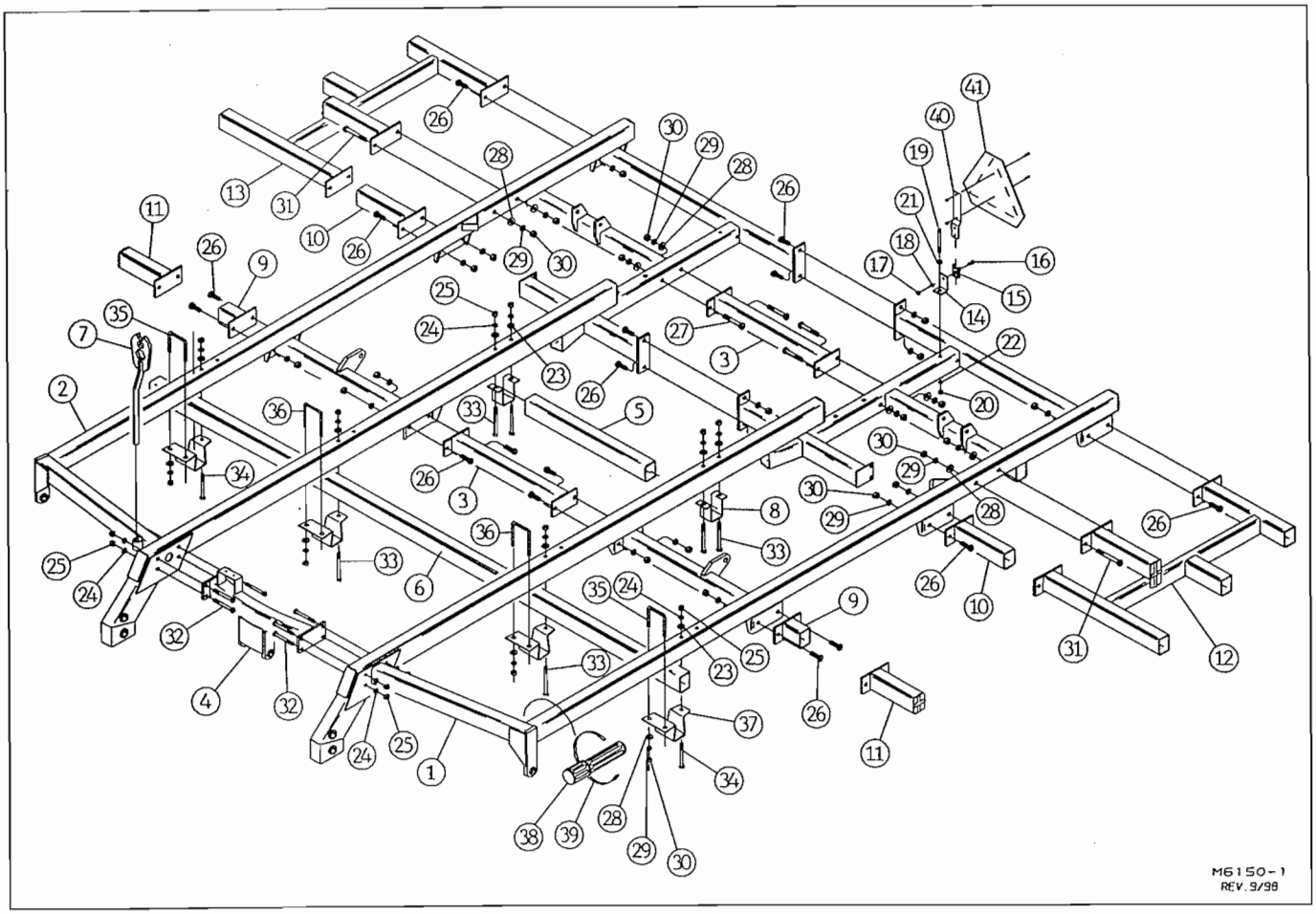
Probable Causes: (a) Hoses are not coupled to tractor properly

(b) Hoses not routed correctly between cylinders

(c) Restrictor fitting in 1st cylinder plugged.


4200-170-0
LIGHT KIT
FRONT
25-126 15 REQD
(PANDUIT STAY STRAP)
79-510
(25' WIRE HARNESS ASSY)
79-397
PLUG
STORAGE
RECEPTACLE
25-1105
SNAP LOCK CLAMP
62-417 2 REQD
(1/4NC x 1"GD5 HHCS)
64-100 2 REQD
(1/4"LOCK WASHER)
63-100 2 REQD
(1/4"NC NUT)
4200-85-5
PLUG
STORAGE
BRACKET
RIGHT
63-106 4 REQD
(1/2"NC NUT)
64-107 4 REQD
(1/2" LOCK WASHER)
4200-170-1
2 REQD
(LIGHT BRACKET MOUNT)
79-395 2 REQD
(SINGLE FACE
RED LIGHT)
REAR
79-394 2 REQD
(DUAL FACE
AMBER LIGHT)
61-216 2 REQD
(1/2" DIA U-BOLT)
LEFT
M4200-127
REV. 1/99

MAIN FRAME ASSEMBLY



FOR MODELS - 6150, 6152, 6155 9/98

Item	Part Number	Part Description	Qty.
1	6112-1-0A	Left Main Frame Weldment	1
2	6112-2-0A	Right Main Frame Weldment	1
3	6112-35-0	Frame Connector Weldment	2
4	6112-40-0A	Front Connector Weldment	1
5	6112-0-1	Shank Box - 34" Long	1
6	•■ 4100-961-1	Beam - 110" Long	1
	★ 6155-450-1	Beam - 160" Long	1
7	6127-25-0	Tie Rod Wrench Weldment	1
8	6150-454-0	Box Clamp Weldment	2
9	■ 4122-60-0	One Shank Extension Wldmnt	2
10	■ 6112-42-0	Two Shank Extension Wldmnt	4
11	★ 4200-42-0	Two Shank Extension Wldmnt	2
12	★ 6115-35-0	Left Four Shank Extension	1
13	★ 6115-36-0	Right Four Shank Extension	1
	4515-59-0	Lamp Bracket Assembly	1
14	4515-59-1	Lamp Bracket	1
15	74-144	Socket Lamp Bracket	1
16	62-131	7/16NC x 1" Carriage Bolt	1
17	63-104	7/16NC Hex Nut	1
18	64-105	7/16" STD. Lock Washer	1
19	62-458	1/2NC x 5" GD5 Cap Screw	1
20	63-107	1/2NC Hex Nut	1
21	64-108	1/2" STD. Flat Washer	1

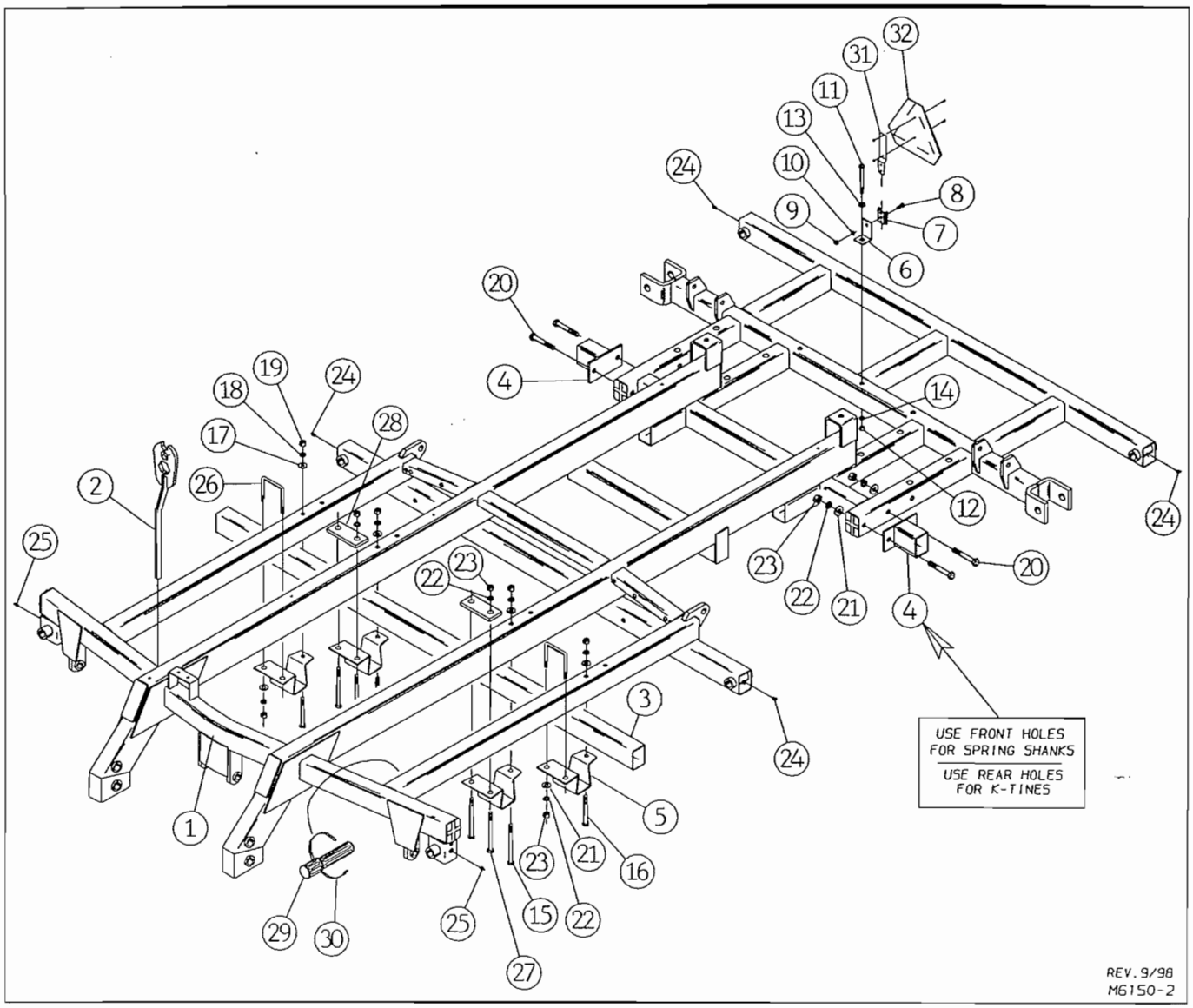
Item	Part Number	Part Description	Qty.
22	64-107	1/2" STD. Lock Washer	1
23	64-110	5/8" STD. Flat Washer	8
24	64-109	5/8" STD. Lock Washer	16
25	63-109	5/8NC Hex Nut	16
26	62-421	3/4NC x 2" GD5 Cap Screw	•8/ 20■★
27	62-203	3/4NC x 4-1/2"GD5 Cap Screw	4
28	64-113	3/4" STD. Flat Washer	Spec
29	64-112	3/4" STD. Lock Washer	Spec
30	63-112	3/4NC Hex Nut	Spec
31	62-207	3/4NC x 5-1/2" GD5 Cap Screw	4
32	62-439	5/8NC x 5" GD5 Cap Screw	8
33	62-330	5/8NC x 6-1/2"GD5 Cap Screw	6
34	62-566	5/8NC x 5-1/2"GD5 Cap Screw	2
35	61-232	3/4" DIA. U-Bolt	2
36	61-207	3/4" DIA. U-Bolt	2
37	6150-454-0	Box Clamp Weldment	4
38	99-192	Owner's Manual Storage Tube	1
39	25-1163	Hose Clamp	1
40	5250-175-0	SMV Sign Assm. & Hardware	1

• Used on Model 6150 ONLY

■ Used on Model 6152 ONLY

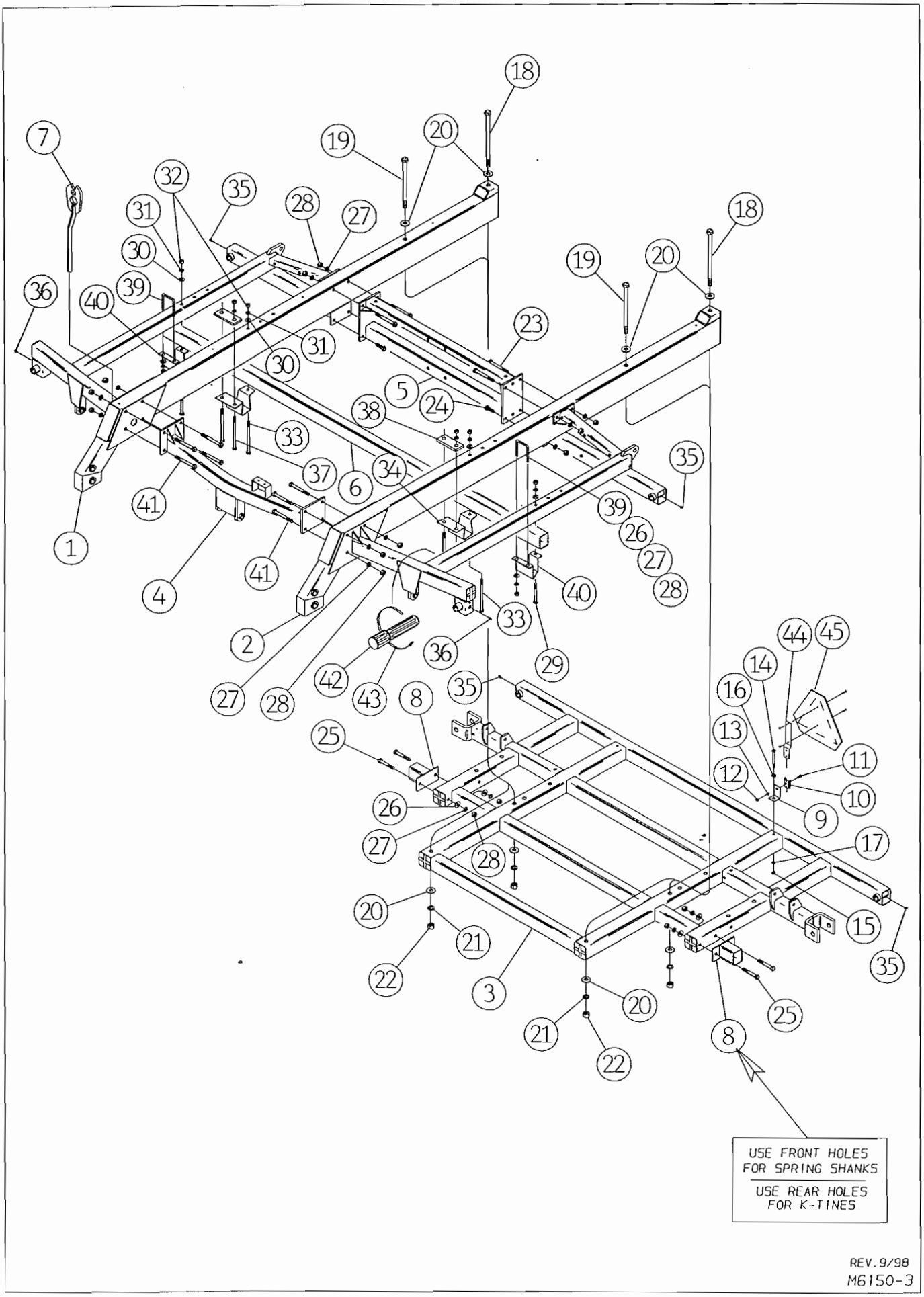
★ Used on Model 6155 ONLY

MAIN FRAME ASSEMBLY



FOR MODELS - 6158, 6161, 6164 9/98

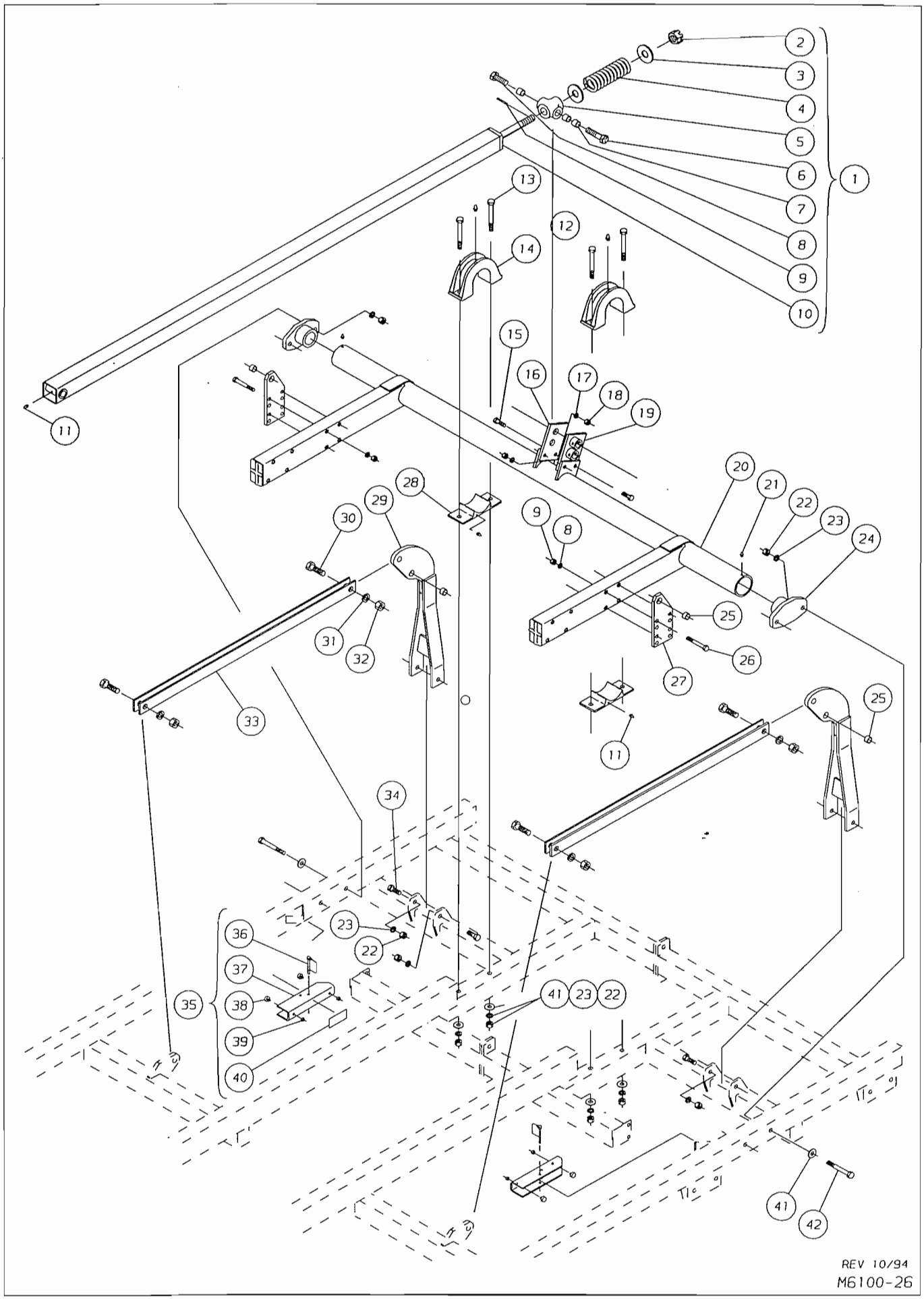
Item	Part Number	Part Description	Qty.	Item	Part Number	Part Description	Qty.
1	6118-1-0B	Main Frame Weldment	1	16	62-566	5/8NC x 5-1/2"GD5 Cap Screw	2
2	6127-25-0	Tie Rod Wrench Weldment	1	17	64-110	5/8" STD. Flat Washer	4
3	6158-455-1	Beam - 103" Long	1	18	64-109	5/8" STD. Lock Washer	4
4	4122-60-0	One Shank Extension Wldmt.	2	19	63-109	5/8NC Hex Nut	4
5	6150-454-0	Box Clamp Weldment	4	20	62-203	3/4NC x 4-1/2"GD5 Cap Screw	4
	4515-59-0	Lamp Bracket Assembly	1	21	64-113	3/4" STD. Flat Washer	8
6	4515-59-1	Lamp Bracket	1	22	64-112	3/4" STD. Lock Washer	12
7	74-144	Socket Lamp Bracket	1	23	63-112	3/4NC Hex Nut	12
8	62-131	7/16NC x 1" Cap Screw	1	24	65-100	1/8NPT x 45° Zerk	4
9	63-104	7/16NC Hex Nut	1	25	65-101	1/8NPT STD. Zerk	2
10	64-105	7/16" STD. Lock Washer	1	26	61-232	3/4" DIA. U-Bolt	2
11	62-458	1/2NC x 5"GD5 Cap Screw	1	27	62-301	3/4NC x 8" GD5 Cap Screw	4
12	63-107	1/2NC Hex Nut	1	28	6300-410-4	Bolt Plate	2
13	64-108	1/2" STD. Flat Washer	1	29	99-192	Owner's Manual Canister	1
14	64-107	1/2" STD. Lock Washer	1	30	25-1163	Hose Clamp	1
15	62-563	5/8NC x 8"GD5 Cap Screw	2	31	5250-175-0	SMV Sign Assm. w/Hardware	1


USE FRONT HOLES FOR SPRING SHANKS
USE REAR HOLES FOR K-TINES
REV. 9/98
M6150-3

MAIN FRAME ASSEMBLY

FOR MODELS - 6167, 6171, 6177, 6182 9/98

Item	Part Number	Part Description	Qty.
1	6127-4-0B	Right Main Frame Weldment	1
2	6127-5-0B	Left Main Frame Weldment	1
3	6127-1-0	Rear Main Frame Weldment	1
4	6127-40-0B	Center Gang Hinge Weldment	1
5	6127-42-0A	Frame Connector Weldment	1
6	6127-455-1	Beam - 133" Long	1
7	6127-25-0	Tie Rod Wrench Weldment	1
8	4122-60-0	One Shank Extension Weldment	2
	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	62-352	1/2NC x 5-1/2" 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	4
24	62-421	3/4NC x 2" GD. 5 Cap Screw	4
25	62-207	3/4NC x 5-1/2" GD. 5 Cap Screw	4
26	64-113	3/4" STD. Flat Washer	4
27	64-112	3/4" STD. Lock Washer	28
28	63-112	3/4NC Hex Nut	28
29	62-566	5/8NC x 5-1/2" GD. 5 Cap Screw	2
30	64-110	5/8" STD. Flat Washer	2
31	64-109	5/8" STD. Lock Washer	4
32	63-109	5/8NC Hex Nut	4
33	62-613	5/8NC x 10" 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	2
40	6150-454-0	Box Clamp	2
41	62-212	3/4NC x 6-1/2" Cap Screw	8
42	99-192	Owner's Manual Storage Canister	1
43	25-1163	Hose Clamp	1
44	5250-175-0	SMV Sign and Hardware Sack (Includes Items 44 and 45)	1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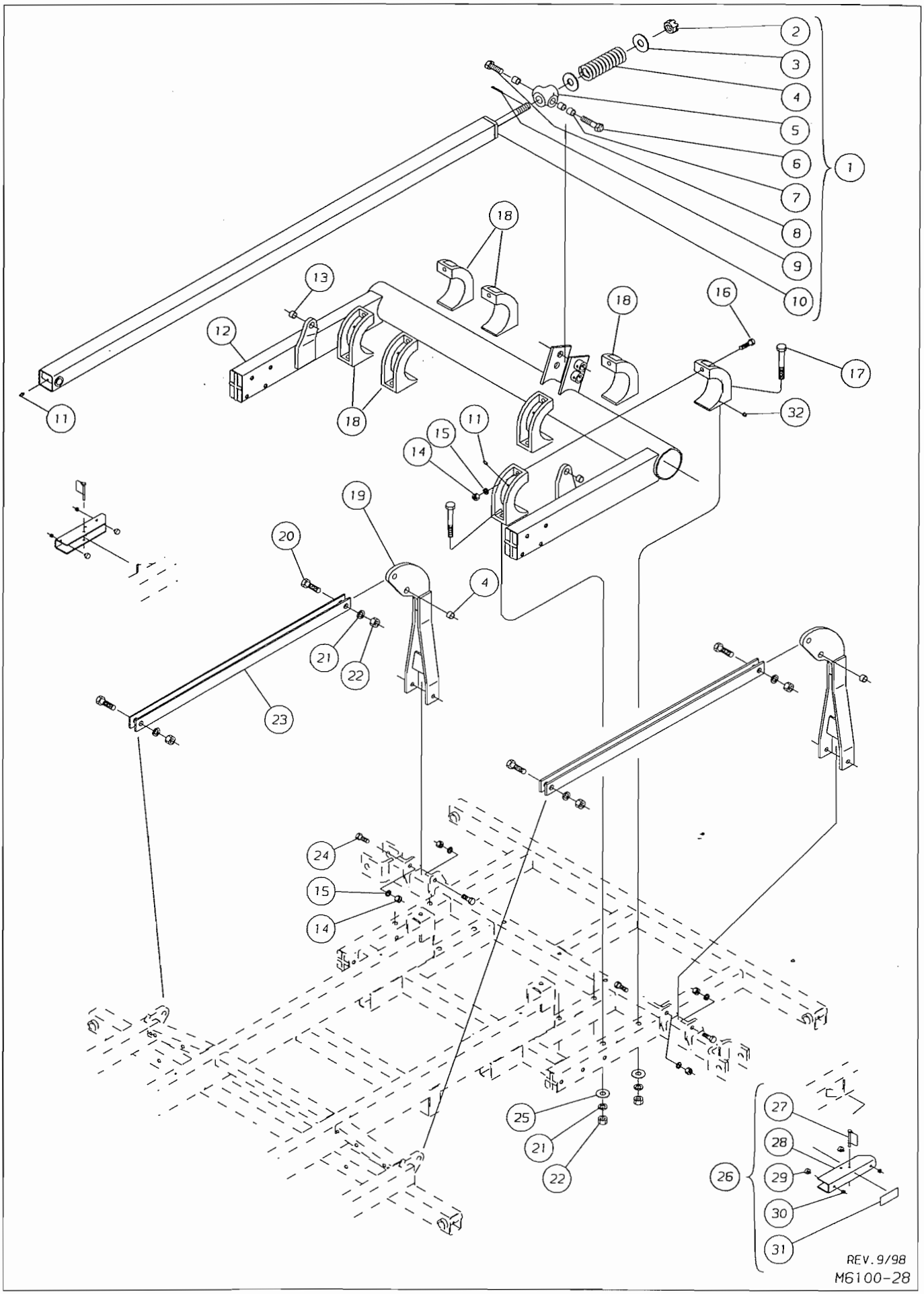
M6100-26

CENTER ROCKER

FOR MODELS - 6150, 6152, 6155 1/97

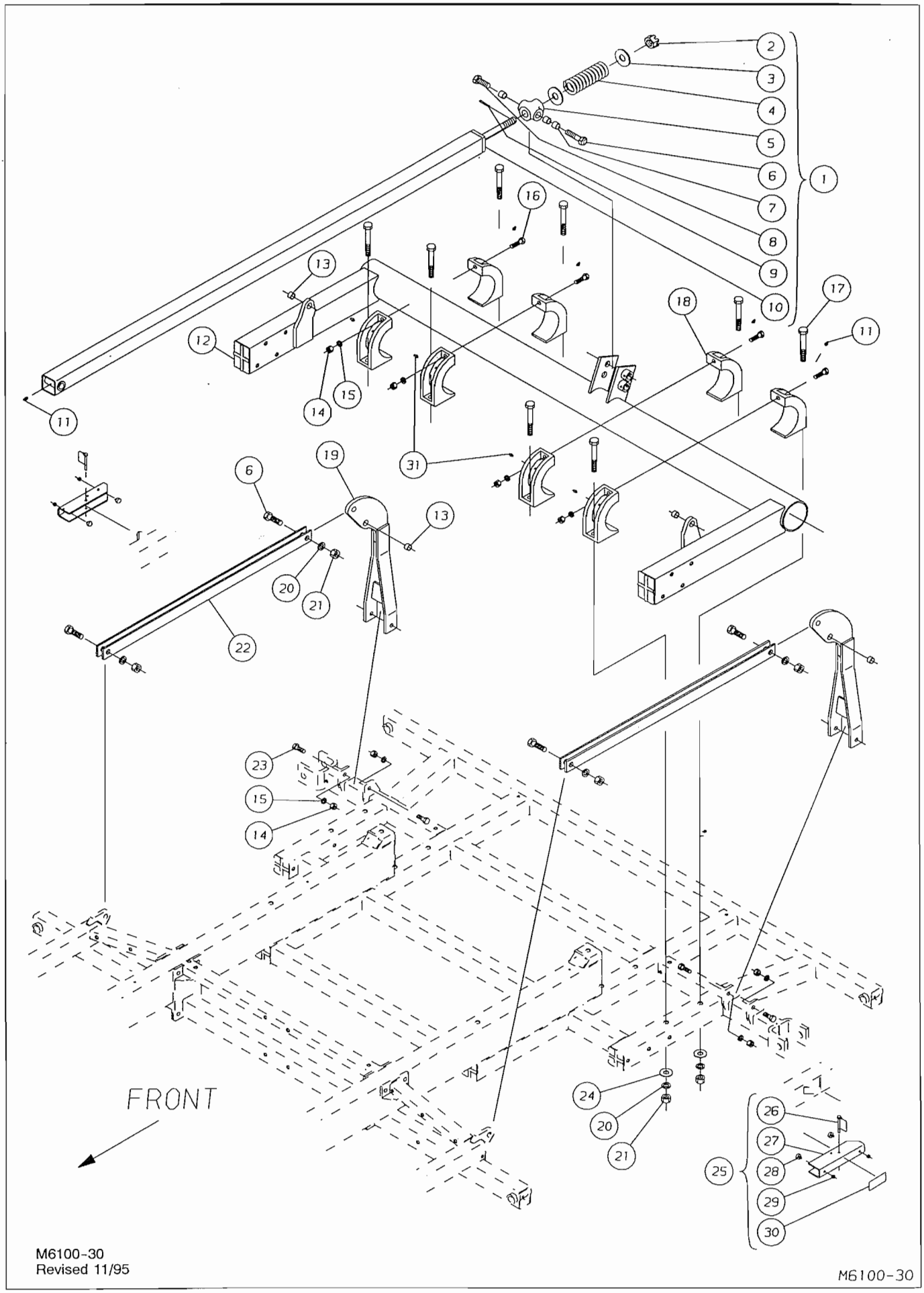
Item	*Part Number*	*Part Description*	*Qty.*
1	6121-75-0	Spring Link Assembly	1
2	63-128	1-1/2NC Slotted Nut	1
3	64-129	1-1/2" STD. Flat Washer	2
4	76-164	Spring	1
5	2426-35-1	Trunnion	1
6	62-237	1NC x 3" Cap Screw	1
7	53-102	Wear Bushing	3
8	62-234	1NC x 2" Cap Screw	1
9	60-617	3/8" DIA. x 2-1/2" Roll Pin	1
10	6121-76-0	Link Weldment	1
11	65-101	1/8NPT Zerk	3
12	65-103	1/4NPT Zerk	2
13	62-210	3/4NC x 6" GD.5 Cap Screw	4
14	1112-0-7A	Rocker Shaft Clamp	2
15	62-169	5/8NC x 2" GD.5 Cap Screw	4
16	6112-11-1	Lug	1
17	64-109	5/8" STD. Lock Washer	12
18	63-109	5/8NC Hex Nut	12
19	6112-11-0	Lug Weldment	1
20	6112-10-0	Main Rocker Weldment	1
21	65-110	1/8" Drive Zerk	2
22	63-112	3/4NC Hex Nut	12
23	64-112	3/4" STD. Lock Washer	12
24	4122-0-8A	Rocker Bearing	2
25	53-102	Wear Sleeve	4
26	62-339	5/8NC x 4-1/2" GD.5 Cap Screw	8
27	6127-89-0	Wing Cylinder Lug Assembly	2
28	595-0-11	Rocker Bearing Plate	2
29	6127-86-0	Cylinder Bracket Weldment	2
30	62-237	1NC x 3" Cap Screw	4
31	64-118	1" STD. Lock Washer	4
32	63-117	1NC Hex Nut	4
33	6136-87-0	Cylinder Bracket Link Weldment	2
34	62-421	3/4NC x 2" GD.5 Cap Screw	4
35	6124-17-0	Road Lock Assembly	2
36	60-103	5/16" DIA. P.T.O. Pin	1
37	6124-17-1	Road Lock	1
38	44-107	Threaded Bumper	2
39	63-102	3/8NC Hex Nut	2
40	74-365	Road Lock Decal	1
41	64-113	3/4" STD. Flat Washer	8
42	62-207	3/4NC x 5-1/2" GD.5 Cap Screw	4


REV.9/98
M6100-28

CENTER ROCKER

FOR MODELS - 6158, 6161, 6164 9/98

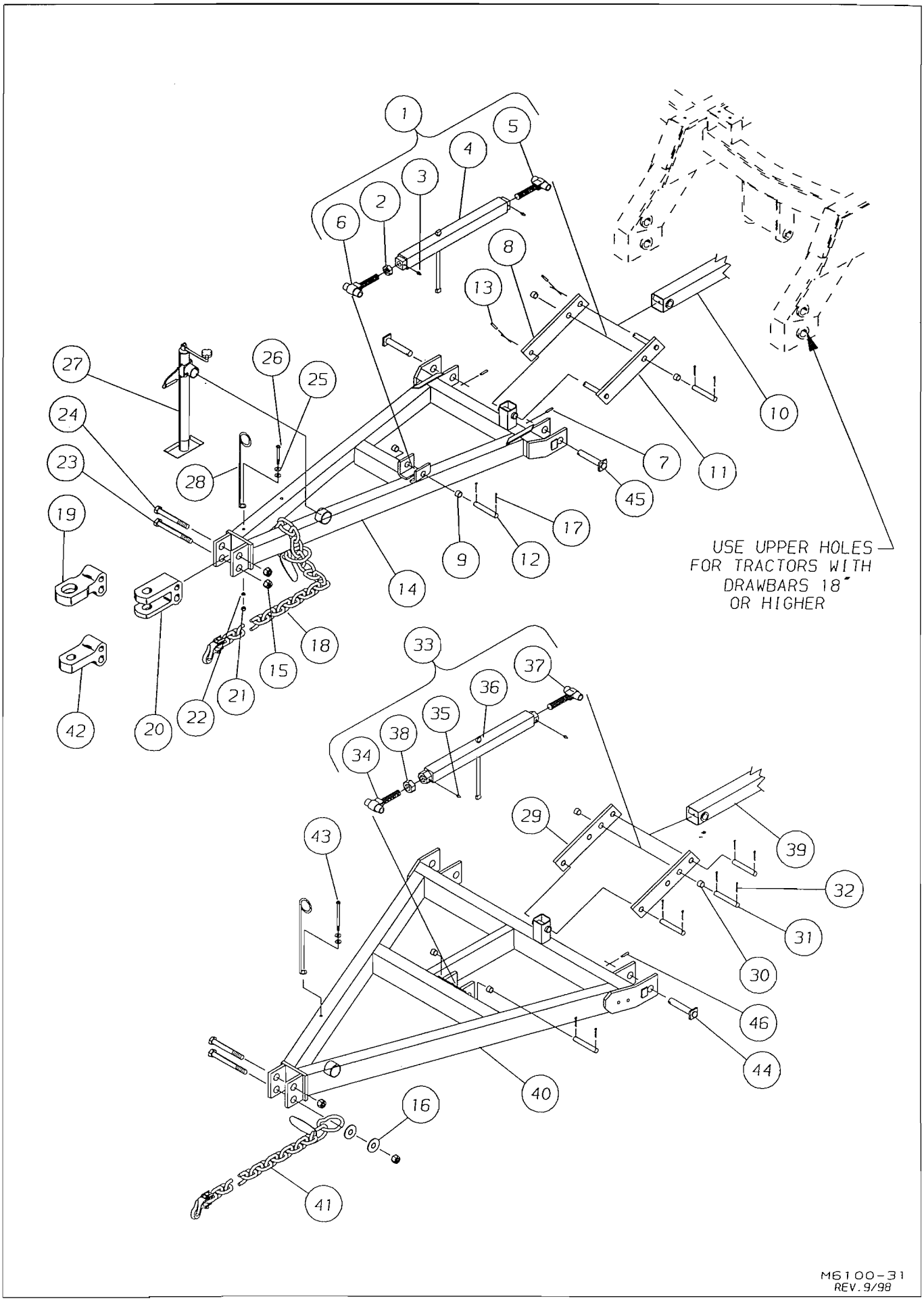
Item	*Part Number*	*Part Description*	*Qty.*
1	6121-75-0	Spring Link Assembly	1
2	63-128	1-1/2NC Slotted Nut	1
3	64-129	1-1/2" STD. Flat Washer	2
4	76-164	Spring	1
5	2426-35-1	Trunnion	1
6	62-237	1NC x 3" Cap Screw	1
7	53-102	Wear Bushing	3
8	62-234	1NC x 2" Cap Screw	1
9	60-617	3/8" DIA. x 2-1/2" Roll Pin	1
10	6121-76-0	Link Weldment	1
11	65-101	1/8NPT Zerk	8
12	6118-10-0	Main Rocker Weldment	1
13	53-102	Wear Sleeve	4
14	63-112	3/4NC Hex Nut	8
15	64-112	3/4" STD. Lock Washer	8
16	62-195	3/4NC x 2-1/2" GD.5 Cap Screw	4
17	62-250	1NC x 6-1/2" Cap Screw	8
18	2145-0-16	Rocker Shaft Clamp Half	8
19	6127-86-0	Cylinder Bracket Weldment	2
20	62-237	1NC x 3" Cap Screw	4
21	64-118	1" STD. Lock Washer	12
22	63-117	1NC Hex Nut	12
23	6136-87-0	Cylinder Bracket Link Weldment	2
24	62-421	3/4NC x 2" GD.5 Cap Screw	4
25	64-119	1" STD. Flat Washer	8
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
32	65-102	1/8NPT x 90° Zerk	2


FRONT
M6100-30
Revised 11/95
M6100-30

CENTER ROCKER

FOR MODELS - 6167, 6171, 6177, 6182 1/97

Item	*Part Number*	*Part Description*	*Qty.*
1	6131-75-0	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	5
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	6131-76-0	Link Weldment	1
11	65-101	1/8NPT Zerk	9
12	6127-10-0	Main Rocker Weldment	1
13	53-102	Wear Sleeve	4
14	63-112	3/4NC Hex Nut	8
15	64-112	3/4" STD. Lock Washer	8
16	62-195	3/4NC x 2-1/2" GD.5 Cap Screw	4
17	62-250	1NC x 6-1/2" Cap Screw	8
18	2145-0-16	Rocker Shaft Clamp Half	8
19	6127-86-0	Cylinder Bracket Weldment	2
20	64-118	1" STD. Lock Washer	12
21	63-117	1NC Hex Nut	12
22	6136-87-0	Cylinder Bracket Link Weldment	2
23	62-421	3/4NC x 2" GD.5 Cap Screw	4
24	64-119	1" STD. Flat Washer	4
25	6124-17-0	Road Lock Assembly	2
26	60-103	5/16" DIA. P.T.O. Pin	1
27	6124-17-1	Road Lock	1
28	44-107	Threaded Bumper	2
29	63-102	3/8NC Hex Nut	2
30	74-365	Road Lock Decal	1
31	65-102	1/8NPT x 90° Zerk	4


USE UPPER HOLES
FOR TRACTORS WITH
DRAWBARS 18"
OR HIGHER
M6100-31
REV. 9/98

TONGUE & JACK ASSEMBLY

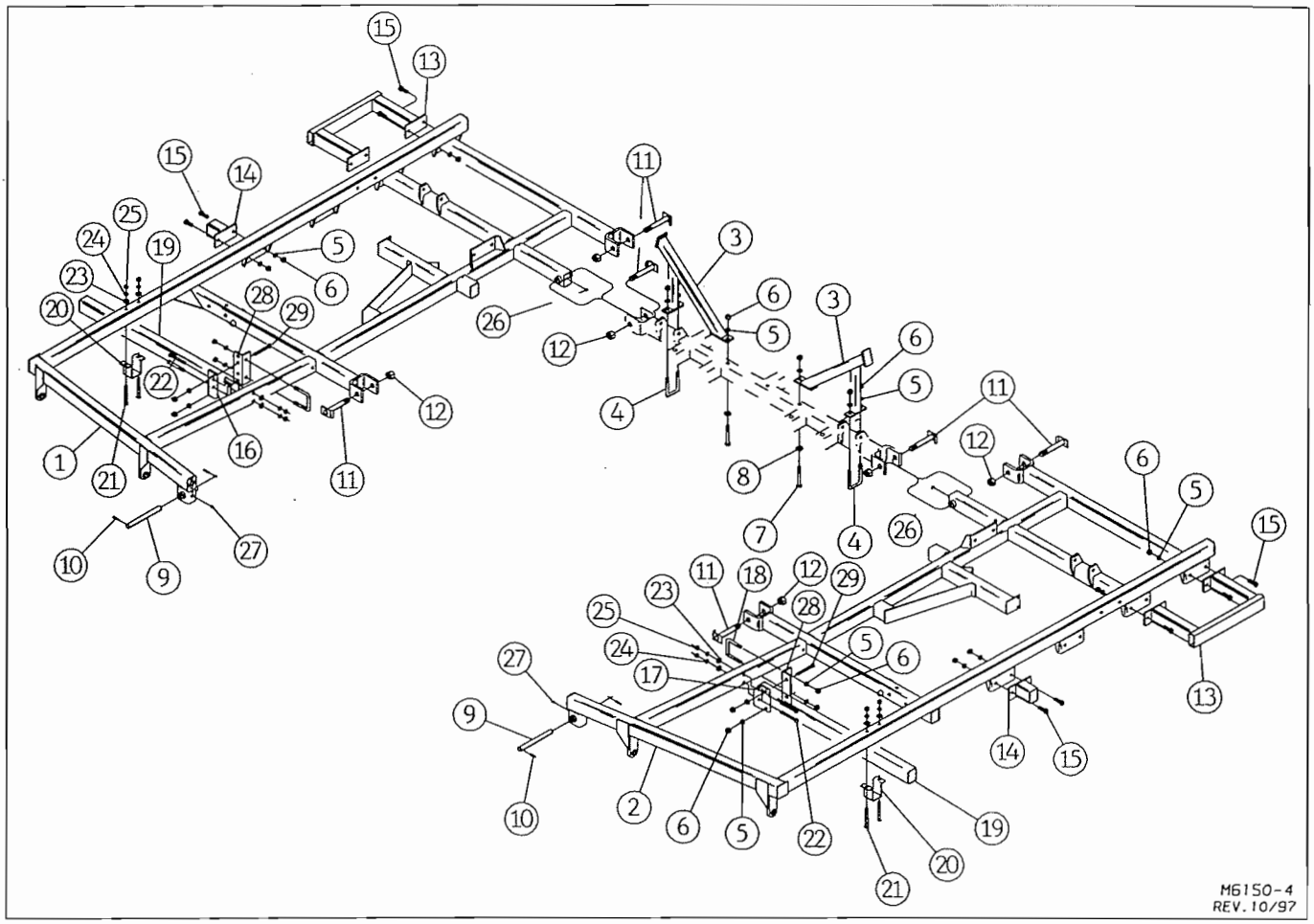
FOR MODELS - ALL 8/00

Item	Part Number	Part Description	Qty.
1	★ 6127-80-0	Jack Assembly	1
2	★ 63-124	1-1/4NC Hex Jam Nut	1
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
6	★ 6127-78-0	Right Hand Threaded End	1
7	★ 60-614	3/8" DIA. x 1-3/4" Roll Pin	2
8	★ 6118-77-0	Strap	1
9	★ 53-116	Wear Bushing	4
10	★ 6121-75-0	Leveling Link Weldment	1
11	★ 6127-76-0	Link Weldment	1
12	★ 3950-0-2	Pin	2
13	★ 60-614	3/8" DIA. x 1-3/4" Roll Pin	2
14	★ 6118-30-0A	Tongue Weldment	1
15	63-126	1-1/4NC STD. Lock Nut	2
16	64-126	1-1/4" STD. Flat Washer	2
17	★ 60-605	1/4" DIA. x 1-1/2" Roll Pin	2
18	★ 72-351	10,000# Safety Chain	1
19	5215-0-4007A	Hitch Clevis Casting	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
27	73-100	Jack	1
28	24-100	Hose Stand	1
29	• 6142-77-0A	Strap Assembly	2
30	• 53-113	Bushing	1
31	• 6127-0-11	Pin	2
32	• 60-606	1/4" DIA. x 2" Roll Pin	4
33	• 6142-80-0	Jack Assembly	8
34	• 6142-82-0	Right Hand Threaded End	1
35	• 65-101	1/8NPT STD. Zerk	2
36	• 6142-81-0	Jack Body Weldment	1
37	• 6142-83-0	Left Hand Threaded End	1
38	• 63-129	1-1/2NC Hex Jam Nut	1
39	• 6131-75-0	Leveling Link Weldment	1
40	• 6127-30-0A	Tongue Weldment	1
41	• 72-352	20,000# Safety Chain	1
42	3950-0-10	Single Hitch Clevis Casting	1
43	• 62-547	1/2NC x 6-1/2" GD.5 Cap Screw	1
44	• 6127-83-0	Tongue Pin Weldment	2
45	★ 6118-83-0	Tongue Pin Weldment	2
46	• 60-615	3/8" DIA. x 2" Roll Pin	2

★ For Models 6150, 6152, 6155, 6158 & 6161 ONLY

• For Models 6167, 6171, 6177 & 6182 ONLY

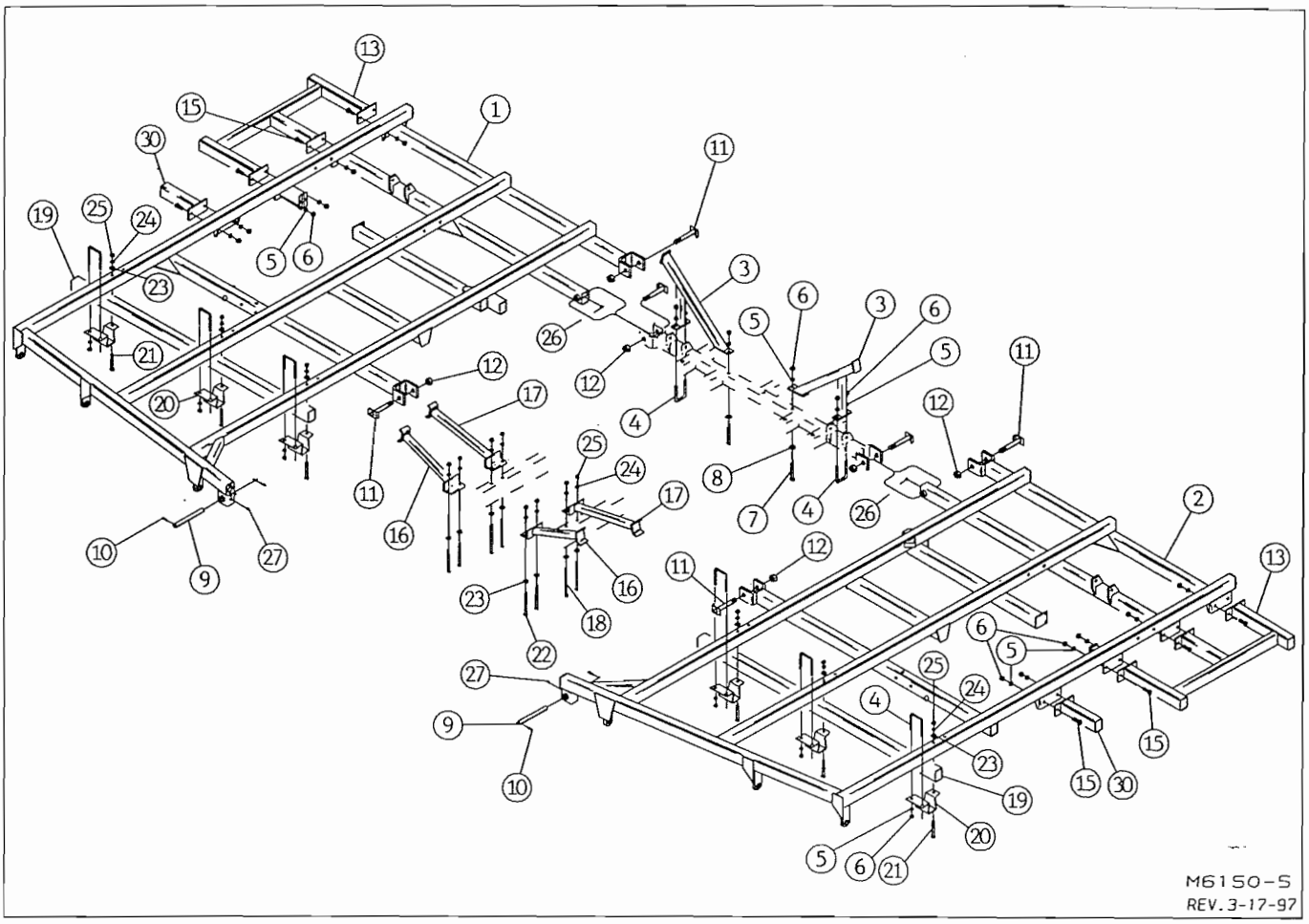
WING FRAME ASSEMBLY



FOR MODELS - 6158, 6161 10/97

Item	Part Number	Part Description	Qty.	Item	Part Number	Part Description	Qty.
1	6118-18-0	Right Wing Frame Weldment	1	22	62-339	5/8NC x 4-1/2" GD5 Cap Screw	4
2	6118-20-0	Left Wing Frame Weldment	1	23	64-110	5/8" STD. Flat Washer	8
3	6118-27-0A	Wing Stop Weldment	1	24	64-109	5/8" STD. Lock Washer	8
4	61-232	3/4" DIA. U-Bolt	2	25	63-109	5/8NC Hex Nut	8
5	64-112	3/4" STD. Lock Washer	14/22*	26	65-100	1/8NPT ẋ 45 Zerk	2
6	63-112	3/4NC Hex Nut	14/22*	27	65-101	1/8NPT STD. Zerk	2
7	62-207	3/4NC x 5-1/2"GD5 Cap Screw	2	28	6158-0-1	Box Mount	2
8	64-113	3/4" STD. Flat Washer	2	29	62-205	3/4NC x 5" Cap Screw	4
9	6127-0-9	Hinge Pin	2				
10	60-614	3/8"DIA. x 1-3/4" Roll Pin	4				
11	6127-88-0	Hinge Bolt Weldment	6				
12	63-126	1-1/4NC Self Lock Nut	6				
13	★ 6177-42-0	Extension Weldment	2				
14	★ 4122-60-0	Shank Extension Weldment	2				
15	★ 62-421	3/4NC x 2" GD5 Cap Screw	8				
16	6118-0-4	Right Angle	1				
17	6118-0-5	Left Angle	1				
18	61-149	3/4" DIA. U-Bolt	2				
19	6118-455-1	Beam - 54-1/2" Long	2				
20	6127-454-0	Box Clamp Weldment	2				
21	62-182	5/8NC x 5-1/2" GD5 Cap Screw	4	★ Used on Model 6161 ONLY			

WING FRAME ASSEMBLY



FOR MODELS - 6164, 6167 AND 6171

3/97

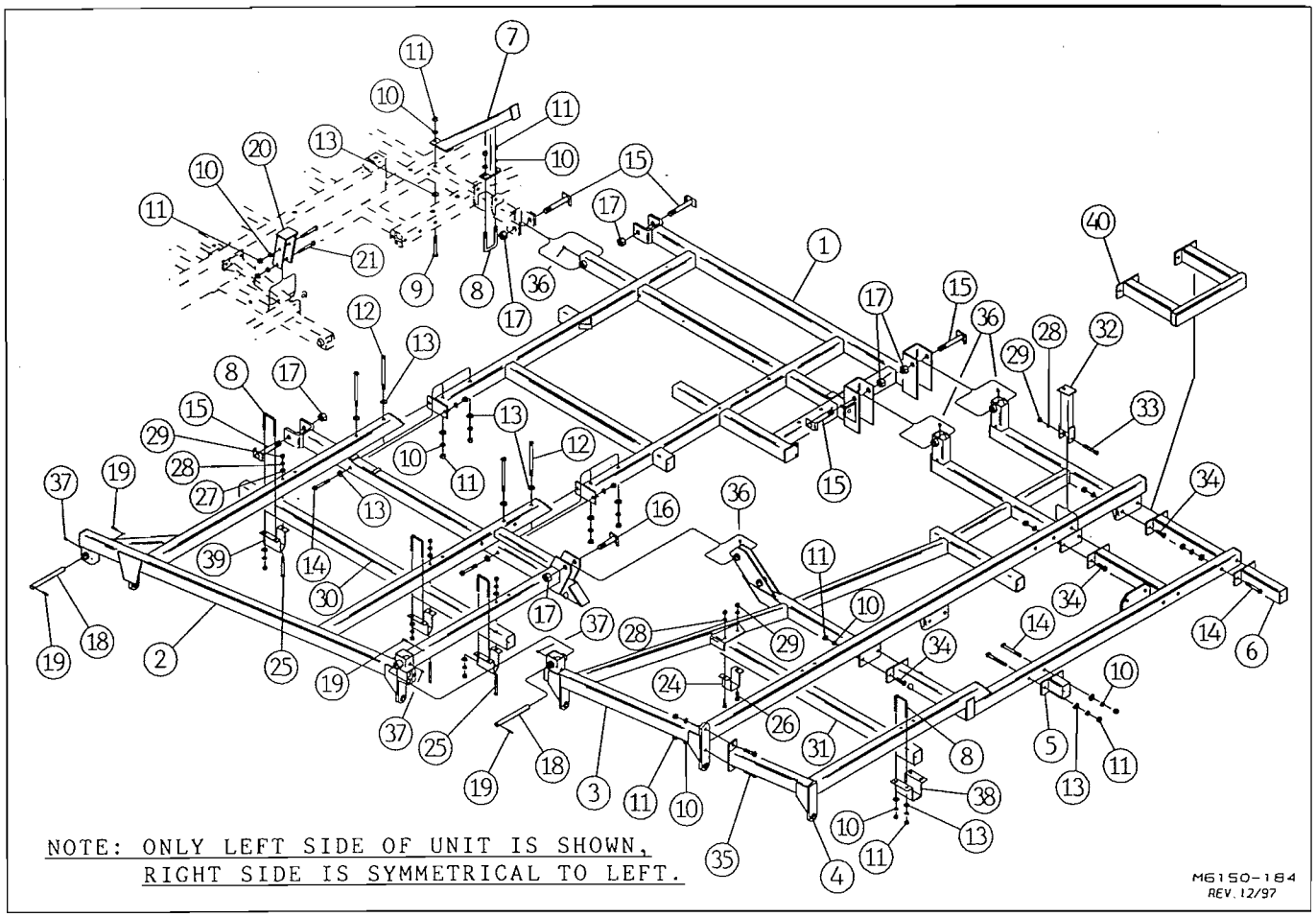
Item	Part Number	Part Description	Qty.
1	6127-18-0	Right Wing Frame Weldment	1
2	6127-20-0	Left Wing Frame Weldment	1
3	6127-27-0A	Wing Stop Weldment	2
4	61-232	3/4" DIA. U-Bolt	8
5	64-112	3/4" STD. Lock Washer	18/34■
6	63-112	3/4NC Hex Nut	18/34■
7	62-207	3/4NC x 5-1/2"GD5 Cap Screw	2
8	64-113	3/4" STD. Flat Washer	2
9	6127-0-9	Hinge Pin	2
10	60-614	3/8"DIA. x 1-3/4" Roll Pin	4
11	6127-88-0	Hinge Bolt Weldment	6
12	63-126	1-1/4NC Self Lock Nut	6
13	■ 6131-35-0B	Extension Weldment	2
14			
15	■ 62-421	3/4NC x 2" GD5 Cap Screw	16
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"GD5 Cap Screw	2
19	2885-163-1	Beam - 97" Long	2
20	6150-454-0	Box Clamp Weldment	6
21	62-566	5/8NC x 5-1/2" GD5 Cap Screw	6
22	★ 62-433	5/8NC x 4-1/2" GD5 Cap Screw	2
23	64-110	5/8" STD. Flat Washer	10
24	64-109	5/8" STD. Lock Washer	10
25	63-109	5/8NC Hex Nut	10
26	65-100	1/8NPT x 45 Zerk	2
27	65-101	1/8NPT STD. Zerk	2
28	★ 62-563	5/8NC x 8" GD5 Cap Screw	2
29	● 62-613	5/8NC x 10" Cap Screw	2
30	■ 6112-42-0	Extension Weldment	2

★ Used on Model 6164 ONLY

■ Used on Model 6171 ONLY

● Used on Models 6167 and 6171 ONLY

WING FRAME ASSEMBLY



FOR MODELS - 6177, 6182

12/97

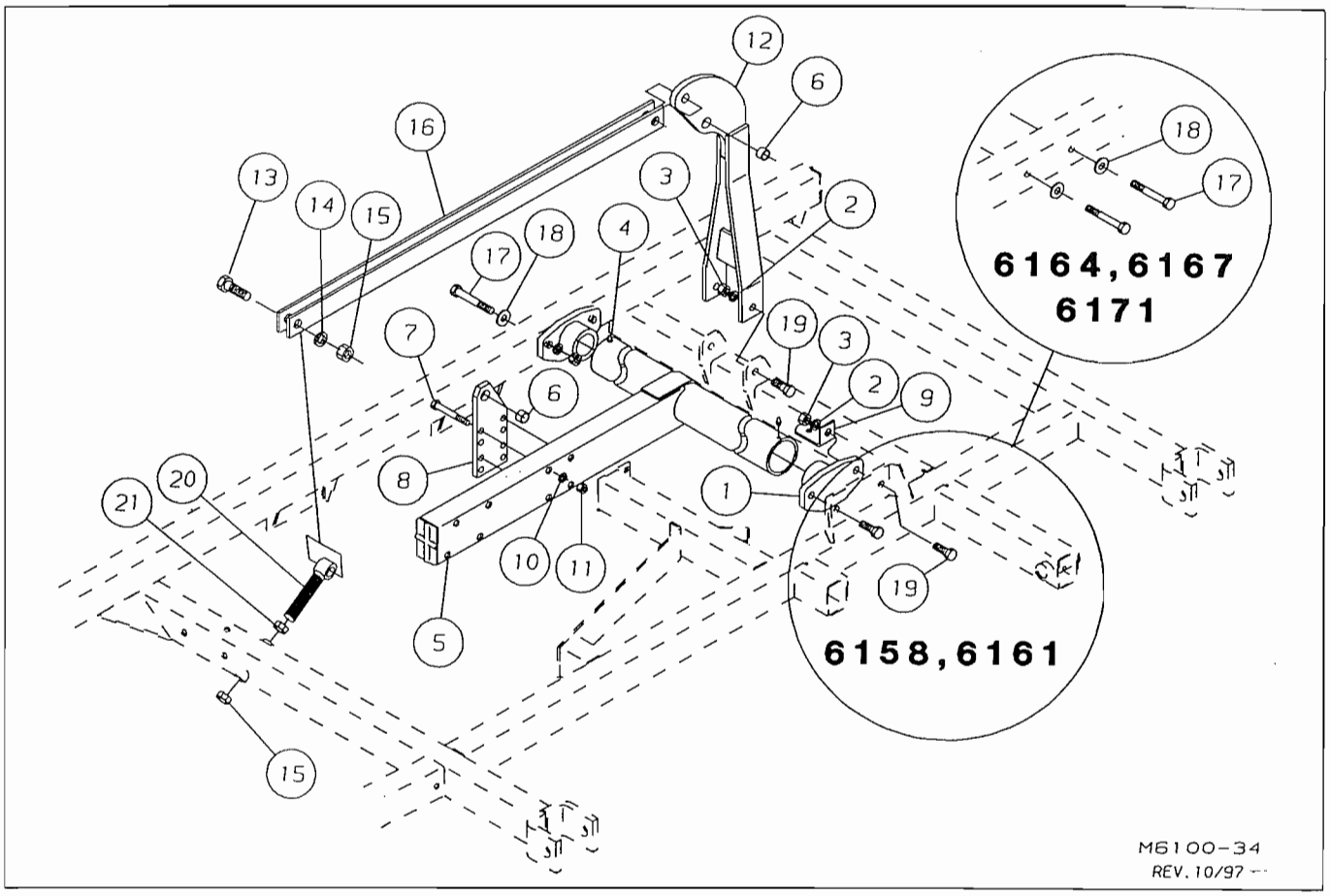
Item	Part Number	Part Description	Qty.
1	• 6136-20-0	Rear Half Wing Weldment, Left	1
	6136-18-0	Rear Half Wing Wldmnt, Right	1
2	• 6136-23-0	Front Half Wing Weldment, Left	1
	6136-26-0	Front Half Wing Wldment, Right	1
3	• 6136-39-0	Outer Wing Weldment, Left	1
	6136-46-0	Outer Wing Weldment, Right	1
4	▪ 6139-20-0	Outer Wing Weldment, Left	1
	▪ 6139-18-0	Outer Wing Weldment, Right	1
5	▪ 4122-60-0	One Shank Extension Wldmnt	2
6	▪ 6112-42-0	Two Shank Extension Wldmnt	2
7	6136-34-0A	Wing Stop Weldment	2
8	61-232	3/4"DIA. U-Bolt	12/16▪
9	62-207	3/4NC x 5-1/2" GD5 Cap Screw	2
10	64-112	3/4" STD. Lock Washer	36/64▪
11	63-112	3/4NC Hex Nut	36/64▪
12	62-222	3/4NC x 9-1/2" Machine Bolt	8
13	64-113	3/4" STD. Flat Washer	36/48▪
14	62-203	3/4NC x 4-1/2" GD5 Cap Screw	8/16▪
15	6127-88-0	Hinge Bolt Weldment (Long)	10
16	6136-88-0	Hinge Bolt Weldment (Short)	2
17	63-126	1-1/4NC Self Locking Nut	12
18	6127-0-9	Hinge Pin	4
19	60-614	3/8" DIA. x 1-3/4" Roll Pin	8
20	6139-51-0	Wing Stop Weldment	2
21	62-205	3/4NC x 5" GD5 Cap Screw	4
22			
23			
24	6127-454-0	Box Clamp Weldment	2
25	62-566	5/8NC x 5-1/2" GD5 Cap Screw	6
26	62-169	5/8NC x 2" GD5 Cap Screw	4
27	64-110	5/8" STD. Flat Washer	6
28	64-109	5/8" STD. Lock Washer	10/12★
29	63-109	5/8NC Hex Nut	10/12★
30	2885-163-1	Beam - 97" Long	2
31	★ 6136-455-1	Beam - 35" Long	2
	▪ 4513-165-1	Beam - 70" Long	2
32	★ 6136-35-0	Outer Wing Stop Weldment	2
33	★ 62-178	5/8NC x 4" GD5 Cap Screw	2
34	62-421	3/4NC x 2" GD5 Cap Screw	8/12
35	▪ 62-195	3/4NC x 2-1/2" GD5 Cap Screw	4
36	65-100	1/8NPT x 45° Zerk	8
37	65-101	1/8NPT STD. Zerk	6
38	6300-0-1	Box Clamp	2/4▪
39	6150-454-0	Box Clamp Weldment	6
40	★ 6177-42-0	Extension Weldment	2

★ Used for Model 6177 ONLY

▪ Used for Model 6182 ONLY

• Left Side of implement Shown Right Side Opposite

WING ROCKER



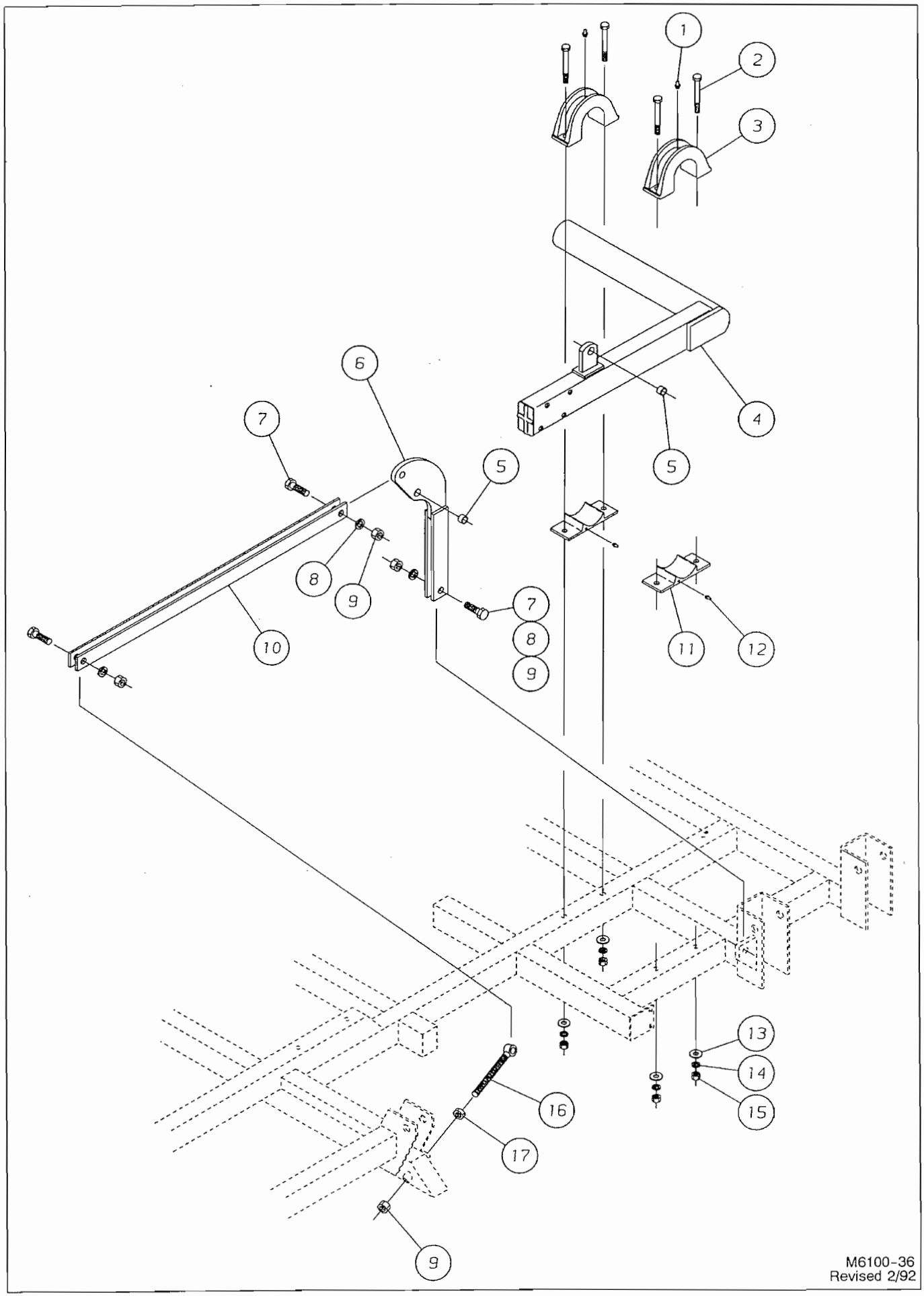
FOR MODELS - 6158, 6161, 6164, 6167, 6171 8/00

Item	*Part Number*	*Part Description*	*Qty.*
1	4122-0-8A	Rocker Bearing	2
2	64-112	3/4" STD. Lock Washer	6
3	63-112	3/4NC Hex Nut	6
4	65-110	1/8" Thread Cutting Zerk	2
5	★ 6127-12-0	Wing Rocker Weldment (SHOWN)	1
	★ 6127-13-0	Wing Rocker Weldment	1
6	53-102	Wear Sleeve	4
7	62-339	5/8NC x 4-1/2" GD.5 Cap Screw	4
8	6127-89-0	Wing Cylinder Lug Assembly	1
9	• 6118-0-1	Hose Bracket	1
10	64-109	5/8" STD. Lock Washer	4
11	63-109	5/8NC Hex Nut	4
12	6127-86-0	Cylinder Bracket Weldment	1
13	62-237	1NC x 3" Cap Screw	2
14	64-118	1"STD. Lock Washer	2
15	63-117	1NC Hex Nut	3
16	6136-87-0	Cylinder Bracket Link Weldment	1
17	62-205	3/4NC x 5" GD.5 Cap Screw	Spec.
18	64-113	3/4" STD. Flat Washer	Spec.
19	• 62-421	3/4NC x 2" GD.5 Cap Screw	Spec.
20	61-241	Eyebolt	1
21	63-118	1NC Jam Nut	1

• Models 6158 & 6161 ONLY

★ **NOTE:** **6127-12-0 Rocker Weldment** is used on the Right Wing for Models 6158 & 6161, and on the Left Wing for Models 6164, 6167 & 6171

6127-13-0 Rocker Weldment is used on the Left Wing for Models 6158 & 6161, and on the Right Wing for Models 6164, 6167 & 6171



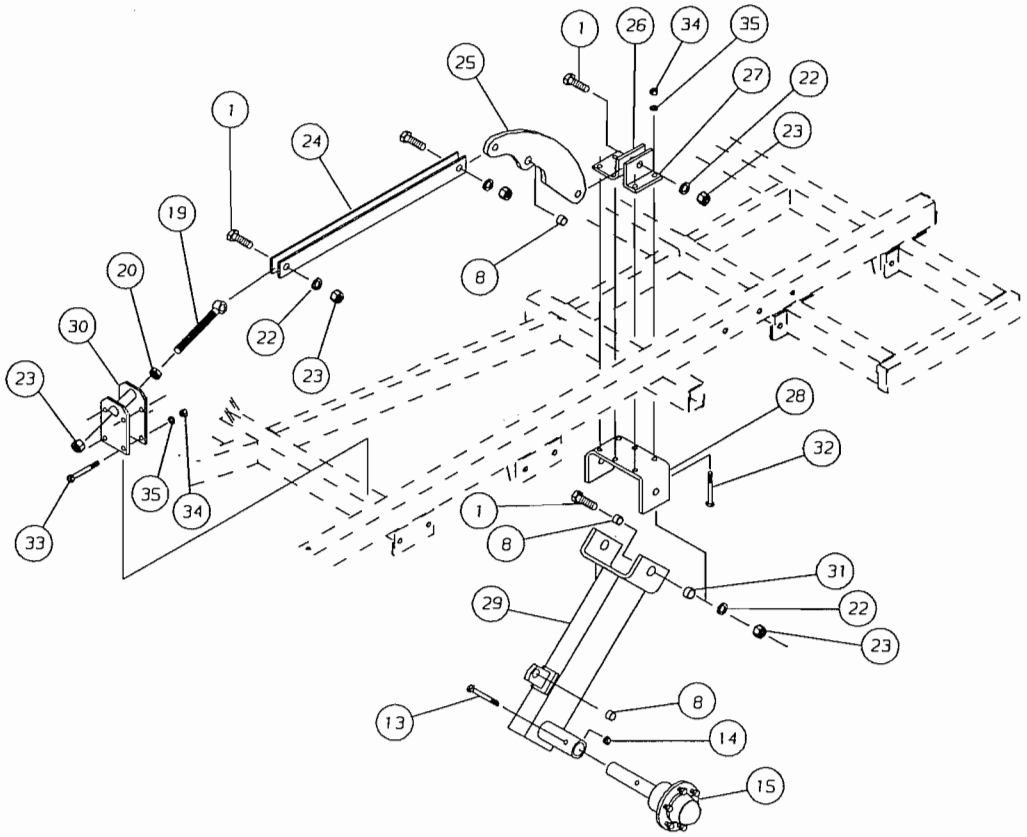
M6100-36
Revised 2/92

INNER WING ROCKER

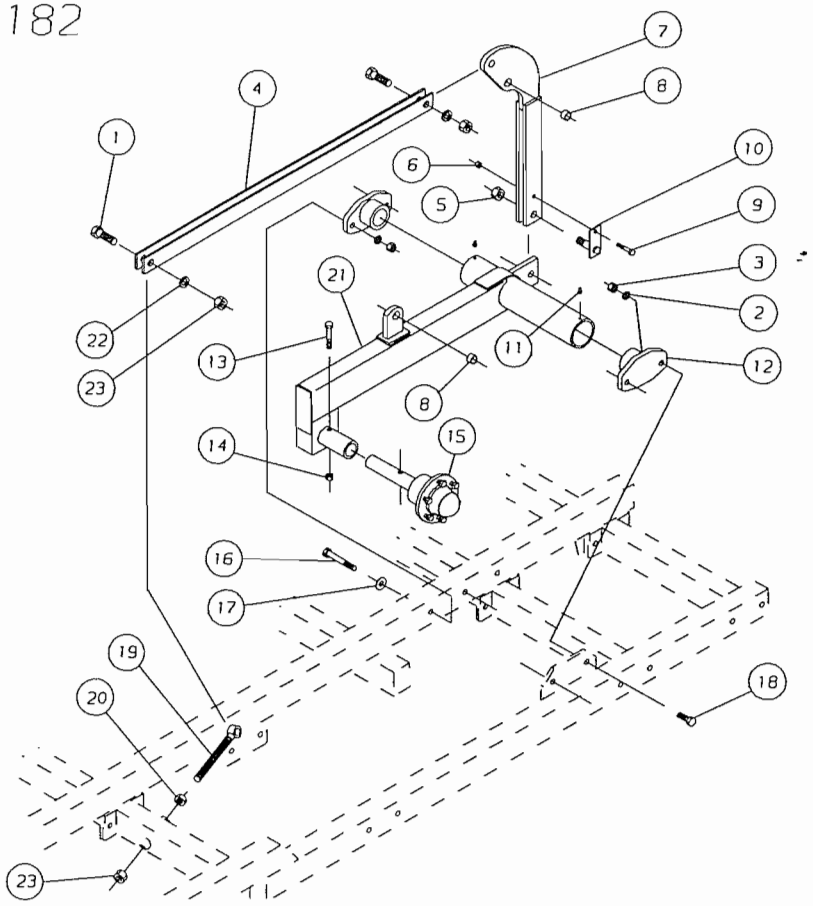
FOR MODELS - 6177, 6182 8/00

Item	*Part Number*	*Part Description*	*Qty.*
1	65-103	1/4NPT Zerk	2
2	62-210	3/4NC x 6" GD.5 Cap Screw	4
3	1112-0-7A	Rocker Shaft Clamp	2
4	6136-13-0	Left Wing Rocker Weldment (SHOWN)	1
	6136-12-0	Right Wing Rocker Weldment	1
5	53-102	Wear Sleeve	2
6	6136-86-0	Cylinder Bracket Weldment	1
7	62-237	1NC x 3" Cap Screw	3
8	64-118	1"STD. Lock Washer	3
9	63-117	1NC Hex Nut	3
10	6136-87-0	Cylinder Bracket Link Weldment	1
11	595-0-11	Rocker Bearing Plate	2
12	65-101	1/8NPT Zerk	2
13	64-113	3/4" STD. Flat Washer	4
14	64-112	3/4" STD. Lock Washer	4
15	63-112	3/4NC Hex Nut	4
16	61-241	Eyebolt	1
17	63-118	1NC Jam Nut	1

MODEL 6177



MODEL 6182



M6100-37
REV 5-20-96

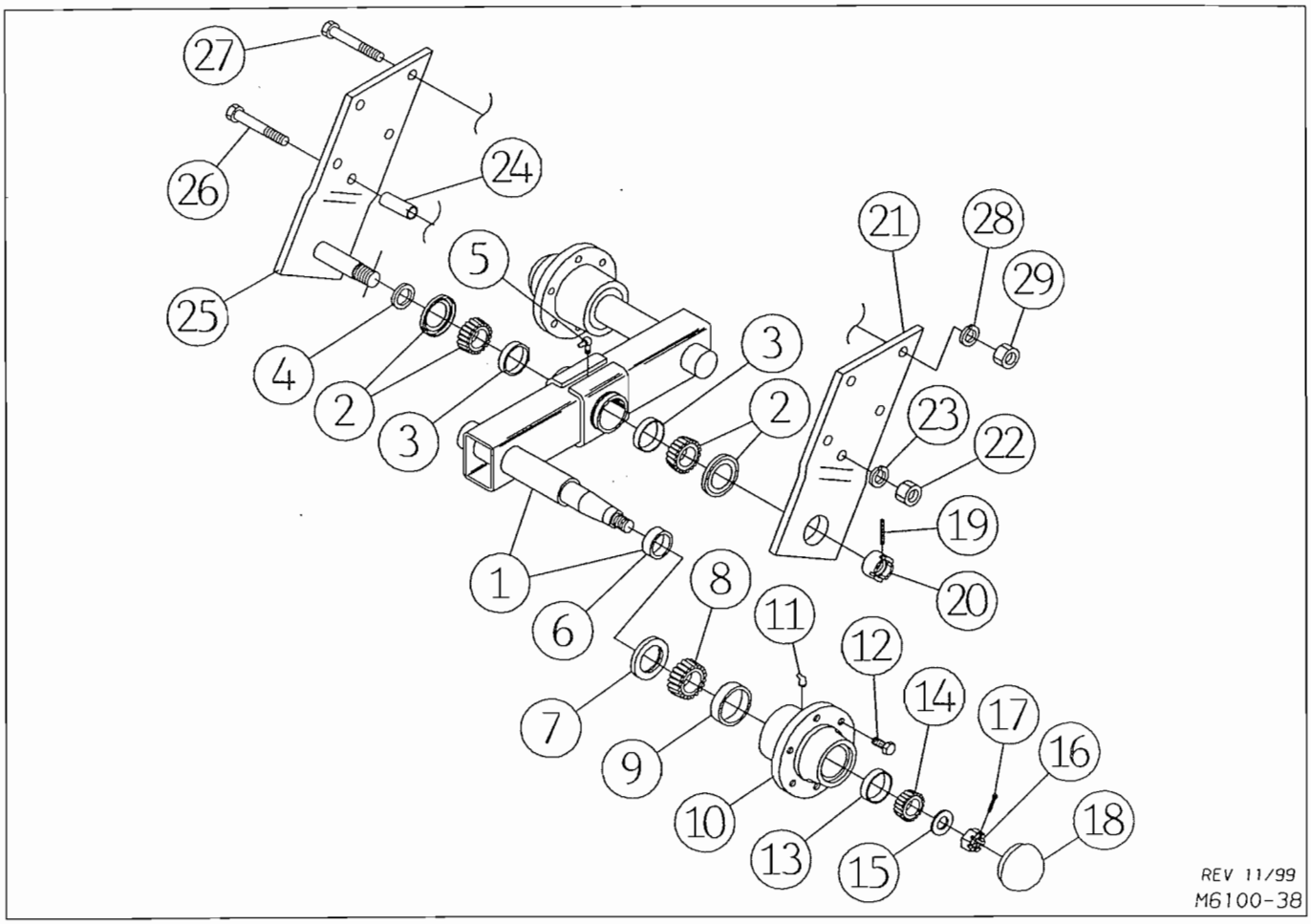
OUTER WING ROCKER

FOR MODELS - 6177 & 6182 8/00

Item	Part Number	Part Description	6177	6182
1	62-237	1NC x 3" Cap Screw	5	2
2	64-112	3/4" STD. Lock Washer		4
3	63-112	3/4NC Hex Nut		4
4	6136-87-0	Cylinder Bracket Link Weldment		1
5	63-119	1NC Self Locking Nut		1
6	63-107	1/2NC Self Locking Nut		1
7	6139-86-0	Cylinder Bracket Weldment		1
8	53-102	Wear Sleeve	4	2
9	62-151	1/2NC x 3" GD. 5 Cap Screw		1
10	4805-44-0	Pivot Pin Weldment		1
11	65-110	1/8NPT Thread Cutting Zerk		2
12	4122-0-8A	Rocker Bearing		2
13	62-176	5/8NC x 3-1/2" GD. 5 Cap Screw	1	1
14	63-110	5/8NC Self Locking Nut	1	1
15	★ 4122-17-0	Hub and Axle Assembly	1	1
16	62-205	3/4NC x 5" GD. 5 Cap Screw		1
17	64-113	3/4" STD. Flat Washer		4
18	62-421	3/4NC x 2" GD. 5 Cap Screw		2
19	61-241	Eyebolt	1	1
20	63-118	1NC Jam Nut	1	1
21	6142-13-0	Left Wing Rocker Weldment (SHOWN)		1
	6142-12-0	Right Wing Rocker Weldment		1
22	64-118	1" STD. Lock Washer	5	2
23	63-117	1NC Hex Nut	6	3
24	6177-87-0	Cylinder Link Weldment	1	
25	6177-86-0	Cylinder Lug Assembly	1	
26	6177-80-1	Angle Bracket	1	
27	6177-80-2	Angle Bracket	1	
28	6177-80-3	Rocker Mount	1	
29	6177-81-0	Left Wing Rocker (SHOWN)	1	
	6177-82-0	Right Wing Rocker	1	
30	6177-88-0	Linkage Bracket	1	
31	53-113	Wear Sleeve (1-1/2" O.D. x 1-1/4" I.D.)	2	
32	62-393	5/8NC x 6" GD.5 Cap Screw	6	
33	62-339	5/8NC x 4" GD.5 Cap Screw	4	
34	63-109	5/8NC Hex Nut	10	
35	64-109	5/8" STD. Lock Washer	10	

★ See page P25 for parts listing

WALKING BEAM ASSEMBLY



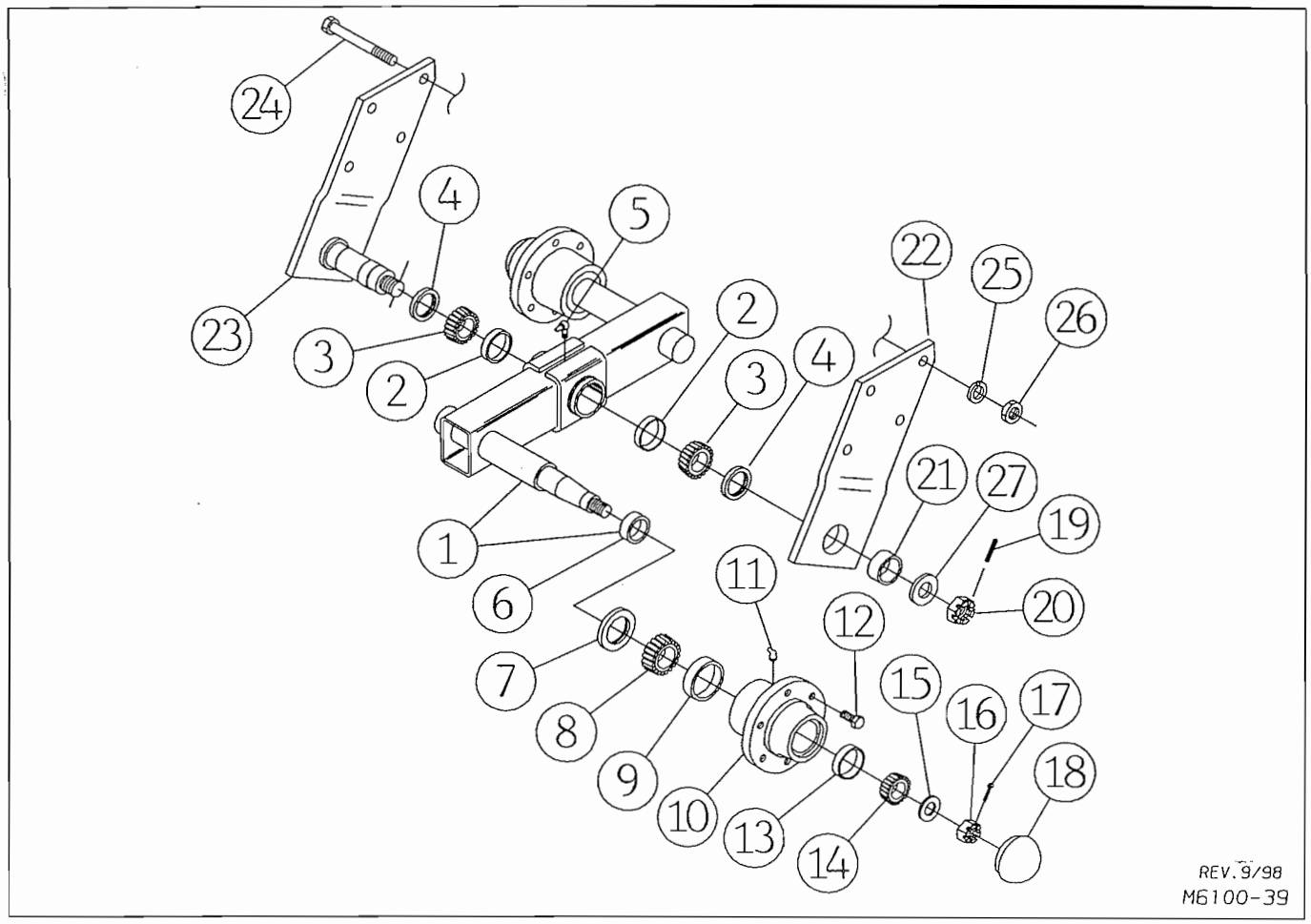
FOR MODELS - 6150, 6152, 6155, 6158, 6161, 6164 -- CENTER & WING SECTIONS 12/98
6167, 6171, 6177, 6182 -- WING SECTION ONLY

Item	Part Number	Part Description	Qty
	6127-52-0	Right Walking Beam Assm. Shown	1
	6127-53-0	Left Walking Beam Assembly	1
1	6127-54-0A	Repair Rt Walking Beam/Sleeve	1
	6127-55-0	Repair Lt. Walking Beam/Sleeve	1
2	41-121	Cone & Seal Assembly	2
3	41-208	Cup	2
4	4218-13-3	Special Washer	1
5	65-107	1/8NPT x 90 Zerk	1
6	53-105	Wear Ring	2
7	42-108	Seal	1
8	41-113	Cone	1
9	41-209	Cup	1
10	1918-14-0A	Repair Hub (Includes Items: 9, 10, 11, 12 and 13)	1
11	65-122	1/4 x 65° Zerk	2
12	62-295	Wheel Bolt	6
13	41-208	Cup	1
14	41-112	Cone	1
15	64-120	1"SAE Flat Washer	1
16	63-204	1NF Slotted Hex Nut	1
17	60-702	3/16"DIA.x 1-1/2" Cotter Pin	1
18	52-302	Hub Cap	1

Item	Part Number	Part Description	Qty
19	60-114	1/4"DIA. x 2 Spiral Expansion Pin	1
20	4218-13-2	Axle Nut	1
21	6127-52-1	Left Side Plate	1
22	63-112	3/4NC Hex Nut	1
23	64-112	3/4" STD. Lock Washer	1
24	6127-52-2	Spacer Tube	1
25	6127-48-0	Right Side Plate	1
26	62-205	3/4NC x 5" GD5 Cap Screw	1
27	★ 62-205	3/4NC x 5" GD5 Cap Screw	4
28	★ 64-112	3/4" STD. Lock Washer	4
29	★ 63-112	3/4NC Hex Nut	4
	1918-84-0	Hub Bearing Repair Kit (Includes Items: 7, 8, 9, 13, 14)	

★ Not Part Of Assembly

WALKING BEAM ASSEMBLY

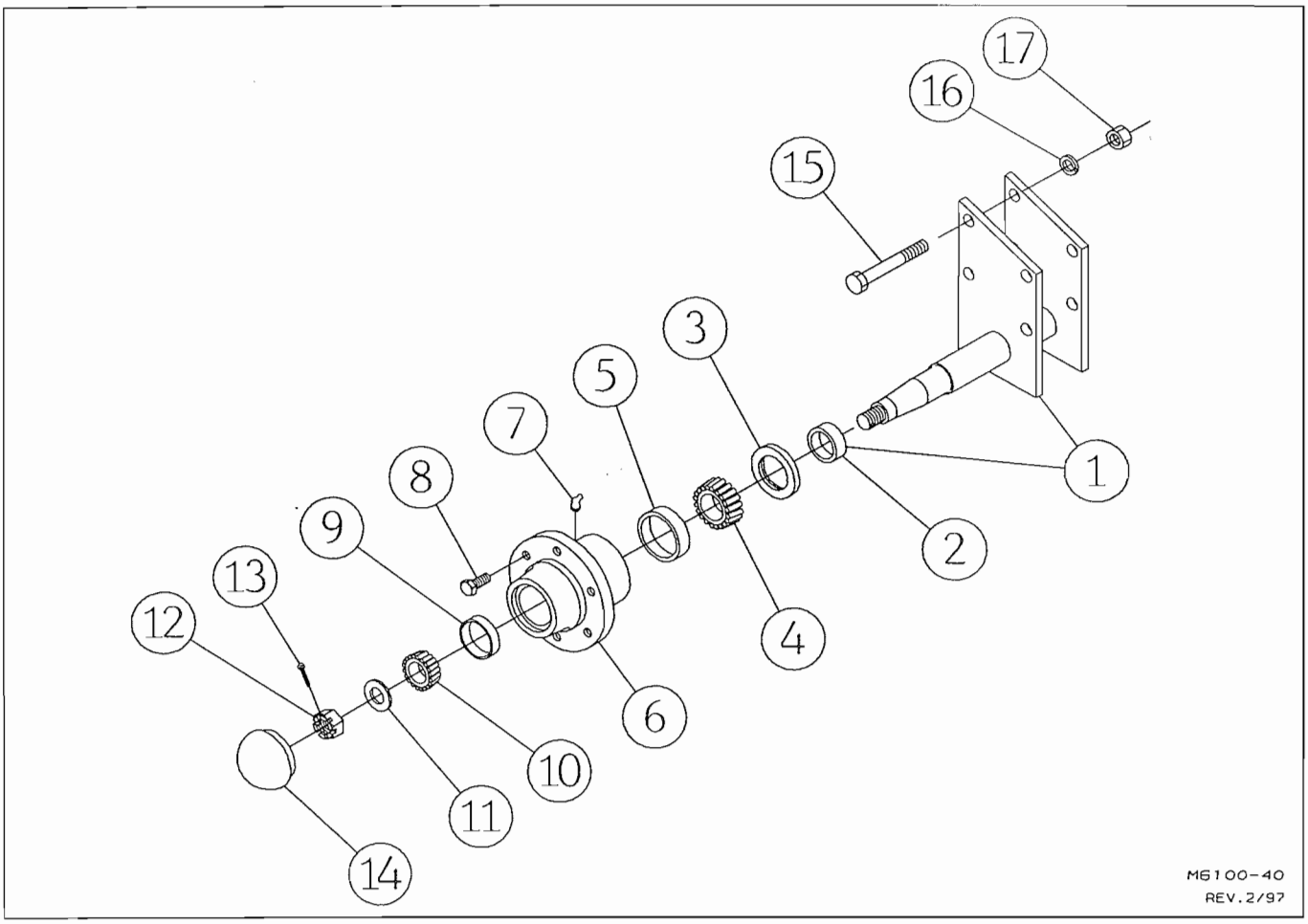


FOR MODELS - 6167, 6171, 6177, 6182 -- CENTER SECTION 12/98

Item	Part Number	Part Description	Qty
	6136-57-0A	Left Walking Beam Assm.	1
	6136-58-0A	Right Walking Beam Assm. Shown	1
1	6136-75-0A	Repair Rt Walking Beam/Sleeve	1
	6136-76-0A	Repair Lt. Walking Beam/Sleeve	1
2	41-210	Cup	2
3	41-114	Cone	1
4	42-131	Seal	1
5	65-107	1/8NPT x 90° Zerk	1
6	53-108	Wear Sleeve	2
7	42-109	Seal	1
8	41-114	Cone	1
9	41-210	Cup	1
10	2135-14-0A	Repair Hub (Includes Items: 9, 10, 11, 12 and 13)	1
11	65-122	1/4 x 65° Zerk	2
12	62-295	Wheel Bolt	6
13	41-208	Cup	1
14	41-112	Cone	1
15	64-120	1"SAE Flat Washer	1
16	63-204	1NF Slotted Hex Nut	1
17	60-702	3/16"DIA.x 1-1/2" Cotter Pin	1
18	52-302	Hub Cap	1
19	60-114	1/4"DIA. x 2 Spiral Expansion Pin	1
20	63-231	1-1/4NF Slotted Hex Nut	1
21	6136-57-2	Bushing	1
22	6136-57-1	Side Plate	1
23	6136-52-0	Side Plate Weldment	1
24	★ 62-210	3/4NC x 6" GD5 Cap Screw	4
25	★ 64-112	3/4" STD. Lock Washer	4
26	★ 63-113	3/4NC Hex Jam Nut	4
27	64-167	Special Washer	1
	2135-84-0	Hub Bearing Repair Kit (Includes Items: 7, 8, 9, 13, 14)	

★ Not Part Of Assembly

HUB ASSEMBLY

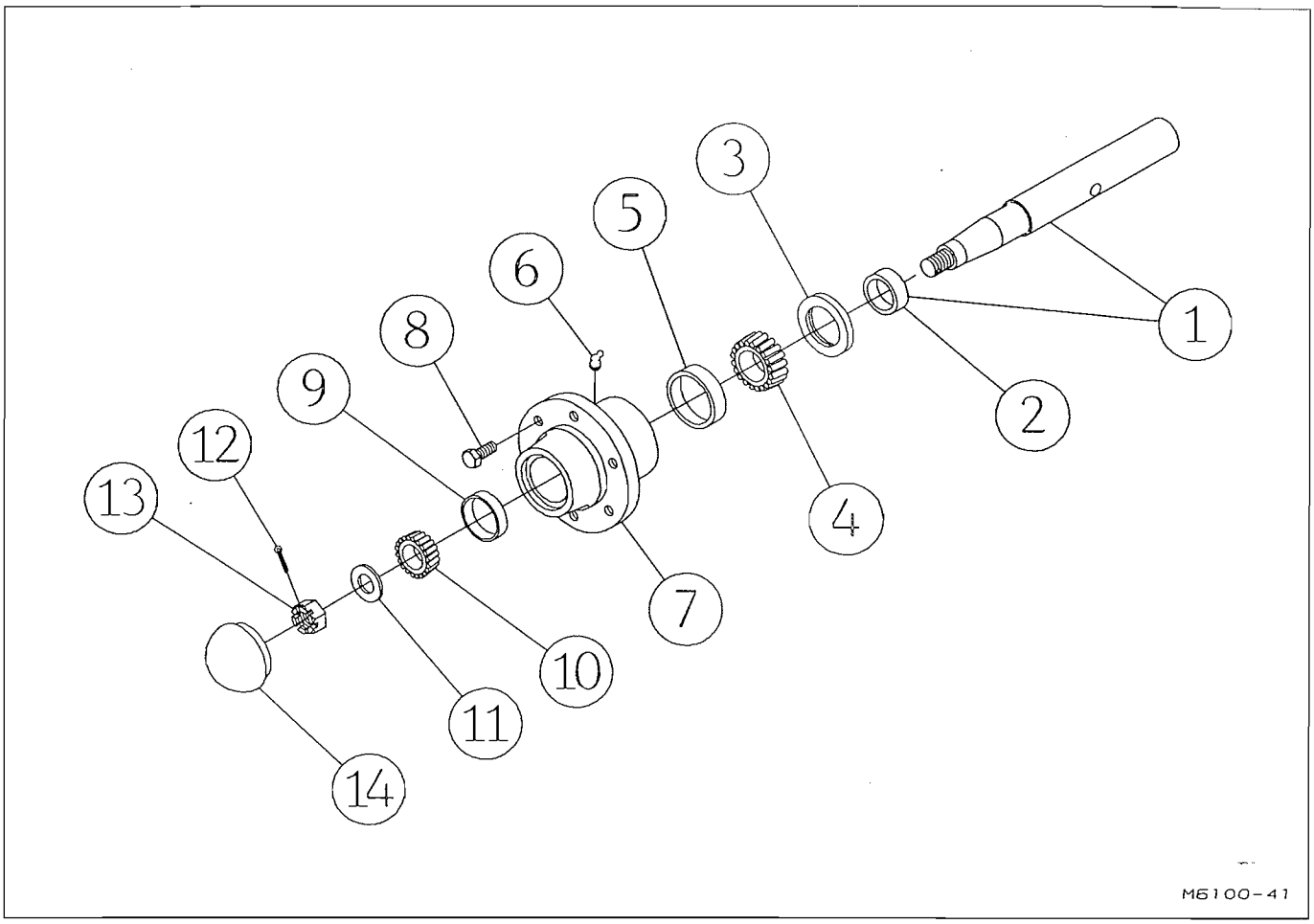


FOR MODELS - 6150, 6158 AND 6161 WINGS 12/98

Item	*Part Number*	*Part Description*	*Qty.*
	6118-50-0	Single Hub and Axle Assembly - Right (SHOWN)	1
	6118-51-0	Single Hub and Axle Assembly - Left	1
1	6118-54-0	Repair Right Spindle and Sleeve Assembly	1
	6118-55-0	Repair Left Spindle and Sleeve Assembly	1
2	53-105	Wear Ring	1
3	42-108	Seal	1
4	41-113	Cone	1
5	41-209	Cup	1
6	1918-14-0A	Repair Hub Assembly (Includes Item 5, 6, 7, 8, 9)	1
7	65-122	1/4 X 65° Zerk	2
8	62-295	Wheel Bolt	6
9	41-208	Cup	1
10	41-112	Cone	1
11	64-120	1" SAE Flat Washer	1
12	63-204	1NF Slotted Hex Nut	1
13	60-702	3/16" DIA. x 1-1/2" Cotter Pin	1
14	52-302	Hub Cap	1
15	★ 62-205	3/4NC x 5" GD.5 Cap Screw	4
16	★ 64-112	3/4" STD. Lock Washer	4
17	★ 63-112	3/4NC Hex Nut	4
	★ 1918-84-0	Hub Bearing Repair Kit (Includes Items 3, 4, 5, 9, 10)	

★ Not part of assembly

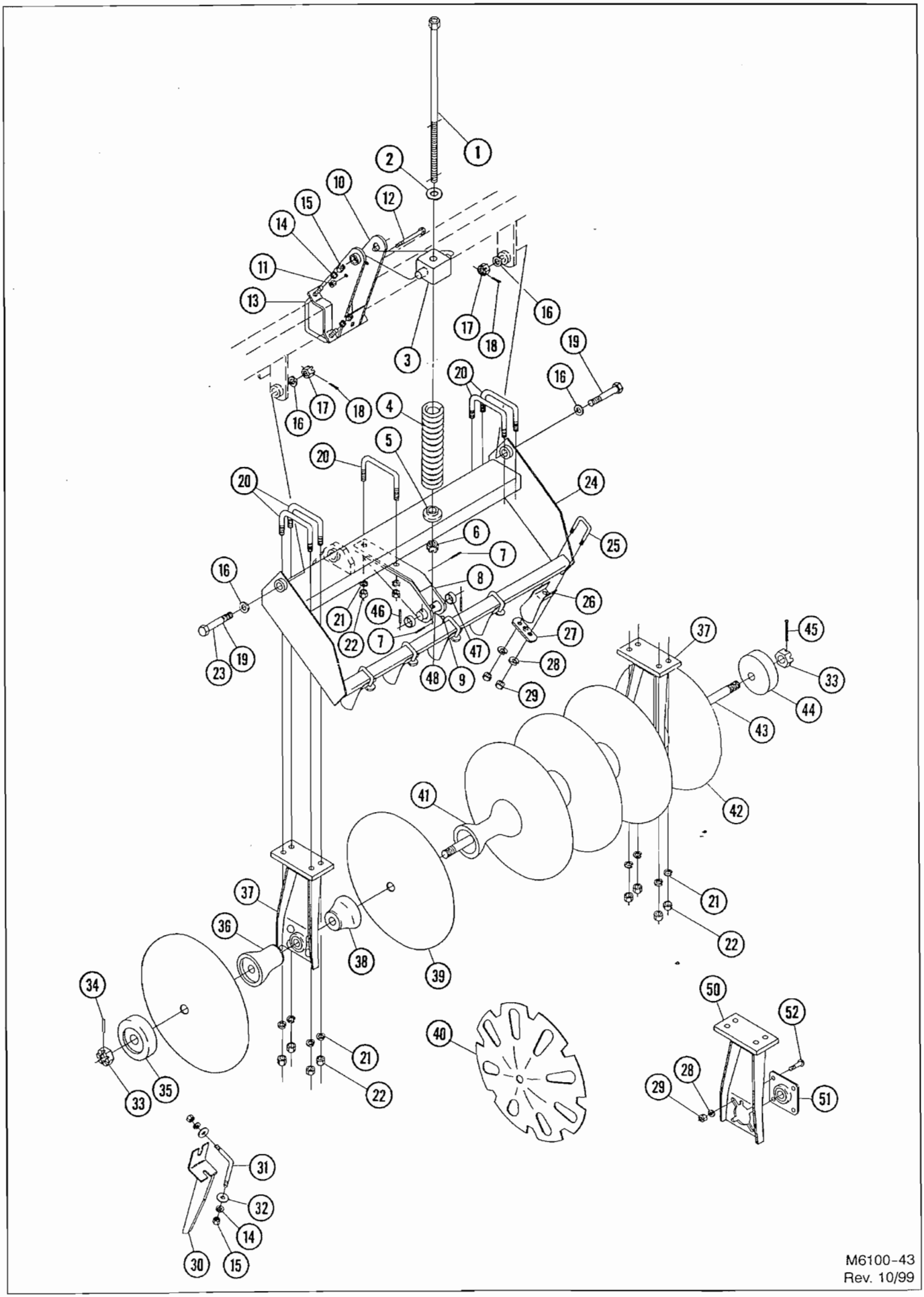
HUB ASSEMBLY



FOR MODELS - 6177, 6182 12/98

Item	*Part Number*	*Part Description*	*Qty.*
	4122-17-0	Hub and Axle Assembly	1
1	4122-13-0	Repair Spindle and Wear Ring (Item 2)	1
2	53-105	Wear Ring	1
3	42-108	Seal	1
4	41-113	Rear Cone	1
5	41-209	Rear Cup	1
6	65-122	1/4" x 65° Drive Zerk	2
7	1918-14-0A	Repair Hub (Includes Items 5, 6, 7, 8 and 9)	1
8	62-295	Wheel Bolt	6
9	41-208	Front Cup	1
10	41-112	Front Cone	1
11	64-120	1"SAE Flat Washer	1
12	60-702	3/16"DIA. 1-1/2" Cotter Key	1
13	63-204	1NF Slotted Hex Nut	1
14	52-302	Hub Cap	1
	★ 1918-84-0	Hub Bearing Repair Kit (Includes Items 3, 4, 5, 9, 10)	

★ Not Part of Hub and Axle Assembly



M6100-43
Rev. 10/99

DISC GANG ASSEMBLY

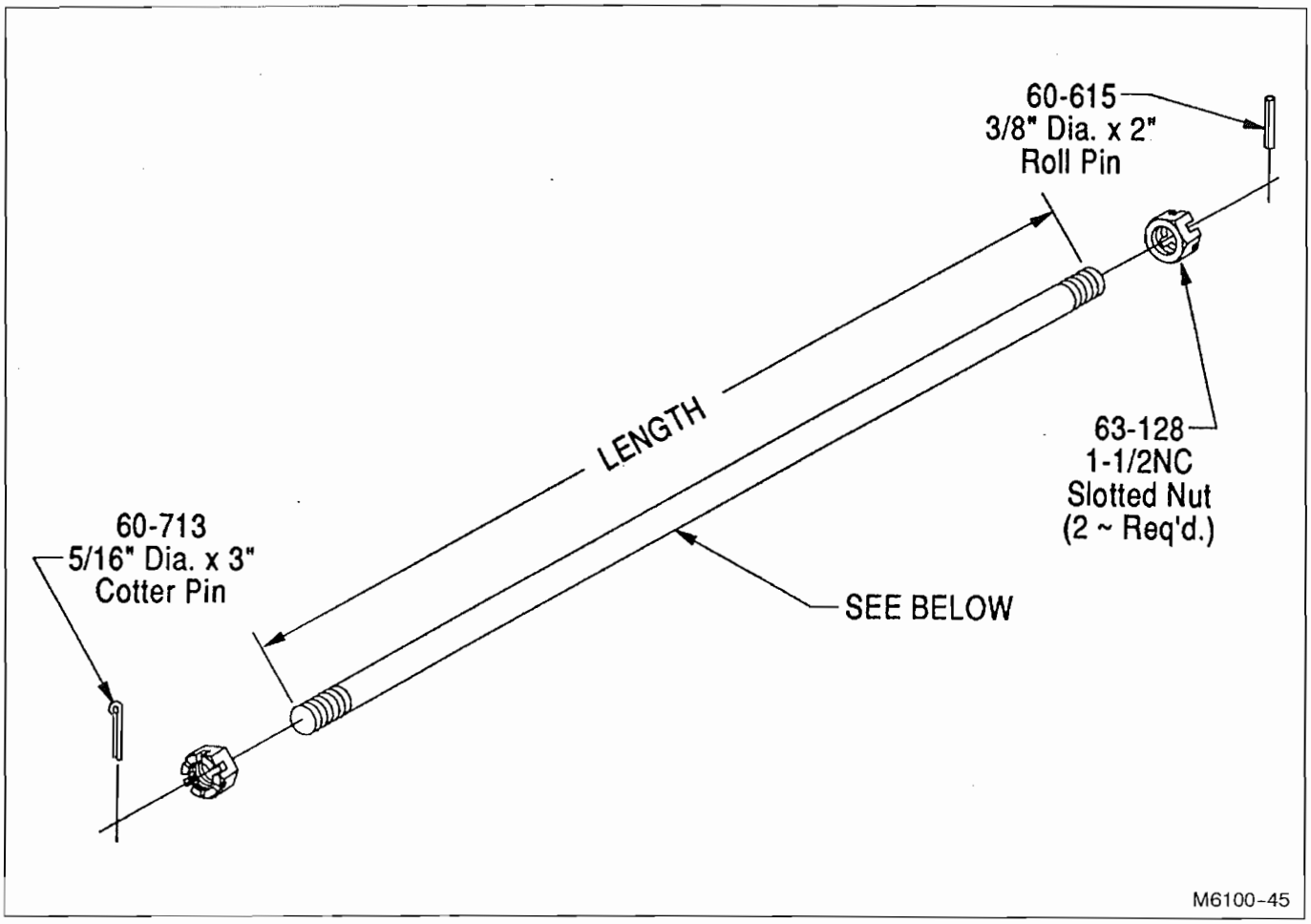
FOR MODELS - ALL

10/99

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 1-3/4" 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 6171 ONLY)	
24	6110-46-0	Gang Beam 52-1/2"	
	6112-46-0	Right Gang Beam	
	6112-47-0	Left Gang Beam	
	6115-52-0	Gang Beam 86"	
	6115-53-0	Gang Beam 86"	
	3118-46-0	Center Gang Beam	
	6118-52-0	Gang Beam 51"	
	6118-53-0	Gang Beam 51"	
	6121-48-0	Gang Beam 56"	
	6121-49-0	Gang Beam 56"	
	6127-70-0	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	
	6142-50-0	Gang Beam 83"	
	6142-52-0	Gang Beam 83"	
25	61-115	1/2" DIA. U-Bolt	
26	32-101	R.H. Scraper Blade	
	32-103	L.H. Scraper Blade	

Item	Part Number	Part Description	Qty.
27	1483-286-1	Clamp	
28	64-107	1/2" STD. Lock Washer	
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 P28)	
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
49	53-148	Wear Sleeve	2
50	1963-9-0	Bearing Arm Weldment	1
51	40-109	Bearing Assembly	1
52	62-137	1/2NC x 1-1/2" Carriage Bolt	4

TIE RODS

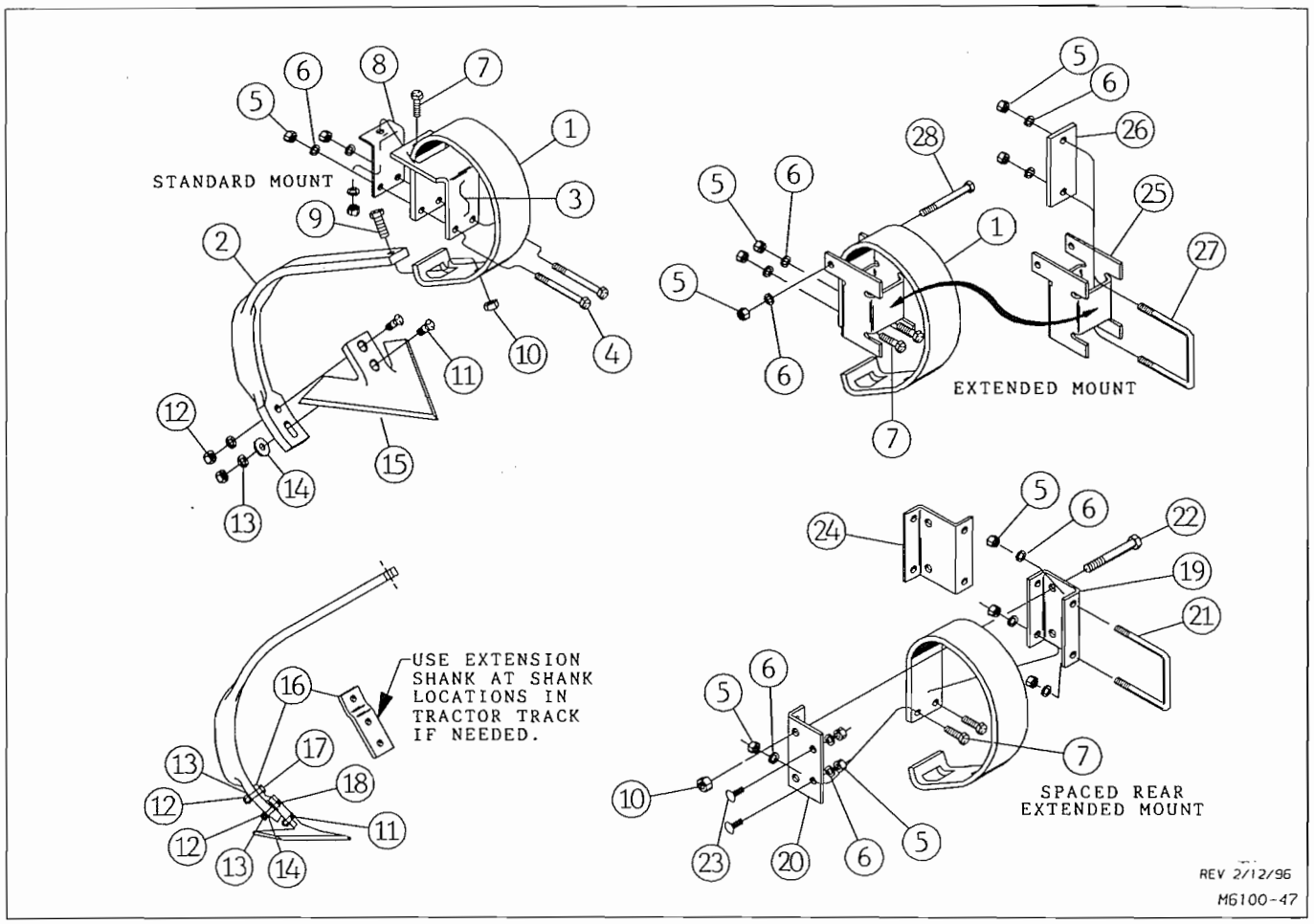


FOR MODELS - ALL

1/97

Model	Location	Length	Number Of Disc	Tie Rod Number
6150	Left & Right	51-3/4"	6	2145-82-1
6152	Left & Right	70-3/8"	8	2212-18-1
6155	Left & Right	88-1/4"	10	2225-18-1
6158	Left & Right Center	51-3/4"	6	2146-82-1
	Left & Right Wing	51-3/4"	6	2146-82-1
6161	Left & Right Center	51-3/4"	6	2146-82-1
	Left & Right Wing	60-7/8"	7	2136-82-1
6164	Left & Right Center	51-3/4"	6	2146-82-1
	Left & Right Wing	88-1/4"	10	2225-18-1
6167	Left & Right Center	70-3/8"	8	2212-18-1
	Left & Right Wing	88-1/4"	10	2225-18-1
6171	Left & Right Center	70-3/8"	8	2212-18-1
	Left & Right Wing	51-3/4"	6	2146-82-1
6177	Left & Right Center	70-3/8"	8	2212-18-1
	Left & Right Inside Wing	88-1/4"	10	2215-18-1
	Left & Right Outside Wing	51-3/4"	6	2146-82-1
6182	Left & Right Center	70-3/8"	8	2212-18-1
	Left & Right Inside Wing	88-1/4"	10	2215-18-1
	Left & Right Outside Wing	79-1/8"	9	2224-18-1

2 PIECE K-TINE SHANK ASSEMBLY

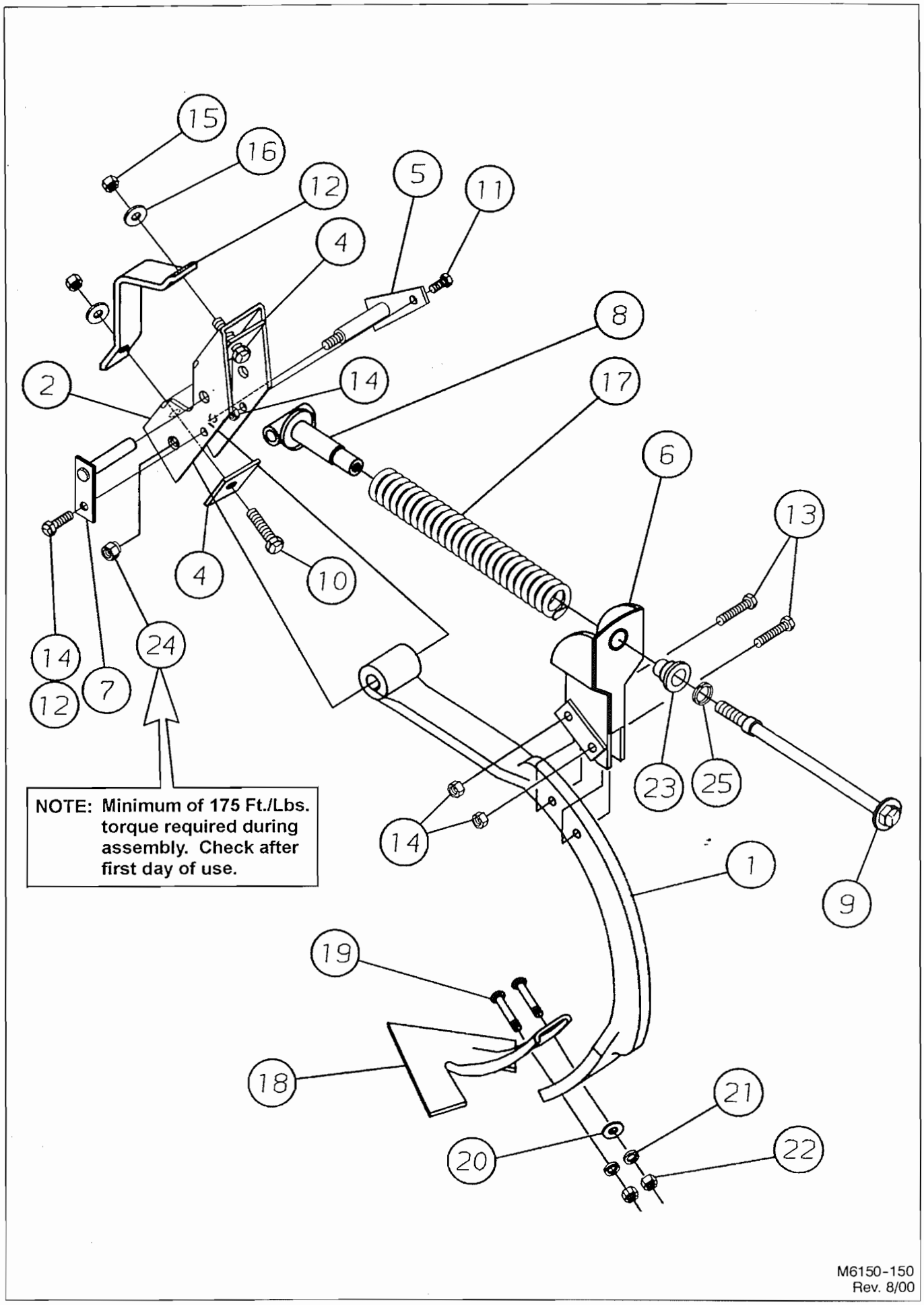


FOR MODELS - ALL

9/98

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" GD5 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" GD5 Cap Screw	1
8	6127-0-15	Clamp	1
9	62-707	5/8NC x 2" GD8 Cap Screw	1
10	63-110	5/8NC Lock Nut	2
11	62-317	7/16NC x 1-1/2" GD5 #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	33-190	10"Sweep 47°Stem Angle 1/4"Thick	1
	33-189	9"Sweep 47°Stem Angle 1/4"Thick	1

Item	Part Number	Part Description	Qty.
16	4100-0-9	Shank Extension	1
17	62-407	7/16NC x 1-1/2" GD5 Bolt	1
18	62-132	7/16NC x 2-1/4" GD5 #3 Plow Bolt	1
19	5660-0-28	Extension Bracket	1
20	6127-0-12	Extension Bracket	1
21	61-160	1/2" DIA. U-Bolt	1
22	62-339	5/8NC x 4-1/2" GD5 Cap Screw	1
23	62-526	1/2NC x 1" Carriage Bolt	2
24	5660-0-21	Extended Bracket	1
25	4226-0-10	Extended Bracket	1
26	4226-0-11	Bolt Plate	1
27	61-216	1/2" DIA. U-Bolt (4-1/4" Long)	1
28	62-351	1/2NC x 4-1/2" GD5 Cap Screw	



M6150-150
Rev. 8/00

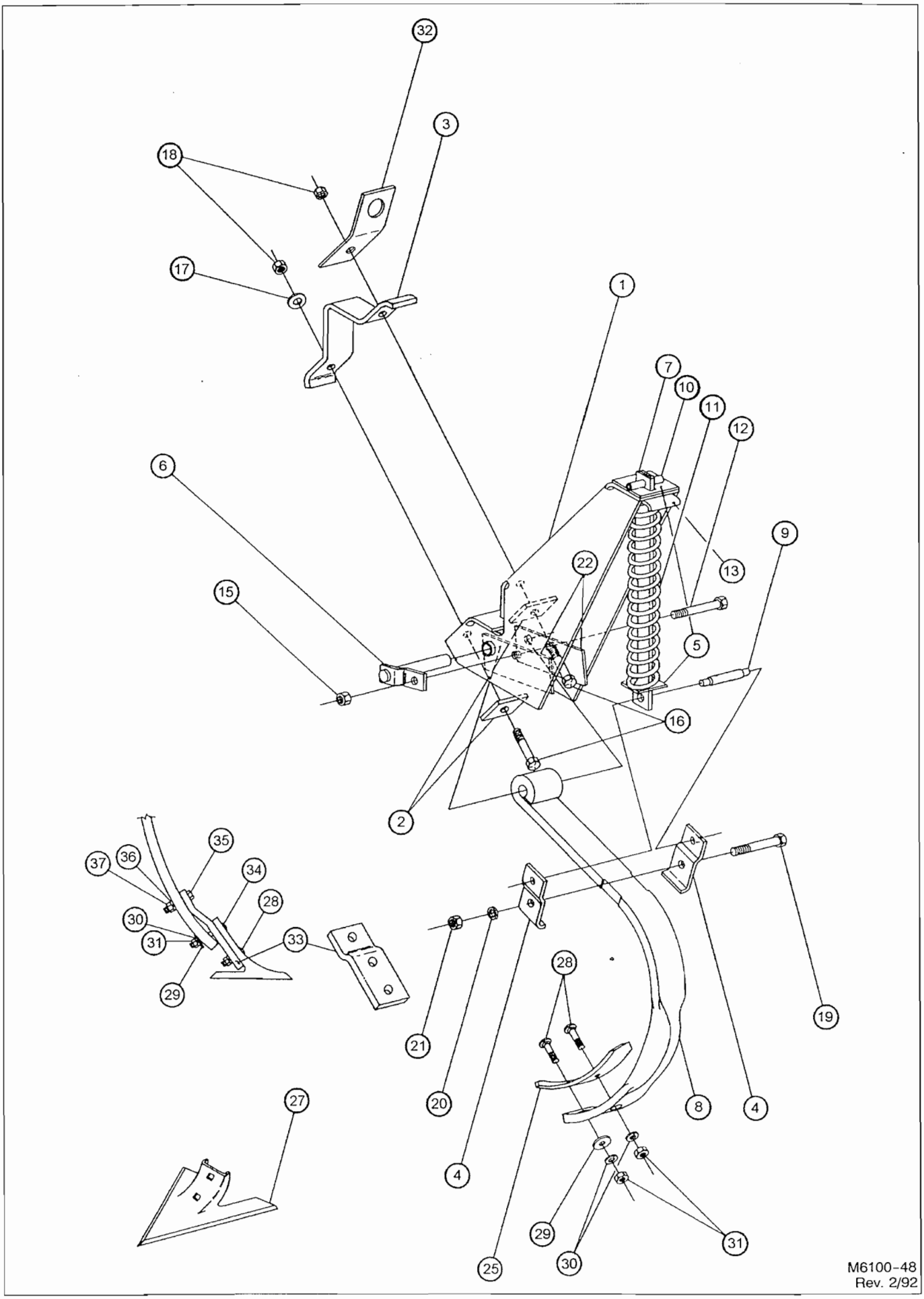
XT270 SHANK ASSEMBLY

FOR MODELS - ALL

8/00

Item	Part Number	Part Description	Qty.
	6150-25-0A	26" XT Shank Assembly	1
1	31-182	3/4" x 2" Cultivator Shank	1
2	6150-35-0	Channel Repair Assembly (Includes Items 2, 5, 11, 24)	1
3	6150-25-2	Mounting Strap	1
4	6150-25-3	Doubler	2
5	6150-34-0	Stud Weldment	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	6150-32-0A	Tension Bolt Weldment	1
10	62-169	5/8NC x 2" GD. 5 Cap Screw	2
11	62-420	5/8NC x 1-1/4" GD5 Cap Screw	1
12	62-300	1/2NC x 1" GD. 5 Cap Screw	1
13	62-725	1/2NC x 2-1/2" GD.8 Cap Screw	2
14	63-107	1/2NC Lock Nut	4
15	63-110	5/8NC Lock Nut	2
16	64-110	5/8" STD. Flat Washer	2
17	76-207	Spring - Compression	1
18	★ 33-200	12" Sweep 47° 1/4" Thick	1
	★ 33-189	9" Sweep 47° 1/4" Thick	1
	★ 33-190	10" Sweep 47° 1/4" Thick	1
19	★ 62-664	7/16NC x 2" GD. 5 #3 Plow Bolt	2
20	★ 64-106	7/16" STD. Flat Washer	1
21	★ 64-105	7/16" STD. Lock Washer	2
22	★ 63-104	7/16NC Hex Nut	2
23	★ 53-165	Flanged Sleeve	11
24	63-217	9/16NF Wheel Nut	2
25	64-112	3/4" STD. Lock Washer	1

★ Not part of Shank Assembly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M6100-48
Rev. 2/92

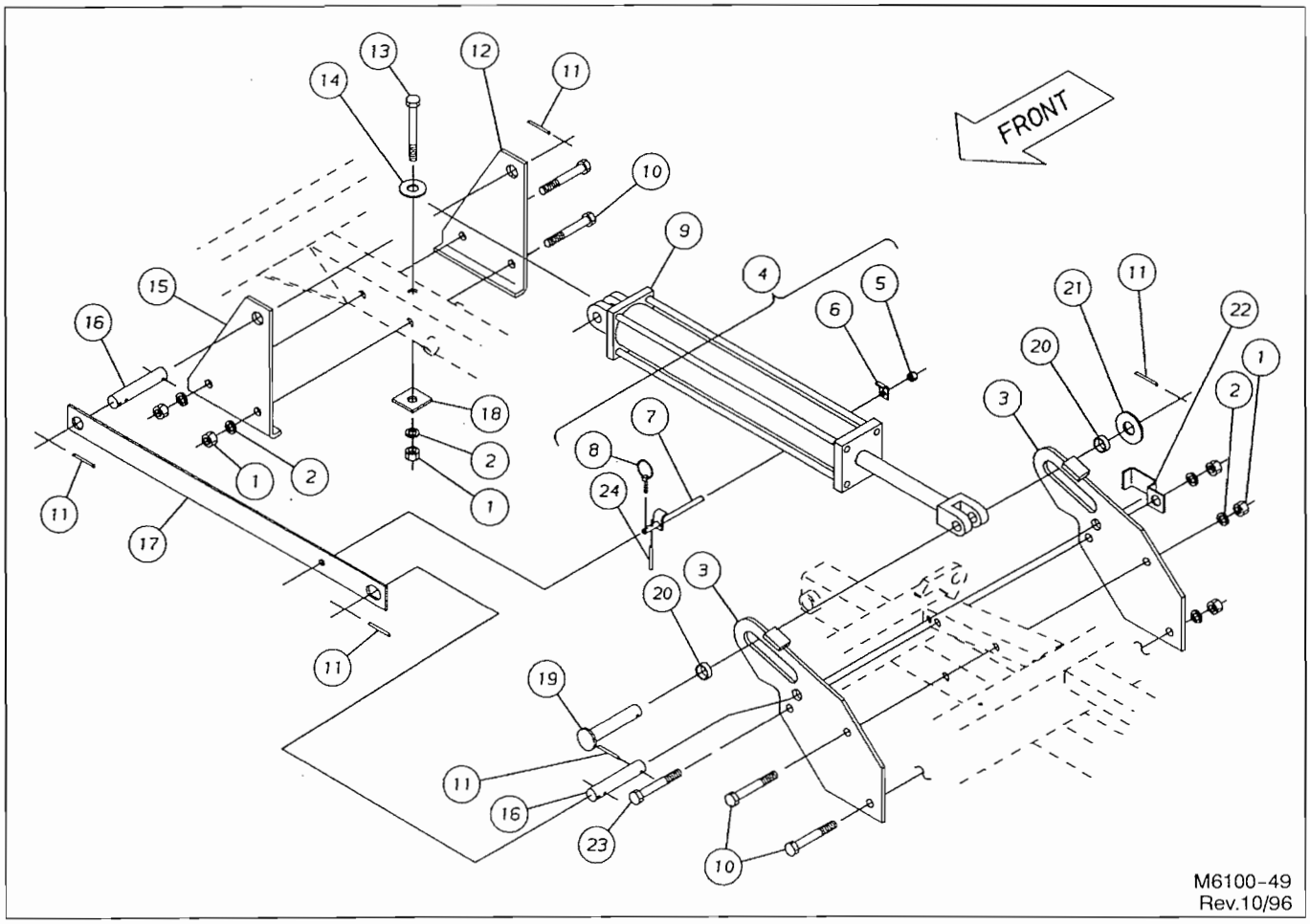
SPRING SHANK ASSEMBLY

FOR MODELS - ALL 10/97

Item	Part Number	Part Description	Qty,
	3127-25-0B	Spring Shank Assembly	1
1	3127-24-0	Mounting Channel (For Repairs ONLY)	1
2	★ 3127-25-3	Doubler	2
3	★ 3127-25-5	Mounting Strap	1
4	3127-25-8	Shank Clamp	2
5	3127-39-2	Slotted Washer	2
6	3127-37-0A	Pin Assembly	1
7	3127-39-1A	Guide Bar	1
8	31-157	Edge-On Shank	1
9	60-105	Pivot Pin	1
10	60-624	1/2" DIA. x 2" Roll Pin	1
11	76-134	Spring	1
12	62-462	1/2NC x 3-1/2" Cap Screw	1
13	3127-24-2A	Slot Doubler	1
14			
15	63-107	1/2NC Self Locking Nut	1
16	★ 62-550	1/2NC x 2" GD. 8 Cap Screw	2
17	★ 64-108	1/2" STD. Flat Washer	1
18	★ 63-107	1/2NC Self Locking Nut	2
19	62-148	1/2NC x 2-3/4" GD.5 Cap Screw	1
20	64-107	1/2" STD. Lock Washer	1
21	63-106	1/2NC Hex Nut	1
22	3127-25-7	Shank Guide	2
23			
24			
25	★ 33-100	Point	1
26			
27	★ 33-189	9" Sweep 47° Stem Angle 1/4" Thick	1
	33-190	10" Sweep 47° Stem Angle 1/4" Thick	1
28	★ 62-317	7/16NC x 1-1/2" GD. 5 #3 Plow Bolt	3
29	★ 64-106	7/16" STD. Flat Washer	1
30	★ 64-105	7/16" STD. Lock Washer	3
31	★ 63-104	7/16NC Hex Nut	3
32	★ 4122-0-14	Winch Bracket (Shown in Storage Position)	1
	★ 4100-10-0	Extension Shank and Bolt Assembly	1
33	★ 4100-0-9	Extension Shank	1
34	★ 62-132	7/16NC x 2-1/4" GD. 5 #3 Plow Bolt	1
35	★ 62-407	7/16NC x 1-1/2" GD. 5 Cap Screw	1
36	★ 64-105	7/16" STD. Lock Washer	1
37	★ 63-104	7/16NC Hex Nut	1

★ Not Part of 3127-25-0B Spring Shank Assembly

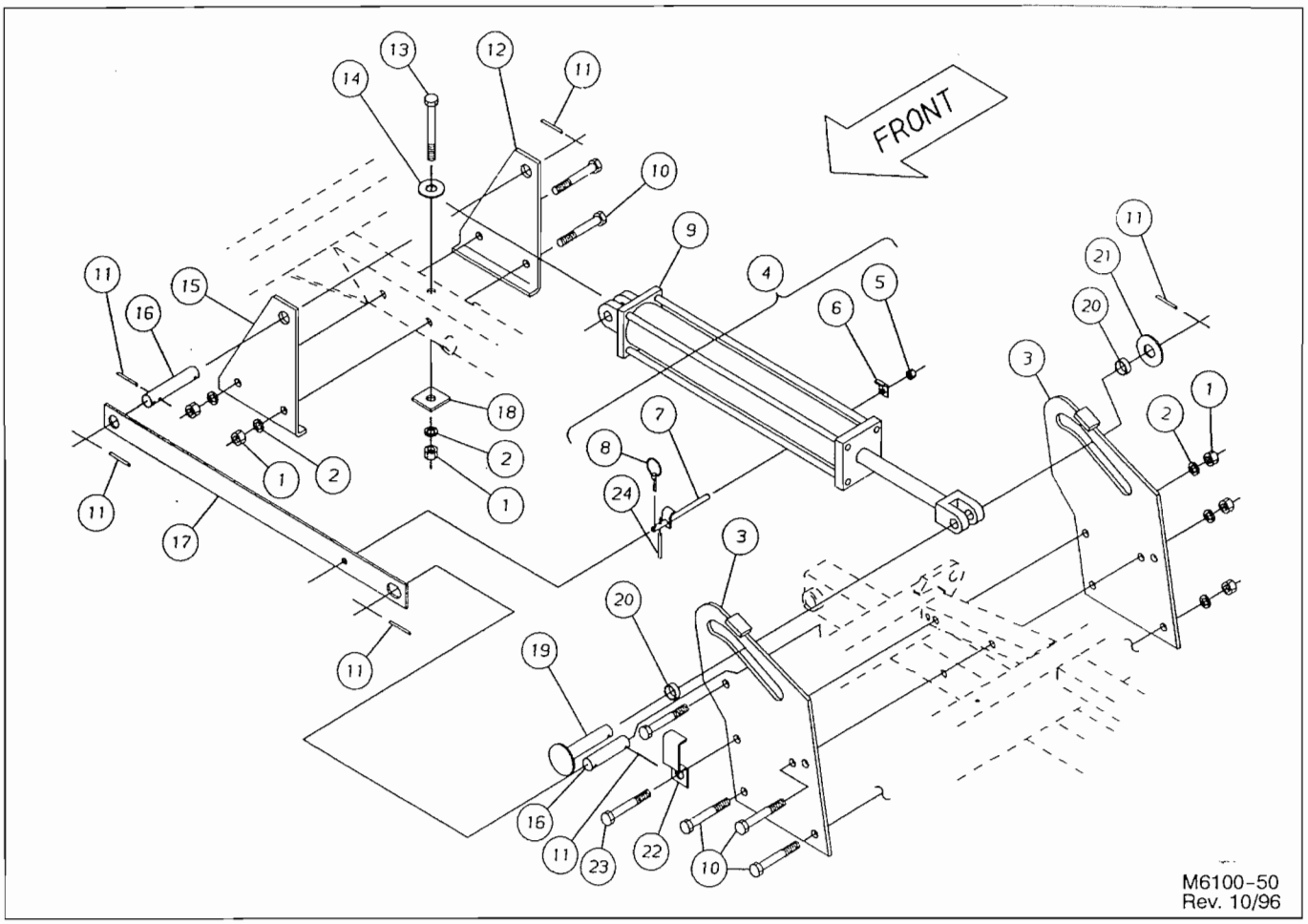
WING LIFT GROUP



FOR MODELS - 6158 - 6161 3/95

Item	*Part Number*	*Part Description*	*Qty.*
1	63-112	3/4NC Hex Nut	6
2	64-112	3/4" STD. Lock Washer	6
3	6118-47-0	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	21-181	4" x 24" Prince Cylinder Assembly	1
10	62-205	3/4NC x 5" GD. 5 Cap Screw	5
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	6118-0-2A	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

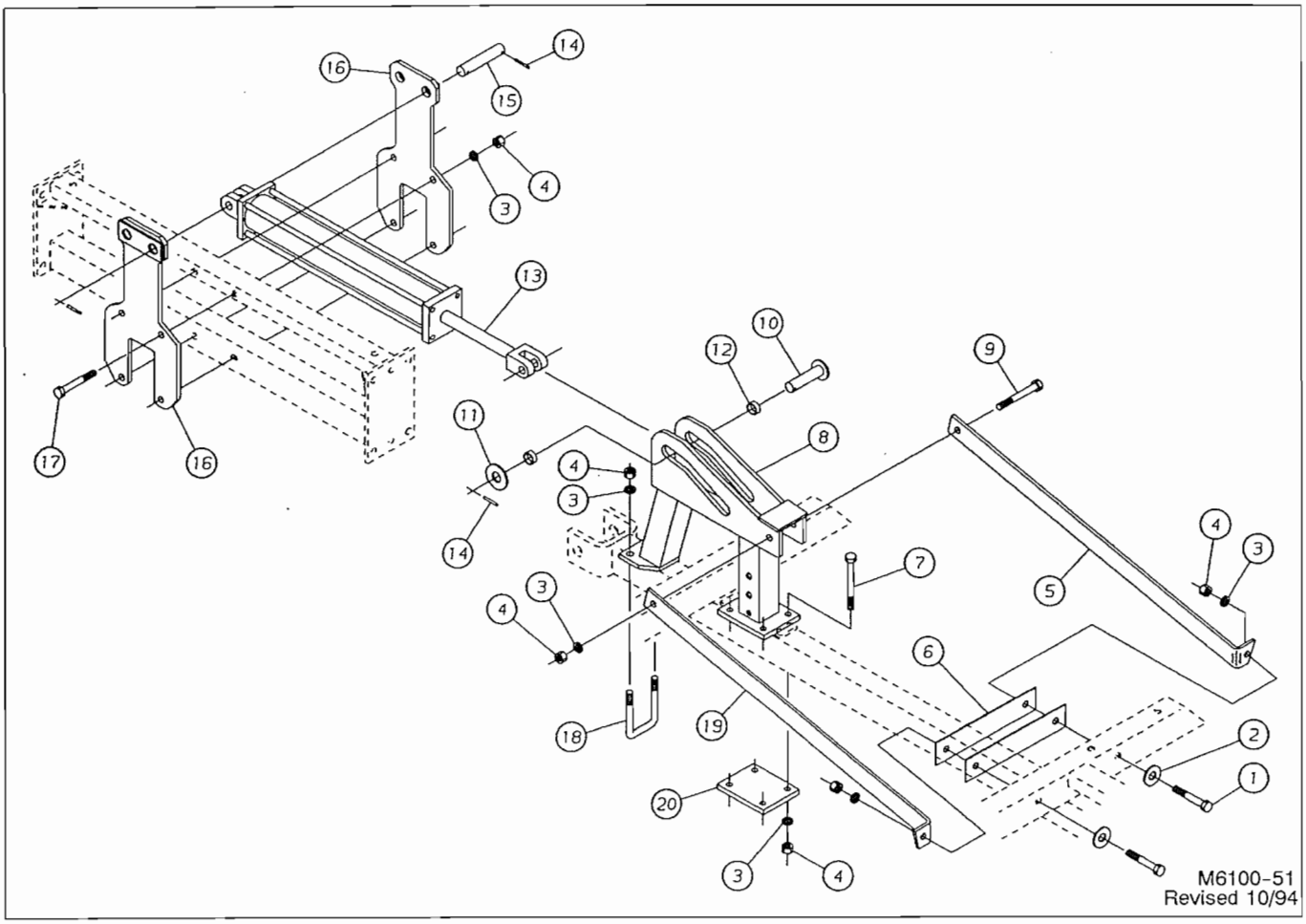
WING LIFT GROUP



FOR MODELS - 6164, 6167, 6171 1/97

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	21-182	4" x 32" 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

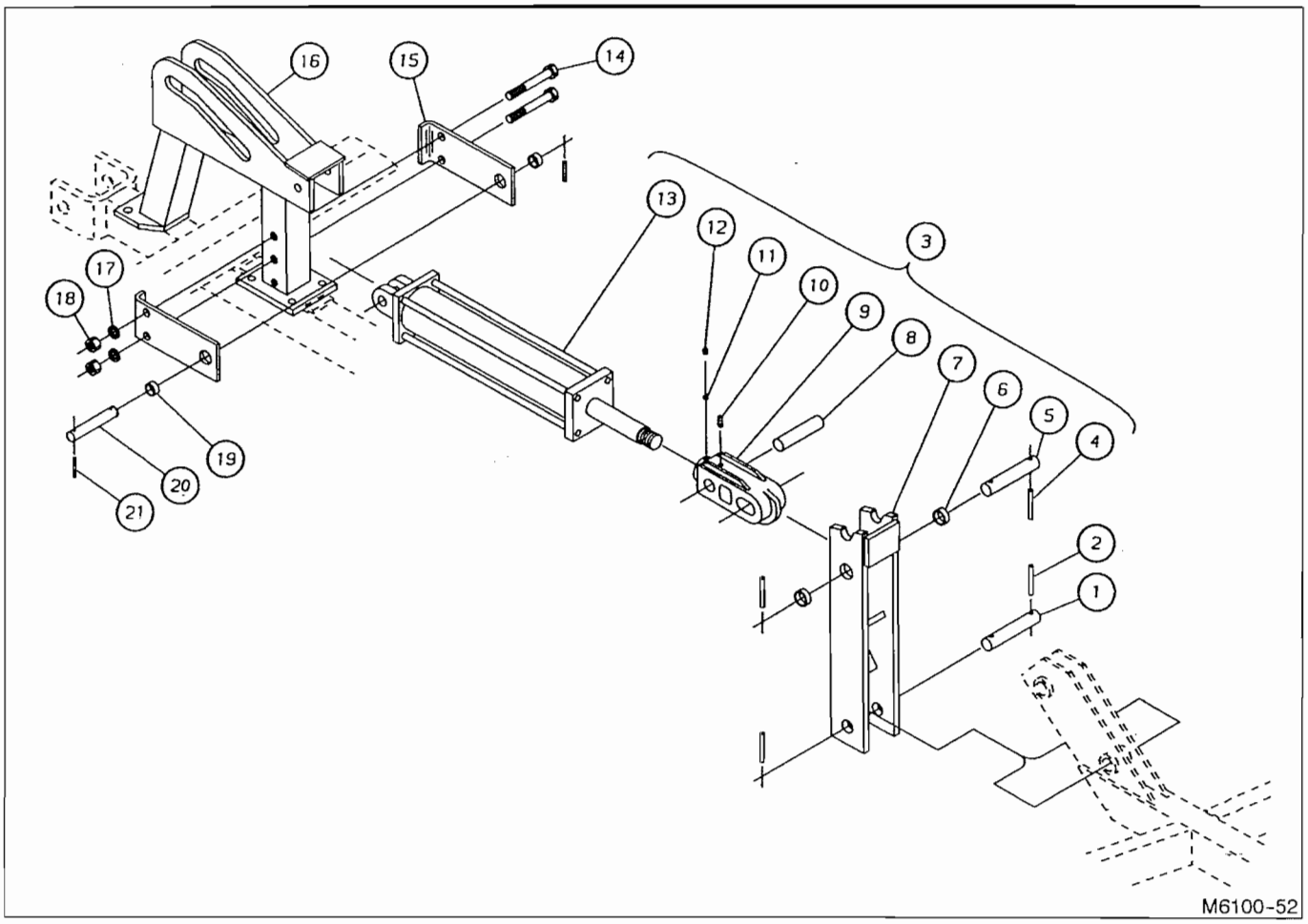
INSIDE WING LIFT



FOR MODELS - 6177, 6182 10/95

Item	*Part Number*	*Part Description*	*Qty.*
1	62-203	3/4NC x 4-1/2" GD. 5 Cap Screw	2
2	64-113	3/4" STD. Flat Washer	2
3	64-112	3/4" STD. Lock Washer	14
4	63-112	3/4NC Hex Nut	14
5	6136-0-4	Right Fold Strap	1
6	6136-6-1	Shim	2
7	62-213	3/4NC x 6-1/2" GD. 5 Cap Screw	4
8	6136-50-0	Wing Lift Bracket Weldment	1
9	62-210	3/4NC x 6" GD. 5 Cap Screw	1
10	3131-77-0	Cylinder Clevis Pin	1
11	64-126	1-1/4" STD. Flat Washer	1
12	53-109	Wear Sleeve	2
13	21-189	5" x 32" Prince Hydraulic Cylinder Assembly	1
14	60-606	1/4" DIA. x 2" Roll Pin	3
15	3755-0-16	Cylinder Pin	1
16	6136-73-0A	Fold Plate Weldment	2
17	62-205	3/4NC x 5" GD. 5 Cap Screw	4
18	61-232	3/4"DIA. U-Bolt	1
19	6136-0-3	Left Fold Strap	1
20	6136-50-5	Bolt Plate	1

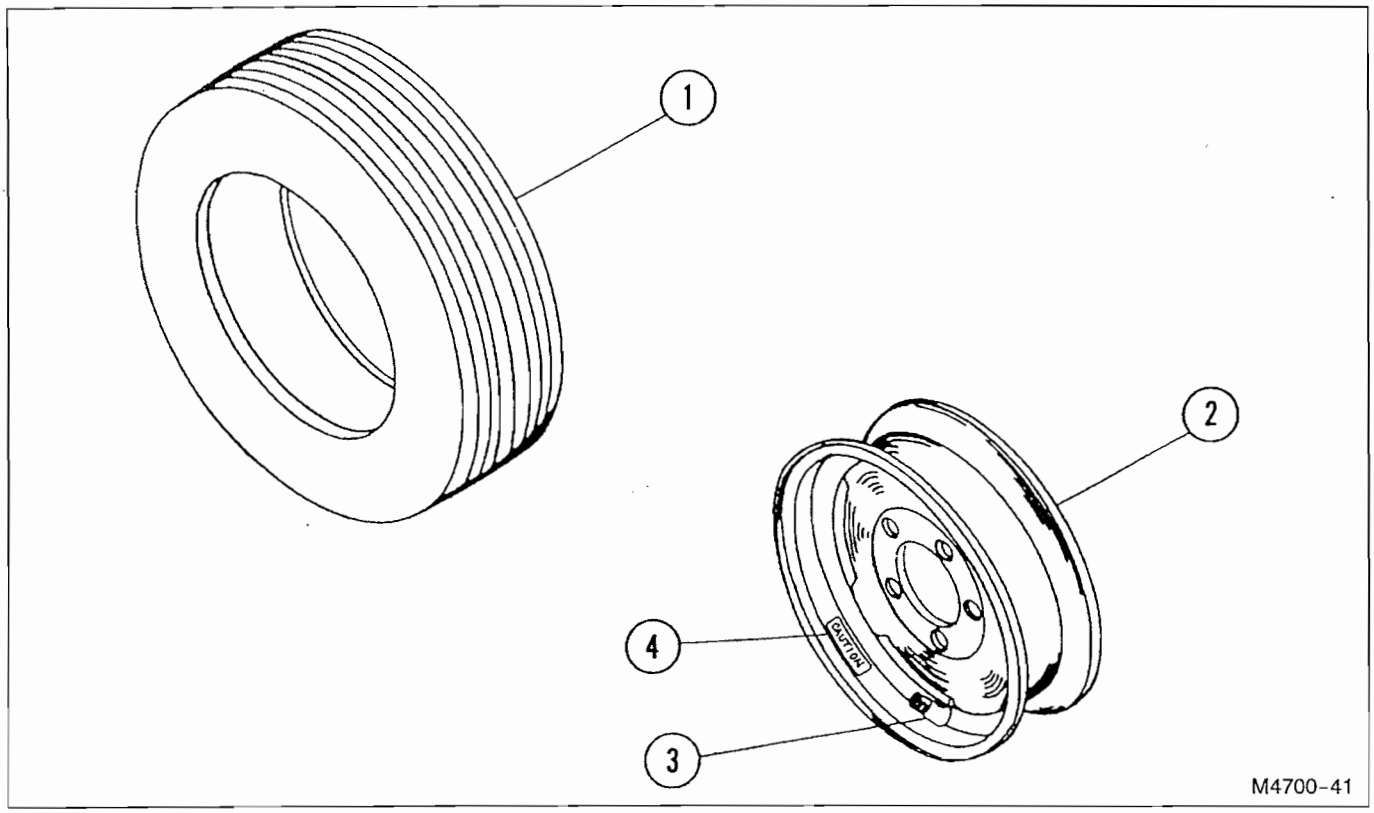
OUTSIDE WING LIFT



FOR MODELS - 6177, 6182 8/00

Item	*Part Number*	*Part Description*	*Qty.*
1	4260-80-3	Pin	2
2	60-618	3/8"DIA. x 3" Roll Pin	2
3	6136-80-0	Wing Lift Cylinder Assembly	1
4	60-618	3/8"DIA. x 3" Roll Pin	2
5	4260-80-3	Pin	1
6	53-109	Wear Sleeve	2
7	6136-70-0	Wing Lift Arm Weldment	1
8	4260-81-1	1-1/4" DIA. x 5" Pin	1
9	4260-80-1	Cylinder Rod End	1
10	60-608	1/4" DIA. x 2-1/2" Roll Pin	1
11	21-407	Nylon Bushing	1
12	62-324	3/8NC x 3/8" Socket Head Cup Point Set Screw	1
13	21-185	4" x 30" Prince Hydraulic Cylinder Assembly	1
14	62-205	3/4NC x 5" GD. 5 Cap Screw	2
15	6136-8-0	Fold Plate Assembly	2
16	6136-50-0	Wing Lift Bracket Weldment	1
17	64-112	3/4" STD. Lock Washer	2
18	63-112	3/4NC Hex Nut	2
19	53-116	Wear Sleeve	2
20	960-35-2	Pin	1
21	60-606	1/4"DIA. x 2" Roll Pin	2

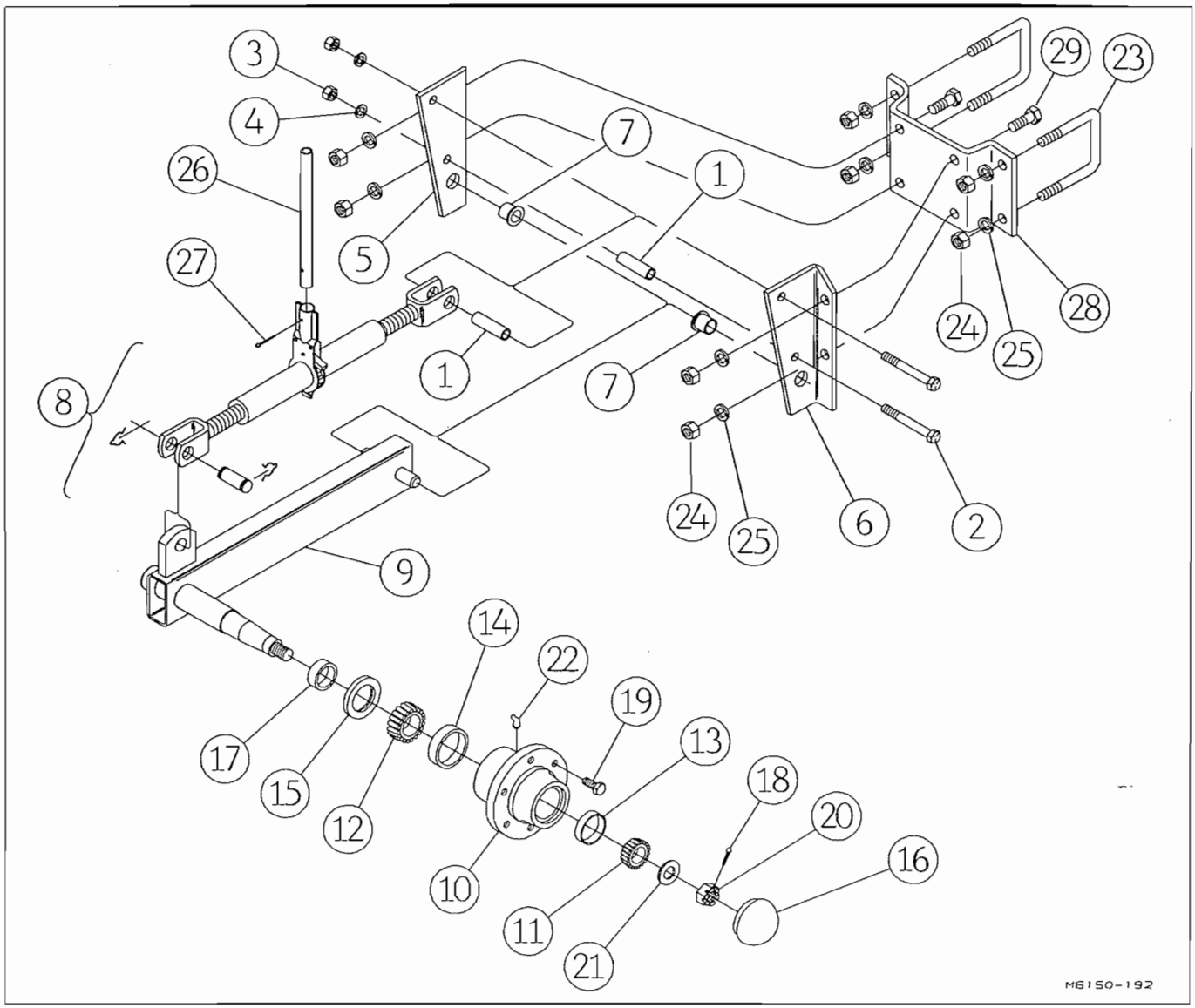
WHEELS & TIRES



FOR MODELS - ALL 10/97

Item	*Part Number*	*Part Description*	*Qty.*
	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
	1000-11580-0	Wheel Assembly	1
1	51-106	Tire 11L 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
	1000-95588-0	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
	1000-12640-0	Wheel Assembly	
1	51-122	Tire 12.5L x 16, 14-Ply	1
2	52-110	Wheel 16" x 10"	1
3			
4	74-109	Decal - CAUTION Check Wheel Bolts	1

GAUGE WHEEL ASSEMBLY



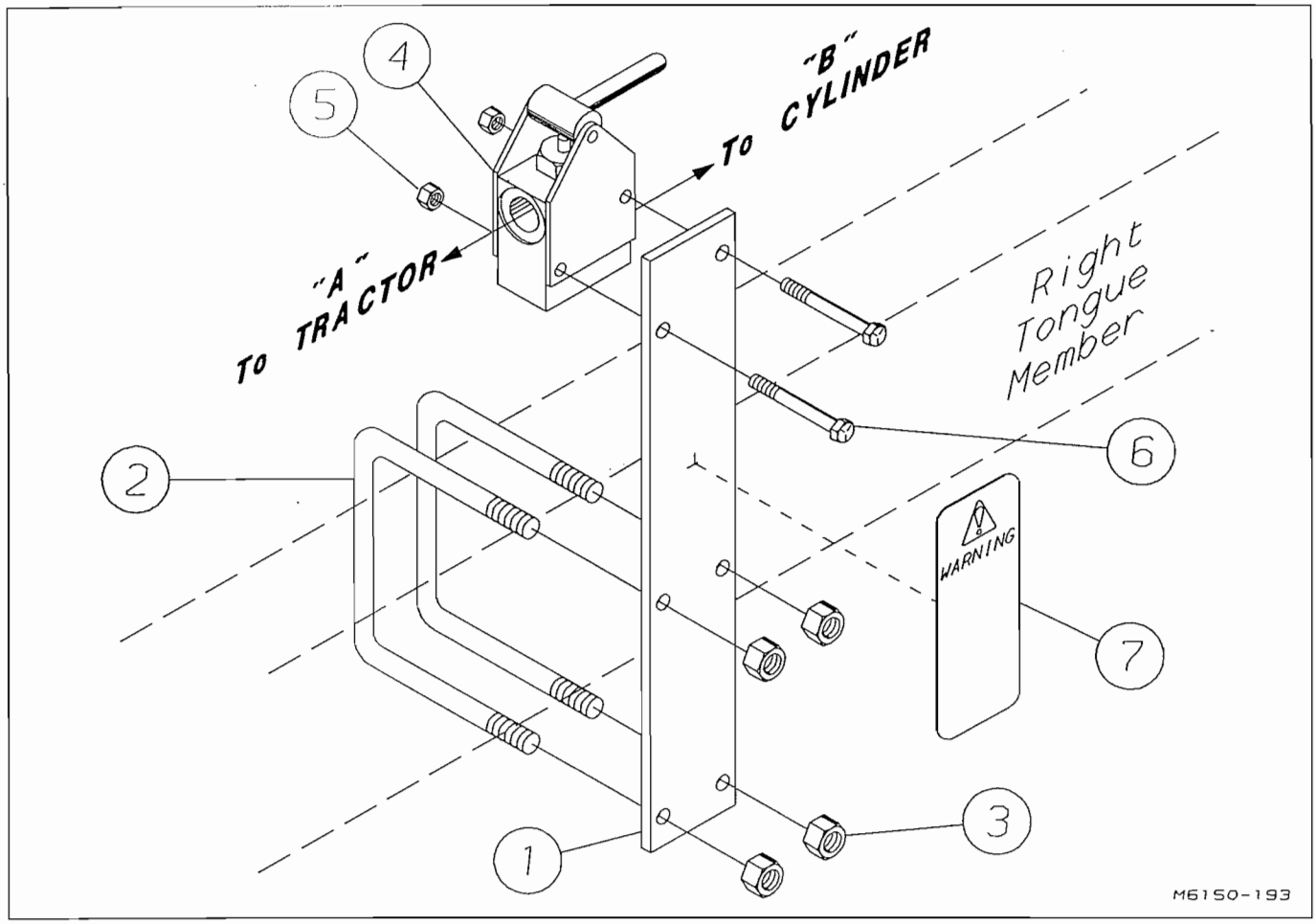
Item		Part Number	Part Description	Qty
		4000-49-0	Lt. Gauge Wheel Assm. - Shown	
		4000-50-0	Rt. Gauge Wheel Assm.	
1		4000-50-1	Spacer Tube	2
2		62-339	5/8NC x 4-1/2"GD5 Bolt	2
3		63-109	5/8NC Hex Nut	2
4		64-109	5/8" STD. Lock Washer	2
5		4000-51-0	Left Side Plate Assembly	1
6		4000-52-0	Right Side Plate Assembly	1
7		4000-51-3	Flanged Wear Sleeve	2
8		4000-48-0	Ratchet Jack	1
9		4000-215-0	Lt. Repair Hub Assembly	1
		4000-216-0	Rt. Repair Hub Assembly	1
10	★	1918-14-0A	Repair Hub Assembly	1
11	●	41-112	Front Cone	1
12	●	41-113	Rear Cone	1
13	★●	41-208	Front Cup	1
14	★●	41-209	Rear Cup	1
15	●	42-108	Seal	1

Item		Part Number	Part Description	Qty
16		52-302	Hub Cap	1
17		53-105	Wear Sleeve	1
18		60-702	3/16" x 1-1/2" Cotter Pin	1
19	★	62-295	Wheel Bolt	6
20		63-204	1NF Slotted Nut	1
21		64-120	1"SAE Black Washer	1
22	★	65-122	1/4 x 65° Drive Zerk	2
23		61-149	3/4"DIA. U-Bolt	2
24		63-112	3/4NC Hex Nut	8
25		64-112	3/4" STD. Lock Washer	8
26		4000-50-2	6-1/2" Jack Handle	1
27		60-708	1/4"DIA. x 1-3/4" Cotter Pin	1
28		6150-95-1	Gauge Wheel Mount Plate	1
29		62-421	3/4NC x 2" GD5 Cap Screw	4
30		1000-95588-0	Wheel & Tire Assembly - Not shown See page P38 for parts	Spec

1918 -84-0 Hub Bearing Repair Kit (Includes ● Items)

1918 -14-0A Repair Hub Assembly (Includes ★ Items)

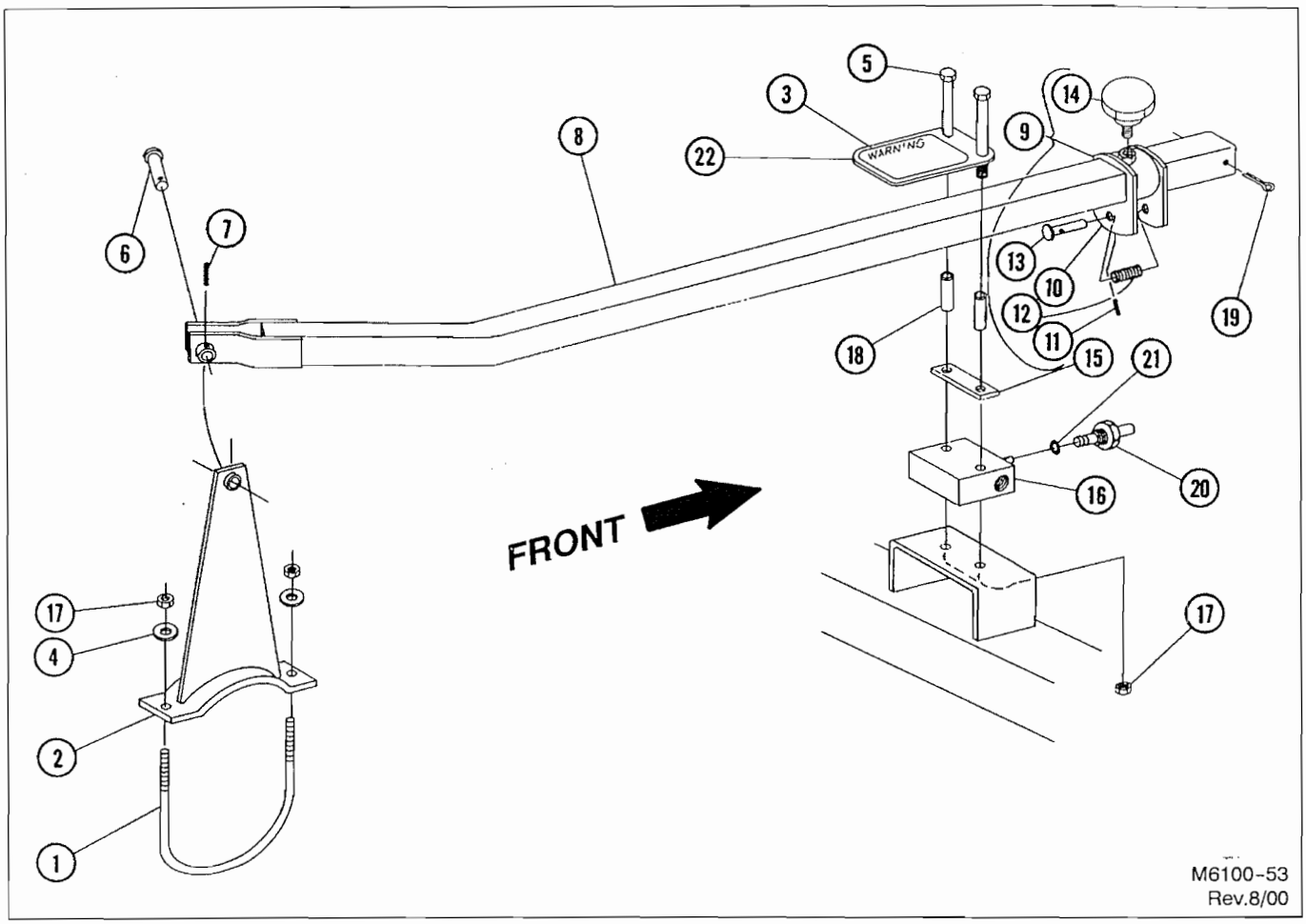
LOCK VALVE ASSEMBLY



FOR MODELS - 6177, 6182 ONLY 10/97

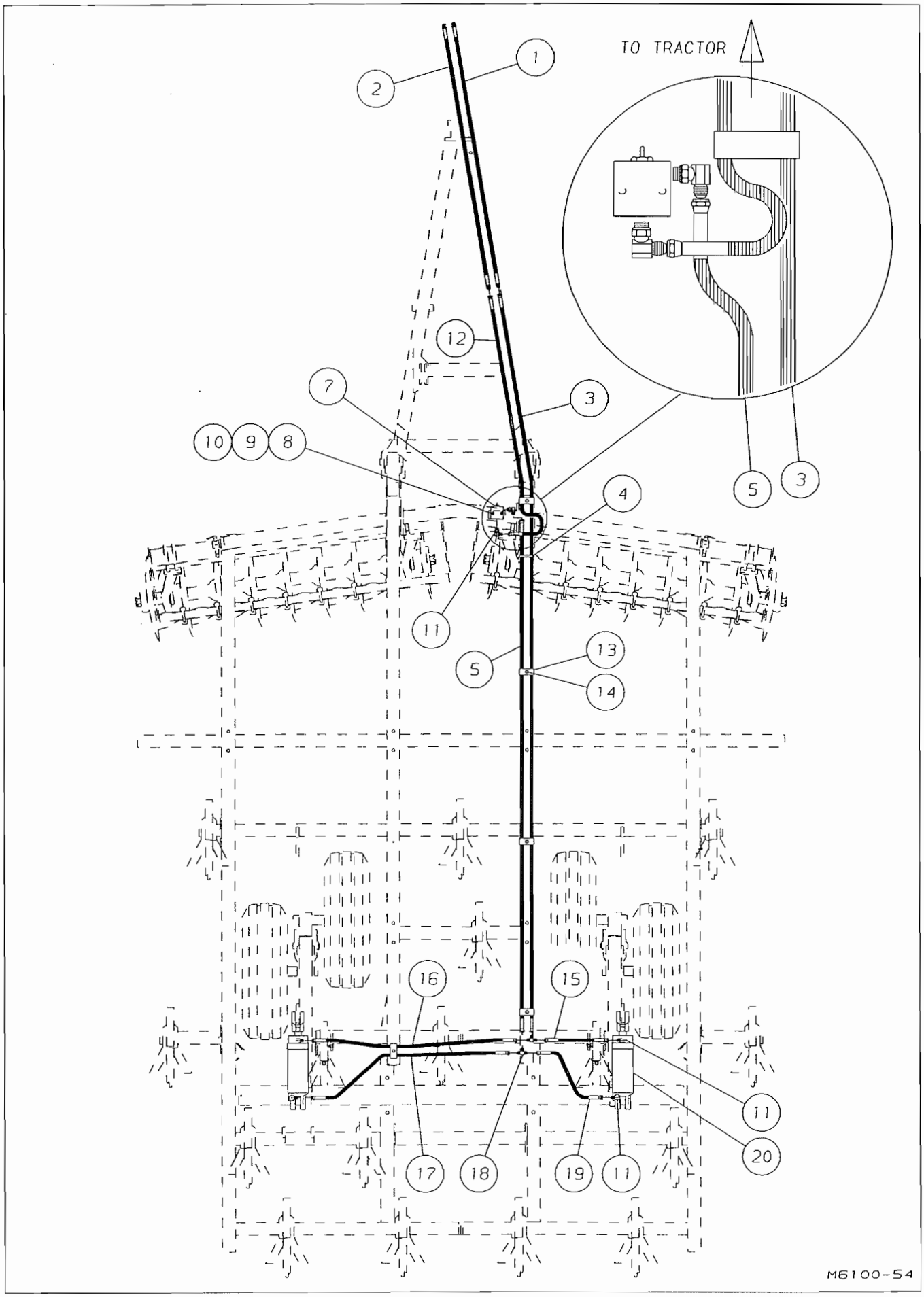
Item	*Part Number*	*Part Description*	*Qty.*
1	6136-90-1	Valve Bracket	1
2	61-218	1/2"DIA. U-Bolt	2
3	63-108	1/2NC Lock Nut	4
4	25-2272	Check Valve Assembly	1
5		Nut (included in Item 4 Check Valve Assembly)	2
6	62-394	5/16NC x 2-1/2" GD5 Cap Screw	2
7	74-393	WARNING Decal	1

DEPTH VALVE ASSEMBLY



FOR MODELS - ALL 8/00

Item	*Part Number*	*Part Description*	*Qty.*
1	61-243	3/8" DIA. U-Bolt (Models 6150 through 6155)	1
	61-217	3/8" DIA. U-Bolt (Models 6158 through 6182)	1
2	6112-105-0	Actuator Arm (Models 6150 through 6155)	1
	3112-105-0	Actuator Arm (Models 6158 through 6182)	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" GD.5 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	6112-91-0	Striker Assembly	1
10	6112-92-0	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	25-2474	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	25-2475	Cartridge Assembly	1
21	25-2476	O-Ring	1
22	3112-69-3	Decal Plate	1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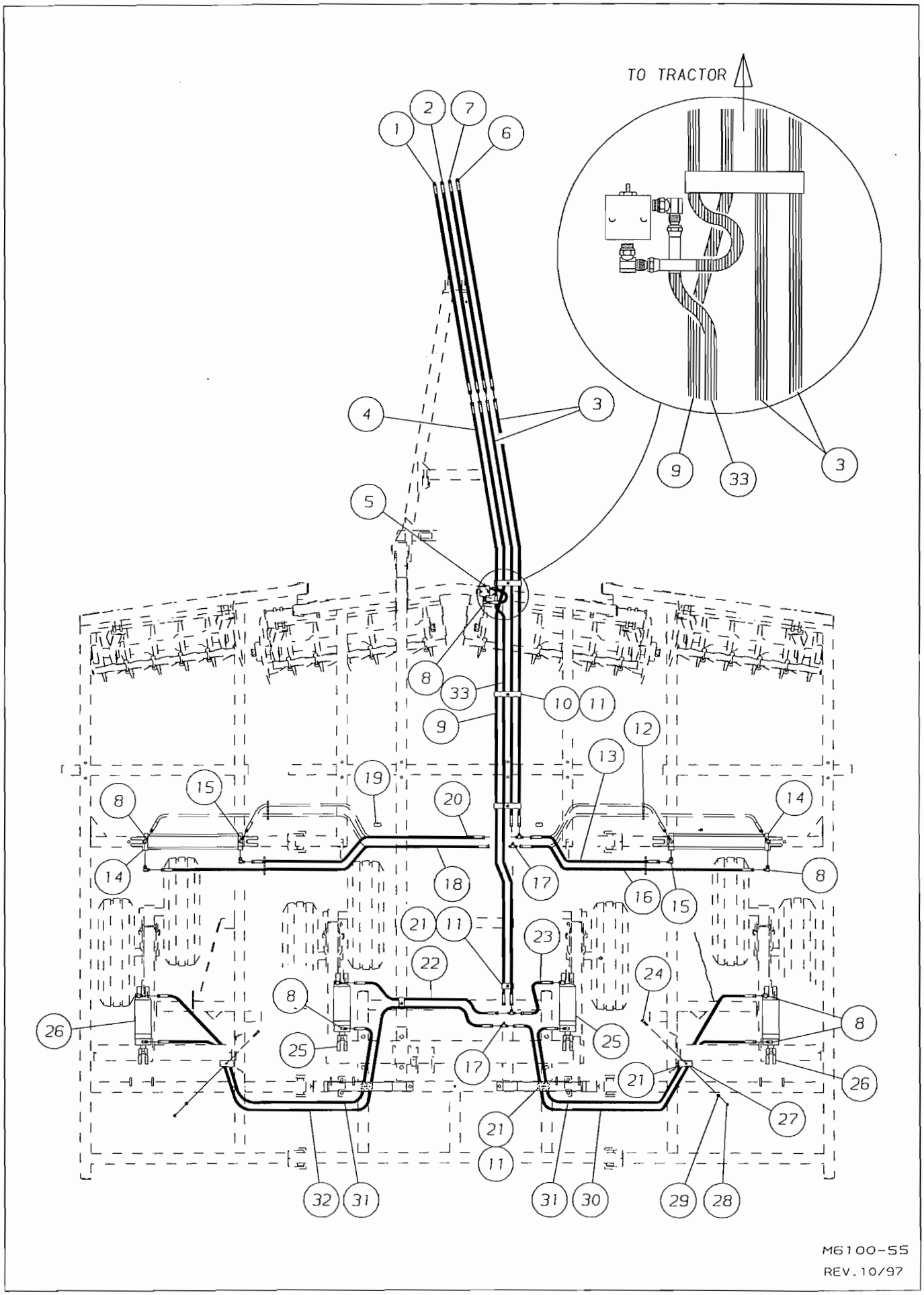
M6100-54

HYDRAULIC HOSE GROUP

FOR MODELS - 6150, 6152, 6155 8/00

Item	*Part Number*	*Part Description*	*Qty.*
1	• 4990-76-0	Hose 1/2" DIA. x 92" 100R2 with Yellow/Yellow Grip	1
2	• 4990-75-0	Hose 1/2" DIA. x 92" 100R2 with Red/Red Grip	1
3	24-307R	Hose 1/2" DIA. x 172"	1
4	25-128	Hose Wraplock	1
5	24-369R	Hose 1/2" DIA. x 125"	1
6			
7	25-2474	Depth Valve Assembly	1
8	62-356	3/8NC x 2" Carriage Bolt	2
9	64-103	3/8" STD. Lock Washer	2
10	63-102	3/8NC Hex Nut	2
11	25-301	O-Ring 37° Flare 90° Adapter	6
12	24-353R	Hose 1/2" DIA. x 65"	1
13	6118-0-3	Hose Clamp	5
14	62-115	3/8NC x 1-1/2" Hex Washer Thread Cutting Screw	5
15	24-200R	Hose 3/8" DIA. x 24"	1
16	24-206R	Hose 3/8" DIA. x 57"	1
17	24-244R	Hose 3/8" DIA. x 61"	1
18	25-303	37° Flare Male Tee	2
19	24-243R	Hose 3/8" DIA. x 32"	1
20	21-1007	4" x 10" Prince Series Hydraulic Cylinder	2

• See page P50 for Parts Listing


TO TRACTOR
M6100-55
REV. 10/97

HYDRAULIC HOSE GROUP

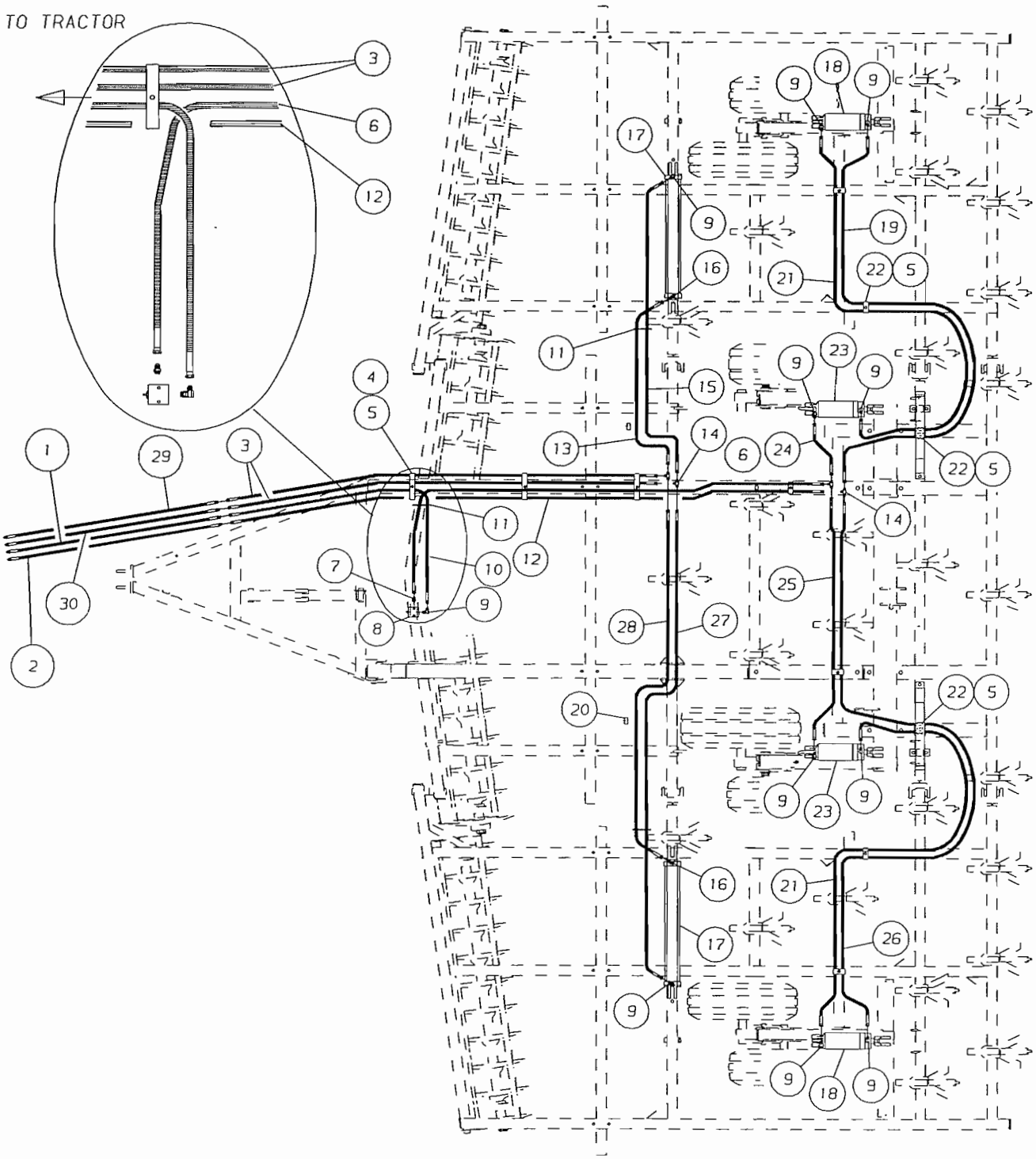
FOR MODELS - 6158, 6161, 6164 8/00

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	24-222R	Hose 3/8" DIA. x 125"	2
4	24-353R	Hose 1/2" DIA. x 65"	1
5	25-2474	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	24-307R	Hose 1/2" DIA. x 172"	1
10	6118-0-3	Hose Clamp	3
11	62-115	3/8NC x 1-1/2" Hex Washer Thread Cutting Screw	★9/11■
12	25-128	Hose Wraplock (Use where required)	
13	★ 24-256R	Hose 3/8" DIA. x 48"	1
	■ 24-206R	Hose 3/8" DIA. x 57"	1
14	★ 21-181	4" x 24" Prince Hydraulic Cylinder Assembly	2
	■ 21-182	4" x 32" Prince Hydraulic Cylinder Assembly	2
15	4956-75-0	O-Ring 37° Flare 90° Restrictor Assembly w/Tag	2
16	★ 24-211R	Hose 3/8" DIA. x 77"	1
	■ 24-214R	Hose 3/8" DIA. x 89"	1
17	25-303	37° Flare Male Tee	4
18	★ 24-220R	Hose 3/8" DIA. x 110"	1
	■ 24-291R	Hose 3/8" DIA. x 120"	1
19	3127-83-1	Hose Clamp	2
20	★ 24-212R	Hose 3/8" DIA. x 79"	1
	■ 24-213R	Hose 3/8" DIA. x 86"	1
21	3514-0-2	Hose Clamp	★6/8■
22	24-206R	Hose 3/8" DIA. x 57"	1
23	24-200R	Hose 3/8" DIA. x 24"	1
24	62-343	1/2NC x 2" GD. 5 Cap Screw	2
25	21-1007	Prince 4" x 10" Series Hydraulic Cylinder Assembly	2
26	21-1006	Prince 3-3/4" x 10" Series Hydraulic Cylinder Assembly	2
27	★ 4809-0-2	Hose Bracket	2
28	63-106	1/2NC Hex Nut	2
29	64-107	1/2" STD. Lock Washer	2
30	★ 24-223R	Hose 3/8" DIA. X 128"	1
	■ 24-241R	Hose 3/8" DIA. x 154"	1
31	★ 24-237R	Hose 3/8" DIA. x 122"	2
	■ 24-225R	Hose 3/8" DIA. x 140"	2
32	★ 24-229R	Hose 3/8" x 157"	1
	■ 24-233R	Hose 3/8" DIA. x 184"	1
33	24-369R	Hose 1/2" DIA. x 125"	1

★ Models 6158 and 6161

■ Model 6164

• See page P50 for parts listing



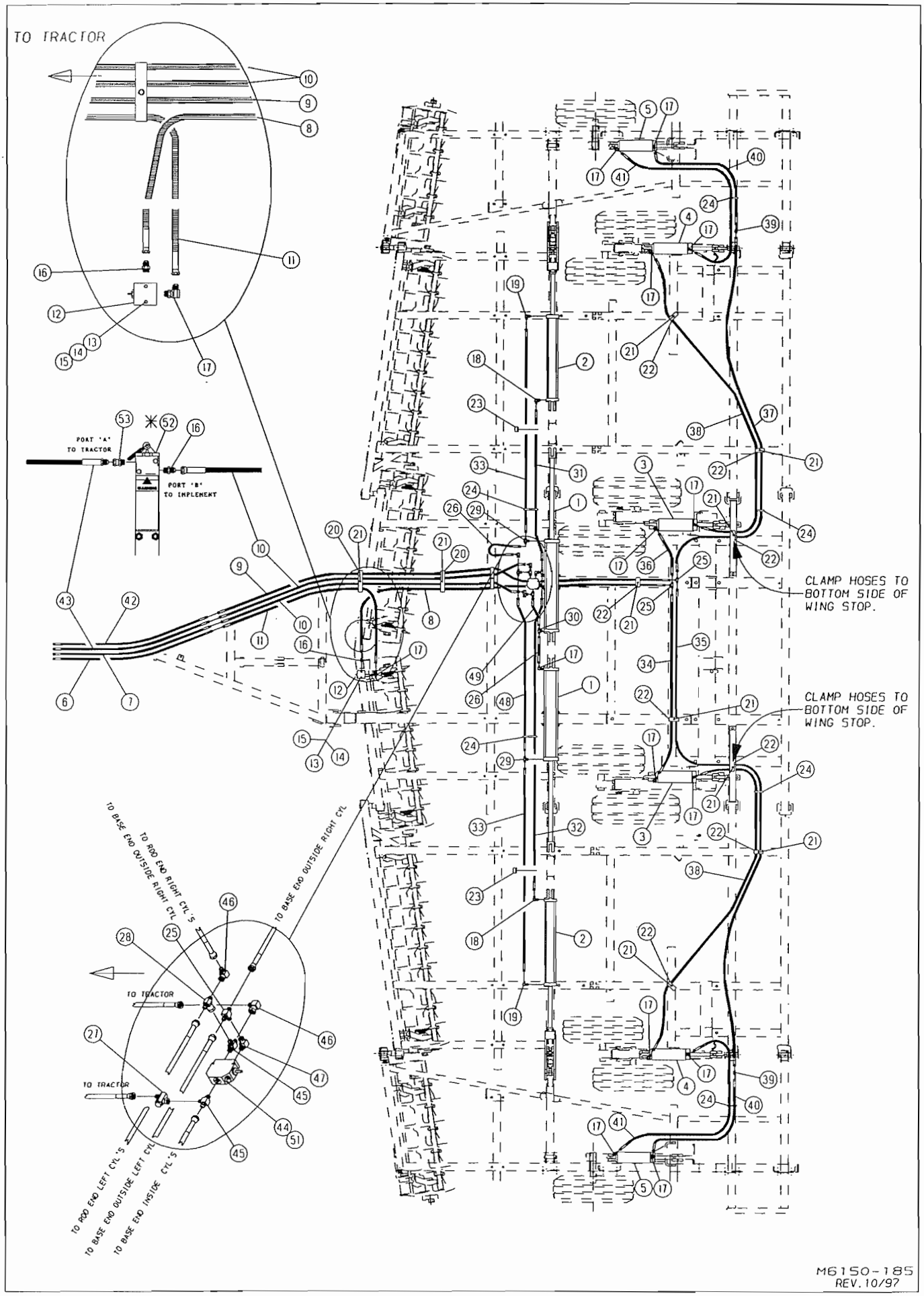
Revised 10/94
Rev.10/94

HYDRAULIC HOSE GROUP

FOR MODELS - 6167, 6171 8/00

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	24-265R	Hose 3/8" DIA. x 135"	2
4	2426-170-5	Hose Clamp	3
5	62-115	3/8NC x 1-1/2" Hex Washer Thread Cutting Screw	11
6	24-329R	Hose 1/2" DIA. x 157"	1
7	25-300	O-Ring 37° Flare Adapter	1
8	25-2474	Depth Valve Assembly	1
9	25-301	O-Ring 37° Flare 90° Elbow	11
10	24-340R	Hose 1/2" DIA. x 107"	1
11	25-126	Panduit Stay Strap	Spec.
12	24-333R	Hose 1/2" DIA. x 186"	1
13	24-244R	Hose 3/8" DIA. x 61"	1
14	25-303	O-Ring 37° Flare Male Tee	4
15	24-258R	Hose 3/8" DIA. x 94"	1
16	4956-75-0	O-Ring 37° Flare 90° Restrictor Assembly w/Tag	2
17	21-182	4" x 32" Prince Hydraulic Cylinder Assembly	2
18	21-1006	Prince 3-3/4" x 10" Series Hydraulic Cylinder Assembly	2
19	24-229R	Hose 3/8" x 157"	1
20	3127-83-1	Hose Clamp	2
21	24-225R	Hose 3/8" DIA. x 140"	2
22	3514-0-2	Hose Clamp	8
23	21-1007	Prince 4" x 10" Series Hydraulic Cylinder Assembly	2
24	24-268R	Hose 3/8" DIA. x 27"	1
25	24-261R	Hose 3/8" DIA. x 84"	1
26	24-248R	Hose 3/8" DIA. x 214"	1
27	24-228R	Hose 3/8" DIA. x 149"	1
28	24-221R	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 P50 for parts listing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M6150-185
REV. 10/97

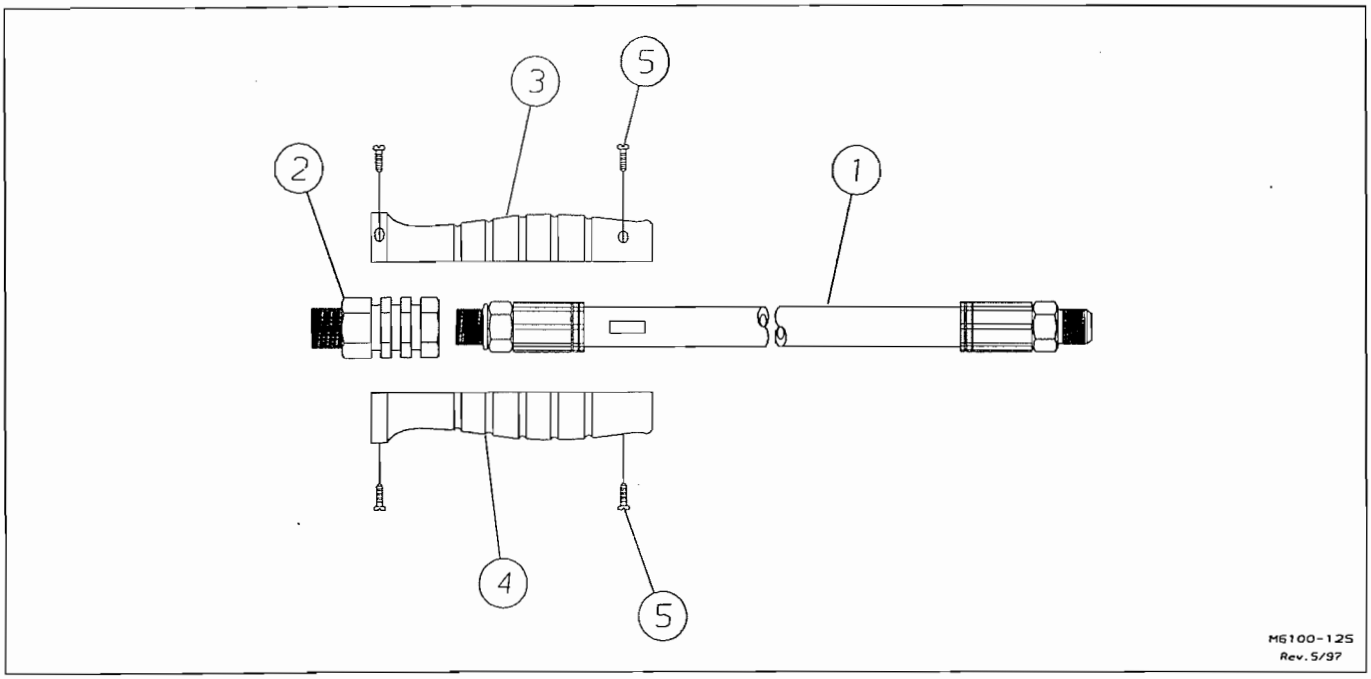
HYDRAULIC HOSE GROUP

FOR MODELS - 6177, 6182 8/00

Item		Part Number	Part Description	Qty.
1		21-189	5" x 32" Prince Hydraulic Cylinder Assembly	2
2		6136-80-0	4" x 30" Hydraulic Cylinder Assembly	2
3		21-1008	4-1/4" x 10" Prince Hydraulic Cylinder Assembly	2
4		21-1007	4" x 10" Prince Series Hydraulic Cylinder Assembly	2
5		21-1006	3-3/4" x 10" Prince Series Hydraulic Cylinder Assembly	2
6	•	4990-75-0	Hose 1/2" x 92" 100R2 with Red/Red Grip	1
7	•	4990-76-0	Hose 1/2" x 92" 100R2 with Yellow/Yellow Grip	1
8		24-329R	Hose Assembly 1/2" x 157"	1
9		24-333R	Hose Assembly 1/2" x 186"	1
10		24-265R	Hose Assembly 3/8" x 135"	2
11		24-340R	Hose Assembly 1/2" x 107"	1
12		25-2474	Depth Valve Assembly	1
13		62-356	3/8NC x 2" Carriage Bolt	2
14		64-103	3/8" STD. Lock Washer	2
15		63-102	3/8NC Hex Nut	2
16		25-300	O-Ring 37° Flare Adapter	2
17		25-301	O-Ring 37° Flare 90° Elbow	14
18		4956-75-0	Restrictor Assembly w/ Tag	2
19		4956-75-0	Restrictor Assembly w/ Tag	2
20		2426-170-5	Hose Clamp	3
21		62-115	3/8NC x 1-1/2" Hex Washer Thread Cutting Screw	15
22		3514-0-2	Hose Clamp	12
23		3127-83-1	Hose Clamp	2
24		25-126	Panduit Stay Strap (Use as needed)	6
25		25-303	37° Flare Male Tee	4
26		24-264R	Hose Assembly 3/8" x 13"	2
27		25-324	In-Line Restrictor Assembly	1
28		25-373	Swivel Nut Branch Tee	1
29		3755-75-0	Restrictor & Tag	2
30		25-309	O-Ring 37° Flare Tee	1
31		24-288R	Hose Assembly 3/8" x 70"	1
32		24-271R	Hose Assembly 3/8" x 132"	1
33		24-258R	Hose Assembly 3/8" x 94"	2
34		24-261R	Hose Assembly 3/8" x 84"	1
35		24-249R	Hose Assembly 3/8" x 238"	1
36		24-268R	Hose Assembly 3/8" x 27"	1
37		24-233R	Hose Assembly 3/8" x 184"	1
38		24-286R	Hose Assembly 3/8" x 168"	2
39		25-304	37° Flare Male Coupler	2
40		24-208R	Hose Assembly 3/8" x 65" - Model 6177	2
		24-207R	Hose Assembly 3/8" x 58" - Model 6182	2
41		24-222R	Hose Assembly 3/8" x 125" - Model 6177	2
		24-280R	Hose Assembly 3/8" x 118" - Model 6182	2
42	•	4990-77-0	Hose 3/8" x 92" 100R2 with Red/Black Grip	1
43	•	4990-78-0	Hose 3/8" x 92" 100R2 with Yellow/Black Grip	1
44		25-144	Sequence Valve	1
45		25-302	O-Ring 37° Flare Tee	2
46		25-310	37° Flare Male / Female Tee	2
47		25-320	O-Ring Female Ell	1
48		24-2113R	Hose Assembly 3/8" x 74"	1
49		24-246R	Hose Assembly 3/8" x 28"	1
50		25-128	Hose Wrap Lock (Use as needed)	4
51		25-1105	Snaplock Clamp (Bands Sequence Valve to frame)	1
52	★	See P40 for parts	Lock Valve Assembly	1
53		25-314	O-Ring/37° Female Flare Hydraulic Fitting	1

• See page P50 for parts listing

HYDRAULIC HOSE WITH PLASTIC GRIP ASSEMBLIES

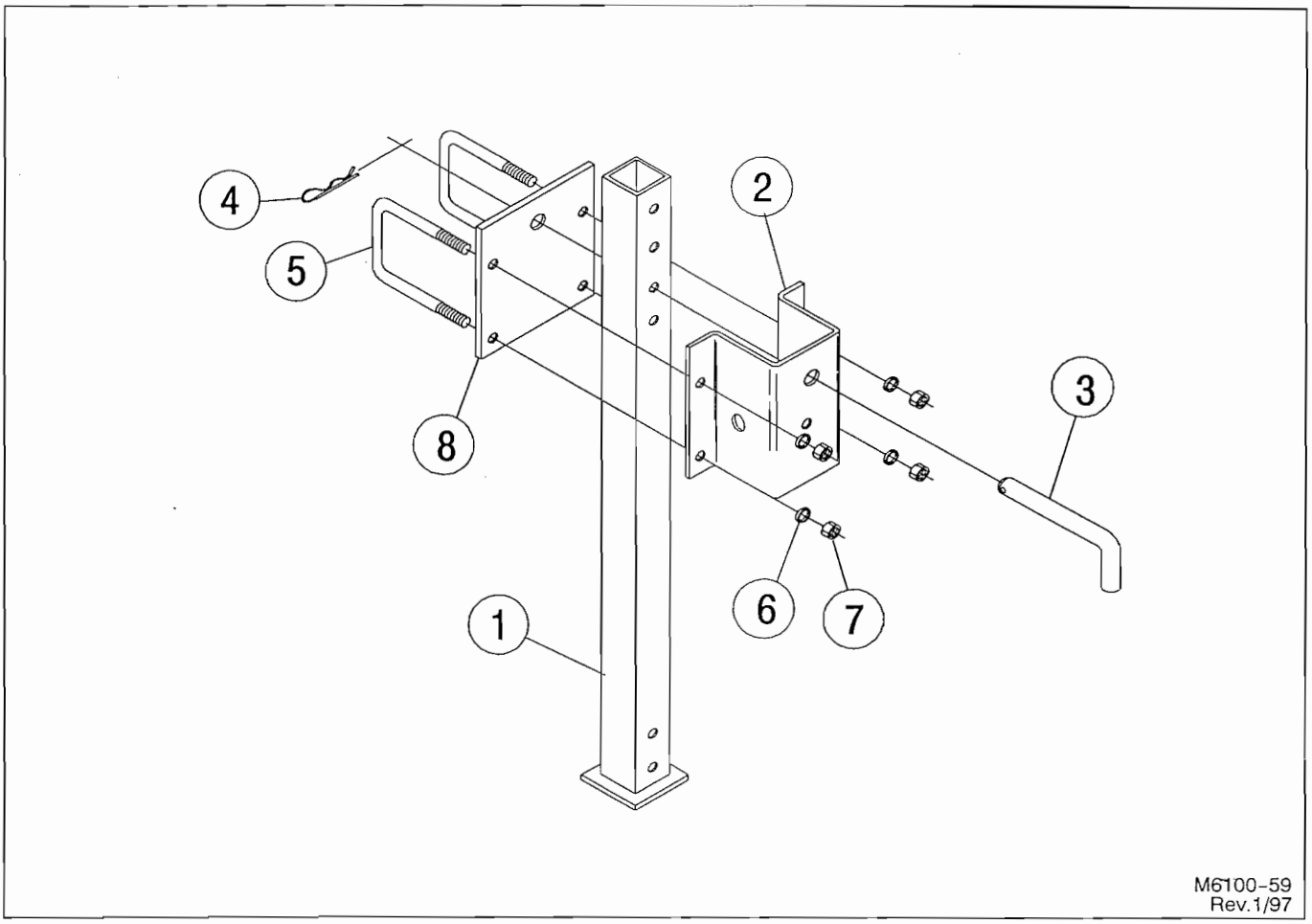


FOR MODELS - ALL

10/97

Item	*Part Number*	*Part Description*	*Qty.*
	4990-75-0	1/2" x 92" 100R2 Hose with Red/Red Grip Assembly	1
1	24-330R	1/2" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25-2295	3/4" ORB to 1/2 NPT Hydraulic Fittings	1
3	25-2289	Hose Grip Half - Red	1
4	25-2289	Hose Grip Half - Red	1
5	62-656	Screw	4
	4990-76-0	1/2" x 92" 100R2 Hose with Yellow/Yellow Grip Assembly	1
1	24-330R	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	4
	4990-77-0	3/8" x 92" 100R2 Hose with Red/Black Grip Assembly	1
1	24-2105R	3/8" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25-2295	3/4" ORB to 1/2NPT Hydraulic Fitting	1
3	25-2289	Hose Grip Half - Red	1
4	25-2291	Hose Grip Half - Black	1
5	62-656	Screw	4
	4990-78-0	3/8" x 92" 100R2 Hose with Yellow/Black Grip Assembly	1
1	24-2105R	3/8" DIA. x 92" JIC/ORB 100R2 Hose	1
2	25-2295	3/4" ORB to 1/2NPT Hydraulic Fitting	1
3	25-2290	Hose Grip Half - Yellow	1
4	25-2291	Hose Grip Half - Black	1
5	62-656	Screw	4

REAR JACK MOUNTING



M6100-59
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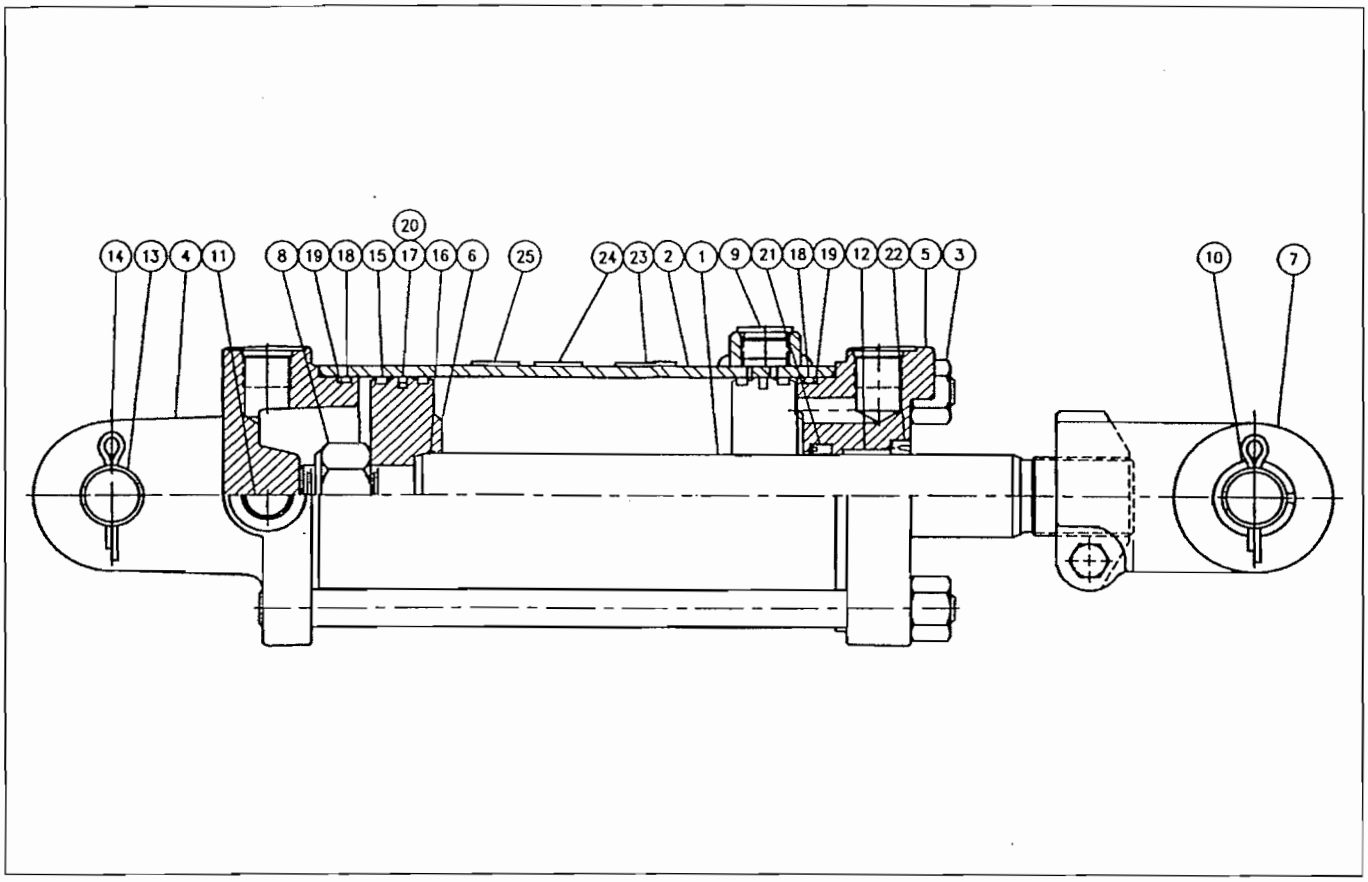
FOR MODELS - ALL (OPTIONAL) 1/97

Item	*Part Number*	*Part Description*	*Qty.*
1	4218-27-0A	Stand Weldment	2
2	4218-0-5A	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
8	4218-0-6	Stand Plate	1

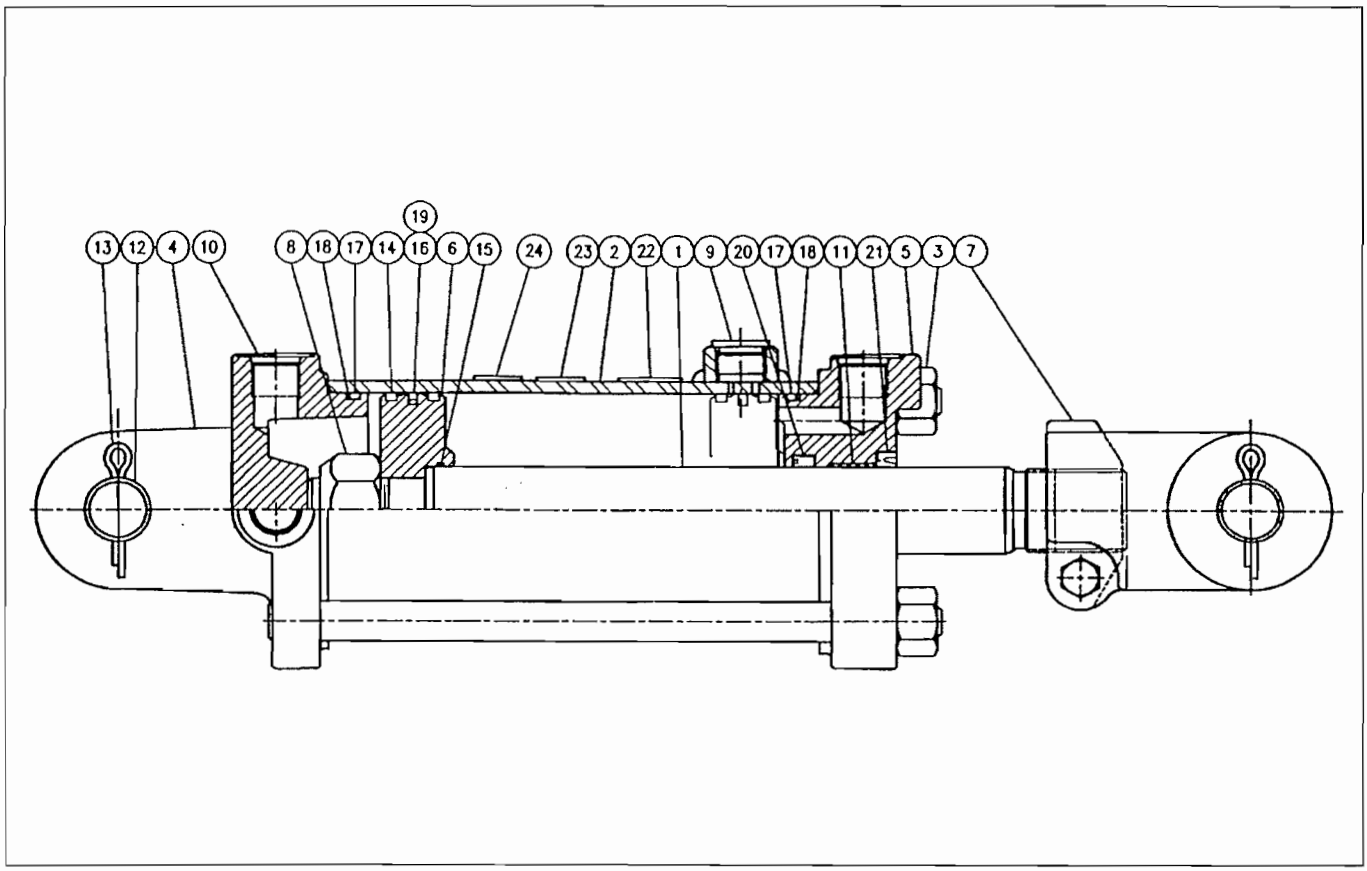
PRINCE HYDRAULIC CYLINDER



21-1007 4" X 10" PRINCE HYDRAULIC CYLINDER ASSEMBLY (Series) 3/00
Retracted - 22-1/4" Extended - 32-1/4" Stroke - 10" Rod Diameter - 1-3/8"

Item	*Part Number*	*Part Description*	*Qty.*
1	21-2061	Piston Rod	1
2	21-2063	Tube	1
3	21-710	Tie Rod	4
4	21-337	Butt	1
5	21-810	Gland	1
6	21-811	Piston	1
7	21-2067	Clevis Assembly	1
8	21-225	Lock Nut	1
9	21-820	ORB Plug	1
10	21-2068	Bushing	2
11	21-404	#8 SAE Plug	1
12	21-807	Bushing	1
13	21-260	Clevis Pin	2
14		3/16" DIA. x 1-3/4" Cotter Pin	4
15	★	Bearing Ring	1
16	★	O-Ring	1
17	★	O-Ring	1
18	★	O-Ring	2
19	★	Back-Up Washer	2
20	★	Teflon Seal	1
21	★	U-Cup	1
22	★	Wiper	1
23	74-516	Seal Kit Decal	1
24	21-443	Series Caution Decal	1
25	74-113	Cylinder Warning Decal	1
	21-2059	Seal Kit (★ Items Included in Kit)	

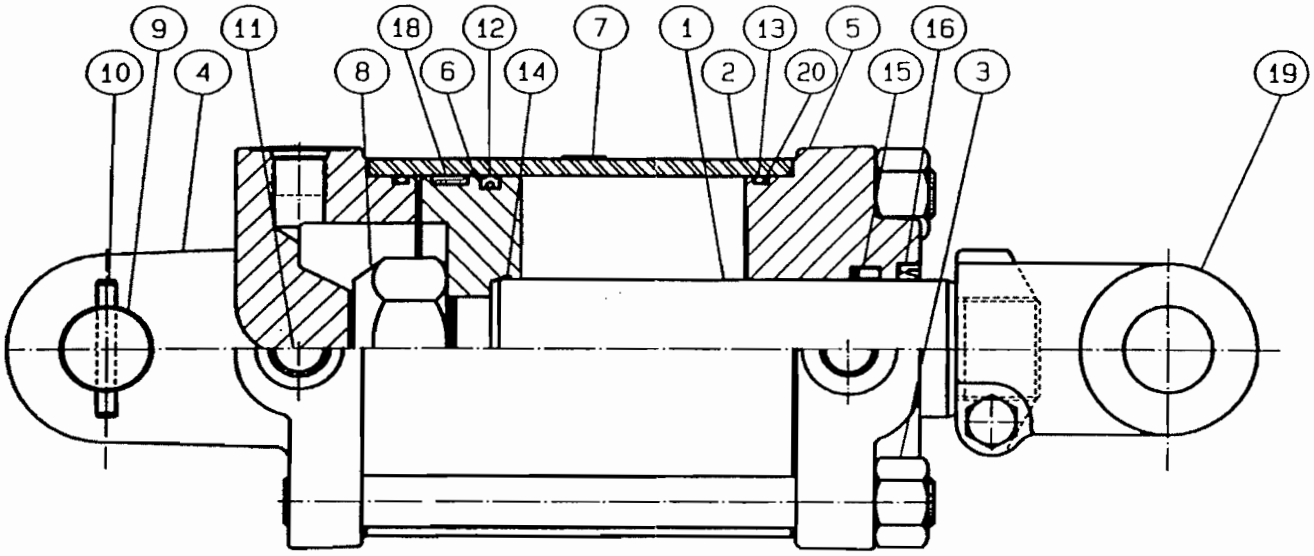
PRINCE HYDRAULIC CYLINDER



21-1006 3-3/4" X 10" PRINCE HYDRAULIC CYLINDER ASSEMBLY (Series) 3/00
Retracted - 22-1/4" Extended - 32-1/4" Stroke - 10" Rod Diameter - 1-3/8"

Item	*Part Number*	*Part Description*	*Qty.*
1	21-2061	Piston Rod	1
2	21-2064	Tube Assembly	1
3	21-710	Tie Rod	4
4	21-348	Butt	1
5	21-803	Gland	1
6	21-804	Piston	1
7	21-2066	Clevis Assembly	1
8	21-225	Lock Nut	1
9	21-820	Port Plug	1
10	21-404	#8 SAE Plug	3
11	21-807	Bushing	1
12	21-260	Clevis Pin	2
13		3/16" DIA. x 1-3/4" Cotter Pin	4
14	★	Bearing Ring	1
15	★	O-Ring	1
16	★	O-Ring	1
17	★	O-Ring	2
18	★	Back-Up Washer	2
19	★	Teflon Seal	1
20	★	U-Cup	1
21	★	Wiper	1
22	74-515	Seal Kit Decal	1
23	21-443	Series Caution Decal	1
24	74-113	Cylinder Warning Decal	1
	21-2058	Seal Kit (★ Items Included in Kit)	

PRINCE HYDRAULIC CYLINDER



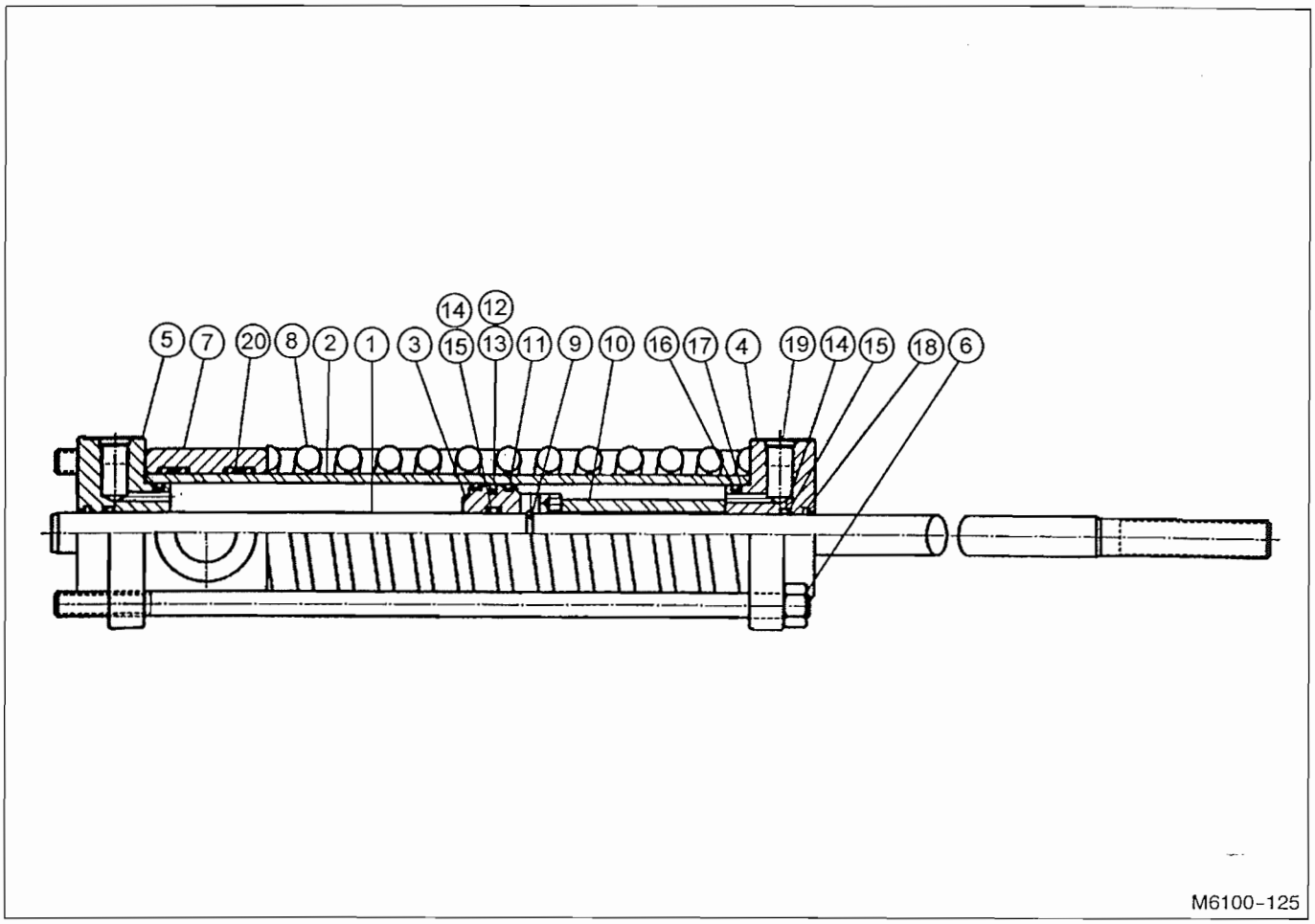
Revised 3/95

21-189 5" X 32" PRINCE HYDRAULIC CYLINDER ASSEMBLY 12/98

Retracted - 43-3/4" Stroke - 32" Extended - 75-3/4" Rod - 2"

Item	*Part Number*		*Qty.*
1	21-917	Piston Rod	1
2	21-918	Tube	1
3	21-919	Tie Rod	4
4	21-868	Butt	1
5	21-869	Gland	1
6	21-870	Piston	1
7	74-113	Cylinder Warning Decal	1
8	21-871	Lock Nut	1
9	21-872	Clevis Pin	1
10		1/4" DIA. x 2" Roll Pin	2
11	21-831	Plug	1
12	★	Crown Seal	1
13	★	O-Ring	2
14	★	O-Ring	1
15	★	U-Cup	1
16	★	Wiper	1
17			
18	★	Bearing Ring	1
19	21-507	Clevis Assembly	1
20	★	Back-Up Washer	2
	• 21-858	Seal Kit (★ Items Included in Kit)	
	• NOT INCLUDED IN HYDRAULIC CYLINDER ASSEMBLY		

PRINCE HYDRAULIC CYLINDER ASSEMBLY

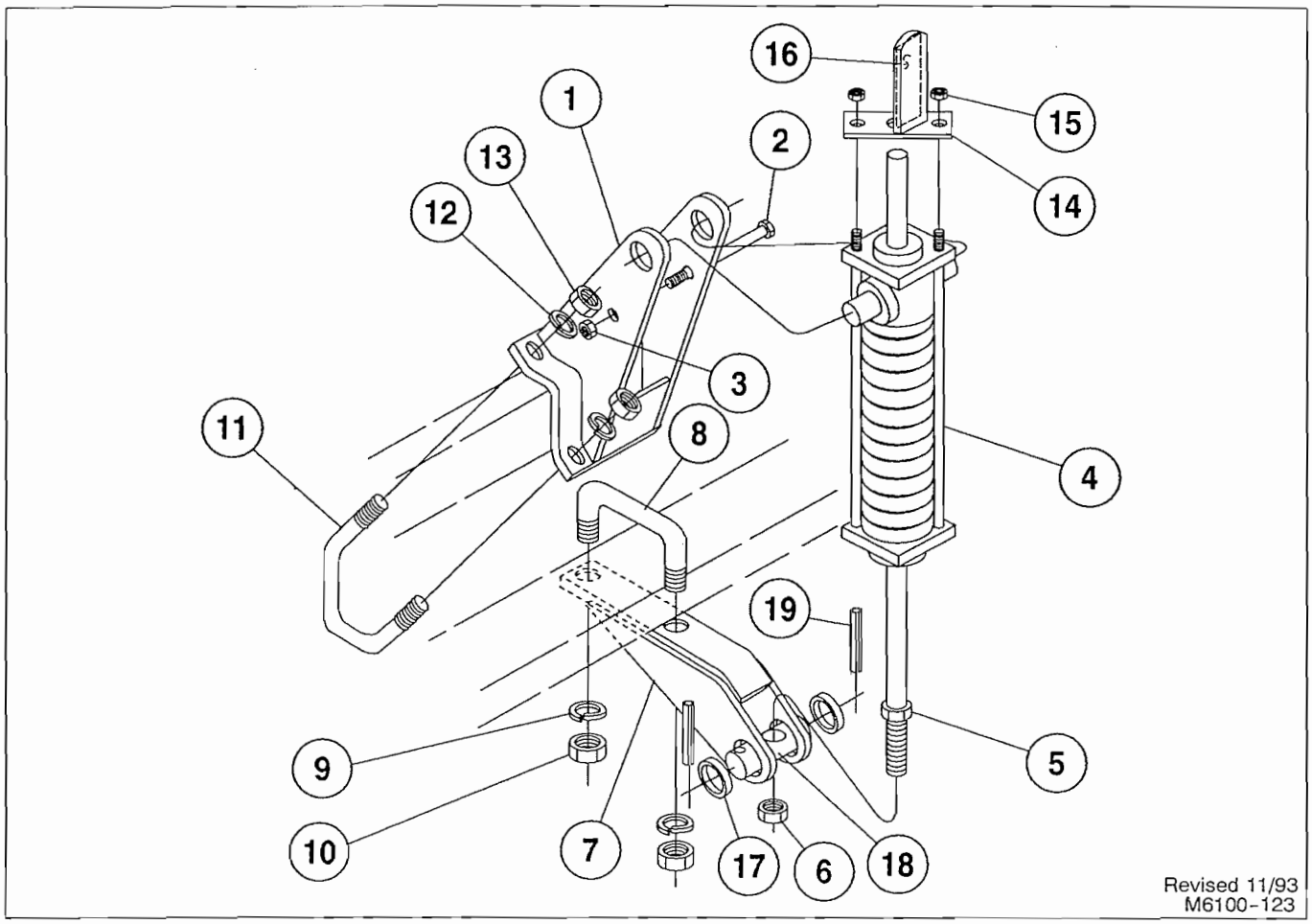


21-166 2" X 5-7/8" PRINCE HYDRAULIC CYLINDER ASSEMBLY 3/97

Stroke - 5-7/8" Rod - 13/16"

Item	*Part Number*	*Part Description*	*Qty.*
1	21-865	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	★	Bearing Ring	2
12	★	Teflon Seal	1
13	★	O-Ring	1
14	★	O-Ring	2
15	★	Back-Up Washer	2
16	★	O-Ring	2
17	★	Back-Up Washer	2
18	★	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

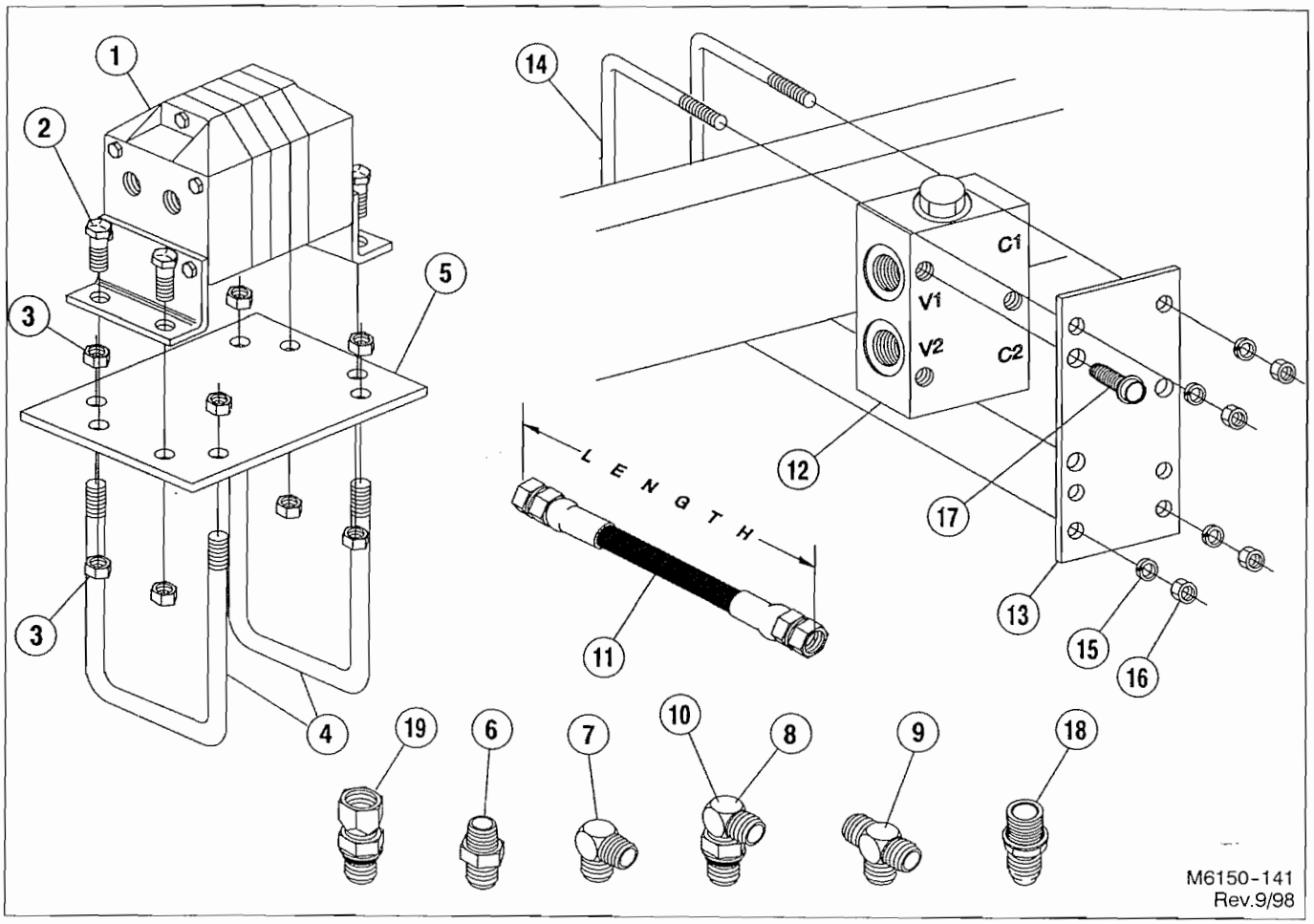


FOR MODELS - ALL

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



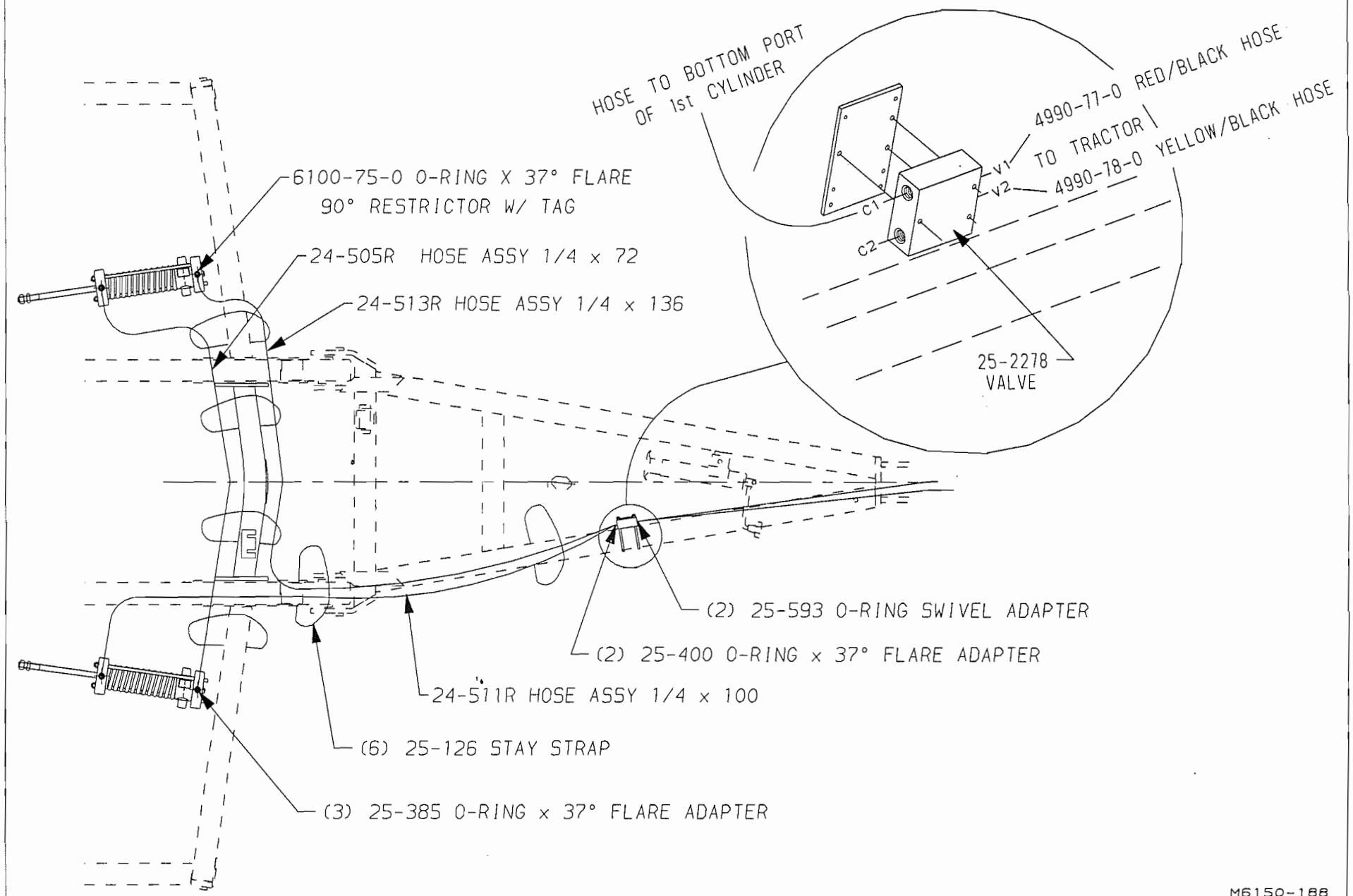
FOR MODELS - With Hydraulic Disc Gangs

9/98

Item	Part Number	Part Description	Qty.
1	▪ 25-2271	Hydraulic Flow Divider	1
2	▪ 62-108	3/8NC x 1" GD. 5 Cap Screw	4
3	▪ 63-134	3/8NC Nylon-Top Lock Nut	8
4	▪ 61-245	3/8" DIA. U-Bolt	2
5	▪ 6136-200-1	Flow Divider Mount	1
6	▪ 25-392	1/2"JIC-3/8NPT Hydraulic Fitting	1
7	▪ 25-393	1/2JIC-3/8NPT (Male) 90° Fitting	1
8	25-385	9/16"O-Ring (Male) - 1/2"JIC (Male) 90° Fitting	1
9	▪ 25-394	37° Flare 1/2"JIC (Male) Tee	1
10	25-391	9/16"O-Ring (Male)-1/2"JIC (Male) 90° Restrictor Fitting	1
11	24-503	1/4" x 36" JIC Hose Assembly	
	24-527	1/4" x 42" JIC Hose Assembly	
	24-504	1/4" x 240" JIC Hose Assembly	
	24-505	1/4" x 72" JIC Hose Assembly	
	24-506	1/4" x 184" JIC Hose Assembly	
	24-507	1/4" x 92"(Male) JIC-NPT Hose	
	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	
	24-513	1/4" x 36" JIC Hose Assembly	
	24-514	1/4" x 22" JIC Hose Assembly	
	24-515	1/4" x 172" JIC Hose Assembly	
	24-516	1/4" x 64" JIC Hose Assembly	
	24-517	1/4" x 88" JIC Hose Assembly	
	24-518	1/4" x 264" JIC Hose Assembly	
	24-519	1/4" x 124" JIC Hose Assembly	
	24-520	1/4" x 168" JIC Hose Assembly	
	24-521	1/4" x 16" JIC Hose Assembly	
	24-522	1/4" x 46" JIC Hose Assembly	
	4990-77-0	3/8" x 92" Hose See page P50	
	4990-78-0	3/8" x 92" Hose See page P50	
12	25-2278	Valve	1
13	6118-0-6	Plate	1
14	61-250	U-Bolt (Models 6158-6164)	2
	61-251	U-Bolt (Models 6167-6182)	2
15	64-100	1/4" STD. Lock Washer	4
16	63-100	1/4NC Hex Nut	4
17	62-510	5/16NC Self Threading Bolt	3
18	25-400	9/16" (Male) O-Ring - 1/2 (Male) JIC Hydraulic Fitting	4
19	25-593	Swivel Adapter	1

▪ For Models 6177 & 6182 ONLY

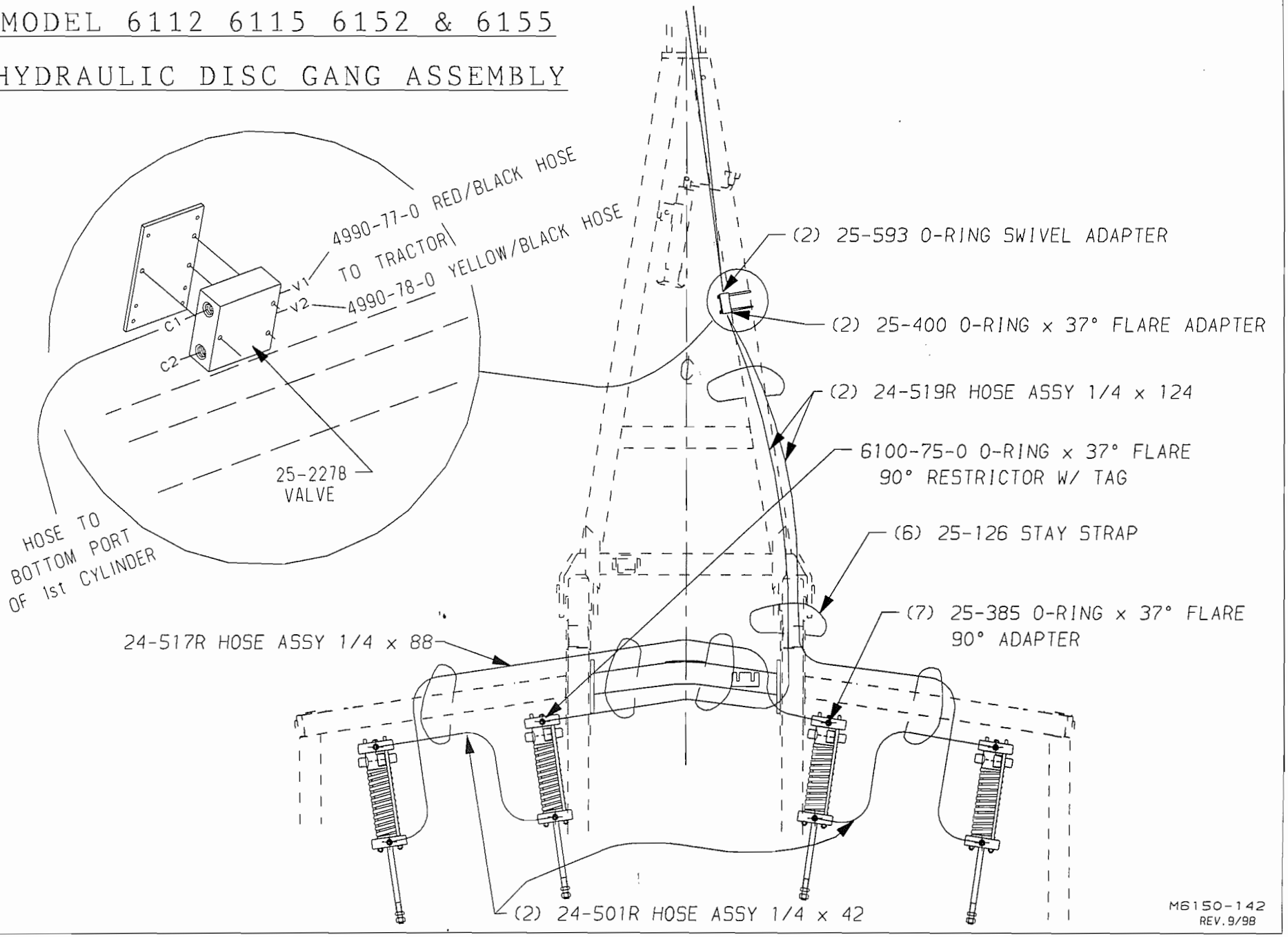
MODEL 6110 & 6150 HYDRAULIC DISC GANG ASSEMBLY



M6150-188
REV. 9/98

MODEL 6112 6115 6152 & 6155

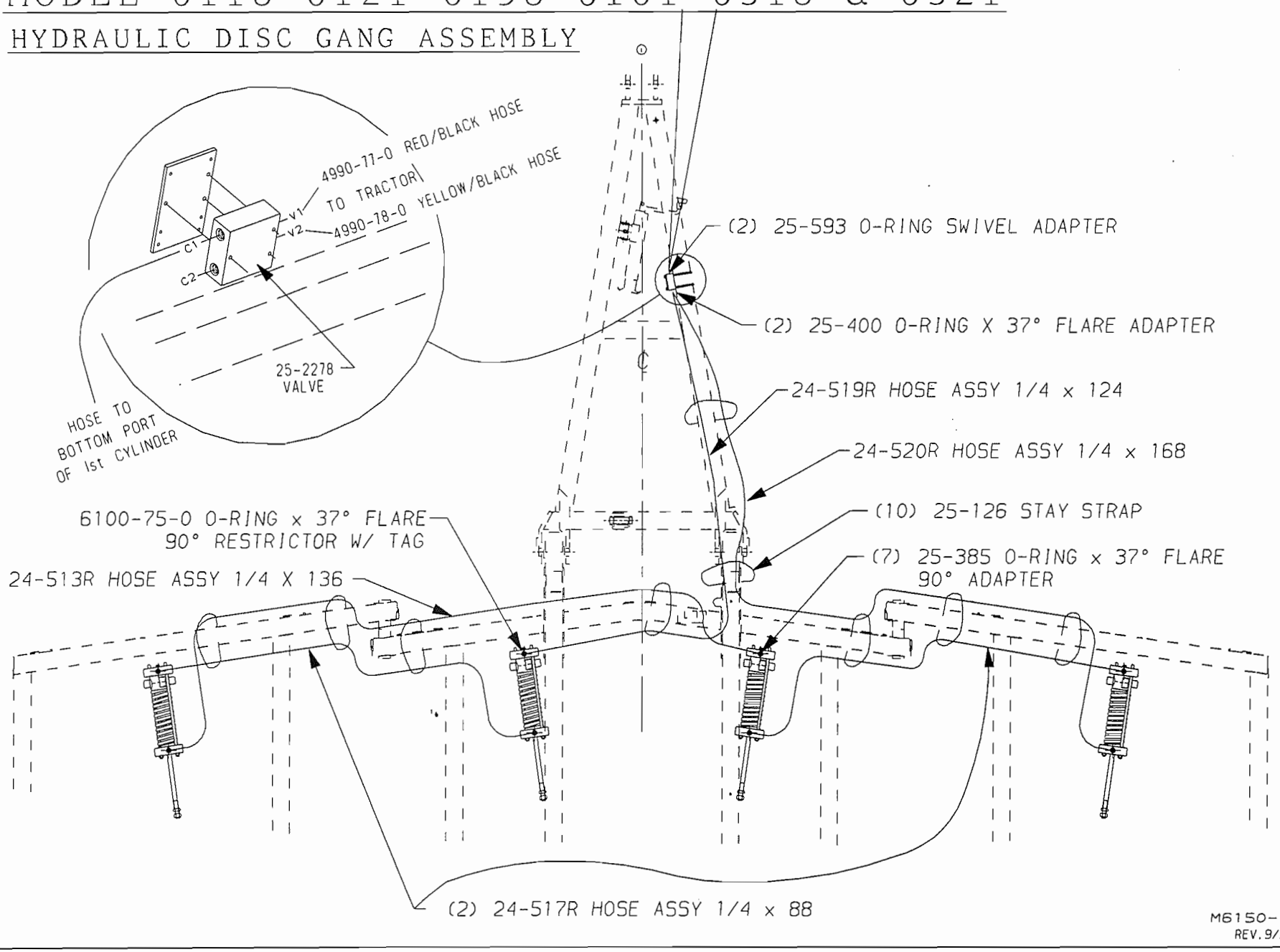
HYDRAULIC DISC GANG ASSEMBLY



M6150-142
REV. 9/98

MODEL 6118 6121 6158 6161 6318 & 6321

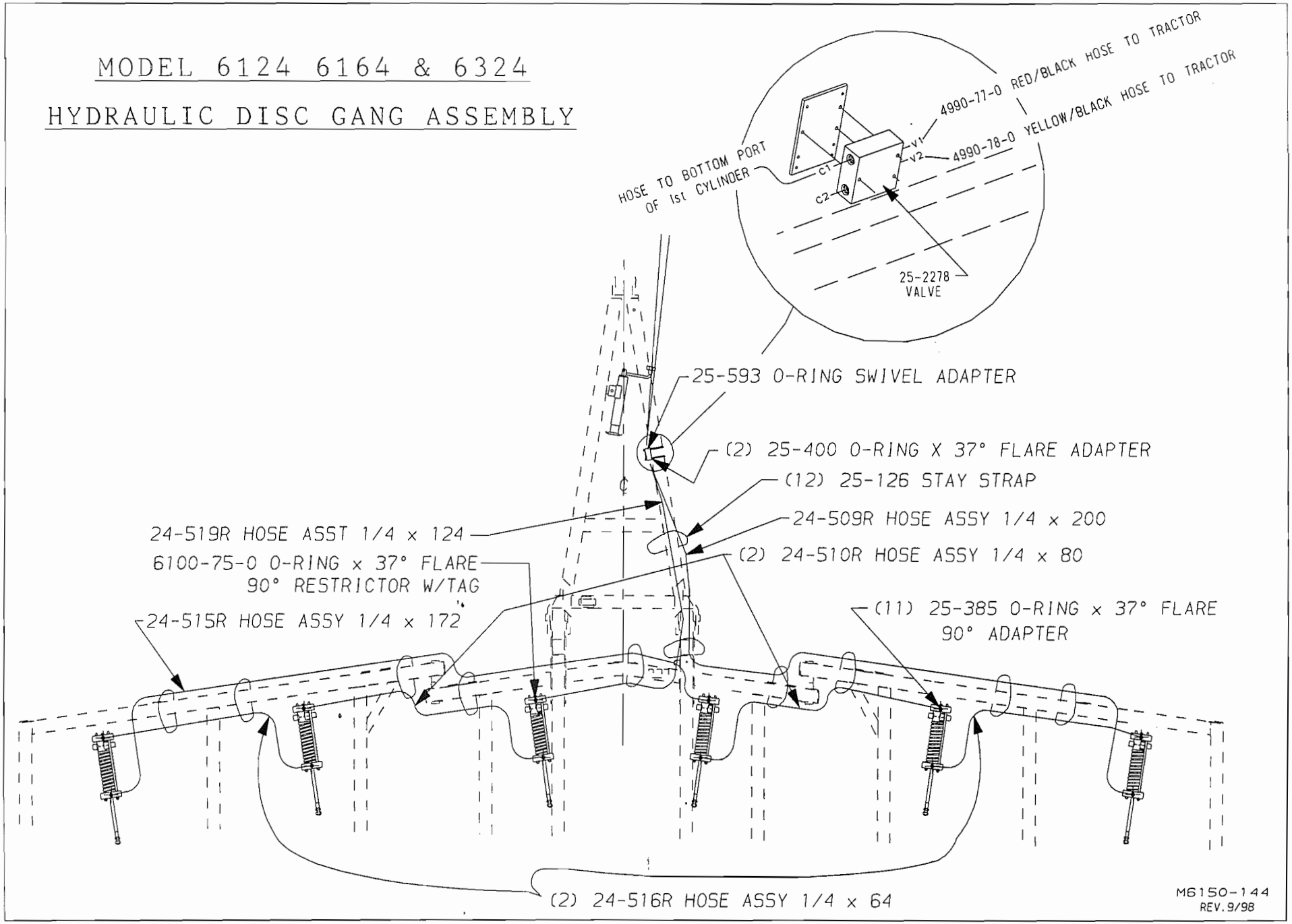
HYDRAULIC DISC GANG ASSEMBLY



M6150-143
REV. 9/98

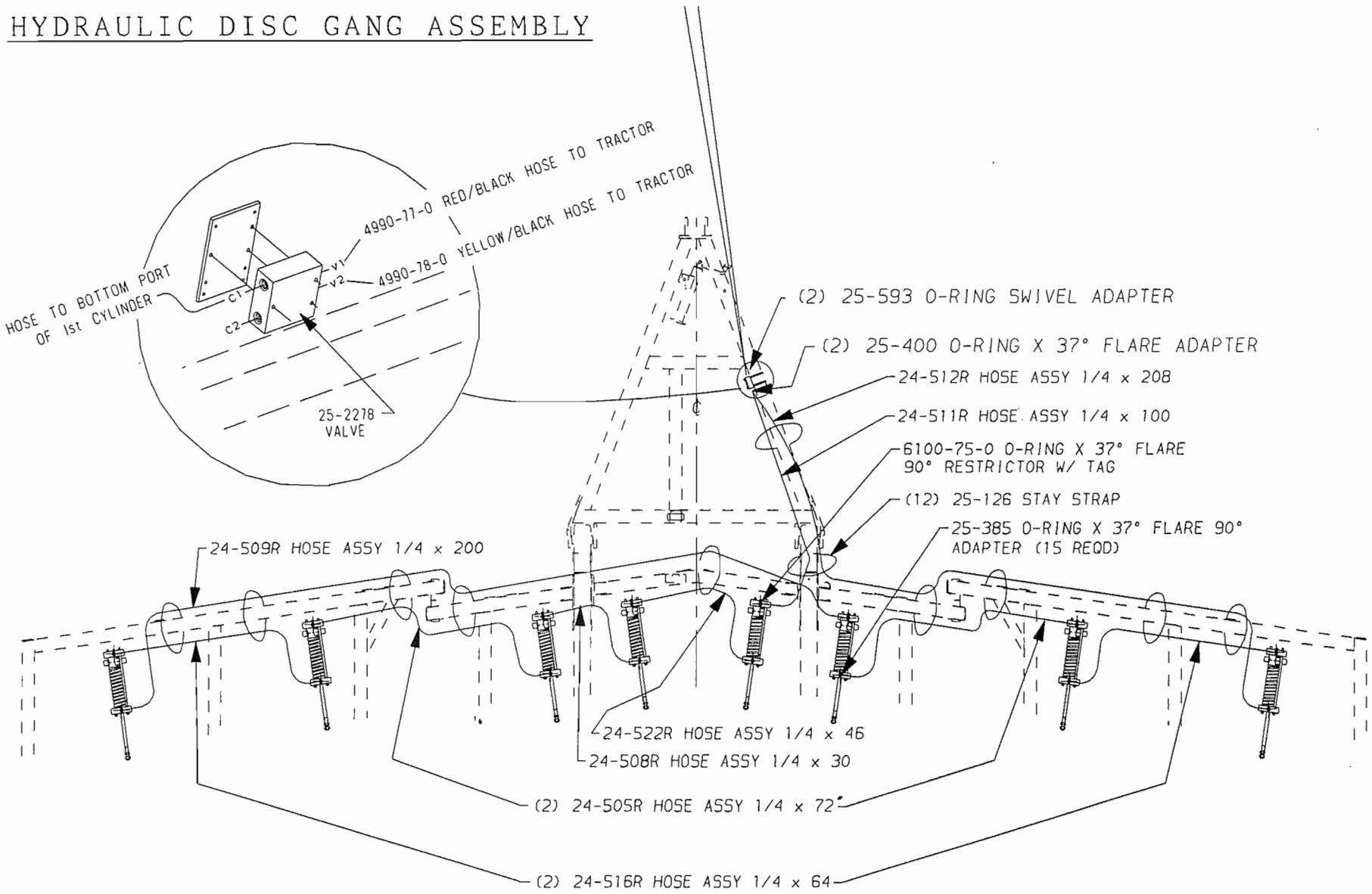
MODEL 6124 6164 & 6324

HYDRAULIC DISC GANG ASSEMBLY



MODEL 6127 6131 6167 6171 6327 & 6331

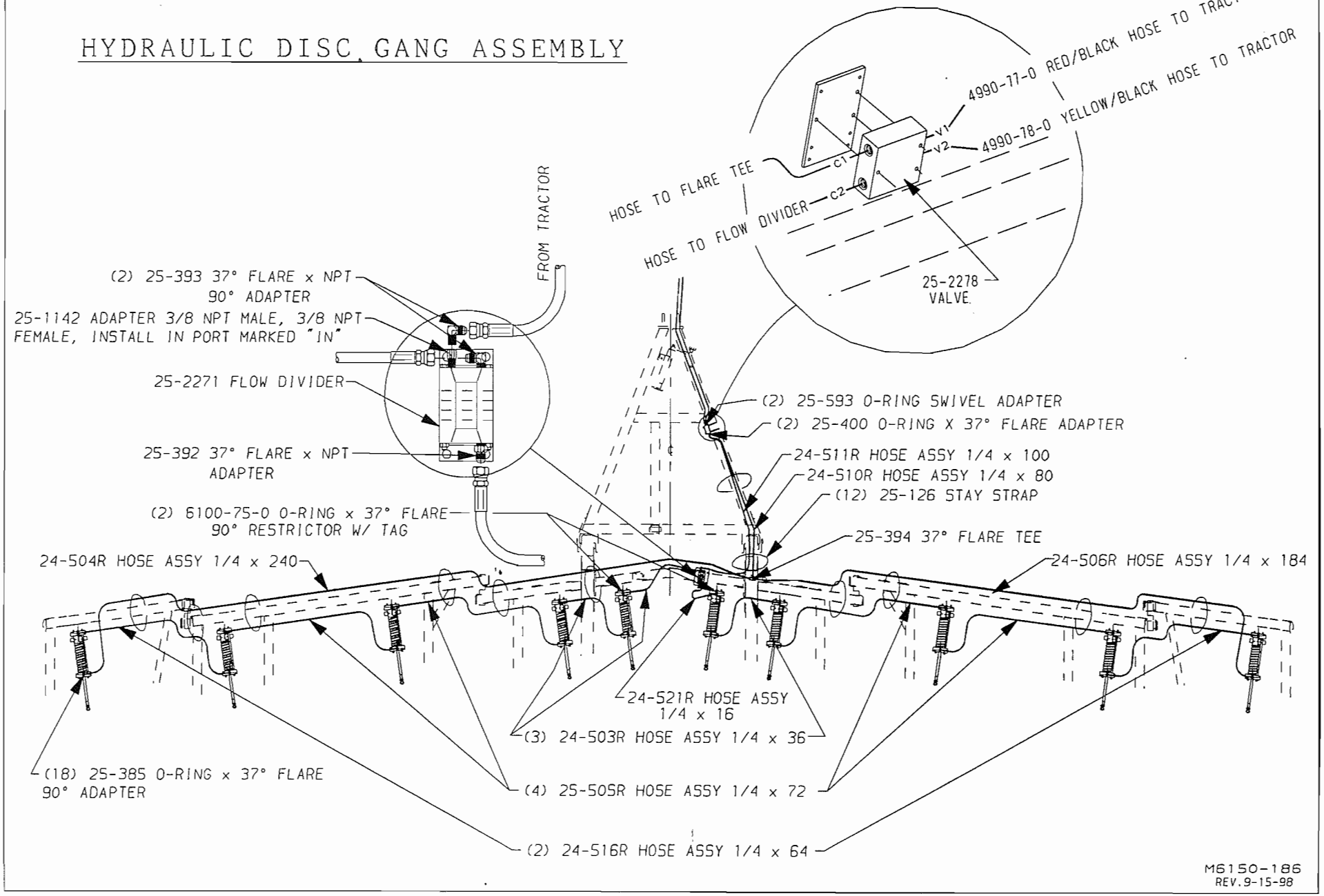
HYDRAULIC DISC GANG ASSEMBLY



M6150-145
REV. 9/98

MODEL 6136 6176 & 6177

HYDRAULIC DISC GANG ASSEMBLY



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.

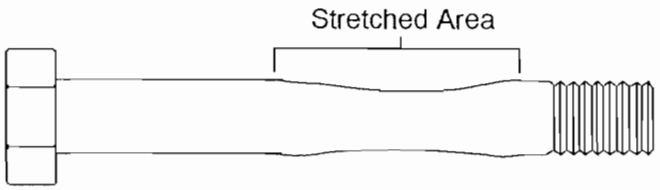
Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

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.

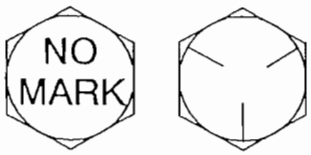
NOTE: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

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.



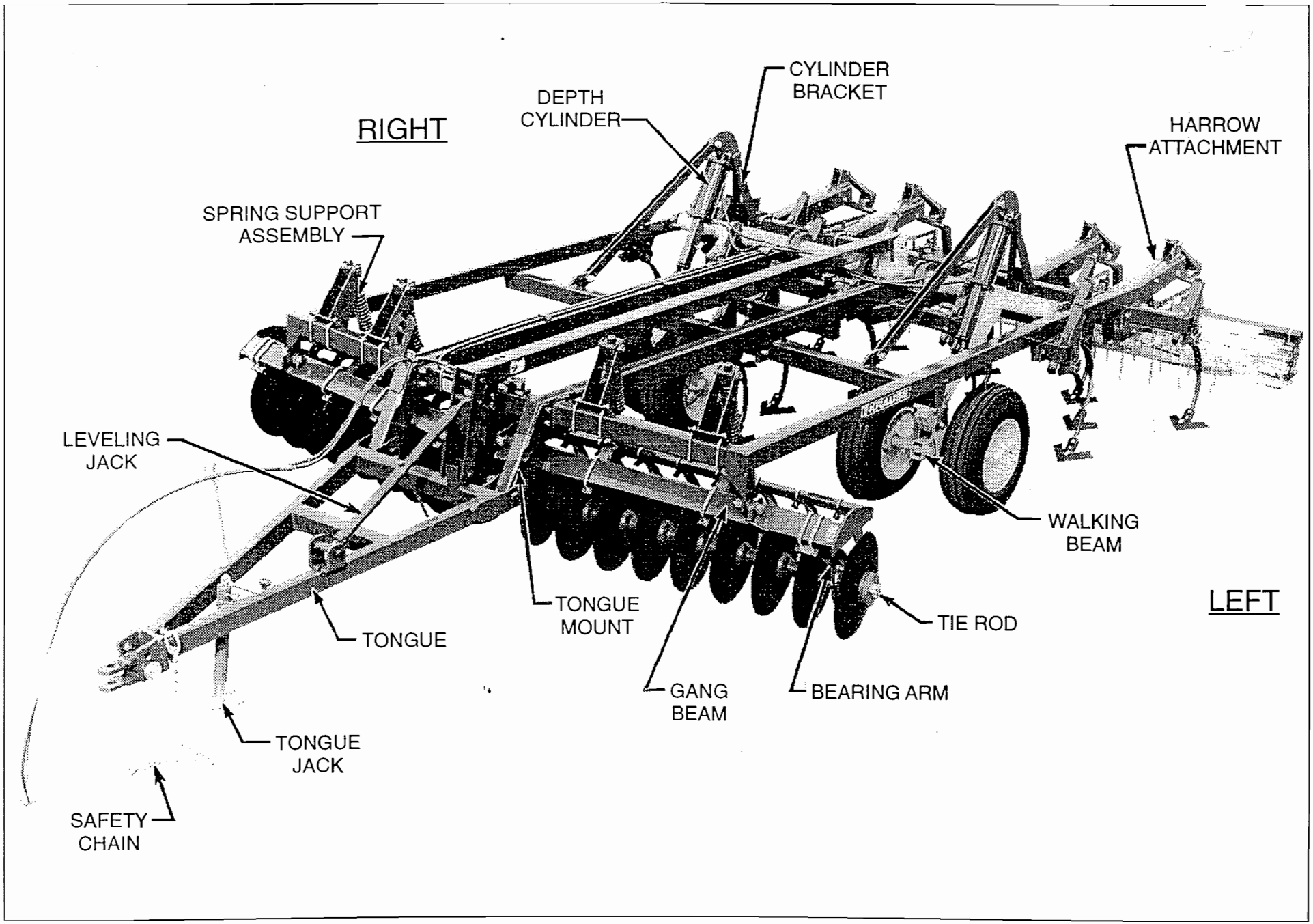
Over Torqued Bolt



SAE GRADE 2

SAE GRADE 5

Notes


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

ASSEMBLY INSTRUCTIONS

STUDY NAMES AND LOCATIONS OF THE PARTS AND FAMILIARIZE YOURSELF WITH TH LANDSMAN 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 Landsman 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.

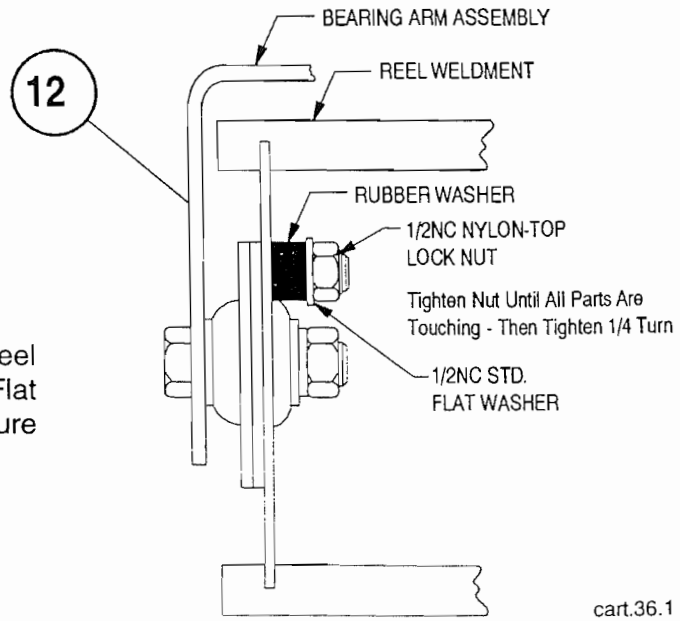
TOP – To be sure that the frame is right side up, position the front hitch members of the frame pointing **down**.

ASSEMBLY STEPS

Assemble the Landsman 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

I. CENTER FRAME ASSEMBLY

1. Models 6150, 6152, 6155 - Refer to illustration on page P2. Place the RIGHT and LEFT FRAMES on suitable stands 40" high. The TONGUE MOUNTS should point down.

   A. Bolt the two halves together with 3/4NC x 2" GD.5 Bolts, Lock Washers, and Hex Nuts. Do not tighten bolts until completing step D below.

   B. Position the FRONT CONNECTOR WELDMENT **4** at the front with the hinge pivots down. Bolt loosely with 5/8NC x 5" Bolts, Lock Washers and Hex Nuts.

   C. Install (2) FRAME CONNECTOR WELDMENTS **3** using 3/4NC x 2" GD.5 Bolts, Lock Washers, and Hex Nuts.

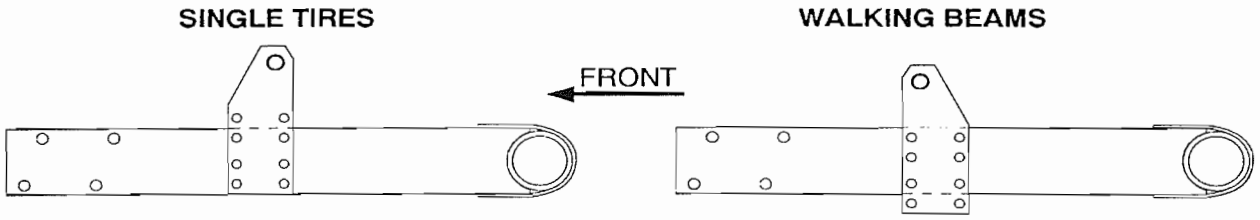
   D. Clamp SHANK BOX **5** to frames with BOX CLAMP **8** and 5/8NC x 6-1/2" GD.5 Bolts, Flat Washer, Lock Washer and Hex Nut. Tighten all bolts.

   E. Refer to rocker illustration on page P6. Insert ROCKER CASTING **24** in each end of the rocker. Position TWO BEARING PLATES **28** on top of frame. Place rocker on top of frame and between outer frame bars. The wheel arms should point towards the front and the leveler lugs should be on top.

   F. The ROCKER CASTING **24** may need to be rotated to align the holes with the holes in the frame box. Bolt the castings in place with 3/4NC x 5-1/2" GD.5 Bolts, Flat Washers, Lock Washers and Hex Nuts. If assembling a 6155, also fasten **12** and **13**, page P2, to castings.

   G. Place the ROCKER CLAMPS **14** over rocker and bolt through bearing plates and frame with 3/4NC x 6" GD.5 Bolts, Flat Washers, Lock Washers and Hex Nuts.

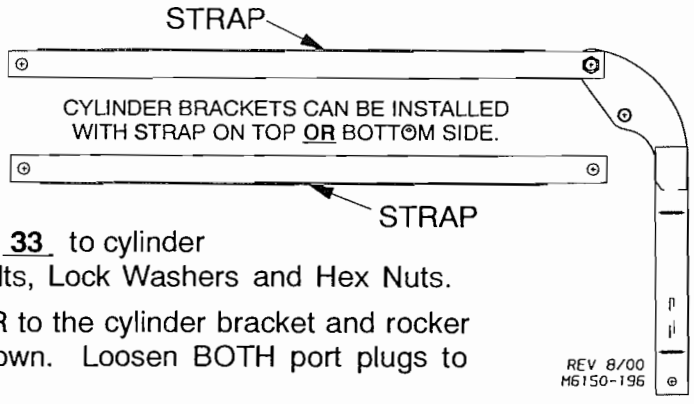
   H. Bolt CYLINDER LUG **27** to the outside of each wheel arm with 5/8NC x 4-1/2" GD.5 Bolts, Lock Washers and Hex Nuts. Note the different positions for walking beams or single tires.



M6100-67

   I. Fasten TWO CYLINDER BRACKETS **29** to the frame with 3/4NC x 2" GD.5 Bolts, Lock Washers and Hex Nuts.

NOTE: Cylinder Brackets can be installed with strap on top or bottom side (see illustration at right).



   J. Connect CYLINDER BRACKET LINKS **33** to cylinder bracket and frame with 1NC x 3" Bolts, Lock Washers and Hex Nuts.

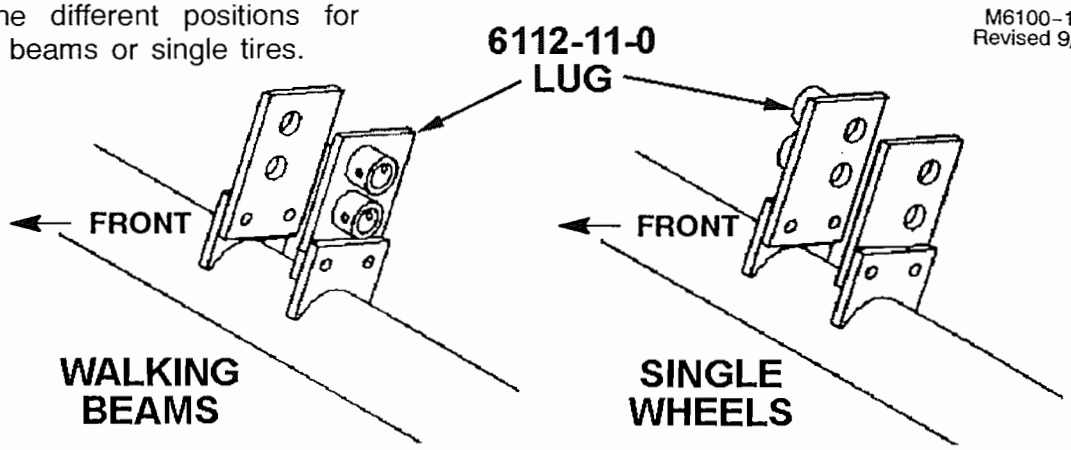
   K. Pin a 4" x 10" HYDRAULIC CYLINDER to the cylinder bracket and rocker lug. The cylinder rod should point down. Loosen BOTH port plugs to allow cylinders to extend.

   L. Pin a ROAD LOCK **35** over each extended cylinder rod.

   M. Tighten all bolts; rocker must be free to pivot.

N. Bolt LUGS 16 & 19 to the rocker with 5/8NC x 2" Bolts, Lock Washers and Hex Nuts. Note the different positions for walking beams or single tires.

M6100-140
Revised 9/95



O. Place LEVELER LINKAGE 1 on top of center frame. Place end of linkage between lugs on rocker and fasten with BOLTS 6 and 8 into the top holes.

P. Follow Step II.

2. Models 6158, 6161, 6164 -- refer to illustration on page P3. Place the center frame on suitable stands, 40" high. The tongue mounts should point down.

A. Bolt TWO EXTENSIONS 4 to each side of the frame with 3/4NC x 4-1/2" GD.5 Bolts, Flat Washers, Lock Washers, and Hex Nuts. The extension must be in the ***FRONT*** set of holes with spring shanks and ***REAR*** set of holes with K-Tine shanks.

B. Bolt (2) CYLINDER BRACKETS 12, page P8, to frame with 3/4NC x 2" GD.5 Bolts, Lock Washers and Hex Nuts.

C. Pin (2) 4" x 10" cylinders, 21-1007, to the cylinder bracket and rocker lugs. The cylinder rod end should point up. Loosen both port plug to allow cylinders to extend.

D. Pin a ROAD LOCK 26 over each extended cylinder rod.

E. Tighten all bolts; rocker must be free to pivot.

F. Place LEVELER LINKAGE 1 on top of center frame. Place end of linkage between lugs on rocker and fasten with BOLTS 6 and 8 into top holes.

G. Follow Step II.

3. Models 6167, 6171, 6177 & 6182 -- refer to the illustration on page P4. 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" GD.5 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 6-1/2" Bolts, Lock Washers, and Hex Nuts. TIGHTEN ALL BOLTS.

E. Bolt (2) EXTENSIONS 8 to each side of the frame with 3/4NC x 5-1/2"GD.5 Bolts, Flat Washers, Lock Washers, and Hex Nuts. The extension must be in the FRONT set of hol with spring shanks, and the REAR set of holes for K-Tines.

F. Bolt (2) CYLINDER BRACKETS 19, page P10, to rear frame with 3/4NC x 2" GD.5 Bolts, Lock Washers, and Hex Nuts.

G. Add CYLINDER BRACKET LINKS **22** to cylinder bracket and frame with 1NC x 3" Bolts, Lock Washers, and Hex Nuts.

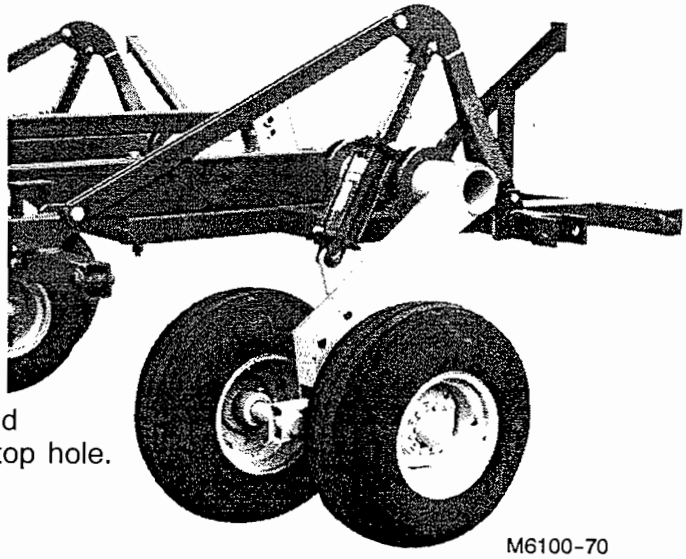
H. Pin (2) 4" x 10" Cylinders, Models 6177 & 6182 use (2) 4-1/4" x 10" Cylinders, to cylinder bracket and rocker lugs. The cylinder rod ends should point up. Loosen both port plugs to allow cylinders to extend.

I. Pin a ROAD LOCK **25** over each extended cylinder rod.

J. Tighten all bolts; rocker must be free to pivot.

K. Place LEVELER LINKAGE **1** on top of center frame. Place end of linkage between lugs on rocker and fasten with BOLTS **6** and **8** into top hole.

L. Follow Step II.

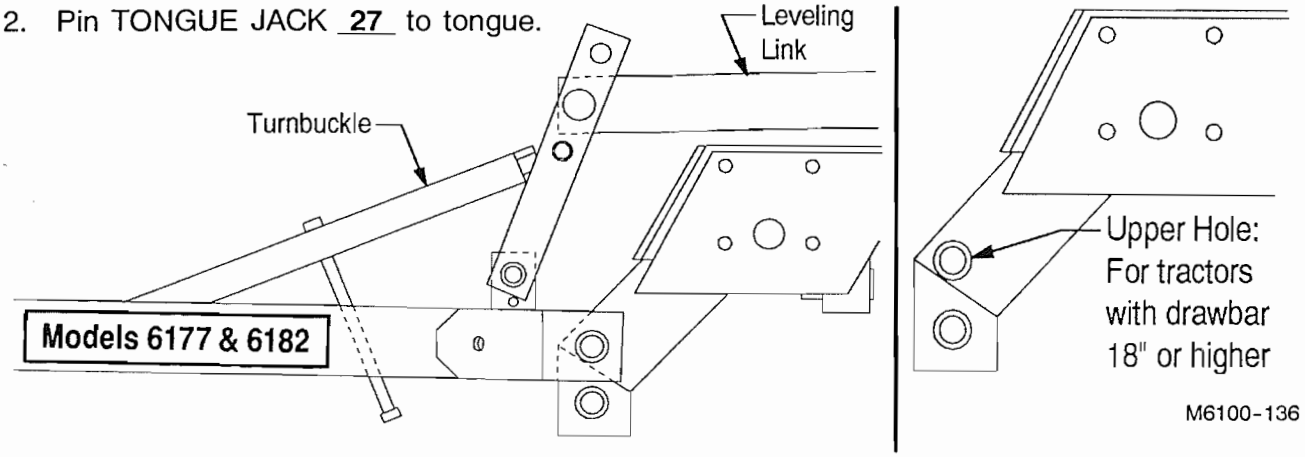


M6100-70

II. TONGUE ASSEMBLY

1. Refer to the illustration on page P12. Connect TONGUE **14** to center frame using SQUARE HEADED PINS **44** or **45** and 3/8" DIA. x 1-3/4" or 2" Roll Pins. The box lug should be on the top side. **NOTE: Use upper set of holes for tractors with drawbar 18" or higher.**

2. Pin TONGUE JACK **27** to tongue.



M6100-136

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 6167 thru 6182 assemble
(2) LEVELER LINKS **29** using pins **31** through box lug and leveler link **39** .

4. Place end of TURNBUCKLE ASSEMBLY **1** or **33** between straps on LEVELER LINK **11** or **29** and fasten with PIN **12** or **31** and Roll Pins.

5. Adjust jack assembly or adjust tongue jack to align with holes in tongue, and fasten in place with PIN **12** or **31** and Roll Pins.

6. Place HITCH CLEVIS **19** or **42** 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 6167 thru 6182, bolt safety chain to tongue with 1-1/4NC x 8-1/2" Bolt, (2) Flat Washers and Lock Nut.

8. If assembling Model 6150 thru 6164, loop safety chain around tongue box and through end ring of chain.

9. Bolt HOSE CARRIER **28** to tongue with a 1/2NC x 5-1/2" GD.5 Bolt (6167 through 6182: use 1/2NC x 6-1/2"GD.5), (2) Flat Washers, Lock Washer and Hex Nut.

10. Proceed to Step III.

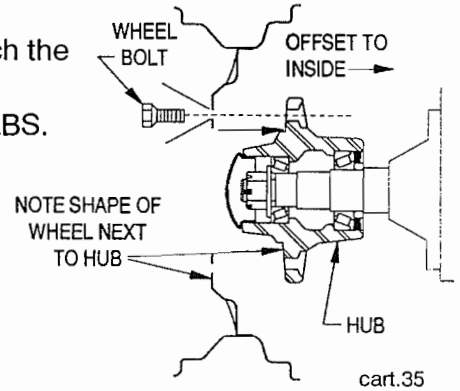
III. WALKING BEAM & SINGLE TIRE ASSEMBLY

1. Single Hub assembly (standard on Model 6150 and on wings for Models 6158 - 6161) Refer to illustration on page P24.
   A. Slide hub and spindle assembly over the wheel arm. The hub should be towards outside of the unit.
   B. Bolt hub assembly in place with 3/4NC x 5" GD.5 Bolts, Lock Washer and Hex Nuts.
2. Walking Beam assembly (optional on Model 6150 and on wing on Models 6158 - 6161) Refer to illustrations on pages P22 and P23.
   A. Locate the walking beam assembly with the grease zerk on top and the front hub toward the center of the unit.
   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" GD.5 Bolts, Lock Washers, and Hex Nuts. (6167 through 6171 center rocker uses 3/4NC x 6" GD.5 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.

Check tire pressure. (See Dealer Predelivery Check sheet)

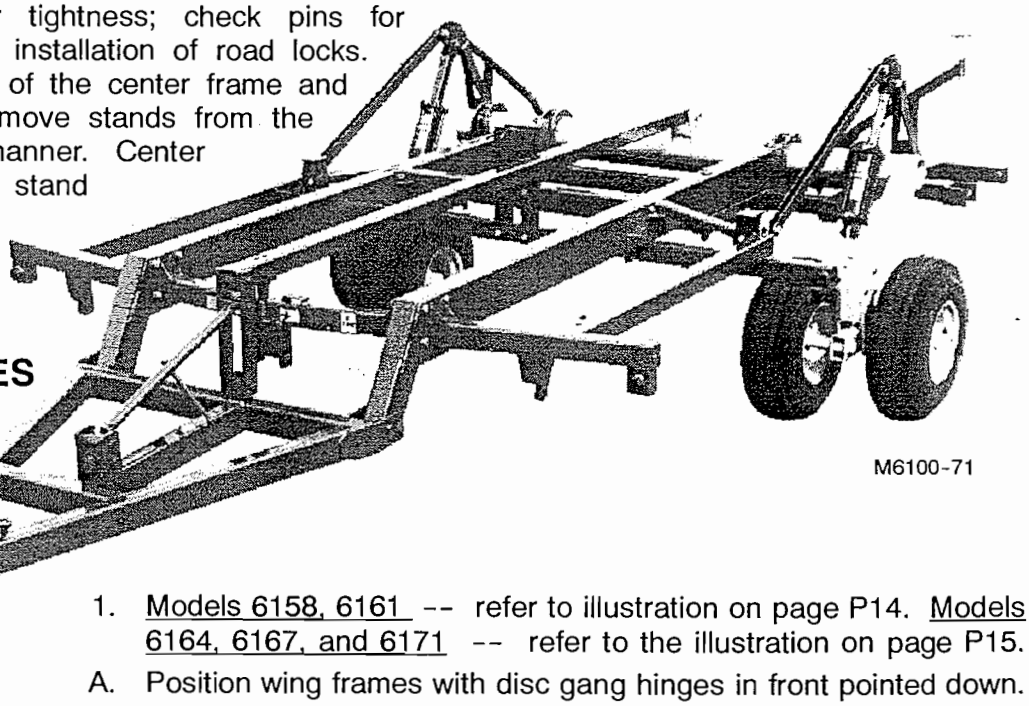
NOTE: See placement pages at the back of this manual for correct tire size for center and wing locations.



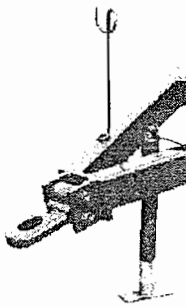
cart.35

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.

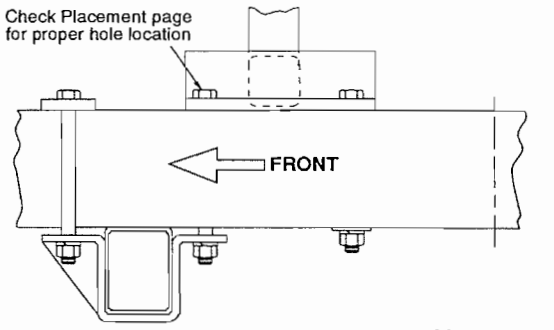

M6100-71

V. WING FRAMES



1. Models 6158, 6161 -- refer to illustration on page P14. Models 6164, 6167, and 6171 -- refer to the illustration on page P15.
   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 abo 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" GD.5 bolts, Lock Washers, and Hex Nuts; and 3/4" DIA. U-Bolt, Lock Washers, and Hex Nuts.

E. Models 6167, 6171 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 9-1/2" GD.5 Bolt. (Model 6164 uses 5/8NC x 7-1/2" GD.5 Bolts), Lock Washers and Hex Nuts. Do not tighten until unit is folded and stops are positioned against wings.



M6150-153

2. Models 6177 and 6182 -- refer to illustration on page P16.

A. Position REAR HALF WING FRAME **1** with the outer hinge clevis towards the top of the frame. Set the FRONT HALF WING FRAME **2** over the rear half and bolt together with 3/4NC x 4-1/2" GD.5 and 3/4NC x 9-1/2" Bolts, Flat Washers, Lock Washers and Hex Nuts.

B. Position assembled wing frame and insert HINGE PIN **18** through front hinge. Place HINGE BOLT **15** through the remaining (3) hinges. Slide wing frame rearward and check thrust contact at each hinge. Insert a 1-1/4" Flat Washer, on thrust side, if clearance allows it. Install 3/8" DIA. x 1-3/4" Roll Pins in the hinge pin and 1-1/4" 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 800 Lbs. until cylinders are plumbed and activated.

D. Position OUTER WING FRAME **3** with disc gang hinges pointed down.

E. Insert HINGE PIN **18** through front hinge. Place HINGE BOLT **15** through the rear (2) hinges and HINGE BOLT **16** through the remaining 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.

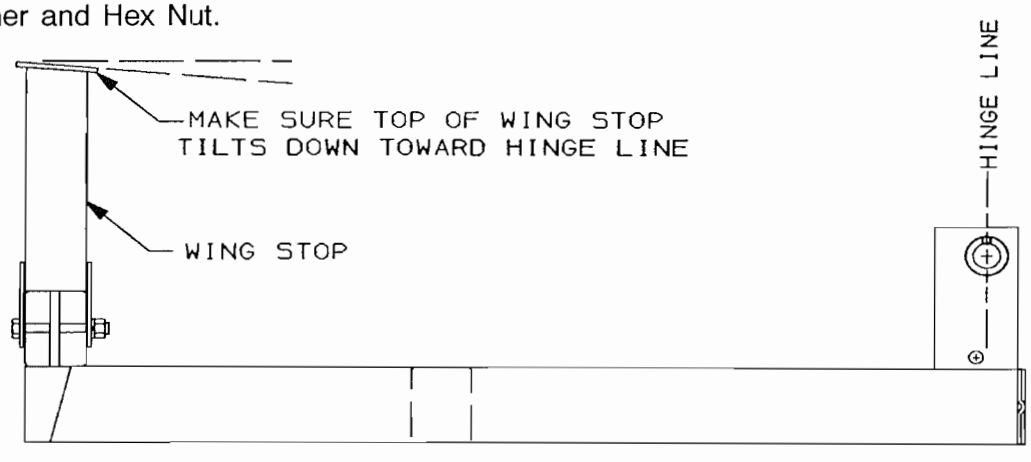
F. Model 6182 ONLY: Position OUTER WING FRAME **4** with the disc gang hinge pointed down. Bolt to inner wing with 3/4NC x 2-1/2" GD.5 Bolts in the front joint and 3/4NC x 2" GD.5 Bolts, Lock Washers and Hex Nuts.

G. Place support stands under outer wing frame members. Stands will need to support about 400 lbs. until hydraulic cylinders are plumbed and activated.

H. Bolt (2) WING STOPS **7** at the rear of the center frame with 3/4NC x 5-1/2" GD.5 Bolts, Lock Washers and Hex Nuts, and 3/4" DIA. U-Bolts, Lock Washers and Hex Nuts.

I. Bolt (2) WING STOPS **20** to the center frame with 3/4NC x 5" GD.5 Bolts, Lock Washers, and Hex Nuts. The top of the wing stop should be near horizontal when installed.

J. Model 6177: Bolt WING STOP **32** to the inner wing with 5/8NC x 4" GD.5 Bolt, Lock Washer and Hex Nut.



M6150-181

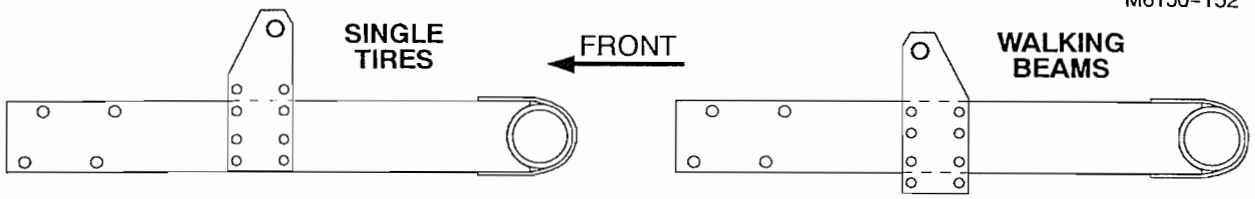
REAR VIEW OF LEFT WING

VI. WING ROCKER ASSEMBLY

1. Models 6158, 6161, 6164, 6167, and 6171 - - refer to illustration on page P17.

   A. Place CYLINDER LUG **8** on the outside of each wheel arm with 5/8NC x 4-1/2" GD.F Bolts, Lock Washers and Hex Nuts. Note the different positions for walking beams single wheels.

M6150-152



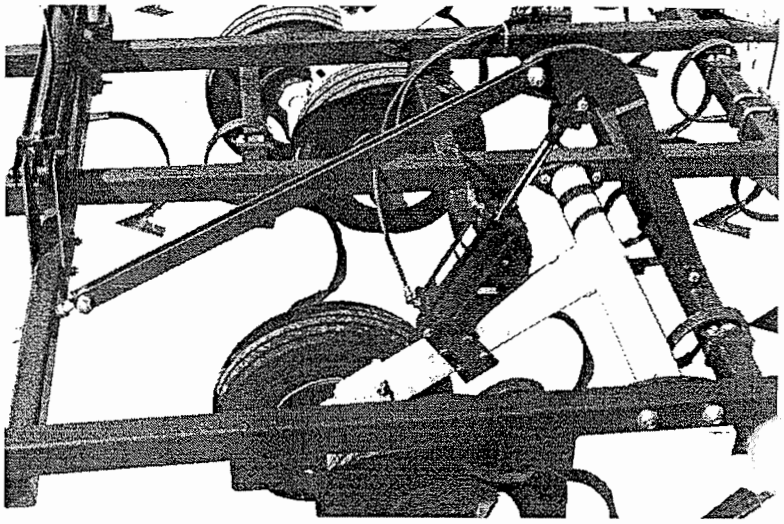
STANDARD ON 6158, 6161

STANDARD ON 6164, 6167, 6171
OPTIONAL ON 6158, 6161

   B. Fasten CYLINDER BRACKET **12** to the frame with 3/4NC x 2" GD.5 Bolts, Lock Washers and Hex Nuts.

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

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



M6100-76

   E. 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.

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

   G. Tighten all bolts; rocker must pivot freely.

   H. Repeat Step III. to install walking beam or single tire.

2. Models 6177 and 6182 - - Inner Wings refer to illustration on page P18.

   A. Fasten CYLINDER BRACKET **6** to hinge ear with 1NC x 3" Bolt, Lock Washer and Hex Nut.

   B. Thread a 1NC Jam Nut on EYEBOLT **16** and place through frame member. Retain eyebolt with a 1NC Hex Nut.

   C. Connect a CYLINDER BRACKET LINK **10** to the cylinder bracket and eyebolt with 1NC x 3" Bolts, Lock Washers, and Hex Nuts.

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

   E. Tighten all bolts; rocker must pivot freely.

   F. Repeat Step III. to install walking beams.

3. Model 6177 outer wing - - see parts page P20

   A. Fasten ROCKER MOUNT **28** and ANGLE BRACKETS **26** and **27** to frame with 5/8N x 6" Bolts, Lock Washers and Hex Nuts.

   B. Bolt BRACKET **30** to frame with 5/8NC x 4" Bolts, Lock Washers and Hex Nuts. Place a 1" Jam Nut on EYEBOLT **19** insert in bracket and retain with a 1" Hex Nut.

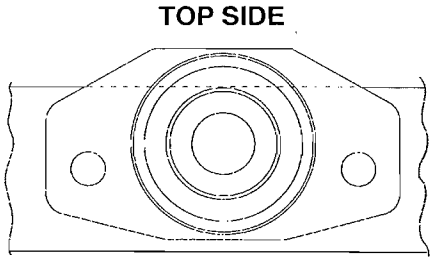
C. Place CYLINDER LUG **26** between angle brackets and fasten with 1" x 3" Bolt, Lock Washer and Hex Nut.

D. Attach WING ROCKER **29** to ROCKER MOUNT **28** with 1" x 3" Bolts, 1-1/4"O.D. x 1"I.D. x 1" Long Wear Sleeve, Lock Washer and Hex Nut. Tighten to 250 Ft. Lbs.

4. Model 6182 outer wing - - see Parts page P20.

A. Insert ROCKER CASTING **12** into each end of rocker. The rocker pipe will be above the frame. Place rocker in frame, the cylinder lug must be on top and the wheel arm will be offset to the inside.

B. Bolt ROCKER CASTING **12** to the frame with 3/4NC x 5" GD.5 Bolts, Flat Washers, Lock Washers, and Hex Nuts; and 3/4NC x 2" GD.5 Bolts, Lock Washers, and Hex Nuts.



M6100-77

C. Fasten CYLINDER BRACKET **7** to rocker pipe with PIVOT BOLT WELDMENT **10** and 1NC Lock Nut. Secure pivot bolt with 1/2NC x 2-1/2" GD.5 Bolt and Lock Nut.

D. Thread a 1NC Jam Nut onto EYEBOLT **19** and place through frame member. Retain with a 1NC Hex Nut.

5. Models 6177 & 6182 Outer Wing

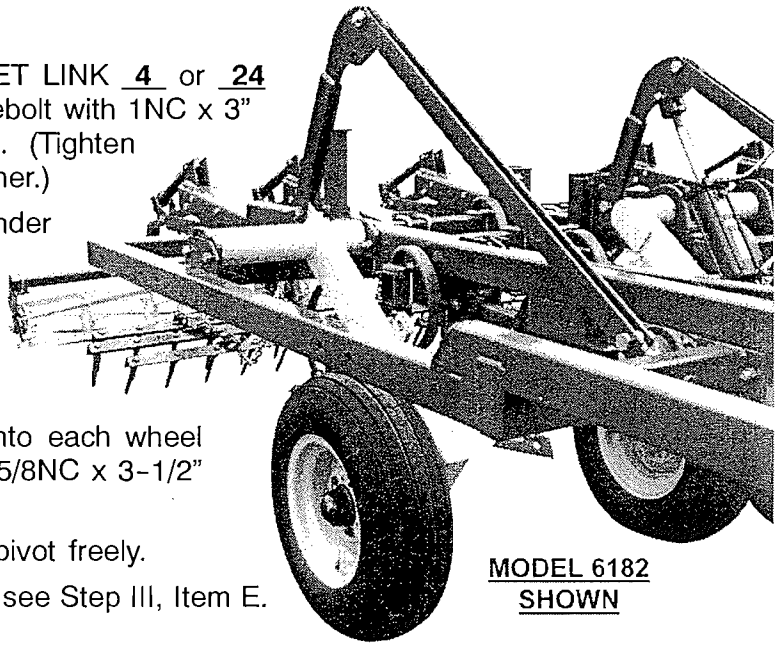
A. Connect a CYLINDER BRACKET LINK **4** or **24** to the cylinder bracket and eyebolt with 1NC x 3" Bolt, Lock Washer, and Hex Nut. (Tighten just enough to flatten lock washer.)

B. Pin a 3-3/4" x 10" hydraulic cylinder to the cylinder bracket and the wheel arm. The rod clevis should be pointed up. Loosen both port plugs to allow cylinder rod to extend.

C. Insert HUB ASSEMBLY **15** into each wheel arm sleeve. Bolt through with 5/8NC x 3-1/2" GD.5 Bolt and Lock Nut.

D. Tighten all bolts; rocker must pivot freely.

E. Attach wheel and tire assembly, see Step III, Item E.


MODEL 6182 SHOWN

M6100-78

VII. WING FOLD ASSEMBLY

1. Models 6158 and 6161 - refer to illustration on page P34.
Models 6164, 6167 and 6171 - - refer to illustration on page P35.

A. Bolt (2) WING FOLD PLATES **3** to each side of the center frame with 3/4NC x 5" GD.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" GD.5 Bolts, Lock Washers and Hex Nuts. A 3/4NC x 6" GD.5 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 ***back side*** on Models 6158 and 6161, and on the ***top side*** for Models 6164 through 6171. 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**.

2. Models 6177 and 6182 - - refer to illustration on page P36.

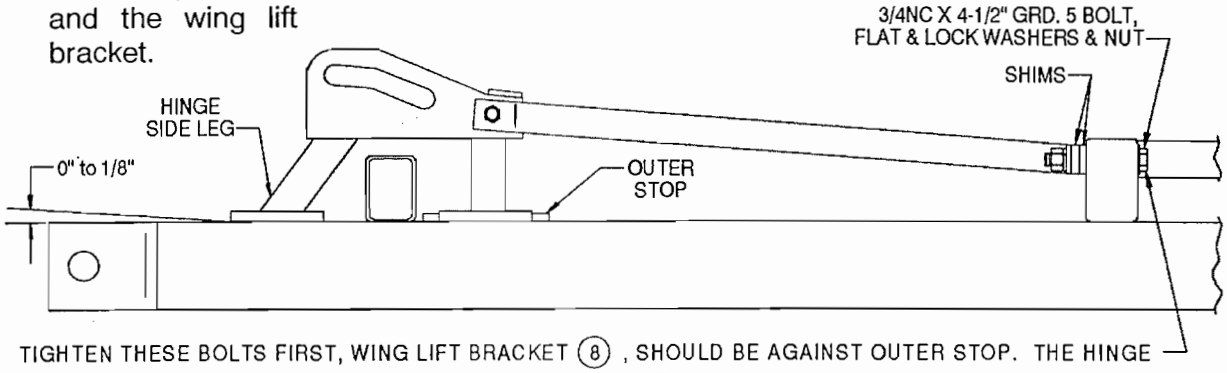
A. Attach (2) FOLD PLATES 16 to center of unit with 3/4NC x 5" GD.5 Bolts, Lock Washers, and Hex Nuts.

B. Connect 5" x 32' HYDRAULIC CYLINDERS 13 with cylinder ports on the front side to fold plates with PIN 15 and 1/4" DIA. x 2" Roll Pin.

C. Position WING LIFT BRACKET 8 on inner wings. Using BOLT PLATE 20 fasten wi. 3/4NC x 6-1/2" Bolts, and U-BOLT 18 with Lock Washers, and Hex Nuts. DO NOT TIGHTEN.

D. Bolt RIGHT and LEFT FOLD STRAP 5 and 19 to WING LIFT BRACKET 8 with 3/4NC x 5-1/2" GD.5 Bolt, Lock Washer and Hex Nut.

E. The FOLD STRAPS 5 and 19 must be in tension during the fold cycle. Leave out SHIMS 6 as required to eliminate slack between frame member and the wing lift bracket.



TIGHTEN THESE BOLTS FIRST, WING LIFT BRACKET (8), SHOULD BE AGAINST OUTER STOP. THE HINGE SIDE LEG SHOULD JUST TOUCH OR BE 1/8" ABOVE BOX. IF NOT, ADD OR REMOVE SHIMS AS REQUIRED.

M6100-79

F. Tighten all bolts.

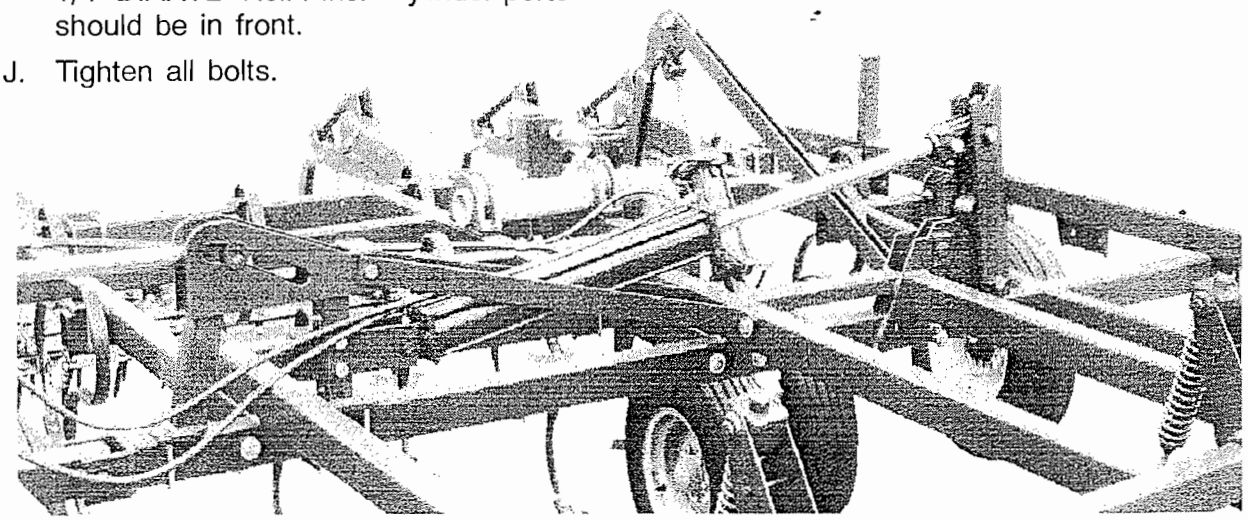
IMPORTANT: DO NOT PIN THE ROD ENDS OF THE WING LIFT CYLINDERS UNTIL ALL PLUMBING IS COMPLETE AND THE ENTIRE SYSTEM IS FULL OF OIL, AN' PURGED OF AIR.

G. Refer to illustration on page P37 for the outside wing fold assembly.

H. Fasten (2) FOLD PLATES to WING LIFT BRACKET 16 with 3/4NC x 5" GD.5 Bolts, Lock Washers and Hex Nuts.

I. Pin the base end of CYLINDER ASSEMBLY 3 between fold plates with PIN 20 and 1/4" DIA. x 2" Roll Pins. Cylinder ports should be in front.

J. Tighten all bolts.



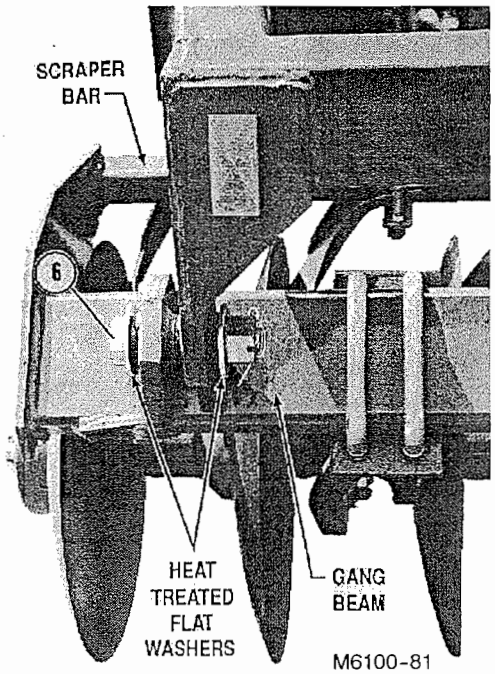
M6100-80

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

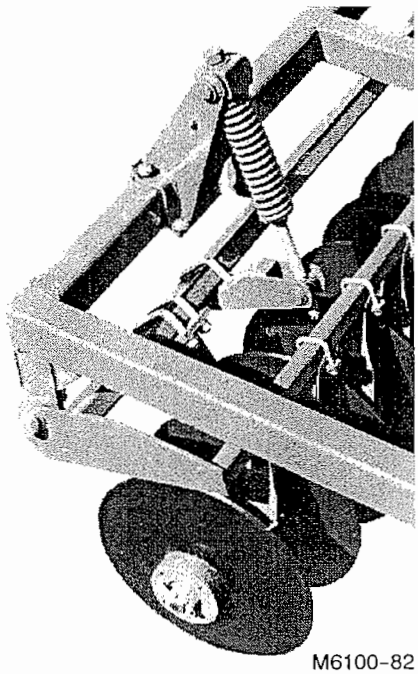
VIII. GANG BEAMS - SCRAPER BAR

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.

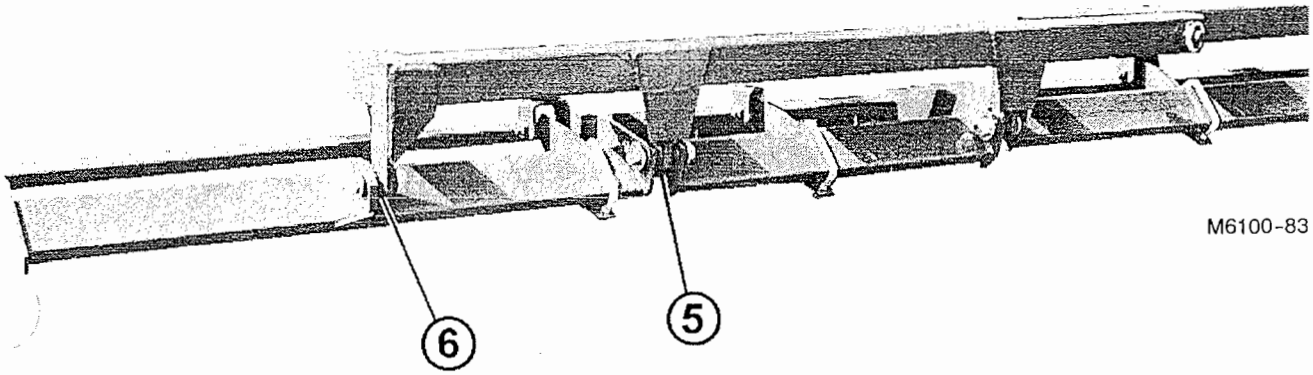
1. Position a Center Disc Gang Assembly under the center section, so that the long flat side of the End Plate is down and the scraper is to the rear.
2. Raise gang beam until Pivot Tubes line up and bolt with (2) 1NC x 4-1/2" Cap Screws. The lug on the gang beam will be on the outside of the lug on the 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 6171 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.

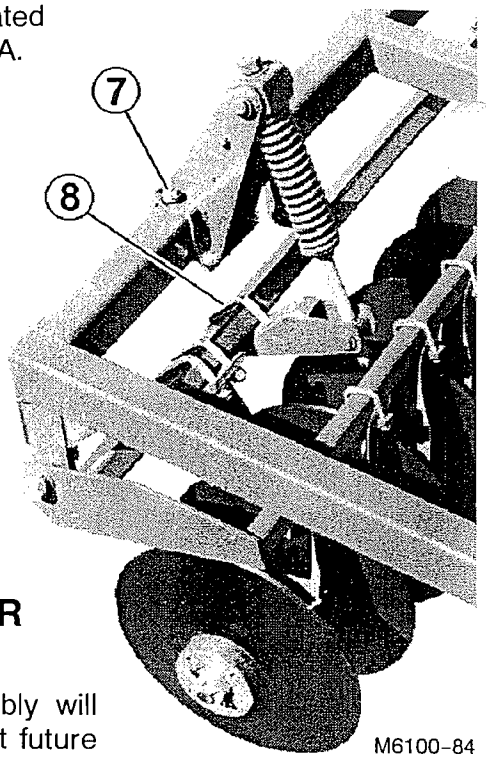


M6100-83

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 6164 and 6167 will not use hinge point at 5. Model 6171 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 A20.

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.



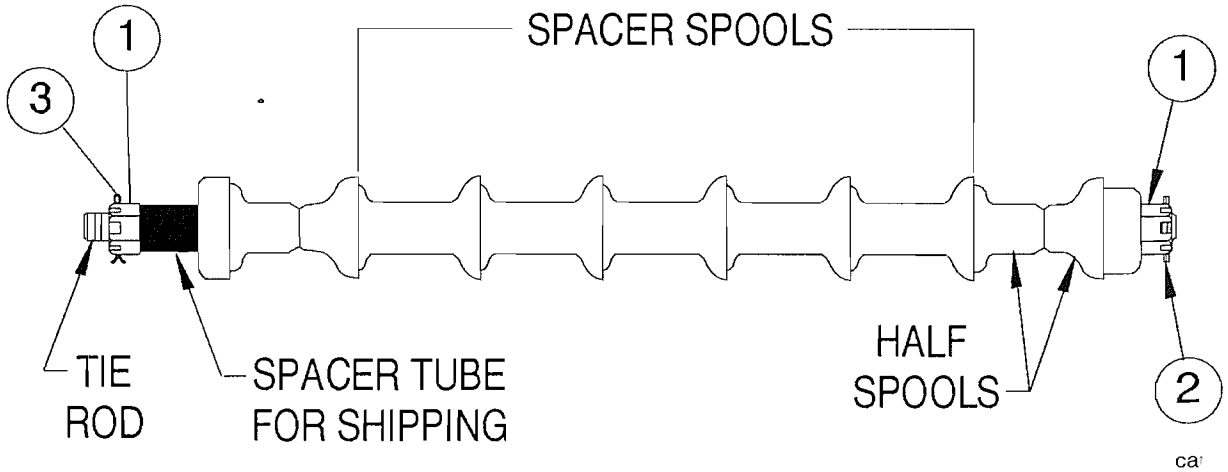
M6100-84

IX. UNASSEMBLED DISC GANGS OR REPAIR SEQUENCE

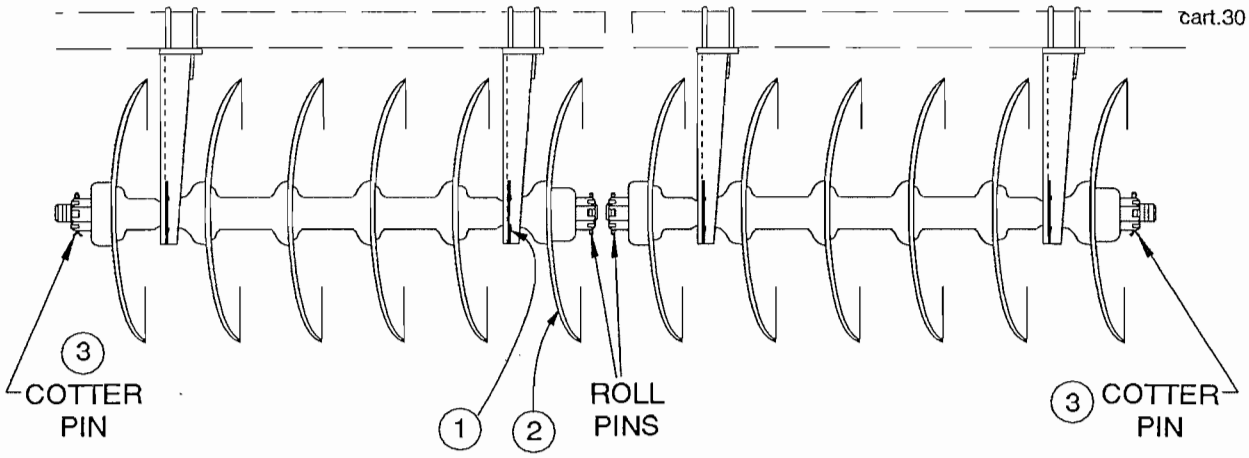
1. A few general steps to follow during disc gang assembly will insure correct gang attachment to the frame, and prevent future tear-downs due to improper assembly. Study the placement drawing for each gang and determine the following information.
   A. The correct tie rod and spacer spools.
   B. Note 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



3. Using the preceding information and the placement drawings on A22 through A46 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.

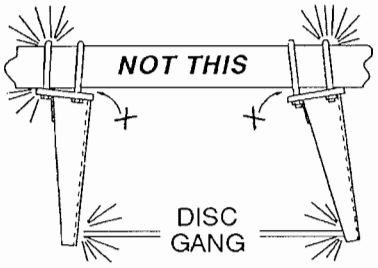


When the gang has been assembled, replace the slotted hex nut and torque to approximately 1,000 Ft. Lbs. Secure the nut with the 3/8" DIA. x 3-1/2" COTTER PIN 3. Clinch or spread the cotter pin to prevent loss.

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

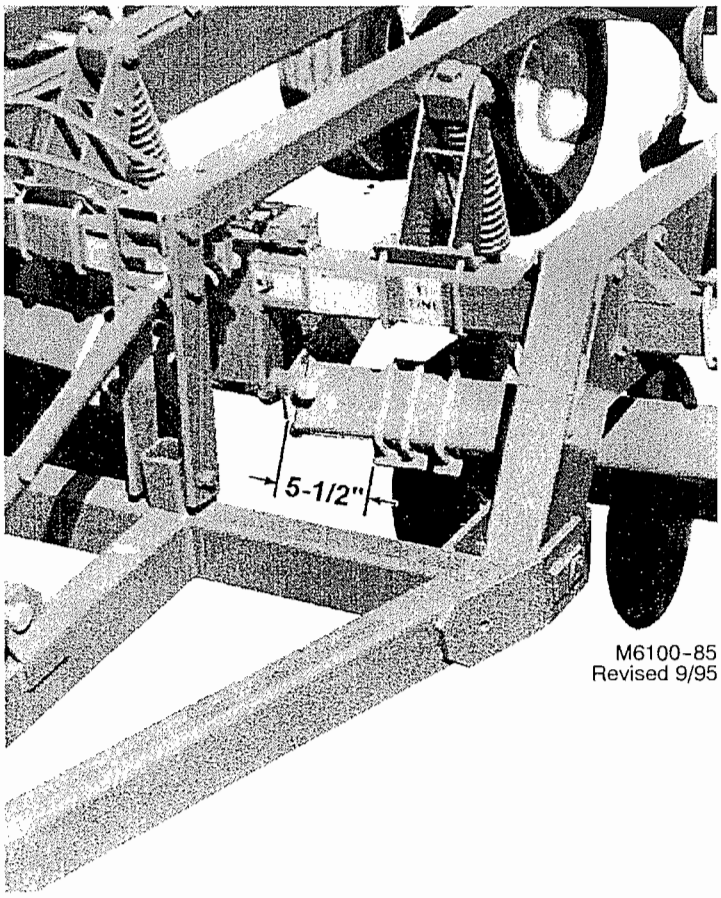
5. Starting at the center gang, loop a length of chain under the center spacer spool and over the frame member and raise the gang until the bearing arm top plates touch the bottom of the frame. The loose flangette carriage bolts will allow the bearing arm to be adjusted square with the frame member.

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



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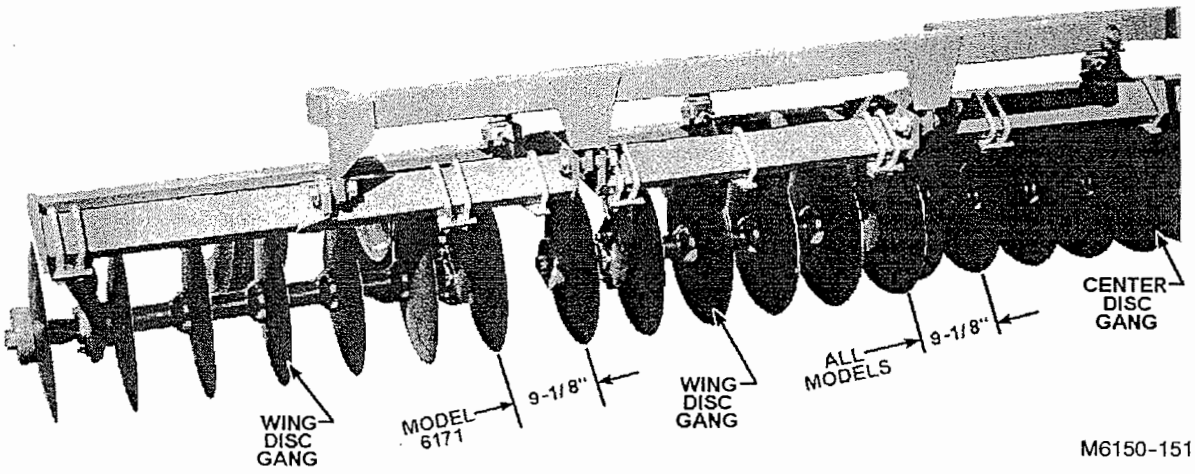
6. Attach Wing Disc Gangs in the same manner. Slide gang until there is an 9-1/8" Space between the disc blades.

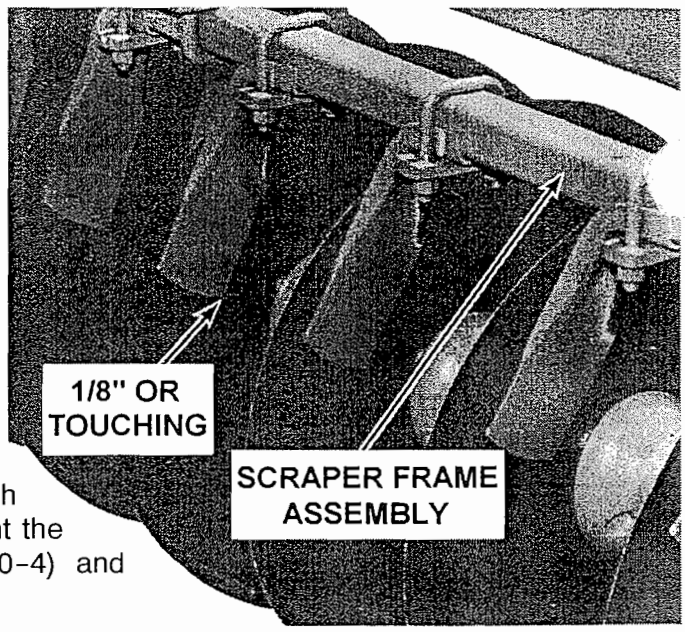


7. Tighten all U-Bolts. As the U-Bolts are drawn up tight, be sure that the top plate raises flat against the frame and not tilted to one side, causing a lever action that preloads the bearings.
8. Tighten the carriage bolts in the bearing flange.

X. DISC SCRAPERS

1. Position each scraper blade under scraper frame. NOTE: Check the placement drawings on pages A22 - A46 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 6171 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



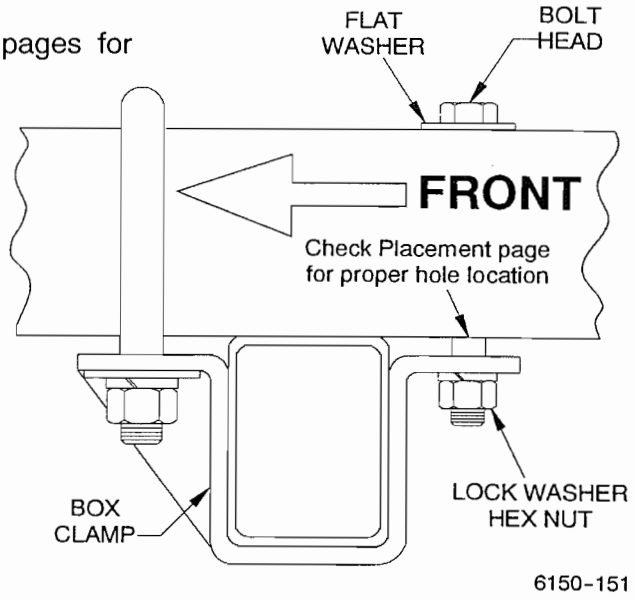
IMPORTANT: DO NOT RESTRICT THE ROTATION OF THE GANG BY FORCING THE SCRAPER BLADE AGAINST THE DISC BLADES.

XI. FRONT SHANK BOX ASSEMBLY

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

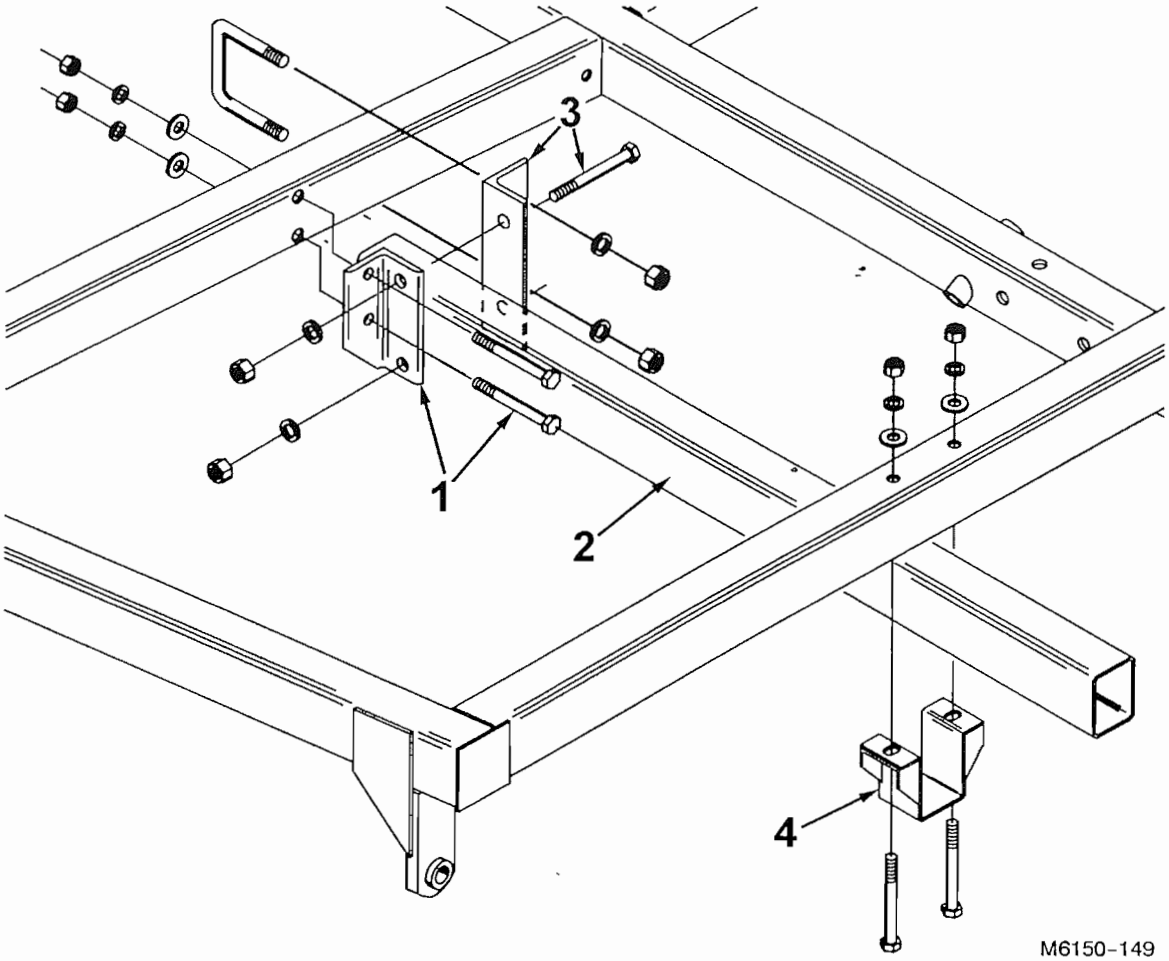
1. Place the center frame shank box under the frame and center bar laterally. Fasten with box clamp, using 3/4" DIA. U-Bolt, 5/8" Bolts, Flat Washers, Lock Washers and Hex Nuts.

   NOTE: Some locations use 3/4" Bolts and a bolt strap instead of a U-Bolt.



2. Models 6164, 6167, 6171, 6177, 6182:
   A. 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.

3. Models 6158 and 6161 - - Refer to the illustration shown below.
   A. Bolt ANGLE MOUNT 1 to wing frame with 5/8NC x 4-1/2" GD.5 Bolts, Flat Washer, Lock Washer and Hex Nuts.
   B. Fasten SHANK BOX 2 to ANGLE 1 with 3/4" Bolts and Angle 3 as shown.
   C. Place U-Bolt around frame member and fasten angle 3 in place.
   D. Fasten the outer end with box clamp 4, 5/8NC x 5-1/2" GD.5 Bolt, Flat Washer, Lock Washer and Hex Nut.

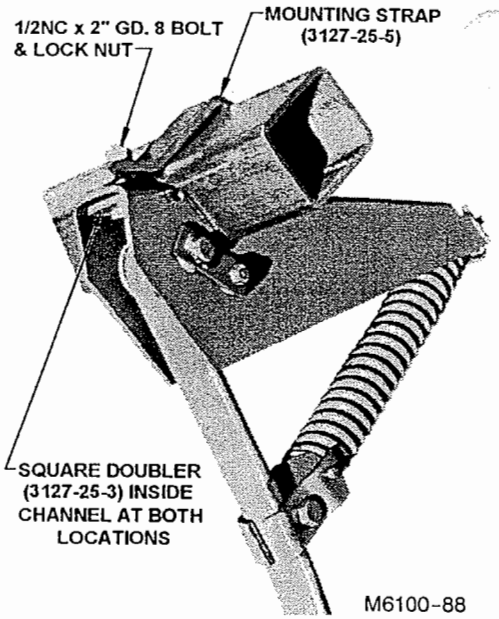


XII. SHANK EXTENSION ASSEMBLY

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 (#3127-25-2) a 1/2NC x 2" GD. 8 Bolt, SQUARE DOUBLERS (#3127-25-3) and 1/2NC Self Locking Nuts.



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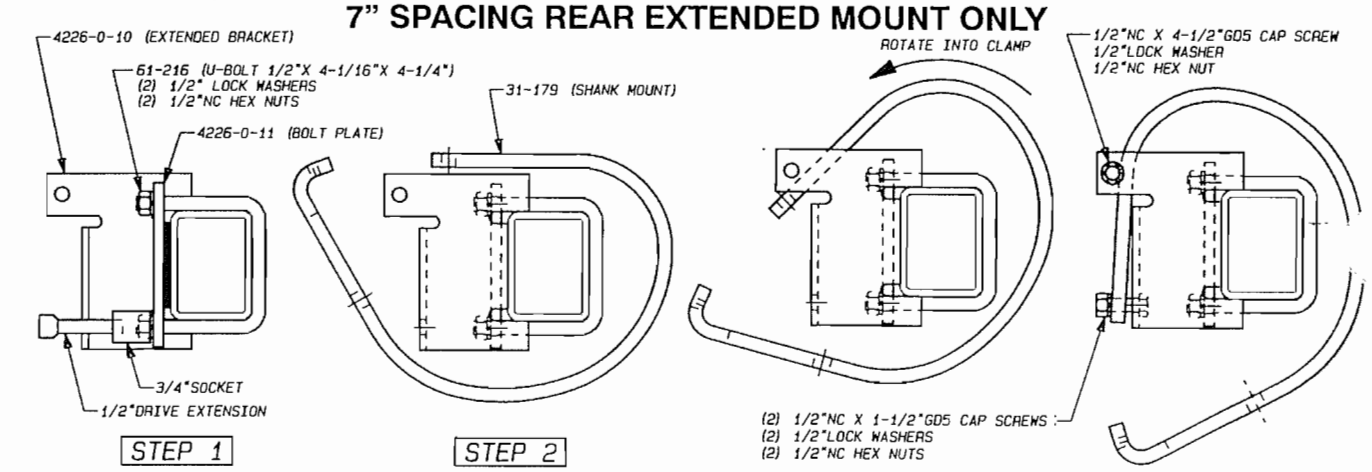
XIV. 2-PIECE K-TINE SHANK ASSEMBLY

See pages P29 for part listing for 2-Piece K-Tine Shank Assembly

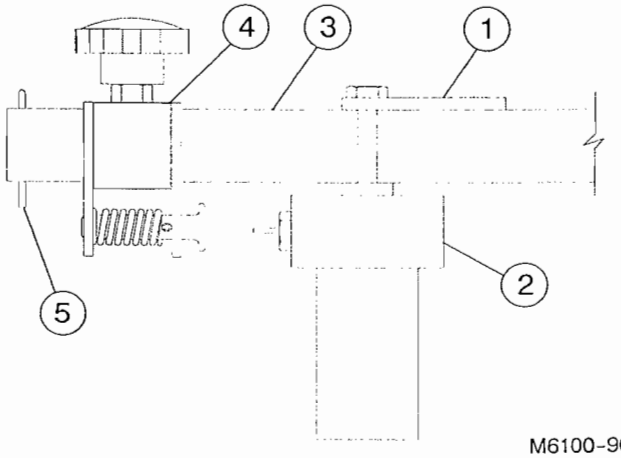
7" SPACING REAR EXTENDED MOUNT ONLY



m4200-140

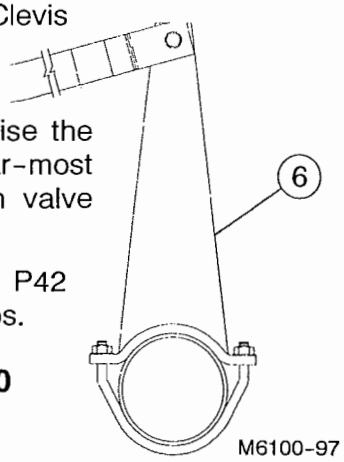
XV. HYDRAULICS ASSEMBLY

1. Bolt GUIDE ASSEMBLY① to the DEPTH VALVE ASSEMBLY② and the bracket on the frame with (2) 3/8NC x 4-1/2" GD.5 Bolts. The VALVE PLUNGER must be towards the front of the unit.
2. Insert LINKAGE③ through the GUIDE ASSEMBLY and place STRIKER ASSEMBLY④ over the linkage. Retain striker by inserting a 3/16" DIA. x 2" Cotter Pin⑤ 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 P42 - P49) for the correct assembly of hoses, fittings, and hose clamps.

⚠ 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 ROD END 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.

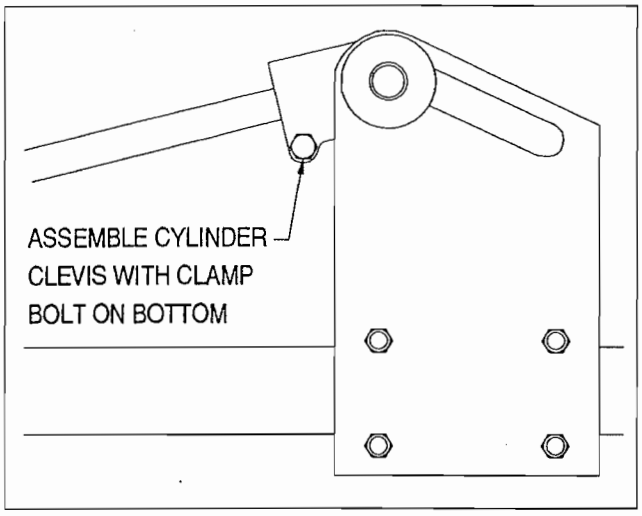
⚠ Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

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

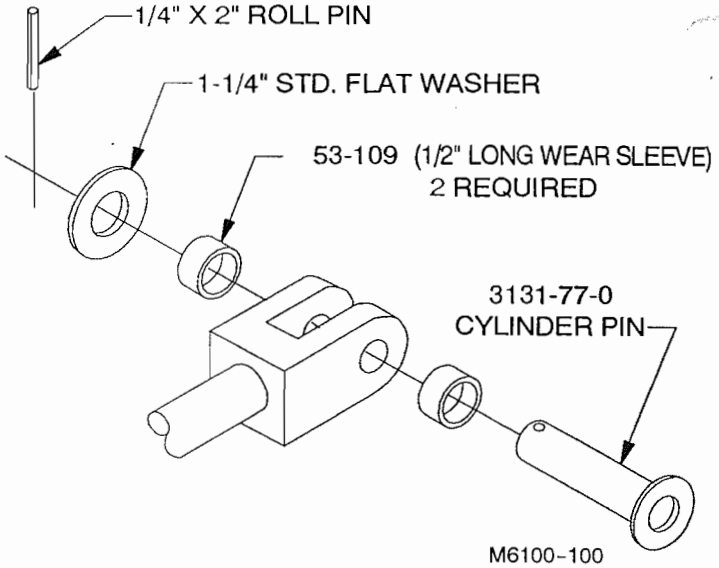
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

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.



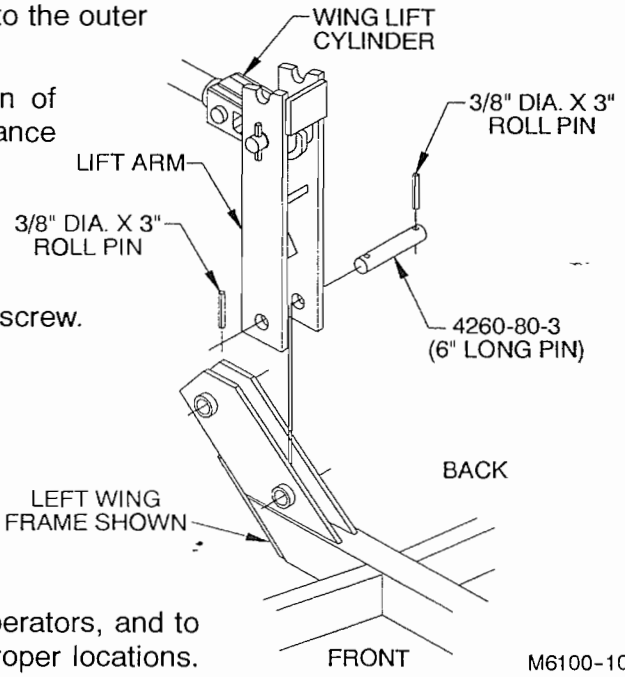
M6100-98



M6100-100

ALL WING MODELS

8. Models 6177 and 6182: Pin the wing lift arm to the outer wings as shown.
9. Wings may now be folded to check function of cylinders. Check hoses to ensure clearance around tires and wing stops. All hoses must be secure to avoid snagging hoses during operation.
10. Model 6177 and 6182: Check tightness of set screw in clevis, to insure clevis will not unscrew.



M6100-100

XVI. LIGHT KIT

Always comply with state and local laws pertaining to lighting. Install light kit as shown on page P1 and A47.

XVII. 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 Landsman at the locations shown on the parts drawing on page P69.

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

XIX. PACKER HITCH ASSEMBLY (OPTIONAL)

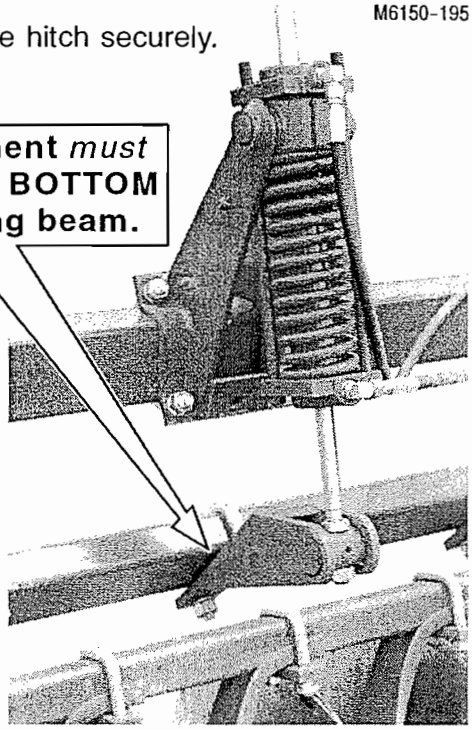
Refer to illustration on page P70 of this manual.

1. Bolt hitch assembly on top of center frame with CLAMP **12** under the shank box and 3/4NC x 10" Bolts, Flat Washers, Lock Washers and Hex Nuts. The hitch can be widened or made narrower as required to clear harrow mounting arms. Some harrow mounting arms may require repositioning.

Models 6158 - 6182

1. Bolt ANGLE MOUNT to center frame as shown.
2. Insert the HITCH ROD threaded end through the angle mount. Install a Flat Washer, Lock Washer and Hex Nut loosely on the end.
3. Bolt the hitch rod to the hitch assembly with 3/4NC x 5-1/2" GD.5 Bolt, Flat Washer, Lock Washer, and Hex Nut.
4. Tighten the hitch rod to eliminate slack and preload the hitch securely.

M6150-195



XX. 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 8 discs or larger will have (2) assemblies.
2. Swing gang beam so that scraper is to the rear and secure arm weldment to ***bottom side*** **of gang beam** with U-Bolt (#61-143), Lock Washers, and Hex Nuts. (See photo to right.) Loosening cylinder plugs will aid in extending cylinder.

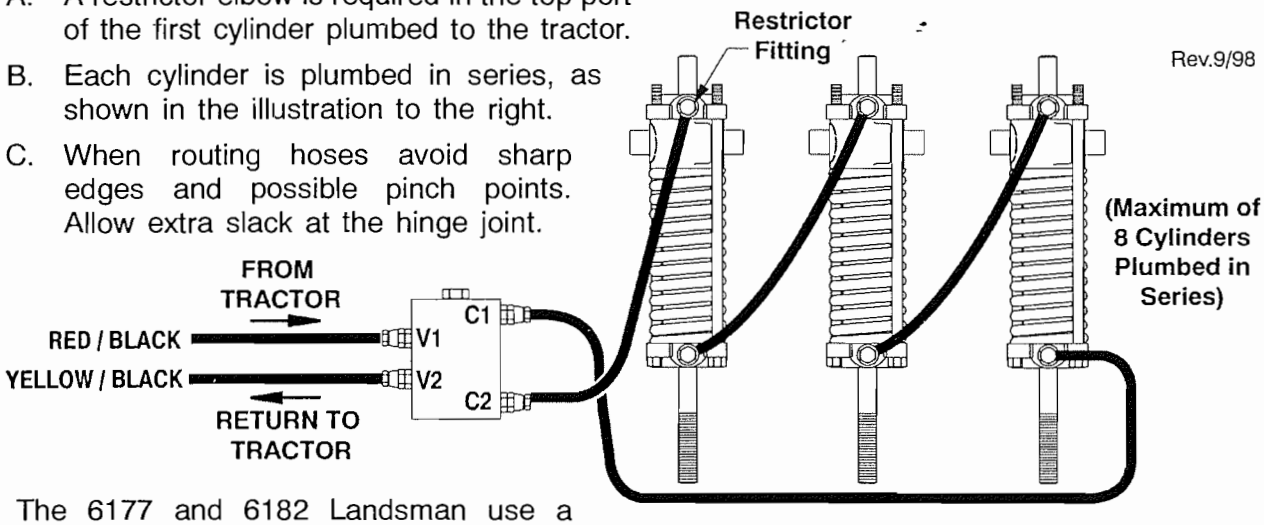
   Refer to the hydraulic plumbing pages in the Parts Section for the correct assembly of hoses, fittings, and hose clamps.

   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.



4. The 6177 and 6182 Landsman use a Flow-Divider. This divides the oil flow from the tractor into two equal flows. The divider is bolted to adapter #6136-200-1 with (4) 3/8NC x 1" GD. 5 Bolts and Nylon-top Lock Nuts. This assembly is mounted to the front bar of the frame with (2) 61-245 3/8" DIA. U-Bolts and Nylon-top Lock Nuts.

5. 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.

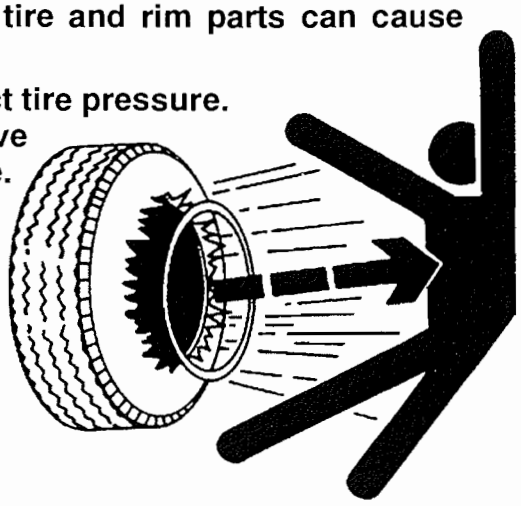
6. Install Depth Gauge Indicator on one cylinder that is easily viewed from the tractor. It should be positioned behind the cylinder rod when the cylinder rod raises out of the cylinder gland. Fasten the gauge with (2) 1/2NF Jam Nuts. DO NOT OVER-TIGHTEN.

FINAL CHECK

1. Check the hydraulic system for leaks.
2. Lubricate all grease points.
3. Fully extend depth control cylinders. Place road locks over cylinder rods.
4. Lower tongue jack.
5. Check tire pressure and wheel bolt torque.
6. Perform final inspection. See Dealer Predelivery Check Sheet (follows Warranty page at the front of this manual)

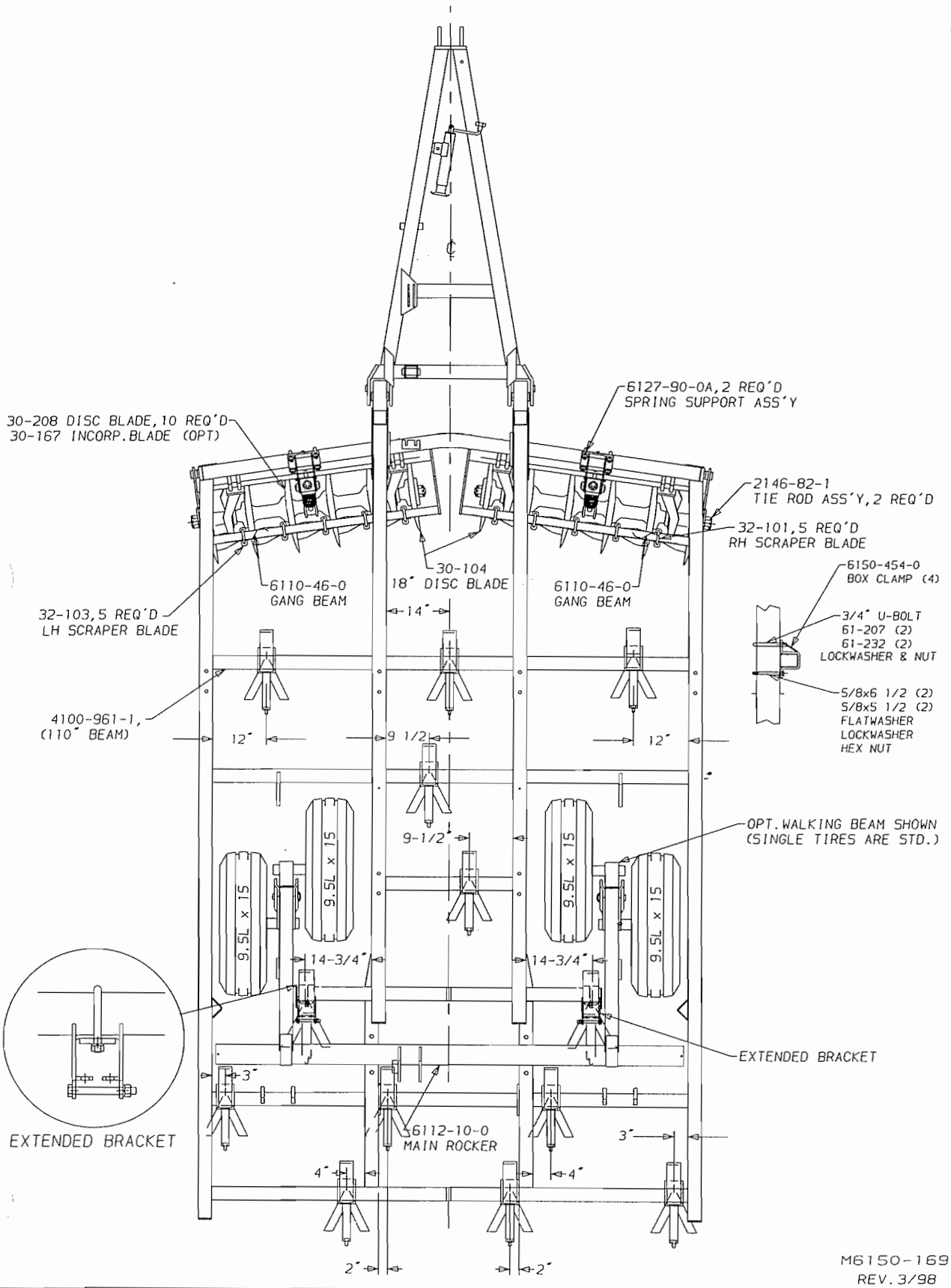
Caution: Explosive separation of a tire and rim parts can cause serious injury or death.

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, bubbles, damaged rims or missing lug bolts and nuts.



MODEL 6150

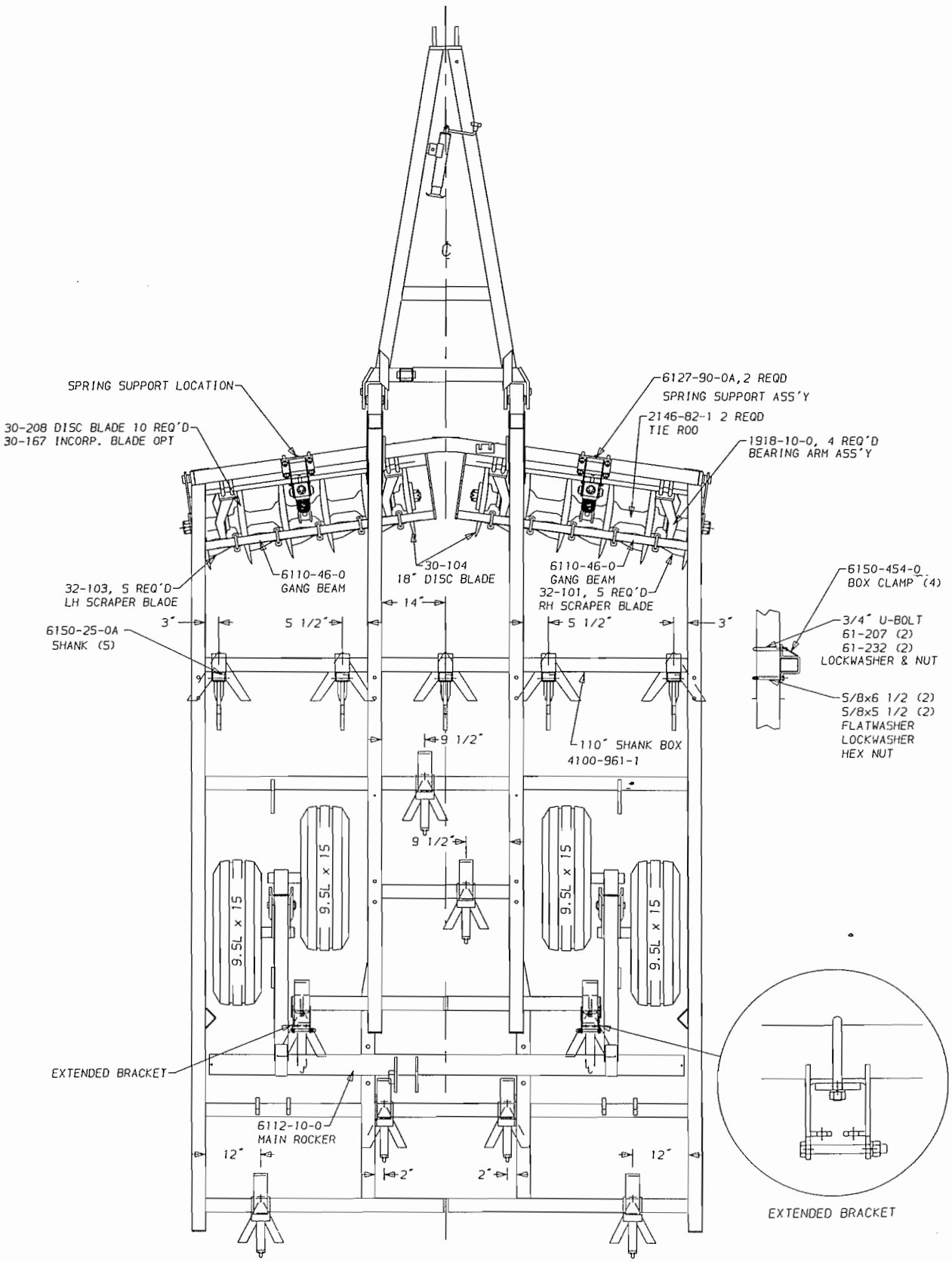
9" SPACING UNIT



M6150-169
REV. 3/98

M O D E L 6 1 5 0

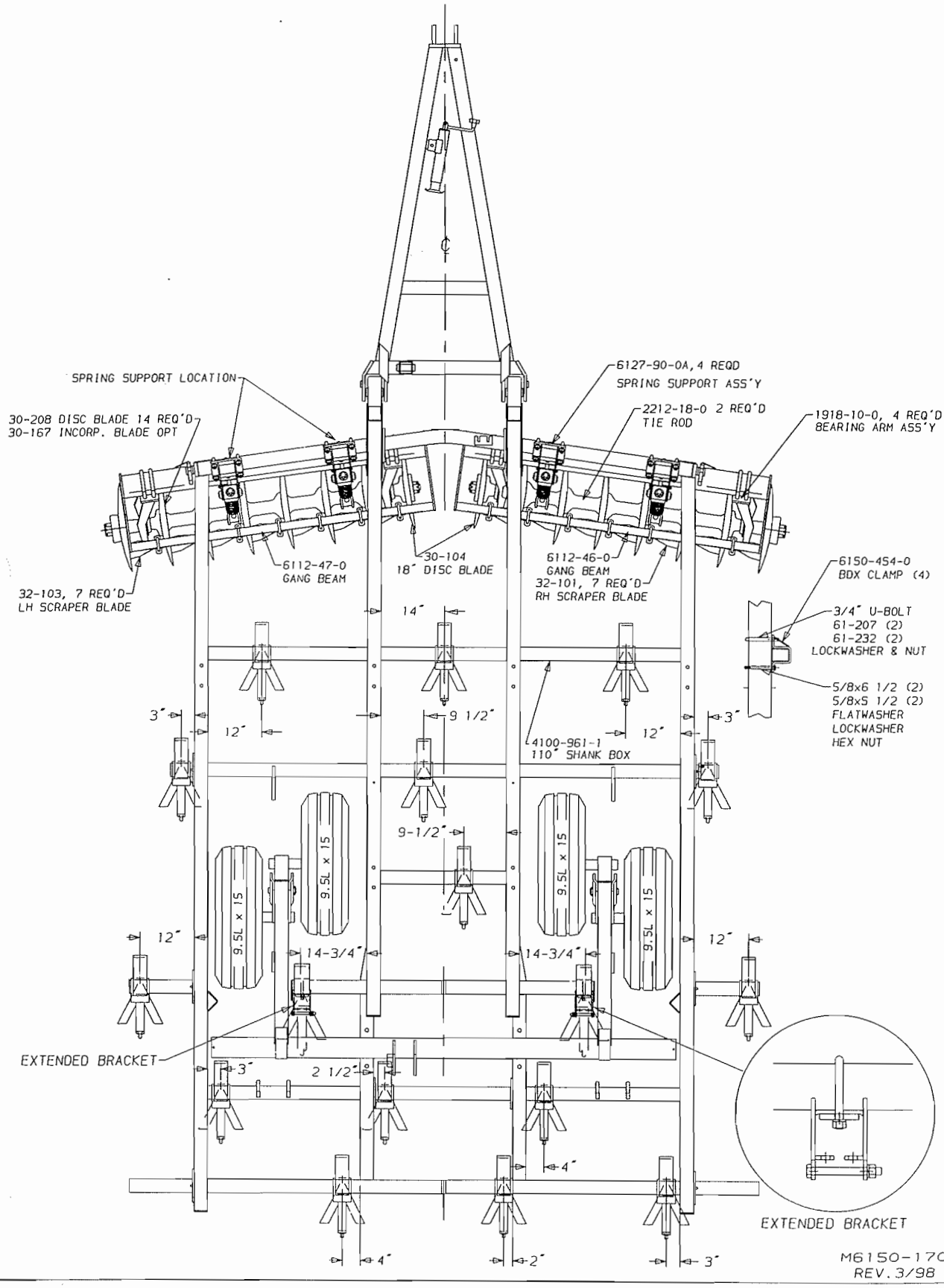
LANDSMAN XT 9" SPACING UNIT



M6150-165
REV. 3/98

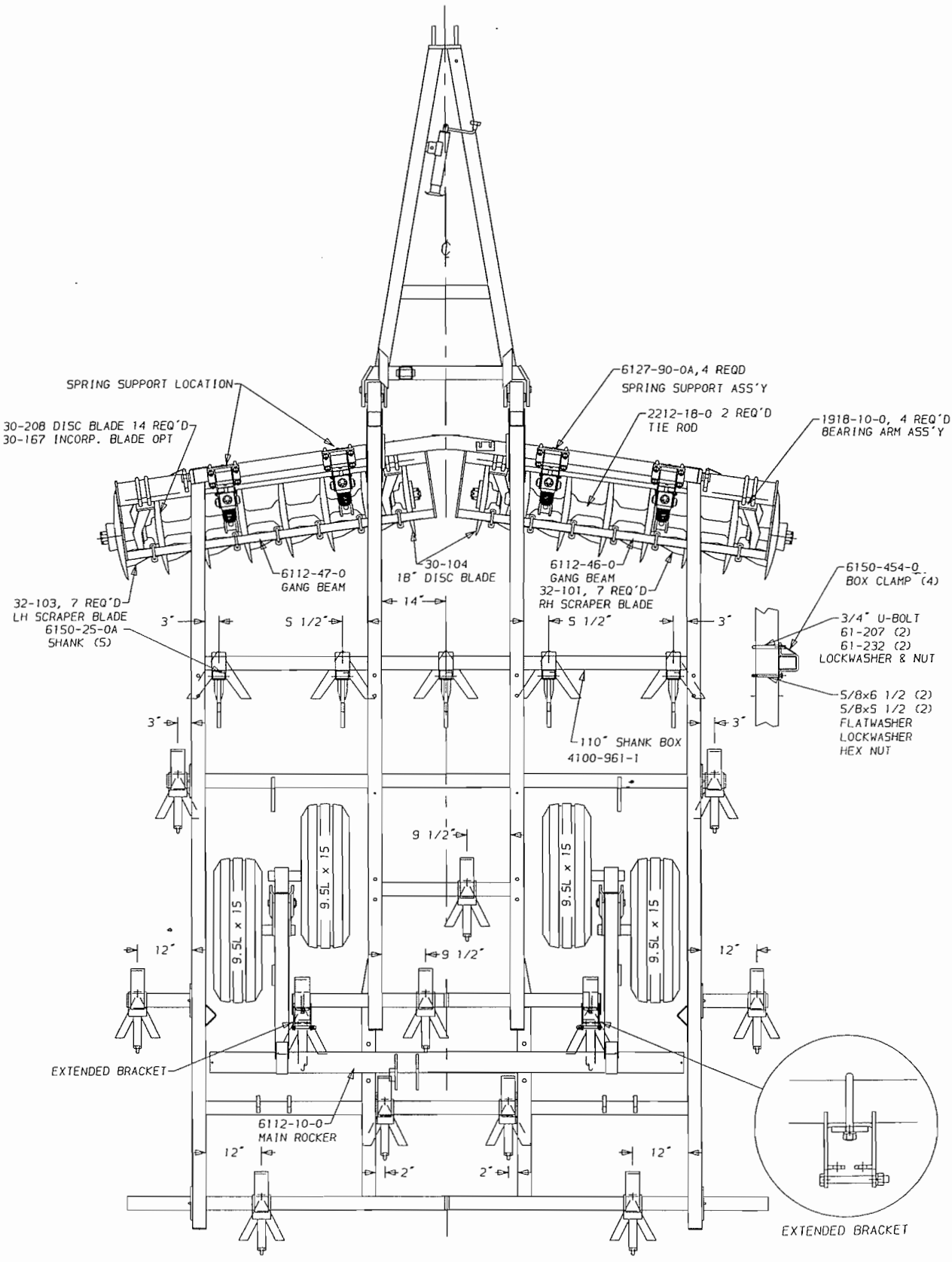
M O D E L 6 1 5 2

9" SPACING UNIT



M O D E L 6 1 5 2

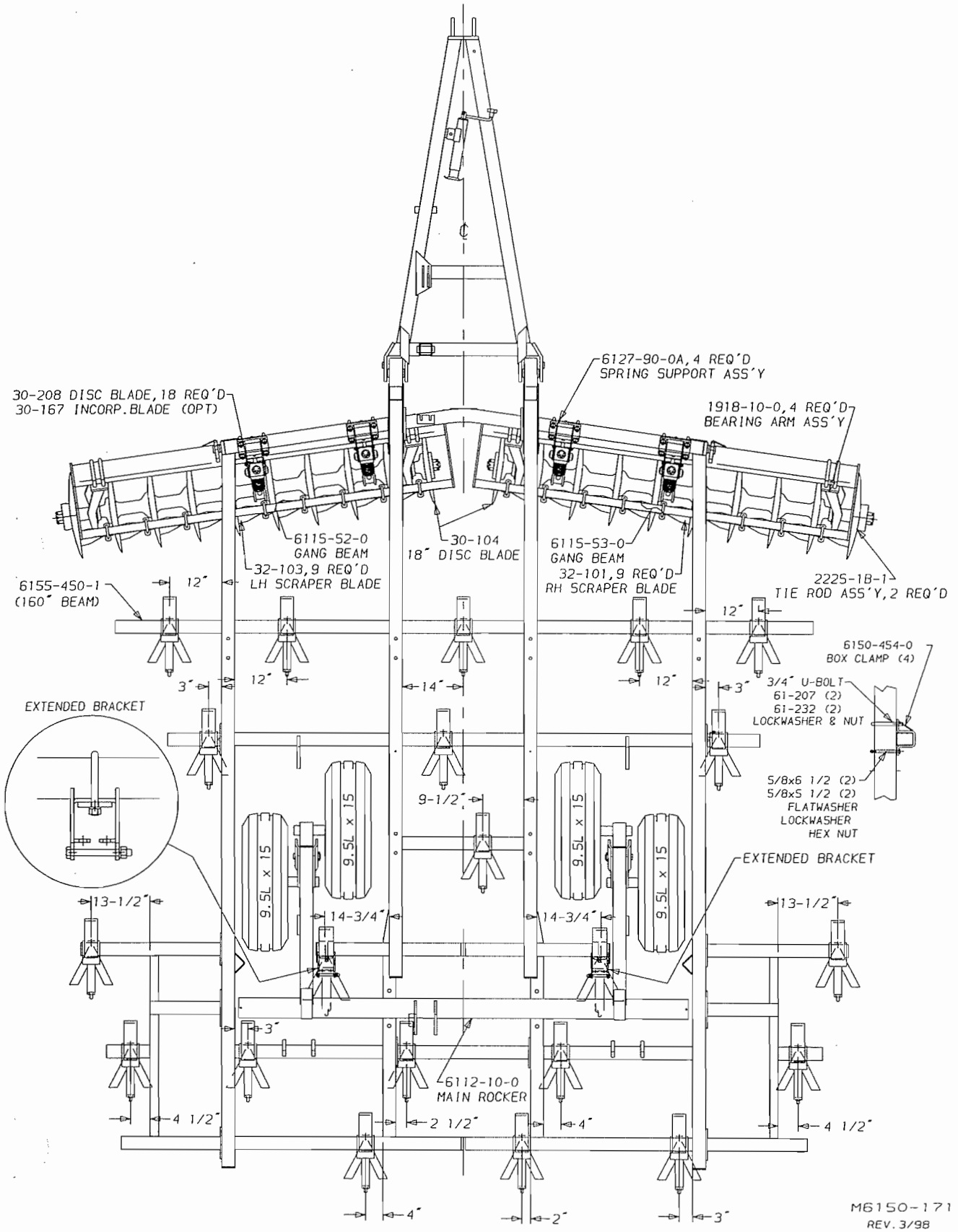
LANDSMAN XT 9" SPACING UNIT



M6150-155
REV. 3/98

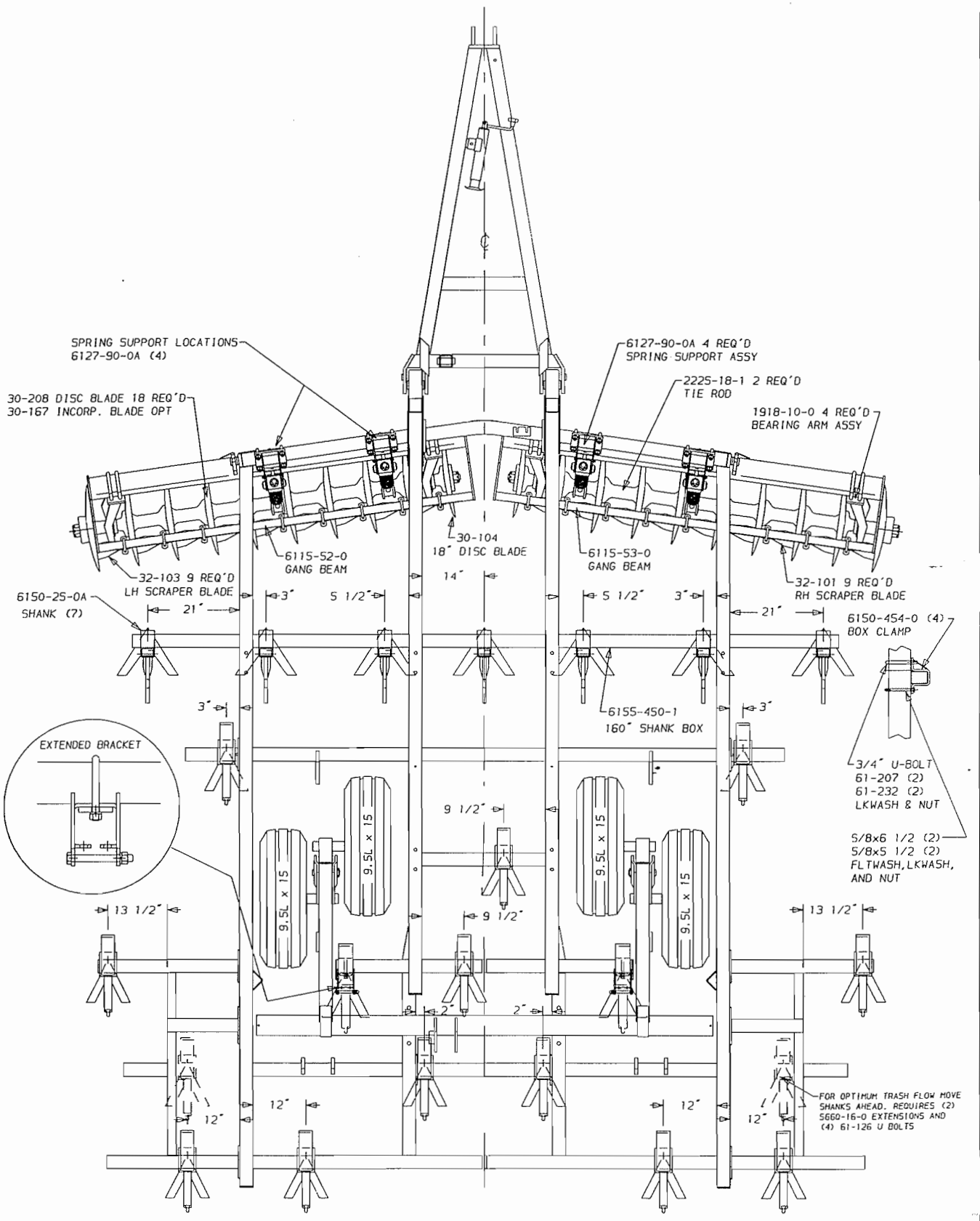
M O D E L 6 1 5 5

9" SPACING UNIT



M O D E L 6 1 5 5

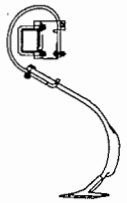
LANDSMAN XT 9" SPACING UNIT



M6150-156
REV. 3/98

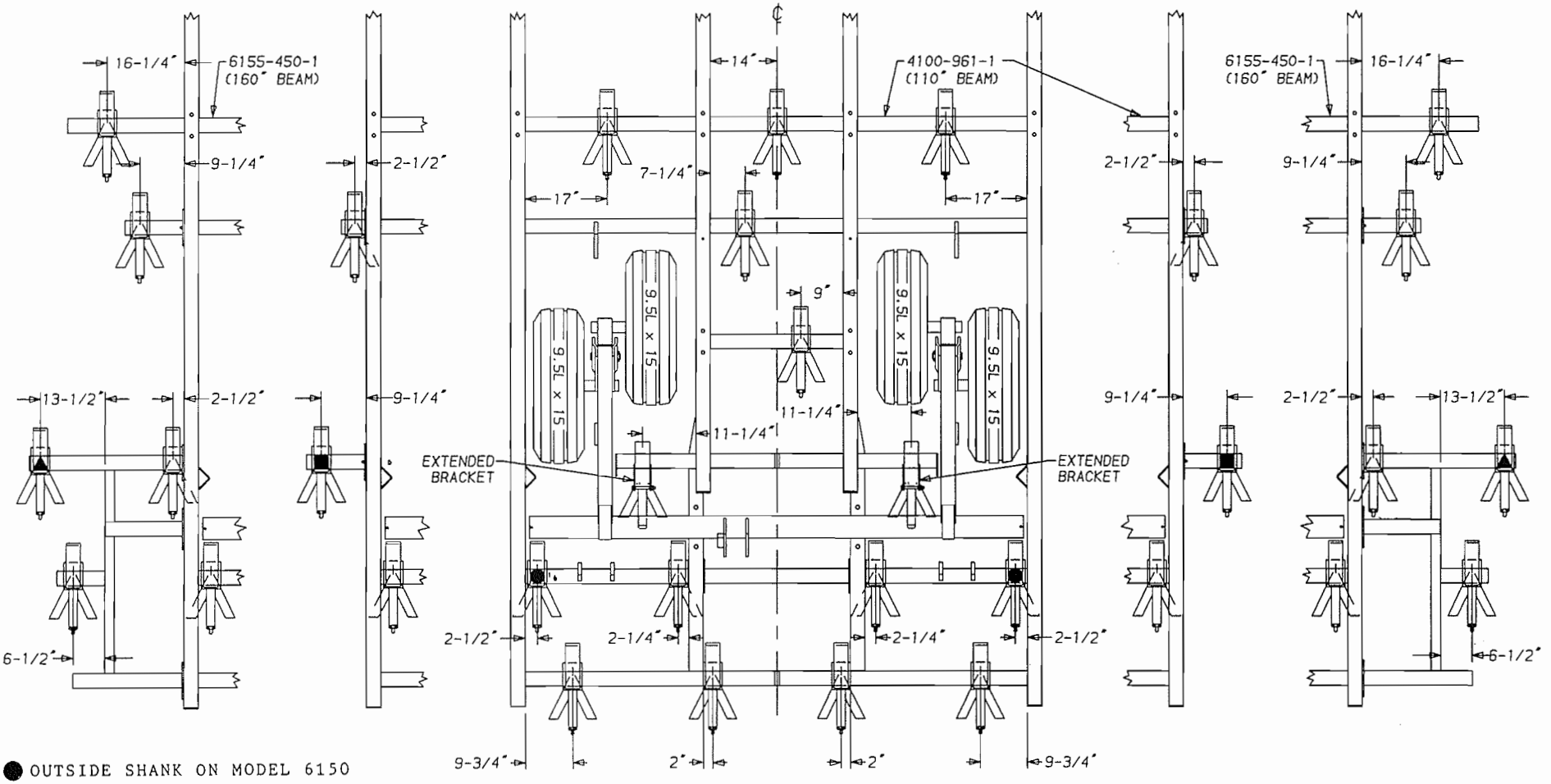
MODEL 6150, 6152 & 6155

7" SPACING UNIT



EXTENDED MOUNT

FOR FURTHER INFORMATION REFER TO 9" SPACING PLACEMENT PAGES

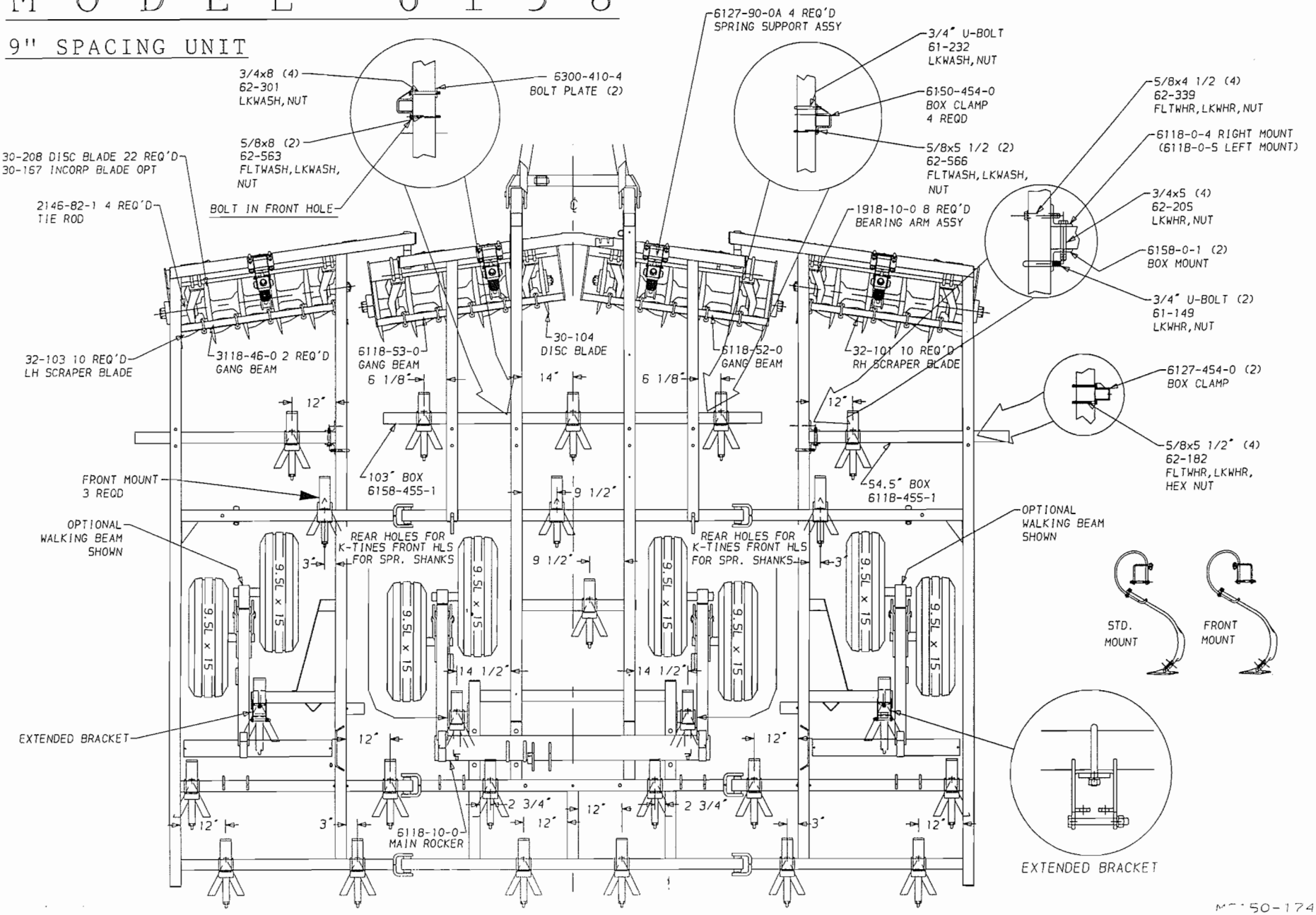


● OUTSIDE SHANK ON MODEL 6150
■ OUTSIDE SHANK ON MODEL 6152
▲ OUTSIDE SHANK ON MODEL 6155

M6150-168
REV. 1/97

MODEL 6158

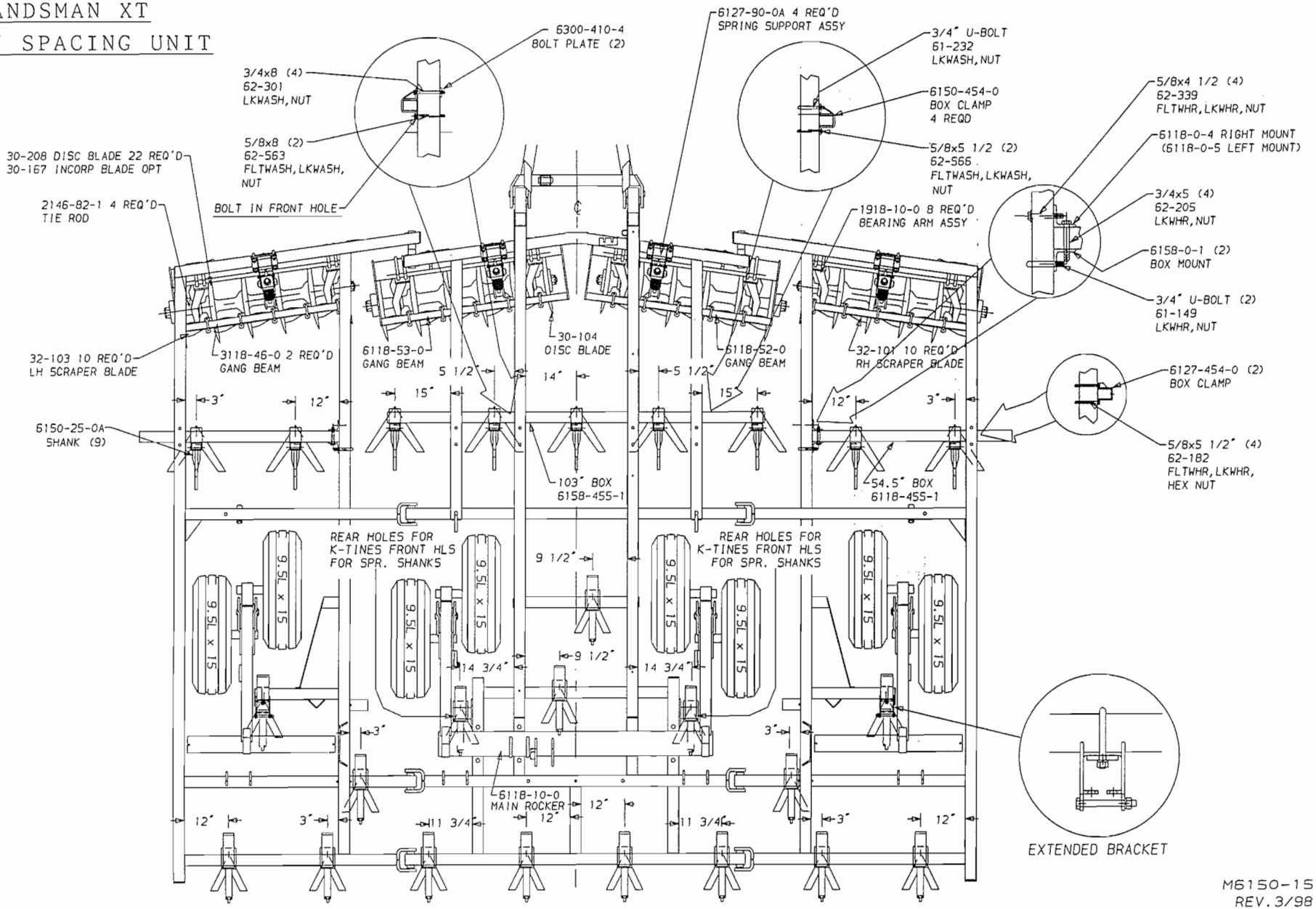
9" SPACING UNIT



M-150-174
.3/98

M D E L 6 1 5 8

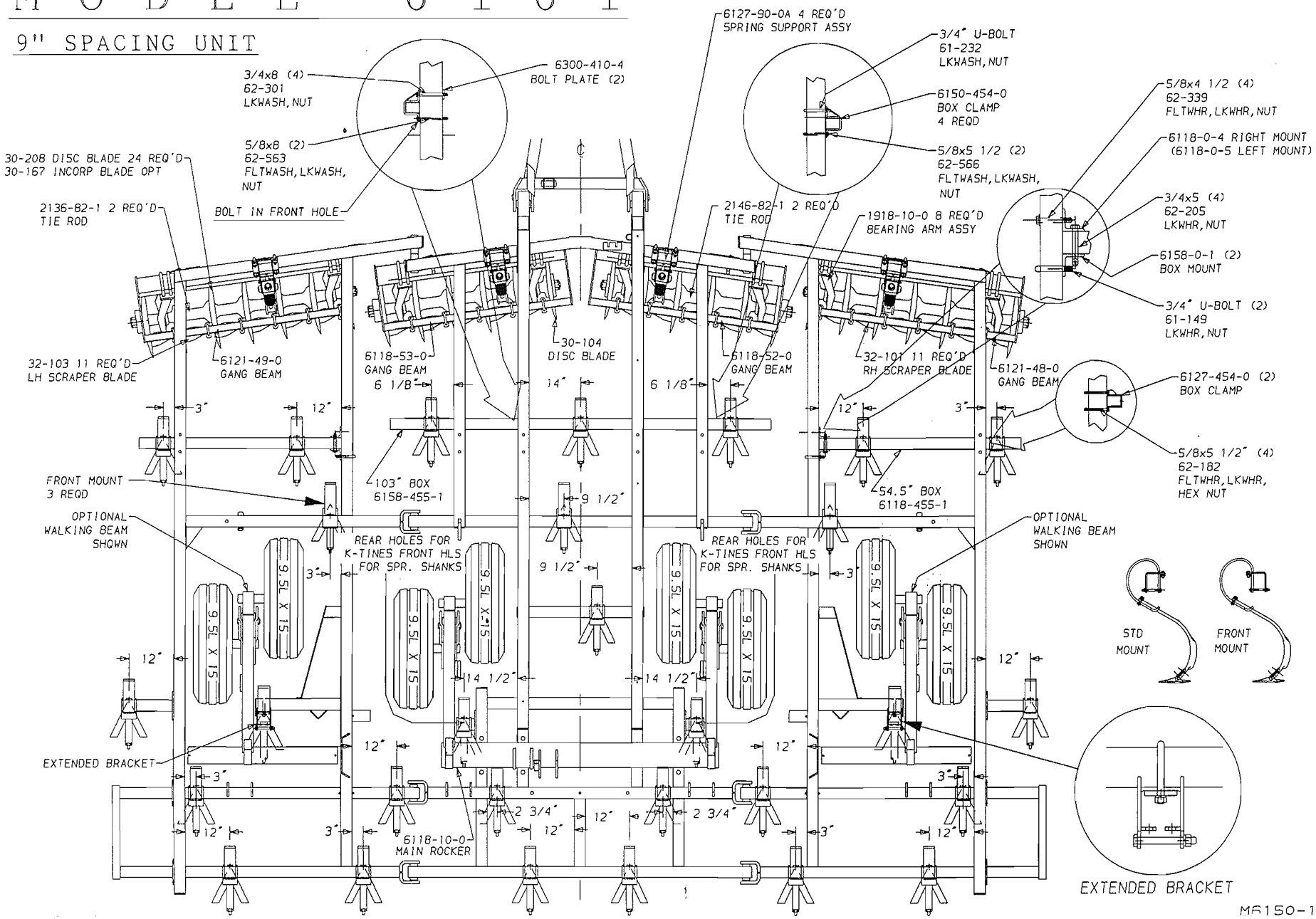
LANDSMAN XT
9" SPACING UNIT



M6150-157
REV. 3/98

MODEL 6161

9" SPACING UNIT



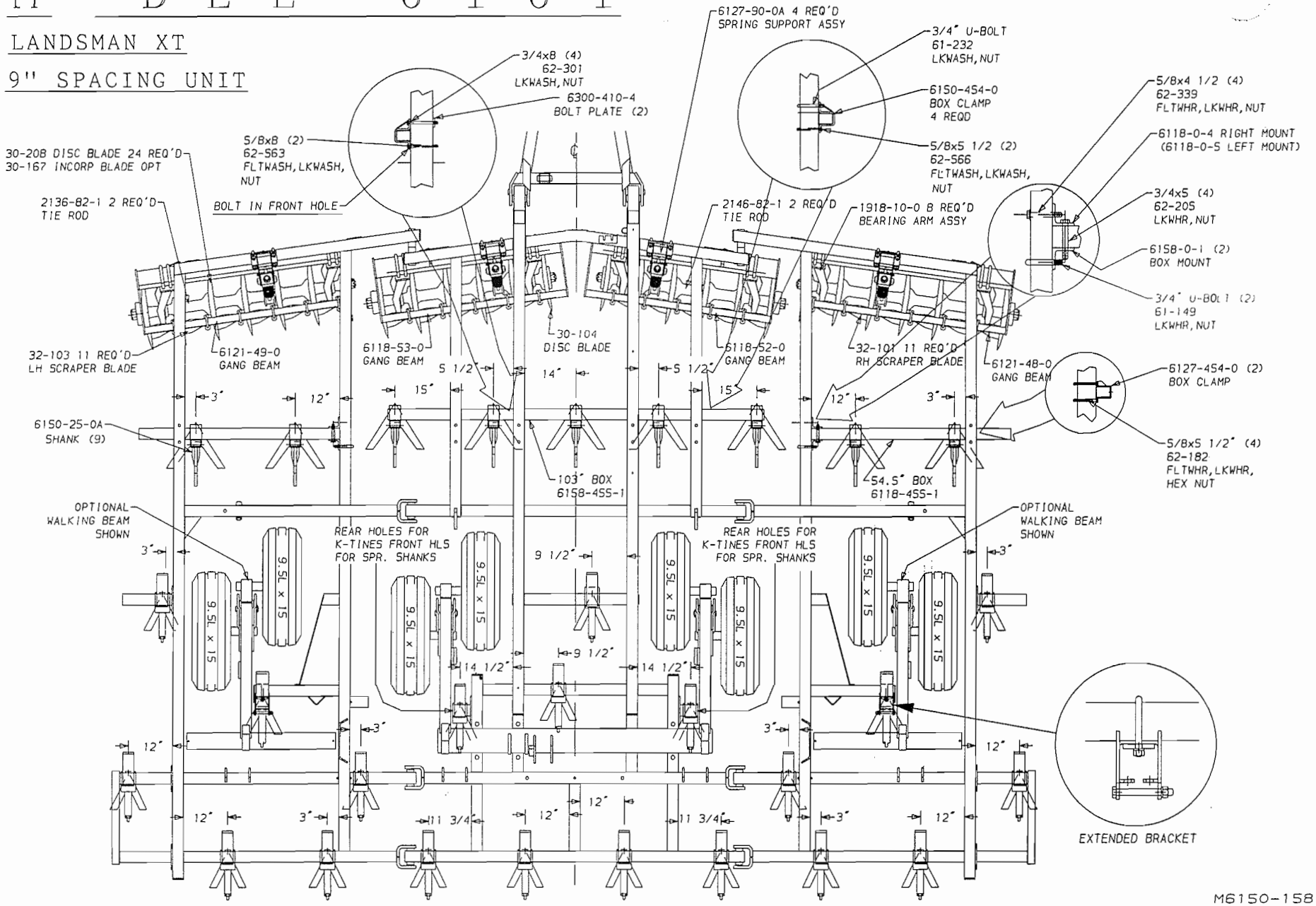
MB150-175

1.3/98

M D E L 6 1 6 1

LANDSMAN XT

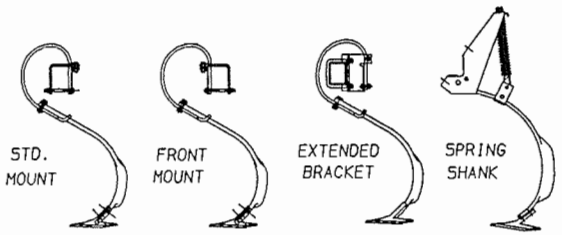
9" SPACING UNIT

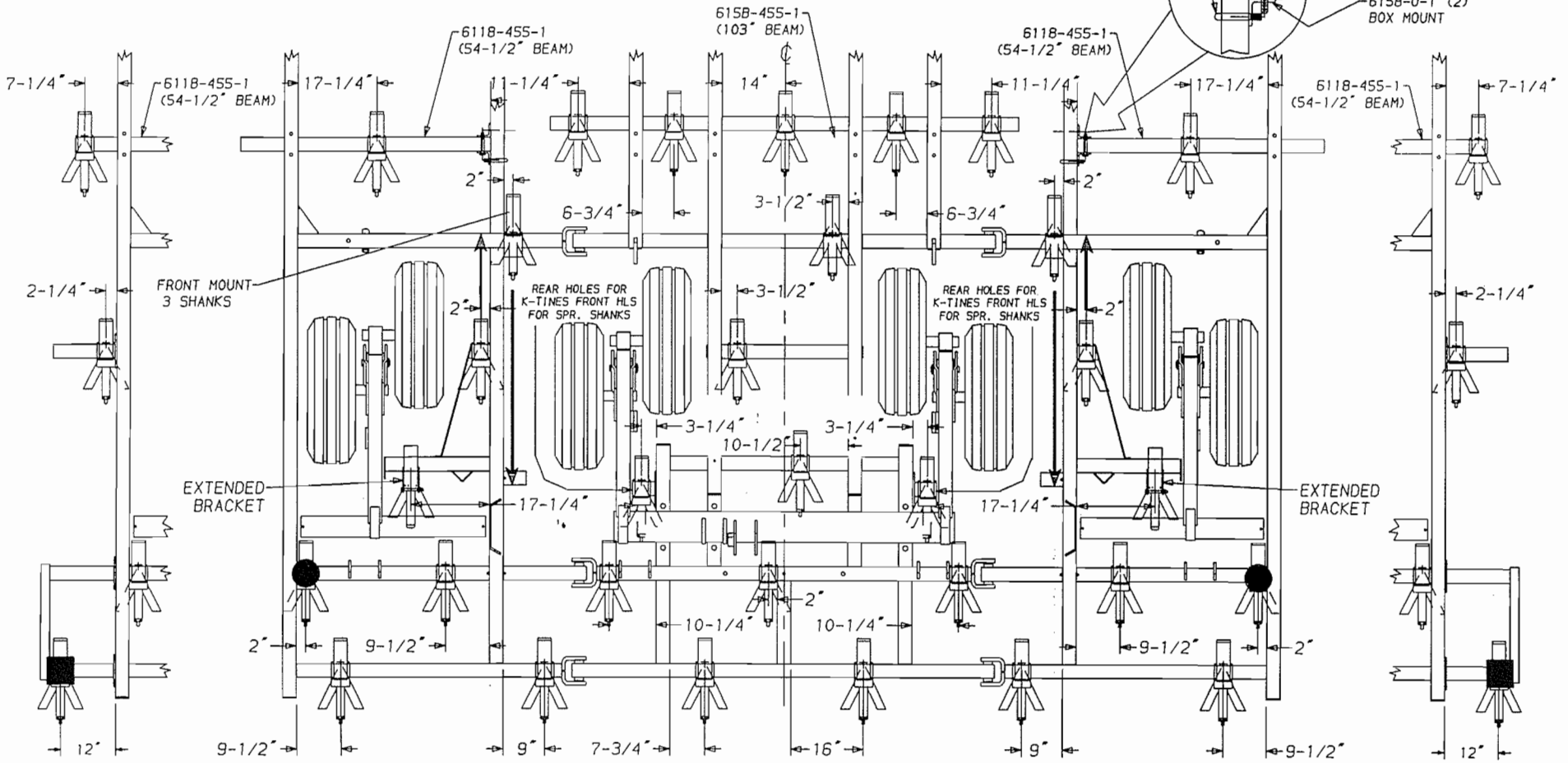


MODEL 6158 & 6161

7" SPACING UNIT

FOR FURTHER INFORMATION REFER TO 9" SPACING PLACEMENT PAGES





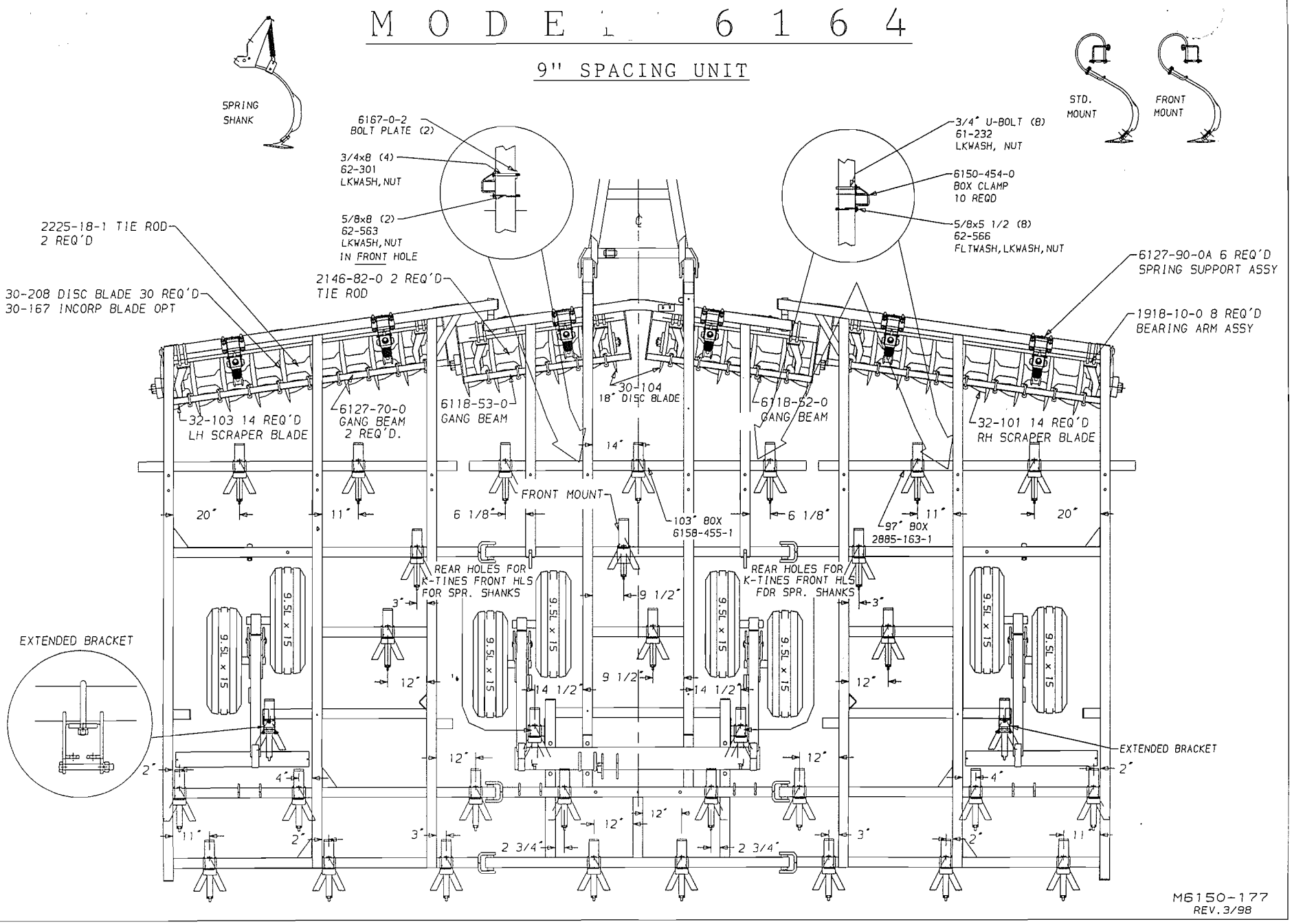
● OUTSIDE SHANK ON MODEL 6158
■ OUTSIDE SHANK ON MODEL 6161

SPRING SHANK PLACEMENT

M2150-173
1-15-97

MODEL 6164

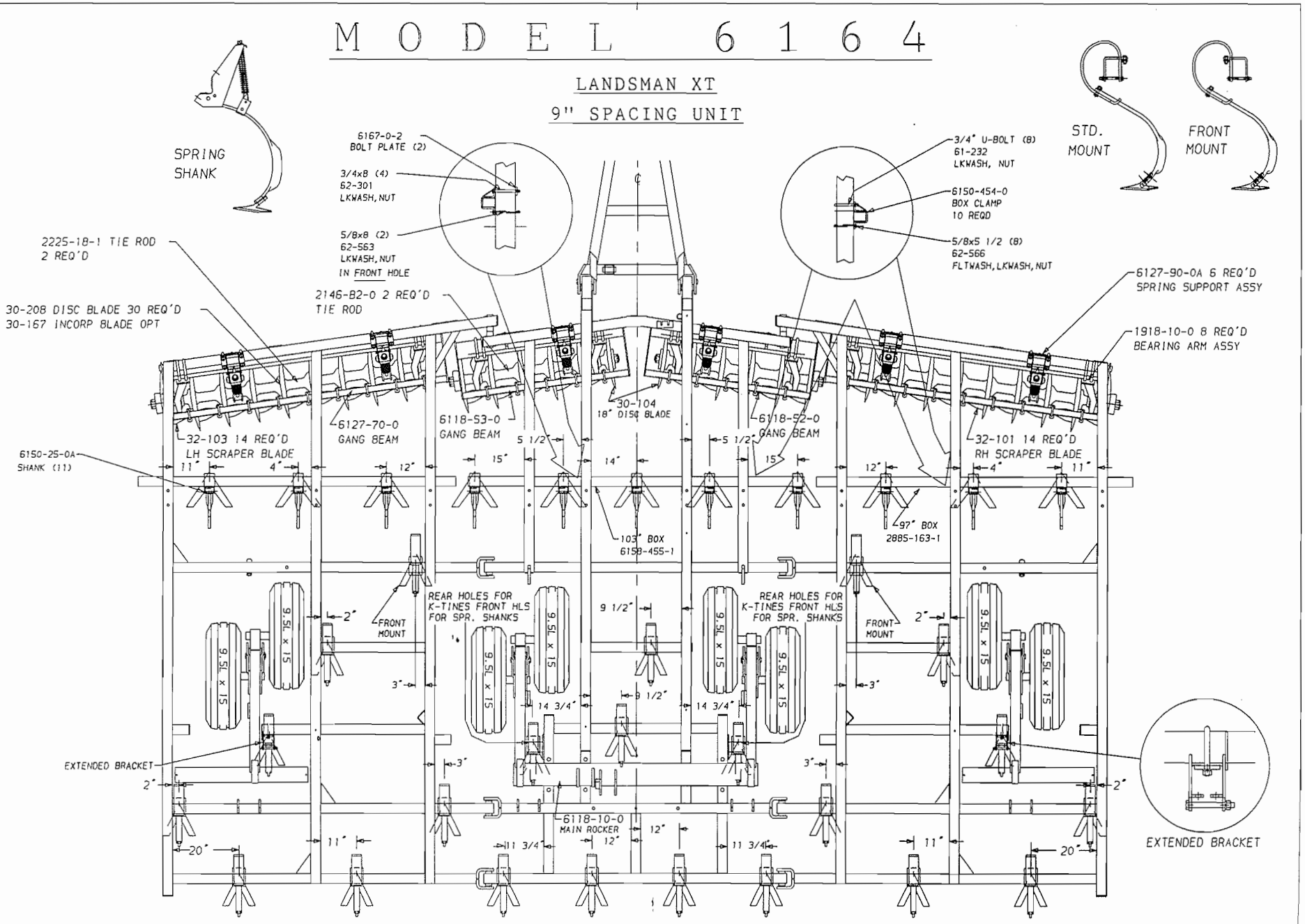
9" SPACING UNIT



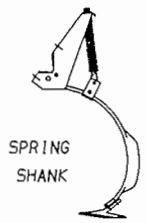
MODEL 6164

LANDSMAN XT

9" SPACING UNIT

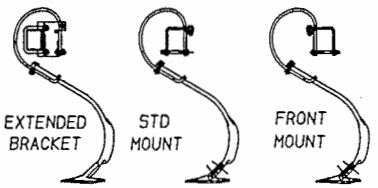


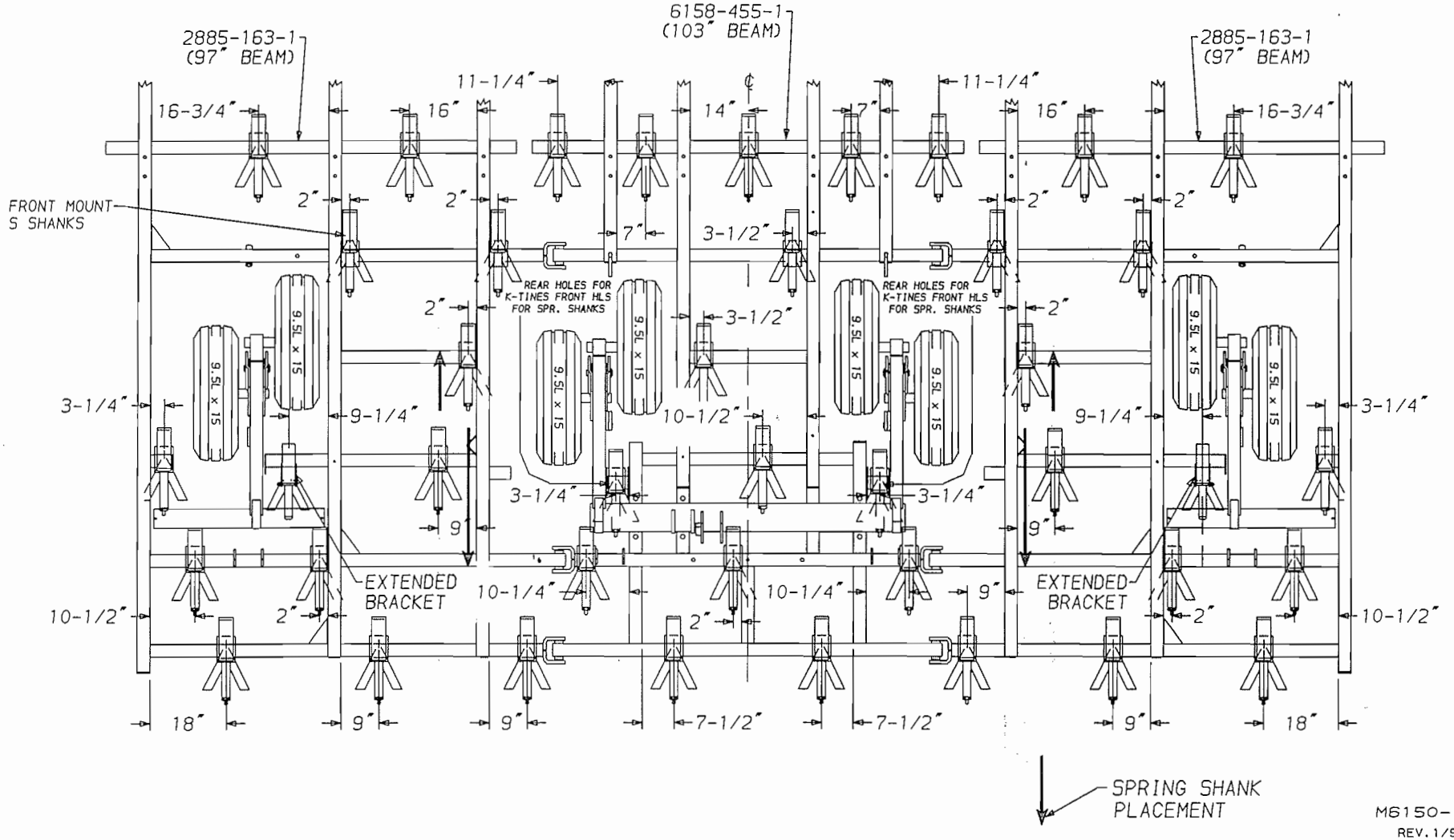
MODEL 6164



7" SPACING UNIT

FOR FURTHER INFORMATION REFER TO 9" SPACING PLACEMENT PAGES

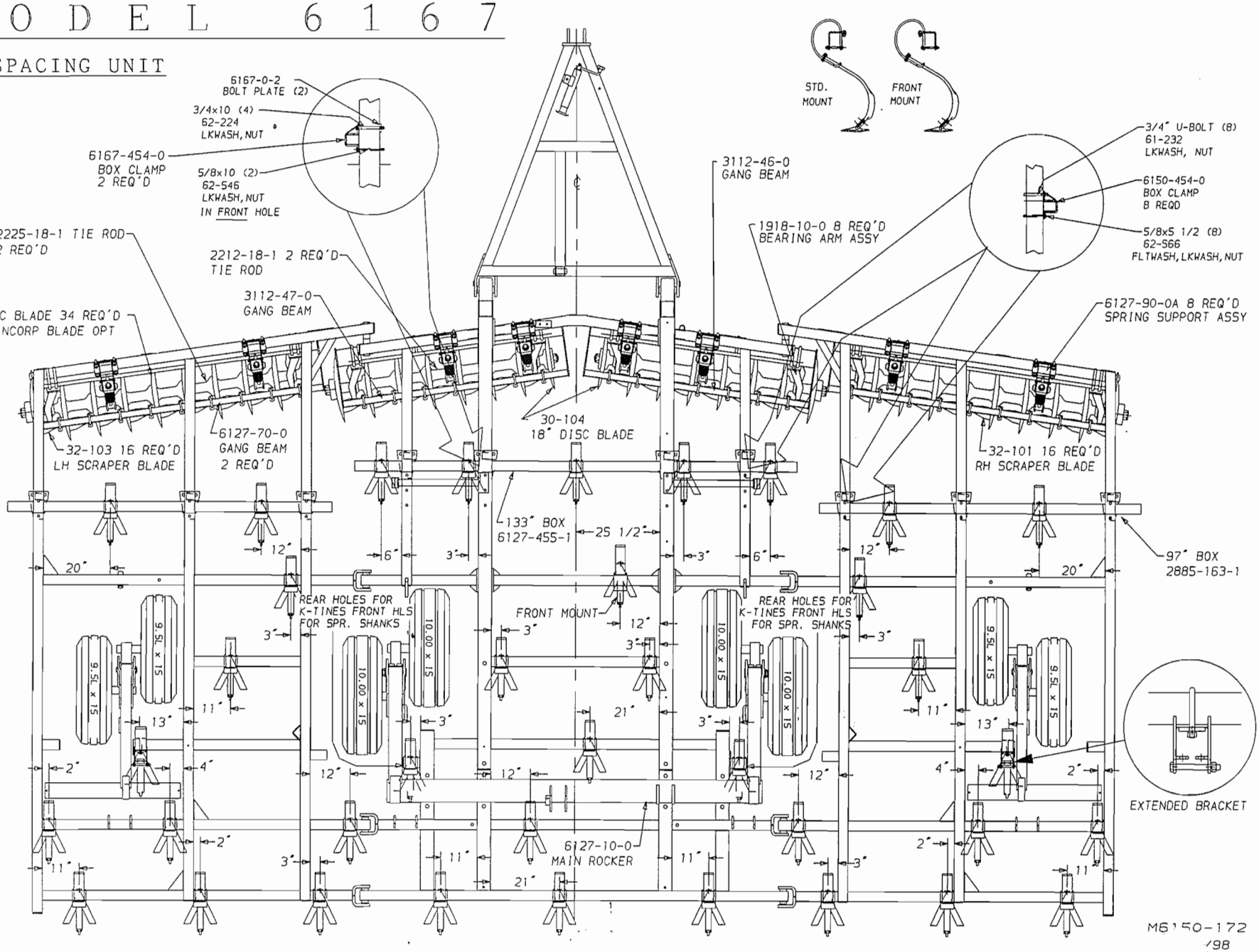




M6150-176
REV. 1/97

MODEL 6167

9" SPACING UNIT

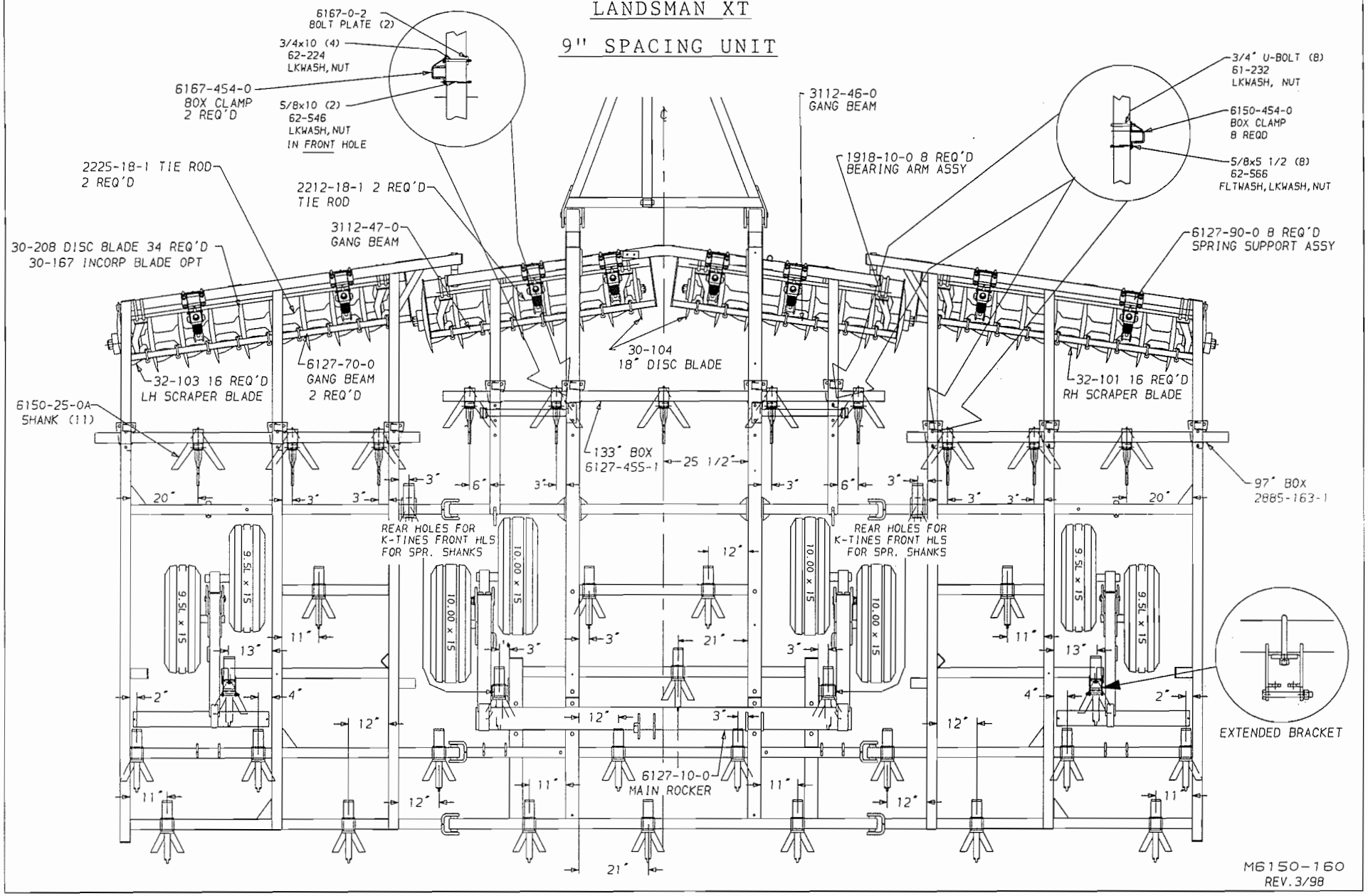


M6150-172
/98

MODEL 6167

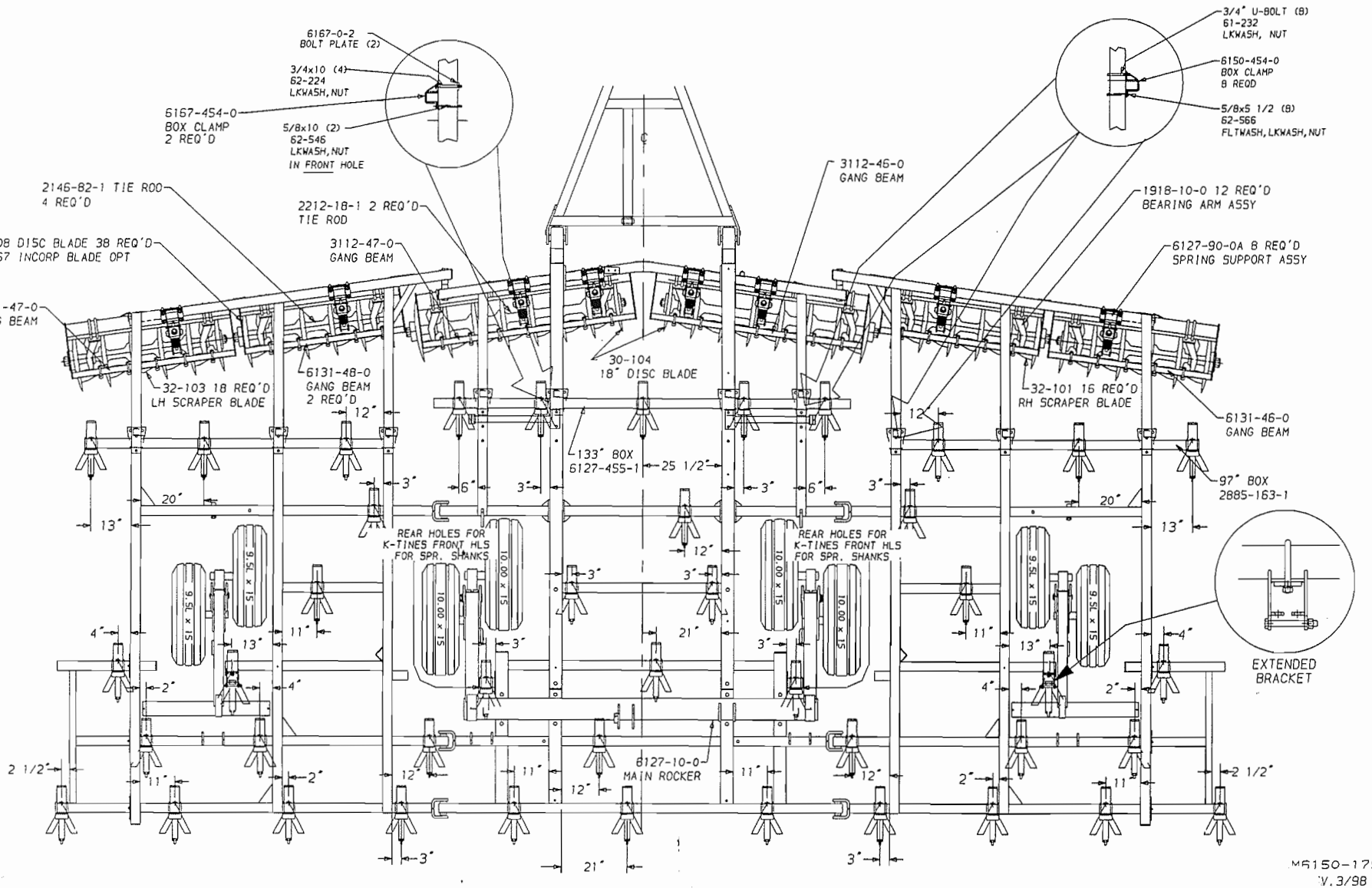
LANDSMAN XT

9" SPACING UNIT



MODEL 6171

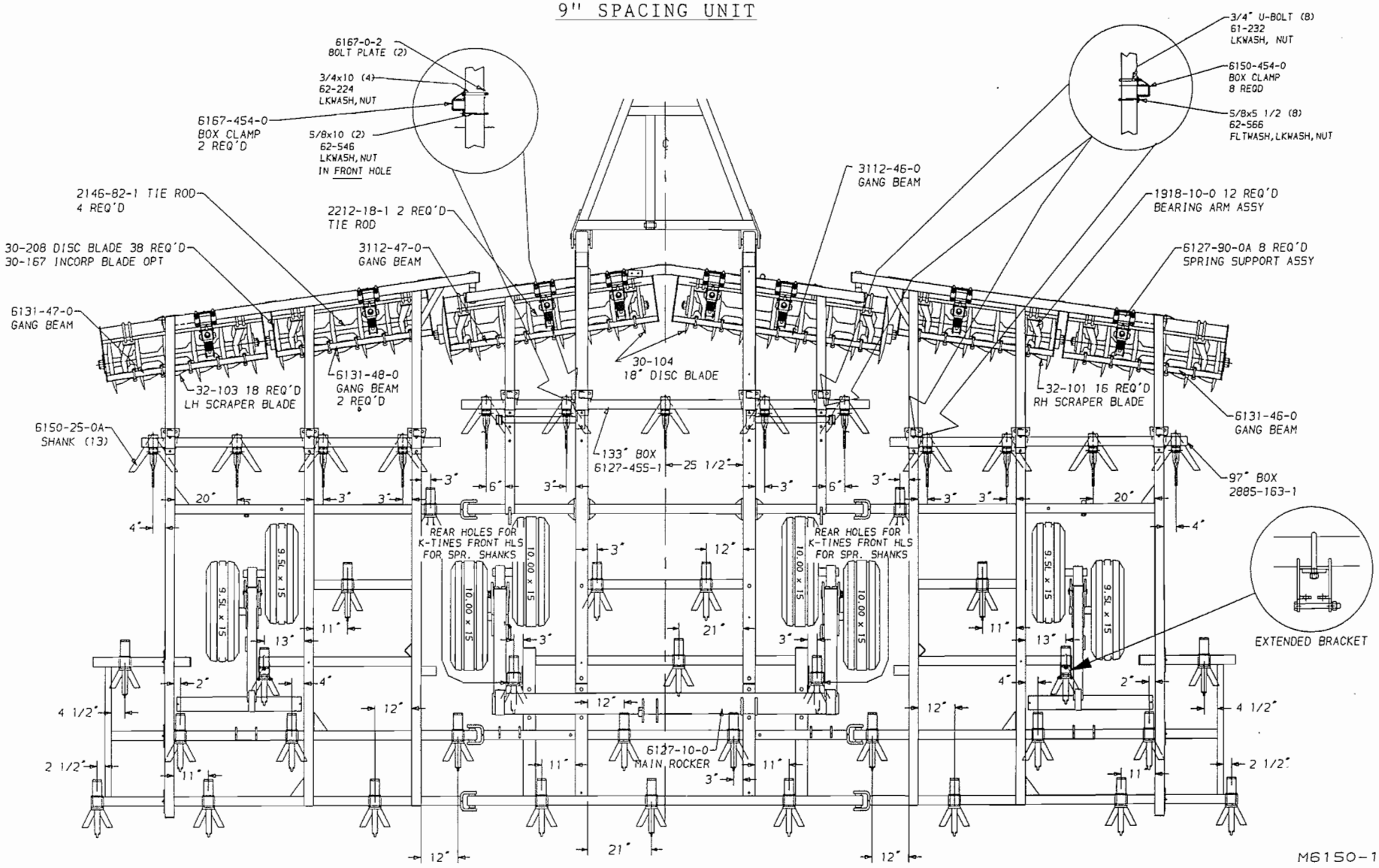
9" SPACING UNIT



M O D E L 6 1 7 1

LANDSMAN XT

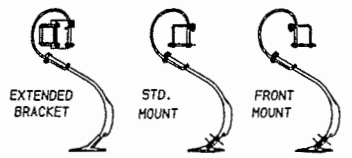
9" SPACING UNIT

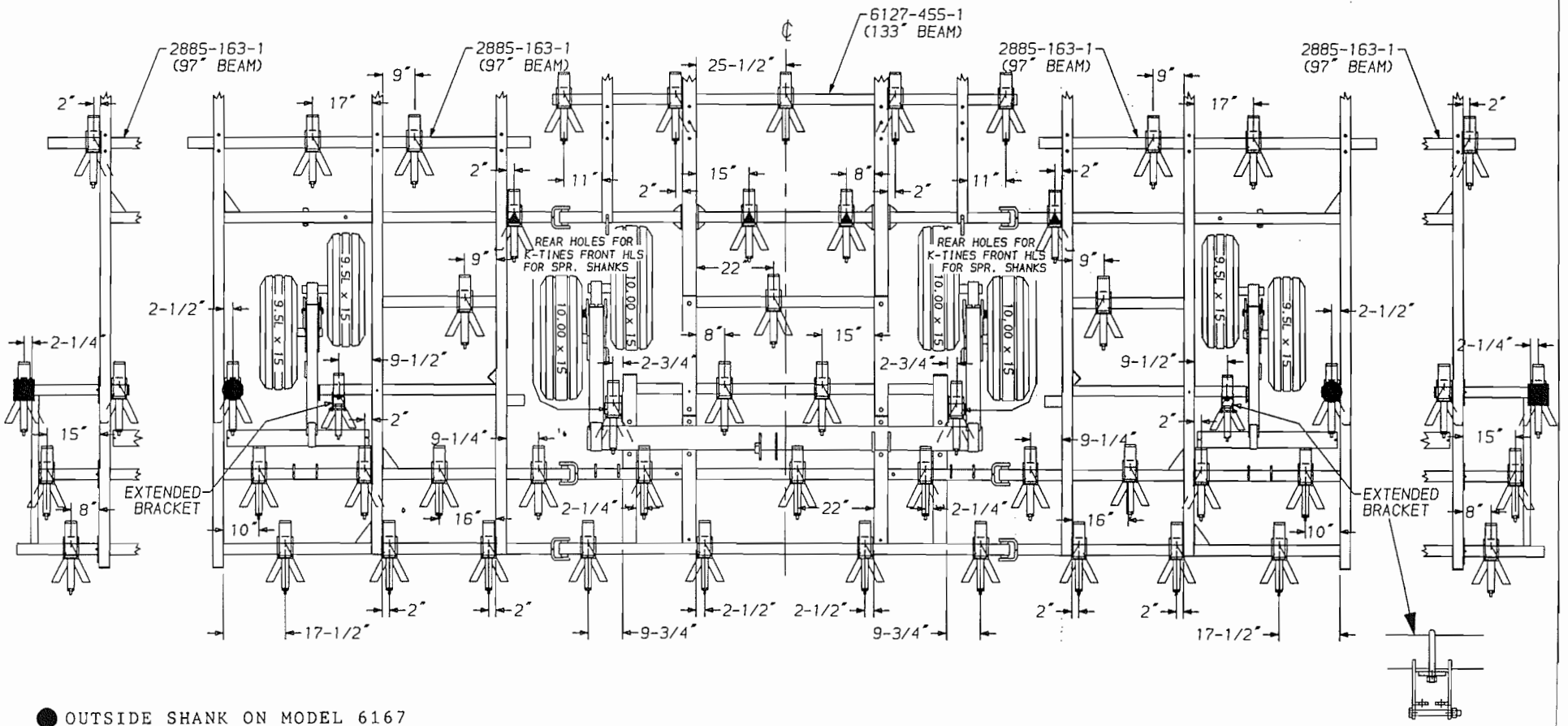


MODEL 6167 & 6171

7" SPACING UNIT

FOR FURTHER INFORMATION REFER TO 9" SPACING PLACEMENT PAGES



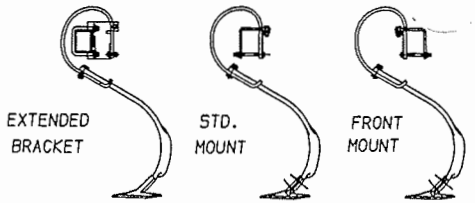


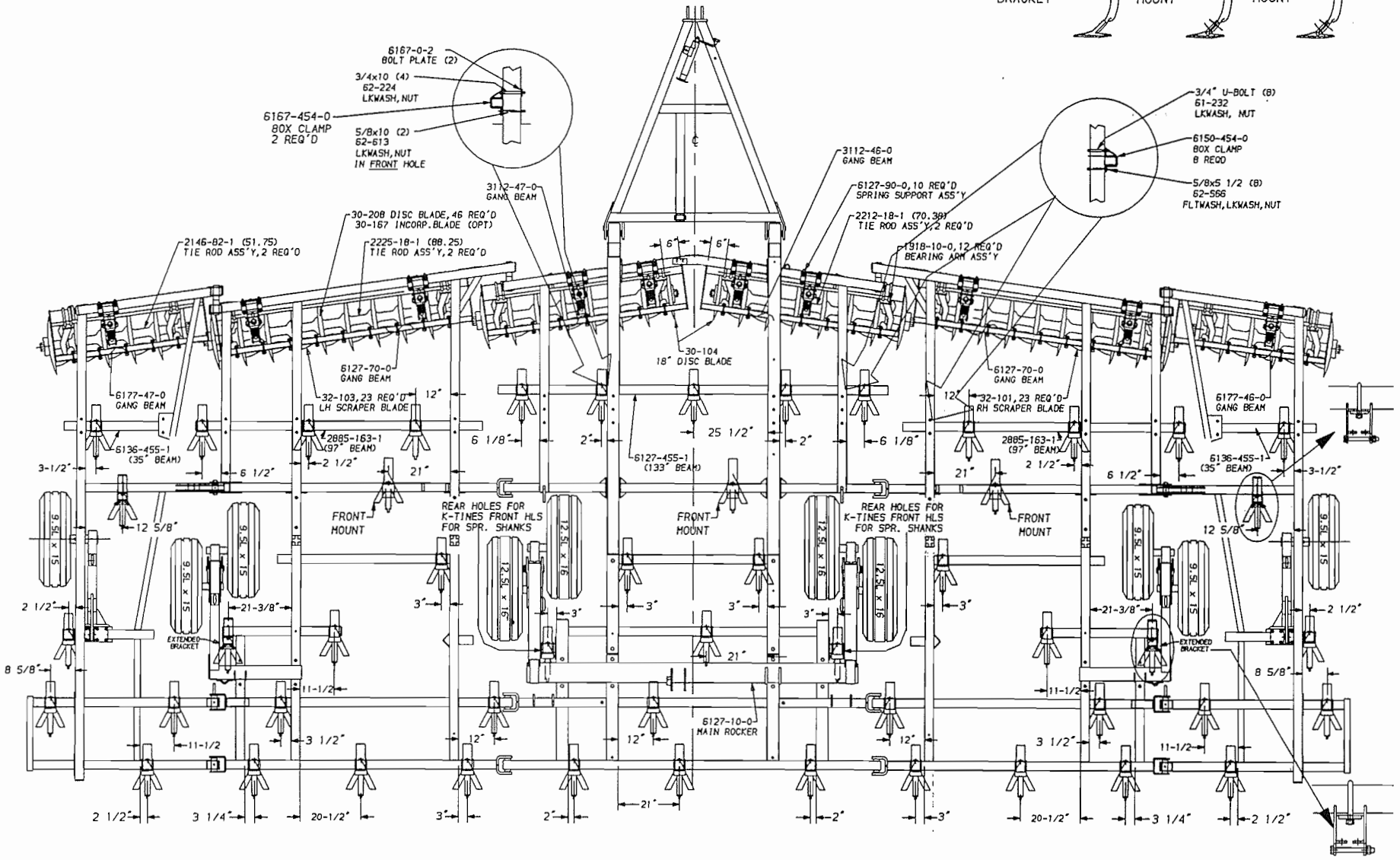
● OUTSIDE SHANK ON MODEL 6167

■ OUTSIDE SHANK ON MODEL 6171

MODEL 6177

9" SPACING UNIT

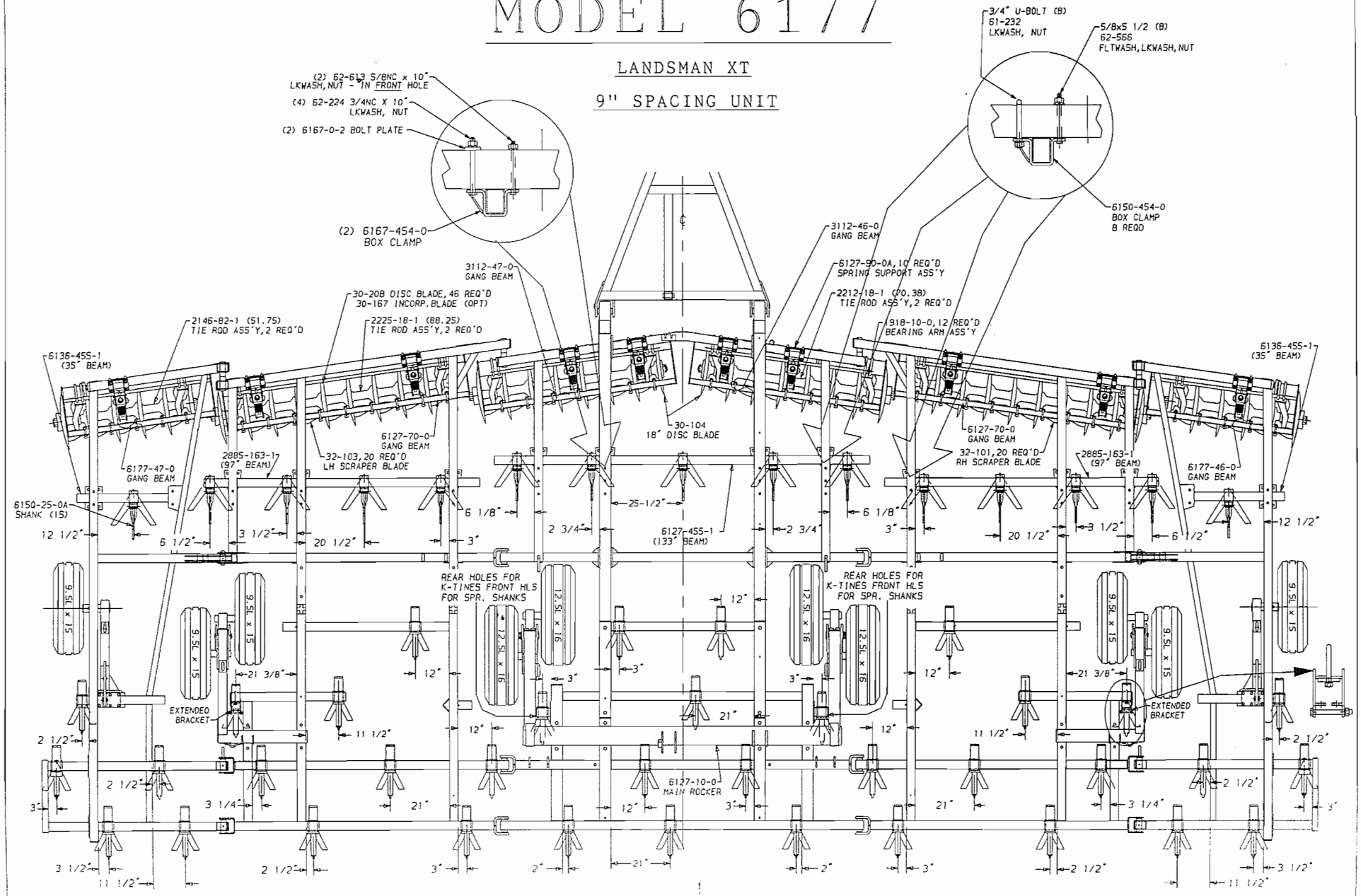




MODEL 6177

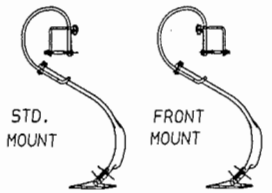
LANDSMAN XT

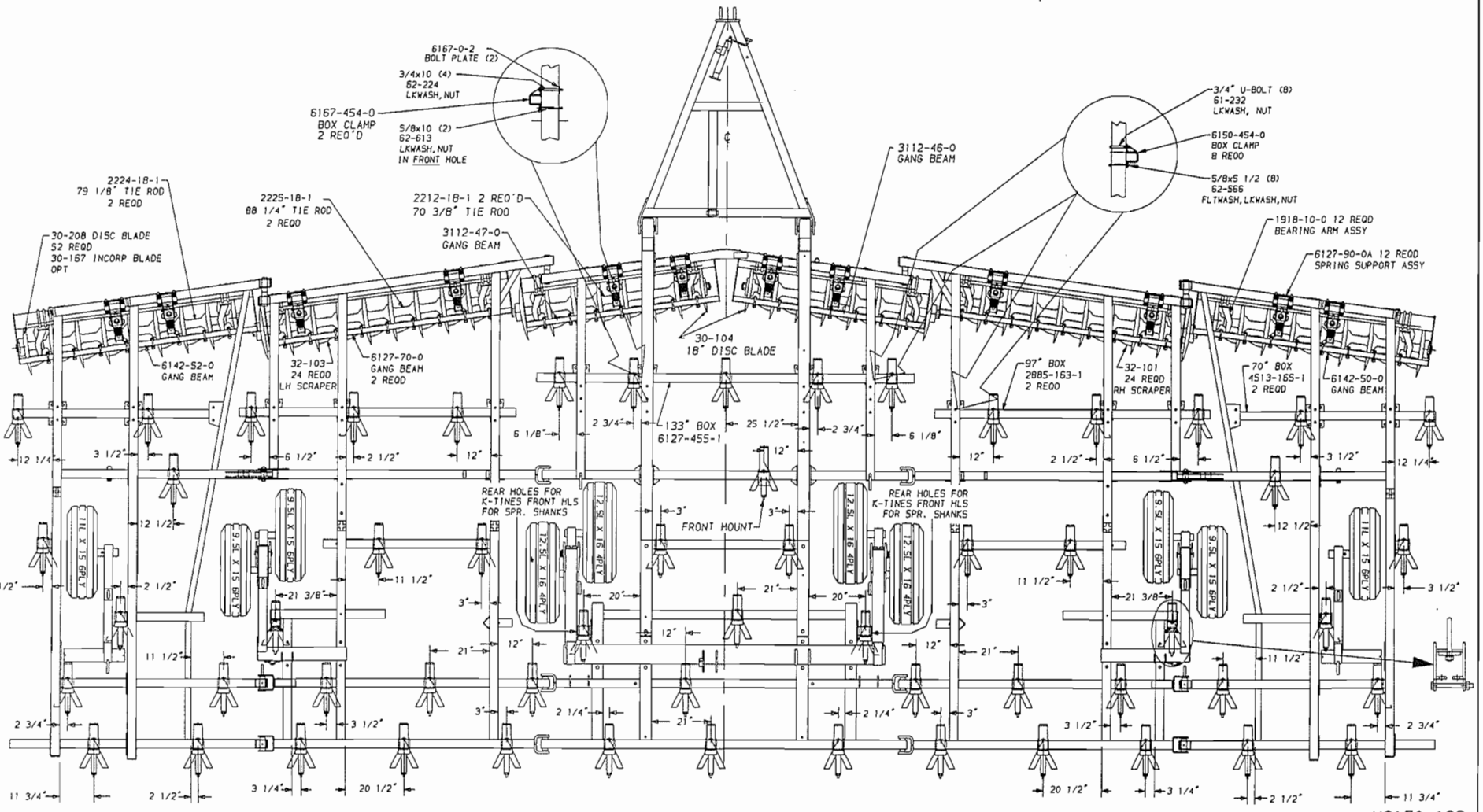
9" SPACING UNIT



M O D E L 6 1 8 2

9" SPACING UNIT



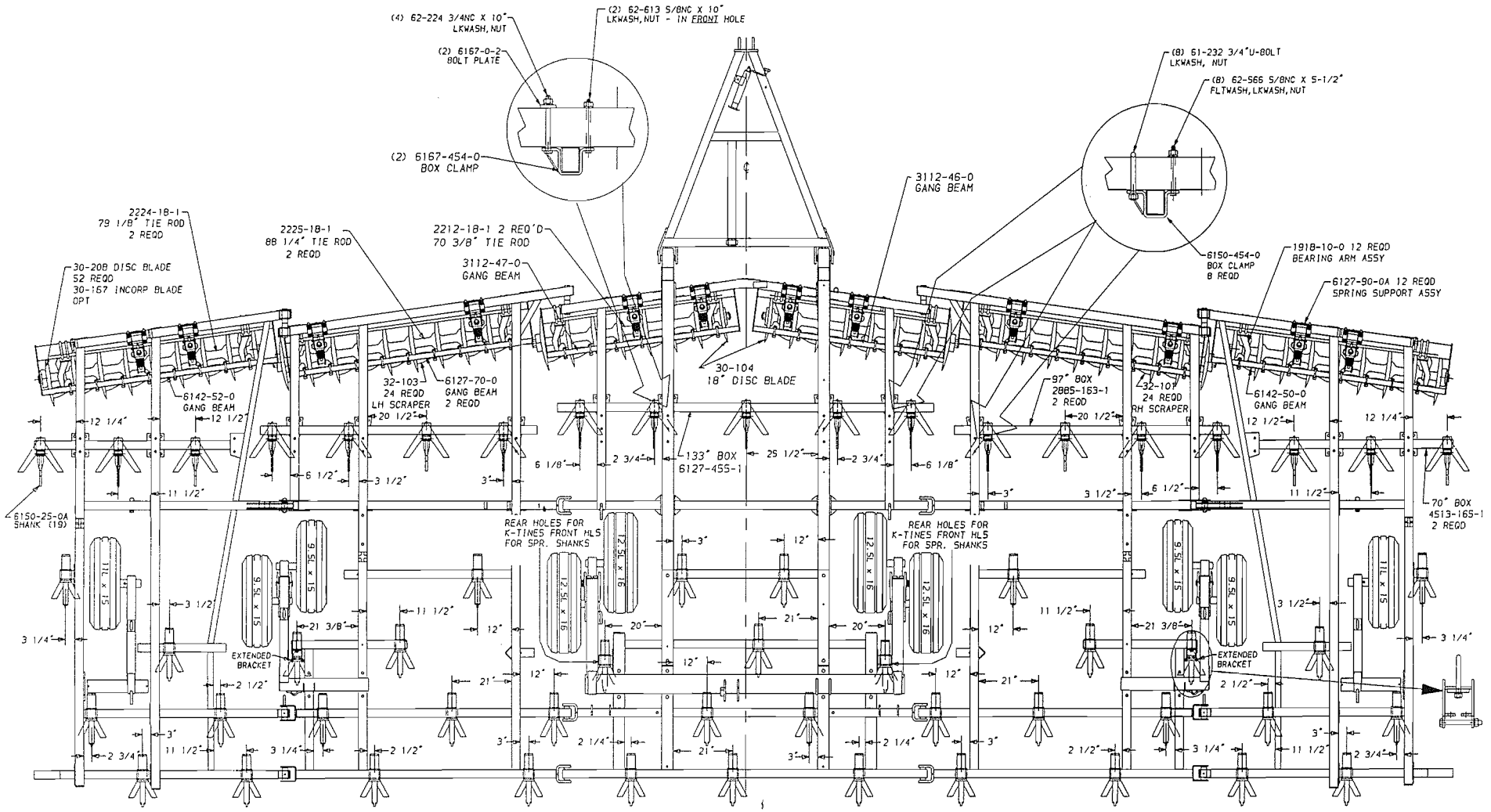


M6150-182
REV. 3/98

M O D E L 6 1 8 2

LANDSMAN XT

9" SPACING UNIT

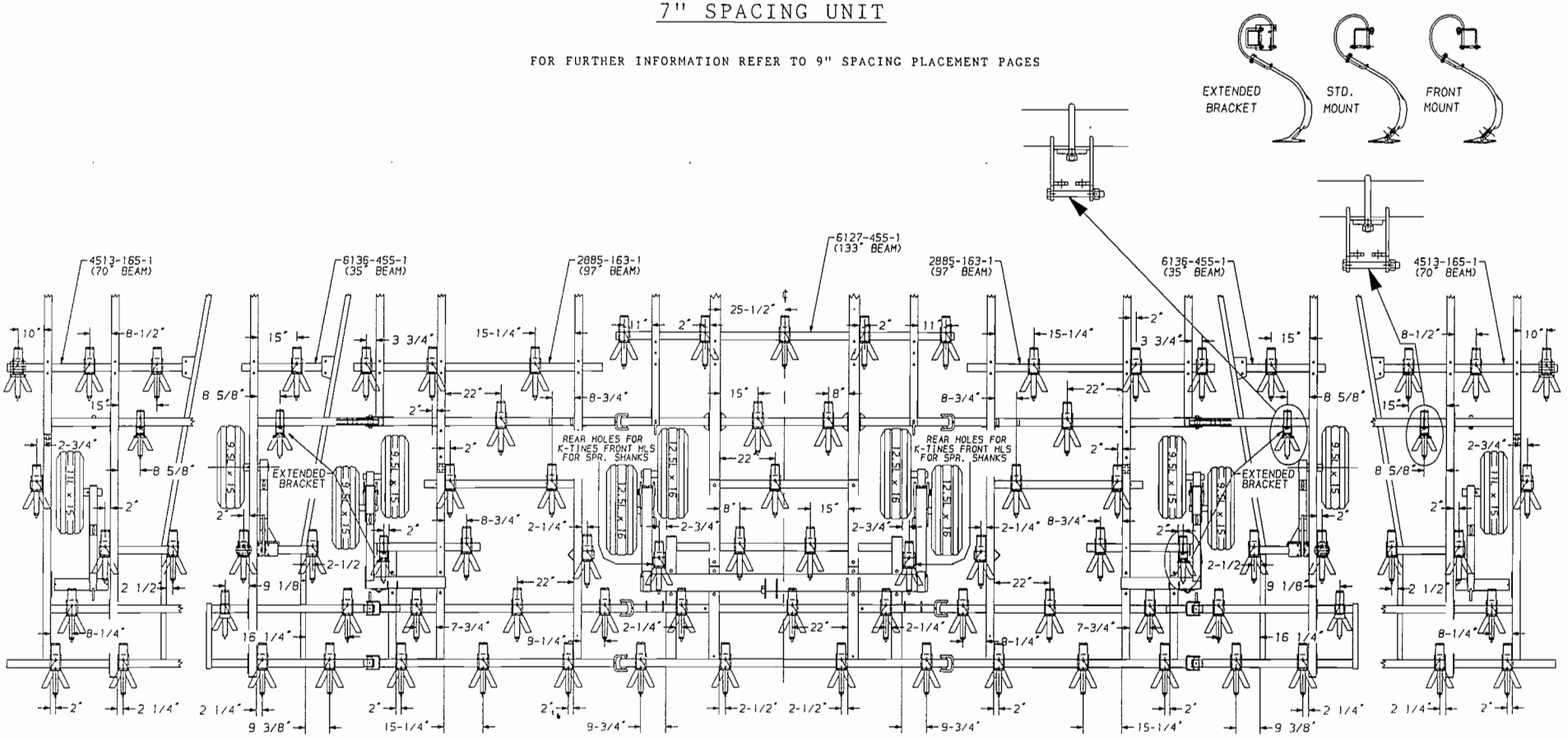


9150-167
REV. 9/98

MODEL 6177 & 6182

7" SPACING UNIT

FOR FURTHER INFORMATION REFER TO 9" SPACING PLACEMENT PAGES

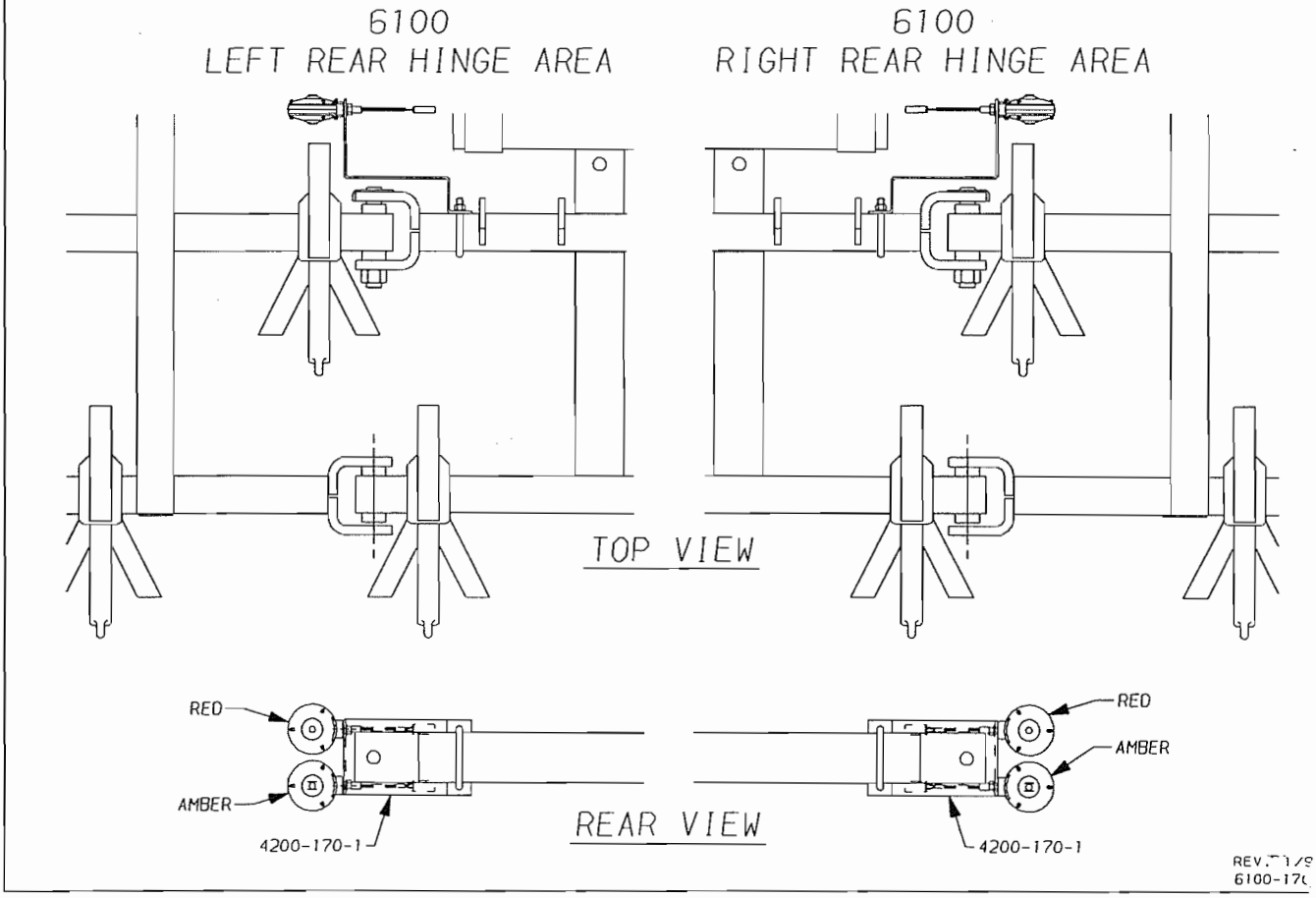


OUTSIDE SHANK ON MODEL 6176

OUTSIDE SHANK ON MODEL 6182

M6150-180
REV. 10/97

LIGHT KIT INSTALLATION



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⚠ 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.