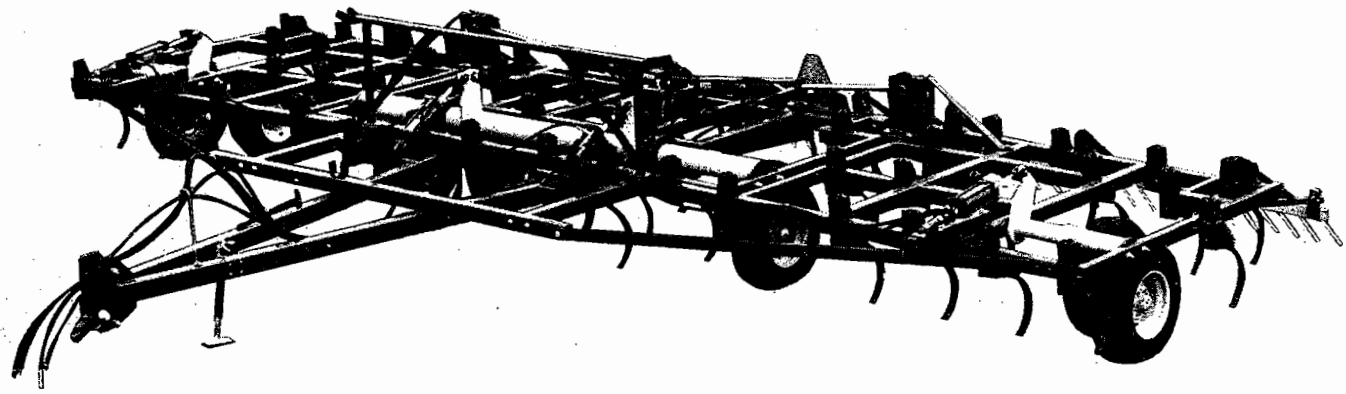
OWNER'S MANUAL

20

4100

With Serial
№ 4008 On



FLEX WING FIELD CULTIVATOR

MODELS

4118, 4120, 4122, 4126
4129, 4133, 4138, 4141

KRAUSE

305 SOUTH MONROE STREET HUTCHINSON, KANSAS 67501

Revised
5/89

Warranty

KRAUSE PLOW CORPORATION
Hutchinson, Kansas

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

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

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

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

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

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

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

4100 SERIES FLEX WING FIELD CULTIVATOR
DEALER PREDELIVERY CHECK
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 24 Quarts / 22-1/2 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 bolts holding wheels to the hub to see that they are torqued from 90 to 95 Ft. Lbs. / 120 N · m.

6. _____The correct size tire, 9.5L X 15, 6-Ply with 32 PSI / 193 kPa pressure, should be on the implement.

7. _____Check to see that bolts attaching hitch to 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. _____Wing was attached with special pins and secured with self locking nuts.

10. _____Road lock and wing lock was correctly installed and operate satisfactorily.

11. _____Restrictor is installed in wing lift cylinder rod end port.

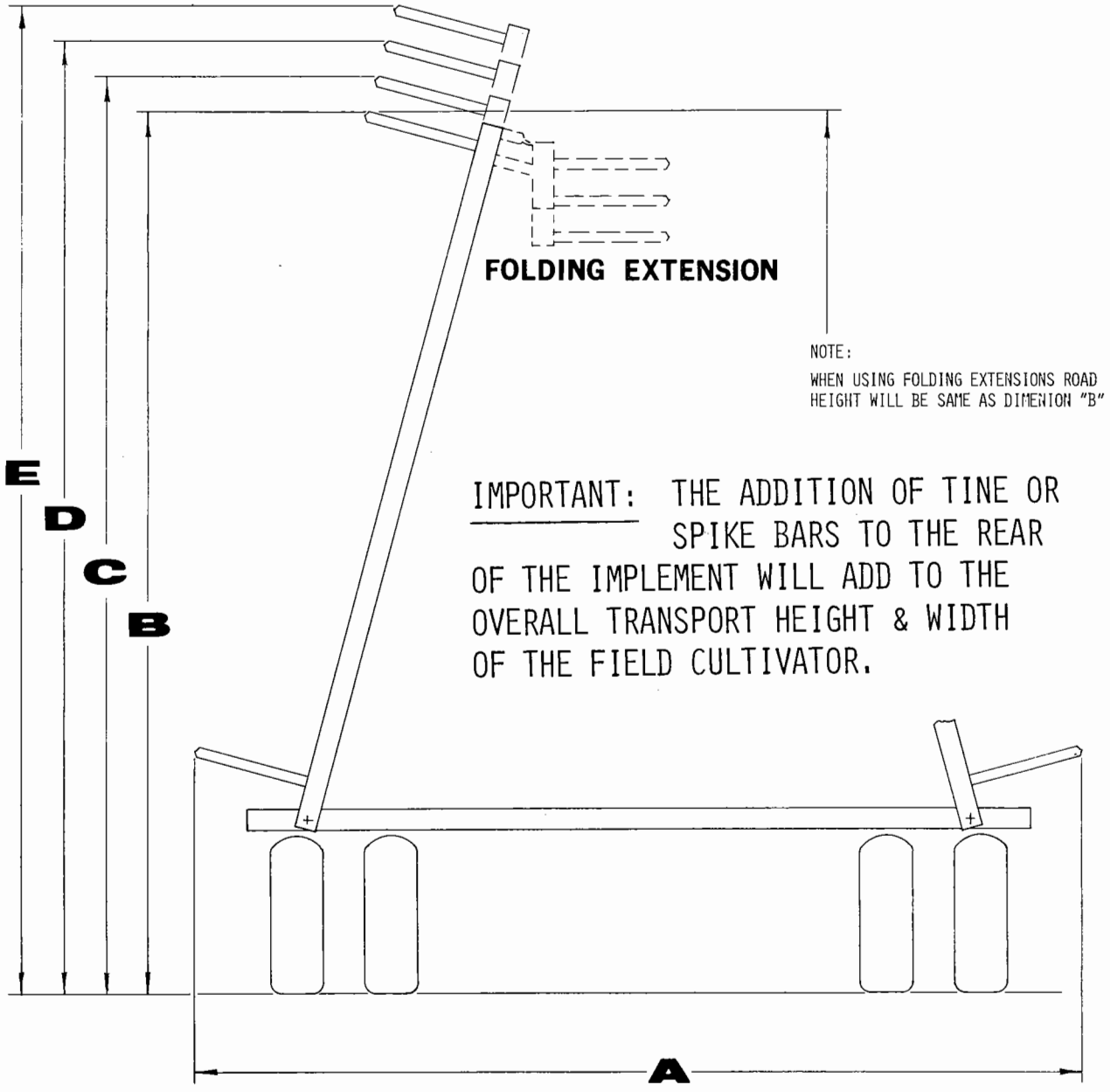
12. _____All decals are in place per page P46 of this owner's manual.

13. _____Customer review sheet is filled out and signed.

DELIVERED BY_____

DATE_____

MODEL	A ROADING WIDTH	B WING LESS EXTENSION	C ONE SHANK EXTENSION	D TWO SHANK EXTENSION	E THREE SHANK EXTENSION
4118	11'-3"	9'-6"	10'-1"	10'-8"	11'-3"
4120	11'-3"	11'-2"	11'-9"	12'-4"	12'-11"
4122	14'-1"	9'-6"	10'-1"	10'-8"	11'-3"
4126	14'-1"	11'-2"	11'-9"	12'-4"	12'-11"
4129	14'-1"	12'-11"	13'-6"	14'-1"	14'-8"
4133	14'-1"	14'-7"	14'-7"	14'-7"	14'-7"
4138	14'-1"	13'-6"	13'-6"	13'-6"	13'-6"
4141	14'-1"	15'-2"	15'-2"	15'-2"	15'-2"



IMPORTANT: THE ADDITION OF TINE OR SPIKE BARS TO THE REAR OF THE IMPLEMENT WILL ADD TO THE OVERALL TRANSPORT HEIGHT & WIDTH OF THE FIELD CULTIVATOR.

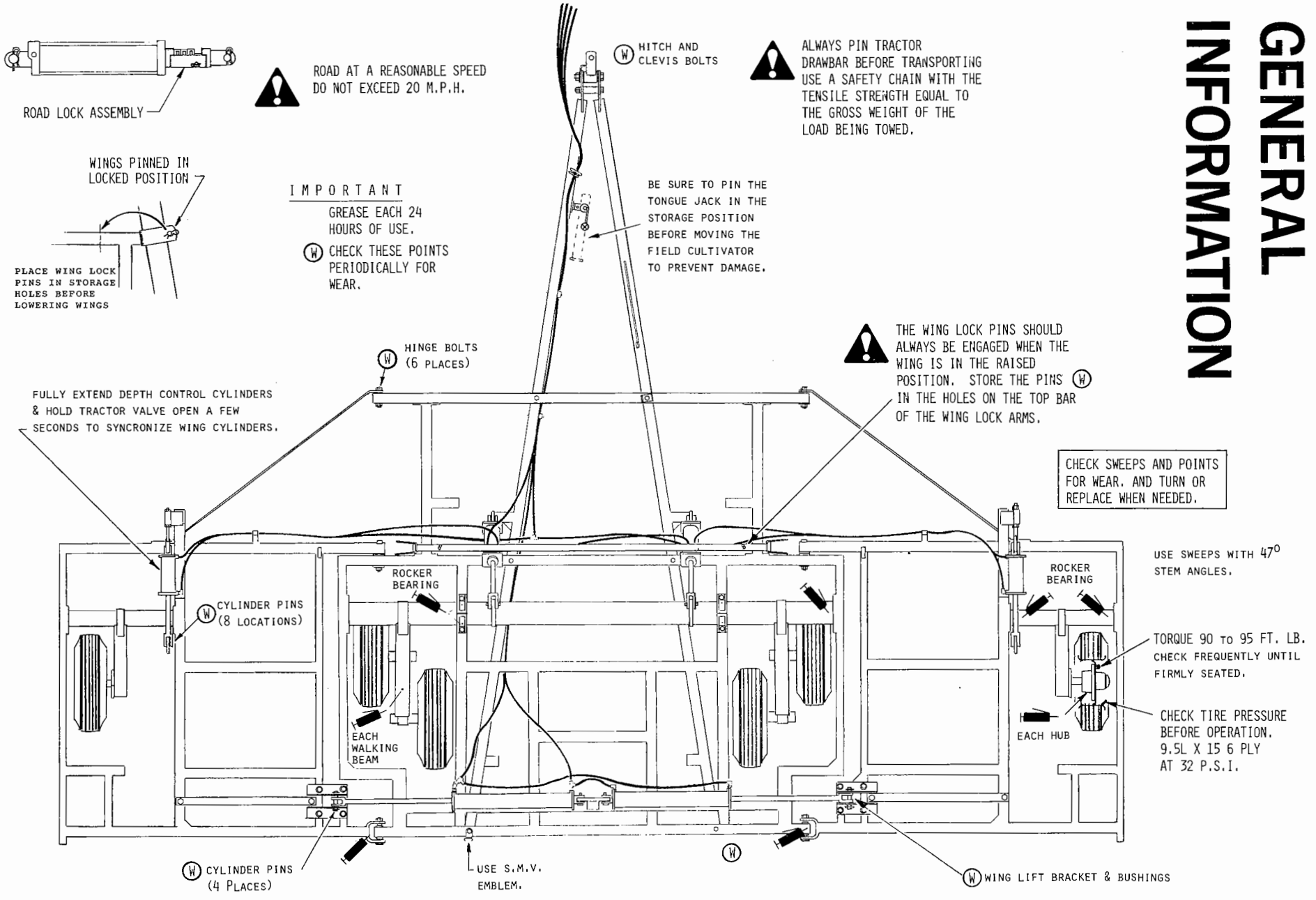
SPECIFICATIONS

MODEL	CUT WIDTH FEET	CUT WIDTH METRES	SHANK SPACING	NUMBER OF SHANKS
4118	19'-10"	6.0M	7"	34
	21'	6.4M		36
	22'-2"	6.8M		38
	23'-4"	7.1M		40
4120	23'-4"	7.1M	7"	40
	24'-6"	7.5M		42
	25'-8"	7.8M		44
	26'-10"	8.2M		46
4122	22'-9"	6.9M	7"	39
	23'-11"	7.3M		41
	25'-1"	7.7M		43
	26'-3"	8.0M		45
4126	26'-3"	8.0M	7"	45
	27'-5"	8.4M		47
	28'-7"	8.7M		49
	29'-9"	9.1M		51
4129	29'-9"	9.1M	7"	51
	30'-11"	9.4M		53
	32'-1"	9.8M		55
	33'-3"	10.2M		57
4133	33'-3"	10.2M	7"	57
	34'-5"	10.5M		59
	35'-7"	10.8M		61
	36'-9"	11.2M		63
4138	34'-5"	10.5M	7"	59
	35'-7"	10.8M		61
	36'-9"	11.2M		63
	37'-11"	11.6M		65
4141	37'-11"	11.6M	7"	65
	39'-1"	12.0M		67
	40'-3"	12.3M		69
	41'-5"	12.6M		71

HYDRAULICS

DEPTH CONTROL	4" X 8" MASTER CYLINDERS	28-1/4" OPEN / 28-1/4" CLOSED
	3-3/4" X 8" SLAVE CYLINDERS	28-1/4" OPEN / 28-1/4" CLOSED
WING LIFT	4" X 32" HYDRAULIC CYLINDERS	74-3/4" OPEN / 42-3/4" CLOSED

GENERAL INFORMATION



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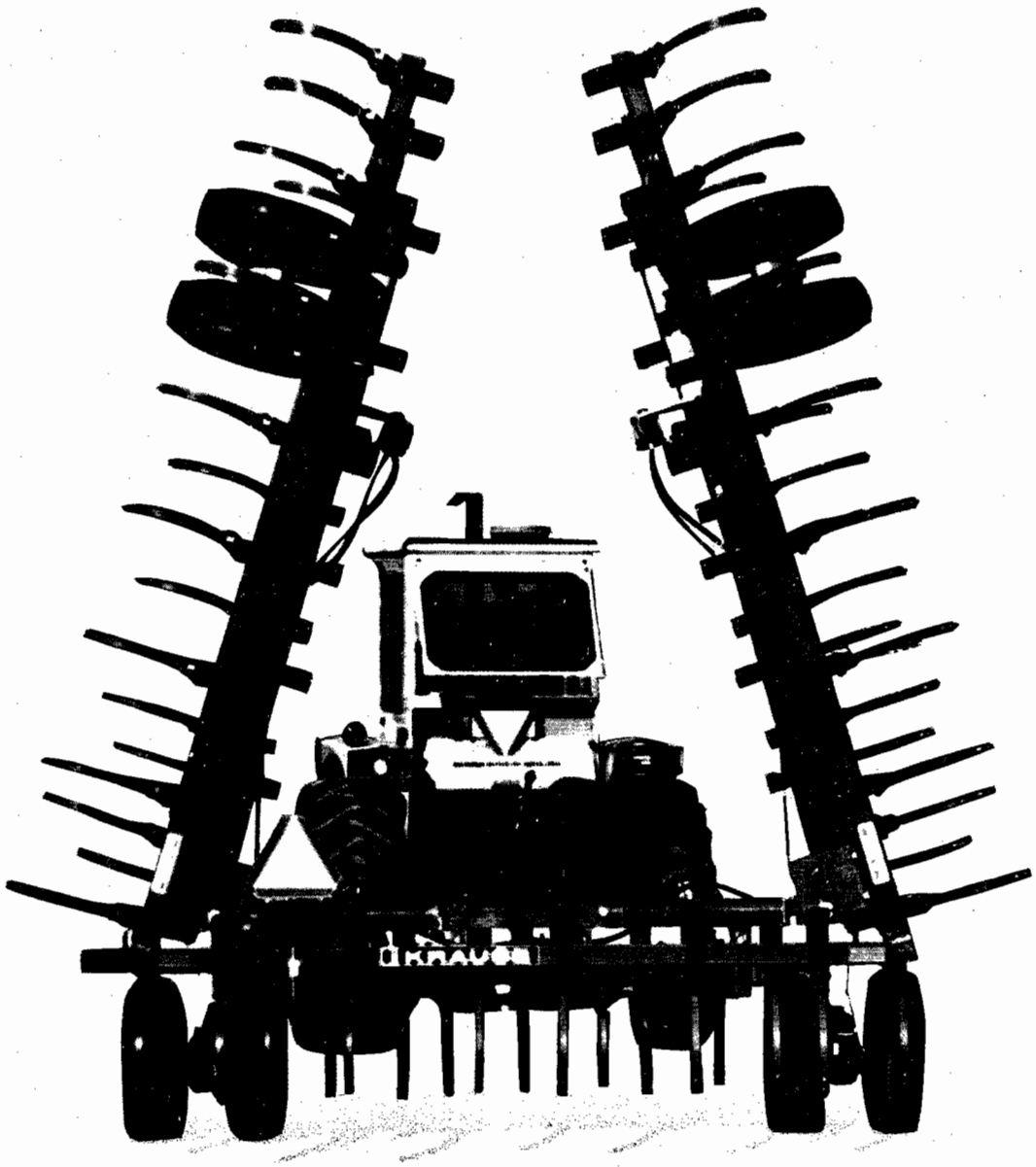
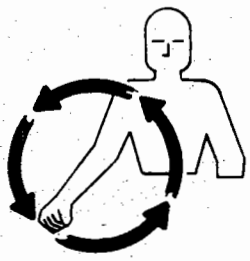

KRAUS

OPERATING SECTION

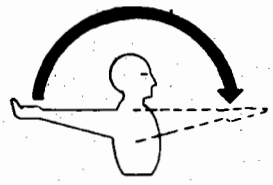
SAFETY ALERT SYMBOL

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

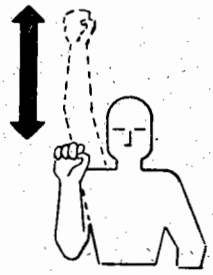


START THE ENGINE

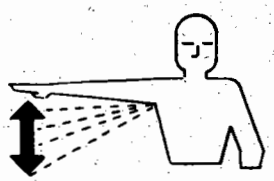


MOVE OUT OR TAKE OFF

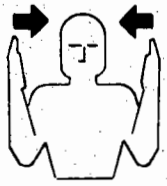
MOVE TOWARD ME



SPEED IT UP

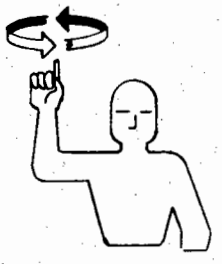


SLOW IT DOWN

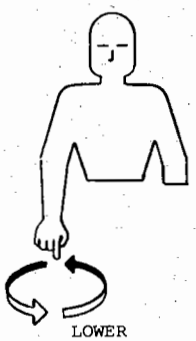


THIS FAR TO GO

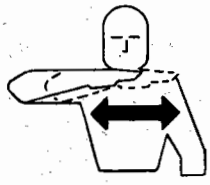
STOP



RAISE THE EQUIPMENT



LOWER THE EQUIPMENT



STOP THE ENGINE

OPERATING INSTRUCTIONS

Elimination of the hazards listed in this manual should not be construed as providing guarantees that the equipment will meet or exceed all standards or regulations, or will be completely safe to all personnel. The operator should inspect and review the implement after it is in his possession for adequacy in safety for the function for which it will be used.

READ ALL THE SAFETY DECALS ON THE IMPLEMENT AND REVIEW THE SAFETY FIRST SUGGESTIONS ON THE BACK COVER OF THE MANUAL TO REFRESH YOUR MEMORY. WATCH FOR THE SAFETY SYMBOL AND READ THE INFORMATION. THIS IS FOR YOUR OWN PROTECTION.

ABOUT YOUR FIELD CULTIVATOR

This field cultivator has been designed for secondary tillage and is flexible enough to follow the contours of most field conditions.

It is designed to be used for control of weeds, volunteer plants, erosion control, chemical incorporation, and seed bed preparation. The field cultivator works best at speeds of 5 to 6-1/2 M.P.H., however, rocky conditions may require a slower field speed.

Horsepower requirements generally will be 2.5 drawbar horsepower, or 3.25 engine horsepower per shank.

Adding attachments should be limited to KRAUSE original equipment options, or light duty tine or spike harrows that weigh no more than 30 pounds per foot of cut. Additions of harrows will make the field cultivator "tail heavy" and the rear jack mount part number 4122-28-0 should be ordered.

PREPARING THE FIELD CULTIVATOR FOR OPERATION

1. The wings should be down, the road lock pins engaged, the tongue jack supporting the tongue, and the hydraulic cylinders pinned and full of oil.
2. The wing lock pins should be stored in the wing lock storage holes and not in the clevis locking ends.
3. Check for loose bolts and tighten if needed. Check again for loose bolts after the first half day of operation.
4. Check the shank locations with the Placement Diagram at the back of this book for the model being used to be sure that the unit has been set up properly.
5. Check tire pressure. Inflate 9.5L X 15, 6-Ply tires to 32 P.S.I. Also check the wheel lug bolts to see if they are torqued from 90 to 95 Ft. Lbs., and that wheel hub bearings do not have excessive end play.
6. Make sure that all grease zerk locations have been sufficiently greased. Grease zerks will be found on rocker shaft bearings, each end of all rocker shafts, walking tandem beams, wheel hubs, and rear wing hinges. USE EXTREME CAUTION WHEN WORKING AROUND SHAFT SHANK POINTS AND SWEEPS.

7. Check and adjust tightness of wheel bearings before operation, after the first week, and periodically thereafter. *(See Service Section of this book.)*

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 they are in working order.

HYDRAULIC SYSTEM

Inspect the hydraulic system for tell-tale leaks and loose fittings. Tighten if needed. Loose tape fragments may cause cylinder valve or O-ring leaks that can cause drifting or poor cylinder operation. However, if tape is used it should be wound clockwise on clean threads, leaving two end threads exposed. Make sure a restrictor is installed in the wing lift cylinder rod end port. If not previously filled, your hydraulic system will require approximately 24 QUARTS / 22-1/2 LITERS of your tractor manufacturer's recommended oil. Read "HYDRAULICS" Service Section on page O11, before filling system.

UNDERSTANDING YOUR HYDRAULIC DEPTH CONTROL SYSTEM

The 4100 Series Field Cultivator uses a master and slave system of depth control cylinders. The two center cylinders are the master cylinders and are connected together by using the center rocker shaft to keep both cylinders working in and out at the same time.

As oil is pumped into the base of the master cylinder, oil is forced out of the ram end and into the base end of its slave cylinder. In turn, this forces oil out of the slave cylinder which then returns to the tractor hydraulic reservoir.

Since there is a smaller volume of oil which passes from the ram end of the master cylinder to the base end of the slave cylinder, the cylinders must be progressively smaller in diameter. In this system, the master cylinders are 4" diameter; the slave cylinders are 3-3/4" diameter. Both have an 8" stroke.

When the chisel is raised completely out of the ground, these specially designed cylinders are synchronized for uniform lifting by holding the tractor remote hydraulic control lever in the raised position for a few seconds. This allows a small volume of oil to bypass from the base of the master cylinders to the base of the slave cylinders, and back to the tractor. Consequently, all of the cylinders are fully extended simultaneously.

When working with this kind of arrangement, be sure all of the cylinders are mounted in proper sequence. Hoses must be attached in the proper order, and all air bled from the hoses and cylinders. *See Page 012 under HYDRAULICS for synchronizing instructions.*
If, after some time, one cylinder of the series should start to close for no apparent reason, oil is probably leaking past the O-rings and and O-ring kit, available from KRAUSE should be installed.

REPAIR OF HYDRAULIC CYLINDERS SHOULD BE MADE BY AUTHORIZED KRAUSE DEALERS ONLY.

A HYDRAULIC HOSE AND CYLINDER DRAWING CAN BE FOUND FOR EACH MODEL IN THE SERIES, ON PAGES P37 THROUGH P45 OF THE PARTS SECTION.

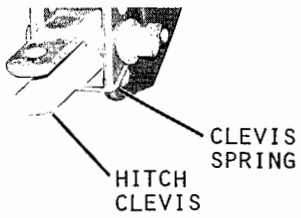
⚠ CAUTION: AIR IN HYDRAULIC SYSTEM COULD ALLOW FIELD CULTIVATOR OR WINGS TO DROP SUDDENLY.

DO NOT OPERATE THE WING HYDRAULICS UNTIL YOU HAVE READ THE WING LIFT OPERATIONS UNDER "T R A N S P O R T I N G".

HITCHING & UNHITCHING

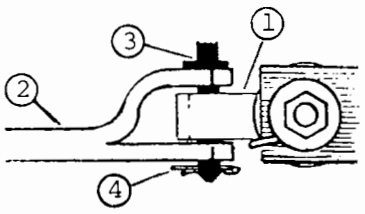
⚠ DANGER: DO NOT ALLOW ANY PERSON TO STAND BETWEEN THE TRACTOR AND FIELD CULTIVATOR WHILE BACKING INTO POSITION. SUDDEN LOSS OF CONTROL COULD CAUSE SERIOUS INJURY OR DEATH TO A PERSON CAUGHT BETWEEN THE TRACTOR AND IMPLEMENT. TELL YOUR HELPER TO WAIT UNTIL YOU GIVE HIM THE SIGNAL THAT THE TRACTOR IS IN PARK OR NEUTRAL AND THE HAND BRAKE IS SET AND THE ENGINE SHUT OFF.

HITCHING TO THE TRACTOR



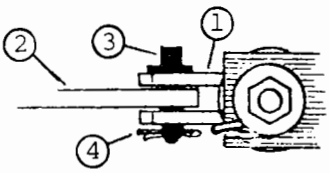
1. The field cultivator must be in a raised position and transport road locks in place before hitching to the tractor. The clevis spring will hold the clevis forward.

2. Unpin the tractor drawbar so it can be moved from side to side.



3. Back the tractor to the field cultivator.

4. Attach clevis① to tractor drawbar② with clevis pin③ that fits the hole size in the tractor drawbar. Make sure pin is locked or bolted in place to prevent loss④.



5. Place tongue jack in storage position.

6. Connect hydraulic hoses to tractor.

UNHITCHING FROM TRACTOR

If the field cultivator 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 field cultivator should be parked in the storage position with the wings down and road locks in place. If the field cultivator is to remain parked for storage over a long period of time, be sure to read storage suggestions on page O12.

1. To unhitch the tractor from the field cultivator, place the tractor in park or neutral and set the hand brake. If you are not parking on level ground, the field cultivator will require the tires to be blocked.

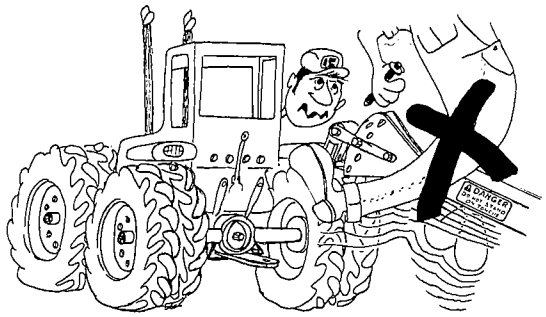
2. Have all personnel stand clear and lower the wings.

3. Turn off the tractor engine and relieve any pressure that might be in the implement hydraulic system by moving the tractor control lever(s) back and forth.

4. Lower tongue jack and raise the tongue height until clevis pin is loose and remove pin.

5. Disconnect the hydraulic hoses and the tractor may be moved away.

CAUTION: DO NOT STAND ON OR STRADDLE A TONGUE WHEN UNHITCHING. IF ATTACHMENTS HAVE BEEN ADDED TO REAR OF UNIT, IT MAY AFFECT THE BALANCE OF THE IMPLEMENT, CAUSING THE TONGUE TO COME UP SUDDENLY WHEN UNHITCHING.



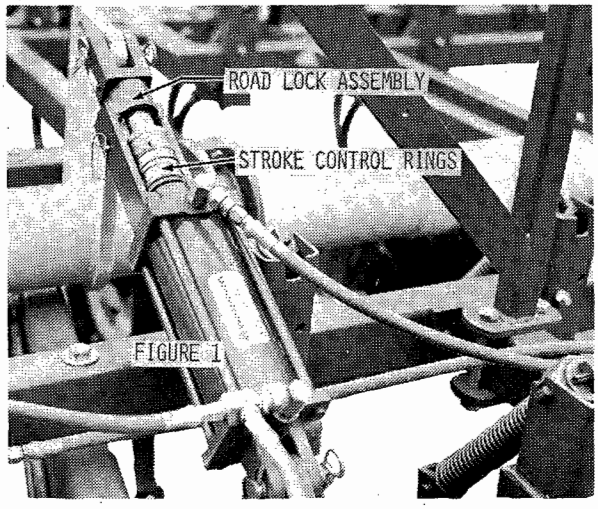
TRANSPORTING

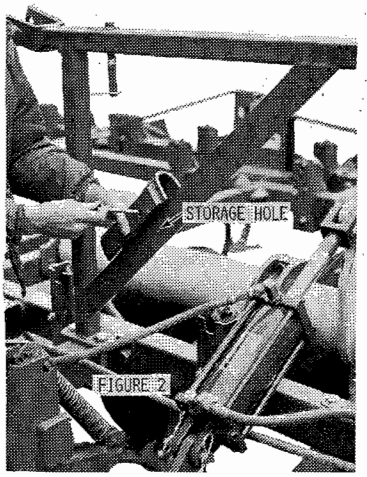
Check specification pages and be aware of transport height and width of your model of field cultivator.

WARNING: ALWAYS USE TRANSPORT ROAD LOCKS WHEN TRANSPORTING IMPLEMENTS TO PREVENT UNIT FROM FALLING DUE TO HYDRAULIC FAILURE, OR ACCIDENTAL ACTIVATION OF THE OPERATOR'S CONTROL. LOWERING OF TOOL DURING TRANSPORTING COULD RESULT IN LOSS OF CONTROL OF IMPLEMENT AND/OR TRACTOR. THE TRACTOR DRAWBAR MUST ALWAYS BE PINNED FOR TRANSPORT.

ROAD LOCKS

Place road lock assemblies over each hydraulic cylinder shaft at the center rocker shaft location, secure with pins and flat washer. NOTE: Stroke control rings may be left in place on the cylinder shaft. See Figure 1 below.
Store road lock assemblies over support bar on the wing lock weldment as shown in Figure 2 below.





IMPORTANT: NEVER RETRACT DEPTH CONTROL CYLINDER OR EXTEND WING LIFT CYLINDERS UNTIL LOCK PINS HAVE BEEN DISENGAGED, OR DAMAGE COULD OCCUR TO THE FRAME, ROCKER SHAFT OR HYDRAULIC CYLINDER.

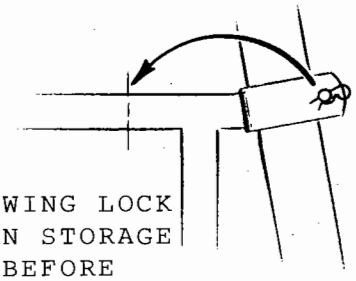
RAISING THE WINGS

The field cultivator should be in the raised position with both road lock assemblies pinned. The wings will be secured in the raised position with the locking pins. Be sure the wing lock pins are in the storage holes before lifting the wings or damage to the wing frames will occur. See Illustration below.

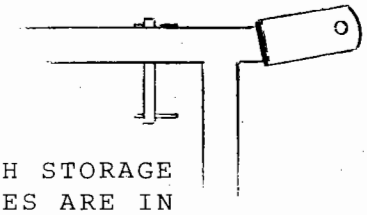
WARNING: ALWAYS STAND CLEAR OF WINGS WHEN THEY ARE IN RAISED POSITION. A HYDRAULIC FAILURE OR ACTIVATION OF HYDRAULIC CONTROLS BY SOMEONE COULD RESULT IN SERIOUS INJURY TO ANYONE UNDER THE WINGS.

LOWERING THE WINGS

Retract wing lift cylinders to their minimum stroke. Remove wing lock pins and place in storage holes. Lower wings with all persons standing clear.



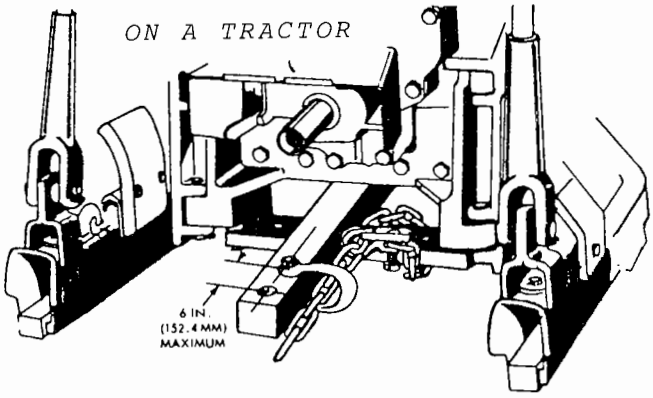
PLACE WING LOCK PINS IN STORAGE HOLES BEFORE LOWERING WINGS

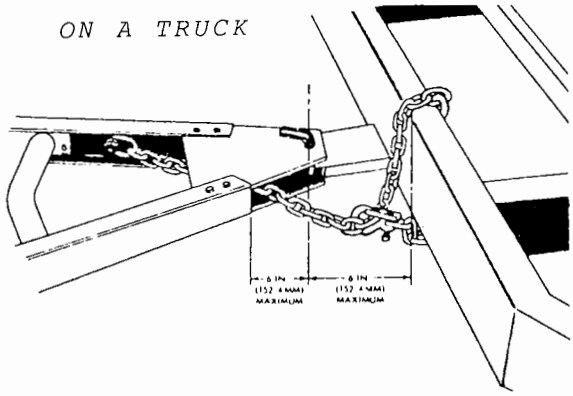


BOTH STORAGE HOLES ARE IN TOP BAR.

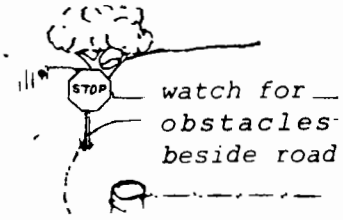
TRANSPORT SAFETY

WARNING: ALWAYS USE A SAFETY CHAIN WITH TENSILE STRENGTH EQUAL TO THE GROSS WEIGHT OF THE UNIT, PLUS ANY ATTACHMENTS, WHEN TRANSPORTING.





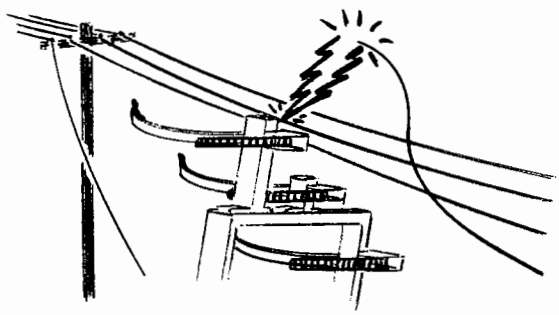
Use the ASAE Slow-Moving Vehicle (SMV) emblem. The emblem is to be mounted, point up, in a plane perpendicular to the direction of travel ± 10 degrees. It shall be placed centrally at the rear of the vehicle, unobscured, and 2' to 6' (0.61 to 1.8m) above the ground, measured from the lower edge of the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



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

DANGER: ALWAYS CHECK CONDITIONS OF TRANSPORT LOCK PINS, TIRES, WHEELS, HUBS, SAFETY CHAIN, HITCH BOLTS AND CLEVIS PIN BEFORE TRANSPORTING THE FIELD CULTIVATOR.

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



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

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

CAUTION: IT IS VERY IMPORTANT TO CHECK WHEEL LUG BOLTS AFTER THE FIRST ½ MILE OF INITIAL TRANSPORT (DELIVERY). IF LOOSE, TIGHTEN TO 90 / 95 FT. LBS. TORQUE. CONTINUE TO CHECK FREQUENTLY UNTIL THEY REMAIN FIRMLY SEATED.

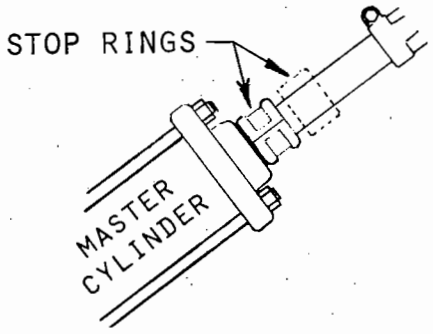
HITCH PIN

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

FIELD ADJUSTMENTS

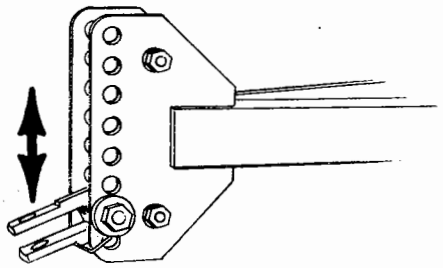
LEVELING THE FRAMES

To operate your field cultivator most efficiently, it must be worked level. This is best accomplished when starting to work in the field to be cultivated, following the steps listed below.

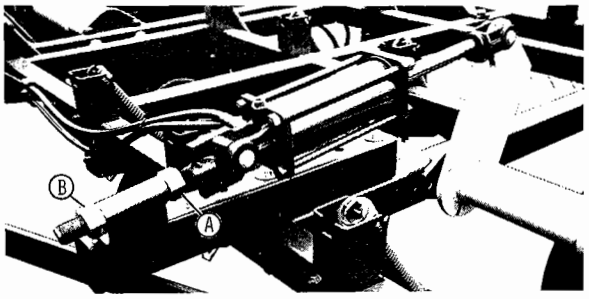


Step 1. Fully extend both wing lift hydraulic cylinders so the wings are free to follow the contour of the land.

Lower the field cultivator to the approximate depth desired. Stop the tractor with the cultivator still in the ground. Position the depth control rings on your hydraulic cylinder rods so the wheels will lower the frames and shanks to the same position each time.



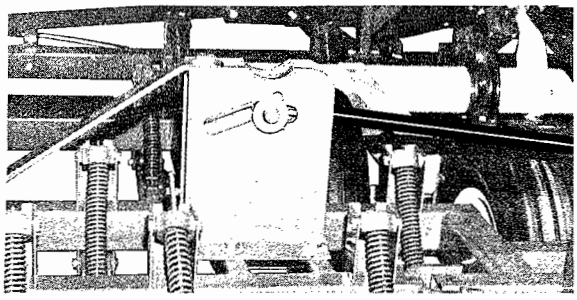
Step 2. After the depth controls have been set, and before moving the field cultivator, stand at one side at a reasonable distance and view the frame and tongue to determine if they are level, front to rear. If the frame is not level, adjust the hitch clevis up or down as required using the holes provided in the hitch plate. The jack mounted on the tongue will aid in making this adjustment. Pull the field cultivator forward a few feet, dismount from the tractor and recheck to be sure the unit is now level from front to rear. Relevel if necessary.



Step 3. After leveling the field cultivator from front to rear, and while the unit is still in the ground; check the wing frames for side to side leveling while sighting from a reasonable distance from behind the unit. An adjustment for leveling each wing is provided at the butt end of each wing depth control hydraulic cylinder. If the wing is too high, loosen the inside nut A and take up with nut B until the wing is level with the center section, then retighten A. Reverse this process if the wing is too low.

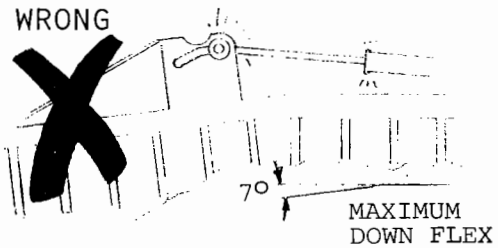
NOTE: The wing depth control (slave) cylinder mounting weldment has two sets of mounting holes. Holes 2 and 4 are used when wings are equipped with walking tandem dual wheels, and holes 1 and 3 are used when the wing has only one wing depth control wheel.

FLEXIBILITY

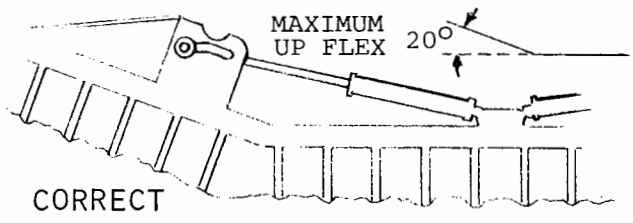


ALWAYS WORK WITH THE WINGS DOWN: Major damage may occur to shanks and frame members if used with the wings up. For maximum flexibility, make sure the wing hydraulic cylinders are fully extended after the wings are down.

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.



NEVER OPERATE WITH WING DOWN OVER TERRACE.

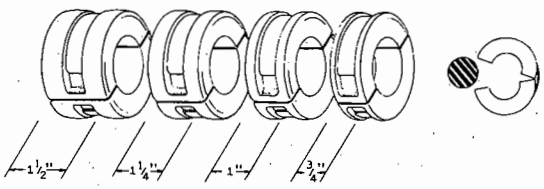


OPERATE WITH WING UP ON TERRACE TO PREVENT DAMAGE.

CONTROLLED DEPTH

When working hard soil it may be necessary to go over the ground more than once to obtain the desired depth. DO NOT REMOVE SHANKS in an effort to pull faster or deeper since this will cause the remaining shanks and mountings to be overloaded.

After determining the correct depth, position the depth control rings on your hydraulic depth control cylinder rods so the wheels will lower the frames and shanks to the same position each time.



Depth Control Rings

IMPORTANT: AN EQUAL LENGTH OF DEPTH CONTROL RINGS MUST BE USED ON HYDRAULIC DEPTH CONTROL CYLINDER RODS FOR PROPER DEPTH CONTROL.

WARNING: LOWER IMPLEMENT TO THE GROUND BEFORE ENTERING THE FRAME TO MAKE ADJUSTMENTS.

TURNING IN THE FIELD

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

When lifting the field cultivator completely out of the ground, hold the tractor hydraulic valve open for a second or two to resynchronize the slave cylinders and thereby keep both wings level with the center section.

See Section "UNDERSTANDING YOUR HYDRAULIC DEPTH CONTROL SYSTEM" on page 02.

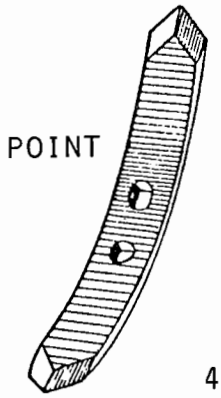
IMPORTANT: 4-WHEEL DRIVE TRACTORS CAUSE SEVERE SIDE STRAIN ON TONGUE AND CLEVIS UNLESS THE DRAWBAR IS FREE TO SWING. ALWAYS ALLOW DRAWBAR TO SWING DURING FIELD OPERATION. DRAWBAR MUST BE PINNED FOR TRANSPORT.

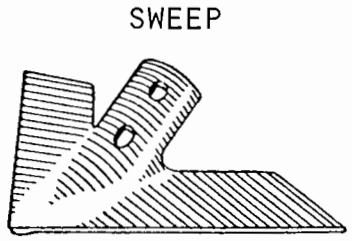
FIELD SPEED

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

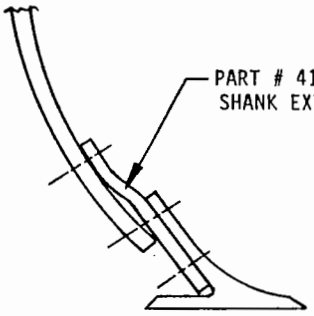
GENERAL INFORMATION

Points are recommended for light soils and when higher ridges are desired. Sweeps are for light draft cultivation and not for deep work. Sweeps with a 47° stem angle are standard on units with C-Shanks. 41° Sweeps are standard when the unit is equipped with K-Tines.





47° Stem Angle on C-Shanks
41° Stem Angle on K-Tines



Shank Extenders (Part number 4100-0-9) are for use on C Shanks and K-Tines, located in back of the tractor tires, to lower the depth of the shanks by approximately 1".

DANGER: THE WING MOUNTED SHANKS AND POINTS CAN SERIOUSLY INJURE ANYONE THAT GETS TOO CLOSE. NEVER UNDER ANY CIRCUMSTANCES SHOULD ANYONE BE ALLOWED TO WALK OR WORK UNDER A WING THAT IS IN THE RAISED TRANSPORT POSITION.

SERVICING

GENERAL MAINTENANCE

All nuts should be checked and tightened during and after the first 1/2 day of operation, and periodically thereafter. Keep tires inflated to the recommended pressure, and check the wheel bolts until they are firmly seated. Hydraulic hoses should be checked for wear and pinched areas and replaced if necessary. Check shanks and mountings for breaks and turn or replace points when worn.

NOTE: When turning or replacing points, be sure to turn or replace all of the points.

WARNING: MAKE SURE ROAD LOCK BARS ARE PINNED IN TRANSPORT POSITION BEFORE WORKING AROUND FIELD CULTIVATOR POINTS OR SWEEPS.

LUBRICATION

The initial lubrication of all grease fittings will assure long life and satisfactory performance from the field culitvator. Minimum lubrication is required. 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: rear wing hinges; walking tandem bearings, and wheel hubs.

FOR YOUR SAFETY: WHEN LUBRICATING OR ADJUSTING YOUR FIELD CULTIVATOR, WATCH FOR OBSTRUCTIONS AND PROTRUSIONS. LOWER IMPLEMENT WINGS TO THE GROUND AND ENTER FRAMEWORK BY STEPPING OVER.

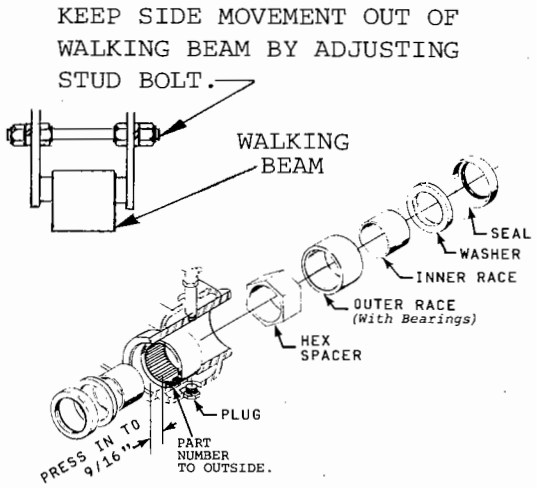
WHEEL BEARINGS

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

WALKING BEAM MAINTENANCE

After removing walking beams from wheel arms, remove all old parts. Press new bearing outer race to 9/16" from the face of the housing as shown. Turn housing, add hex spacer and press second outer race to the 9/16" dimension. Next add inner races, flat washers and press in seals.

NOTE: Before inserting BEAM PIN, add oil to the pin and seals.



Add grease to the bearings through the zerk on top and reassemble the beam to the wheel arm.

FOLDING EXTENSIONS

Do not work your field cultivator with the extensions left in the folded position. When the unit is lowered into the ground, the tires will come up and strike the extensions and damage the tires. If folding of extensions is not required, they can be bolted rigid to the wings using 3/4NC X 3-1/2" Cap Screws, Flat & Lock Washers & Hex Nuts.

HYDRAULICS

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 or lugs when fully extended. Back the tractor to the front of the field cultivator and connect the hydraulic hoses to the tractor. 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 of the cycles 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. The system will hold approximately 24 Quarts / 22-1/2 Liters.

WARNING: HIGH PRESSURE FLUID FLOW CAN PENETRATE SKIN. IF INJURED BY ESCAPING HYDRAULIC FLUID, SEE A DOCTOR AT ONCE. SERIOUS INFECTION OR REACTION CAN DEVELOP IF PROPER TREATMENT IS NOT ADMINISTERED IMMEDIATELY.

STORAGE

Select a level area, lower the wings and set the field cultivator down on blocks to prevent points from settling into the ground. Retract the guage wheel hydraulic cylinder. Coat sweeps and wing lift cylinder rods with rust preventative. Inspect for worn or damaged parts and replace as needed to avoid delays the next season. Check to be sure hydraulic hose couplers are stored on top of the tongue and not left laying on the ground.

REPAIR PARTS

Refer to the Assembly Section of this book 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 book will show a breakdown of assemblies, location of parts, and part numbers.

KRAUSE parts were developed and tested for these units, therefore it is recommended that KRAUSE replacement parts be used.

CAUTION: IF REPLACING HYDRAULIC HOSE, USE ONLY HOSE THAT MEETS OR EXCEEDS 2,500 PSI WORKING PRESSURE.

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

SPRING SHANK REPAIR

Check 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. See Figure 1.

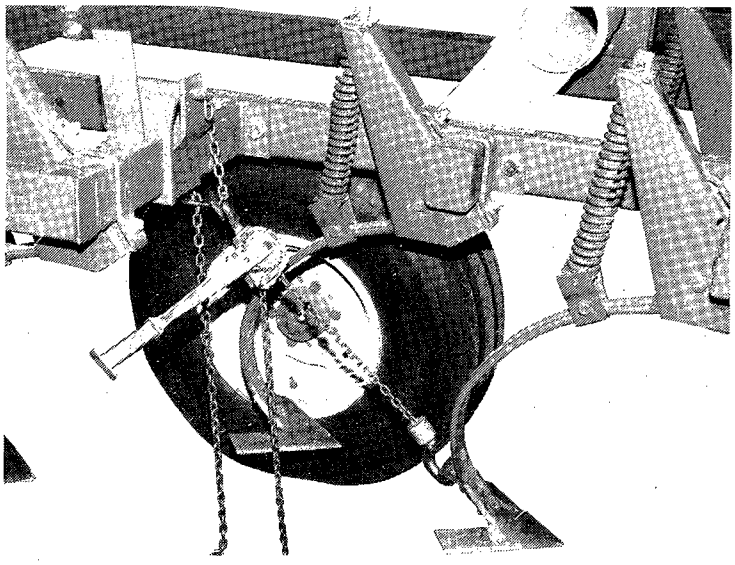


FIGURE 1 ▶

Remove roll pin, lower shank and replace broken spring. See Figure 2.

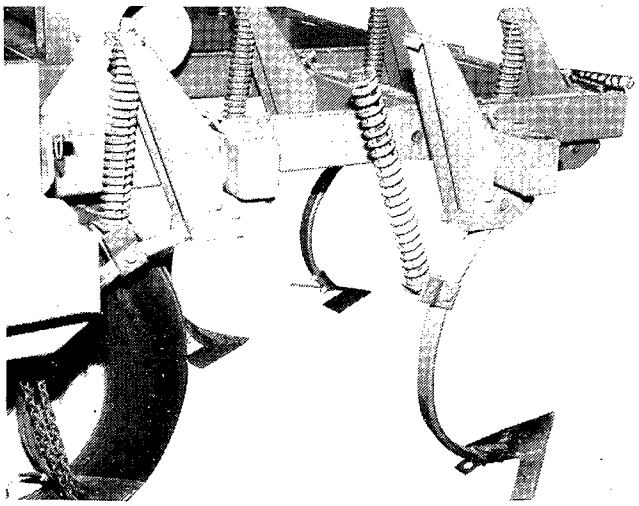


FIGURE 2 ▶

Guide spring rod through slot in the mounting channel with a screwdriver. See Figure 3.

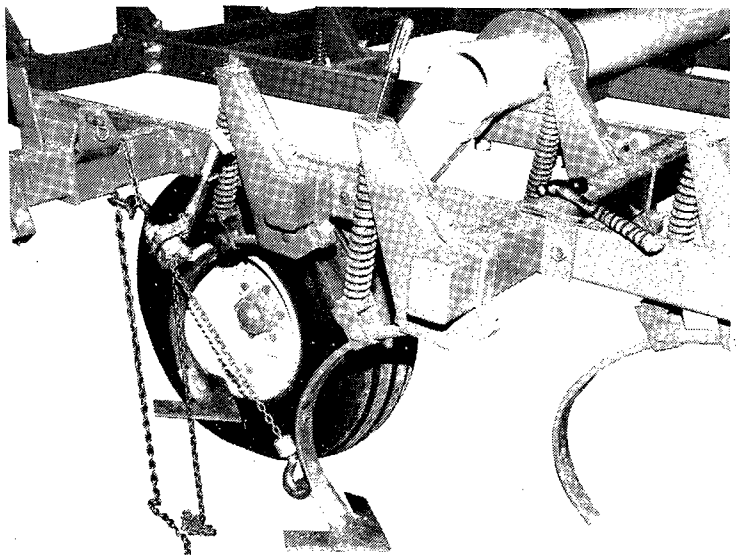


FIGURE 3 ▶

Replace square washer and roll pin. Remove the winch and the 4122-0-14 winch bracket; store bracket on a spring shock clamp bolt.

SUGGESTED REMEDIES FOR POSSIBLE FIELD PROBLEMS

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
PLUGGING	*Straw is Dragging*	Work Deeper
	"Bunched" Trash	Work Shallow First Time
	Field is Too Wet	Allow Field To Dry
	Shanks Positioned Wrong	Re-check Shank Spacing
NOT LEVEL FROM FRONT TO BACK WITH UNEVEN POINT PENETRATION	*Clevis Height Not Adjusted When Depth Changed*	Use Wheels to Gage Depth and Adjust Clevis Height With Unit in Working Position.
	Some Weight of Unit Not On Wheels During Leveling Adjustment	
EXCESSIVE RIDGES	*Loose Point or Sweep Bolts*	Tighten Plow Bolts or Replace if Missing
	Improper Shank Spacing or Shanks Located Wrong	Measure and Re-locate. If Shank is Shifting on Frame Make Sure Shank is Straight Front to Back When Tightening Hex Nuts.
	Bent Sweep	Replace Sweep
	Frame Not Level	Level Frame at Operating Depth as Described in Operating Instructions
	Bent Shank	Straighten or Replace Shank
	Sweeps with Old Residue Will Cause Soil Build-up and Prevent Necessary Scouring for Even Flow	Remove Trash and Residue Clean Field Cultivator After Operation. Use Rust Preventative Before Storage
FIELD CULTIVATOR WILL NOT LOWER	*Road Lock*	Extend Depth Cylinders and Unpin Road Lock
	Hose Couplers Not Locked In Tractor Sockets	Check Hydraulic Hose Connector
	Oil Not Flowing Through System	Plugged Line or Cylinder Port
		Poppet Valve Not Open

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
FIELD CULTIVATOR DOES NOT FOLLOW DIRECTLY BEHIND TRACTOR	*Points Are Different Length.*	Replace or Turn
	Bent Shanks.	Replace or Straighten
	Wings Out Of Adjustment.	Re-adjust Wing Adjustment Screws. See Page 08
	Bent Rocker Shaft.	Replace or Straighten
	Tire Size or Air Pressure.	All Tires Should Be Within a ±1/2" Diameter
		All Tires Should Have The Same Air Pressure As Reflected in Specifications
	Shank Locations Wrong.	Check Shank Spacing and Correct if Necessary
		Check Shank Locations For Wrong Placement. Relocate Correctly. See Page
	Master Cylinder Stop Collars Not Set Same.	Re-adjust Stop Collars
	Slave Cylinder Out of Phase.	Raise Unit Out of Ground and Hold Control Lever Open Until All Cylinders Are Completely Extended
CENTER SECTION NOT LEVEL FROM SIDE TO SIDE	*Incorrect Tire Pressure.*	Check Tire Pressures 9.5L X 15 Tires Require 32 P.S.I.
	Bent or Twisted Rocker Shaft or Wheel Arm.	Replace or Straighten
	Bent Frame.	Replace or Straighten
WINGS NOT LEVEL FRONT SIDE TO SIDE	*Wing Too High.*	To Lower Wing, Shorten The Wing Adjustment Screw
	Wing Too Low.	To Raise Wing, Lengthen The Wing Adjustment Screw
	Wing Lift Cylinders Not Fully Extended.	Extend Cylinder to Maximum Length and Hold Open Briefly
	Slave Cylinders Out of Phase.	Raise Unit Out of Ground and Hold Control Lever Open Until All Cylinders Are Completely Extended

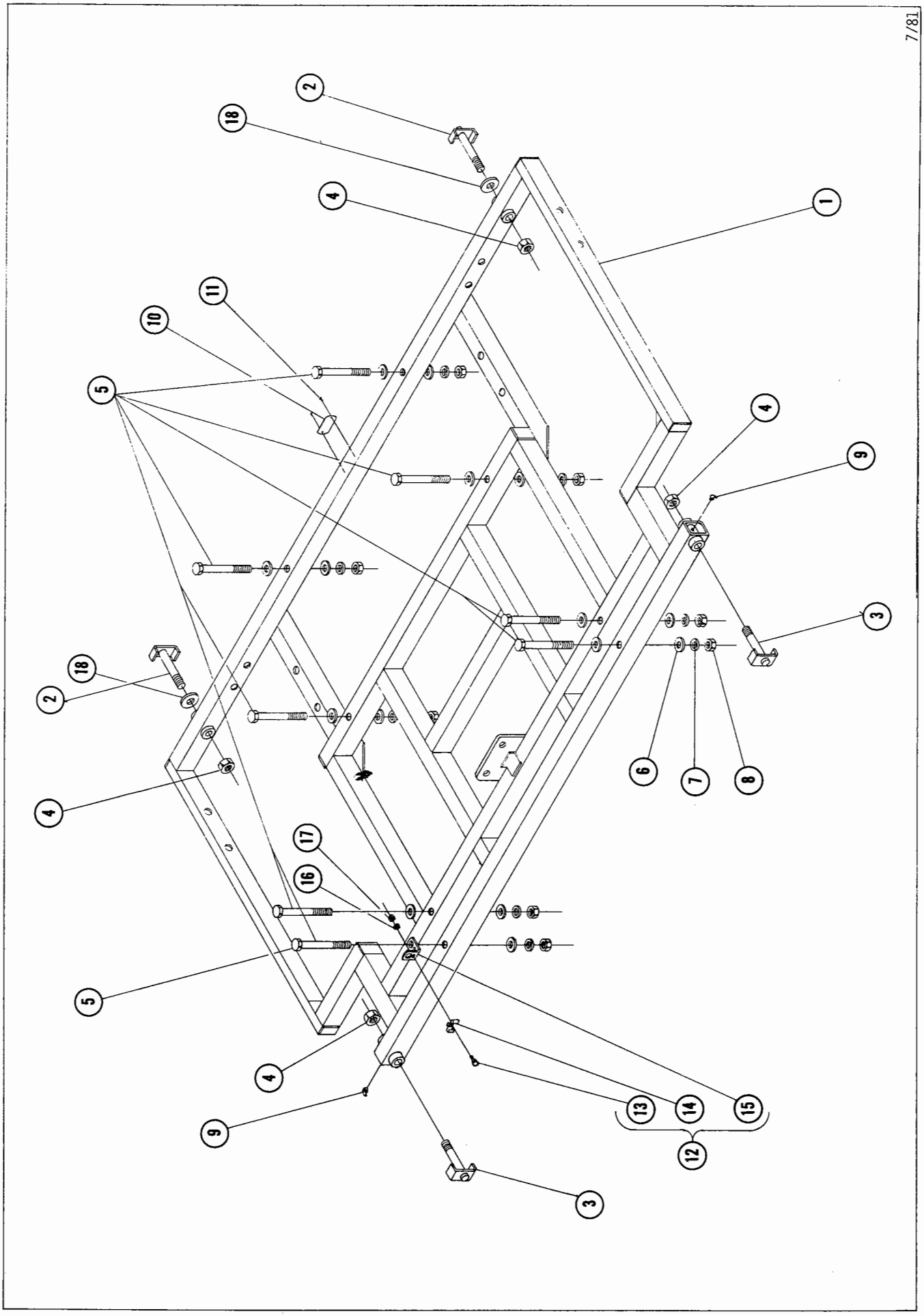
PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
WINGS WILL NOT RAISE TO TRANSPORT POSITION	*A Plugged Restrictor in Wing Lift Cylinders*	Remove, Check and Clear Any Foreign Material That Might Plug Small Orifice in Restrictor at The Rod End of Cylinders
	Insufficient Hydraulic Pressure	Check Tractor Hydraulic System
WINGS WILL NOT LOWER	*Wings are Locked With Pins*	Unpin BOTH Wings
	Hose Couplers Not Locked In Tractor Disconnect Socket	Check Hydraulic Hose Connector
WHEELS HAVE EXCESSIVE WOBBLE	*Loose Wheel Bolts*	Stop - Torque Wheels From 90 to 95 Ft. Lbs.
	Loose Spindle Nut	Tighten Spindle Nut Then Turn Back One Notch and Pin
SETTLING OR CONTINUALLY GOING DEEPER WHILE WORKING	*Hydraulic System*	Reset Both Master Cylinder Stop Collars. Replace Poppet Valve. Check For Leaks in System. Install New Cylinder Seal Kit in Faulty Cylinder See Page O12 Tractor Valve is Leaking
WINGS WILL NOT FLEX DOWN	*Wing Lift Cylinders Are Not Fully Extended*	Extend Wing Lift Cylinders to Their Maximum Length
FIELD CULTIVATOR WILL NOT PENETRATE * (IMPORTANT) DO NOT REMOVE SHANKS	*Sweeps Have Wrong Angle*	Use 47° Stem Angle
	Ground Is Too Hard	Wait For Moisture
	Dull Points	Replace or Turn Over
	Excessive Field Speed	Slow to 5 M.P.H. or Less
	Incorrect Stroke Control Setting on Depth Cylinder	Re-adjust Hydraulic Actuator Stops

*NOTE: Removing shanks to obtain additional depth will cause the remaining shanks, and frame members on which these shanks are mounted to be overloaded. This could cause bent shanks, broken bolts or clamps, or twisted frame members.

PARTS SECTION

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

NOTES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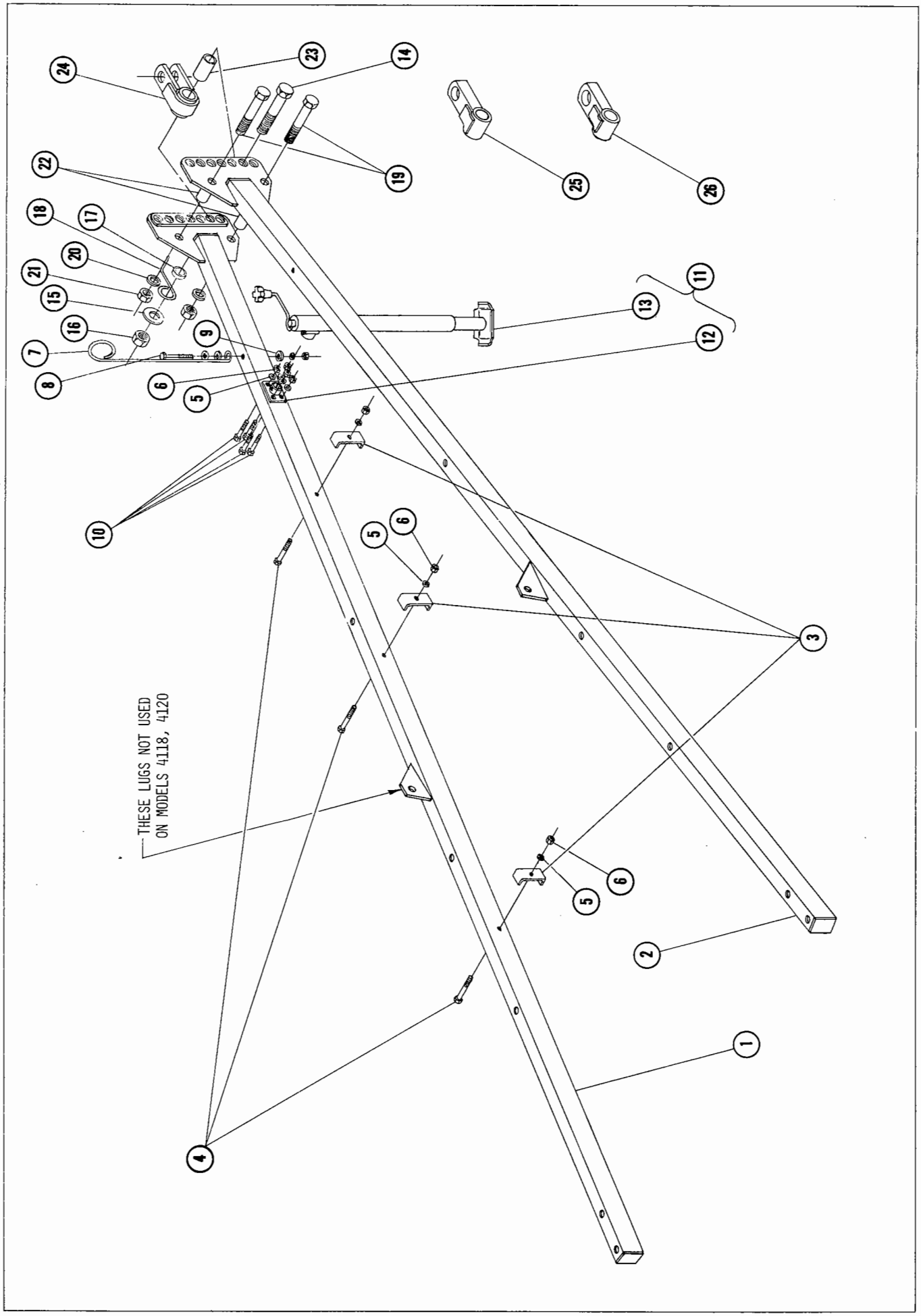
MAIN FRAMES & HINGE PINS

FOR MODELS - 4118, 4120, 4122, 4126, 4129, 4133, 4138, 4141 10/83

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4118-1-0A	Main Frame Weldment (For Models 4118, 4120)	1
	4122-1-0	Main Frame Weldment (For Models 4122 - 4141)	1
2	4122-42-0	Hinge Bolt Weldment (Front Hinge)	2
3	4122-43-0	Hinge Bolt Weldment (Rear Hinge)	2
4	63-119	1NC Self Locking Nut	4
5	62-226	3/4NC X 10-1/2" Machine Bolt	8
6	64-113	3/4" STD. Flat Washer	15
7	64-112	3/4" STD. Lock Washer	8
8	63-112	3/4NC Hex Nut	8
9	65-100	1/8NPT X 45° Zerk	2
10	74-115	Name Plate	1
11	62-100	Grip Nail	2
12	1067-59-0	Lamp Bracket Assembly	1
13	62-131	7/16NC X 1" Carriage Bolt	1
14	74-144	Socket Lamp Bracket	1
15	1067-59-1	Lamp Bracket	1
16	64-105	7/16" STD. Lock Washer	1
17	63-104	7/16NC Hex Nut	1
18	64-121	1" Black Flat Washer	2

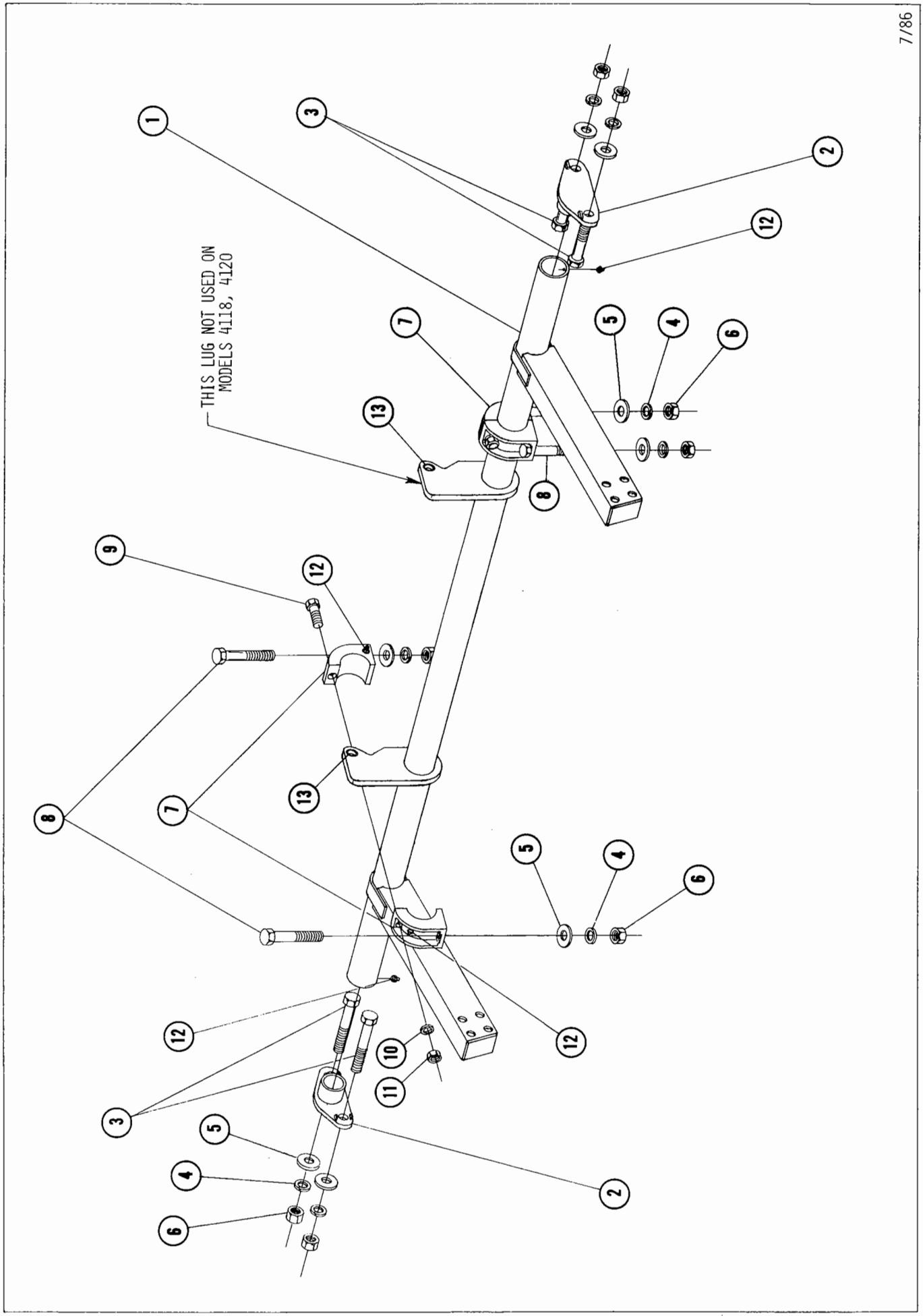

THESE LUGS NOT USED
ON MODELS 4118, 4120

TONGUE, HITCHES & JACK

FOR MODELS - ALL

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4122-5-0B	Left Hand Tongue Member	1
	4118-5-0	Left Hand Tongue Member (For Models 4118, 4120)	1
2	4122-6-0B	Right Hand Tongue Member	1
	4118-6-0	Right Hand Tongue Member (For Models 4118, 4120)	1
3	2426-170-5	Hose Clamp	3
4	62-157	1/2NC X 5" Cap Screw	3
5	64-107	1/2" STD. Lock Washer	8
6	63-106	1/2NC Hex Nut	8
7	24-100	Hose Carrier	1
8	62-160	1/2NC X 6-1/2" Cap Screw	1
9	64-108	1/2" STD. Flat Washer	4
10	62-155	1/2NC X 4" Cap Screw	4
11	1480-100-0	Jack Assembly	1
12	1480-90-0	Jack Mounting Plate	1
13	73-100	Jack	1
14	62-277	1-1/4NC X 8" Machine Bolt	1
15	64-126	1-1/4" STD. Flat Washer	1
16	63-126	1-1/4NC Self Locking Nut	1
17	1901-0-21	Bushing	1
18	76-119	Clevis Spring	1
19	62-254	1NC X 7-1/2" Cap Screw	2
20	64-118	1" STD. Lock Washer	2
21	63-117	1NC Hex Nut	2
22	2330-0-5	Spacer	2
23	1520-0-15	Hitch Tube	1
24	770-85-0	Clevis Assembly (1-1/4" Pin Hole) STD.	1
25	770-86-0	Crawler Clevis (1-1/2" Pin Hole) Optional	
26	1330-54-0	Crawler Clevis (2" Pin Hole) Optional	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THIS LUG NOT USED ON
MODELS 4118, 4120
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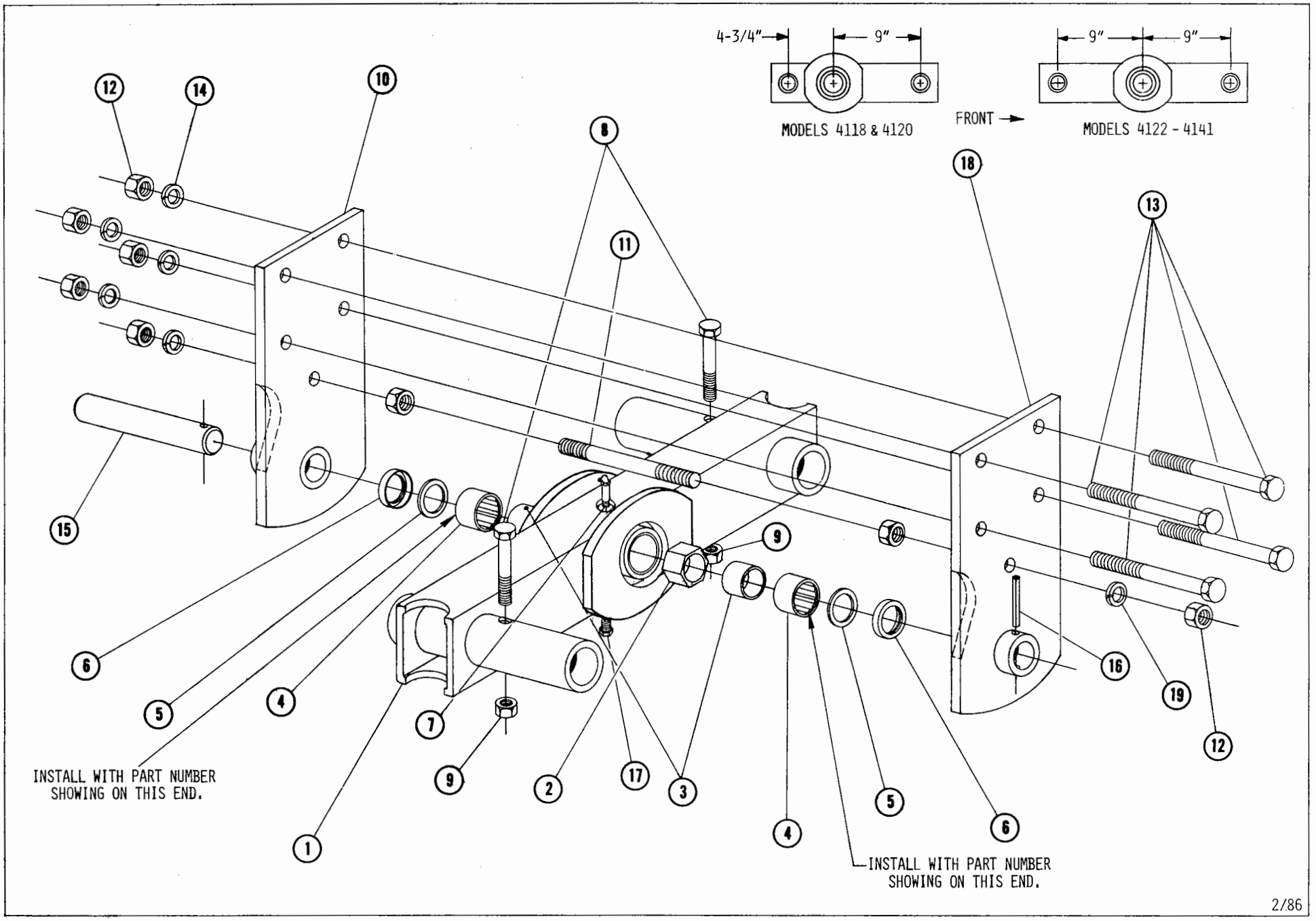
CENTER ROCKER SHAFT

FOR MODELS - ALL

7/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4118-10-0	Center Rocker Shaft (Models 4118, 4120)	1
	4122-10-0A	Center Rocker Shaft (Models 4122 - 4141)	1
2	4122-0-7	Rocker Bearing	2
3	62-244	1NC X 4-1/2" Cap Screw	4
4	64-118	1" STD. Lock Washer	8
5	64-119	1" STD. Flat Washer	8
6	63-117	1NC Hex Nut	8
7	2145-0-16	Rocker Shaft Clamp Half	4
8	62-250	1NC X 6-1/2" Cap Screw (Models 4122 - 4141)	4
	62-254	1NC X 7-1/2" Cap Screw (Models 4118, 4120)	4
9	62-195	3/4NC X 2-1/2" GRADE 5 Cap Screw	2
10	64-112	3/4" STD. Lock Washer	2
11	63-112	3/4NC Hex Nut	2
12	65-110	Drivethread Zerk	10
13	53-102	Wear Sleeve	2


4-3/4"
9"
MODELS 4118 & 4120
FRONT
9"
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MODELS 4122 - 4141
INSTALL WITH PART NUMBER SHOWING ON THIS END.
INSTALL WITH PART NUMBER SHOWING ON THIS END.
2/86

WALKING BEAM ASSEMBLY

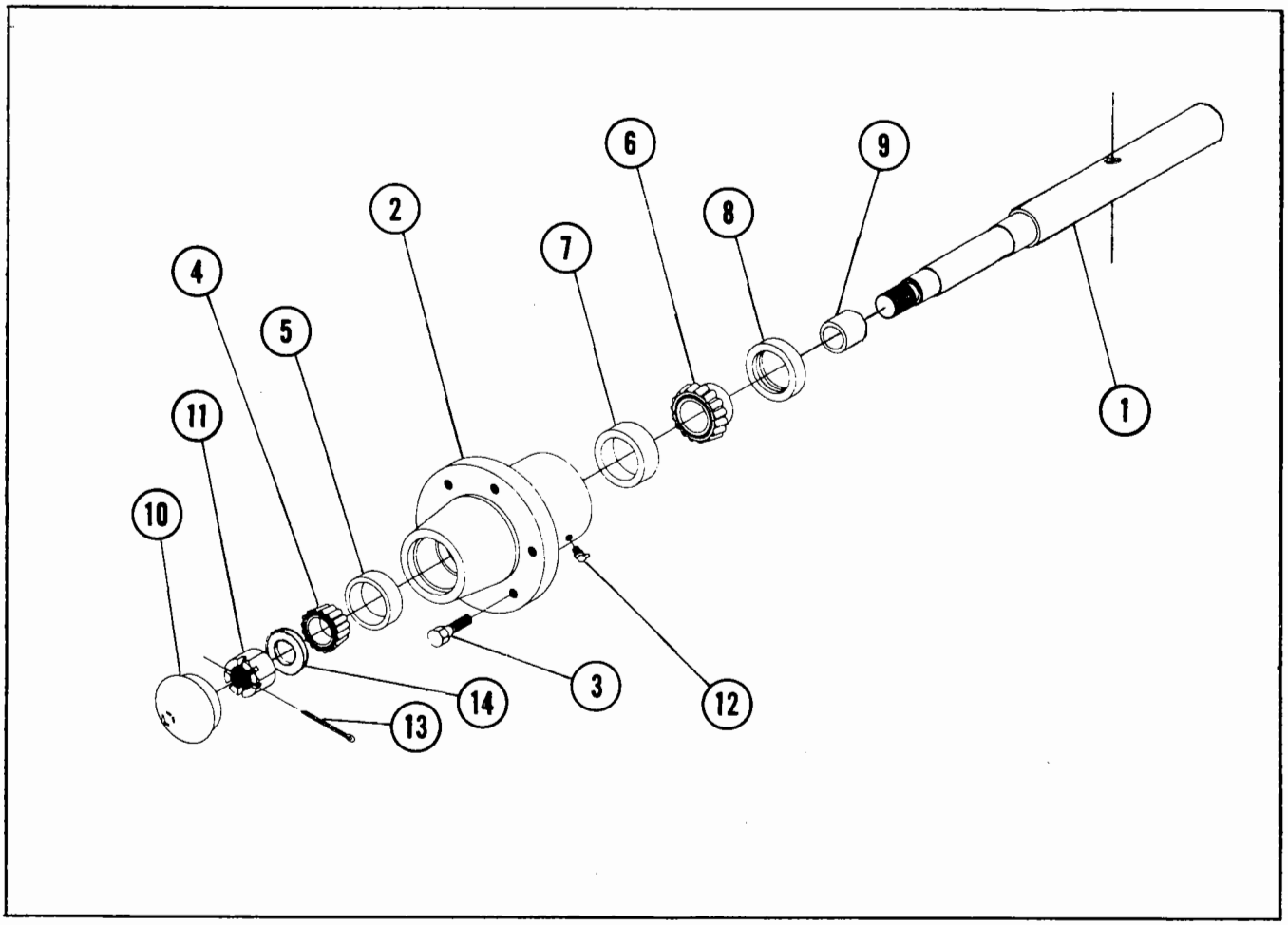
FOR MODELS - ALL

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	4122-54-0A	Left Walking Beam Assembly (Shown)	
	4122-74-0A	Right Walking Beam Assembly	
1	4122-55-0A	Walking Beam Weldment	1
▲ 2	53-122	Hex Spacer	1
▲ 3	40-116	Inner Race	2
▲ 4	40-115	Bearing	2
▲ 5	64-135	Washer	2
▲ 6	42-110	Seal	2
7	65-107	90° Zerk	1
* 8	62-175	5/8NC X 3-1/2" Cap Screw	2
* 9	63-110	5/8NC Self Locking Nut	2
10	4122-9-0A	Lug Weldment	1
11	62-296	3/4NC X 7" Stud Bolt	1
12	63-112	3/4NC Hex Nut	8
*13	62-209	3/4NC X 6" Cap Screw	4
*14	64-112	3/4" STD. Lock Washer	6
15	4122-54-1	Pin	1
16	60-617	3/8" DIA. X 2-1/2" Roll Pin	1
▲17	65-117	Relief Valve	1
18	4122-9-0A	Lug Weldment	1
	4122-84-0	Bearing Repair Kit (▲ Items Included)	
CENTER SECTION WALKING BEAM ASSEMBLY FOR 4118 & 4120 ONLY			
	4120-54-0A	Left Walking Beam Assembly (Shown)	
	4120-74-0A	Right Walking Beam Assembly	
1	4120-55-0A	Walking Beam Weldment	1
▲ 2	53-122	Hex Spacer	1
▲ 3	40-116	Inner Race	2
▲ 4	40-115	Bearing	2
▲ 5	64-135	Washer	2
▲ 6	42-110	Seal	2
7	65-107	90° Zerk	1
* 8	62-175	5/8NC X 3-1/2" Cap Screw	2
* 9	63-110	5/8NC Self Locking Nut	2
10	4120-8-0A	Left Lug Weldment	1
11	62-296	3/4NC X 7" Stud Bolt	1
12	63-112	3/4NC Hex Nut	8
*13	62-209	3/4NC X 6" Cap Screw	4
*14	64-112	3/4" STD. Lock Washer	6
15	4122-54-1	Pin	1
16	60-617	3/8" DIA. X 2-1/2" Roll Pin	1
▲17	65-117	Relief Valve	1
18	4120-9-0A	Right Lug Weldment	1
	4122-84-0	Bearing Repair Kit (▲ Items Included)	

* Not Part Of Assembly

WALKING BEAM HUB ASSEMBLY

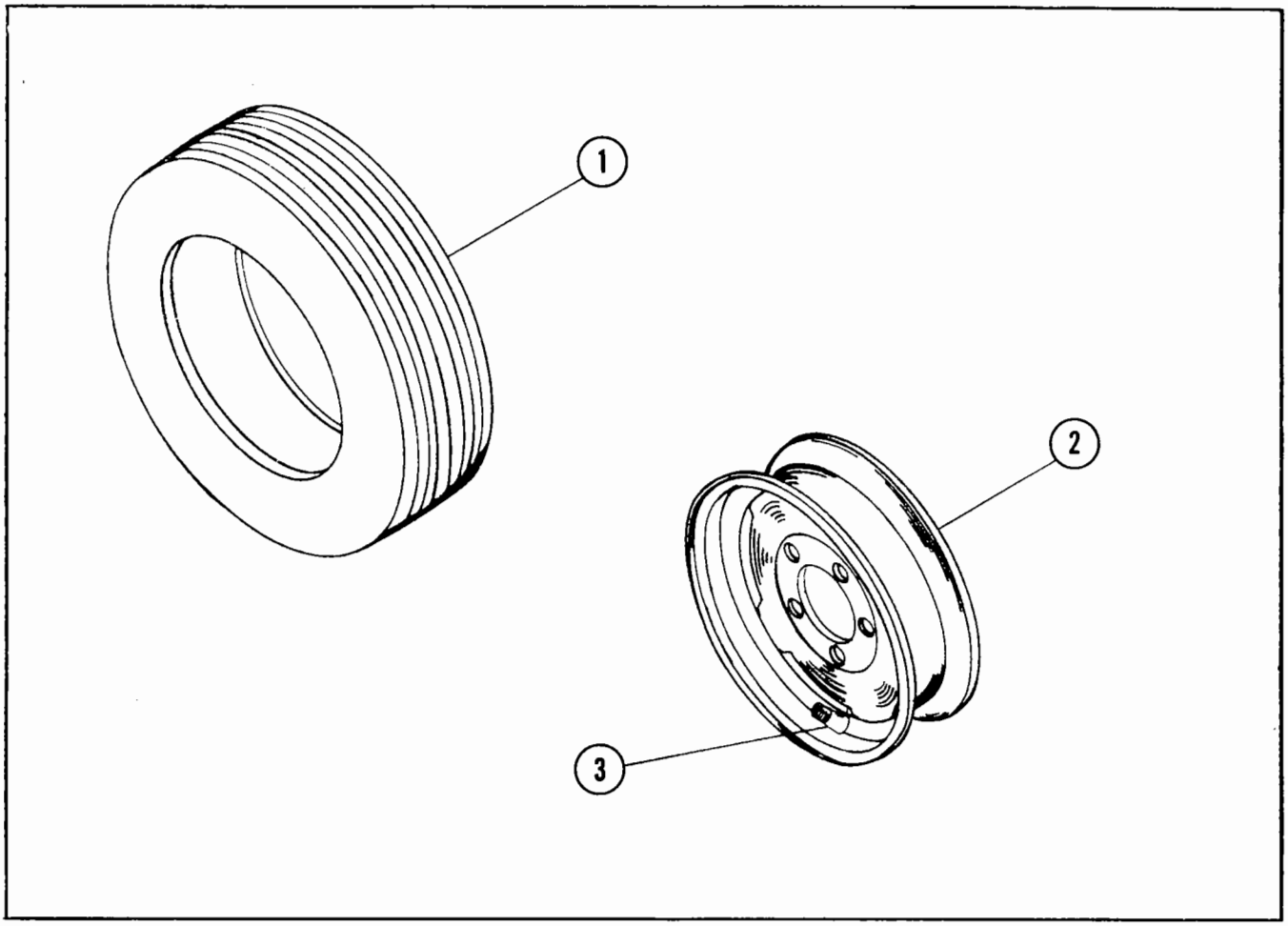


FOR MODELS - ALL

5/89

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4122-17-0	Hub and Axle Assembly	
1	50-104	Spindle	1
2	1918-14-0A	Repair Hub Assembly (Includes Items 3,5,7)	1
3	62-295	Wheel Bolt	6
4	41-112	Front Cone	1
5	41-208	Front Cup	1
6	41-113	Rear Cone	1
7	41-209	Rear Cup	1
8	42-108	Seal	1
9	53-105	Wear Ring	1
10	52-302	Hub Cap	1
11	63-204	1NF Slotted Hex Nut	1
12	65-104	1/4NPT X 67-1/2° Zerk	1
13	60-702	3/16" DIA. X 1-1/2" Cotter Key	1
14	64-120	1"SAE Flat Washer	1

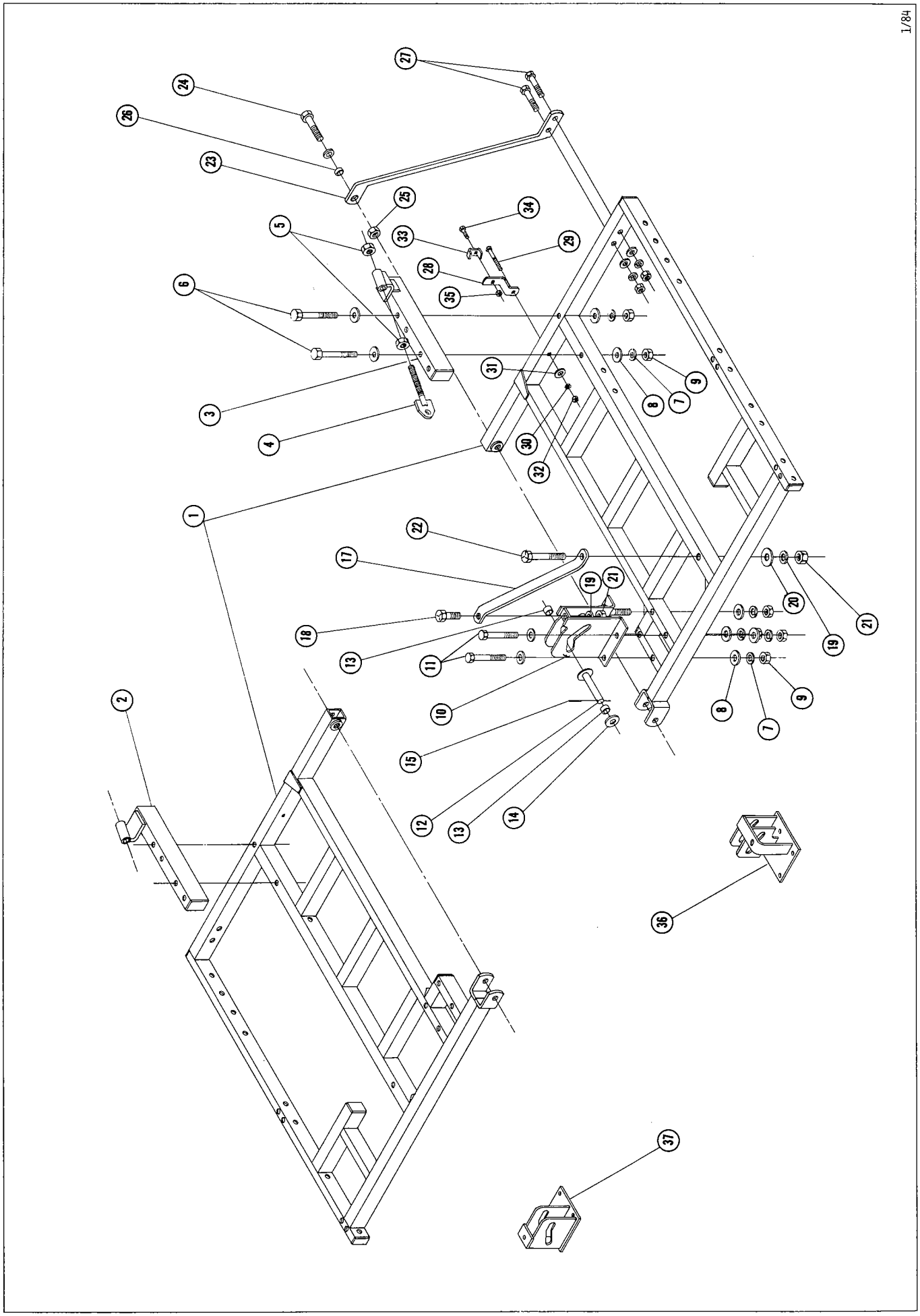
WHEELS & TIRES



FOR MODELS - ALL

10/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	1000-95568-0	Wheel Assembly	Specify
1	51-101	Tire 9.5L X 15, 6-Ply	1
2	52-102	Wheel 15" X 8"	1
3	51-107	Valve Stem #415	1
	1000-11560-0	Wheel Assembly	Specify
1	51-105	Tire 11L X 15, 6-Ply	1
2	52-103	Wheel 15" X 10"	1
3	51-107	Valve Stem #415	1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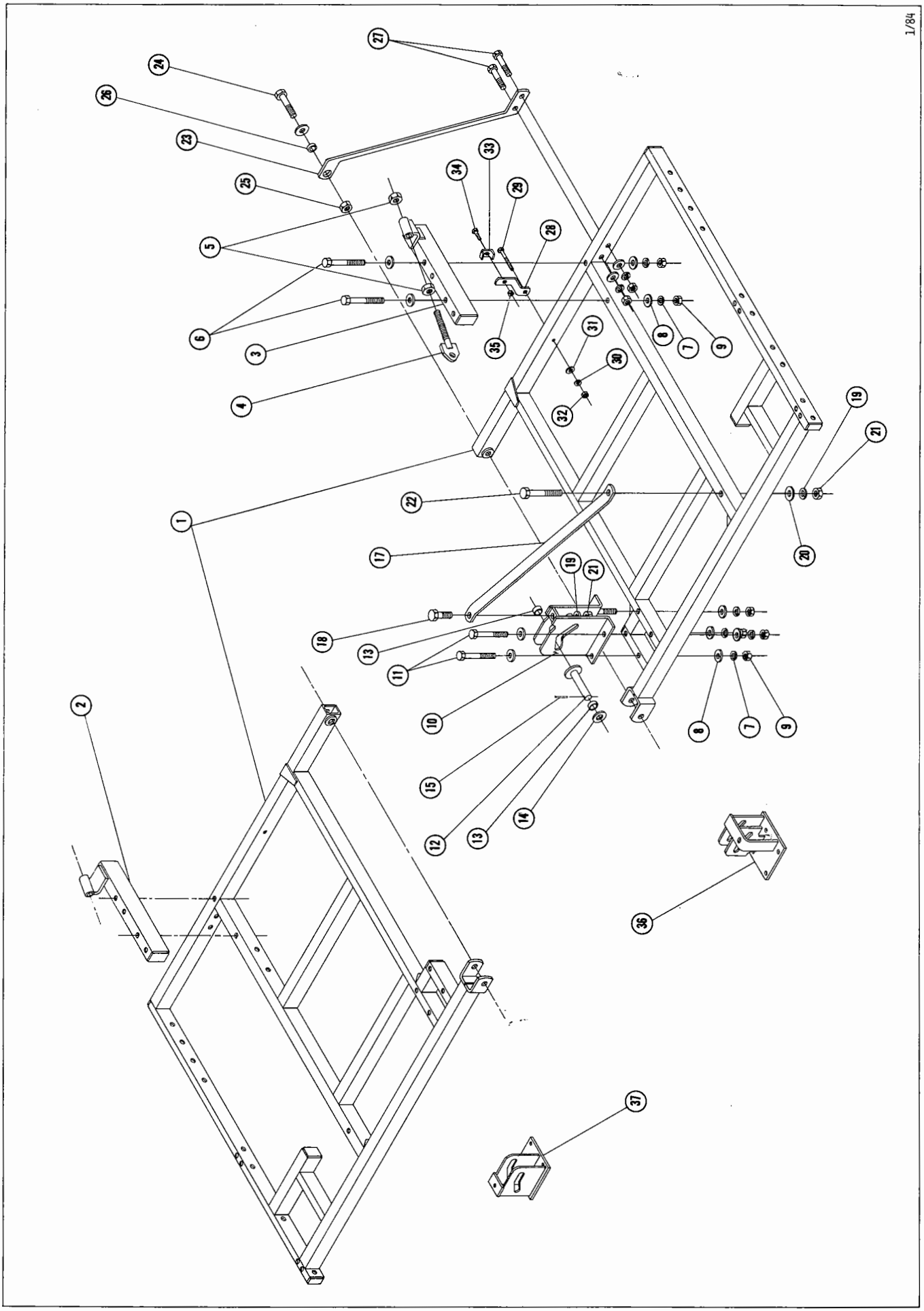
WING FRAMES

FOR MODELS - 4118, 4122

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4122-15-0	Wing Frame Weldment	2
2	4122-22-0	Left Hand Depth Control Bracket	1
3	4122-23-0	Right Hand Depth Control Bracket	1
4	1844-51-0	Adjustment Cylinder Lug	2
5	63-123	1-1/4NC Hex Nut	4
6	62-222	3/4NC X 9-1/2" Machine Bolt	4
7	64-112	3/4" STD. Lock Washer	16
8	64-113	3/4" STD. Flat Washer	28
9	63-112	3/4NC Hex Nut	16
10	4122-33-0	Wing Lift Bracket (For Model 4122)	2
11	62-209	3/4NC X 6" Cap Screw	8
12	3131-77-0	Cylinder Clevis Pin	2
13	53-109	Wear Bushing	4
14	64-126	1-1/4" STD. Flat Washer	2
15	60-608	1/4" DIA. X 2-1/2" Roll Pin	2
17	4118-0-3	Brace (For Model 4118)	2
	4122-0-3	Brace (For Model 4122)	2
18	62-236	1NC X 2-1/2" GRADE 5 Cap Screw	2
19	64-118	1" STD. Lock Washer	4
20	64-119	1" STD. Flat Washer	4
21	63-117	1NC Hex Nut	4
22	62-249	1NC X 6" GRADE 5 Cap Screw	2
23	4118-0-2	Wing Strap (For Model 4118)	2
	4122-0-5	Wing Strap (For Model 4122)	2
24	62-248	1NC X 6" Cap Screw	2
25	63-119	1NC Self Locking Nut	2
26	4122-0-6	Bushing	2
27	62-204	3/4NC X 5" Cap Screw	4
28	4122-0-1	Hose Bracket	2
29	62-155	1/2NC X 4" Cap Screw	2
30	64-107	1/2" STD. Lock Washer	2
31	64-108	1/2" STD. Flat Washer	2
32	63-106	1/2NC Hex Nut	2
33	3514-0-2	Hose Clip	2
34	62-343	1/2NC X 2" GRADE 5 Cap Screw	2
35	63-107	1/2NC Self Locking Nut	2
36	4118-34-0A	Right Hand Wing Lift Bracket (For Model 4118)	1
37	4118-33-0A	Left Hand Wing Lift Bracket (For Model 4118)	1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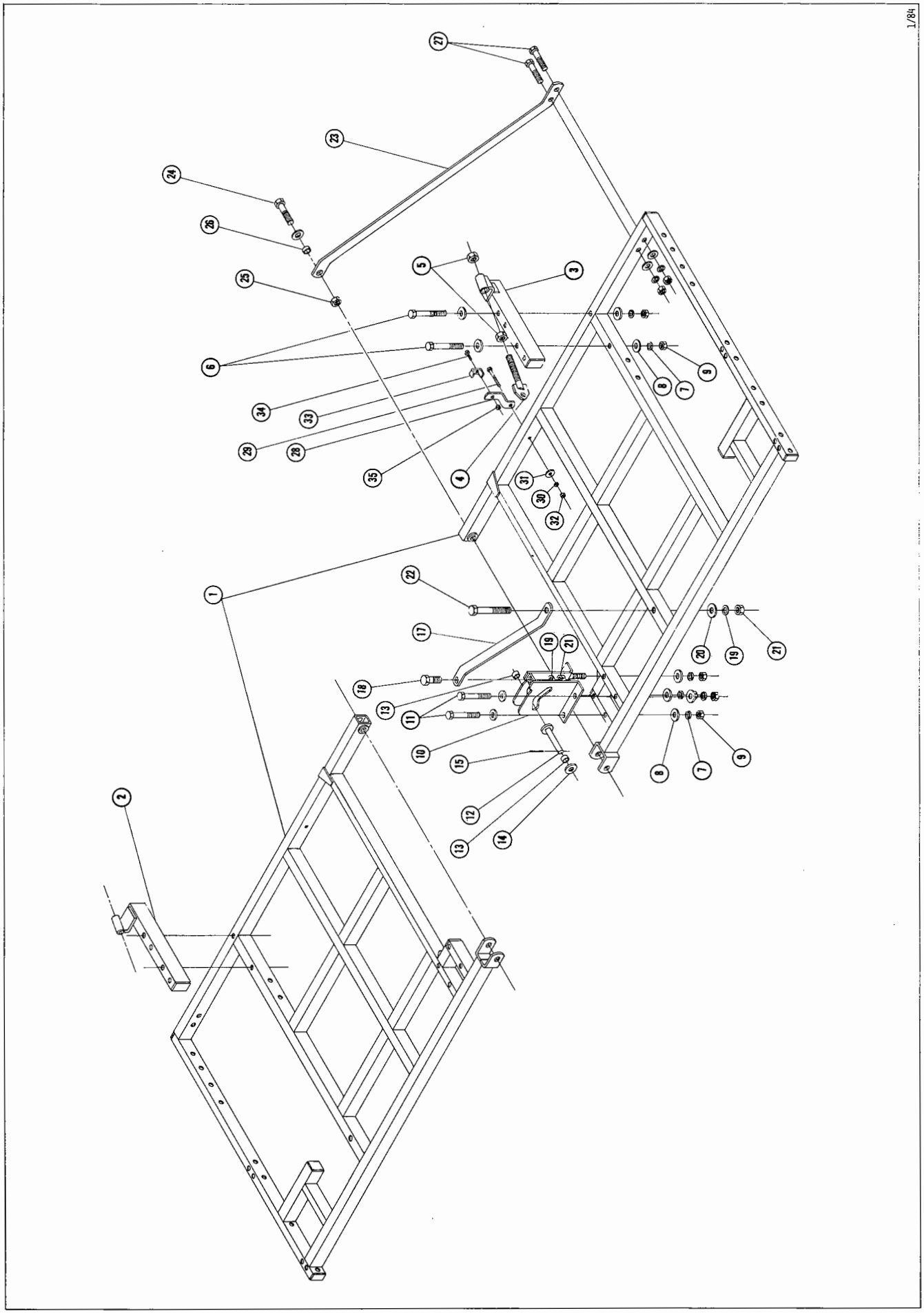
WING FRAMES

FOR MODELS - 4120, 4126

7/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4126-15-0	Wing Frame Weldment	2
2	4122-22-0	Left Hand Depth Control Bracket	1
3	4122-23-0	Right Hand Depth Control Bracket	1
4	1844-51-0	Adjustment Cylinder Lug	2
5	63-123	1-1/4NC Hex Nut	4
6	62-222	3/4NC X 9-1/2" Machine Bolt	4
7	64-112	3/4" STD. Lock Washer	16
8	64-113	3/4" STD. Flat Washers	28
9	63-112	3/4NC Hex Nut	16
10	4122-33-0	Wing Lift Bracket (For Model 4122)	2
11	62-209	3/4NC X 6" Cap Screw	8
12	3131-77-0	Cylinder Clevis Pin	2
13	53-109	Wear Bushing	4
14	64-126	1-1/4" STD. Flat Washer	2
15	60-608	1/4" DIA. X 2-1/2" Roll Pin	2
17	4120-0-1	Brace (For Model 4120)	2
	4126-0-3	Brace (For Model 4126)	2
18	62-236	1NC X 2-1/2" GRADE 5 Cap Screw	2
19	64-118	1" STD. Lock Washer	4
20	64-119	1" STD. Flat Washer	4
21	63-117	1NC Hex Nut	4
22	62-249	1NC X 6" GRADE 5 Cap Screw	2
23	4118-0-2	Wing Strap (For Model 4120)	2
	4122-0-5	Wing Strap (For Model 4126)	2
24	62-248	1NC X 6" Cap Screw	2
25	63-119	1NC Self Locking Nut	2
26	4122-0-6	Bushing	2
27	62-204	3/4NC X 5" Cap Screw	4
28	4122-0-1	Hose Bracket	2
29	62-155	1/2NC X 4" Cap Screw	2
30	64-107	1/2" STD. Lock Washer	2
31	64-108	1/2" STD. Flat Washer	2
32	63-106	1/2NC Hex Nut	2
33	3514-0-2	Hose Clip	2
34	62-142	1/2NC X 2" Cap Screw	2
35	63-107	1/2NC Self Locking Nut	2
36	4118-34-0A	Right Hand Wing Lift Bracket (For Model 4120)	1
37	4118-33-0A	Left Hand Wing Lift Bracket (For Model 4120)	1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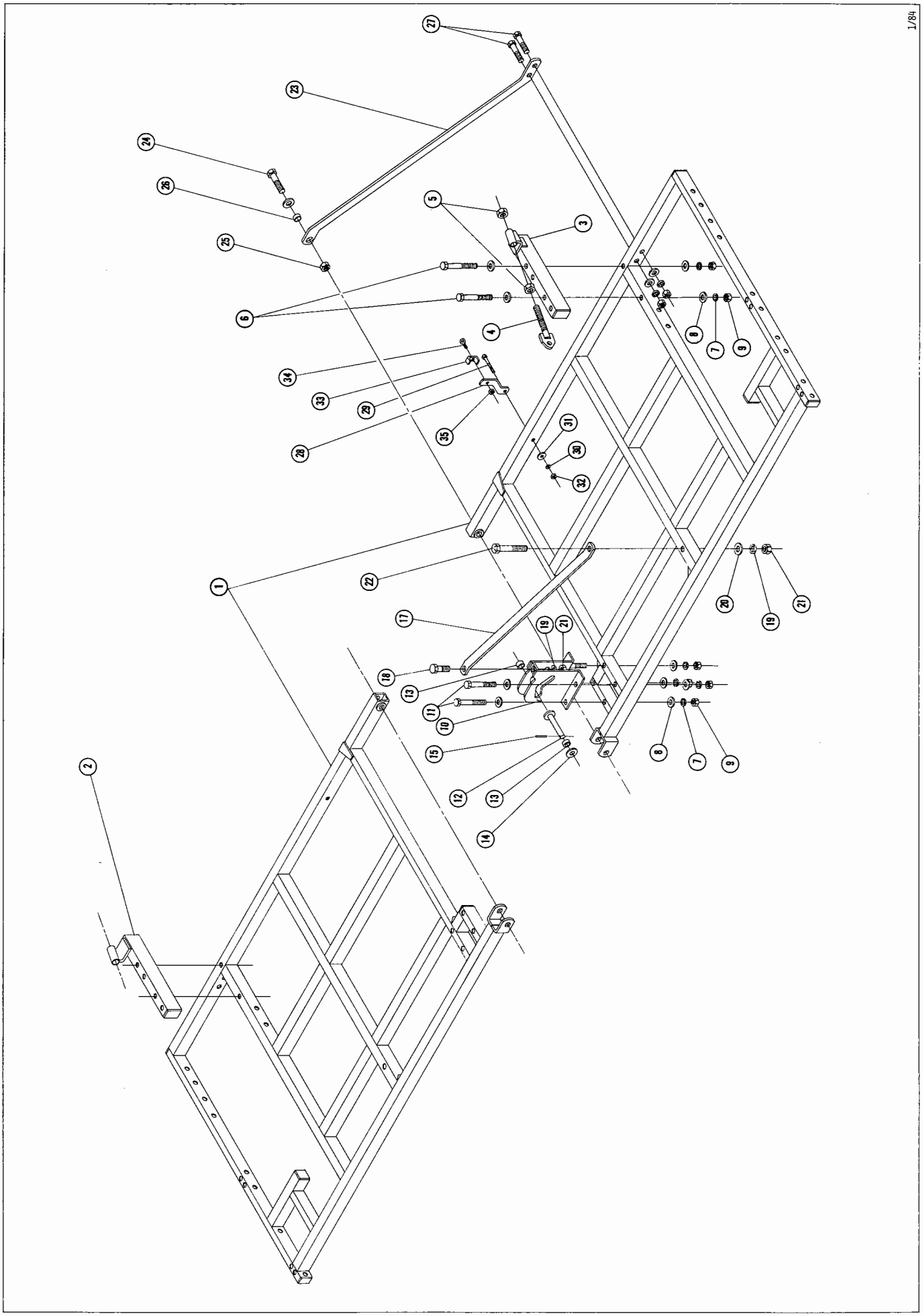
WING FRAMES

FOR MODELS - 4129

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4129-15-0A	Wing Frame	2
2	4122-22-0	Left Hand Depth Control Bracket	1
3	4122-23-0	Right Hand Depth Control Bracket	1
4	1844-51-0	Adjustment Cylinder Lug	2
5	63-123	1-1/4NC Hex Nut	4
6	62-222	3/4NC X 9-1/2" Machine Bolt	4
7	64-112	3/4" STD. Lock Washer	16
8	64-113	3/4" STD. Flat Washer	28
9	63-112	3/4NC Hex Nut	16
10	4122-33-0	Wing Lift Bracket	2
11	62-209	3/4NC X 6" Cap Screw	8
12	3131-77-0	Cylinder Clevis Pin	2
13	53-109	Wear Bushing	4
14	64-126	1-1/4" STD. Flat Washer	2
15	60-608	1/4" DIA. X 2-1/2" Roll Pin	2
17	4129-0-3	Brace	2
18	62-236	1NC X 2-1/2" GRADE 5 Cap Screw	2
19	64-118	1" STD. Lock Washer	4
20	64-119	1" STD. Flat Washer	4
21	63-117	1NC Hex Nut	4
22	62-249	1NC X 6" GRADE 5 Cap Screw	2
23	4129-0-5	Wing Strap	2
24	62-248	1NC X 6" Cap Screw	2
25	63-119	1NC Self Locking Nut	2
26	4122-0-6	Bushing	2
27	62-204	3/4NC X 5" Cap Screw	4
28	4122-0-1	Hose Bracket	2
29	62-155	1/2NC X 4" Cap Screw	2
30	64-107	1/2" STD. Lock Washer	2
31	64-108	1/2" STD. Flat Washer	2
32	63-106	1/2NC Hex Nut	2
33	3514-0-2	Hose Clip	2
34	62-142	1/2NC X 2" Cap Screw	2
35	63-107	1/2NC Self Locking Nut	2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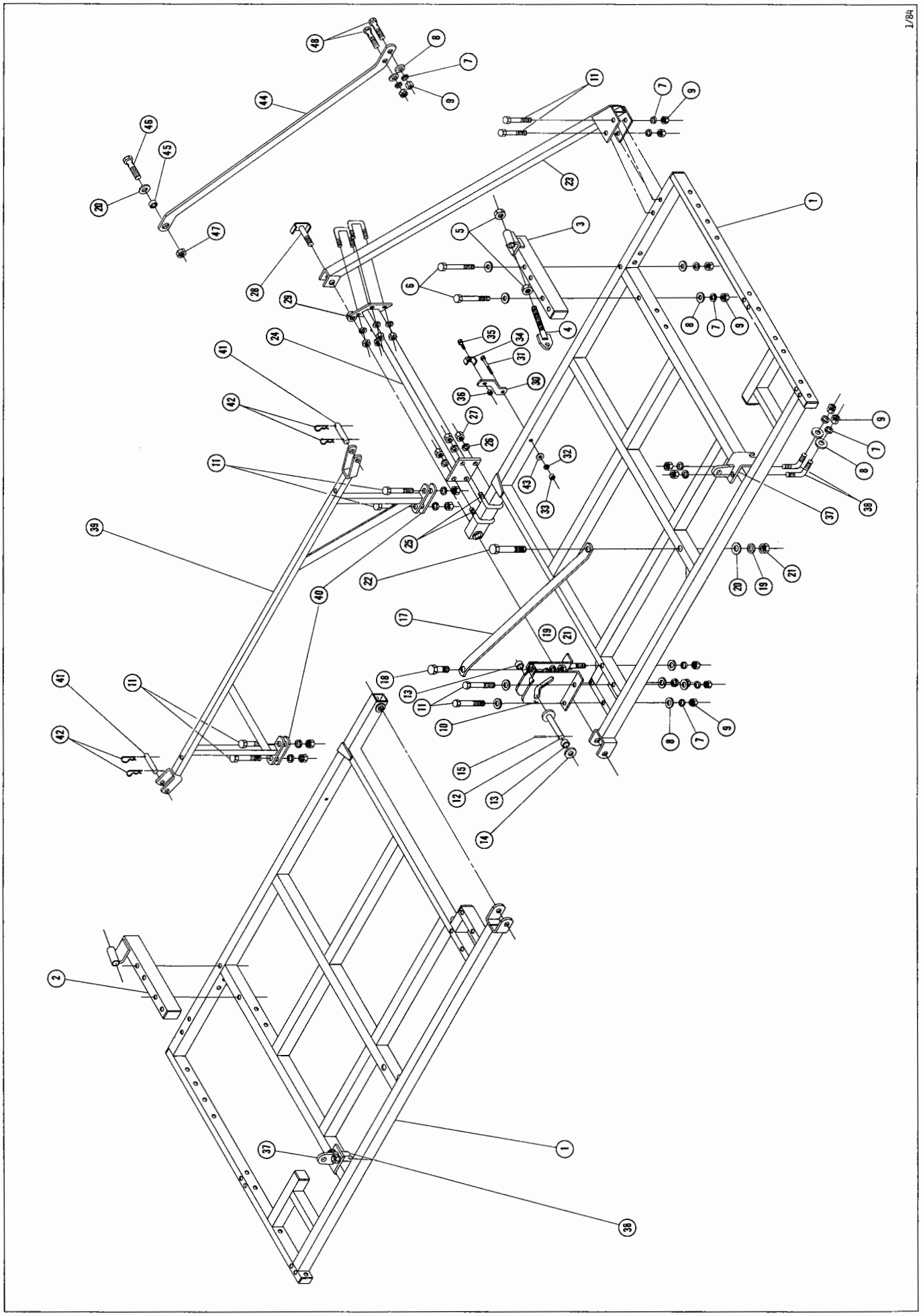
WING FRAMES

FOR MODELS - 4133

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4133-15-0B	Wing Frame	2
2	4122-22-0	Left Hand Depth Control Bracket	1
3	4122-23-0	Right Hand Depth Control Bracket	1
4	1844-51-0	Adjustment Cylinder Lug	2
5	63-123	1-1/4NC Hex Nut	4
6	62-222	3/4NC X 9-1/2" Machine Bolt	4
7	64-112	3/4" STD. Lock Washer	16
8	64-113	3/4" STD. Flat Washer	28
9	63-112	3/4NC Hex Nut	16
10	4122-33-0	Wing Lift Bracket	2
11	62-209	3/4NC X 6" Cap Screw	8
12	3131-77-0	Cylinder Clevis Pin	2
13	53-109	Wear Bushing	4
14	64-126	1-1/4" STD. Flat Washer	2
15	60-608	1/4" DIA. X 2-1/2" Roll Pin	2
17	4133-0-3	Brace	2
18	62-236	1NC X 2-1/2" GRADE 5 Cap Screw	2
19	64-118	1" STD. Lock Washer	4
20	64-119	1" STD. Flat Washer	4
21	63-117	1NC Hex Nut	4
22	62-249	1NC X 6" GRADE 5 Cap Screw	2
23	4129-0-5	Wing Strap	2
24	62-248	1NC X 6" Cap Screw	2
25	63-119	1NC Self Locking Nut	2
26	4122-0-6	Bushing	2
27	62-204	3/4NC X 5" Cap Screw	4
28	4122-0-1	Hose Bracket	2
29	62-155	1/2NC X 4" Cap Screw	2
30	64-107	1/2" STD. Lock Washer	2
31	64-108	1/2" STD. Flat Washer	2
32	63-106	1/2NC Hex Nut	2
33	3514-0-2	Hose Clip	2
34	62-142	1/2NC X 2" Cap Screw	2
35	63-107	1/2NC Self Locking Nut	2

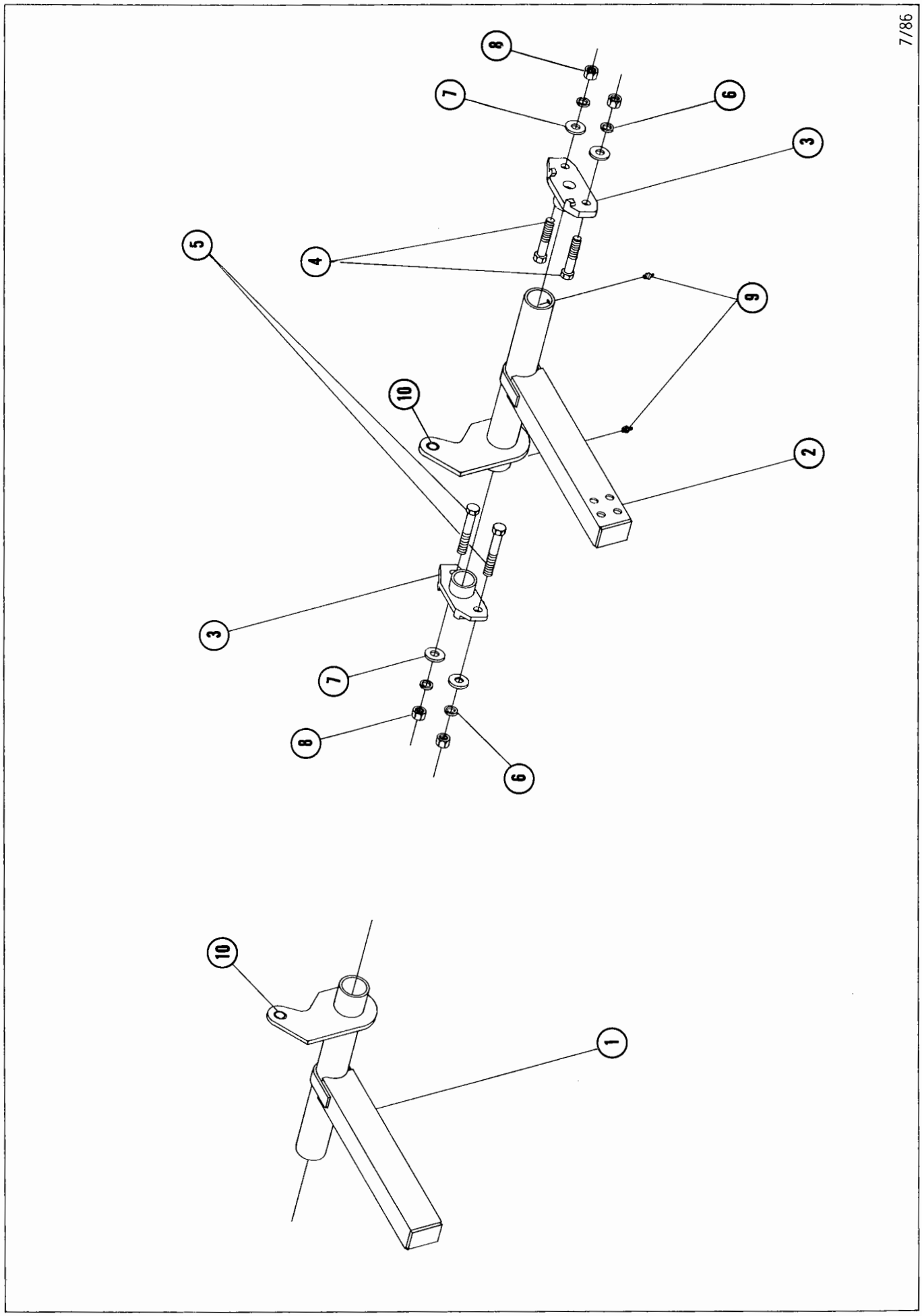


WING FRAMES

FOR MODELS - 4138, 4141 2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
*1	4129-15-0A	Wing Frame	2
▲	4133-15-0B	Wing Frame	2
2	4122-22-0	Left Hand Depth Control Bracket	1
3	4122-23-0	Right Hand Depth Control Bracket	1
4	1844-51-0	Adjustment Cylinder Lug	2
5	63-123	1-1/4NC Hex Nut	4
6	62-222	3/4NC X 9-1/2" Machine Bolt	4
7	64-112	3/4"STD. Lock Washer	32
8	64-113	3/4"STD. Flat Washer	32
9	63-112	3/4NC Hex Nut	32
10	4141-33-0	Wing Lift Bracket	2
11	62-209	3/4NC X 6" Cap Screw	16
12	3131-77-0	Cylinder Clevis Pin	2
13	53-109	Wear Sleeve	4
14	64-126	1-1/4"STD. Flat Washer	2
15	60-608	1/4"Dia. X 2-1/2" Roll Pin	2
▲17	4141-0-3	Brace	2
*	4129-0-3	Brace	2
18	62-236	1NC X 2-1/2" GRADE 5 Cap Screw	2
19	64-118	1"STD. Lock Washer	4
20	64-119	1"STD. Flat Washer	2
21	63-117	1NC Hex Nut	4
22	62-249	1NC X 6" GRADE 5 Cap Screw	2
▲23	4141-18-0	Wing Brace Weldment	2
▲24	4141-38-0	Wing Brace Weldment	2
▲25	61-126	U-Bolt	8
▲26	64-109	5/8"STD. Lock Washer	16
▲27	63-109	5/8NC Hex Nut	16
▲28	4122-43-0	Hinge Bolt Weldment	2
▲29	63-119	1NC Self Locking Nut	2
30	4122-0-1	Hose Bracket	2
31	62-155	1/2NC X 4" Cap Screw	2
32	64-107	1/2"STD. Lock Washer	2
33	63-106	1/2NC Hex Nut	2
34	3514-0-2	Hose Clip	2
35	62-142	1/2NC X 2" Cap Screw	2
36	63-107	1/2NC Self Locking Nut	2
37	4141-41-0	Cylinder Bracket Weldment	2
38	4141-40-1	"L" Bolts	4
39	4141-20-0	Wing Lock Weldment	1
40	4122-0-10	Plate	2
41	1505-0-5	Wing Lock Pin	2
42	60-716	#3 Hair Pin Cotter	4
43	64-108	1/2"STD. Flat Washer	2
*44	4129-0-5	Wing Strap	2
*45	4122-0-6	Bushing	2
*46	62-248	1NC X 6" Cap Screw	2
*47	63-119	1NC Self Locking Nut	2
*48	62-204	3/4NC X 5" Cap Screw	4

*For Model 4138
▲For Model 4141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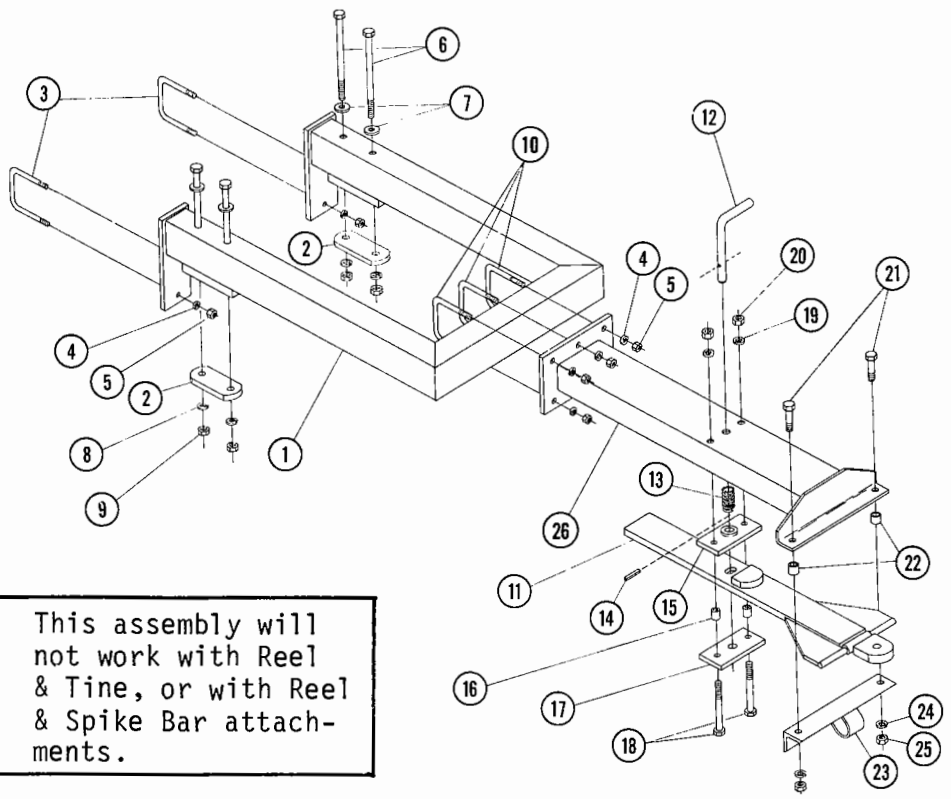
WING ROCKER SHAFTS

FOR MODELS - ALL

7/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4122-34-0	Left Wing Rocker Shaft	1
2	4122-36-0	Right Wing Rocker Shaft	1
3	4122-0-8	Rocker Bearing	4
4	62-200	3/4NC X 4" Cap Screw	4
5	62-204	3/4NC X 5" Cap Screw	4
6	64-112	3/4"STD Lock Washer	8
7	64-113	3/4"STD Flat Washer	8
8	63-112	3/4NC Hex Nut	8
9	65-110	Drivethread Zerk	4
10	53-103	Wear Sleeve	2

TRAIL HITCH ASSEMBLY



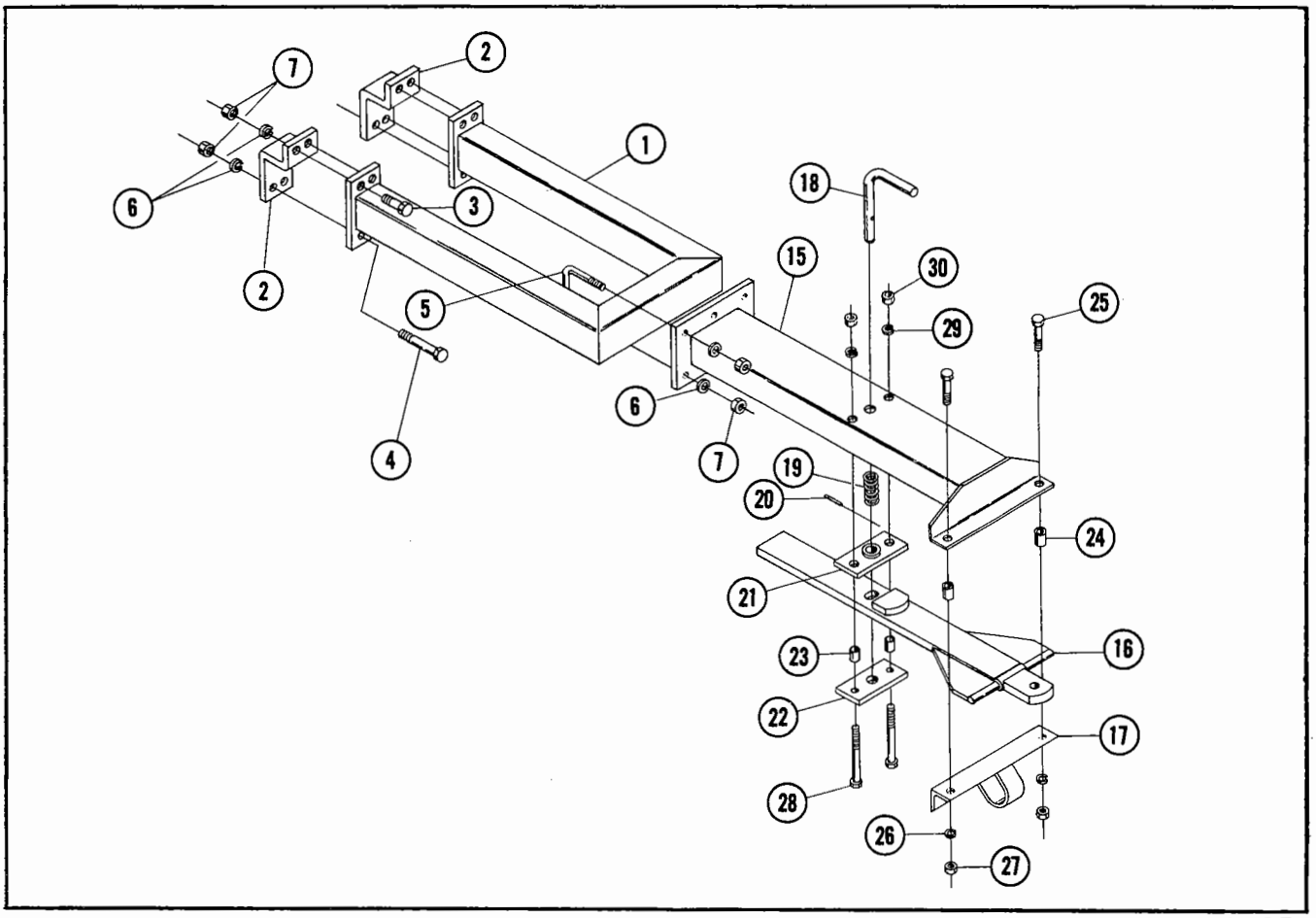
NOTE: This assembly will not work with Reel & Tine, or with Reel & Spike Bar attachments.

FOR MODELS - 4122 thru 4141

1/85

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4100-82-0	Trail Hitch Group	1
	4100-311-0	Hitch Extension Assembly	1
1	4100-310-0	Hitch Extension Weldment	1
2	4100-311-1	Mounting Plate	2
3	61-123	U-Bolt	2
4	64-109	5/8" STD. Lock Washer	10
5	63-109	5/8NC Hex Nut	10
6	62-227	3/4NC X 11" Machine Bolt	4
7	64-113	3/4" STD. Flat Washer	4
8	64-112	3/4" STD. Lock Washer	4
9	63-112	3/4NC Hex Nut	4
10	61-126	U-Bolt	3
	3755-302-0	Hitch Assembly	1
11	3755-304-0	Swing Tongue Weldment	1
12	3755-302-1	Spring Pin	1
13	76-137	Spring	1
14	60-606	1/4" DIA. X 2" Roll Pin	1
15	3755-305-0	Pin Guide Weldment	1
16	3755-302-3	Spacer	2
17	3755-302-2	Pin Guide	1
18	62-185	5/8NC X 6" Cap Screw	2
19	64-109	5/8" STD. Lock Washer	2
20	63-109	5/8NC Hex Nut	2
21	62-194	3/4NC X 2-1/2" Cap Screw	2
22	3755-302-4	Spacer	2
23	3755-307-0	Angle Support Weldment	1
24	64-112	3/4" STD. Lock Washer	2
25	63-112	3/4NC Hex Nut	2
26	3755-303-0	Hitch Frame Weldment	1

TRAIL HITCH ASSEMBLY

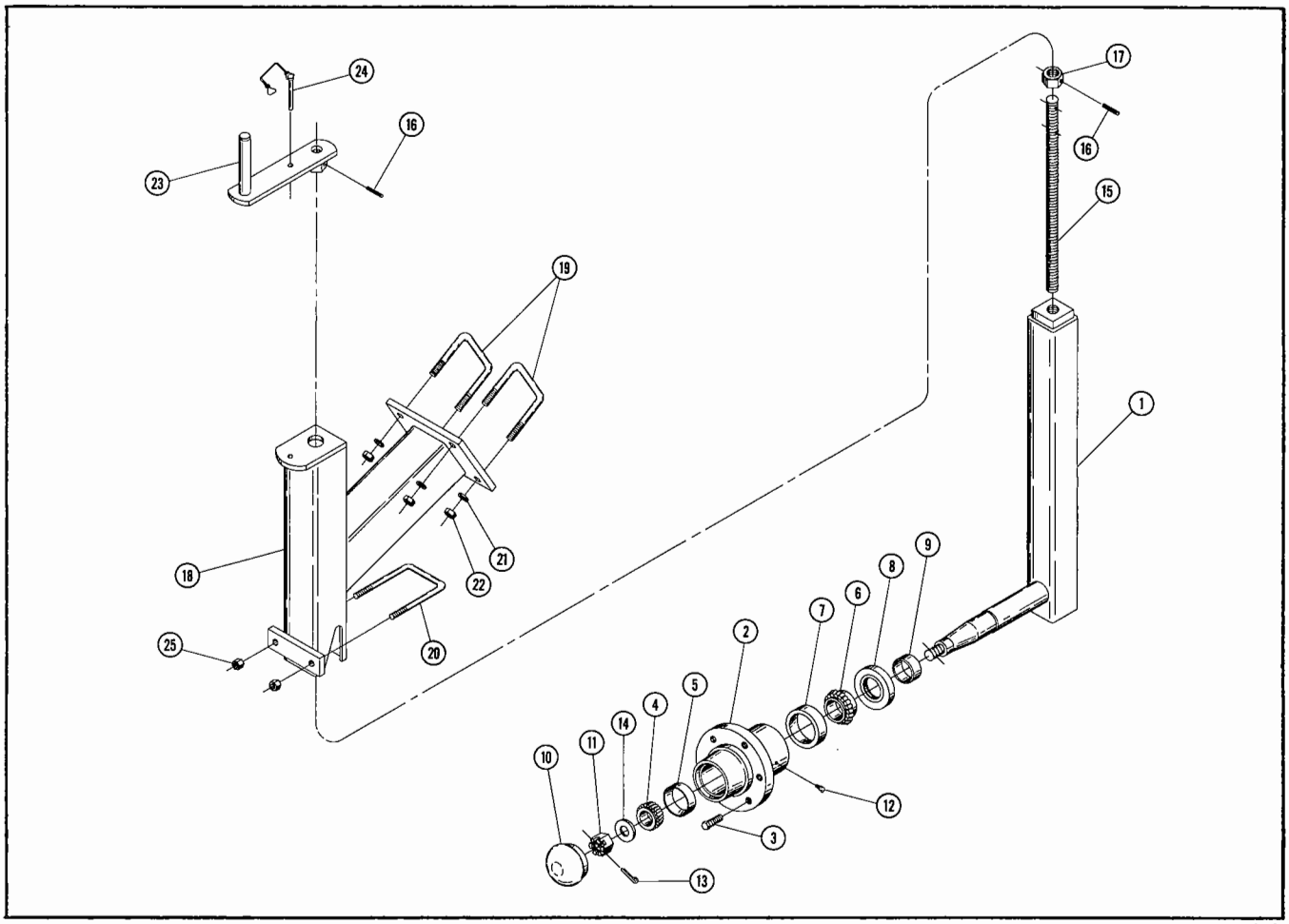


1/85

FOR MODELS - 4118, 4120

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4118-83-0	Trail Hitch Group	1
	4100-313-0	Hitch Extension Assembly	1
1	3755-310-0	Hitch Extension Weldment	1
2	4100-313-1	Mounting Plate	2
3	62-168	5/8NC X 2" Cap Screw	4
4	62-181	5/8NC X 5" Cap Screw	4
5	61-126	5/8" DIA. U-Bolt	3
6	64-109	5/8" STD. Lock Washer	14
7	63-109	5/8NC Hex Nut	14
	3755-302-0	Hitch Assembly	1
15	3755-303-0	Hitch Frame Weldment	1
16	3755-304-0	Swing Tongue Weldment	1
17	3755-307-0	Angle Support Weldment	1
18	3755-302-1	Spring Pin	1
19	76-137	Spring	1
20	60-606	1/4" DIA. X 2" Roll Pin	1
21	3755-305-0	Pin Guide Weldment	1
22	3755-302-2	Pin Guide	1
23	3755-302-3	Spacer	2
24	3755-302-4	Spacer	2
25	62-194	3/4NC X 2-1/2" Cap Screw	2
26	64-112	3/4" STD. Lock Washer	2
27	63-112	3/4NC Hex Nut	2
28	62-185	5/8NC X 6" Cap Screw	2
29	64-109	5/8" STD. Lock Washer	2
30	63-109	5/8NC Hex Nut	2

GAUGE WHEEL ASSEMBLY



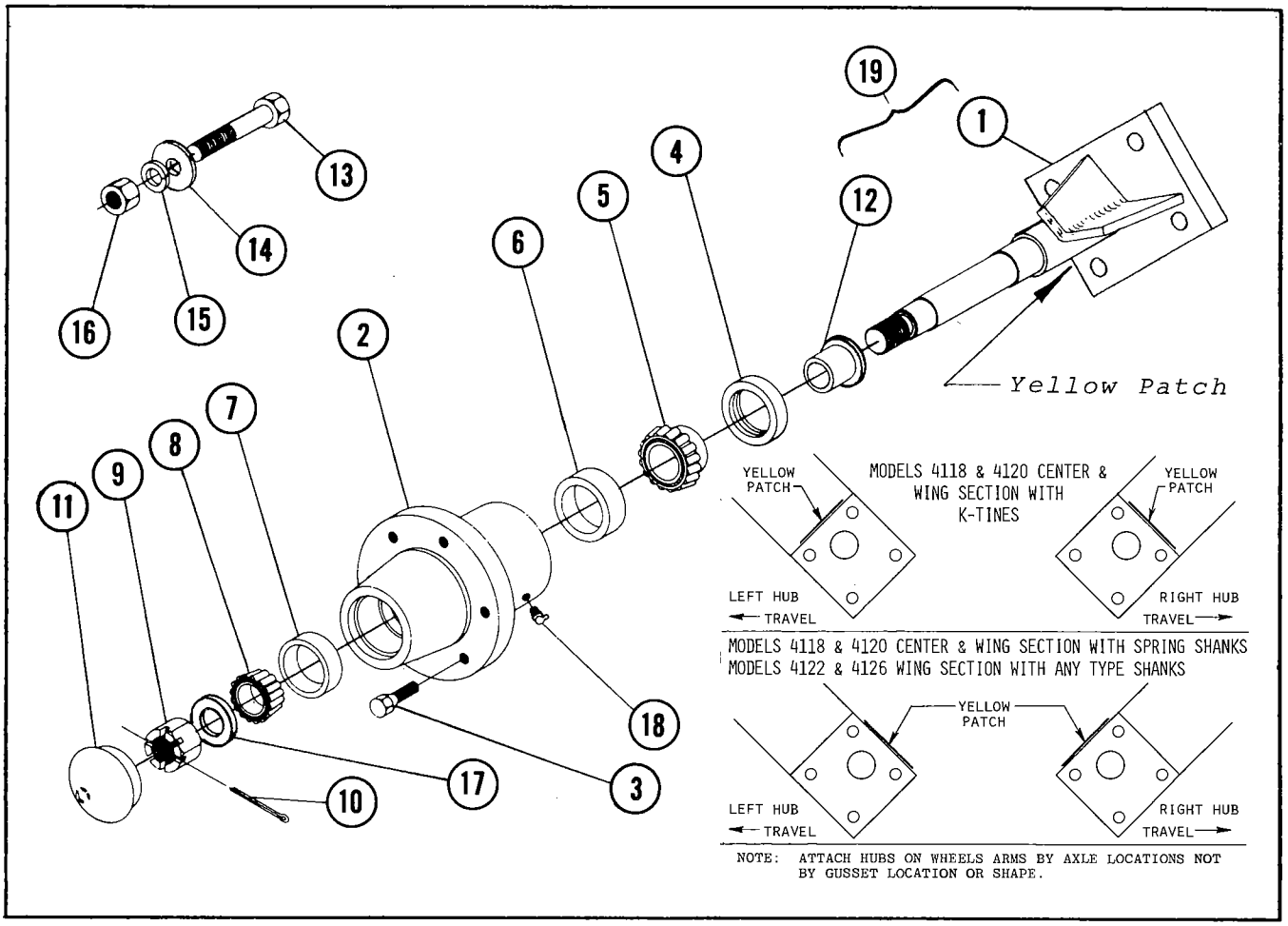
5/89

FOR MODELS - 4138, 4141

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
*1	4513-42-0	Gauge Tube Spindle Weldment	1
*2	1918-8-1	Hub Casting	1
*3	62-295	Wheel Bolt	6
*4	41-112	Front Cone	1
*5	41-208	Front Cup	1
*6	41-113	Rear Cone	1
*7	41-209	Rear Cup	1
*8	42-108	Seal	1
*9	53-105	Wear Ring	1
*10	52-302	Hub Cap	1
*11	63-204	1NC Slotted Hex Nut	1
*12	65-104	1/4NPT X 67-1/2 degree Zerk	1
*13	60-702	3/16" DIA. X 1-1/2" Cotter Key	1
*14	64-120	1" SAE Flat Washer	1
*15	4513-40-1	Threaded Adjustment Bar	1
16	60-605	1/4" DIA. X 2-1/2" Roll Pin	2
17	4513-44-1	Nut	1
18	4141-98-0A	Gauge Tube Weldment	1
19	61-126	5/8" DIA. U-Bolt	2
20	61-210	1/2" DIA. U-Bolt	1
21	64-109	5/8" STD. Lock Washer	4
22	63-109	5/8NC Hex Nut	4
23	4513-45-0	Strap Handle Weldment	1
24	60-103	P.T.O. Pin	1
25	63-107	1/2NC Self Locking Nut	2

* Contained in 4513-41-0 Gauge Hub & Spindle Assembly

WING SECTION HUB ASSEMBLY

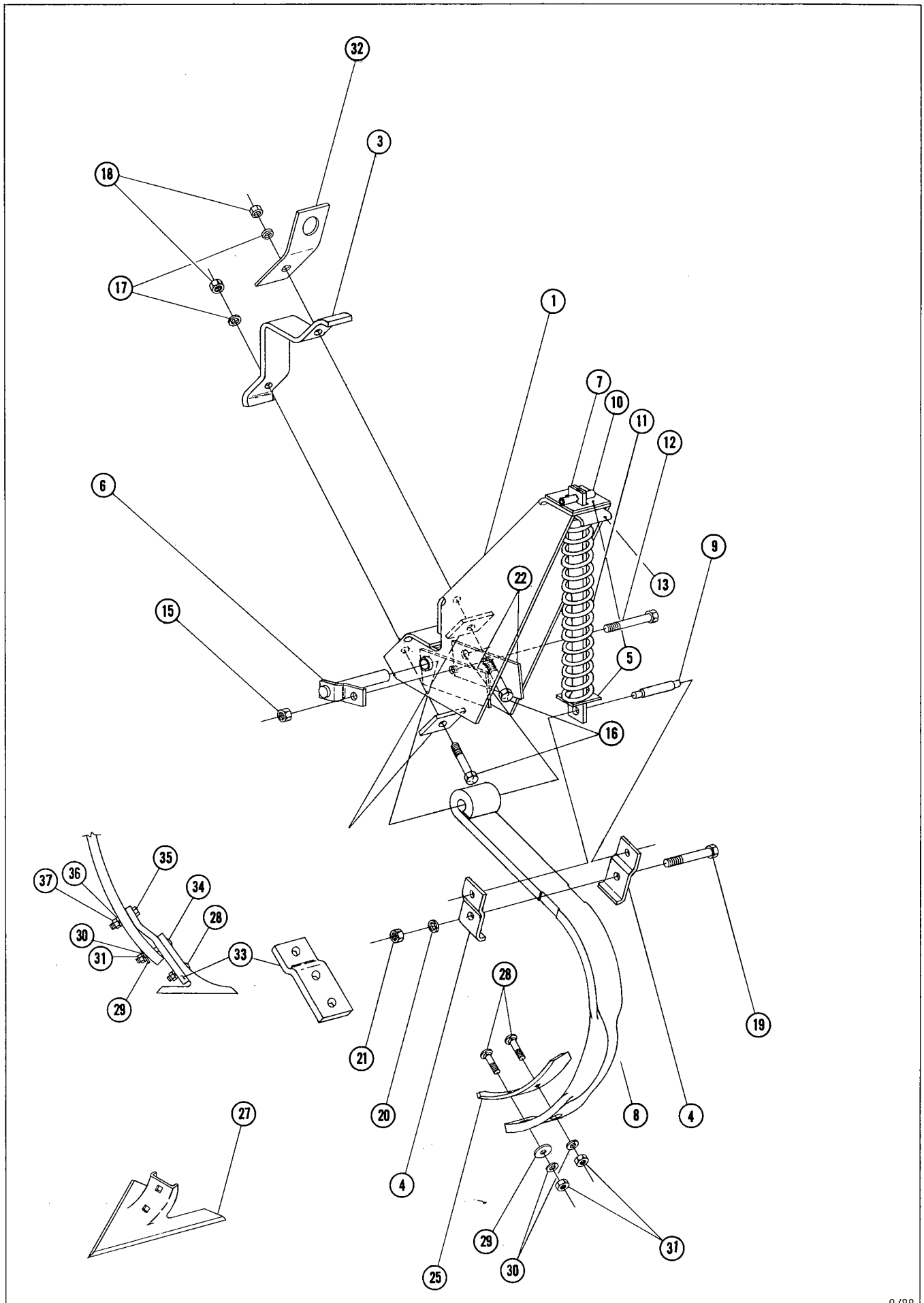


FOR MODELS - ALL

5/89

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	1918-17-0	Hub and Axle Assembly	Specify
1	1918-12-0	Stub Axle Weldment	1
2	1918-14-0A	Repair Hub Assembly (Includes Items 3,6,7)	1
3	62-295	Wheel Bolt	6
4	42-108	Seal	1
5	41-113	Rear Cone	1
6	41-209	Rear Cup	1
7	41-208	Front Cup	1
8	41-112	Front Cone	1
9	63-204	1NF Slotted Hex Nut	1
10	60-702	3/16" DIA. X 1-1/2" Cotter Key	1
11	52-302	Hub Cap	1
12	53-105	Wear Ring	1
*13	62-209	3/4NC X 6" Cap Screw	4 per hub
*14	64-112	3/4" STD. Lock Washer	"
*15	64-113	3/4" STD. Flat Washer	"
*16	63-112	3/4NC Hex Nut	"
17	64-120	1" SAE Flat Washer	1
18	65-104	1/4NPT X 67-1/2° Zerk	1
19	1918-15-0	Repair Spindle & Sleeve Assembly	

* Not Part Of Assembly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9/88

SPRING SHANK ASSEMBLY

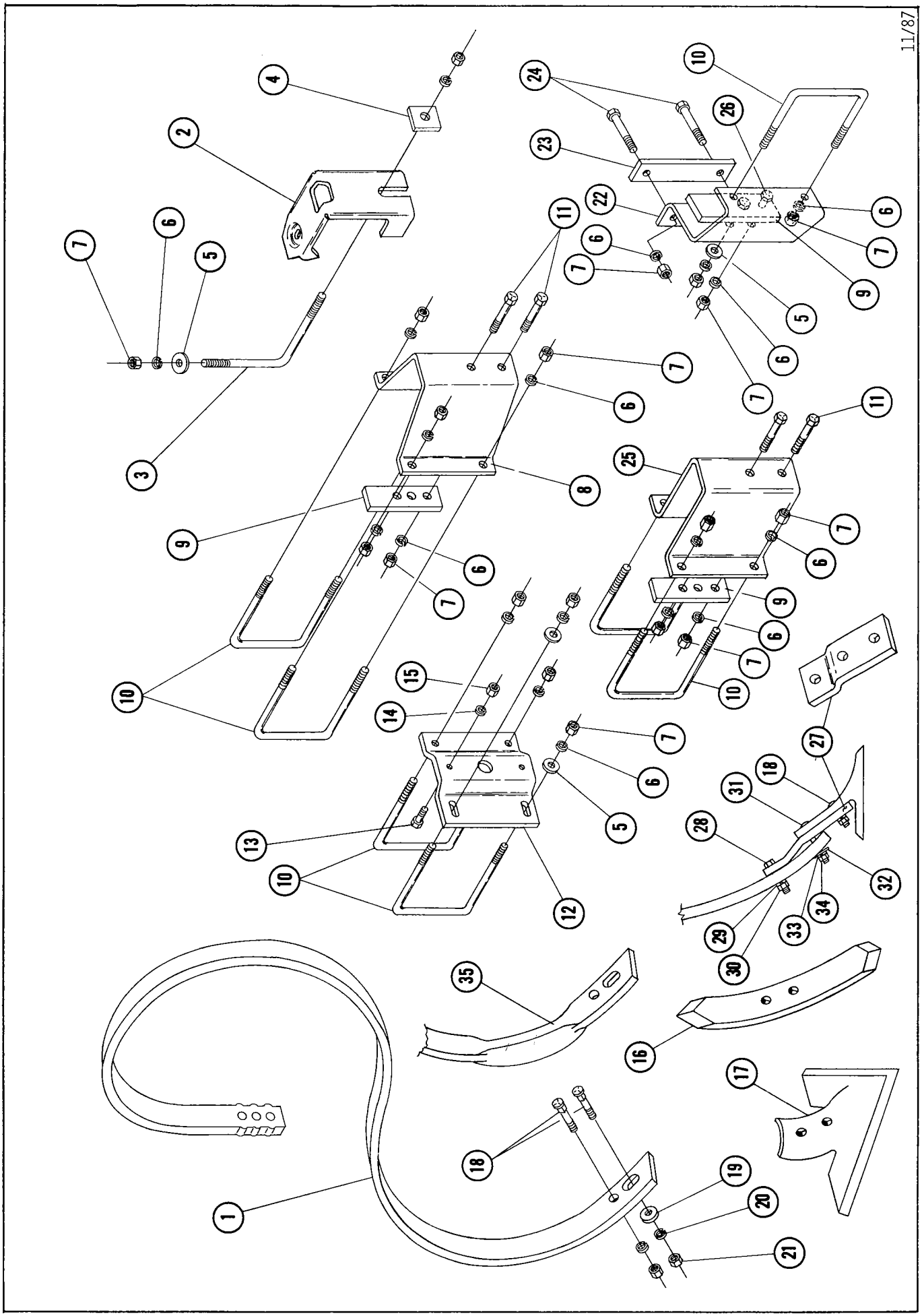
FOR MODELS - ALL

9/88

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	4122-31-0	Spring Shock Shank Assembly	1
1	3127-24-0	Mounting Channel	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	31-140	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 3-1/4" Cap Screw	1
13	3127-24-2	Slot Doubler	1
14			
15	63-107	1/2NC Self Locking Nut	1
*16	62-343	1/2NC X 2" GRADE 5 Cap Screw	2
*17	64-107	1/2" STD. Lock Washer	2
*18	63-106	1/2NC Hex Nut	2
19	62-148	1/2NC X 2-3/4" 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	33-101	9" Sweep 47° Stem Angle	1
	33-119	10" Sweep 47° Stem Angle	1
*28	62-112	3/8NC X 1-1/2" GRADE 5 #3 Plow Bolt	2
*29	64-104 ✓	3/8" STD. Flat Washer	2
*30	64-103	3/8" STD. Lock Washer	4
*31	63-102	3/8NC Hex Nut	4
*32	4122-0-14	Winch Bracket (SHOWN IN STORAGE POSITION)	1
+*33	4100-0-9	Extension Shank	
*34	62-406	3/8NC X 2-1/4" GRADE 5 #3 Plow Bolt	1
*35	62-407	7/16NC X 1-1/2" GRADE 5 Cap Screw	1
*36	64-105	7/16" STD. Lock Washer	1
*37	63-104	7/16NC Hex Nut	1

* Not Part Of Assembly

+ See K-Tine Parts Listing on Page P30 for Assembly Information.


11/87

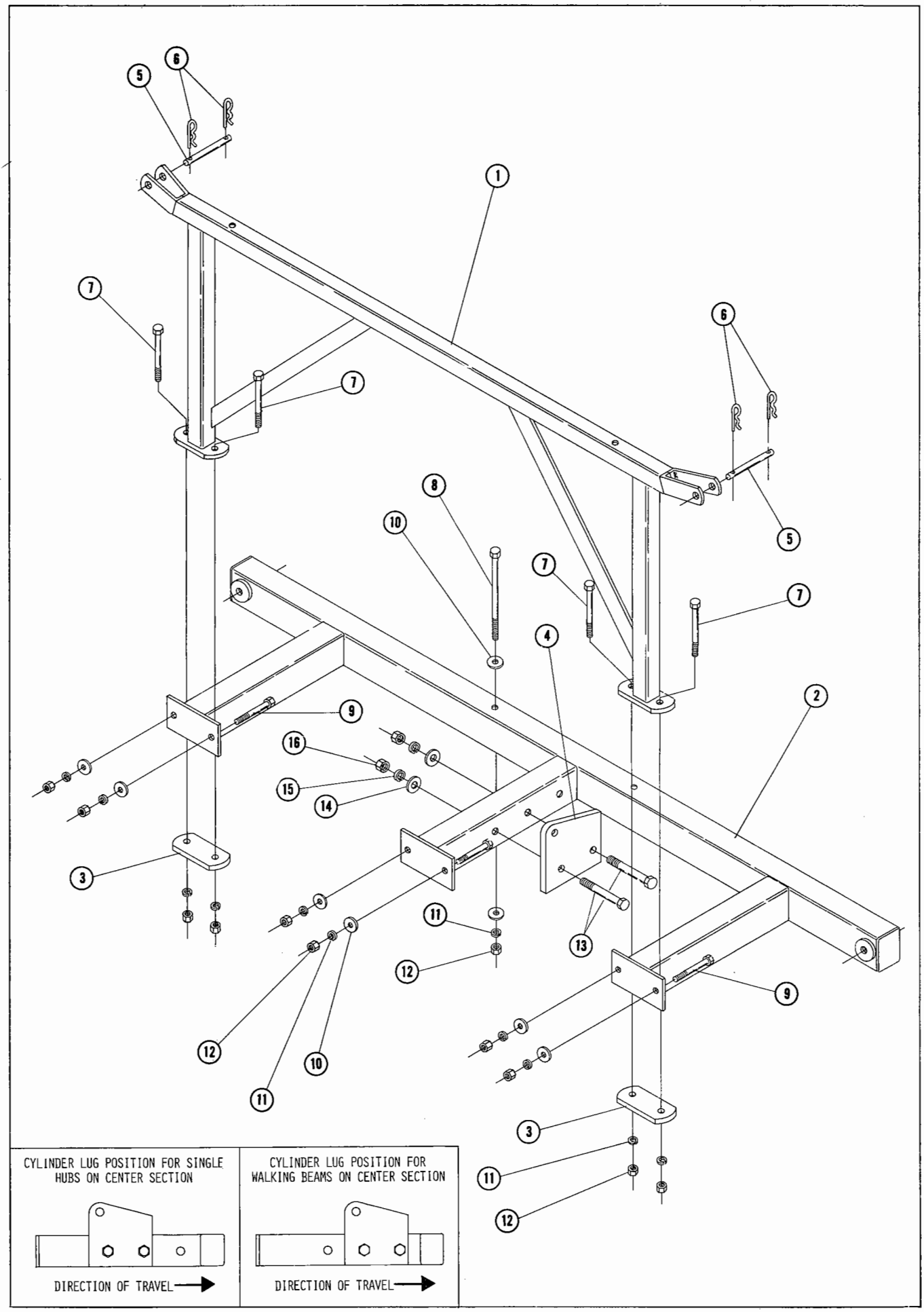
K-TINE SHANK ASSEMBLY

FOR MODELS - ALL 11/87

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	31-141	K-Tine Shank	1
2	3127-0-14	Shank Clamp	1
3	61-159	"L" Bolt	1
4	3127-25-3	Doubler	1
5	64-108	1/2" STD. Flat Washer	6
6	64-107	1/2" STD. Lock Washer	15
7	63-106	1/2NC Hex Nut	15
8	4122-0-18	Extended Bracket	1
9	31-151	Reinforcement Plate	2
10	61-160	U-Bolt	5
11	62-343	1/2NC X 2" GRADE 5 Cap Screw	4
*12	4122-0-13	Special Mounting Bracket	1
*13	62-337	5/16NC X 7/8" Cap Screw	1
*14	64-148	5/16" STD. Lock Washer	1
*15	63-135	5/16NC Hex Nut	1
16	33-100	Point	1
17	33-137	10" Sweep 41° Stem Angle	1
18	62-112	3/8NC X 1-1/2" GRADE 5 #3 Plow Bolt	3
19	64-104	3/8" STD. Flat Washer	1
20	64-103	3/8" STD. Lock Washer	2
21	63-102	3/8NC Hex Nut	2
22	4122-0-19	Shank Extension Plate	1
23	4122-0-20	Bolt Plate	1
24	62-153	1/2NC X 3-1/2" Cap Screw	2
▲25	3127-0-21	Extended Bracket	1
26	62-372	1/2NC X 2-1/2" GRADE 5 Cap Screw	2
	4100-10-0	Shank Extension and Bolt Assembly	1
27	4100-0-9	Shank Extension	1
28	62-407	7/16NC X 1-1/2" GRADE 5 Cap Screw	1
29	64-105	7/16" STD. Lock Washer	1
30	63-104	7/16NC Hex Nut	1
31	62-406	3/8NC X 2-1/4" GRADE 5 #3 Plow Bolt	1
32	64-104	3/8" STD. Flat Washer	1
33	64-103	3/8" STD. Lock Washer	1
34	63-102	3/8NC Hex Nut	1
35	~~31-166~~ 31-178	Edge-On K-Tine Shank (Optional)	1

* These items are not used on units with Serial Numbers higher than 2985.

▲ See page A10 for more information about two special bracket locations using the 3127-0-21 Extended Bracket.

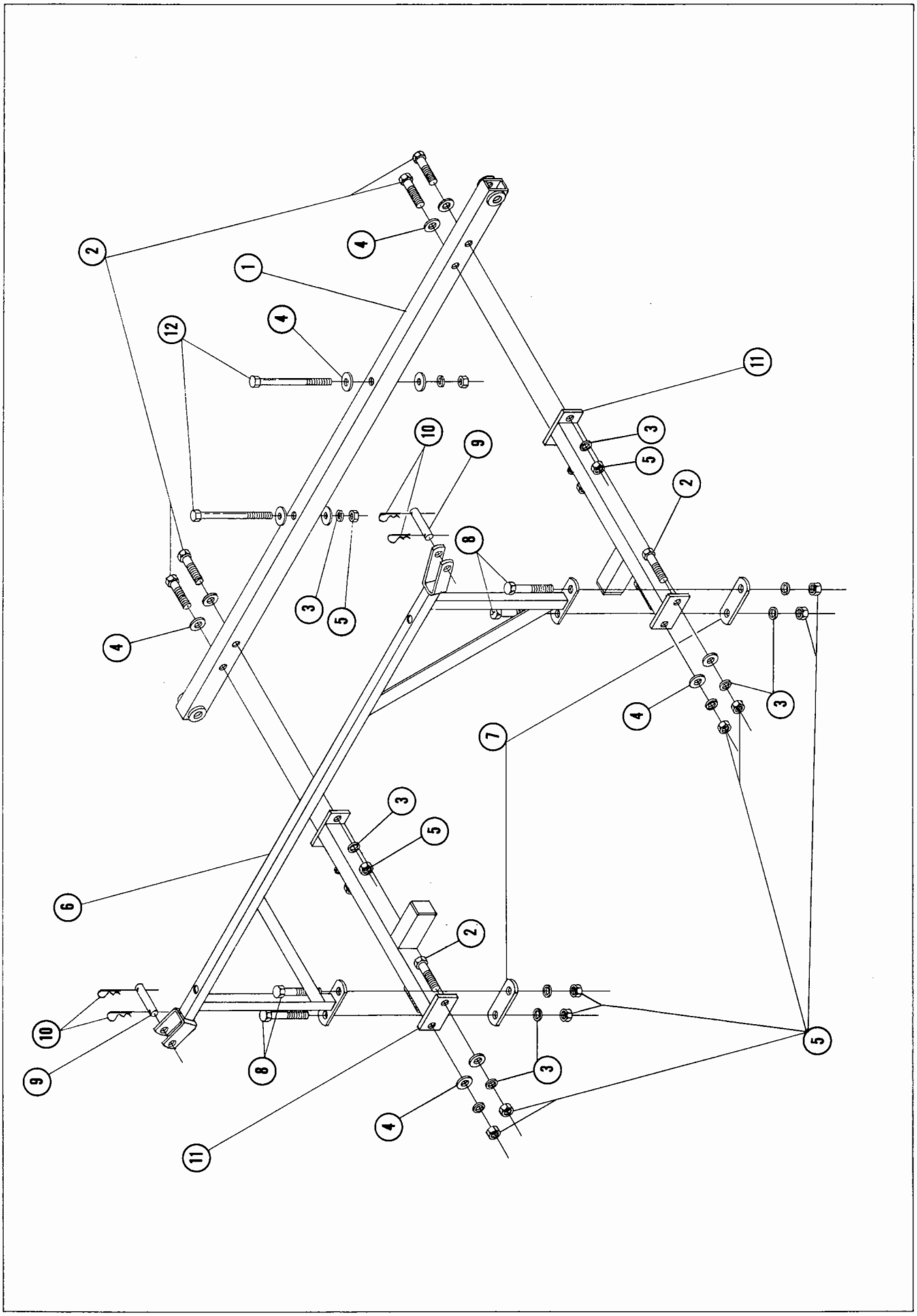

CYLINDER LUG POSITION FOR SINGLE HUBS ON CENTER SECTION
DIRECTION OF TRAVEL
CYLINDER LUG POSITION FOR WALKING BEAMS ON CENTER SECTION
DIRECTION OF TRAVEL

WING LOCK WELDMENT & FRONT FRAME WELDMENT

FOR MODELS - 4118, 4120

10/83

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4118-20-0	Wing Lock Weldment	1
2	4118-12-0	Front Frame Weldment	1
3	4122-0-10	Plate	2
4	4118-0-1	Cylinder Lug	1
5	1505-0-5	Wing Lock Pin	2
6	60-716	#3 Hair Pin Cotter	4
7	62-209	3/4NC X 6" Cap Screw	4
8	62-226	3/4NC X 10-1/2" Machine Bolt	2
9	62-202	3/4NC X 4-1/2" Cap Screw	6
10	64-113	3/4" STD. Flat Washer	10
11	64-112	3/4" STD. Lock Washer	12
12	63-112	3/4NC Hex Nut	12
13	62-247	1NC X 5-1/2" Cap Screw	2
14	64-119	1" STD. Flat Washer	2
15	64-118	1" STD. Lock Washer	2
16	63-117	1NC Hex Nut	2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CROSS BOX - WING LOCK - BRACE BOX

FOR MODELS - ALL

10/83

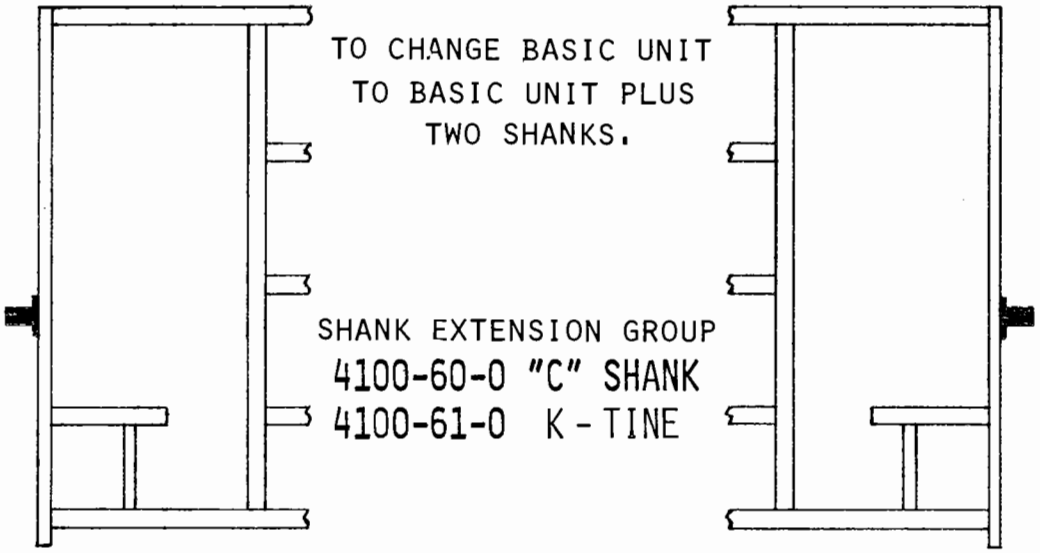
ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	4122-12-0	Cross Piece Weldment	1
2	62-202	3/4NC X 4-1/2" Cap Screw	8
3	64-112	3/4" STD. Lock Washer	14
4	64-113	3/4" STD. Flat Washer	12
5	63-112	3/4NC Hex Nut	14
*6	4122-20-0	Wing Lock Weldment	1
▲	4141-20-0	Wing Lock Weldment	1
7	4122-0-10	Plate	2
8	62-209	3/4NC X 6" Cap Screw	4
9	1505-0-5	Wing Lock Pin	2
10	60-716	#3 Hair Pin Cotter	4
11	4122-26-0	Brace Box Weldment	2
12	62-226	3/4NC X 10-1/2" Machine Bolt	2

* Used on models - 4122, 4126, 4129, 4133

▲ Used on models - 4138, 4141

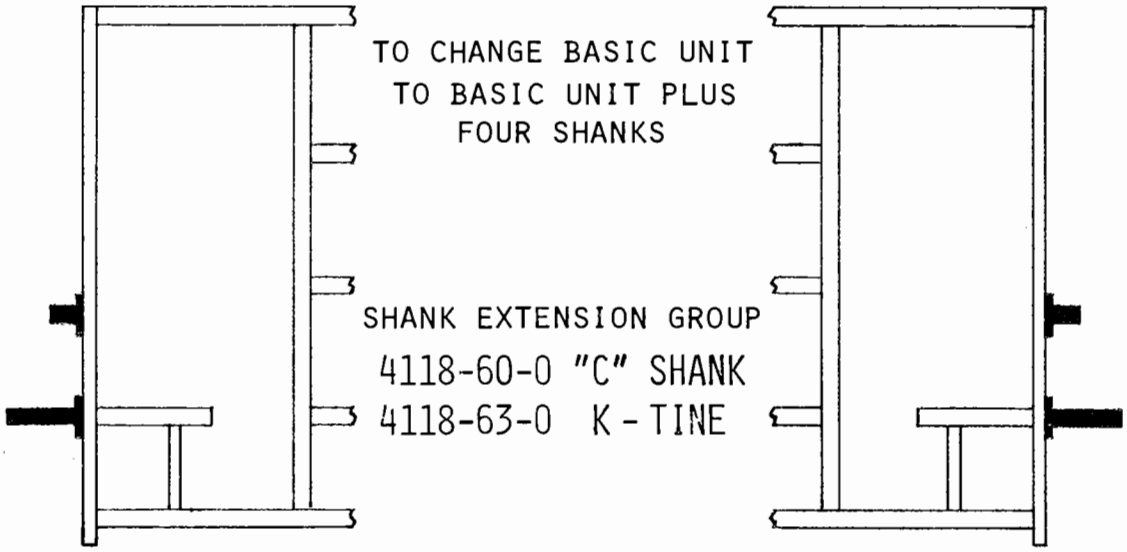
RIGID SHANK EXTENSION GROUPS

SHANK EXTENSION GROUPS INCLUDE EXTENSION ASSEMBLIES, BOLTS AND SHANK ASSEMBLIES.



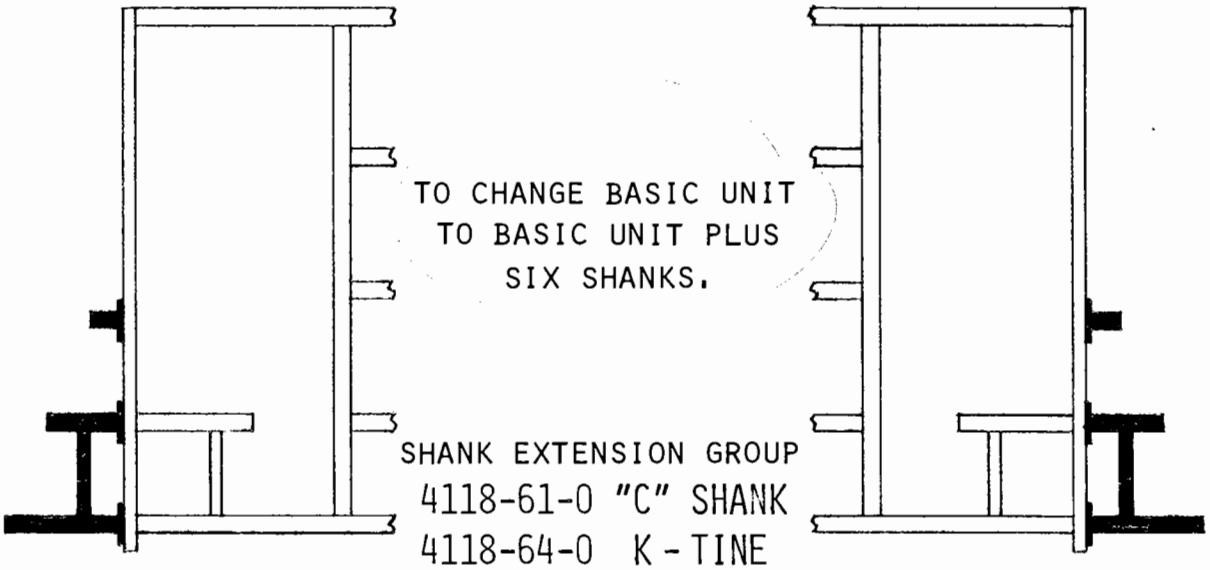
TO CHANGE BASIC UNIT
TO BASIC UNIT PLUS
TWO SHANKS.

SHANK EXTENSION GROUP
4100-60-0 "C" SHANK
4100-61-0 K-TINE



TO CHANGE BASIC UNIT
TO BASIC UNIT PLUS
FOUR SHANKS

SHANK EXTENSION GROUP
4118-60-0 "C" SHANK
4118-63-0 K-TINE

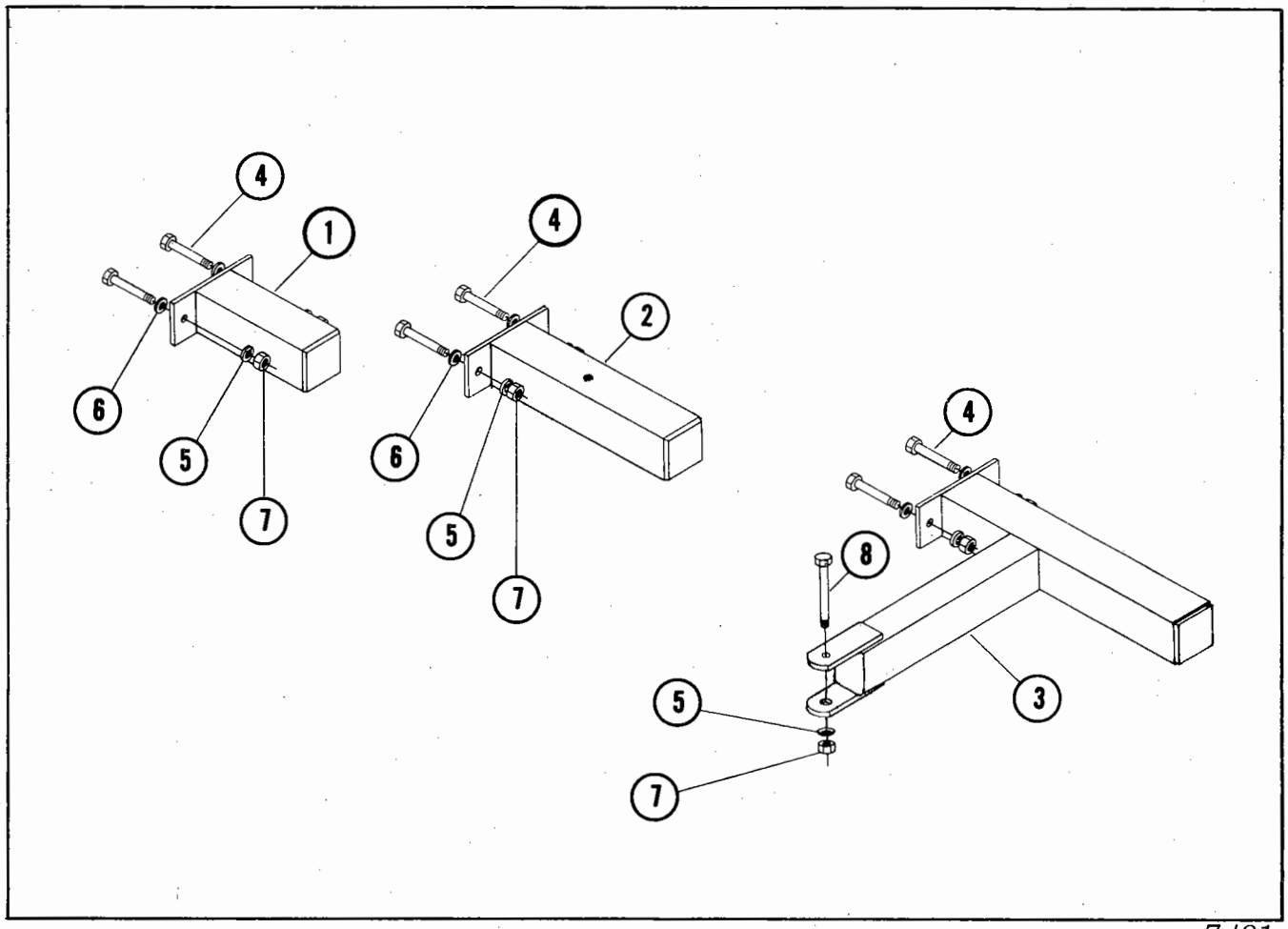


TO CHANGE BASIC UNIT
TO BASIC UNIT PLUS
SIX SHANKS.

SHANK EXTENSION GROUP
4118-61-0 "C" SHANK
4118-64-0 K-TINE

2/86

SHANK EXTENSION WELDMENTS

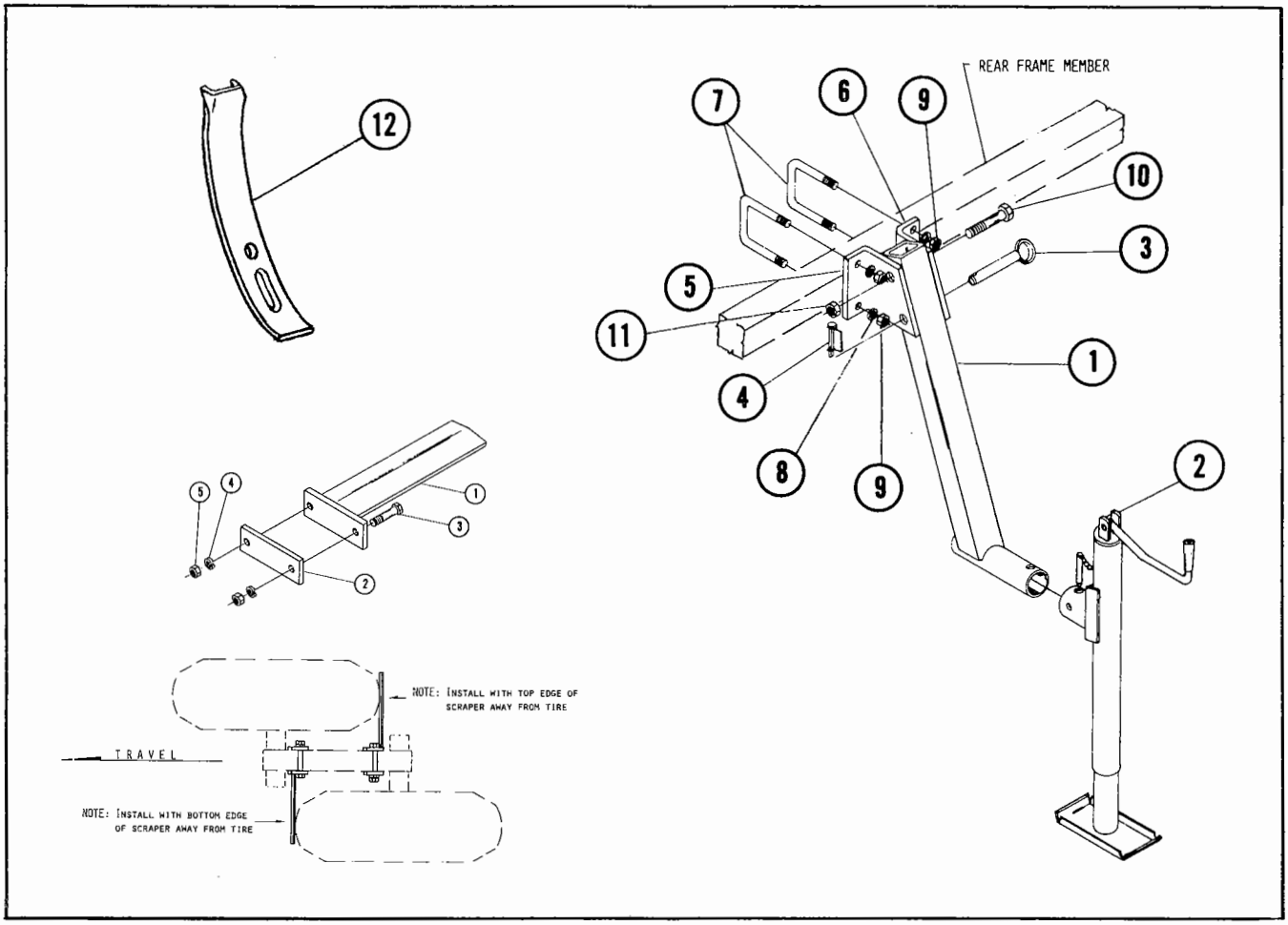


7/81

FOR MODELS - ALL

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	4122-60-0	One Shank Extension Weldment	1
2	4122-64-0	Two Shank Extension Weldment	1
3	4122-68-0	Three Shank Extension Weldment	1
4	62-198	3/4NC X 3-1/2" Cap Screw	6
5	64-112	3/4" STD Lock Washer	7
6	64-113	3/4" STD Flat Washer	6
7	63-112	3/4NC Hex Nut	7
8	62-209	3/4NC X 6" Cap Screw	1

REAR JACK MOUNTING & TIRE SCRAPER



1/84

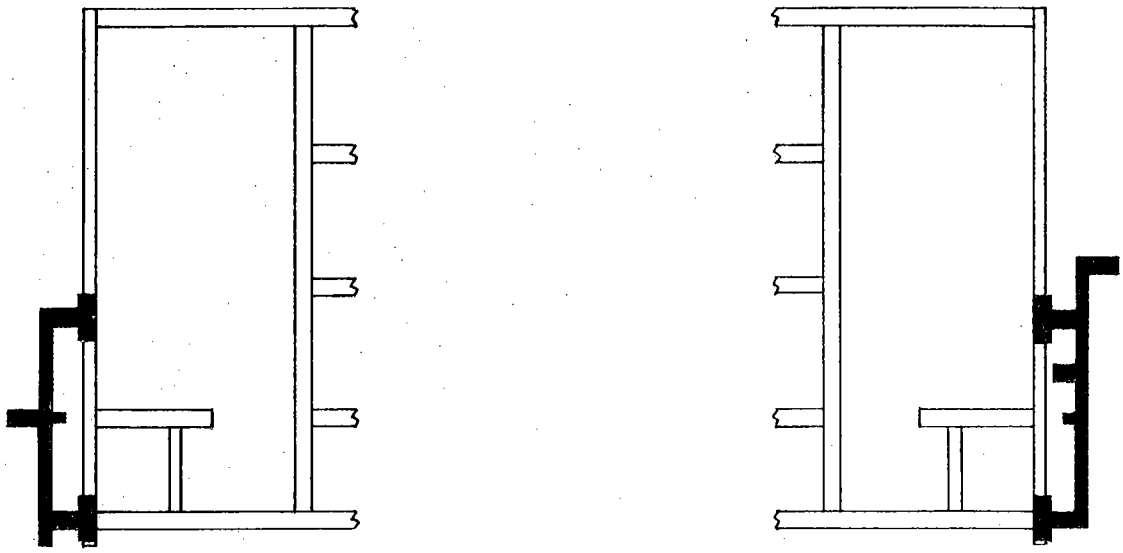
FOR MODELS - ALL

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4122-28-0	Rear Jack Mount	
1	4122-29-0	Post Weldment	1
*2	73-100	Jack Assembly	1
3	2330-87-0	Pin Assembly	1
4	60-103	P.T.O. Pin	1
5	2330-85-3	Left Bracket	1
6	2330-85-2	Right Bracket	1
7	61-126	U-Bolt	2
8	64-109	5/8"STD. Lock Washer	4
9	63-109	5/8NC Hex Nut	4
10	62-202	3/4NC X 4-1/2" Cap Screw	1
11	63-114	3/4NC Self Locking Nut	1
	4133-105-0	Tire Scraper Assembly	
1	4901-106-0	Tire Scraper	1
2	4901-106-1	Bolt Plate	1
3	62-180	5/8NC X 4-1/2" Cap Screw	2
4	64-109	5/8"STD. Lock Washer	2
5	63-109	5/8NC Hex Nut	2
12	31-148	Wear Plate	Specify

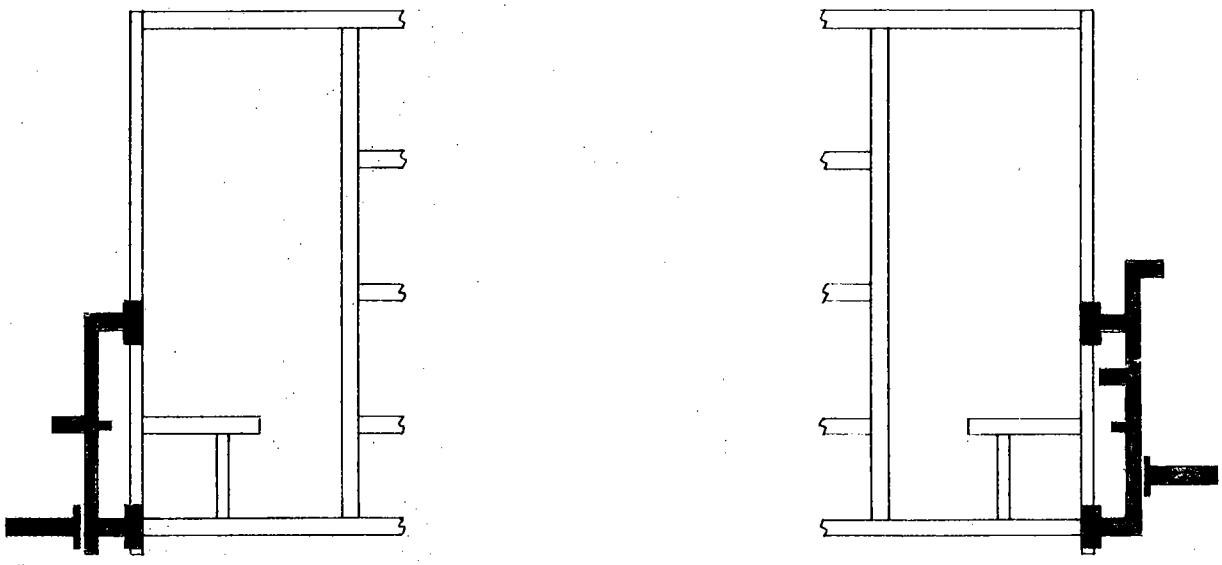
* Not part of assembly

FOLD OVER EXTENSIONS

SHANK EXTENSION GROUPS INCLUDE ASSEMBLIES, BOLTS, SHANK ASSEMBLIES AND HINGE PARTS.

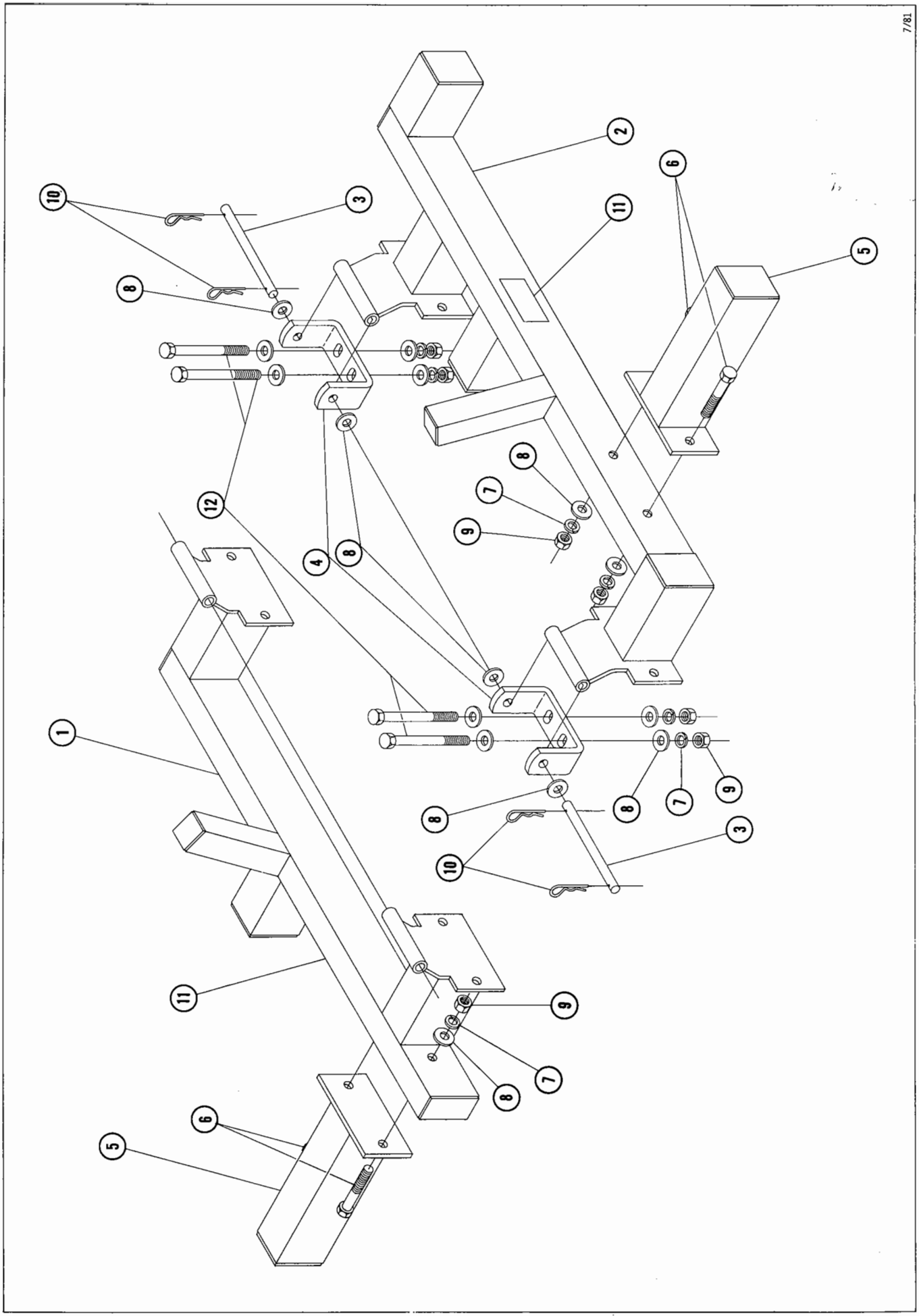


TO CHANGE BASIC UNIT TO BASIC UNIT
PLUS FOUR SHANKS
SHANK EXTENSION GROUP
4129-65-0 "C" SHANK
4129-68-0 K-TINE



TO CHANGE BASIC UNIT TO BASIC UNIT
PLUS SIX SHANKS
SHANK EXTENSION GROUP
4129-66-0 "C" SHANK
4129-69-0 K-TINE

2/86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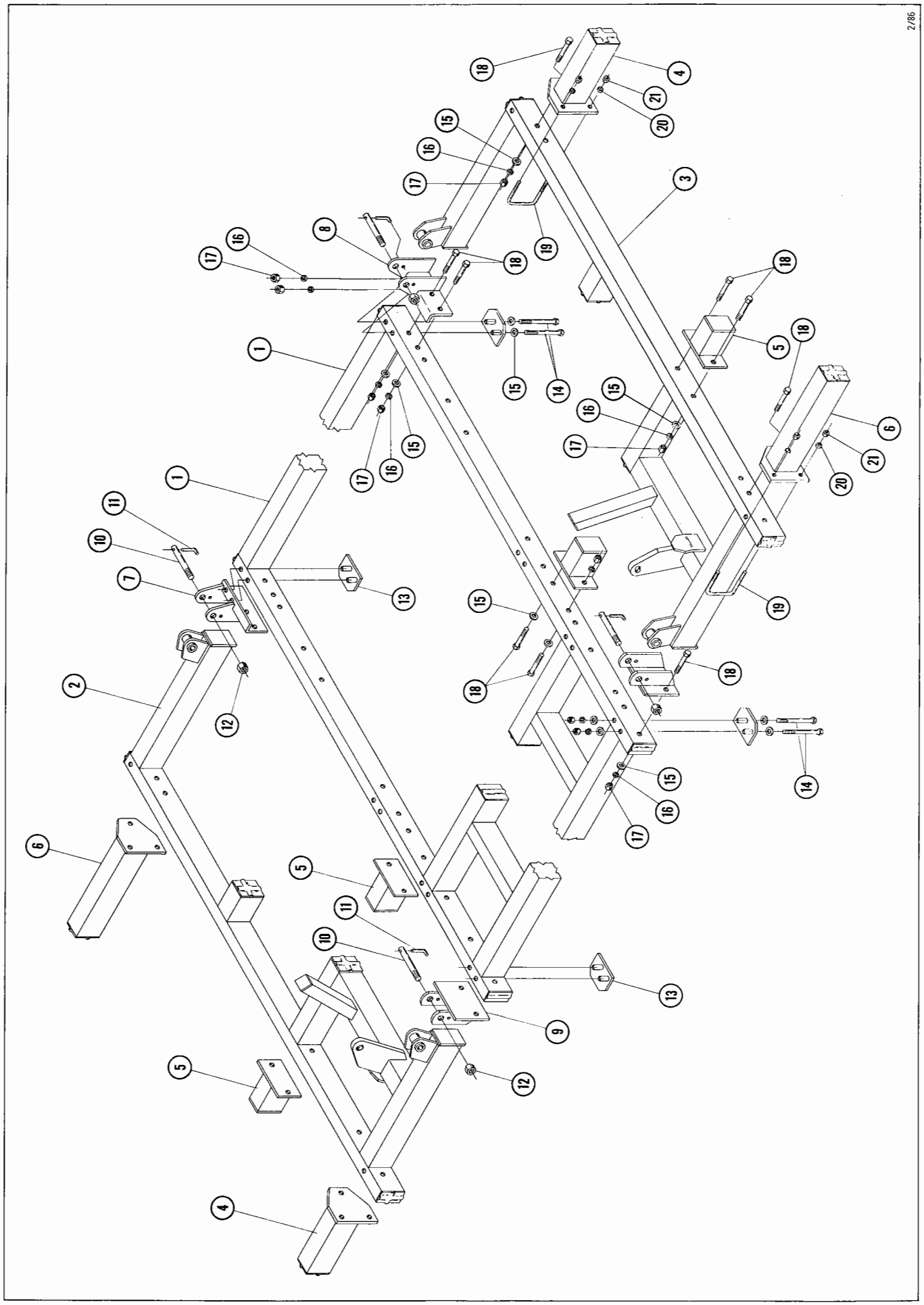
FOLD OVER EXTENSIONS

FOR MODELS - 4122, 4126, 4129, 4133

7/81

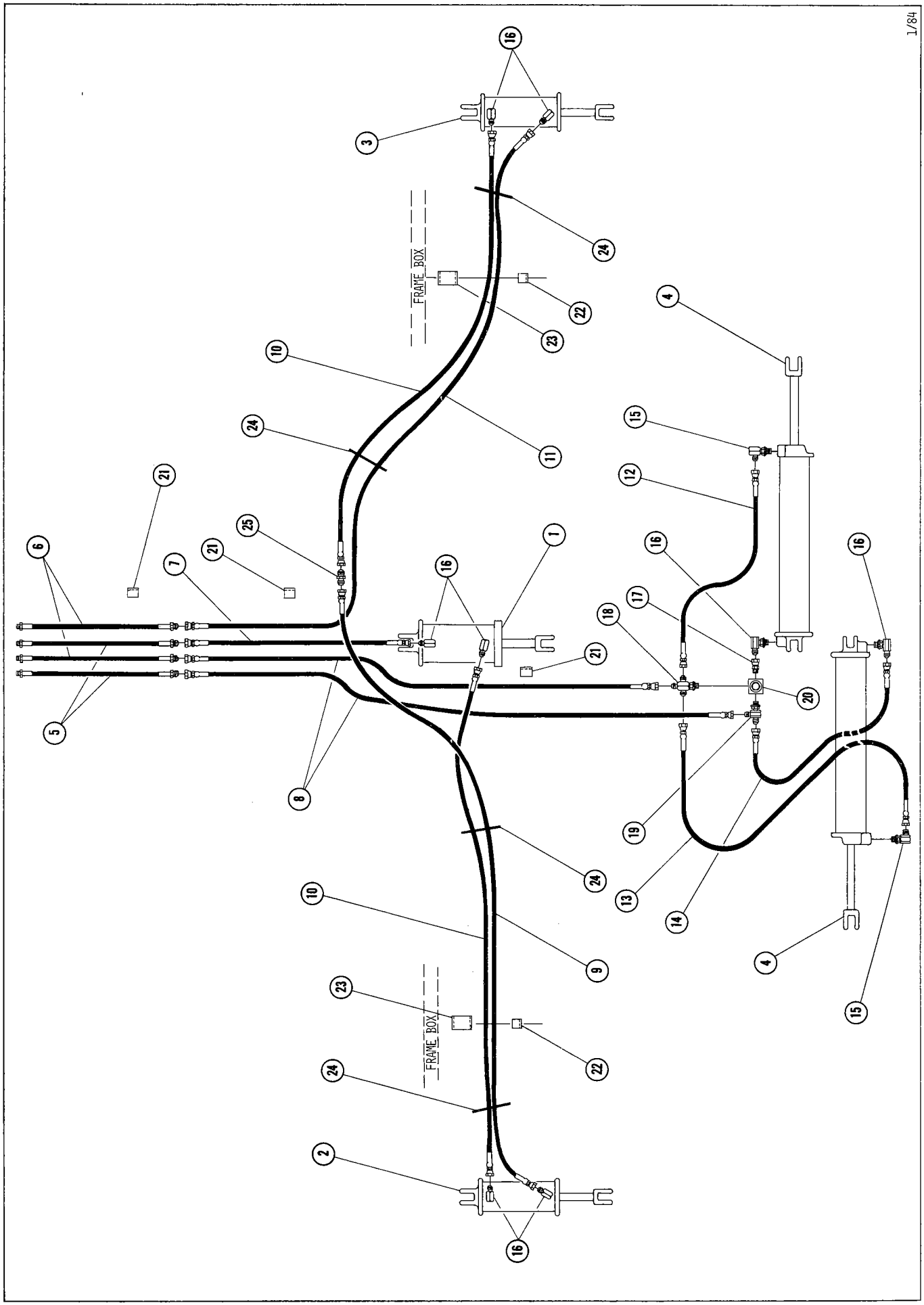
ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4122-71-0	Left Folding Extension	1
2	4122-72-0	Right Folding Extension	1
3	4122-70-1	Hinge Pin	4
4	4122-70-2	Hinge Stirrup	4
5	4122-64-0	Shank Extension	2
6	62-198	3/4NC X 3-1/2" Cap Screw	4
7	64-112	3/4" STD Lock Washer	12
8	64-113	3/4" STD Flat Washer	20
9	63-112	3/4NC Hex Nut	12
10	60-716	#3 Hair Pin Cotter	8
11	74-142	Extension Decal	2
12	62-209	3/4NC X 6" Cap Screw	8


2/86

OUTSIDE WINGS, HINGES & EXTENSIONS

FOR MODELS - 4138 and 4141 2/87

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
1	4129-15-0A	Wing Frame Weldment (For Model 4138)	2
	4133-15-0B	Wing Frame Weldment (For Model 4141)	2
2	4141-95-0	Left Extension Weldment	1
3	4141-96-0	Right Extension Weldment	1
4	4141-59-0	Two Shank Extension Weldment	2
5	4122-60-0	Short Shank Extension Weldment	4
6	4141-58-0	Three Shank Extension Weldment	2
7	4141-54-0	Left Hand Hinge Weldment	1
8	4141-55-0	Right Hand Hinge Weldment	1
9	4141-88-0	Rear Hinge Weldment	2
10	4141-85-2	Hinge Bolt	4
11	4141-85-3	Pin Lock	4
12	63-119	1NC Self Locking Nut	4
13	4141-0-4	Adjustment Plate	4
14	62-209	3/4NC X 6" Cap Screw	8
15	64-113	3/4" STD. Flat Washer	36
16	64-112	3/4" STD. Lock Washer	28
17	63-112	3/4NC Hex Nut	28
18	62-198	3/4NC X 3-1/2" Cap Screw	20
19	61-195	5/8" DIA. U-Bolt	4
20	64-109	5/8" STD. Lock Washer	8
21	63-109	5/8NC Hex Nut	8

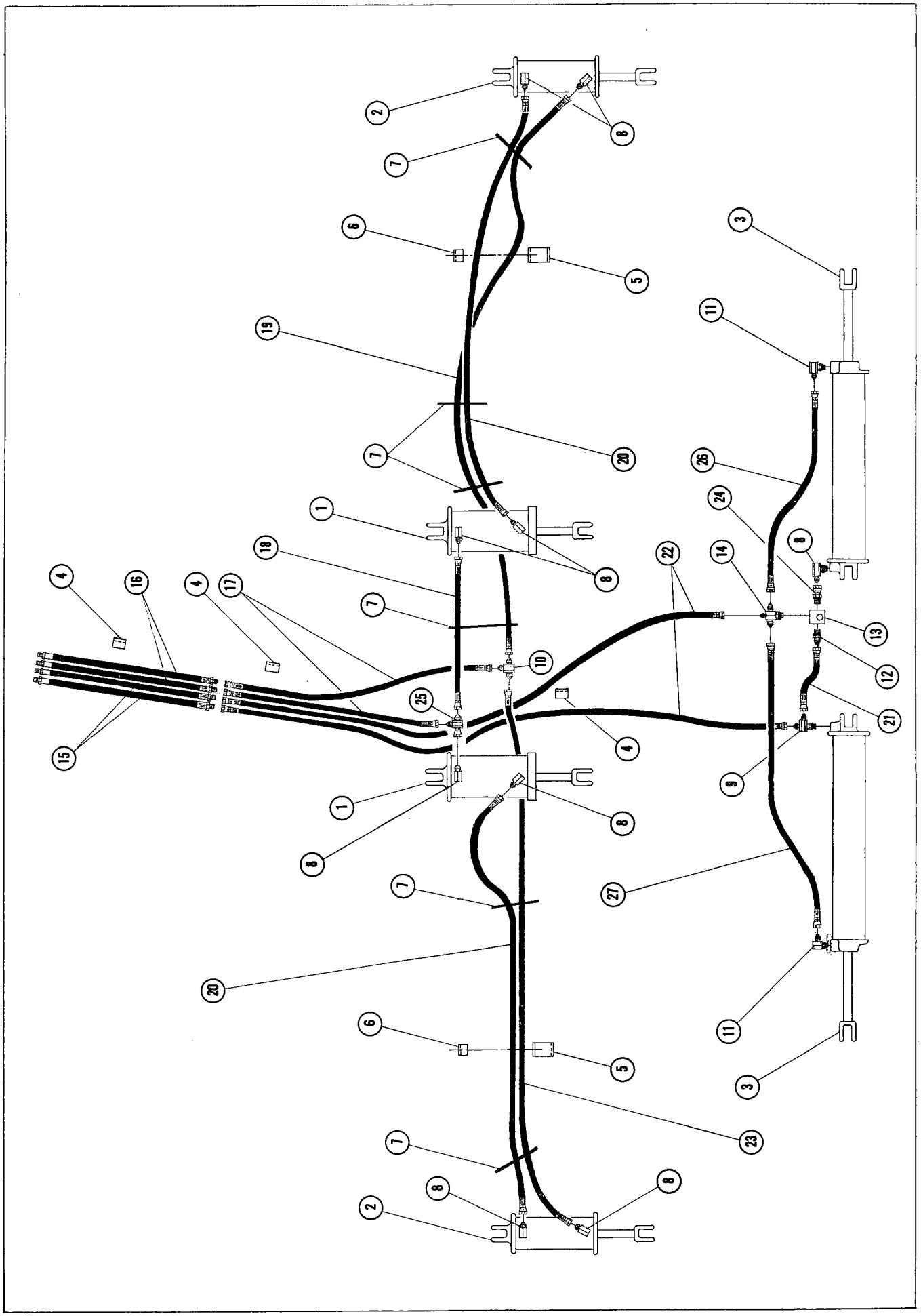

1/84
FRAME BOX
FRAME BOX

HYDRAULIC HOSE & FITTINGS

FOR MODELS - 4118, 4120 8/84

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
*1	21-114	4" X 8" Hydraulic Cylinder	1
*2	21-113	3-3/4" X 8" Hydraulic Cylinder	1
*3	21-104	3-1/2" X 8" Hydraulic Cylinder	1
*4	21-102	4" X 24" Wing Lift Hydraulic Cylinder	2
5	24-315	Hose 92" (RED WIRE BRAID) To Extend Port	2
6	24-316	Hose 92"(YELLOW WIRE BRAID) To Retract Port	2
7	24-236	Hose 98" (3/4" Swivel Both Ends) Both Models	1
8	24-230	Hose 172" (3/4" Swivel Both Ends) Both Models	2
9	24-214	Hose 89" (3/4" Swivel Both Ends) Model 4118	1
	24-220	Hose 110" (3/4" Swivel Both Ends) Model 4120	1
10	24-219	Hose 102" (3/4" Swivel Both Ends) Model 4118	2
	24-237	Hose 122" (3/4" Swivel Both Ends) Model 4120	2
11	24-233	Hose 184" (3/4" Swivel Both Ends) Model 4118	1
	24-234	Hose 207" (3/4" Swivel Both Ends) Model 4120	1
12	24-201	Hose 30" (3/4" Swivel Both Ends) Both Models	1
13	24-202	Hose 36" (3/4" Swivel Both Ends) Both Models	1
14	24-201	Hose 30" (3/4" Swivel Both Ends) Both Models	1
15	25-305	O-Ring 37° Flare 90° Restrictor (YELLOW COLOR)	2
16	25-301	O-Ring 37° Flare 90° Elbow	8
17	25-314	O-Ring 37° Female Flare	1
18	25-308	O-Ring 37° Flare Cross	1
19	25-302	O-Ring 37° Flare Tee Adapter	1
20	25-146	700 P.S.I. Pressure Relief Valve	1
*21	2426-170-5	Hose Clamp	3
*22	3514-0-2	Hose Clip	2
*23	4122-0-1	Hose Bracket	2
24	25-126	Panduit Stay Straps	11
25	25-304	37° Flare Male Coupler	1

* Not Part Of Assembly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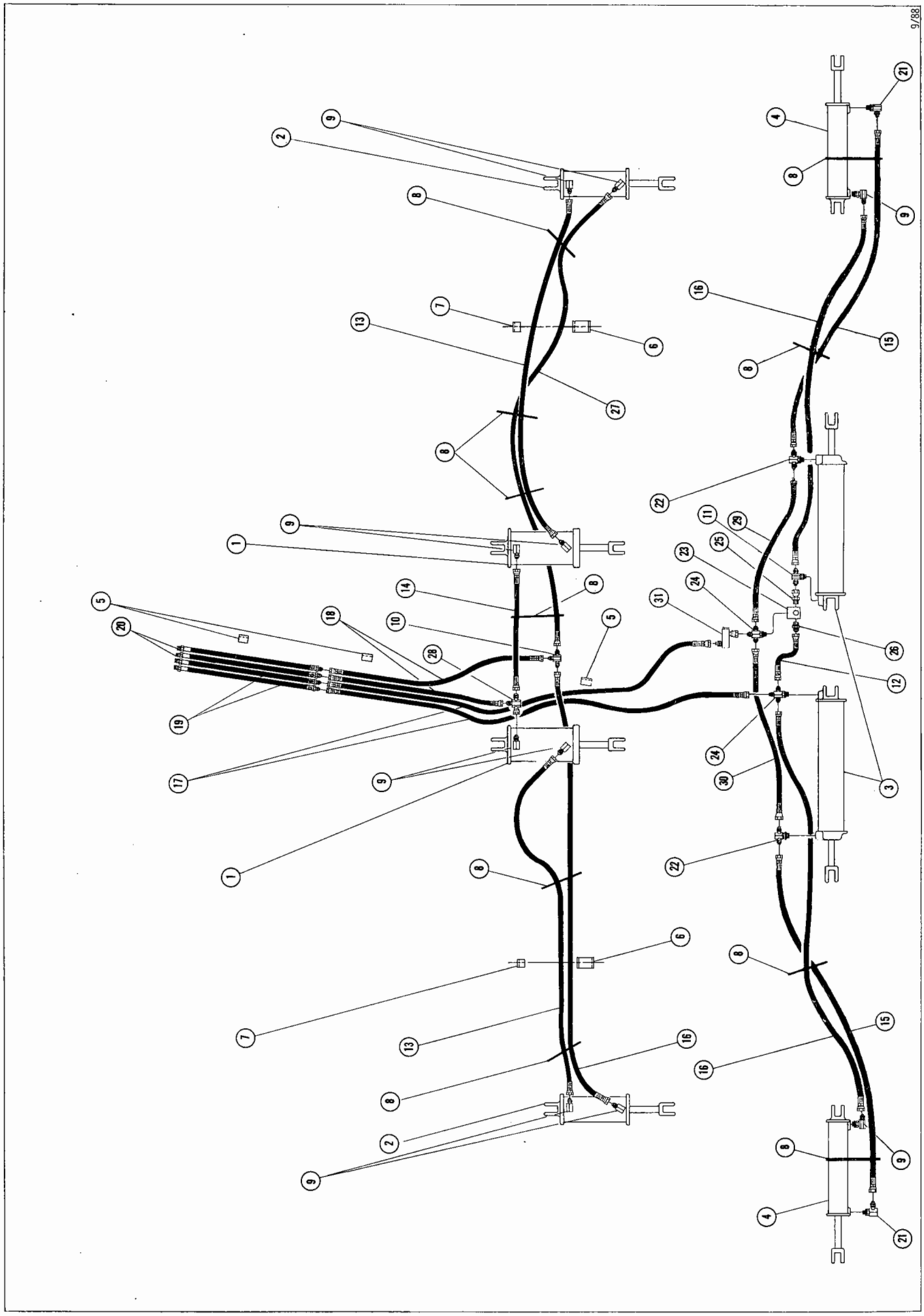
HYDRAULIC HOSE GROUP

FOR MODELS - 4122, 4126, 4129, 4133

2/86

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
*1		Hydraulic Cylinder 4" X 8"	2
*2		Hydraulic Cylinder 3-3/4" X 8"	2
*3		Hydraulic Cylinder 4" X 32"	2
*4	2426-170-5	Hose Clamp	3
*5	4122-0-1	Hose Bracket	2
*6	3514-0-2	Hose Clip	2
7	25-126	Panduit Stay Strap	11
8	25-301	O-Ring 37° Flare 90° Adapter	9
9	25-302	O-Ring 37° Flare Service Tee	1
10	25-303	37° Flare Male Tee	1
11	4956-75-0	O-Ring 37° Flare 90° Restrictor YELLOW	2
12	25-300	O-Ring 37° Flare Adapter	1
13	25-146	700 P.S.I. Relief Valve	1
14	25-308	O-Ring 37° Flare Cross Adapter	1
15	24-315	Hose 92" (RED Wire Braid) All Models	2
16	24-316	Hose 92" (YELLOW Wire Braid) All Models	2
17	24-237	Hose 122" (3/4"Swivel Both Ends) All Models	2
18	24-239	Hose 46" (3/4"Swivel Both Ends) All Models	1
19	24-224	Hose 130" (3/4"Swivel Both Ends) Model 4122	1
	24-227	Hose 148" (3/4"Swivel Both Ends) Model 4126	1
	24-230	Hose 172" (3/4"Swivel Both Ends) Model 4129	1
	24-238	Hose 192" (3/4"Swivel Both Ends) Model 4133	1
20	24-217	Hose 92" (3/4"Swivel Both Ends) Model 4122	2
	24-221	Hose 116" (3/4"Swivel Both Ends) Model 4126	2
	24-224	Hose 130" (3/4"Swivel Both Ends) Model 4129	2
	24-241	Hose 154" (3/4"Swivel Both Ends) Model 4133	2
21	24-235	Hose 16" (3/4"Swivel Both Ends) All Models	1
22	24-238	Hose 192" (3/4"Swivel Both Ends) All Models	2
23	24-236	Hose 98" (3/4"Swivel Both Ends) Model 4122	1
	24-237	Hose 122" (3/4"Swivel Both Ends) Model 4126	1
	24-225	Hose 140" (3/4"Swivel Both Ends) Model 4129	1
	24-242	Hose 161" (3/4"Swivel Both Ends) Model 4133	1
24	25-314	O-Ring 37° Female Flare	1
25	25-307	37° Flare Male / Female Tee	1
26	24-203	Hose 40" (3/4"Swivel Both Ends) All Models	1
27	24-256	Hose 48" (3/4"Swivel Both Ends) All Models	1

* Not Included In Hydraulic Hose Group.


9/88

HYDRAULIC HOSE GROUP

FOR MODELS - 4138, 4141

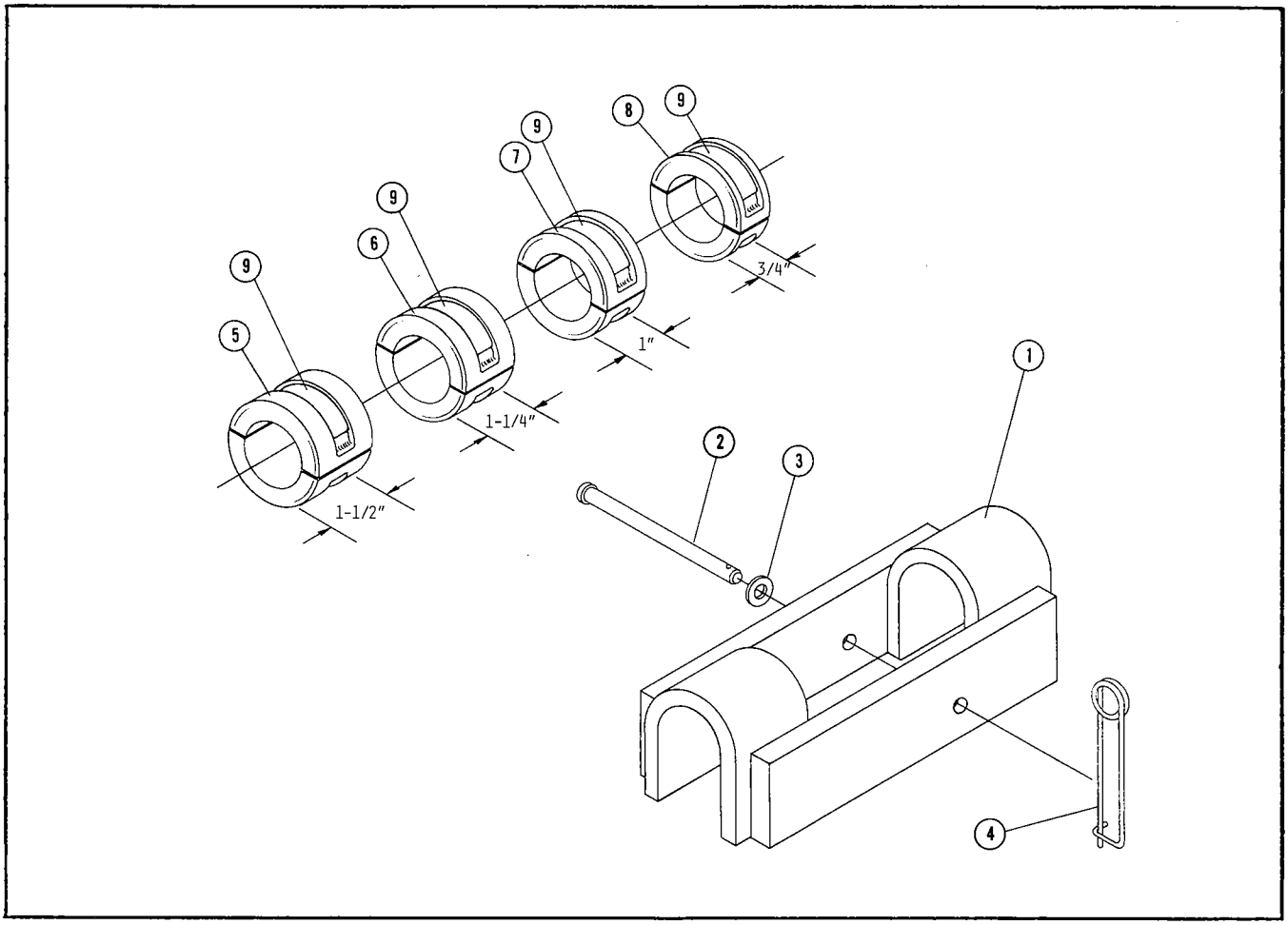
9/88

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
*1		Hydraulic Cylinder 4" X 8"	2
*2		Hydraulic Cylinder 3-3/4" X 8"	2
*3		Hydraulic Cylinder 4" X 32"	2
*4		Hydraulic Cylinder 3" X 16"	2
*5	2426-170-5	Hose Clamp	3
*6	4122-0-1	Hose Bracket	2
*7	3514-0-2	Hose Clip	2
8	25-126	Panduit Stay Straps	13
9	25-301	O-Ring 37° Flare 90° Adapter	10
10	25-303	37° Flare Male Tee	1
11	25-309	O-Ring 37° Flare Tee Adapter	1
12	24-235	Hose 16" (3/4"Swivel Both Ends) All Models	1
13	24-224	Hose 130" (3/4"Swivel Both Ends) Model 4138	2
	24-241	Hose 154" (3/4"Swivel Both Ends) Model 4141	2
14	24-239	Hose 46" (3/4"Swivel Both Ends) All Models	1
15	24-224	Hose 130" (3/4"Swivel Both Ends) Model 4138	2
	24-227	Hose 148" (3/4"Swivel Both Ends) Model 4141	2
16	24-225	Hose 140" (3/4"Swivel Both Ends) Model 4138	3
	24-242	Hose 161" (3/4"Swivel Both Ends) Model 4141	3
17	24-238	Hose 192" (3/4"Swivel Both Ends) All Models	2
18	24-237	Hose 122" (3/4"Swivel Both Ends) All Models	2
19	24-315	Hose 92" (RED Wire Braid) All Models	2
20	24-316	Hose 92" (YELLOW Wire Braid) All Models	2
21	4956-75-0	O-Ring 37° Flare 90° Restrictor	2
22	3775-75-0	O-Ring 37° Flare Tee Restrictor	2
23	25-146	700 P.S.I. Relief Valve	1
24	25-308	O-Ring 37° Flare Cross Adapter	2
25	25-314	O-Ring 37° Female Flare	1
26	25-300	O-Ring 37° Flare Adapter	1
27	24-230	Hose 172" (3/4"Swivel Both Ends) Model 4138	1
	24-238	Hose 192" (3/4"Swivel Both Ends) Model 4141	1
28	25-307	37° Flare Male / Female Tee	1
29	24-203	Hose 40" (3/4"Swivel Both Ends) All Models	1
30	24-256	Hose 48" (3/4"Swivel Both Ends) All Models	1
●31	25-324	In-Line Restrictor	1

* Not Part Of Hydraulic Hose Group

● For Model 4141 with outer wing gauge wheels.

ROAD LOCK ASSEMBLY & DEPTH CONTROL SET

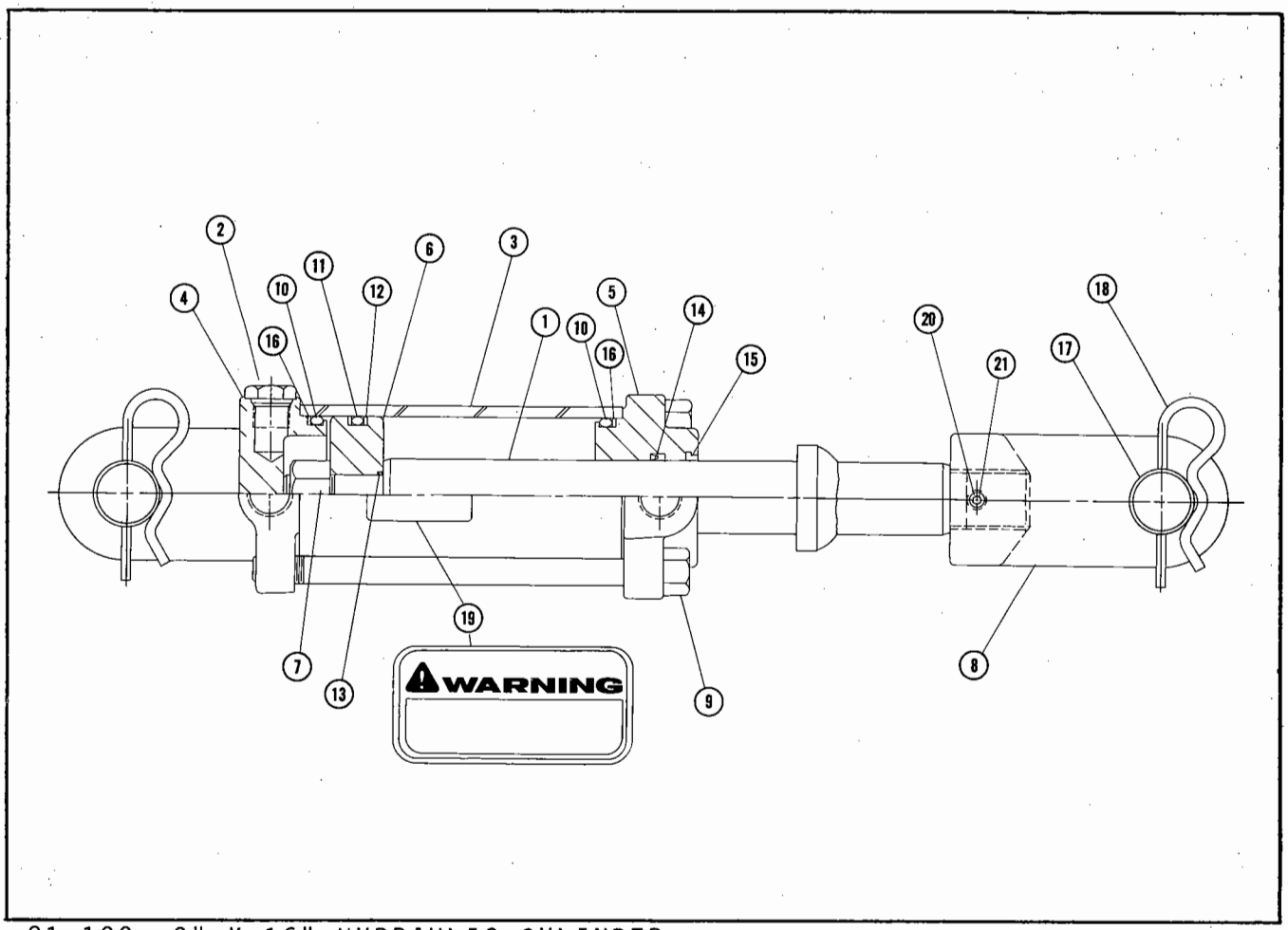


1/85

FOR MODELS - ALL

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4122-38-0A	Road Lock Assembly	1
1	4122-37-0A	Road Lock Weldment	1
2	60-210	3/8" DIA. X 4" Clevis Pin	1
3	64-102	5/16" STD. Flat Washer	1
4	60-104	Safety Pin	1
	21-200	Depth Control Set	1
5	21-320	1-1/2" Segment	2
6	21-319	1-1/4" Segment	2
7	21-318	1" Segment	2
8	21-317	3/4" Segment	4
9	21-321	Clip	5

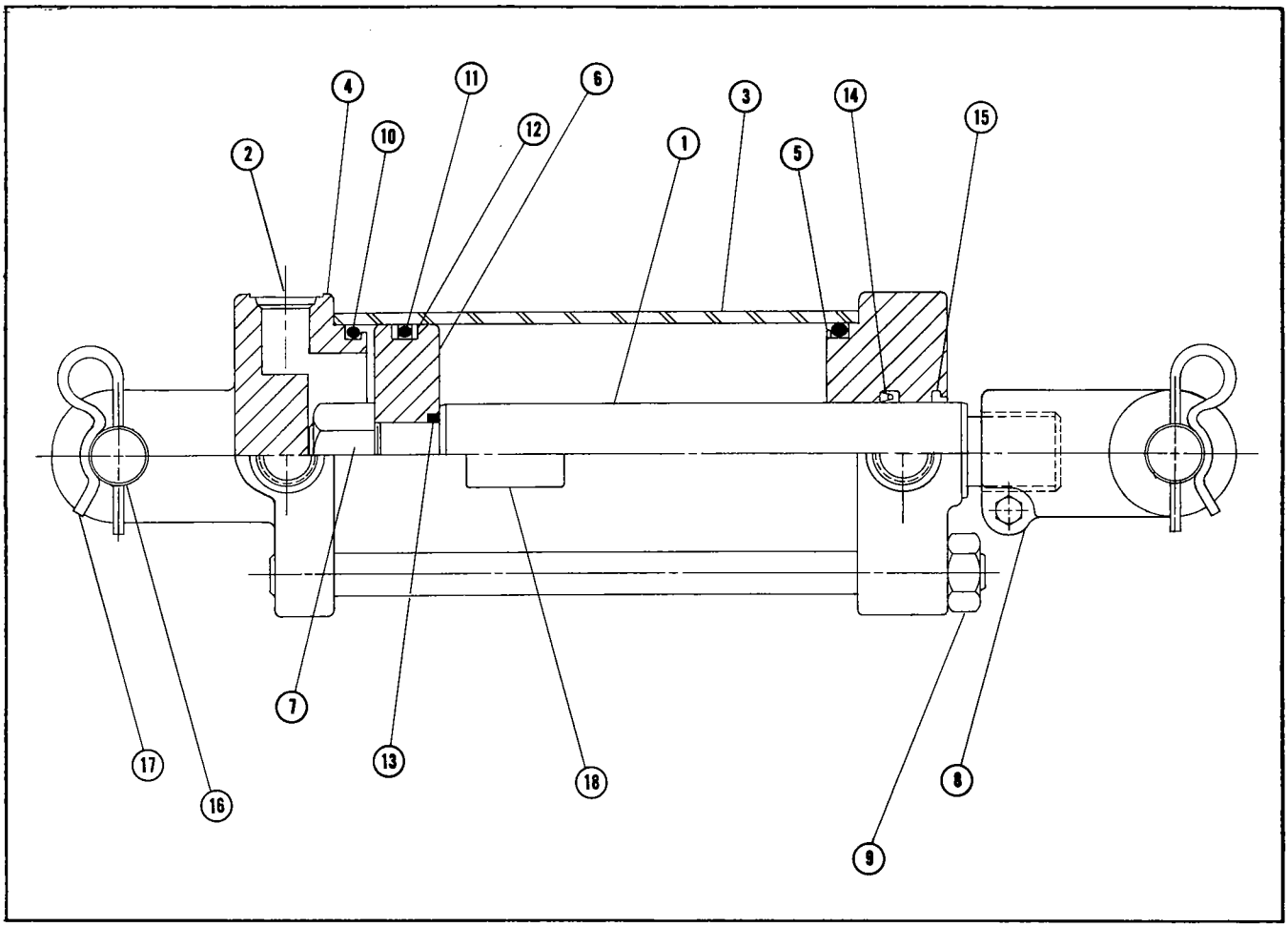
PRINCE HYDRAULIC CYLINDER



21-100 3" X 16" HYDRAULIC CYLINDER 9/87
Retracted - 31-1/2" Stroke - 16" Extended - 47-1/2" Rod - 1-3/8"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	21-504	Piston Rod Assembly	1
2	21-404	#8 SAE Plug	1
3	21-205	Tube	1
4	21-206	Butt Casting	1
5	21-207	Gland Casting	1
6	21-208	Piston	1
7	21-209	Lock Nut	1
8	21-210	Clevis Assembly	1
9	21-211	Tie Rod	4
*10	21-525	O-Ring	2
*11	21-213	O-Ring	1
*12	21-524	Back-Up Washer	2
*13	21-215	O-Ring	1
*14	21-351	U-Cup	1
*15	21-218	Wiper	1
*16	21-523	Back-Up Washer	2
17	21-296	Clevis Pin	2
18	21-219	Hair Pin Clip	4
19	74-113	Cylinder Warning Decal	1
20	21-407	Nylon Clevis Lock Plug	1
21	62-310	3/8NF X 3/8" Allen Head Set Screw	1
	21-220	Seal Kit (* Items Included In Kit)	

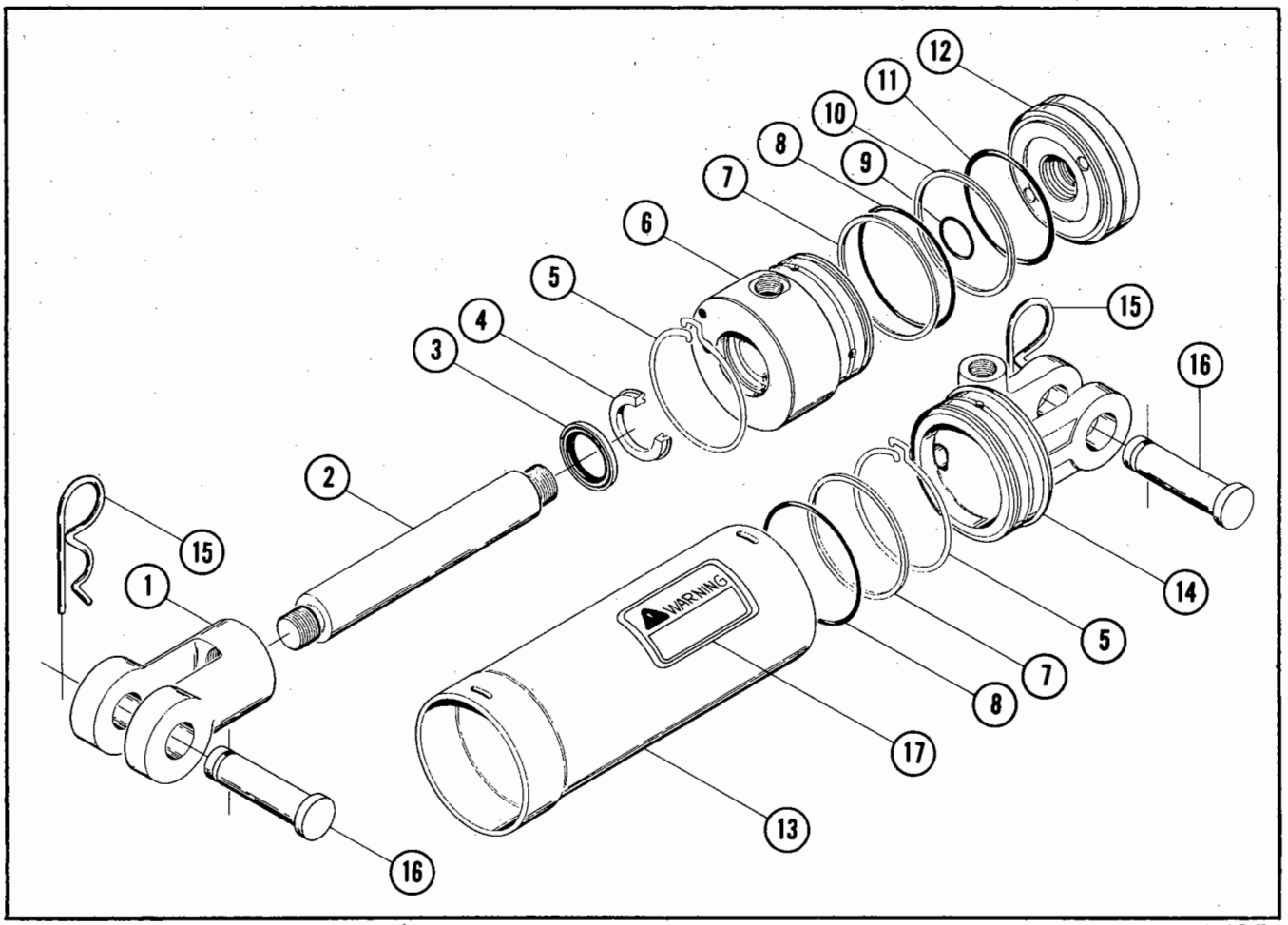
PRINCE HYDRAULIC CYLINDER



21-107 4" x 32" HYDRAULIC CYLINDER 9/87
Retracted - 42-3/4" Stroke - 32" Extended - 74-3/4" Rod - 1-1/2"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	21-265	Piston Rod	1
2	21-404	#8 SAE Plug	1
3	21-266	Tube	1
4	21-283	Butt	1
5	21-223	Gland	1
6	21-224	Piston	1
7	21-225	Lock Nut	1
8	21-509	Clevis Assembly	1
9	21-526	Tie Rod	4
*10	21-289	O-Ring	2
*11	21-290	O-Ring	1
*12	21-291	Back-Up Washer	2
*13	21-228	O-Ring	1
*14	21-350	U-Cup	1
*15	21-231	Wiper	1
16	21-296	Clevis Pin	2
17	21-219	Hair Pin Clip	4
18	74-113	Cylinder Warning Decal	1
19	21-407	Nylon Clevis Lock Plug	1
20	62-310	3/8NF X 3/8" Allen Head Set Screw	1
	21-232	Seal Kit (* Items Contained In Kit)	

CESSNA HYDRAULIC CYLINDER



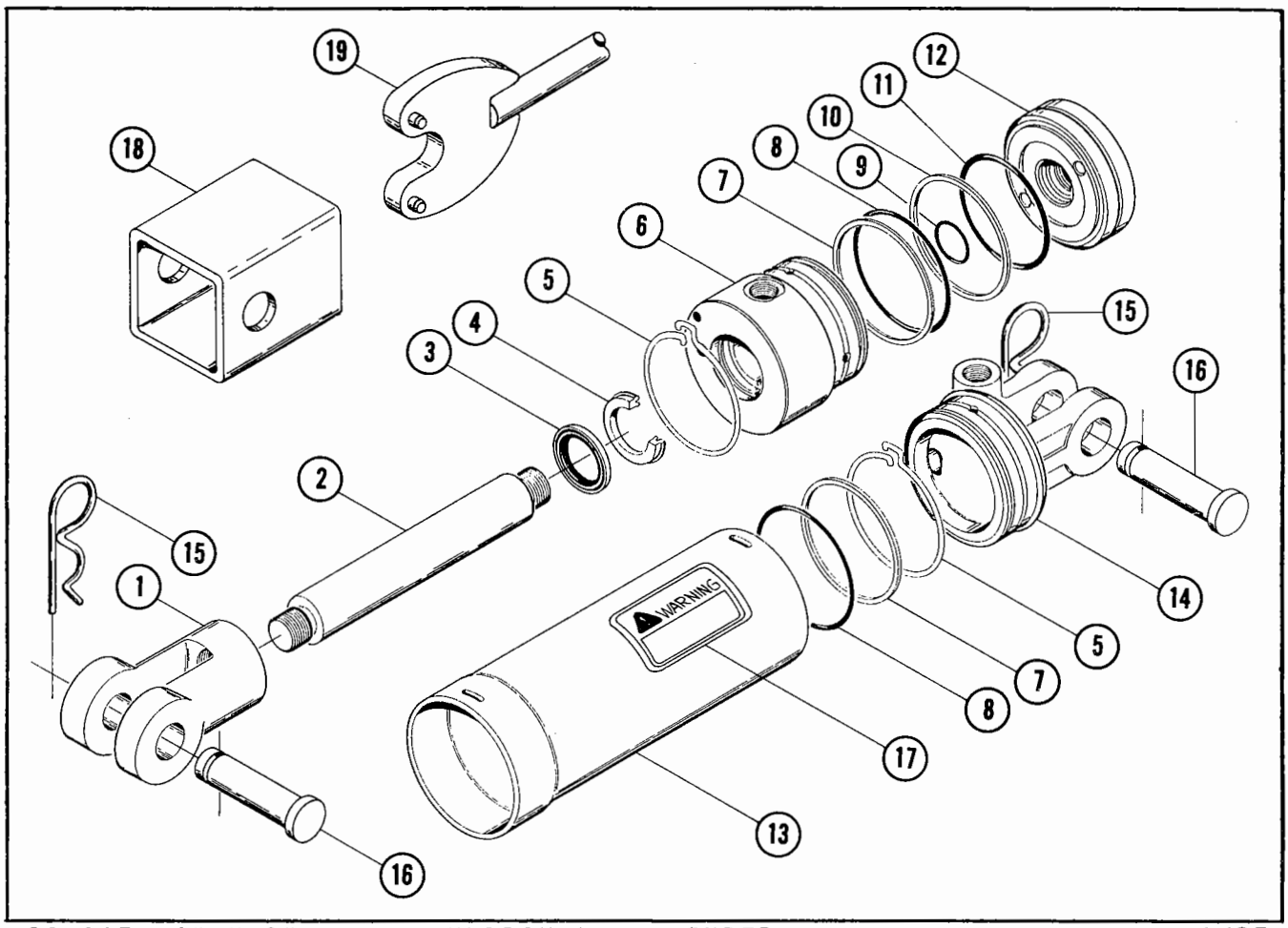
22-106 3-3/4" X 8" CESSNA HYDRAULIC CYLINDER 1/85

Retracted - 20-1/4" Extended - 28-1/4" Stroke - 8" Rod Diameter - 1-3/8"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	22-274	Rod End	1
2	22-275	Piston Rod	1
*3	22-276	Wiper Seal	1
*4	22-277	U-Cup Seal	1
*5	22-278	Lock Ring	2
6	22-279	Bearing	1
*7	22-280	Back-Up Washer	2
*8	22-281	O-Ring	2
*9	22-282	O-Ring	1
*10	22-283	Slipper Ring	1
*11	22-284	O-Ring	1
12	22-285	Piston	1
13	22-286	Barrel	1
14	22-287	Head	1
15	22-234	Spring Lock Pin	2
16	22-273	U-Set Clevis Pin	2
17	74-113	Cylinder Warning Decal	1
▲	22-249	Seal Kit (* Items Included In Kit)	

▲Not Included In Cylinder Assembly

CESSNA HYDRAULIC CYLINDER

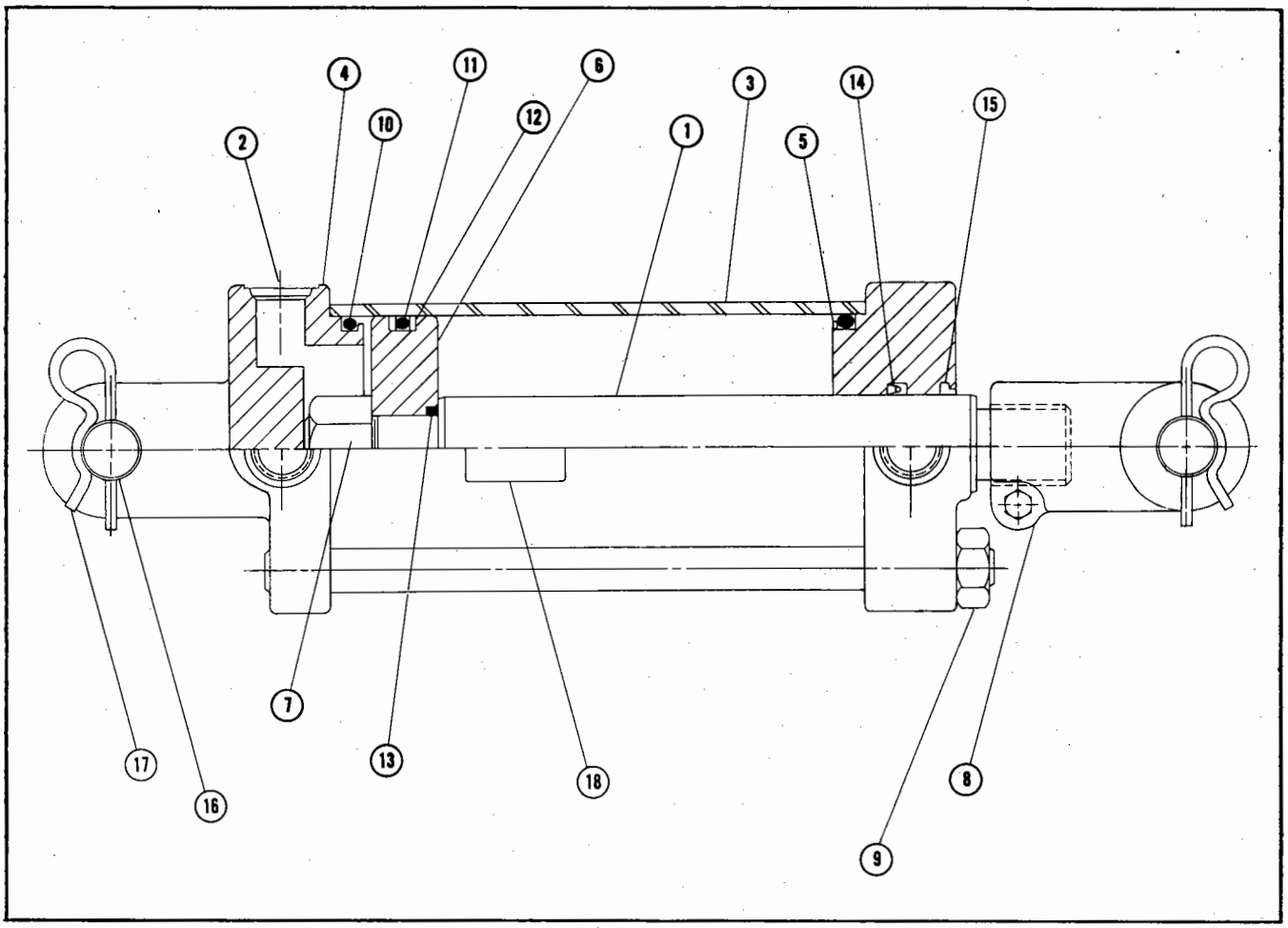


22-107 4" X 8" CESSNA HYDRAULIC CYLINDER 1/85
Retracted - 20-1/4" Extended - 28-1/4" Stroke - 8" Rod Diameter - 1-3/8"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	22-288	Rod End	1
2	22-289	Piston Rod	1
*3	22-276	Wiper Seal	1
*4	22-277	U-Cup Seal	1
*5	22-217	Lock Ring	2
6	22-290	Bearing	1
*7	22-215	Back-Up Washer	2
*8	22-213	O-Ring	2
*9	22-282	O-Ring	1
*10	22-291	Slipper Ring	1
*11	22-214	O-Ring	1
12	22-292	Piston	1
13	22-293	Barrel	1
14	22-226	Head	1
15	22-234	Spring Lock Pin	2
16	22-273	U-Set Clevis Pin	2
17	74-113	Cylinder Warning Decal	1
	22-250	Seal Kit (* Items Included In Kit)	
▲	4901-79-0	Cessna Cylinder Tool Kit (For Repairs Only)	
18	4901-79-1	Clevis Stop	1
19	4901-80-0	Spanner Wrench	1

▲ Not Included In Cylinder Assembly

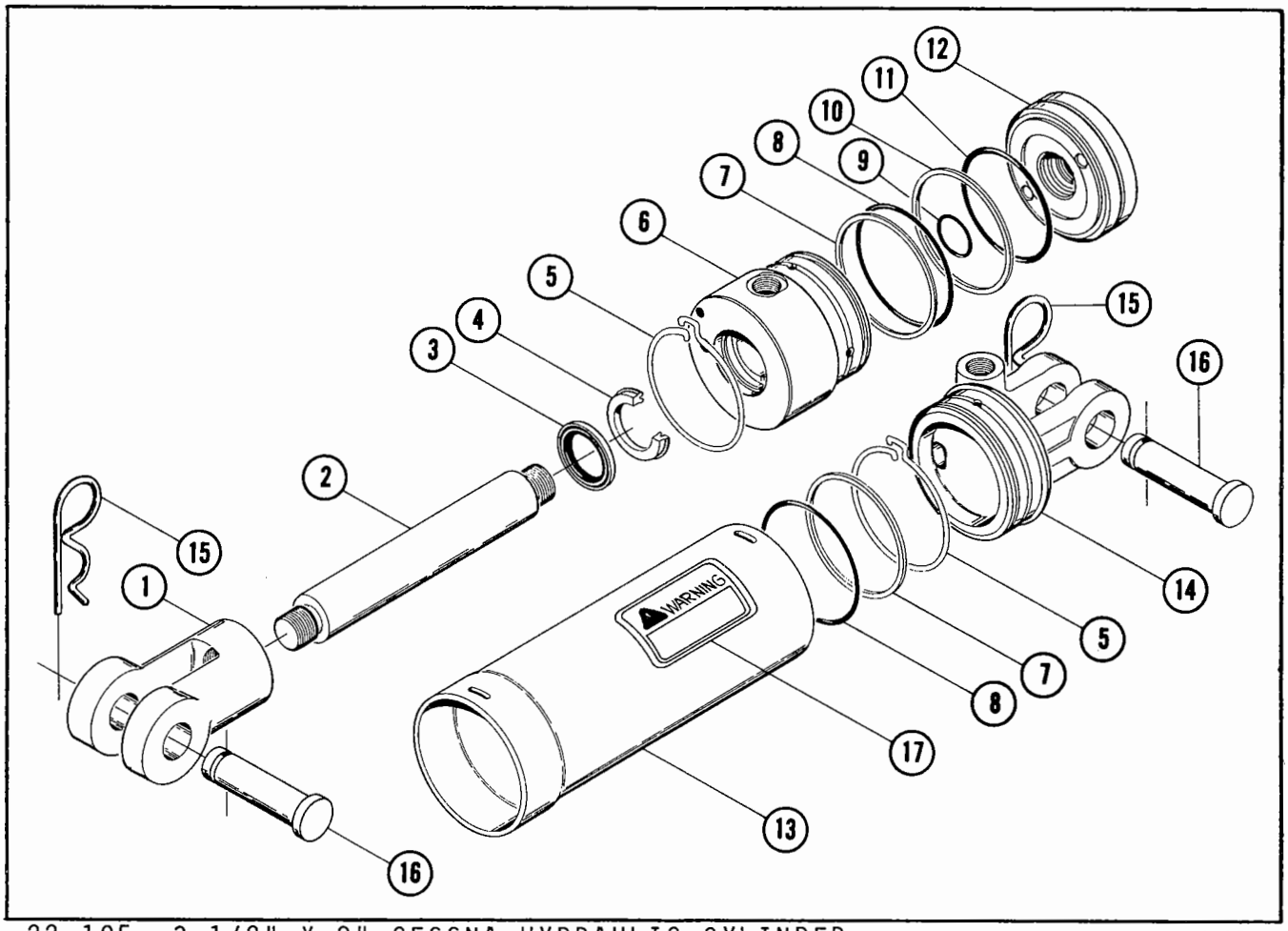
PRINCE HYDRAULIC CYLINDER



21-102 4" X 24" PRINCE HYDRAULIC CYLINDER 7/86
Retracted - 36-3/4" Stroke - 24" Extended - 60-3/4" Rod - 1-1/2"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	21-221	Piston Rod	1
2	21-404	#8 SAE Plug (Not Shown)	1
3	21-222	Tube	1
4	21-283	Butt	1
5	21-223	Gland	1
6	21-224	Piston	1
7	21-225	Lock Nut	1
8	21-507	Clevis Assembly	1
9	21-227	Tie Rod	4
*10	21-289	O-Ring	2
*11	21-290	O-Ring	1
*12	21-291	Back-Up Washer	2
*13	21-228	O-Ring	1
*14	21-350	U-Cup	1
*15	21-231	Wiper	1
16	21-296	Clevis Pin	2
17	21-219	Hair Pin Clip	4
18	74-113	Cylinder Warning Decal	1
	21-232	Seal Kit (* Items Contained In Kit)	

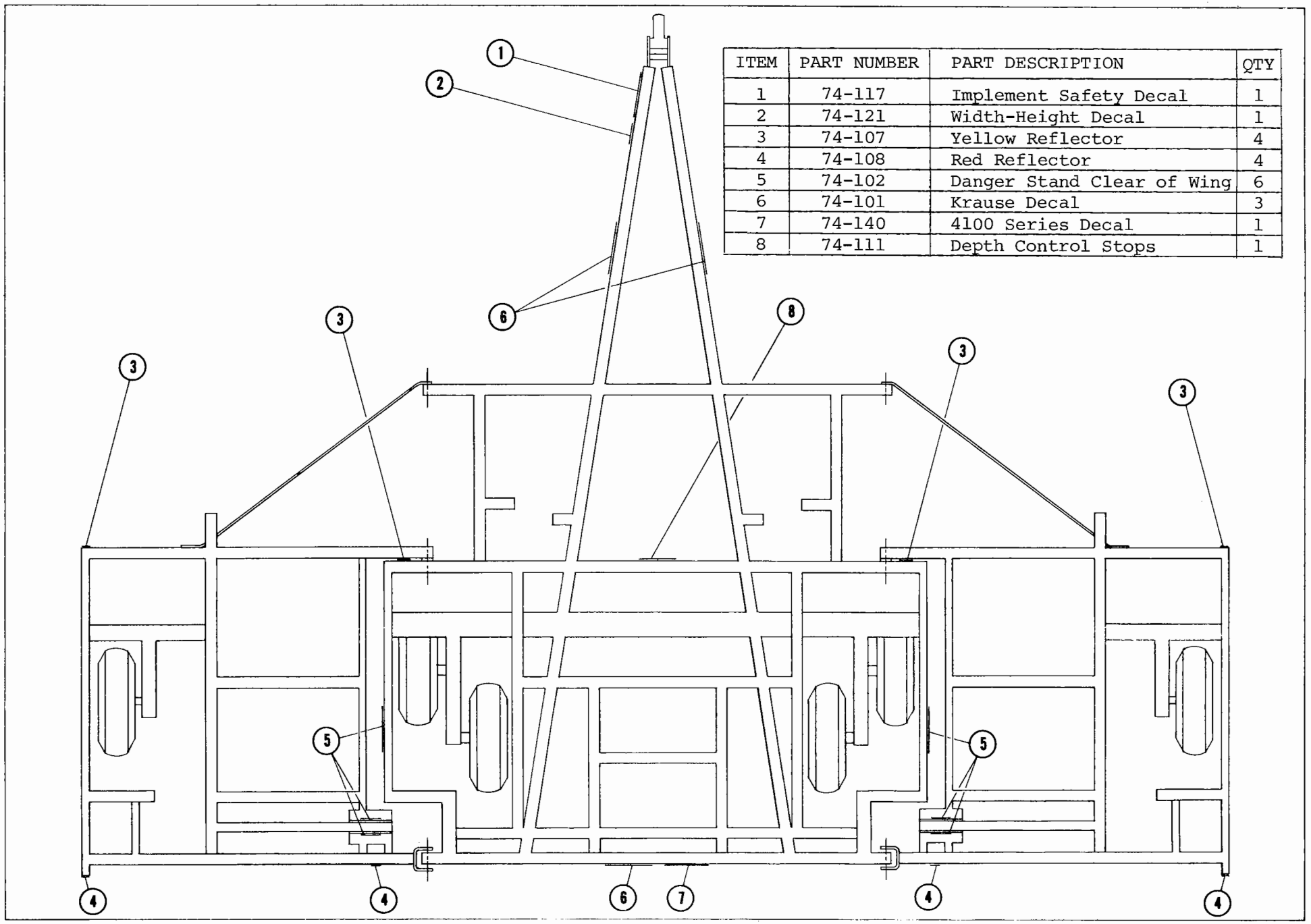
CESSNA HYDRAULIC CYLINDER



22-105 3-1/2" X 8" CESSNA HYDRAULIC CYLINDER 1/85
Retracted - 20-1/4" Extended - 28-1/4" Stroke - 8" Rod Diameter - 1-1/4"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	22-259	Rod End	1
2	22-260	Piston Rod	1
*3	22-261	Wiper	1
*4	22-262	U-Cup Seal	1
*5	22-263	Lock Ring	2
6	22-264	Bearing	1
*7	22-265	Back-Up Washer	2
*8	22-266	O-Ring	2
*9	22-267	O-Ring	1
*10	22-268	Slipper Ring	1
*11	22-269	O-Ring	1
12	22-270	Piston	1
13	22-271	Barrel	1
14	22-272	Head	1
15	22-234	Spring Lock Pin	2
16	22-273	U-Set Clevis Pin	2
17	74-113	Cylinder Warning Decal	1
▲	22-248	Seal Kit (* Items Included In Kit)	1

▲ Items Not Included In Hydraulic Cylinder Assembly



ITEM	PART NUMBER	PART DESCRIPTION	QTY
1	74-117	Implement Safety Decal	1
2	74-121	Width-Height Decal	1
3	74-107	Yellow Reflector	4
4	74-108	Red Reflector	4
5	74-102	Danger Stand Clear of Wing	6
6	74-101	Krause Decal	3
7	74-140	4100 Series Decal	1
8	74-111	Depth Control Stops	1

ASSEMBLY SECTION

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

PROPER BOLT USE

OVER TORQUED BOLTS is probably one of the most frequent causes for bolt breakages. MAXIMUM TIGHTNESS DOES NOT MEAN MAXIMUM STRENGTH. A bolt in a stretched condition due to over torsioning is more subject to failure under a heavy load or shock than a bolt that is correctly tightened. Torque hand wrench or torque adjustable impact wrenches should be used. If standard wrenches are used, try to refrain from using "cheater bars.". Cheater bars increase the risk of over torsioning. When torqued properly, bolts and their joining members will give longer, more satisfying service.

The following table lists the torque requirements for bolts with coarse threads. Torque values for plated or oiled bolts are unpredictable due to the lubricating effect and require slightly less torque than black bolts.

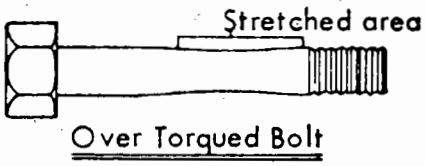
RECOMMENDED TORQUE VALUES IN FOOT POUNDS

For S.A.E. Grade 2 and Grade 5 coarse thread cap screws and bolts shown are suggested MAXIMUM for fasteners, carrying only the residue oil of the manufacturer.

BOLT SIZE	BLACK BOLTS GRADE 2	BLACK BOLTS GRADE 5	PLATED or OILED BOLTS GRADE 2	PLATED or OILED BOLTS GRADE 5
3/8"	19	32	16	24
7/16"	30	50	24	40
1/2"	45	72	34	58
5/8"	86	150	68	118
3/4"	150	250	120	200
7/8"	140	360	105	280
1"	220	560	175	450
1-1/8"	260	700	205	560
1-1/4"	380	980	300	780
1-1/2"	580	1200	460	960

TIE ROD TIGHTENING TORQUE

1-1/2" Dia. Rods	600 Ft. Lbs
1-3/4" Dia. Rods	800 Ft. Lbs
2" Dia. Rods	1200 Ft. Lbs



Over Torqued Bolt

SAE GRADE 2


SAE GRADE 5

Incorrect use of GRADED bolts is another problem. Generally two grades are used on Krause tools, Grade 2 and Grade 5. Grade 2 bolts are used in low stress areas or for shear bolts to protect more expensive parts. Grade 5 bolts are approximately 60-150% stronger than Grade 2 and are used in higher stress areas. It is very important that these bolts are used in the proper locations as recommended

ASSEMBLY

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

SAFETY

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

ASSEMBLY

Select an area for the assembly that will be large enough to accommodate the completed field cultivator. The surface of the work area should be as level as possible. Use the proper hand tools to insure proper bolt tightness. Refer to the page titled "Proper Bolt Use" for the recommended torque values of different size bolts.

PART LOCATIONS

FRONT - The front of the frame can be determined by the location of the name plate that has been attached to the right 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 the frame is right side up, position the frame with the wing lift hydraulic cylinder lug on top.

ASSEMBLY STEPS

Shown here is one method of assembly that can be accomplished with a small crew of assemblers. Each step of assembly is accompanied with a picture or illustration with part names and bolt sizes listed.

WARNING: ALWAYS ATTACH CHAINS SECURELY. IF A CHAIN WOULD BREAK, THE RECOIL ACTION COULD CAUSE THE LOOSE END TO WHIP IN ANY DIRECTION AND INJURE ANY PERSON NEARBY.

PROOF LOAD RATING OF CHAIN MUST EQUAL OR EXCEED 5 TIMES THE WEIGHT BEING LIFTED.

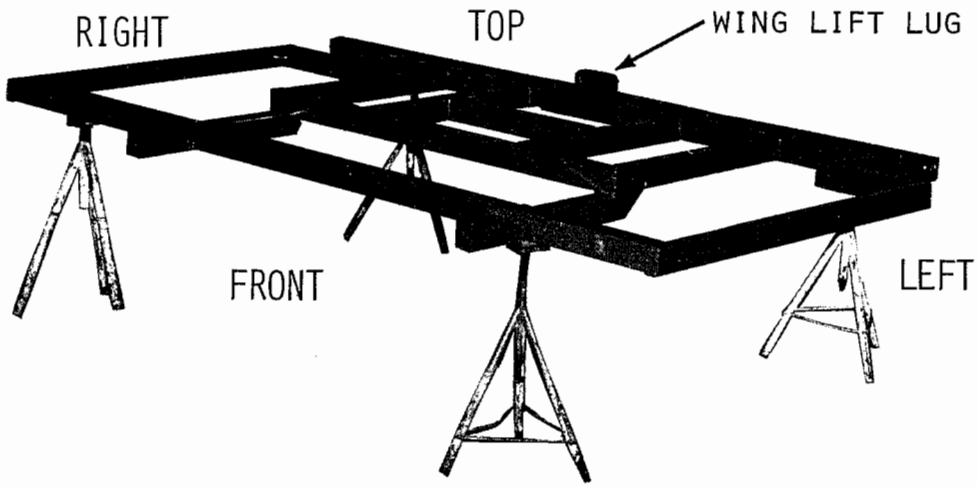
THE HEAVIEST COMPONENT TO BE LIFTED IN PLACE IS THE CENTER FRAME WHICH WEIGHS 650 LBS.

MODEL NUMBERS

Know the model number of the field cultivator being assembled. Use the model number whenever referring to the assembly, parts listing pages or placement drawings. The number is stamped on the NAME PLATE located on the front frame members.

STEP 1. FRAME

Position frame on stands approx. 30" high with wing lift hydraulic cylinder lug on top. Stands must be able to support 2000 lbs.



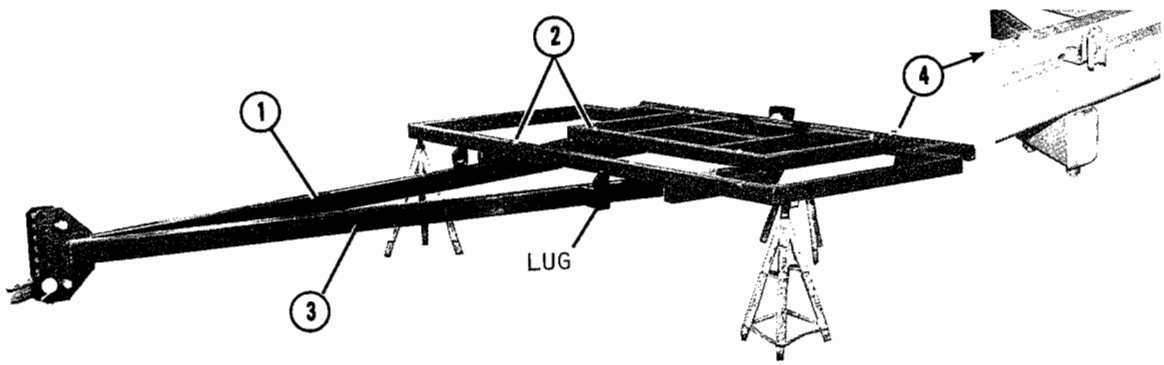
STEP 2. TONGUE

(1) Position R.H. TONGUE MEMBER under the main frame. Note position of hydraulic cylinder lug to determine R.H. and L.H. members.

(2) Use 3/4"nc X 10-1/2" MACHINE BOLTS with FLAT WASHERS top and bottom, LOCK WASHER, and NUT. Do not torque nuts tight.

(3) Position L.H. TONGUE MEMBER under the main frame.

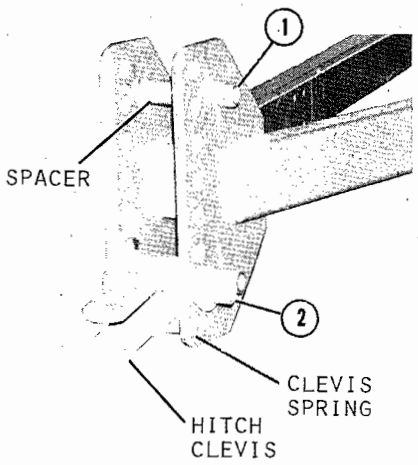
(4) Use 3/4"nc X 10-1/2" MACHINE BOLTS with FLAT WASHERS top and bottom, LOCK WASHER, and NUT except at the left back bolt which has SMV BRACKET on top instead of a flat washer. Do not torque nuts tight.



STEP 3. HITCH

(1) Bolt HITCH PLATES together using 1"nc X 7-1/2" CAP SCREW, LOCK WASHER & NUT. Be sure 2330-0-5 SPACERS are in place.

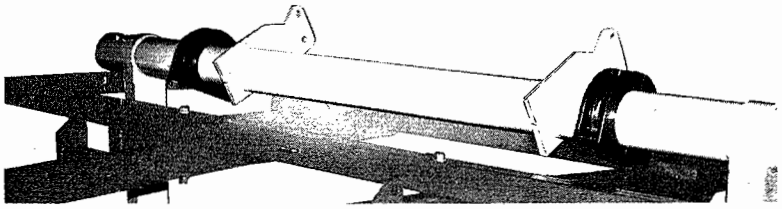
(2) Assemble HITCH CLEVIS with 1520-0-15 SPACER inside, with 1-1/4"nc X 8" MACHINE BOLT. Before assembling 1-1/4" SELF LOCKING NUT, slide on 1901-0-21 BUSHING, 1901-0-20 CLEVIS SPRING, and 1-1/4" FLAT WASHER.



DO NOT TIGHTEN NUTS UNTIL AFTER STEP 9.

STEP 4. CLAMPS

(1) Clean paint and dirt from grease channels of cast HALF CLAMPS and assemble around the CENTER ROCKER SHAFT using 3/4"nc X 2-1/2" Grade 5 CAP SCREW, LOCK WASHER & NUT.



STEP 5. CENTER ROCKER SHAFT

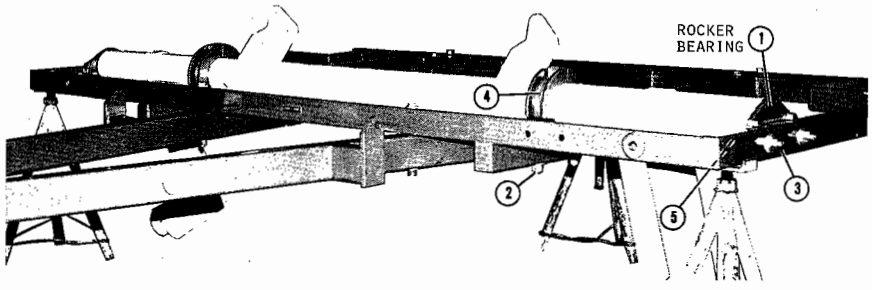
(1) Insert cast ROCKER BEARINGS in each end of the CENTER ROCKER SHAFT and lower into place inside the main frame.

(2) 1"nc X 6-1/2" CAP SCREW, FLAT WASHER, LOCK WASHER & NUT.

(3) 1"nc X 4-1/2" CAP SCREW, FLAT WASHER, LOCK WASHER & NUT.

(4) Two #1610 ZERKS in each half clamp.

(5) One #20500 SELF TAPPING ZERK in each end of the center rocker shaft on the underside. Zerks must be turned in with a wrench so they can cut threads in the smooth bore holes.



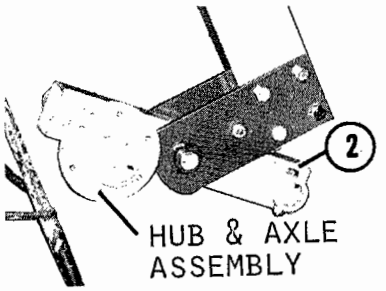
STEP 6. WALKING TANDEM BEAM

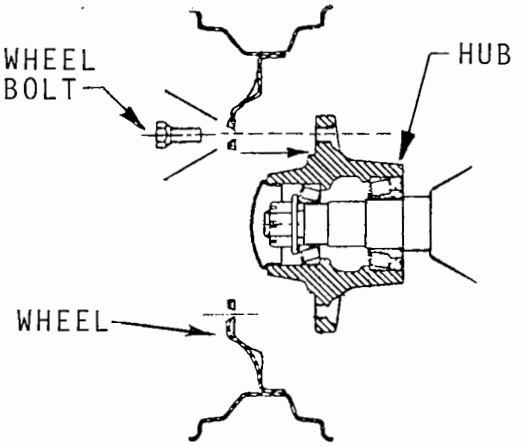
(1) Loosen nuts on Adjustment Stud so side plates can be mounted to wheel arm.

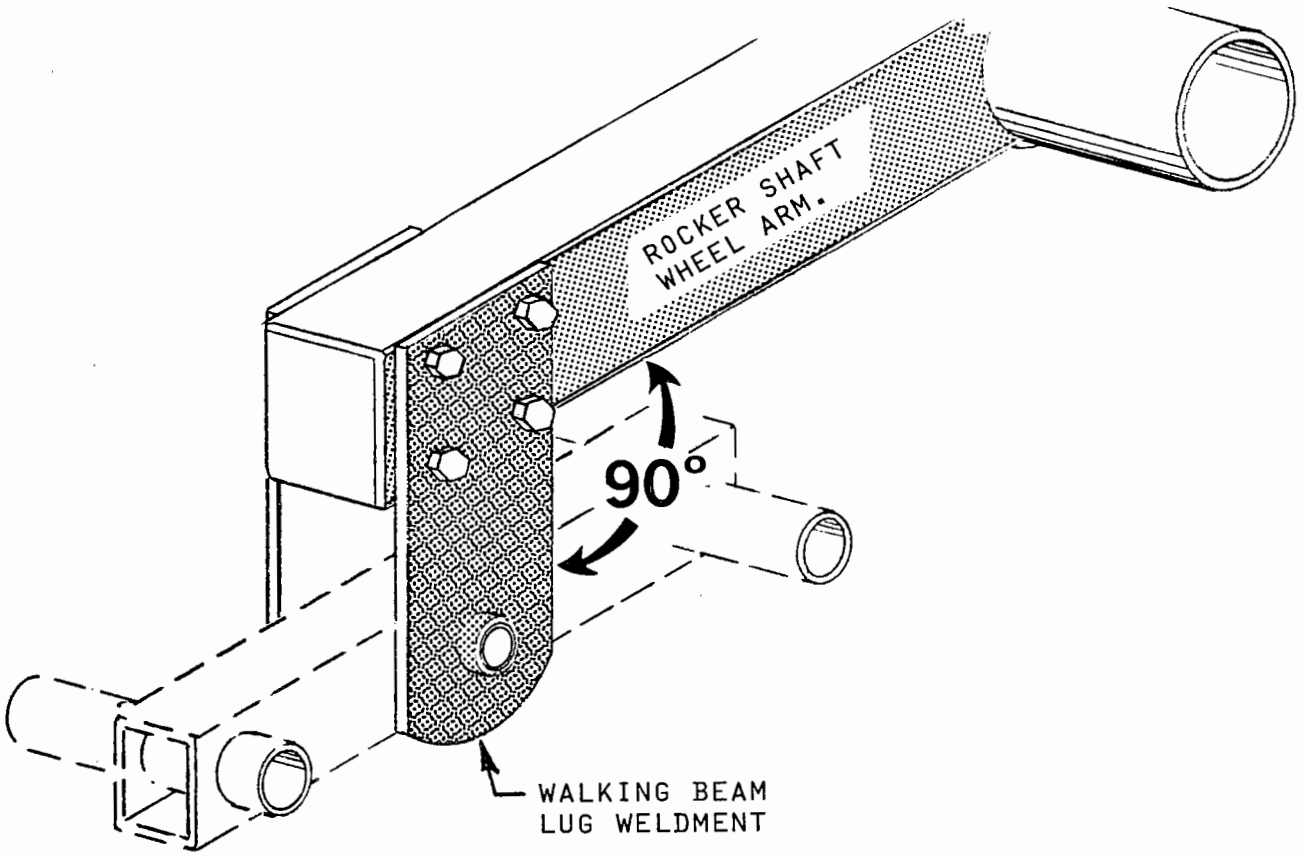
(2) Slide the WALKING TANDEM BEAMS into position under the rocker shaft wheel arms and bolt the lugs to the arms at a 90° angle with 3/4"NC X 6" Cap Screws, Lock Washers, & Nuts. Tighten Adjustment Stud at this time.

(3) Insert the HUB axles into the long side of the tubes and secure with 5/8"NC X 3-1/2" Cap Screw & Self Locking Nut.

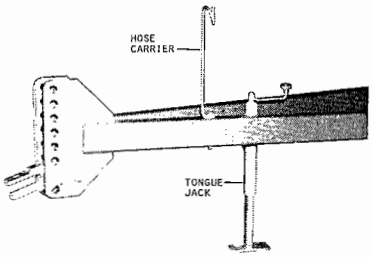
(4) Remove the WHEEL BOLTS from the hubs and attach the WHEEL & TIRE ASSEMBLIES to the hubs.
TORQUE ALL WHEEL BOLTS FROM 90 to 95 FOOT POUNDS.







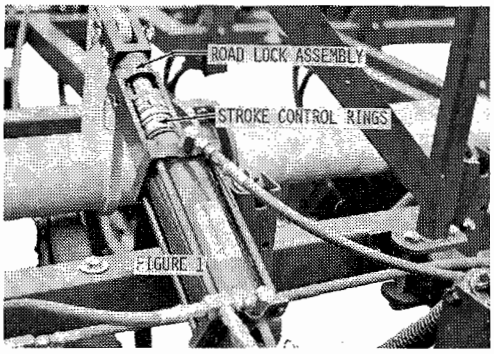
STEP 7. TONGUE JACK & HOSE CARRIER



(1) TONGUE JACK is mounted to inside of L.H. tongue member with 1/2NC X 4" CAP SCREW, LOCK WASHER & HEX NUT.

(2) HOSE CARRIER is mounted to top side of L.H. tongue member with 1/2NC X 6-1/2" CAP SCREW, three FLAT WASHERS (2 between bolt head and hose carrier), LOCK WASHER & NUT.

STEP 8. ROAD LOCKS

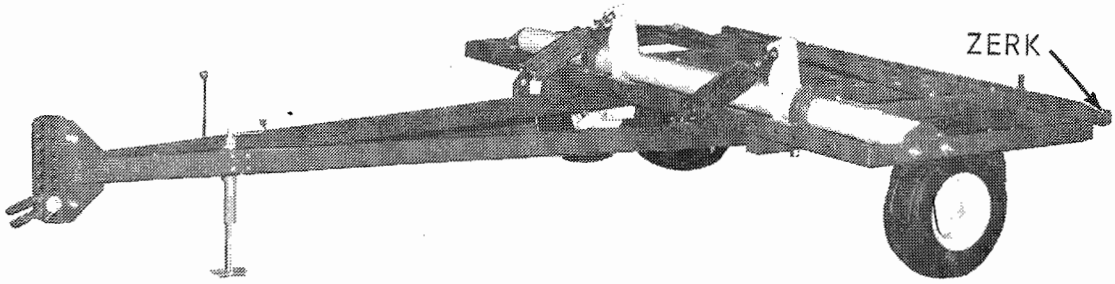


(1) Fully extend two 4" X 8" REPHASING CYLINDERS. Place road lock assembly part # 4122-38-0A over the cylinder rods and secure with pins and flat washer. IMPORTANT: CHARGE CYLINDER WITH OIL. *(See STEP 21, page A13)*

(2) Lift the frame and pin the hydraulic cylinders between the rocker shaft lugs and the tongue cylinder lugs.

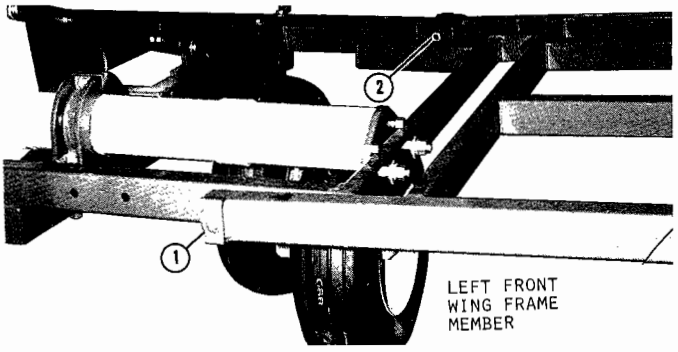
STEP 9. FREE STANDING CENTER SECTION

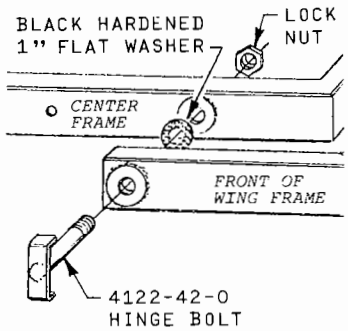
Tighten all tongue to frame and hitch bolts. The center section will now stand by itself and the stands can be removed. Put 45° ZERKS in each rear hinge tube of the rear frame member.



STEP 10. WINGS TO CENTER SECTION

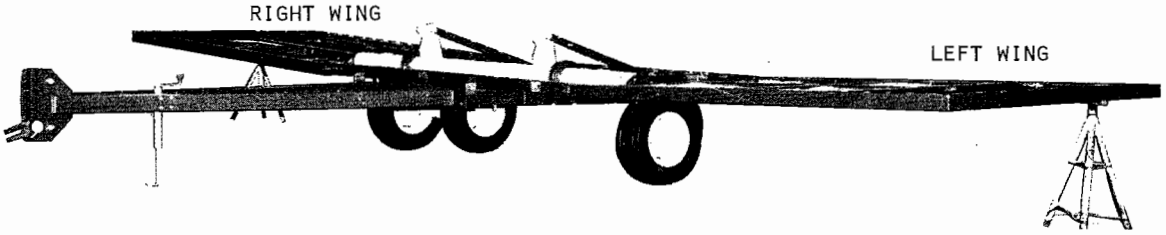
Attach front hinge member to center frame with HINGE BOLT ①, SPECIAL HARDENED FLAT WASHER and 1NC SELF LOCKING HEX NUT. Attach rear hinge member to center frame with HINGE BOLT and 1NC SELF LOCKING HEX NUT ②.





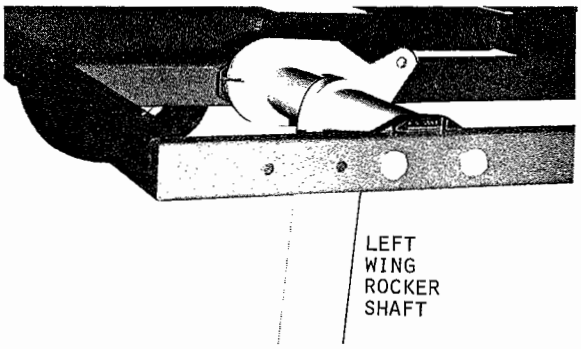
STEP 11. WING FRAMES

Place supports under the outer ends of the wing frames. Place the supports in a position that will not interfere with the assembly through Step 21. *(Checking and pinning the hydraulic cylinders.)* Or, if points are not added to the shanks before shank attachment, leave the stands under the wing frames until complete.

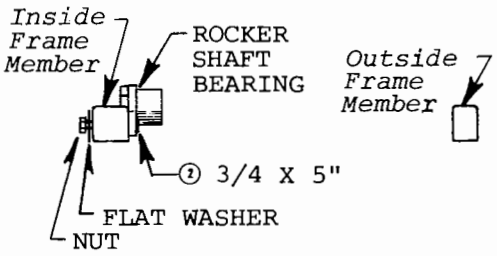


STEP 12. WING ROCKER SHAFTS

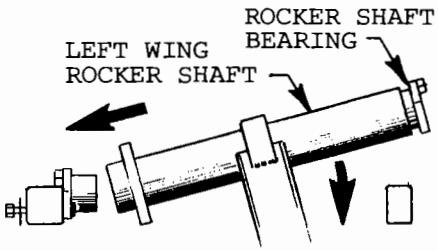
NOTE: INSTALL # 20500 SELF TAPPING ZERK BEFORE BOLTING ROCKER SHAFT IN PLACE.



FRONT VIEW LEFT WING

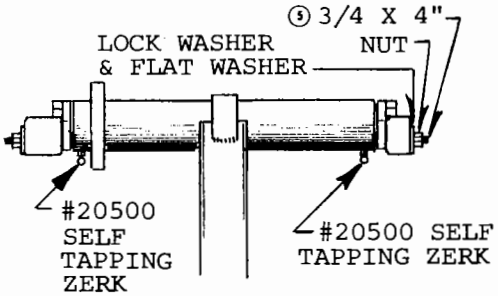


(1) Bolt a ROCKER SHAFT BEARING to the inside frame member, with the bolt head on the outside of the casting. Leave nuts loose.



(2) 3/4"nc X 5 CAP SCREW, FLAT WASHER, LOCK WASHER & NUT.

(3) Insert a ROCKER SHAFT BEARING in the end of the WING ROCKER SHAFT that is furthest from the cylinder lug.



(4) Slip the open end of the WING ROCKER SHAFT over the bearing mounted to the WING FRAME and lower the rocker shaft in place.

(5) 3/4"nc X 4" CAP SCREW, FLAT WASHER, LOCK WASHER & NUT.

(6) Tighten 3/4"nc bolts.

STEP 13. WING WHEELS / CENTER SECTION (Models 4118 - 4120) SINGLE TIRES

See "STEP 6" instructions if using walking tandem wheels on wing section.

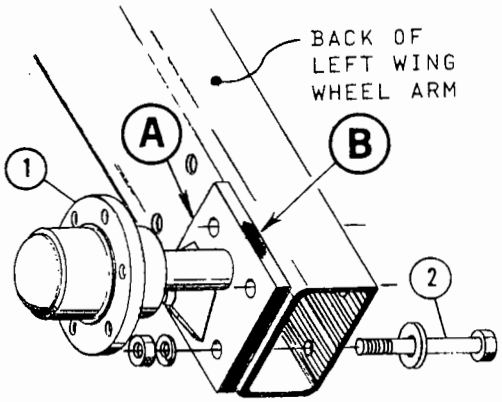
For mounting single wing gage wheel:

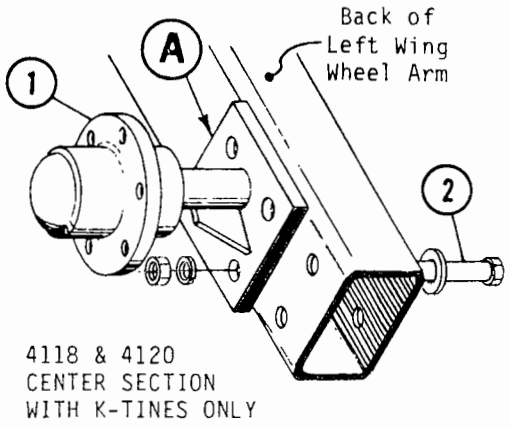
(1) Assemble 1918-17-0 HUB ASSEMBLY to wheel arm.

(2) 3/4NC X 6" CAP SCREW, FLAT WASHER, LOCK WASHER & HEX NUT.

(3) NOTE YELLOW PATCH LOCATIONS: Location A for 4118 and 4120 center and wing sections equipped with K-Tines. Location B for 4118 and 4120 center and wing sections equipped with spring shock shanks, or for 4122 - 4126 wing sections equipped with all shanks.

NOTE: When mounting walking beams use lower set of holes.



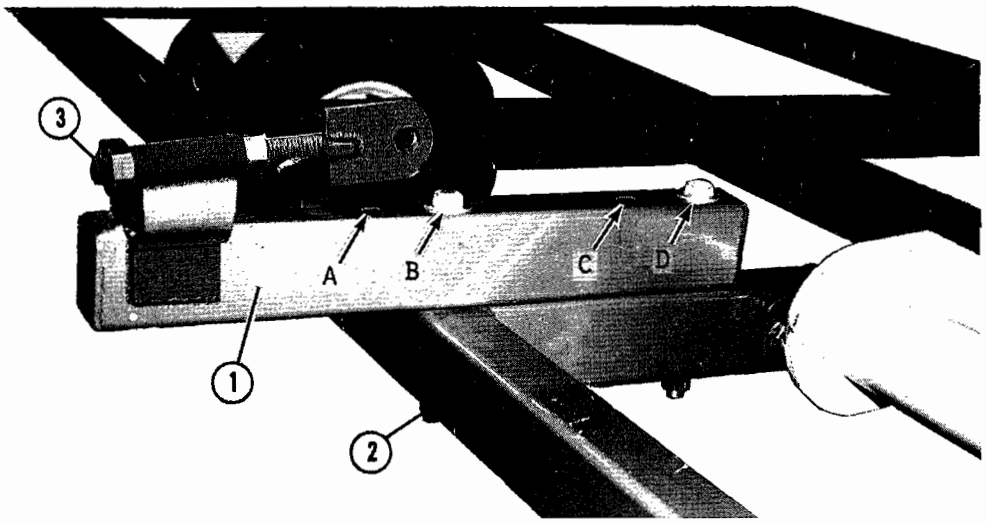


STEP 14. WING DEPTH CONTROL BRACKETS

(1) The right and left wing DEPTH CONTROL BRACKETS bolt on the wing frames so that the round tubes are in line with the wing rocker shaft cylinder lugs. If the field cultivator wings use single wheels for depth control, attach the brackets through holes A & C. Holes B & D (shown in photo) are used if the wings are to have the walking tandem dual wheel arrangement.

(2) 3/4NC X 9-1/2" MACHINE BOLT, FLAT WAHSER top and bottom, LOCK WASHER & HEX NUT.

(3) Insert wing hydraulic cylinder DEPTH CONTROL LUG into the round tubes and secure with 1-1/4NC NUTS.



STEP 15. CROSS MEMBER

(1) Set the CROSS MEMBER on top of tongue members.

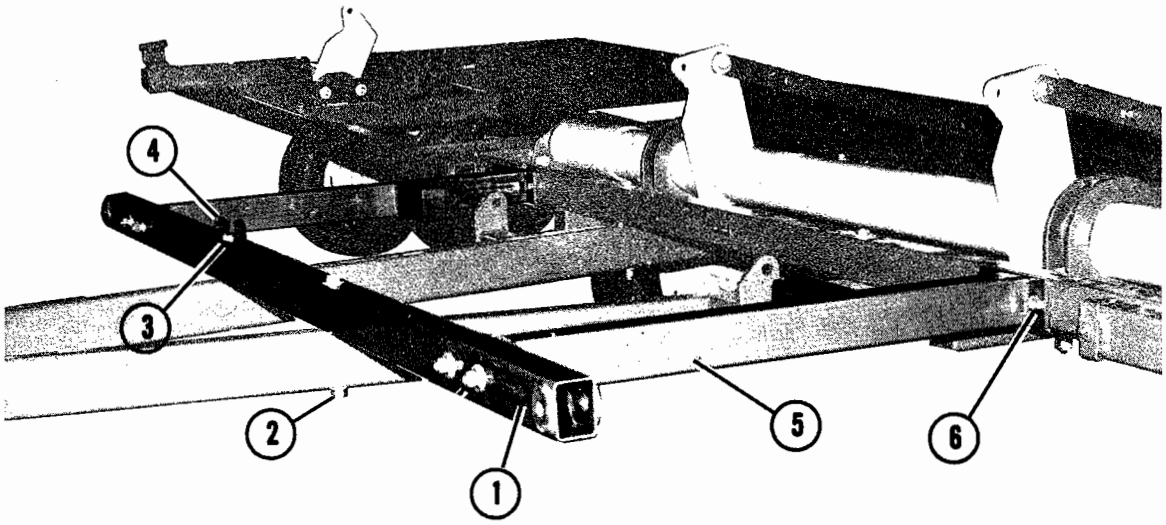
(2) 3/4"nc X 10-1/2" MACHINE BOLT, FLAT WASHERS top and bottom, LOCK WASHER & NUT.

(3) 3/4"nc X 10-1/2" MACHINE BOLT, FLAT WASHER, LOCK WASHER & NUT.

(4) 4122-0-11 shank repair CLEVIS with slots toward the front.

(5) BRACE BOX WELDMENT with shank stub boxes toward the inside.

(6) 3/4"nc X 4-1/2" CAP SCREW, FLAT WASHER, LOCK WASHER & NUT.



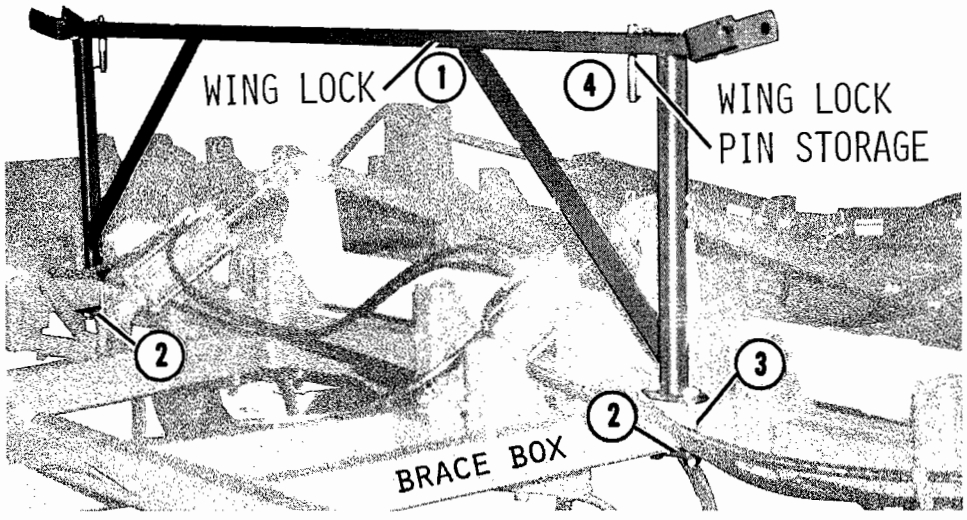
STEP 16. WING LOCK

(1) Position WING LOCK on top of the two BRACE BOXES. Bolt in line with the front members of the wing frames.

(2) 4122-0-10 PLATE.

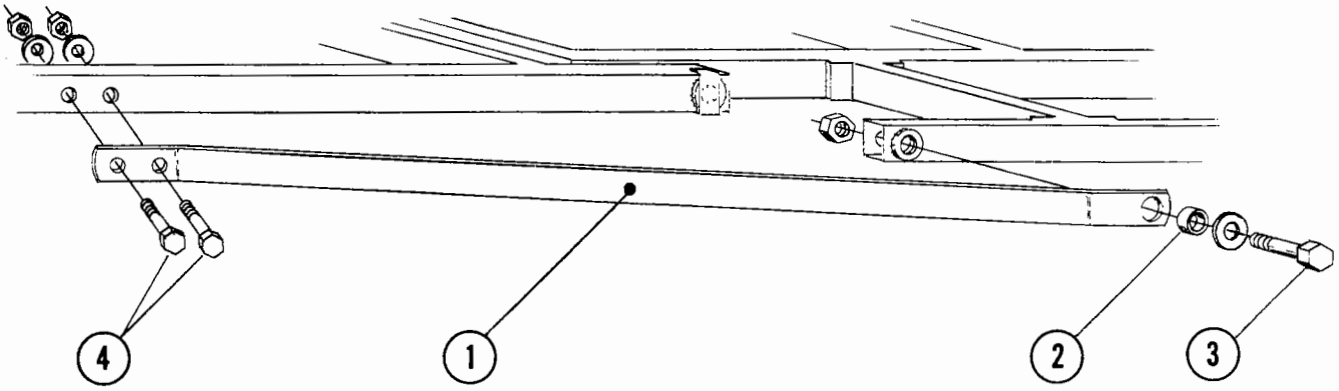
(3) 3/4"nc X 6" CAP SCREW, LOCK WASHER & NUT.

(4) Add the WING LOCK PINS 1505-0-5 and #3 HAIR PIN COTTERS in the vertical storage holes provided.

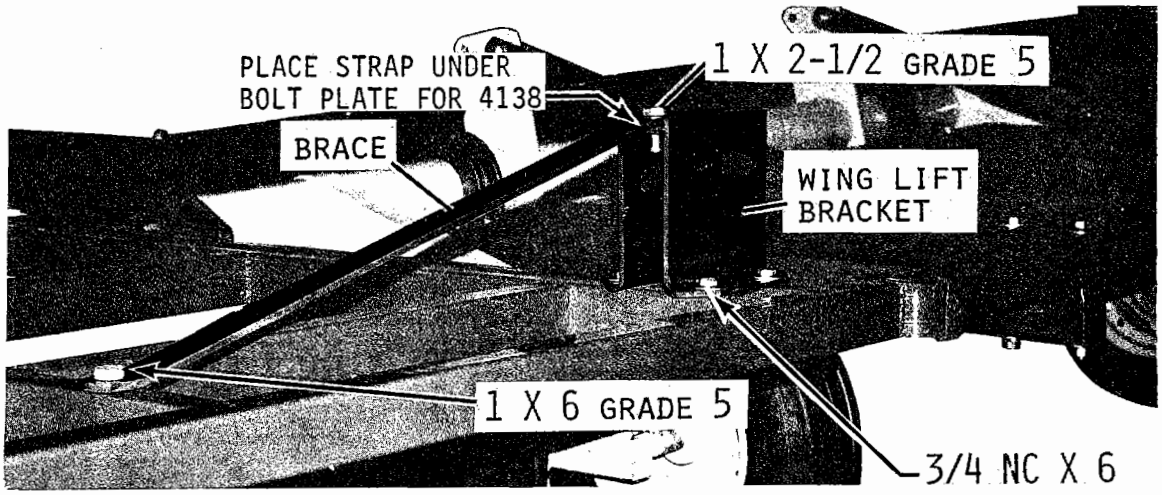


STEP 17. WING BRACES

(1) Bolt wing braces from CROSS MEMEBER to the wing frame.
(2) Insert 4122-0-6 BUSHING in the BRACE at the CROSS MEMBER connection.
(3) 1NC X 6" CAP SCREWS, FLAT WASHER & SELF LOCKING NUT.
(4) 3/4NC X 5" CAP SCREW, FLAT WASHER, LOCK WASHER & HEX NUT.



STEP 18. WING LIFT



STEP 19. SHANK ASSEMBLY - SPRING SHANK AND K-TINES

Refer to placement drawings for shank location and number of shanks required.

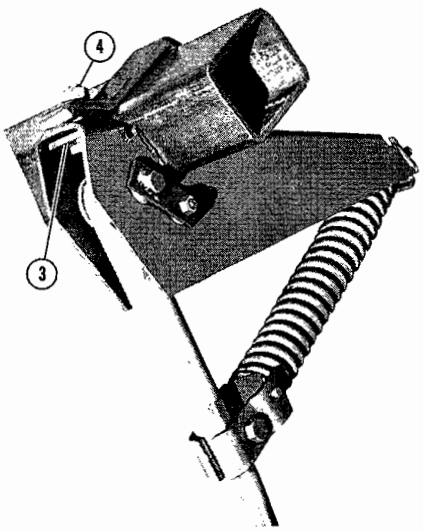
(1) Bolt Sweep / Point to Shank with (2) 3/8NC X 1-1/2" GRADE 5 Plow Bolt.

SPRING SHOCK SHANKS

(2) Secure Spring Shank Assembly to the frame with clamp strap 2 and 1/2NC X 2" Cap Screws.

(3) Place Square Flat Washer Plate under head of each bolt inside of shank channel 3 .

(4) Secure bolts with 1/2" STD. Lock Washer and 1/2NC Hex Nut.



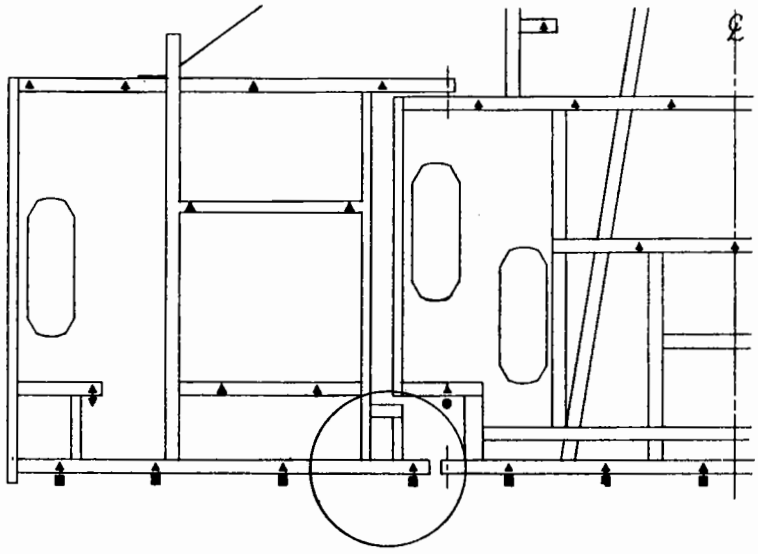
K-TINE SHANKS

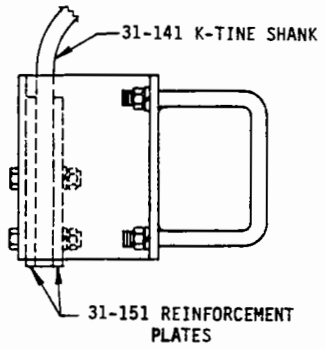
2. Mount the K-Tine Shank by placing shank through the slot in the shank clamp and locating the assembly against the lower rear section of the mounting beam 4 . Hold assembly tight against beam and pull back on the shank 5 .

3. Allow shank to drop down in the holder and assemble L-Bolt in shank end first, then pull up on shank and place L-Bolt through front hole in the shank clamp 6 . Tighten the top nut first.

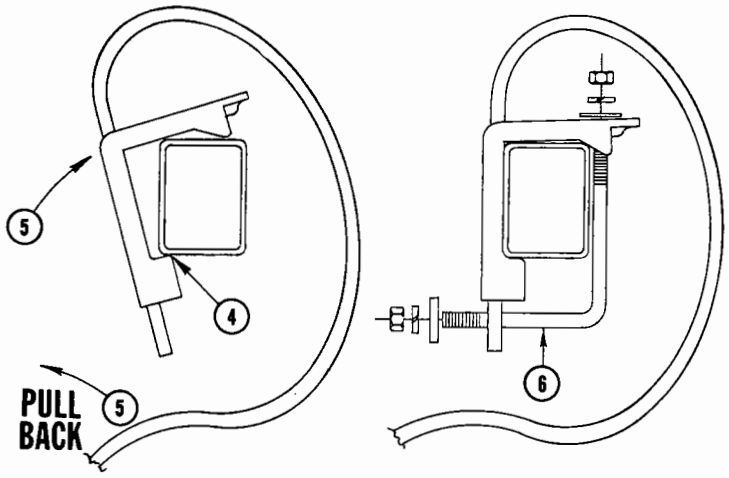
4. At the locations marked with a circle (on placement page) mount the K-Tine with the Extended Mounting Bracket 7 . Secure to back side of frame with (2) 1/2" U-Bolts 8 , Lock Washers and Hex Nut.

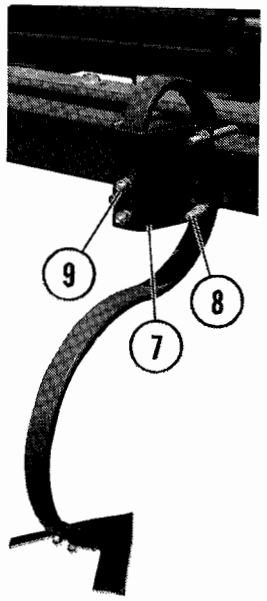
5. Mount shank inside of extension with reinforcing plate in front of shank. Secure with (2) 1/2NC X 2" Bolt, Nut and Lock Washer 9 .





ALL MODELS: THERE IS ONE LOCATION ON EACH WING (SHOWN CIRCLED ON DRAWING AT LEFT) THAT REQUIRES THE USE OF (2) 31-151 REINFORCEMENT PLATES ASSEMBLED AS SHOWN ABOVE.



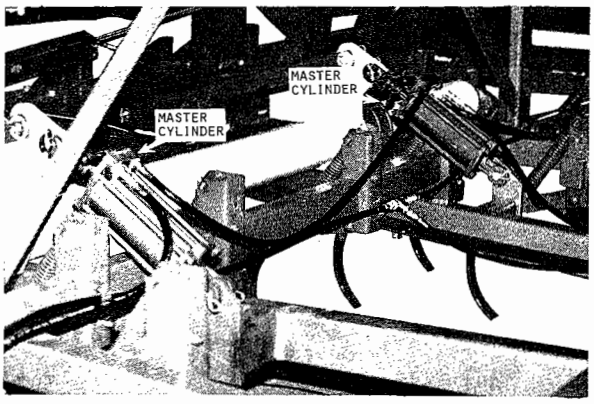


STEP 20. HYDRAULICS

1. Pin the butt end of the 4" DIA. X 32" Wing Lift HYDRAULIC CYLINDERS to the lug welded in the center of the MAIN FRAME using the cylinder pins. DO NOT MOUNT THE ROD ENDS.

(2) Pin the butt end of the two 4" DIA. X 8" MASTER CYLINDERS to the lugs welded on the tongue members. DO NOT PIN THE ROD ENDS.

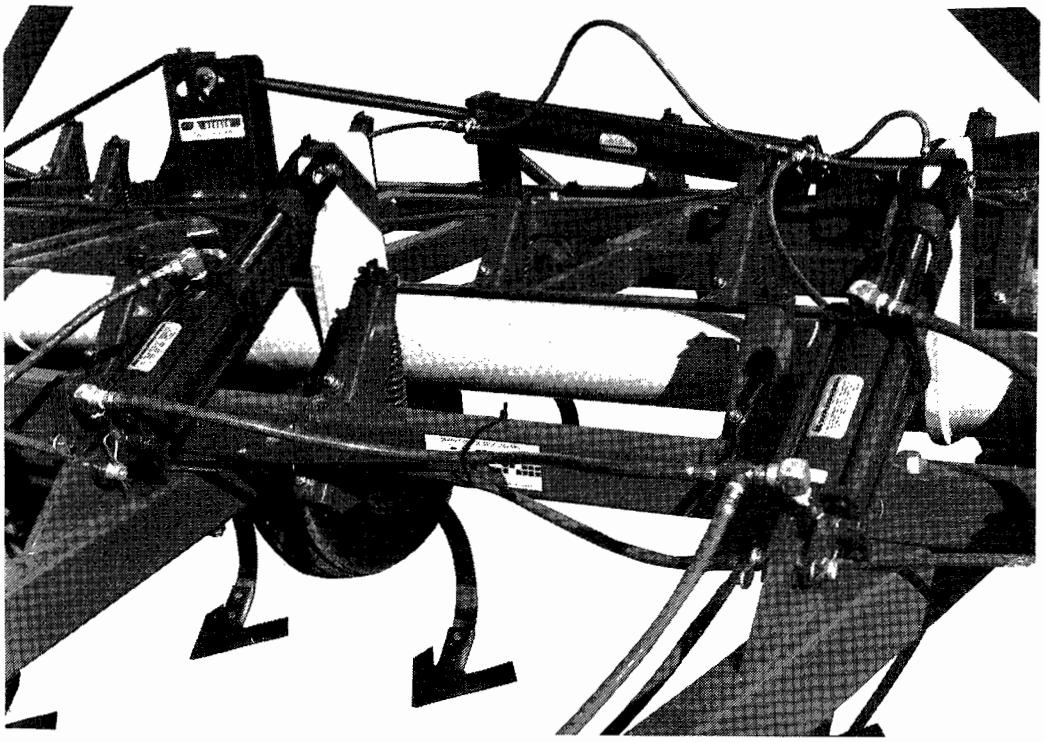
(3) Mount the butt end of the 3-3/4" DIA. X 8" SLAVE CYLINDERS to the adjustment links at the end of each wing. DO NOT PIN THE ROD ENDS.



NOTE: The rod end of all cylinders are not to be pinned until all hoses are connected and the air bled out of the system.

(4) Using the hose drawings in the PARTS SECTION, attach the hoses to the cylinders. DO NOT USE TAPE TYPE SEALERS.

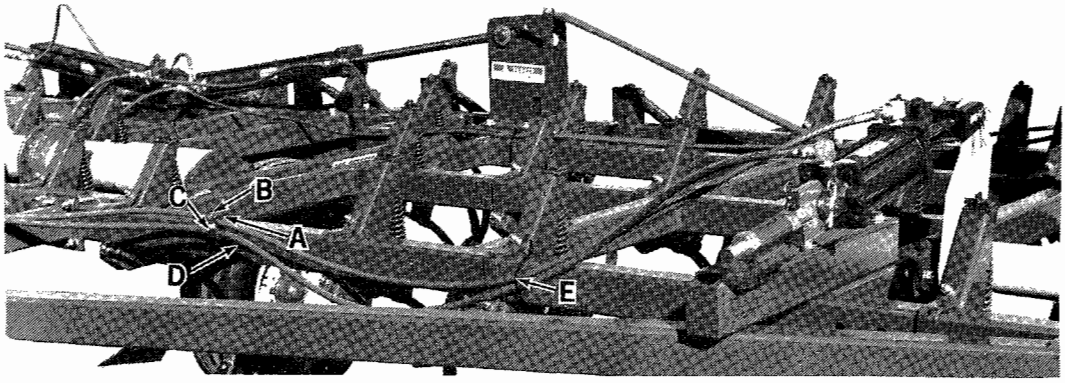
The picture below shows how hoses are mounted to the two MASTER CYLINDERS. Note how the TEE is mounted and how hoses cross one another on the MASTER CYLINDER shown on right side of the picture.



IMPORTANT: AN EQUAL LENGTH OF DEPTH CONTROL RINGS MUST BE USED ON ALL CYLINDERS FOR PROPER DEPTH CONTROL.

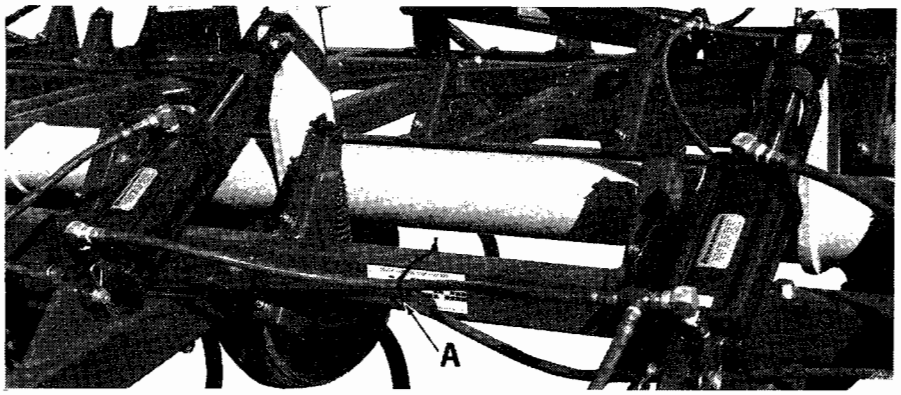
(5) The picture below shows hoses clamped in place on the right side of the unit.

A. 4122-0-1 HOSE BRACKET and
B. 3514-0-2 HOSE CLIP
C. 1/2NC X 1-1/2" CAP SCREW & SELF LOCKING NUT
D. 1/2NC X 4" CAP SCREW, FLAT & LOCK WASHER & HEX NUT
E. 25-126 PANDUIT STAY STRAP wrap around frame box and hoses.



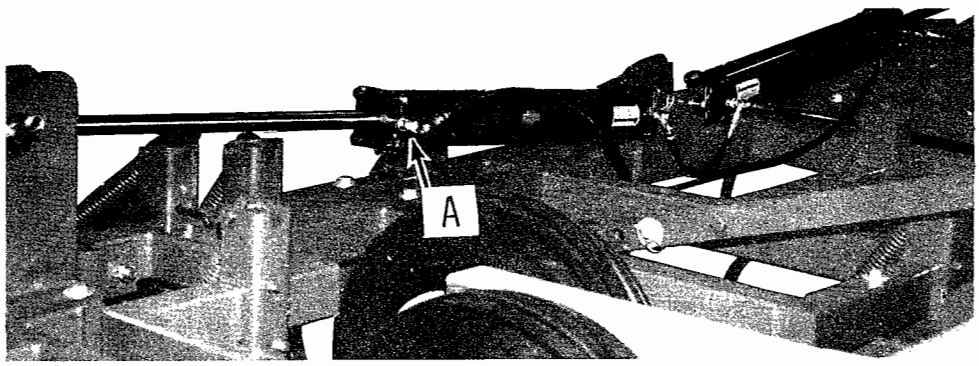
(6) The picture below shows the left side of the unit with hydraulic hoses secured.

A. 25-126 PANDUIT STAY STRAP wrap around frame box and hoses.



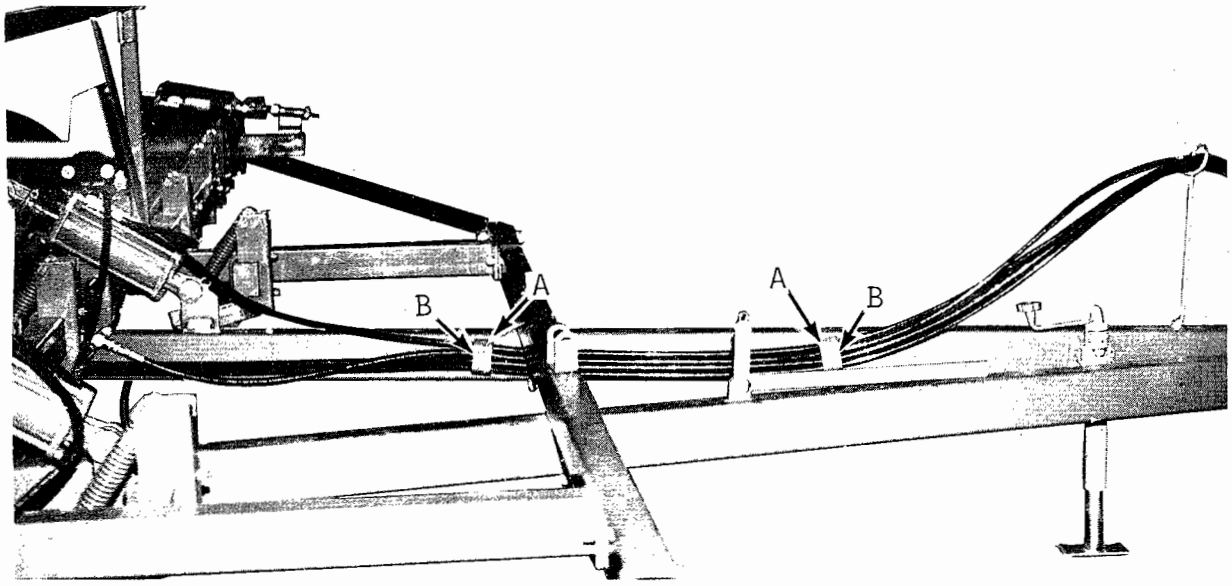
(7) Hoses connected to the wing lift cylinders.
IMPORTANT: Restrictors must be mounted in the rod end port of the wing lift cylinder as a safety precaution to slow the descent of a wing in case of a hose or other hydraulic failure.

A. RESTRICTOR



(8) Secure all hoses going to the tractor on the left hand tongue member.

A. 2426-170-5 HOSE CLAMP - 3 required
B. 1/2"nc X 5" CAP SCREW, LOCK WASHER & NUT - 3 required



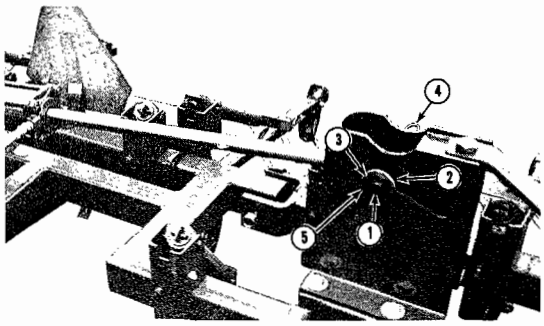
STEP 21. CHECKING & PINNING ALL HYDRAULIC CYLINDERS

Before pinning the rod ends of any of the cylinders, attach the four tractor hoses to the tractor using the correct type tractor couplers. It will take approximately 24 Quarts of oil to fill all six hydraulic cylinders and the hoses.

Place blocks under the cylinders so the extending rods will not be obstructed, and begin to fill the system with oil. Add oil to the tractor reservoir as required during the initial filling of the system. After the cylinders are completely extended hold the valve open for a few seconds, forcing any air out and the oil in. Run the cylinders through their complete cycles several times. When you are sure the systems are full of oil, extend the rods and use cardboard or paper to check for any leaks in the hose connections. If there are no leaks, pin the rod ends of the cylinders as shown below:

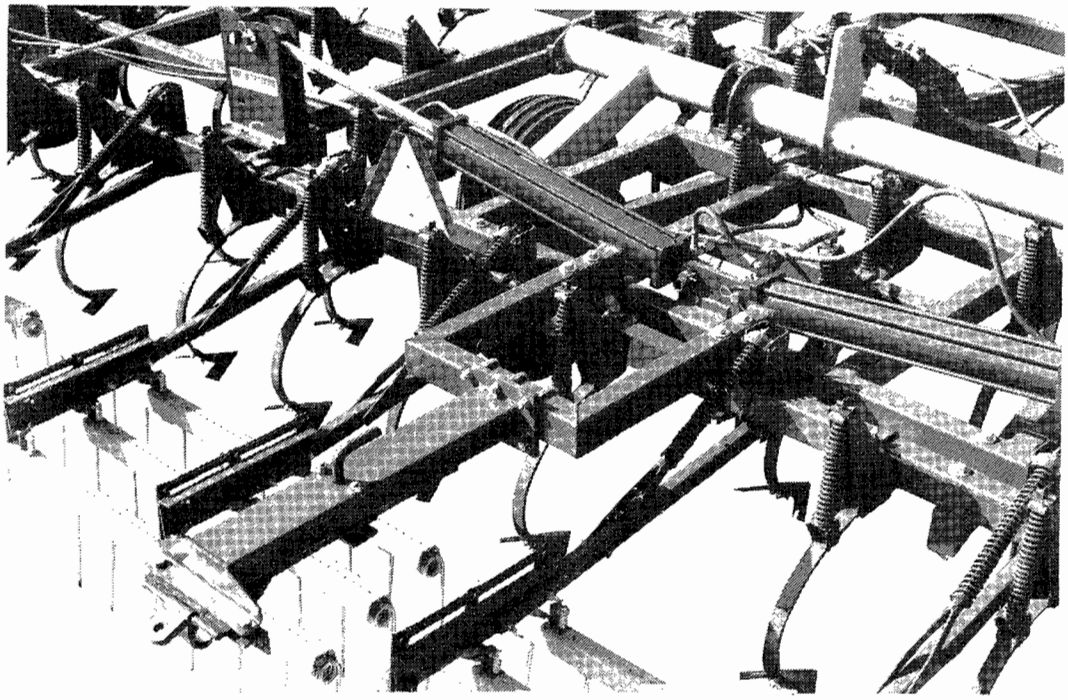
Pin both of the wing lift cylinder rod clevis ends between the WING LIFT BRACKETS, using the pins and bushings provided.

(1) 1844-0-5 CYLINDER PIN
(2) 770-9-2 WEAR BUSHING
(3) 1/4" Dia. X 2-1/2" ROLL PIN
(4) #4 HAIR PIN COTTER
(5) 1-1/4" FLAT WASHER



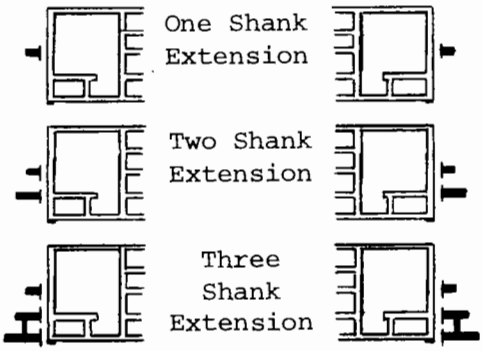
Pin the depth control MASTER CYLINDERS to the center ROCKER SHAFT LUGS, and the SLAVE CYLINDERS to wing ROCKER SHAFT LUGS using the pins provided with the cylinders.

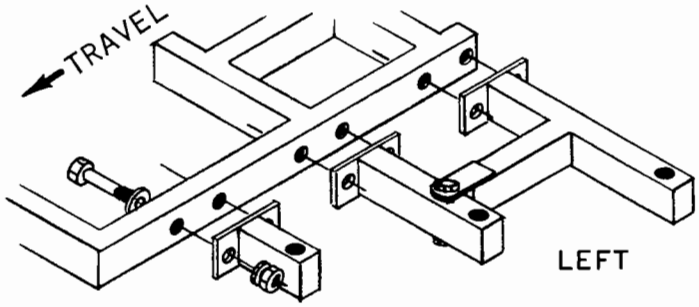
STEP 22. TRAIL HITCH OPTION



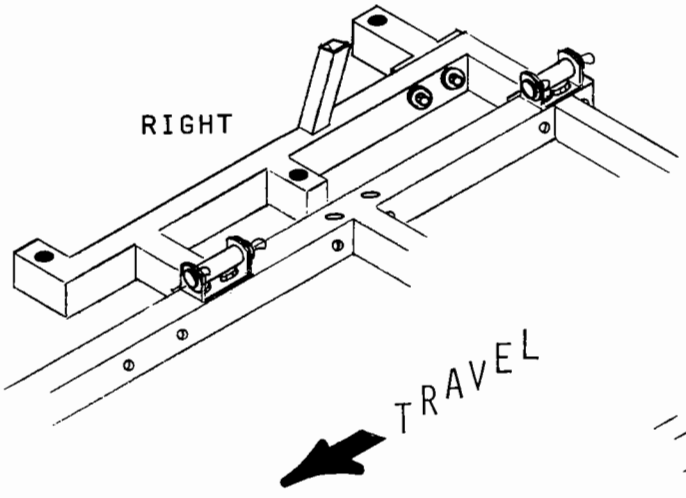
STEP 23. FRAME EXTENSIONS

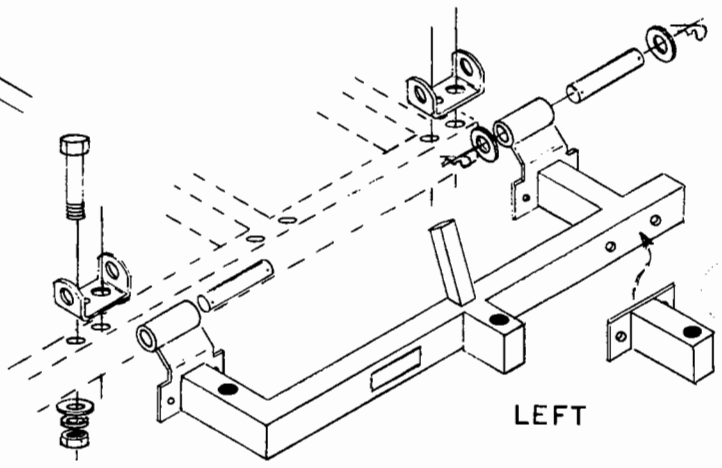
All rigid extensions attach with 3/4NC X 3-1/2" CAP SCREWS, FLAT WASHERS, LOCK WASHER & HEX NUTS.





Folding extensions for two and three shank extensions are assembled as shown below.





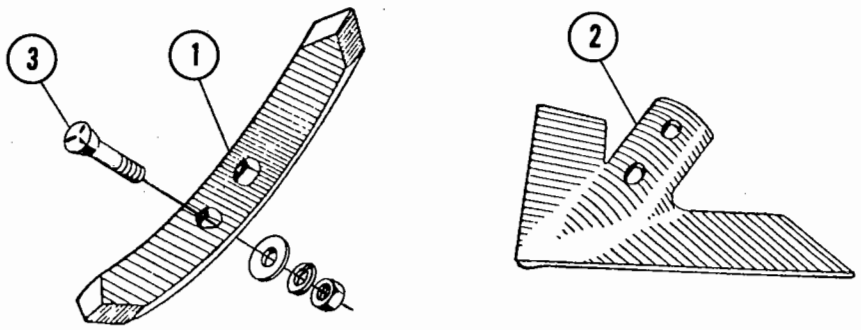
STEP 24. POINTS

1-3/4" points are provided as Optional equipment or 9" sweeps are available from KRAUSE for use when necessary. When using sweeps other than those purchased from KRAUSE, be sure that they have a 47° stem angle for C-Shank models, or a 41° stem angle for K-Tine shank models.

(1) 1-3/4" width point with 1-3/4" hole centers

(2) Sweep with 1-3/4" hole centers

(3) 3/8NC X 1-1/2" GRADE 5 #3 PLOW BOLT, FLAT WASHER (at slotted hole in shank), LOCK WASHER AND HEX NUT.



STEP 25. DECALS

The DECALS are important to the safety of the operators and to others and must be attached to the cultivator 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 in shipping or set-up. Remove the protective backing from each remaining decal, and attach to the field cultivator at the locations shown on the parts drawing on page P56.

MODEL 4118

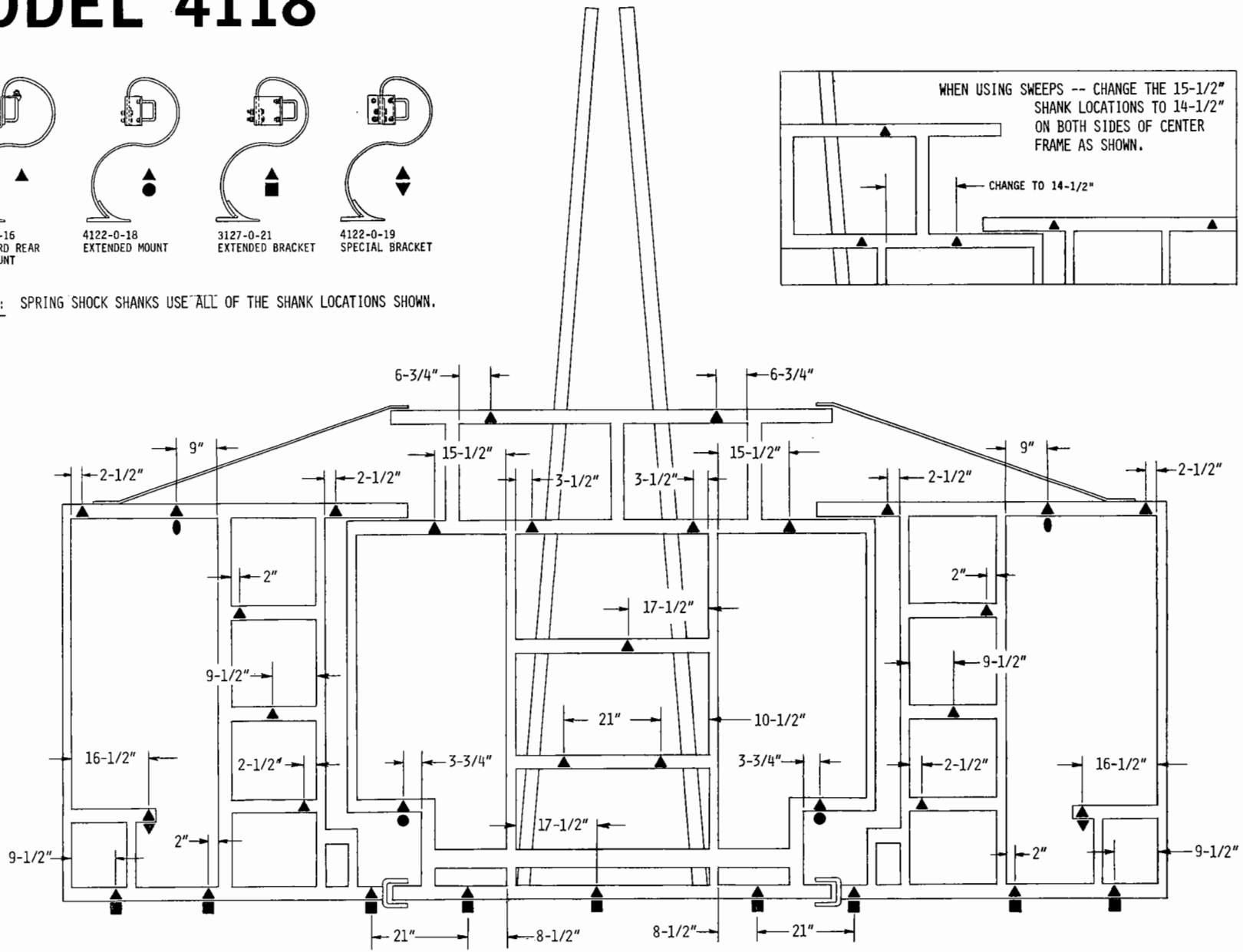
4122-0-16 STANDARD REAR MOUNT

4122-0-18 EXTENDED MOUNT

3127-0-21 EXTENDED BRACKET

4122-0-19 SPECIAL BRACKET

NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.



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MODEL 4120

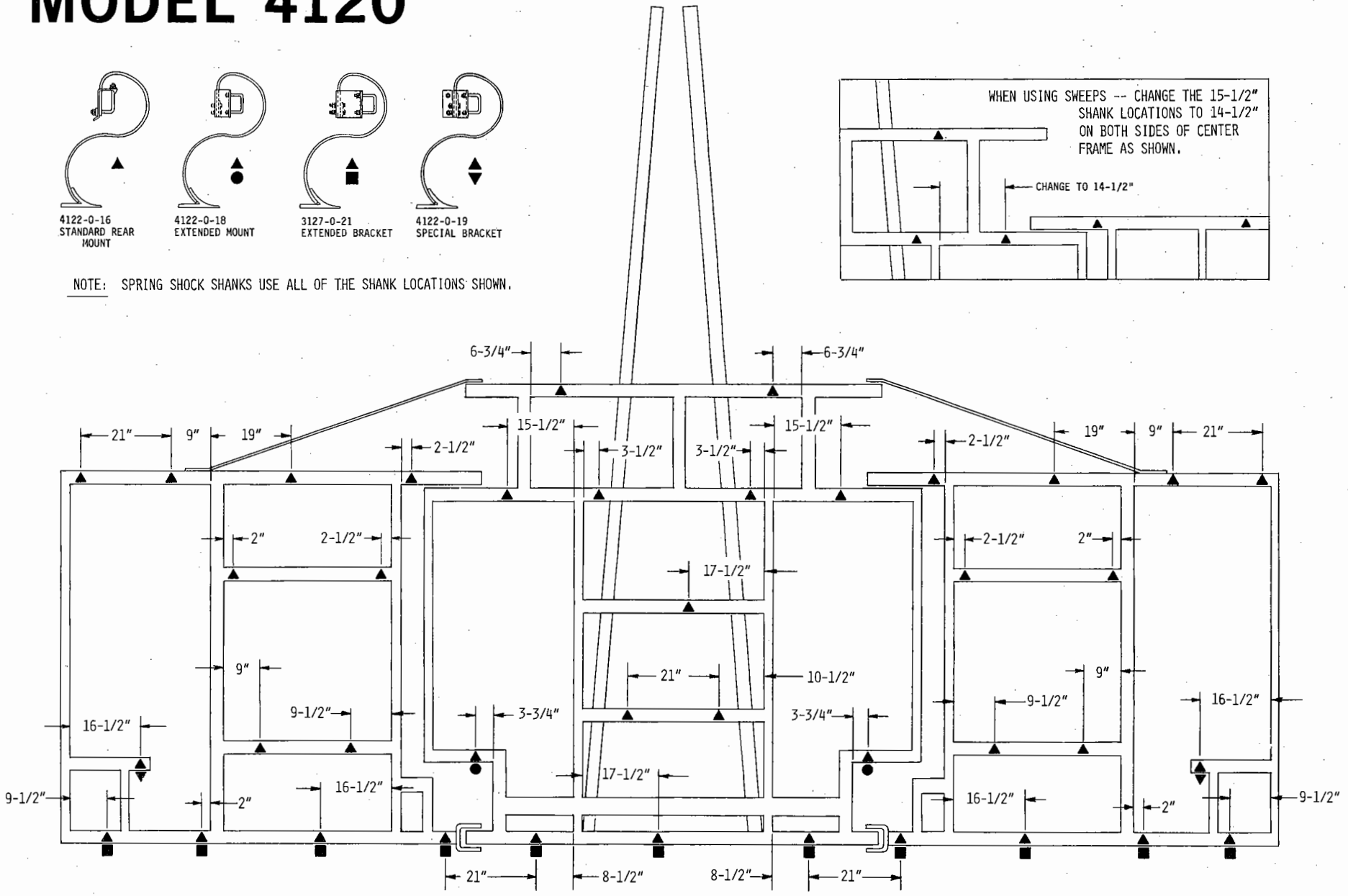
4122-0-16
STANDARD REAR
MOUNT

4122-0-18
EXTENDED MOUNT

3127-0-21
EXTENDED BRACKET

4122-0-19
SPECIAL BRACKET

NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.



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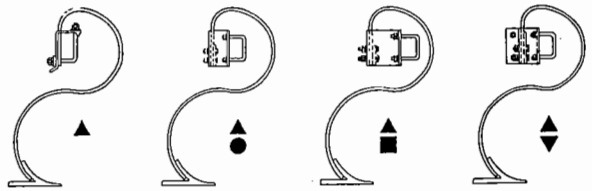
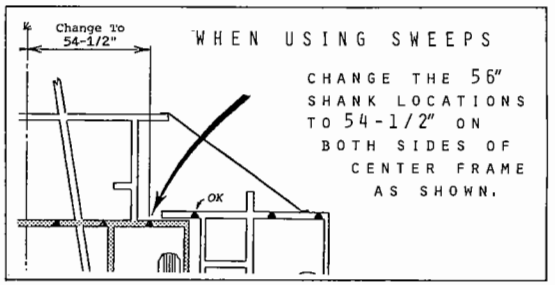
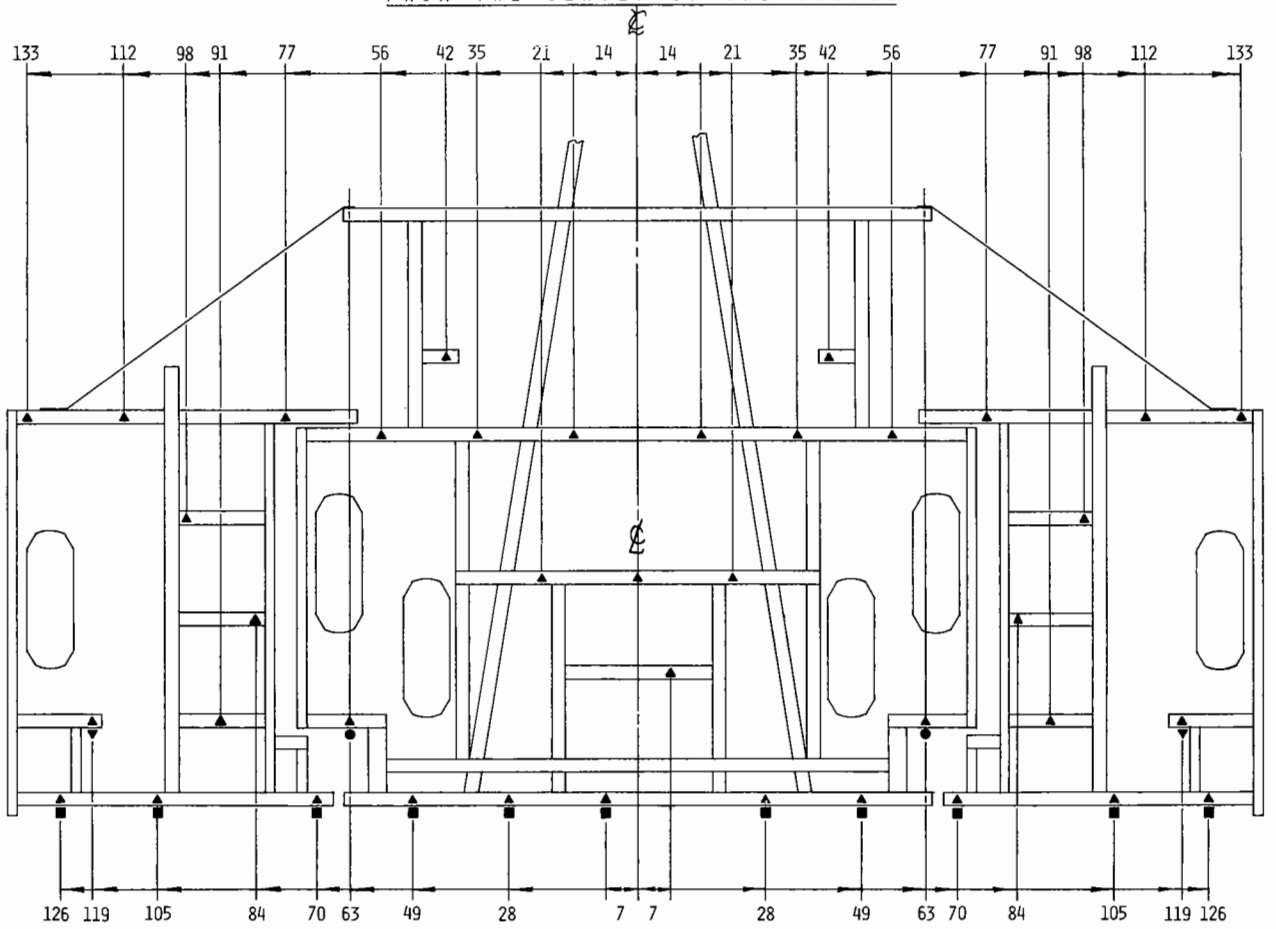


NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.



MODEL 4122

ALL MEASUREMENTS SHOWN ARE FROM THE CENTER OF THE CHISEL



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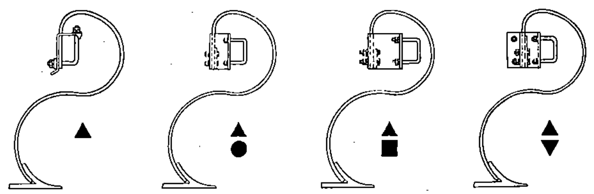


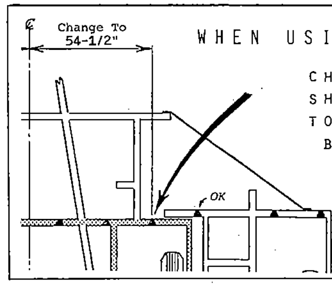
4122-0-16 STANDARD REAR MOUNT

4122-0-18 EXTENDED MOUNT

3127-D-21 EXTENDED BRACKET

4122-0-19 SPECIAL BRACKET

NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.

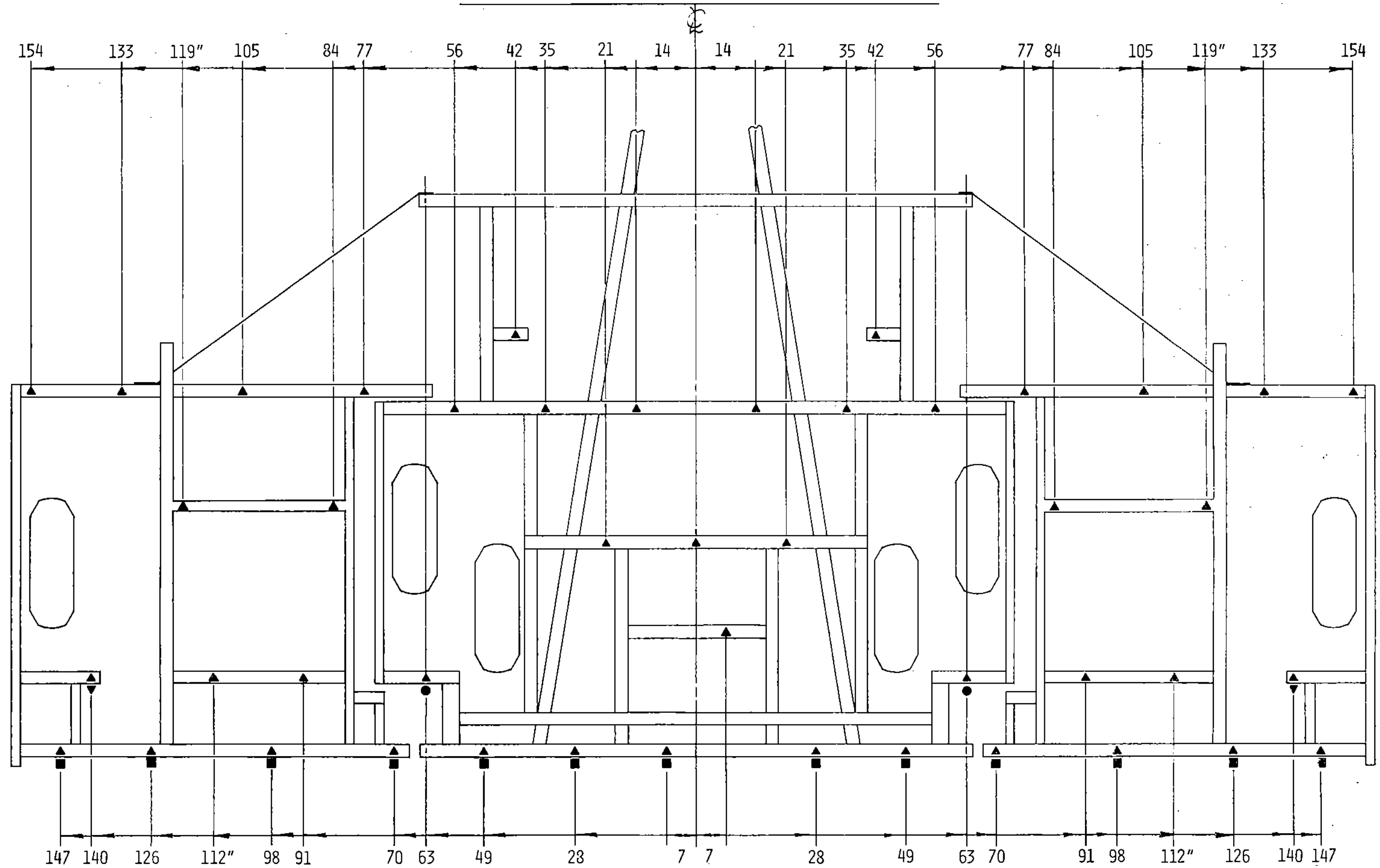


WHEN USING SWEEPS

CHANGE THE 56" SHANK LOCATIONS TO 54-1/2" ON BOTH SIDES OF CENTER FRAME AS SHOWN.

MODEL 4126

ALL MEASUREMENTS SHOWN ARE FROM THE CENTER OF THE CHISEL



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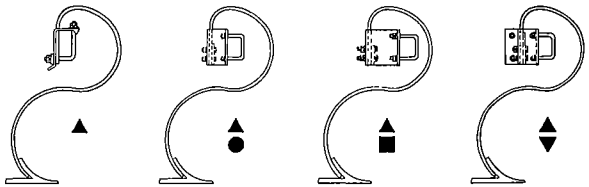
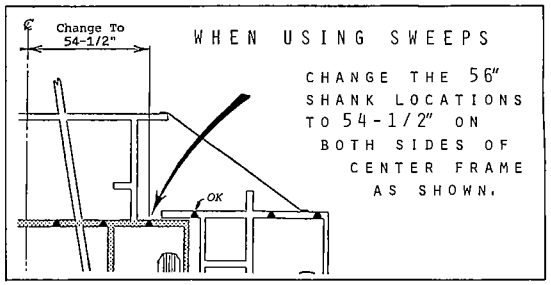
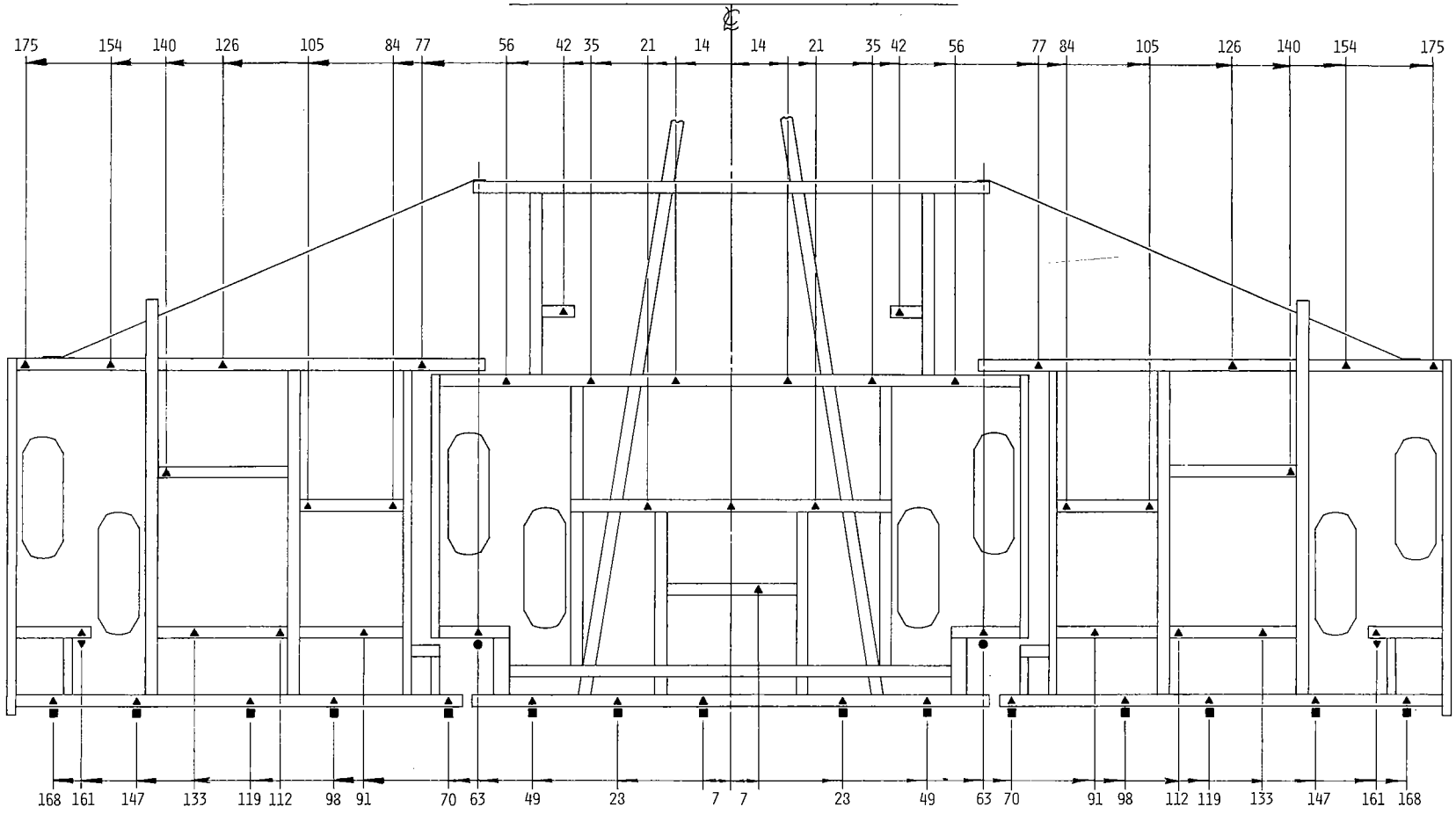




NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.

MODEL 4129

ALL MEASUREMENTS SHOWN ARE FROM THE CENTER OF THE CHISEL



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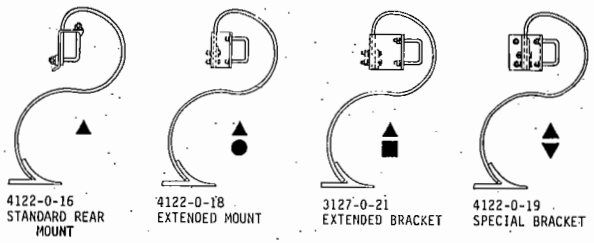
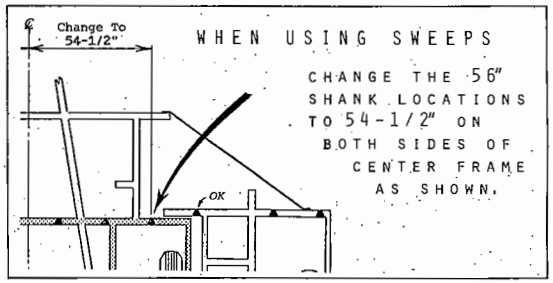
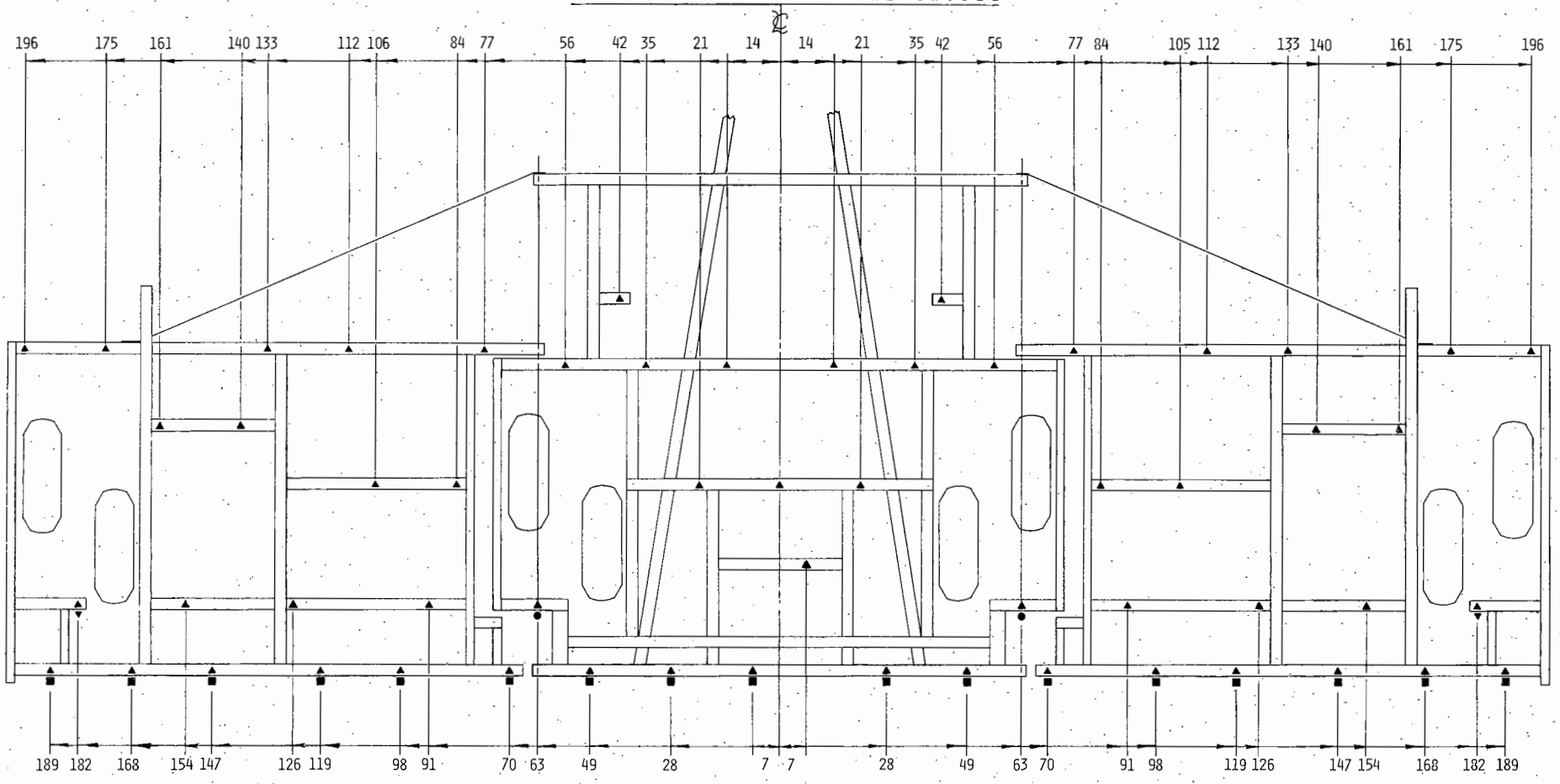


NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.



MODEL 4133

ALL MEASUREMENTS SHOWN ARE FROM THE CENTER OF THE CHISEL



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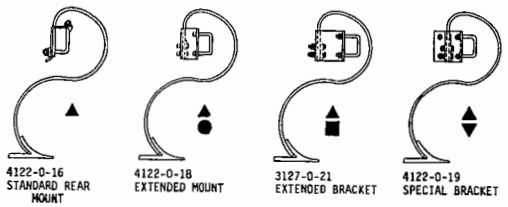
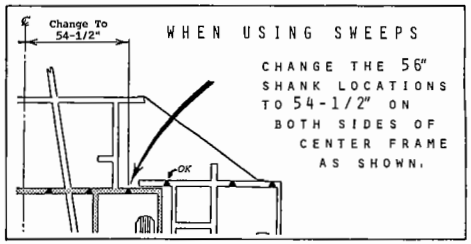
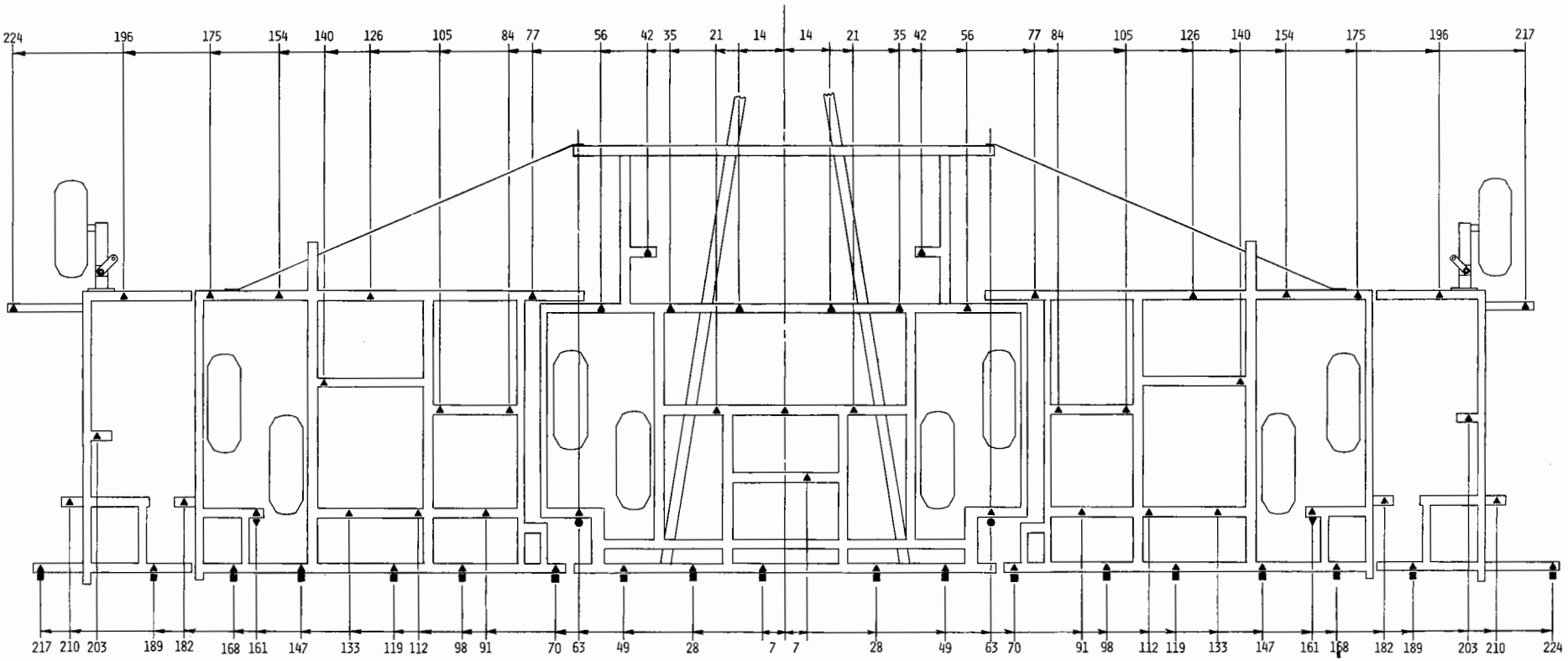


NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.



MODEL 4138

ALL MEASUREMENTS SHOWN ARE FROM THE CENTER LINE OF THE IMPLEMENT.



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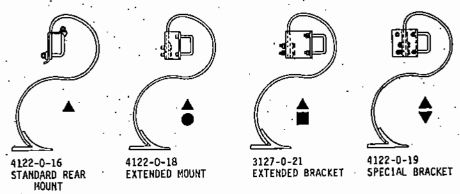
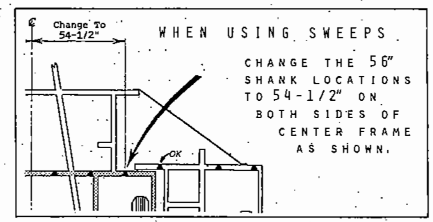
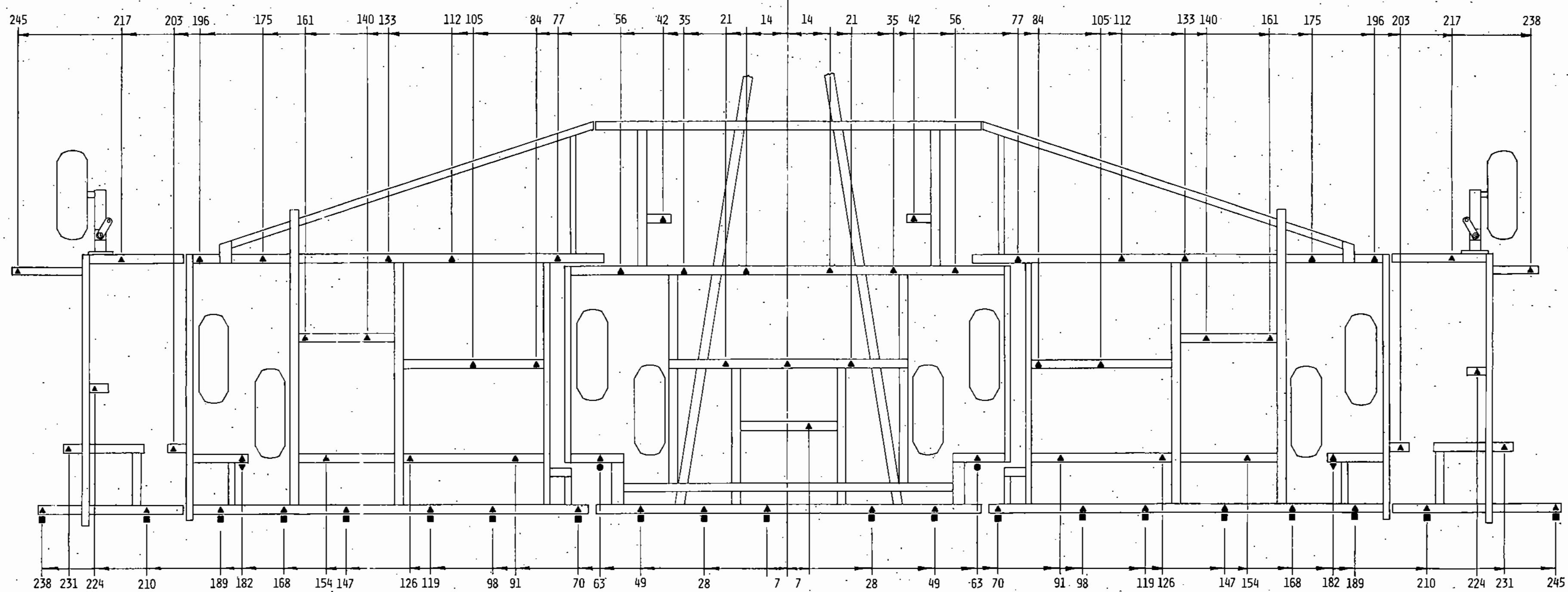


NOTE: SPRING SHOCK SHANKS USE ALL OF THE SHANK LOCATIONS SHOWN.

MODEL 4141



ALL MEASUREMENTS SHOWN ARE FROM THE CENTER OF THE CHISEL



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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 operator's position to adjust, lubricate, clean or unclog the machine.
6. Do not stand between the implement and tractor unless 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 emblem when roading.
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 approaching ditches or corners.
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.