



SUMMERS®

Operator's Manual

DIAMOND DISK SERIES 10

IMPORTANT

THE OPERATOR IS RESPONSIBLE FOR ADJUSTING THE MACHINE SINCE MACHINE DOES NOT COME "FIELD READY" FROM FACTORY.



CAUTION

READ & UNDERSTAND OPERATOR'S MANUAL BEFORE USING MACHINE.

SUMMERS MANUFACTURING CO., INC.

WEB SITE: www.summersmfg.com

MADDOCK, NORTH DAKOTA 58348
DEVILS LAKE, NORTH DAKOTA 58301

(701) 438-2855
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Warranty

Summers warrants only products of its manufacture against operational failure caused by defective materials or workmanship which occur during normal use within 12 months from the date of purchase by the end user from Summers' dealer.

Summers' obligation is to replace free of charge any part of any product that Summers inspection shows to be defective excluding transportation charges to Maddock, ND or Devils Lake, ND and return and also excluding all transportation costs from Summers' dealer to the dealer's customer and all other costs such as removal and installation expense.

Summers shall not be liable for loss of time, manufacturing costs, labor, material, loss of profits, consequential damages, direct or indirect, because of defective products whether due to rights arising under the contract of sale or independently thereof, and whether or not such claim is based on contract, tort or warranty.

Written permission for any warranty claim return must be first obtained from authorized Summers' personnel. All returns must be accompanied with a complete written explanation of claimed defects and the circumstances of operational failure.

Written warranty for all component parts used in the manufacture of Summers products is available upon request. Warranty of such component parts will be determined by said component manufacturer upon their inspection of the claimed defective part.

This express warranty is the sole warranty of Summers. There are no warranties, which extend beyond the warranty herein expressly set forth. The sales for products of Summers under any other warranty or guarantee express or implied is not authorized. This warranty voids all previous issues.

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GENERAL INFORMATION

This book is composed of four basic sections: Safety, Assembly, Operation and Maintenance, and Parts. The Assembly Section provides complete instructions for the proper assembly of your Summers DIAMOND DISK. The Operation Section provides information for the proper operation and maintenance of your Summers DIAMOND DISK. A complete parts breakdown is provided in the Parts Section.

Parts are referenced in each drawing with the Summers Manufacturing Part Number. Use this Part Number when ordering replacement parts from your Summers dealer. See back section of manual for description of each Part Number.

Reference to "Right" and "Left" in this book is determined when the machine is viewed from the rear.

It is the policy of this company to improve its products whenever possible and practical to do so. We reserve the right to make changes or improvements in the design or construction of parts at any time without incurring the obligation to install such changes on products previously delivered.

Summers Manufacturing Company, Inc. strongly recommends that each DIAMOND DISK Operator READ and UNDERSTAND the Operator's Manual before using the machine. In addition, this Operator's Manual should be REVIEWED at least ANNUALLY thereafter.

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OWNER REGISTER

Name _____	Size _____
Address _____	Serial Number _____ <small>(located by the hitch piece)</small>
City _____	
State/Prov. _____	Date Purchased _____
Mail Code _____	Dealer _____

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SECTION 5 - PART NUMBERS & DESCRIPTIONS

SECTION 1 - SAFETY

SAFETY-ALERT SYMBOL



This symbol is used to denote possible danger and care should be taken to prevent bodily injury. This symbol means:

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Definition of each **Signal Word** used in conjunction with the **Safety-Alert** symbol.



indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.



indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

GENERAL SAFETY PRACTICES

1. READ AND UNDERSTAND Operator's Manual before using machine. Review at least annually thereafter.
2. VERIFY all safety devices and shields are in place before using machine.
3. KEEP hands, feet, hair and clothing away from moving parts.
4. STOP engine, place all controls in neutral, set parking brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting or maintaining.
5. BE CAREFUL when working around high pressure hydraulic system.
6. DO NOT ALLOW RIDERS.

SAFETY DURING TRANSPORT

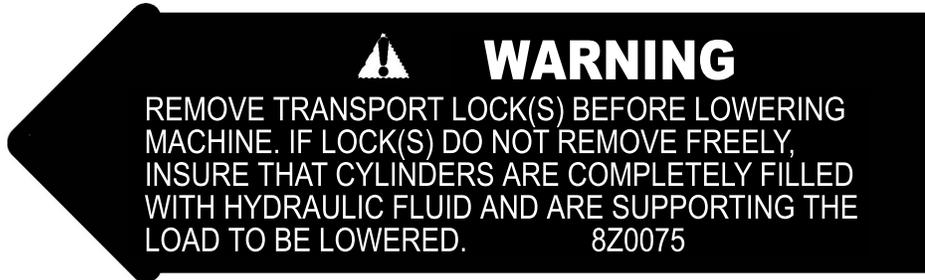
1. ONLY TOW at a safe speed. Use caution when making corners and meeting traffic.
2. USE safety chain between tractor drawbar and implement hitch when transporting on public roads.
3. ALWAYS use transport locks when transporting on public roads.
4. COMPLY with local lighting, marking and oversize regulations when transporting on highways.

SECTION 1 -  SAFETY

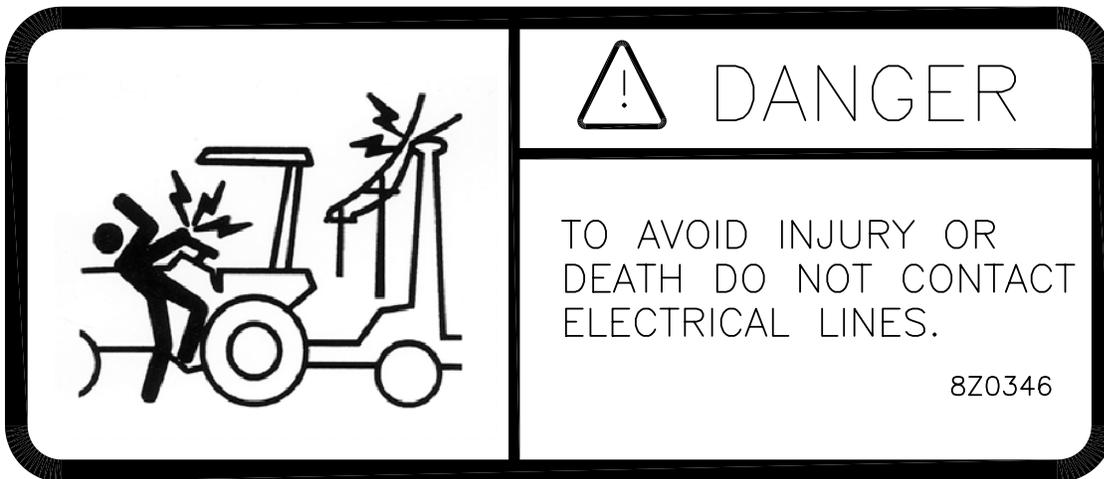
SAFETY DECALS

- A. KEEP SAFETY DECALS CLEAN.
- B. REPLACE missing or unreadable decals. New decals are available from your Summers dealer by ordering correct part number (PN) located on decal.
- C. Locations shown on Page 1-6.

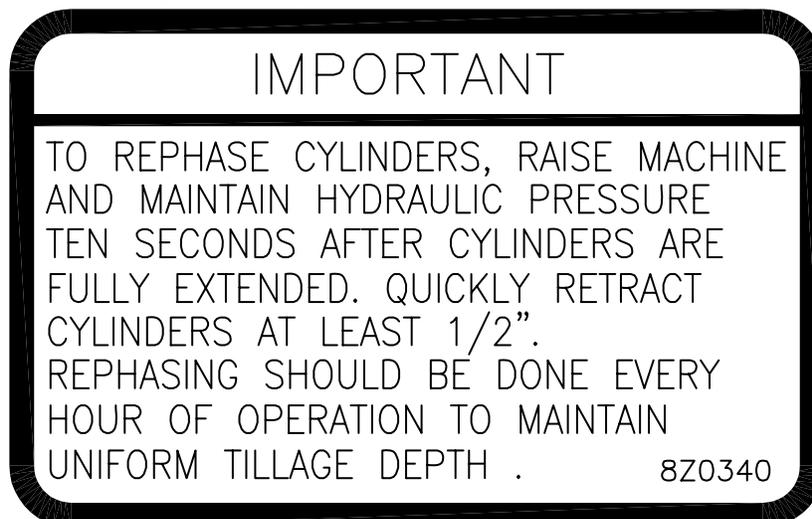
1. TRANSPORT LOCK WARNING DECAL (PN 8Z0075)



2. GENERAL CAUTION DECAL (PN 8Z0276)



3. REPHASING CYLINDERS DECAL (PN 8Z0340)

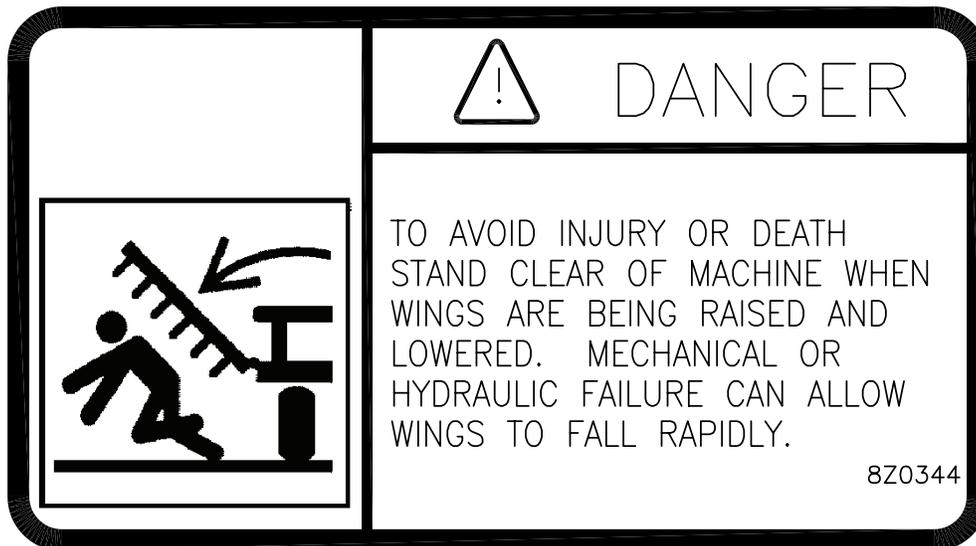


SECTION 1 -  SAFETY

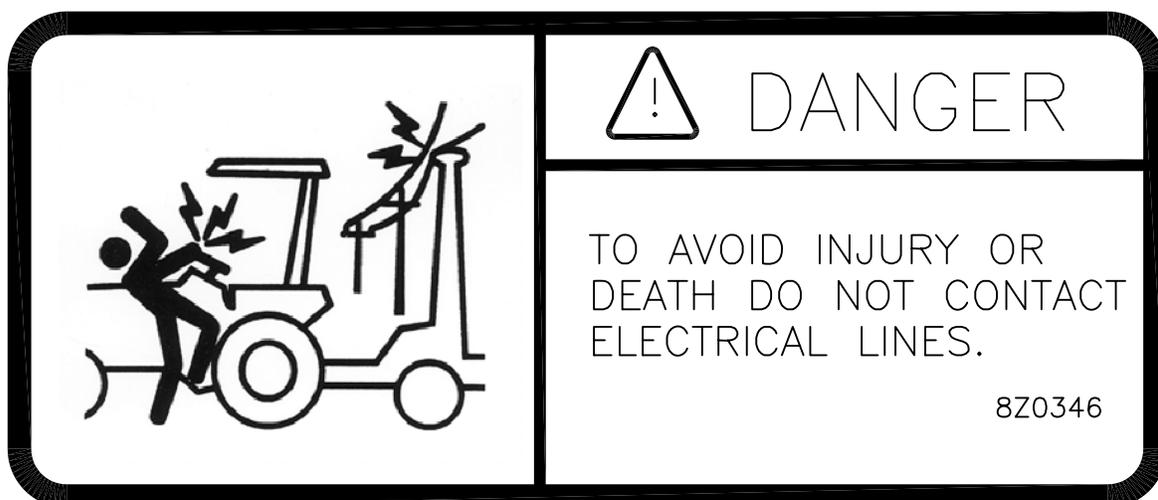
4. INSTALLING CYLINDER LOCKS DECAL (PN 8Z0342)



5. STAYING CLEAR OF WINGS DECAL (PN 8Z0344)



6. ELECTROCUTION DANGER DECAL (PN 8Z0346)





7. PINCH POINT DECAL (PN 8Z0087)

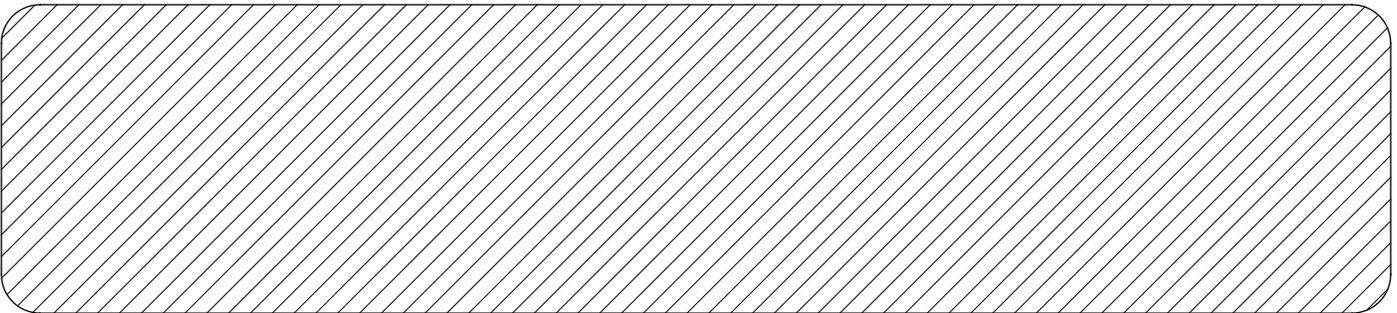
		<div style="text-align: center;">  <h2 style="margin: 0;">DANGER</h2> </div> <p style="text-align: center;">FRAME PINCH POINT HAZARD <i>KEEP AWAY</i></p> <p>To prevent serious injury or death from crushing:</p> <ul style="list-style-type: none"> • Stay away from frame hinge area when folding wings. • Keep others away. • Do not fold wings when bystanders are present. <p style="text-align: right;">8Z0087</p>
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8. GANG BEARING GREASE (PN 8Z0350)

IMPORTANT

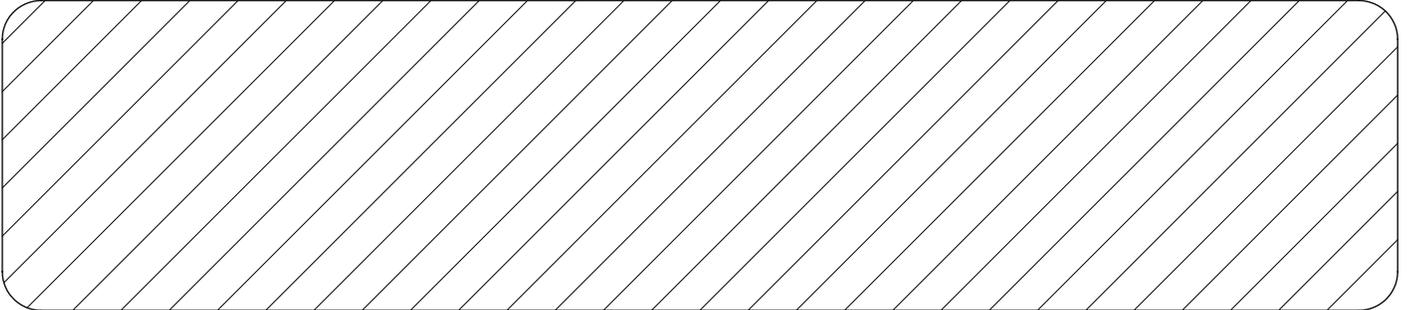
GREASE GANG BEARINGS EVERY 20 HOURS.
GREASE AT MID DAY OR END OF DAY WHEN BEARINGS ARE AT OPERATING TEMPERATURE. ADD 3 STROKES OF CHEVRON ULTRA-DUTY EP NLGI 2 OR EQUIVALENT. ROTATE GANG 2 TO 3 REVOLUTIONS. ADD THREE MORE STROKES. GREASE ALL ZERKS ON MACHINE BEFORE EXTENDED STORAGE PERIOD. 8Z0350

9. AMBER REFLECTOR (PN 8Z0800)

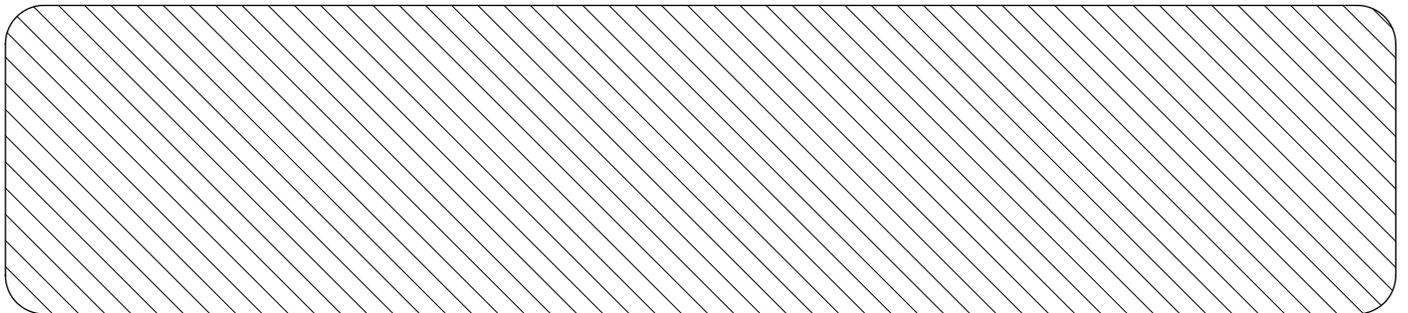


SECTION 1 -  SAFETY

10. RED-ORANGE REFLECTOR (PN 8Z0805)



11. RED REFLECTOR (PN 8Z0810)



SAFETY LIGHT OPERATION

The Summers Safety Light Kit is equipped with a 7 pin connector which meets SAE J560 specification. To protect 7 pin connector, store in dust cap (8K8067) when not attached to towing vehicle.

On most towing vehicles WITHOUT brake lights:

Amber lights will turn on with flashers or turn signals.

Red lights will turn on with parking, road or field lights.

On most towing vehicles WITH brake lights:

Amber lights will turn on with flashers, turn signals OR when brake is applied.

Red lights will turn on with parking or road lights.

GENERAL ASSEMBLY SAFETY PRACTICES



YOU ARE RESPONSIBLE for the safe assembly of the machine.



BLOCK UP ANY RAISED PART of the machine. Be sure machine is stable after blocking.



DO NOT ALLOW CHILDREN or other unauthorized persons within the assembly area.



ALWAYS INSPECT LIFTING CHAINS AND SLINGS for damage or wear.



WEAR PERSONAL PROTECTIVE EQUIPMENT which includes a hard hat, eye protection, work gloves and steel toed boots with slip resistant soles.



BE SURE LIFTING DEVICE IS RATED TO HANDLE THE WEIGHT.



DO NOT MODIFY the equipment or substitute parts in any way. Unauthorized modification may impair the function and/or safety of the machine.



STOP ENGINE, place all controls in neutral, set parking brakes, remove ignition key and wait for all moving parts to stop before servicing or adjusting.



USE SUITABLE LIFTING DEVICE for components which



BE SURE PRESSURE IS RELIEVED from hydraulic circuits before servicing or disconnecting from tractor.



USE EXTREME CARE when assembling, servicing or adjusting.

SECTION 2 – ASSEMBLY

ASSEMBLY INSTRUCTIONS FOR 18.5 FT. THRU 32.5 FT.

Refer to illustrations and follow these steps when assembling.

The machine should be placed in an area that allows ample room for assembly in the field position.



CAUTION: For safety purposes, always block equipment while working on it.

MAIN FRAME:

Refer to pages 4-2 and 4-3 when assembling main frame.

Place left and right center frames on stable supports approximately 3 feet off floor. Bolt center frames together using front and rear splice tubes and secure with (12) 3/4" x 3" bolts, lockwashers and nuts (finger tight only). Use (4) 7/8" bolts on front. Attach front and rear cross tubes (8K1081, 8K1082) as shown. Plates on front cross tube for attaching lift arm assemblies must face rear of machine. Secure each cross tube with (4) 3/4" x 2-1/4" bolts, (4) 3/4" U-bolts, SAE flat washers, lockwashers and locknuts. Tighten all nuts. Next attach left and right wing frames using 1-1/2" x 15-1/2" pins. Secure pins through collar with 7/16" x 3-1/2" bolts and locknuts.

LIFT ARMS

Install lift arm assemblies on center and wings using 1-1/2" dia. x 15-1/2" pins and secure with 7/16" x 3-1/2" bolts and locknuts.

NOTE: Wing lift arm assemblies (8K1134) are 14-1/2" shorter than rear center lift arm assemblies (8K1152). The front center lift arm (8K1146) has (2) 5" long axle tubes and double cylinder attach.

WALKING TANDEM ASSEMBLIES (Rear Center Only)

Check inside surface of walking tandem assemblies (8T4132). A 3-3/4" diameter surface around the 1-1/2" dia. pivot hole must be smooth and burr-free. Remove any welding spatter or roughness prior to further assembly. Install snap rings (8K1920) past grooves of lower pivot tube on the rear center lift arm assemblies. Install V-seal over lower pivot tubes until solid side is against snap ring. Protect lip of V-seal during assembly.

Install walking tandem assemblies to the bottom of rear center liftarms. Mount so axle closest to the center of machine is towards rear. Insert pivot pin (8T3620) through walking tandem assembly and lift arm. Retain with 7/16" x 3-1/2" bolts and locknuts. Push V-seal against walking tandem assembly and secure by placing snap ring into groove.

WHEELS

Insert axle and hub assemblies. Apply good quality anti-seize to axles before inserting into receiver tubes. Retain with 1/2 x 3-3/4" bolts and locknuts. Install wheel and tire assemblies, retain with 9/16" wheel bolts (torque required: 122 ft-lbs).

A-FRAMES

Mount A-Frame assemblies above lift arm assemblies as shown. The center of the A-Frame assemblies (8K1221) on the rear center section should be 22-1/2" from the center of pin hole. On the wings, this measurement is 15-1/2".

NOTE: On the center A-Frame assembly (8K1221), the longer arm must face the center of the disk frame.

On the wing A-Frame assemblies (8K1232 or 8K1242), the side with the hose clamps should face the center of the machine. Mount front center A-Frame (8K1212) using (4) 3/4" bolts, (2) 3/4" U-bolts and hardware. Install the adjustable cylinder bolts next. Set nuts so bolts are in the middle of the adjustment. Insure that cylinder attach holes are aligned when eye bolts are tightened. These will be readjusted later. See Field Operation section.

MAIN LIFT HYDRAULIC SYSTEM

Refer to pages 4-4 and 4-5 when assembling the main lift hydraulic system. The front center lift arm (8K1146) has two cylinder attach locations. Use rear cylinder attach hole. Cylinder attach location can be changed based on field adjustments. Connecting front center cylinder to rear hole will lower front end of disk in transport position.

Attach cylinders to adjustment bolts and lift arms as shown. Note the different sized cylinders. Cylinders must be in their proper location. Install all fittings into cylinders. Route hoses as shown. Use clamps provided to secure hoses to frame. Tighten hose hold-down clamps enough to retain hoses but loose enough that clamps can be turned by hand. Hydraulic hoses will expand and shorten when pressurized. Tighten all fittings.

IMPORTANT: Allow enough hose at hinge points to avoid pinching or stretching the hose.

SECTION 2 – ASSEMBLY

WING LIFT HYDRAULIC SYSTEM

Refer to page 4-6 when assembling the wing lift system (24-1/2' through 32-1/2' units only). Mount lift cylinders to the adjustment bolts and route hoses as shown. Fill lift cylinders with oil before attaching lift linkage. Position adjustment bolts by starting end nuts so they are flush with bolt. Once lift cylinders have been filled with oil and cycle smoothly, connect wing lift linkage. Raise wings by fully retracting lift cylinders.



CAUTION: Stand clear whenever raising or lowering wings.

With lift cylinders fully retracted, tighten the end (inside) adjustment nut until the holes for the transport pin lock align. Then tighten outside nut to lock in place. Lower wings back to field position for gang mounting.

HITCH

Attach hitch to center frame using (2) 1-1/2" dia. x 10-5/8" pins and secure with 7/16" x 3-1/2" bolts and locknuts. Position in bottom set of holes for extremely rocky conditions, top set for increased penetration. Center with 1-1/2" ID x 10GA flat washers on outside of Main Frame pivots.

GANG MOUNTING

Refer to gang layout on pages 2-6 through 2-8 and illustrations on page 4-10.

Position gangs so notched blades are located at rear center of disk.

Start from the center and work towards the outside when hanging gangs. Lift gang up to the frame close to the correct location. Attach C-shanks to the frame using (2) 3/4" U-bolts, a mounting plate with peg, a flat mounting plate, lockwashers and nuts. After all C-shanks on each gang are mounted, slide gang to its proper location and tighten nuts.

SCRAPER MOUNTING

Refer to pages 2-6 through 2-8 and 4-10 when mounting scrapers.

Attach scraper mounting tubes (8K4610, 8K4620, 8K4630, 8K4640, 8K4650, 8K4660, 8K4670, 8K4690, 8K4692, 8K4698, 8K4700) to scraper support bracket (8K4450) using 3/4" U-bolts (8K5505). Mount tubes so the end with hole closest to the end (2" from end) is towards the concave end of the gang. Attach scraper mounting arms (8K4430) to the mounting tubes with 3/4" x 4-1/2" bolts, flat washers, mounting clamps (8K4300), lockwashers and nuts.

Mount scraper blades to mounting arms using 1/2" x 1-1/2" bolts and flange nuts. Adjust angle of scraper blade so that it follows the contour of the disk blade. Tighten the 1/2" bolts. Adjust scraper mounting arms so scraper blades are 3/8" – 1" (depending on soil and residue conditions) from the disk blades. Tighten the 3/4" x 4-1/2" bolt. Mount double scraper blades at bearing locations as shown on Page 4-10.



SECTION 2 – ASSEMBLY

ASSEMBLY INSTRUCTIONS FOR 38.5 FT. & 44.5 FT.

Refer to illustrations and follow these steps when assembling.

The machine should be placed in an area that allows ample room for assembly in the field position.



CAUTION: For safety purposes, always block equipment while working on it.

MAIN FRAME:

Refer to pages 4-2 and 4-7 when assembling main frame.

Place left and right center frames on stable supports approximately 3 feet off floor. Bolt center frames together using front and rear splice tubes and secure with (12) 3/4" x 3" bolts, lockwashers and nuts (finger tight only). Use (4) 7/8" bolts on front. Attach cross tubes (8K1090, 8K1093) as shown. Plates on middle cross tube for attaching lift arm assemblies must face rear of machine. Attach middle cross tube using rear set of holes. Secure each cross tube with (4) 3/4" x 2-1/4" bolts, (4) 3/4" U-bolts, SAE flat washers, lockwashers and locknuts. Tighten all nuts. Next attach left and right wing frames using 1-1/2" x 15-1/2" pins. Secure pin through collar with 7/16" x 3-1/2" bolt and locknut.

LIFT ARMS

Install lift arm assemblies on center and wings using 1-1/2" dia. x 15-1/2" pins and secure with 7/16" x 3-1/2" bolts and locknuts.

NOTE: The front center lift arm (8K1186) has (2) 5" long axle tubes and double cylinder attach.

WHEELS

Insert axle and hub assemblies. Apply good quality anti-seize to axles before inserting into receiver tubes. Retain with 1/2" x 4-1/2" bolts and locknuts. Install wheel and tire assemblies, retain with wheel nuts (torque required: 170 ft-lbs).

A-FRAMES

Mount A-Frame assemblies above lift arm assemblies as shown. The center of the A-Frame assemblies (8K1224, 8K1242) on the rear sections should be 16" from the center of pin hole.

On the wing A-Frame assemblies (8K1242), the side with the hose clamps should face the center of the machine.

Mount front center A-Frame (8K1212) using (4) 3/4" bolts, (2) 3/4" U-bolts and hardware. Install the adjustable cylinder bolts next. Set the nuts so the bolts are in the middle of the adjustment. Insure that cylinder attach holes are aligned when eye bolts are tightened. These will be readjusted later, see Field Operation section.

MAIN LIFT HYDRAULIC SYSTEM

Refer to page 4-8 when assembling the main lift hydraulic system.

The front center lift arm (8K1186) has two cylinder attach locations. Use rear cylinder attach hole. Cylinder attach location can be changed based on field adjustments. Connecting front center cylinder to rear hole will lower front end of disk in transport position.

Attach cylinders to the adjustment bolts and lift arms as shown. Note the different sized cylinders. Cylinders must be in their proper location. Install all fittings into cylinders. Route hoses as shown. Use clamps provided to secure hoses to frame. Tighten hose hold-down clamps enough to retain hoses but loose enough that clamps can be turned by hand. Hydraulic hoses will expand and shorten when pressurized. Tighten all fittings.

IMPORTANT: Allow enough hose at hinge points to avoid pinching or stretching the hose.

WING LIFT HYDRAULIC SYSTEM

Refer to page 4-9 when assembling the wing lift system. The 38-1/2' and 44-1/2' disks use two hydraulic wing lift cylinders per wing. Mount lift cylinders on the front and rear cross tubes. Mount lift cylinders to the adjustment bolts and route hoses as shown. Fill lift cylinders with oil before attaching lift linkage. Position adjustment bolts by starting end nuts so they are flush with bolt. Once lift cylinders have been filled with oil and cycle smoothly, connect wing lift linkage. Raise wings by fully retracting lift cylinders.

CAUTION: Stand clear whenever raising or lowering wings.

With lift cylinders fully retracted, tighten the end (inside) adjustment nut until the holes for the transport pin lock align. Then tighten outside nut to lock in place. Insure that cylinder attach holes are aligned when eye bolts are tightened. Lower wings back to field

SECTION 2 – ASSEMBLY

position for gang mounting.

HITCH

Attach hitch to center frame using (2) 1-1/2" dia. x 10-5/8" pins and secure with 7/16" x 3-1/2" bolts and locknuts. Position in bottom set of holes for extremely rocky conditions, top set for increased penetration. Center with 1-1/2" ID x 10GA flat washers on outside of Main Frame pivots.

GANG MOUNTING

Refer to gang layout on page 2-19 and illustrations on page 4-10.

Position gangs so notched blades are located at rear center of disk.

Start from the center and work towards the outside when hanging gangs. Lift gang up to the frame close to the correct location. Attach C-shanks to the frame using (2) 3/4" U-bolts, a mounting plate with peg, a flat mounting plate, lockwashers and nuts. After all C-shanks on each gang are mounted, slide gang to its proper location and tighten nuts.

SCRAPER MOUNTING

Refer to pages 2-9 and 4-10 when mounting scrapers.

Attach scraper mounting tubes (8K4630, 8K4640, 8K4650, 8K4660, 8K4670, 8K4710) to scraper support bracket (8K4450) using 3/4" U-bolts (8K5505). Mount tubes so the end with hole closest to the end (2" from end) is towards the concave end of the gang. Attach scraper mounting arms (8K4430) to the mounting tubes with 3/4" x 4-1/2" bolts, flat washers, mounting clamps (8K4300), lockwashers and nuts.

Mount scraper blades to mounting arms using 1/2" x 1-1/2" bolts and flange nuts. Adjust angle of scraper blade so that it follows the contour of the disk blade. Tighten the 1/2" bolts. Adjust scraper mounting arms so scraper blades are 3/8" – 1" (depending on soil and residue conditions) from the disk blades. Tighten the 3/4" x 4-1/2" bolt. Mount double scraper blades at bearing locations as shown on page 4-10



SECTION 2 – ASSEMBLY

ASSEMBLY INSTRUCTION FOR ALL SIZES

MOUNTING WEIGHT PACKAGES

Mount weight packages on outside of wings in location that will not interfere with disk gang or tire travel. Install 1/2 weight packages (6 suitcase weights with mounting angles and hardware) by positioning mounting angles 8-1/2" apart. Secure with 3/4" U-bolts, lockwashers and nuts. Fully tighten hardware on one mounting angle. Hand tighten mounting hardware on second mounting angle, this must be free to slide. Insert one 1" x 10-1/2" bolt through both mounting angles, turn 1" nut onto this bolt until threads are flush with outside of nut. Spread mounting angles as much as 1" bolt and nut will allow. Lift suitcase weights (8K9230) into position, slide slotted hole of weight over 1" bolt. Continue to slide weight past corner of slot until it reaches the end of the slot, at this location the hole without slot will line up with the second hole in the mounting angles. Repeat procedure with remaining suitcase weights. Insert second 1" x 10-1/2" bolt through angles and weights. Secure second 1" bolt with lockwasher and nut, fully tighten. When second 1" bolt is tight, remove the nut from first bolt and add the lockwasher. Fully tighten all remaining nuts.

Caution: Each suitcase weight (8K9230) weighs 70#, use extreme care when handling them.

SAFETY

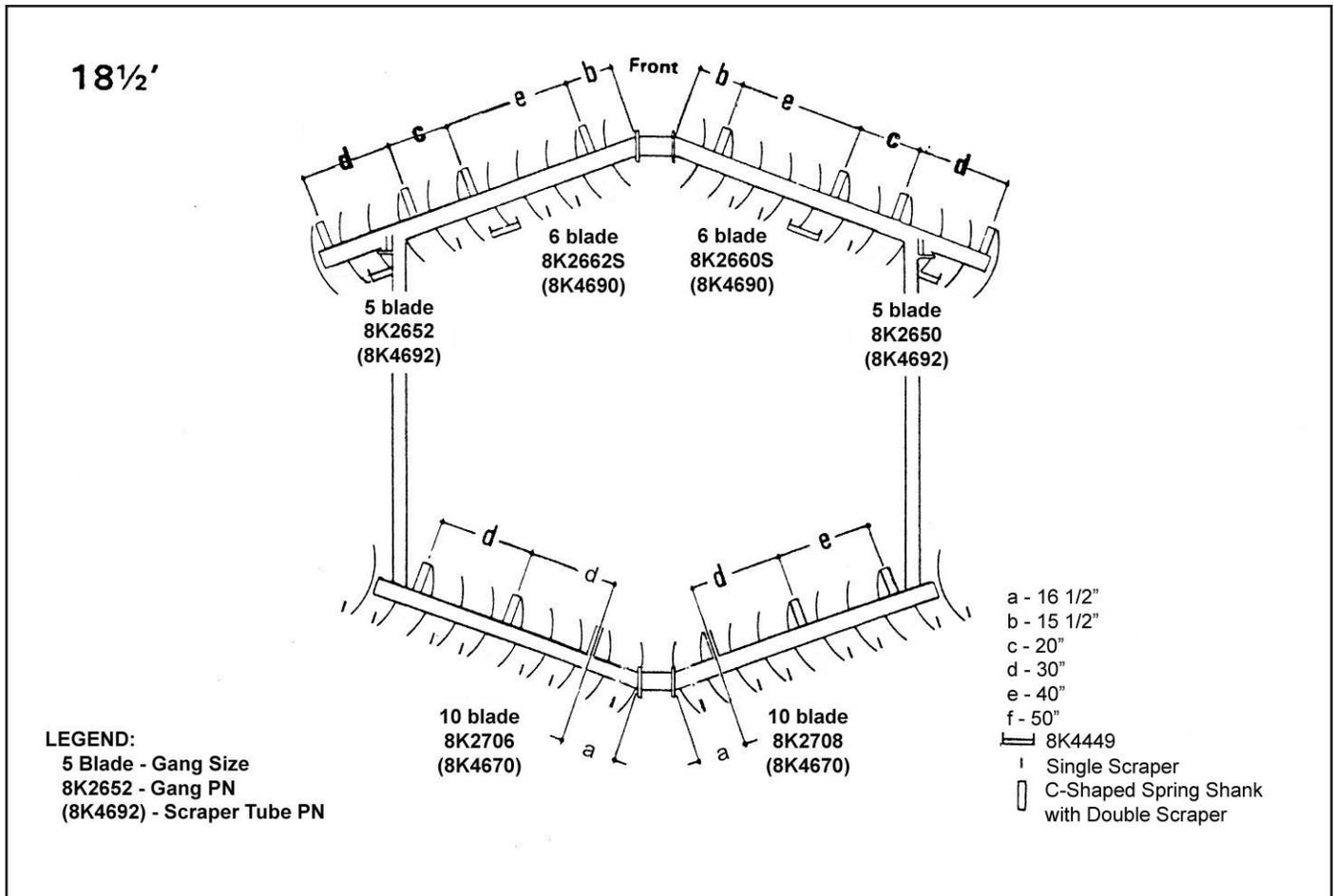
Install SMV mounting bracket at machine center. Install remaining decals at locations shown on page 1-5. Install Safety Light Kit, refer to breakdown on page 4-17.

MOUNTING STANDARD 8 FT. M-104 HARROW SECTION

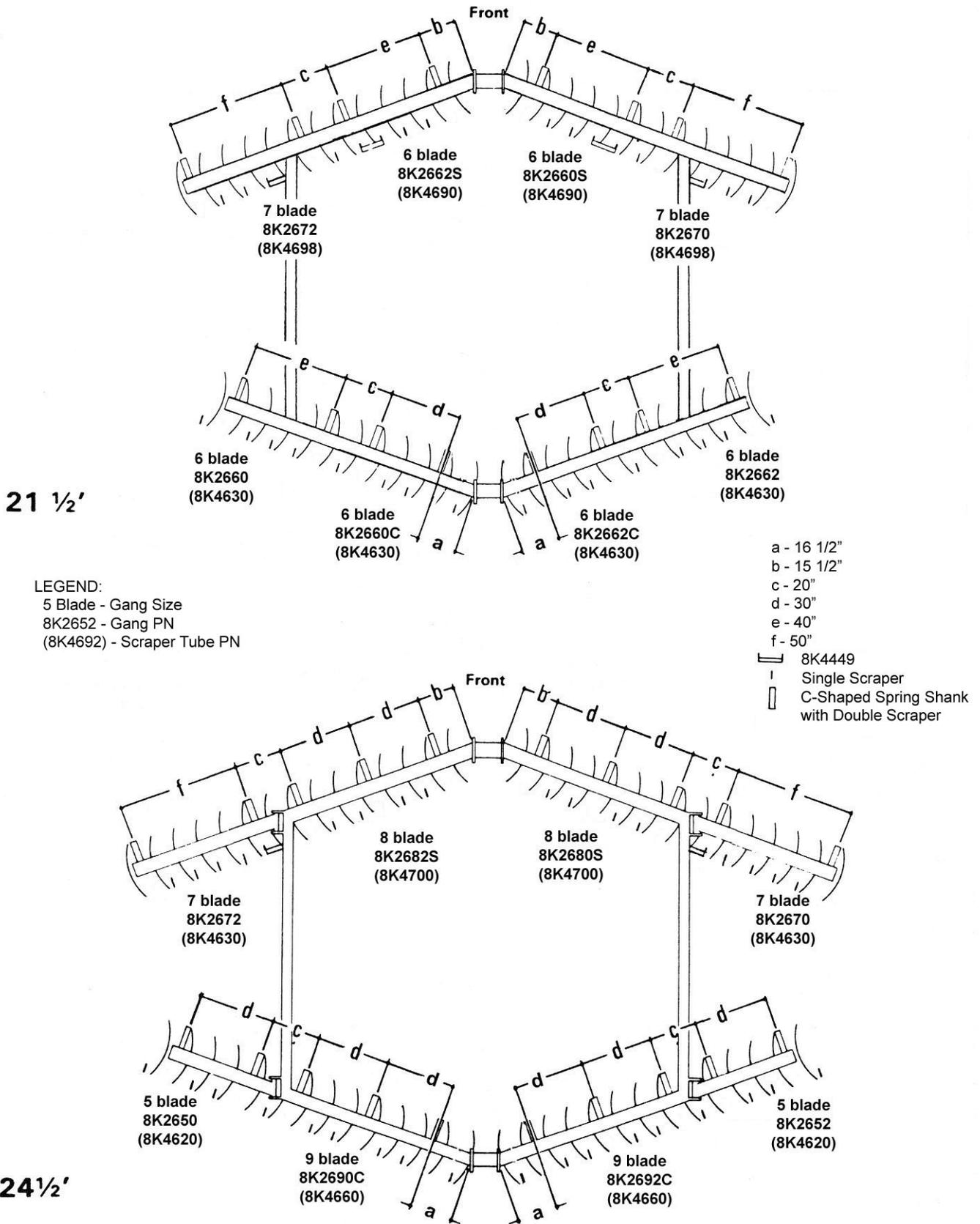
Attach harrow section to the frame directly behind the shank using the brackets provided. Position brackets and harrow lift arms 20" apart. (10" from centerline of disk to center of bracket). When an optional full set of mounted harrows is used, refer to pages 2-10 through 2-14.

8K4950 - FRONT CENTER SINGLE DISK BLADE

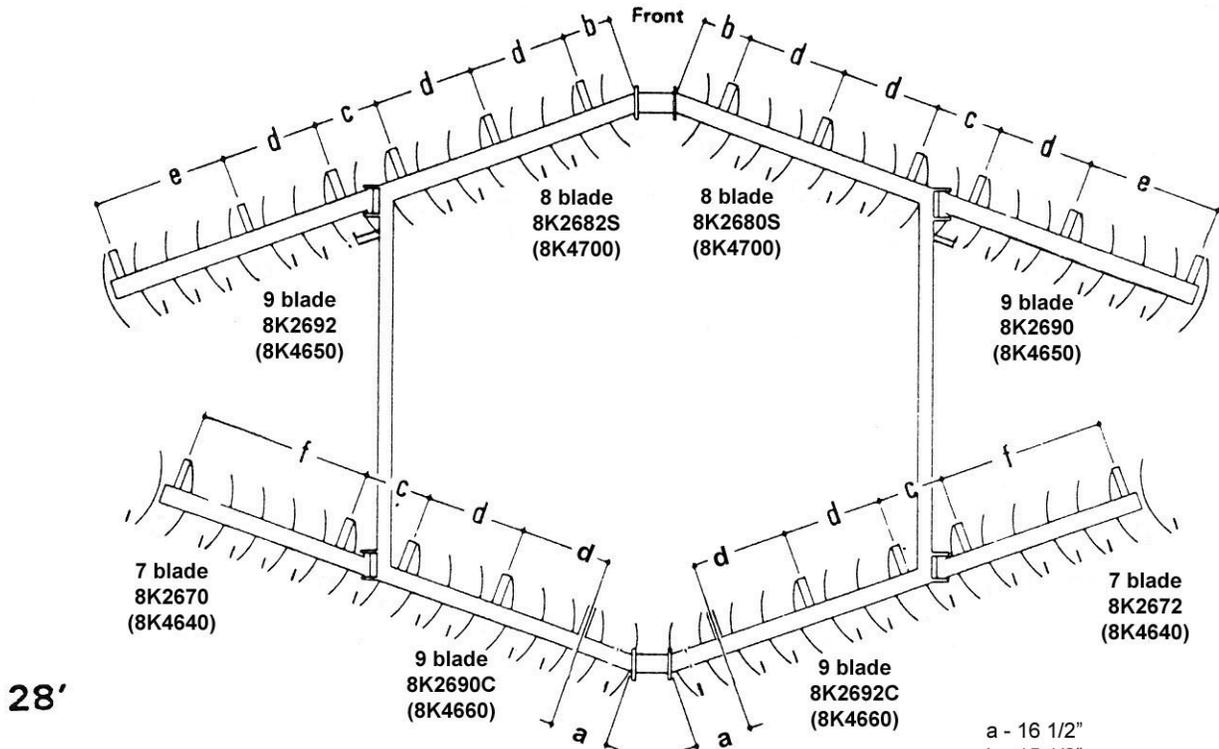
Refer to breakdown on page 4-15 & 4-16.



SECTION 2 - ASSEMBLY



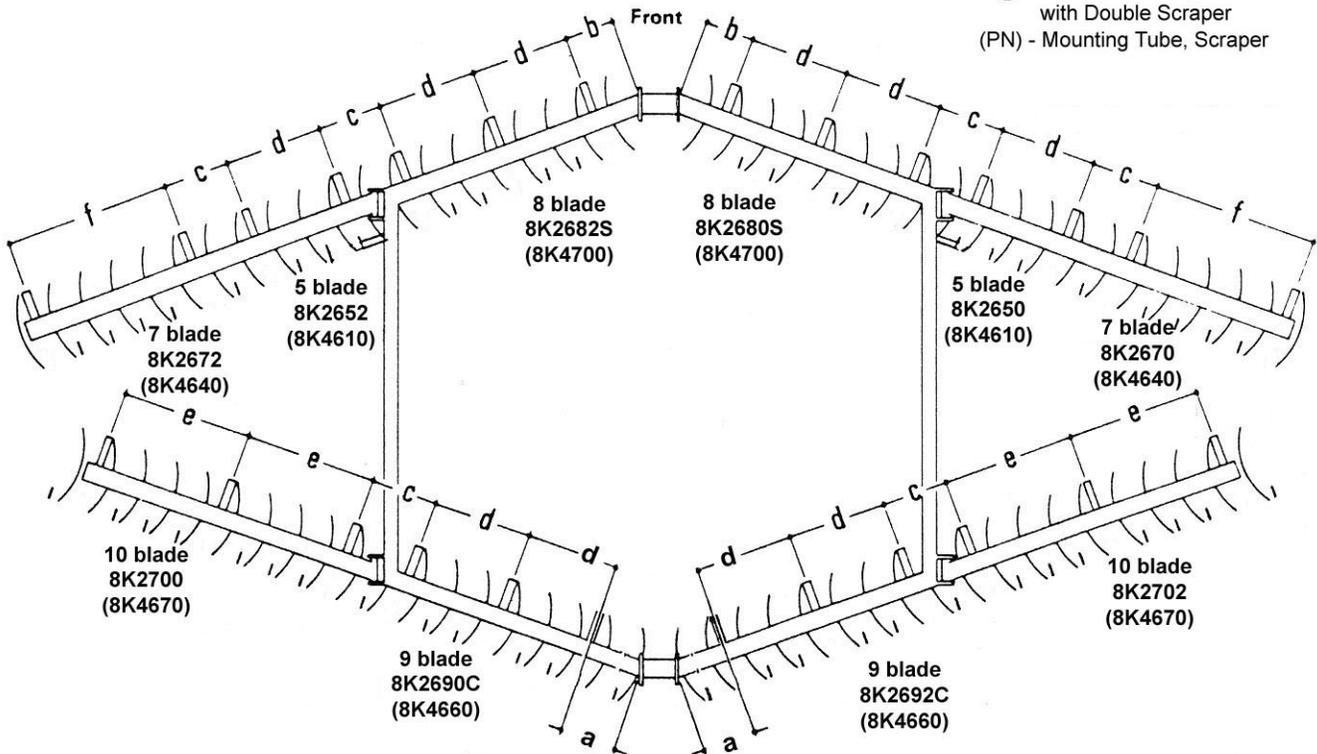
SECTION 2 - ASSEMBLY



LEGEND:

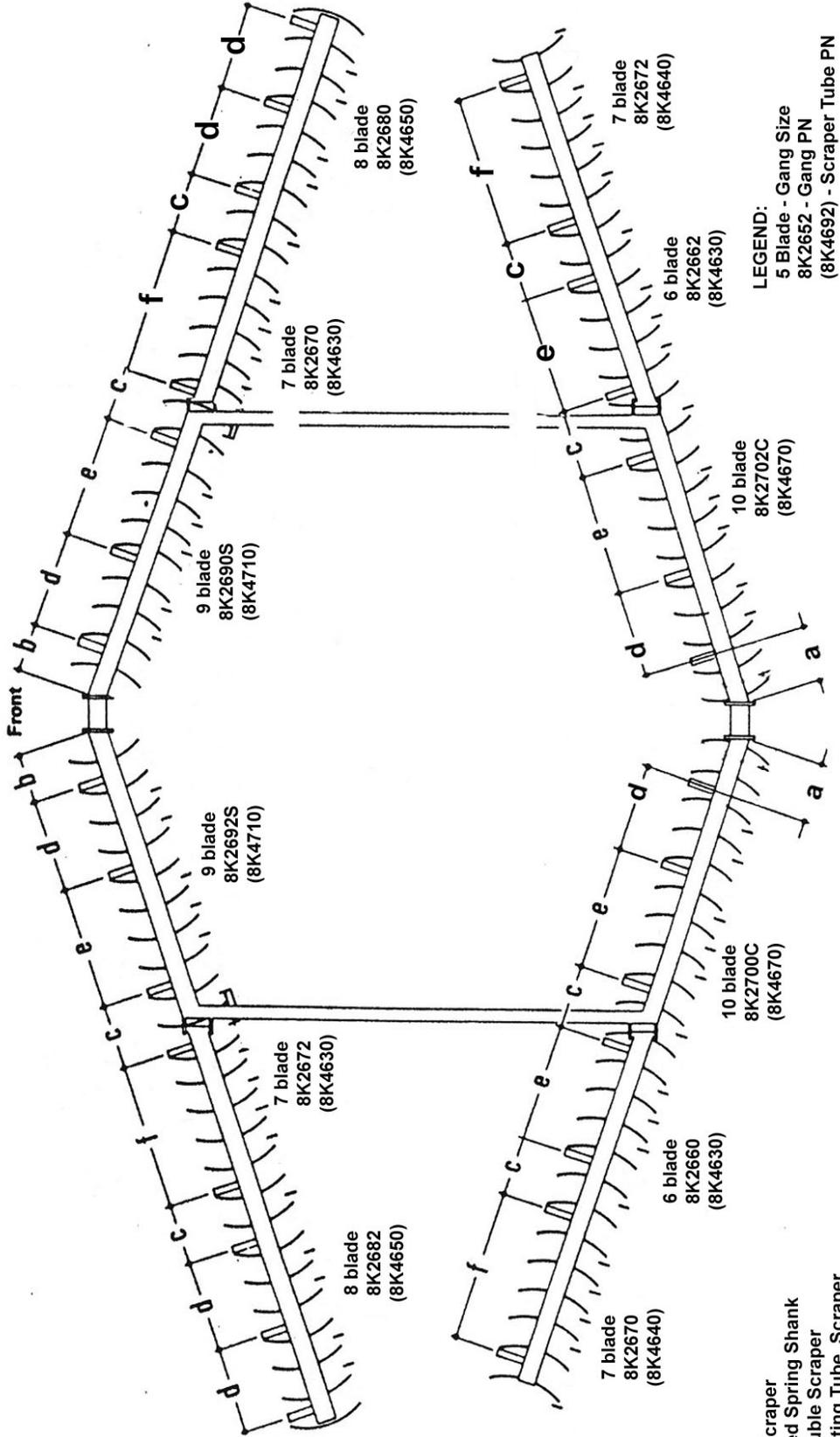
- 5 Blade - Gang Size
- 8K2652 - Gang PN
- (8K4692) - Scraper Tube PN

- a - 16 1/2"
- b - 15 1/2"
- c - 20"
- d - 30"
- e - 40"
- f - 50"
- 8K4449
- Single Scraper
- C-Shaped Spring Shank
with Double Scraper
- (PN) - Mounting Tube, Scraper



SECTION 2 - ASSEMBLY

38 1/2'



- a - 16 1/2"
- b - 15 1/2"
- c - 20"
- d - 30"
- e - 40"
- f - 50"

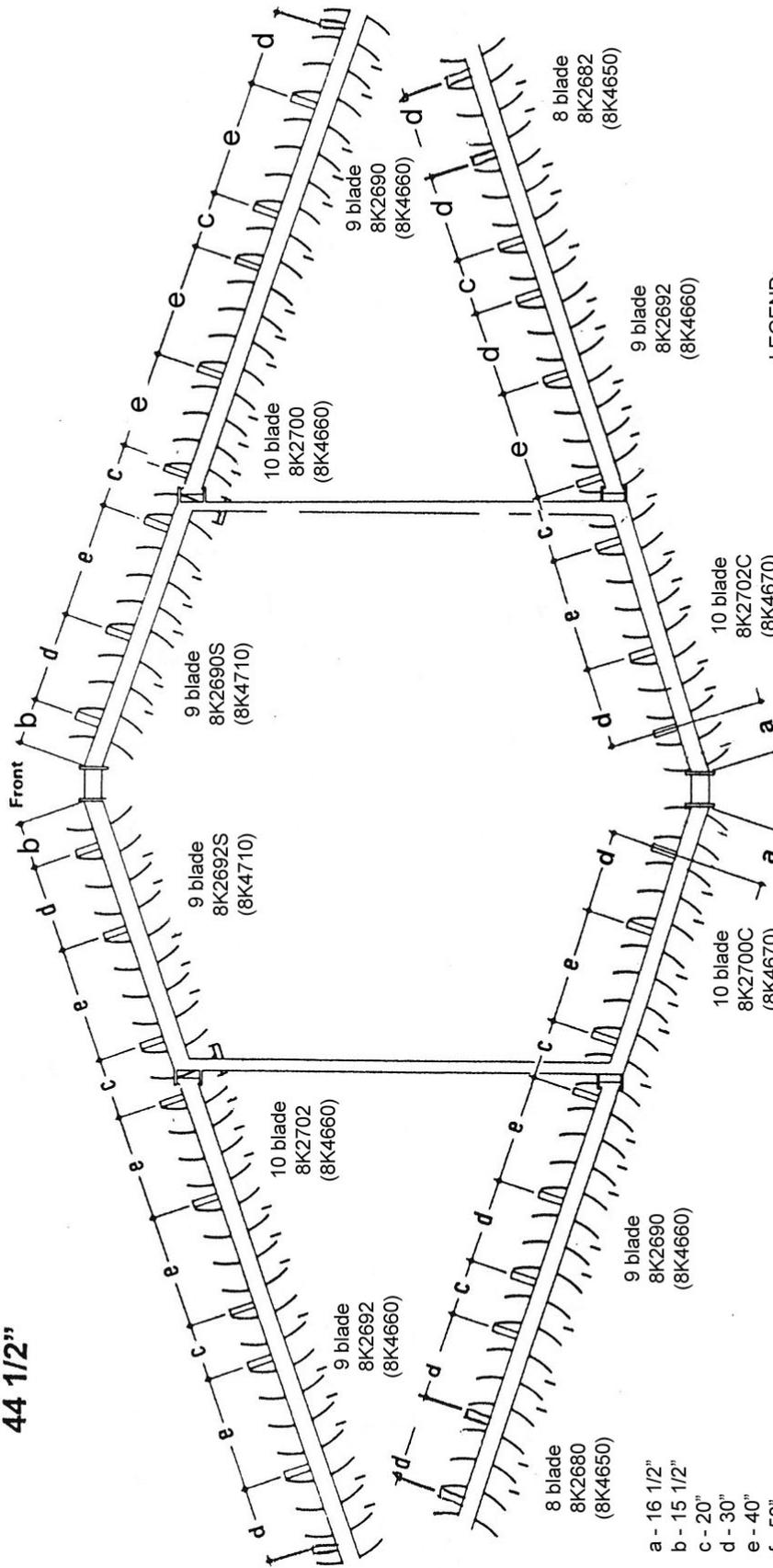
- 8K4449 Single Scraper
- C-Shaped Spring Shank with Double Scraper (PN) - Mounting Tube, Scraper

- 5 Blade - Gang Size 8K2652 - Gang PN (8K4692) - Scraper Tube PN
- 6 blade 8K2662 (8K4630)
- 7 blade 8K2672 (8K4640)
- 8 blade 8K2680 (8K4650)
- 9 blade 8K2690S (8K4710)
- 10 blade 8K2702C (8K4670)

LEGEND:

SECTION 2 - ASSEMBLY

44 1/2"



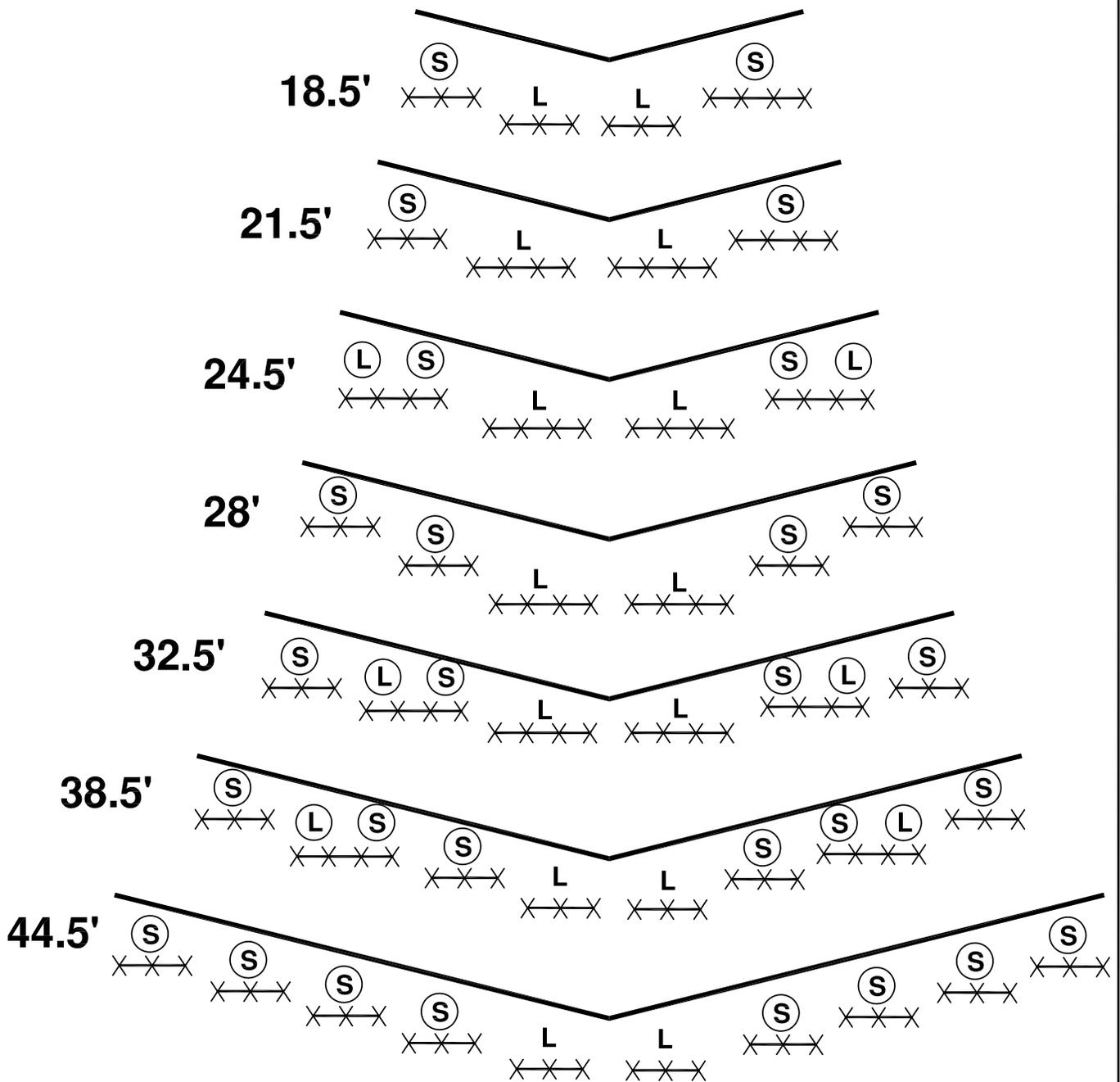
LEGEND:
 5 Blade - Gang Size
 8K2652 - Gang PN
 (8K4692) - Scraper Tube PN

8K4449
 I Single Scraper
 □ C-Shaped Spring Shank
 with Double Scraper
 (PN) - Mounting Tube, Scraper

a - 16 1/2"
 b - 15 1/2"
 c - 20"
 d - 30"
 e - 40"
 f - 50"

SECTION 2 – ASSEMBLY

M94 HARROW MOUNTING LAYOUT FOR DIAMOND DISK



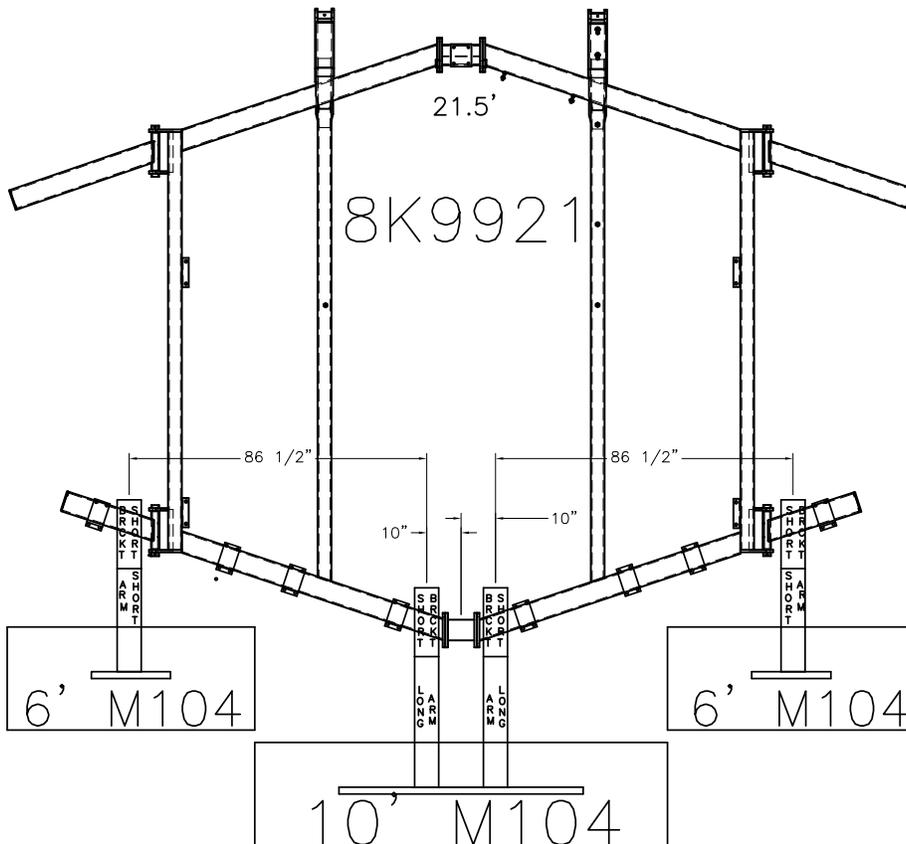
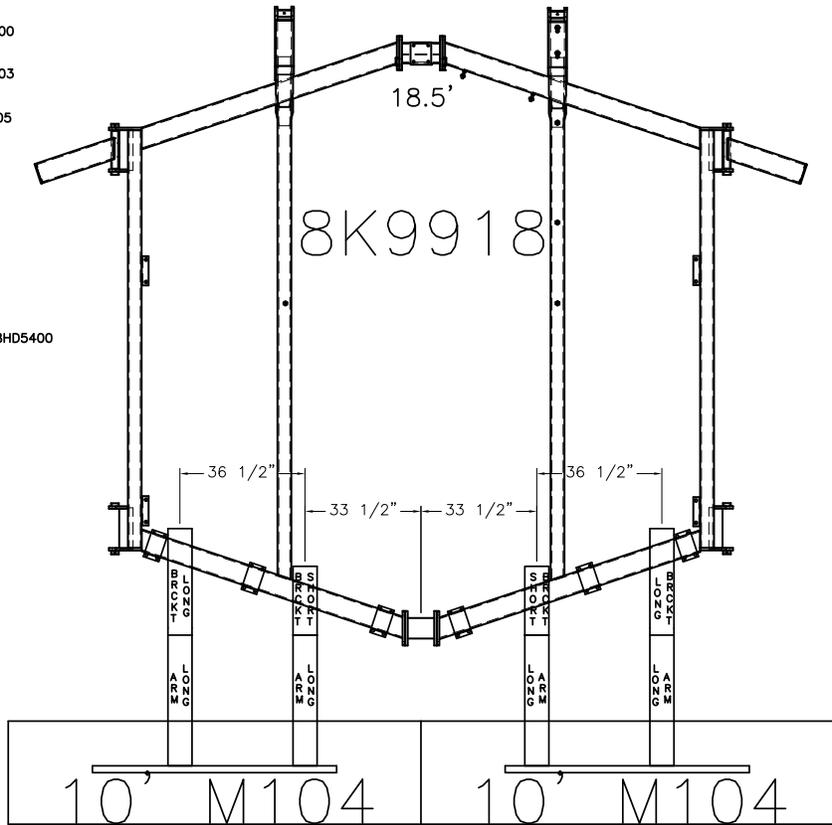
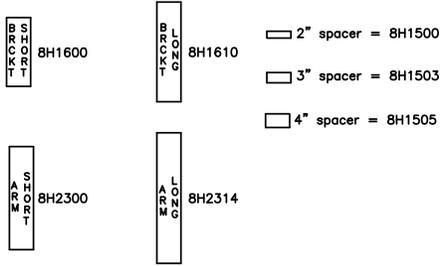
KEY

- S** = Short Universal Brckt/52" Mounting Arm
- L** = Long Universal Brckt/52" Mounting Arm
- (S)** = Short Universal Brckt/34" Mounting Arm
- (L)** = Long Universal Brckt/34" Mounting Arm
- X-X-X = 4.5 Foot Section
- X-X-X-X = 6 Foot Section

11/6/07

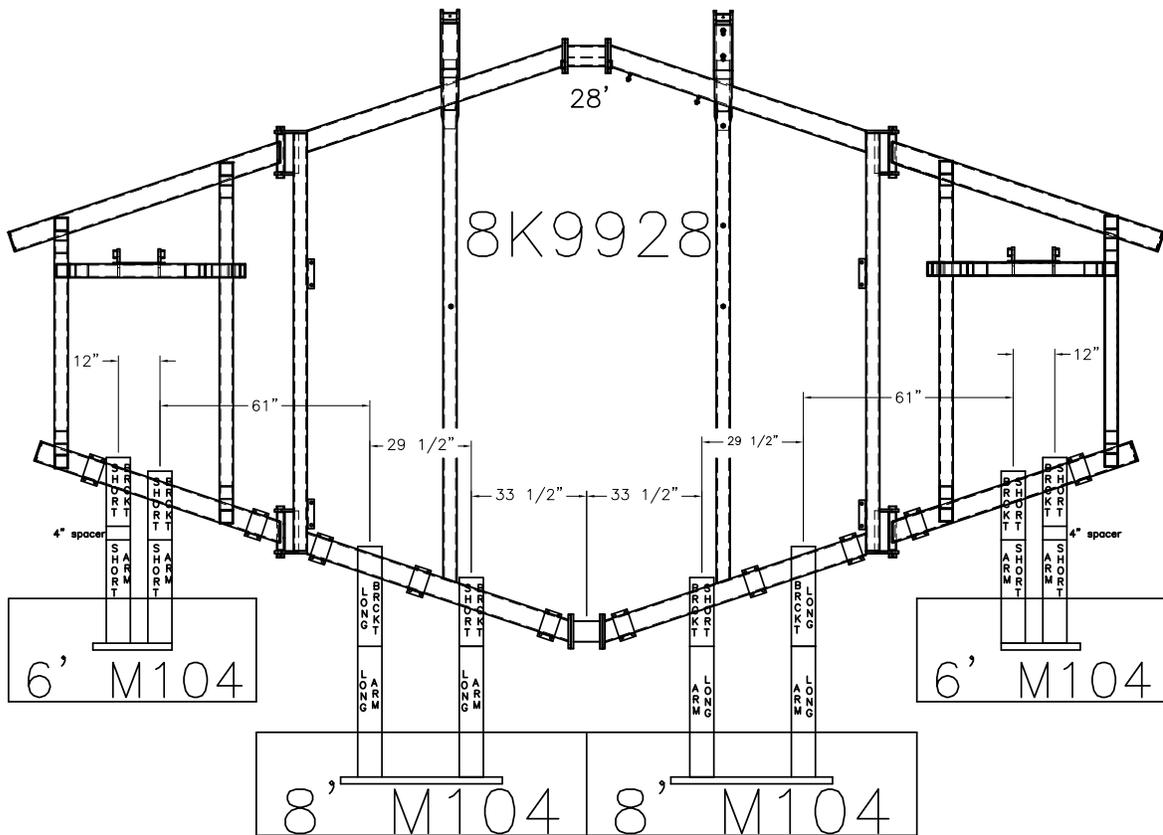
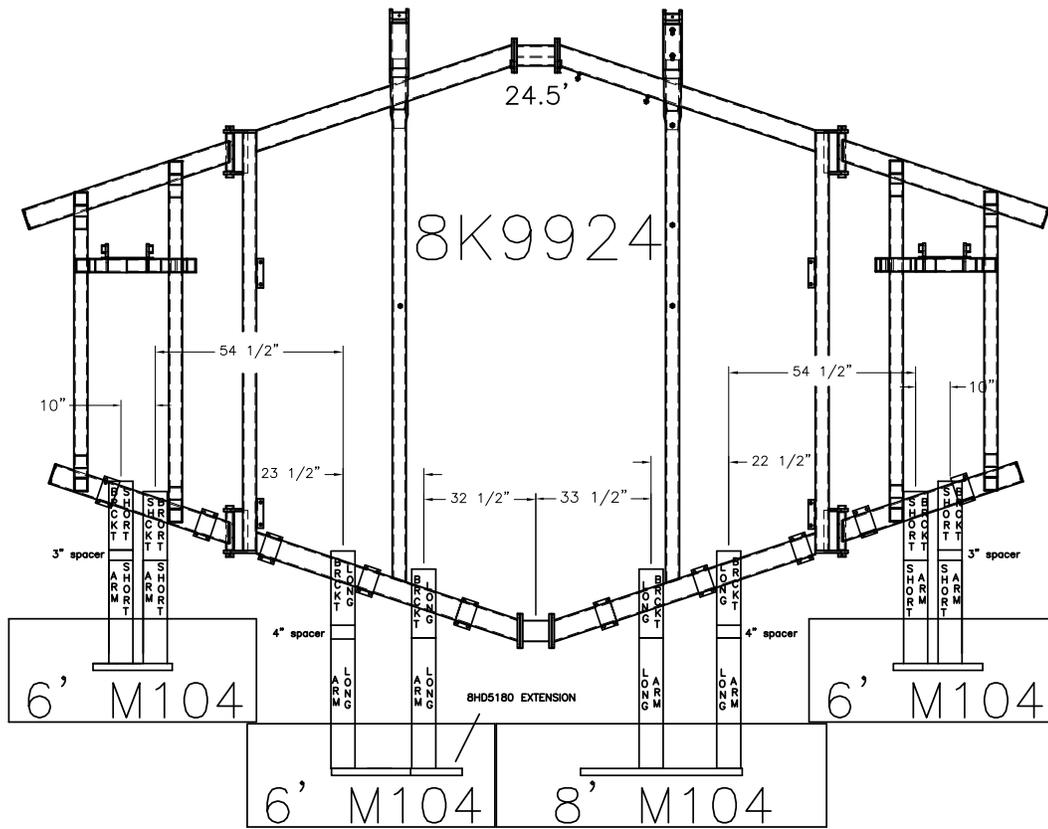
SECTION 2 – ASSEMBLY

M104 3-BAR HARROW MOUNTING LAYOUT FOR DIAMOND DISK



SECTION 2 – ASSEMBLY

M104 3-BAR HARROW MOUNTING LAYOUT FOR DIAMOND DISK



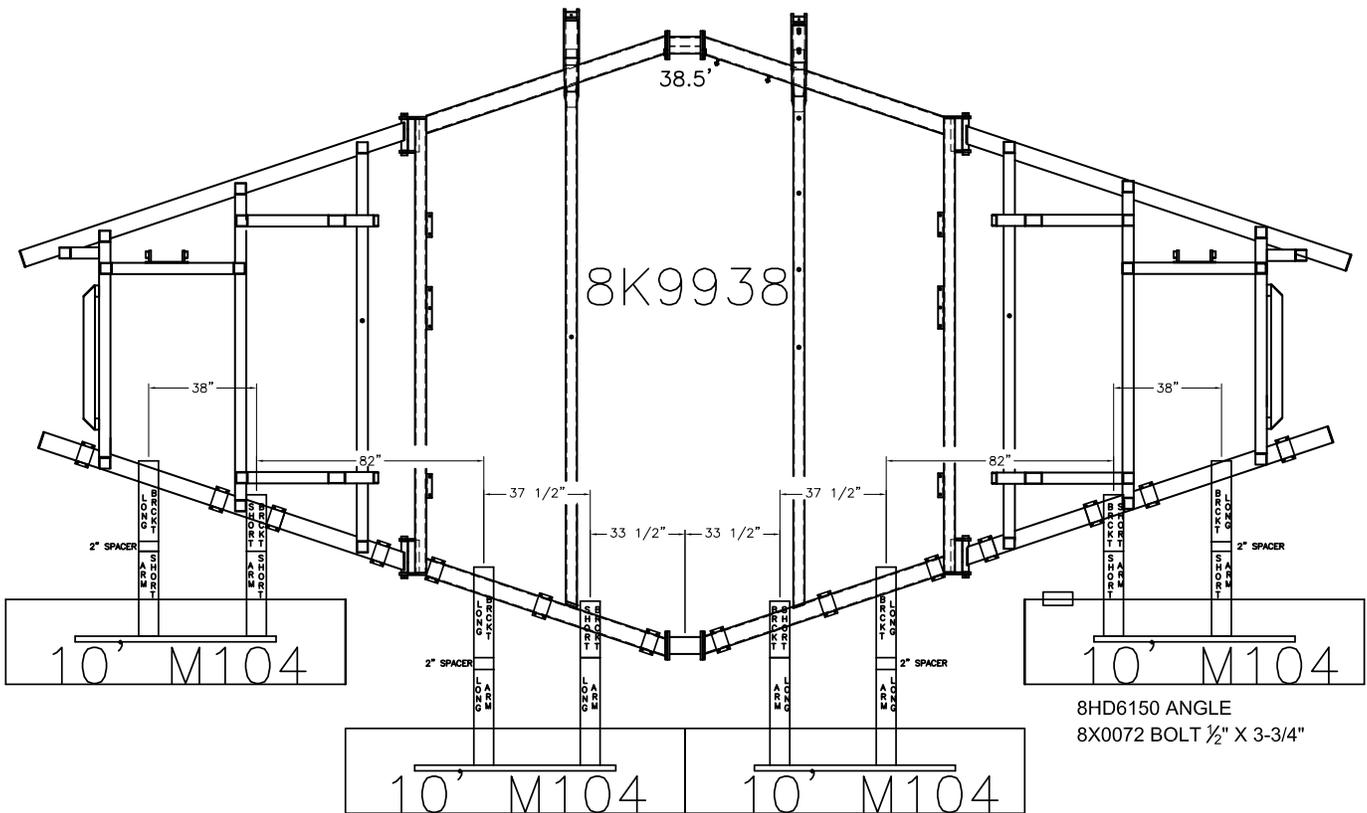
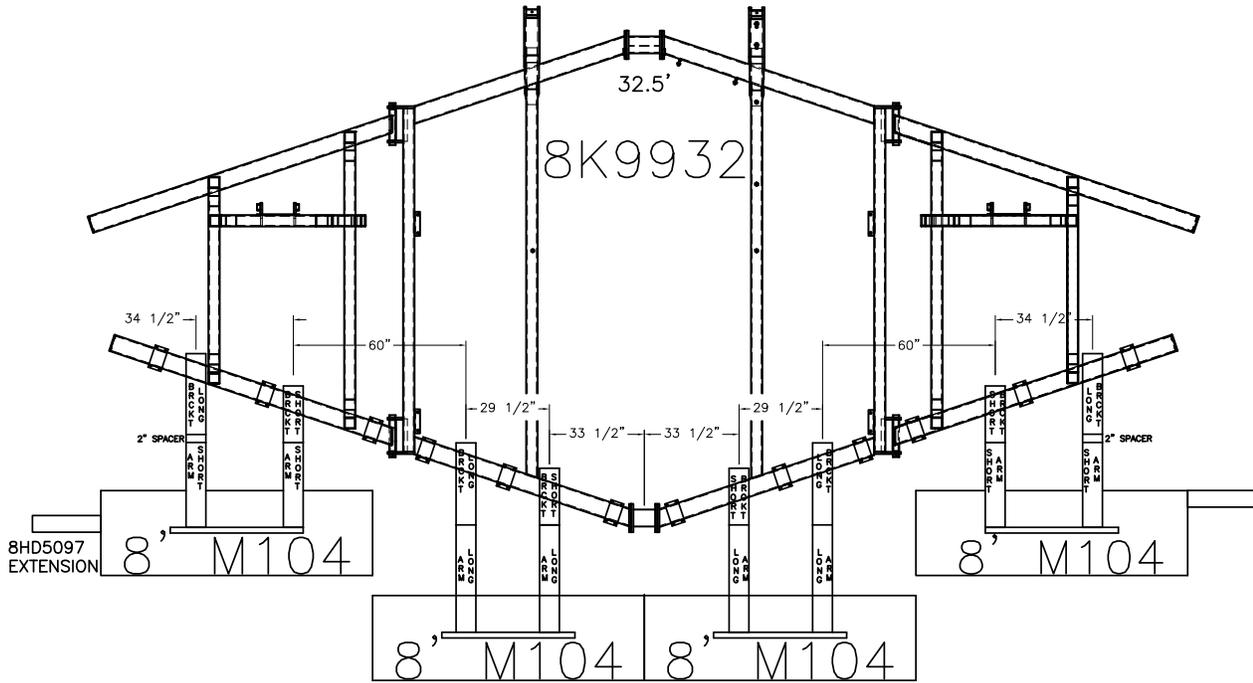
SEE PAGE 2-12 FOR LEGEND

MANUALS/DISKMAN/M1043BR

6/19/08

SECTION 2 – ASSEMBLY

M104 3-BAR HARROW MOUNTING LAYOUT FOR DIAMOND DISK

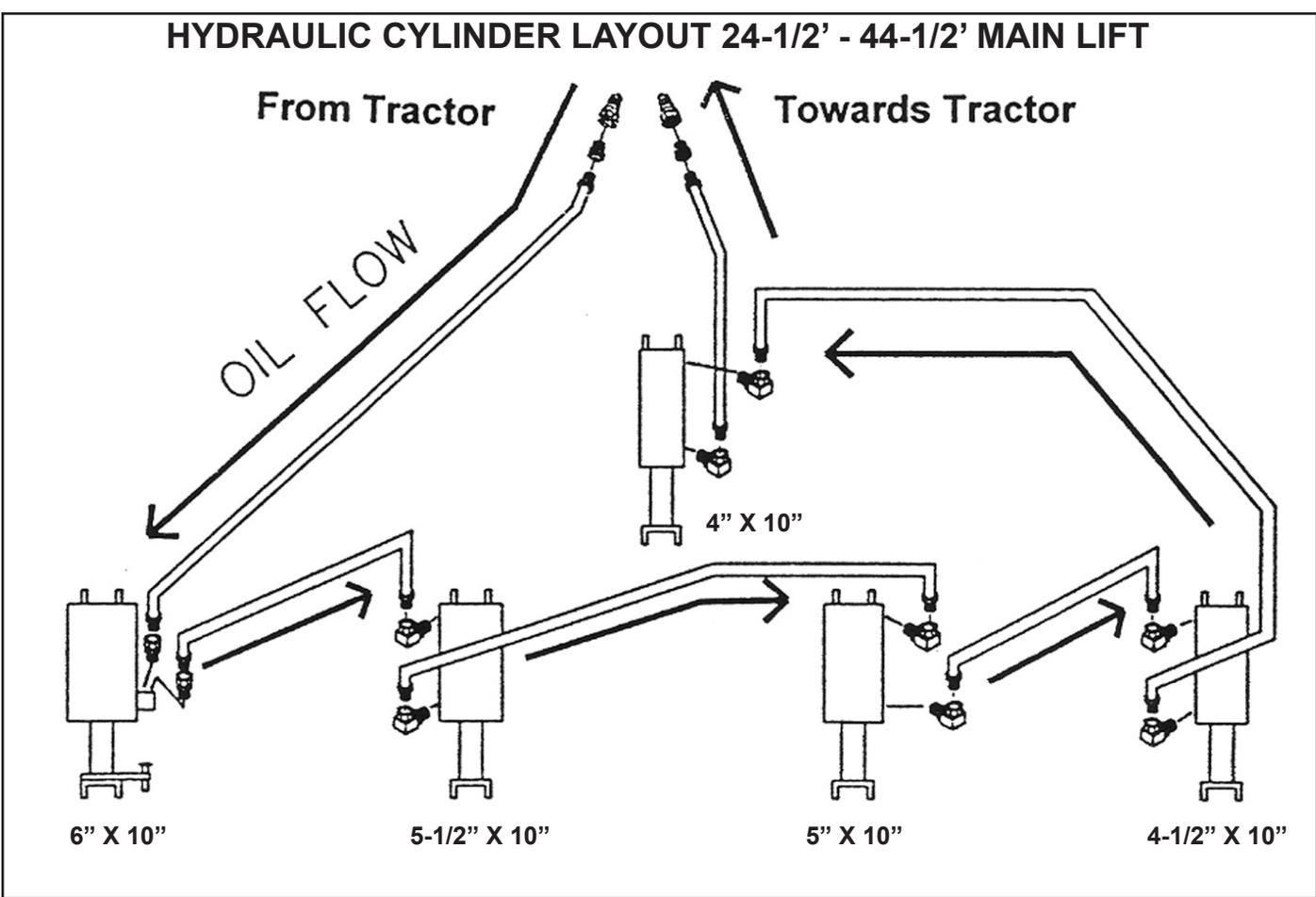


SEE PAGE 2-12 FOR LEGEND

MANUALS/DISKMAN/M1043BR

6/19/08

SECTION 2 – ASSEMBLY



NOTES

SECTION 3 - OPERATION & MAINTENANCE

START-UP AND HYDRAULIC OPERATION

INITIAL START UP PROCEDURE FOR DISK LIFT HYDRAULIC CYLINDERS

This disk has a Master-Slave Hydraulic Lift System. Fully extend hydraulic cylinders and maintain hydraulic pressure for 30 seconds to insure all air is purged from system. See diagram on previous page.

NOTE: As oil is pumped into the base end of master cylinder, oil is forced out of the rod end into the base end of each slave cylinder. To compensate for the smaller volume of oil in the rod end of the master cylinder, each slave cylinder is 1/2" smaller in diameter. When cylinders are fully extended, oil will bypass through a rephasing slot on each cylinder in order to equalize the system. The tractor SCV lever must be held for a few seconds to accomplish this passage of oil through the system.

INITIAL START-UP PROCEDURE FOR WING LIFT HYDRAULIC CYLINDERS

The wing lift hydraulic cylinders on this disk must be charged with oil before attempting to raise the wings.

The best method of performing this is to disconnect the rod end of the fold cylinders from the wings and connect the hoses to the tractor's couplers. Make sure the tractor reservoir is full of manufacturer's recommended hydraulic oil. Extend and retract the cylinders until the action is positive and all air is purged from the system. Due to the amount of oil required to fill the cylinders and lines, additional hydraulic oil may be required. After cylinders have been filled with oil, reconnect the rod ends of the cylinders to the wings.



CAUTION: Stand clear whenever raising or lowering the wings.

GANG BEARINGS:

Note: Zerks are installed on both front and back of gang bearing cast holders for your convenience. Both zerks lead to the bearing, only one needs to be greased.

To prevent contamination, insure that coupler and zerk are clean.

To maximize bearing life, grease bearings at mid day or end of day when bearings are at operating temperature.

Every 20 hours: Add three strokes (approx. .14 oz.) of grease to gang bearing. Rotate gang 2 to 3 revolutions. Add an additional three strokes of grease.

GENERAL:

Daily: Grease all pivot points located on wing lift, disk lift arms, and hitch.

Before lowering the wings, remove the safety lock pins and place them in the storage positions. After wings are lowered, extend cylinders fully.

BEFORE INITIAL OPERATION

1. After receiving or assembling your disk, it is a good practice to double check entire machine so that all bolts are securely tightened.
2. Make sure all grease fittings are in place and greased properly.
3. Inflate all lift tires to the recommended inflation pressure and check wheel bolts. (See Maintenance for specifications.)

AFTER FIRST TWO HOURS OF OPERATION

1. Recheck wheel bolts for tightness and tighten spindle nuts if any side-play is evident in the bearings.
2. Check gang shafts for tightness. This procedure should be repeated daily through the first twenty hours of operation. Gang shafts should be tightened to 1200 foot-pounds.

NOTE: A 1/4" spacer (PN 8X0366) is available and should be installed when the castle nut has been tightened past lock bolt.

3. Bearing and C-shaped shank mounting bolts should be checked for tightness. This procedure should also be repeated daily during the first twenty hours of operation.
4. The scrapers on your disks should be checked and tightened if needed. Scrapers may have to be adjusted periodically to account for wear and different field conditions.

MAINTENANCE

Check all wheel bolts/nuts for tightness. Recommended torque listed below:

Hub	Torque
614 – 6 Bolt	122 ft-lb
812 – 8 Bolt	170 ft-lb

Tighten spindle nuts if any side-play is evident in the bearings.

Maintain disk gang torque at 1200 ft. lb.

Seasonally: Clean and repack wheel bearings.

TIRE INFLATION:

Recommended tire inflations listed below:

Size	Ply	Pressure
11L x 15	10	44 psi
11L x 15 (Opt.)	LRF	85 psi
12.5L x 15	LRF	90 psi

SECTION 3 - OPERATION & MAINTENANCE

FIELD OPERATION

The following procedure should be used for field operation of your Summers Diamond Disk.

1. Remove wing safety lock pins and transport locks and place in their storage positions.
2. Lower wings for field operation.
3. Level disk. The disk should be adjusted in a level area of the field.

IMPORTANT!

All pressure must be removed from cylinders before adjusting eyebolts. Rest Disk on top of the ground, shut tractor off and relieve pressure by cycling remote lever.

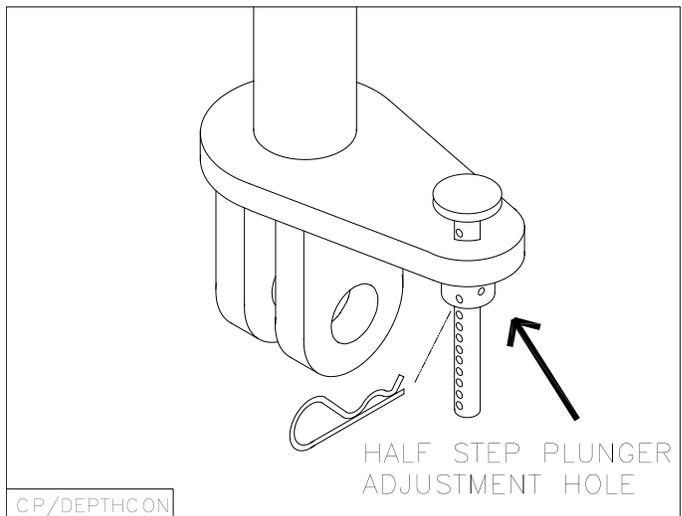
- A. First, level the center section (front to rear) by adjusting the threaded eye bolts located above each hydraulic cylinder.
- B. Second, level the wings with the center section again by adjusting the threaded eye bolt above each hydraulic cylinder.
- C. With the front center cylinder in the rear hole, after the disk has been leveled in working position, it is normal for the front gangs to be 3-4" lower than the rear gangs in the fully raised position. This is due to the fact that when the disk is in working position, the front center tires run on top of a ridge of soil thrown in by the front gangs.

18-1/2' and 21-1/2' Machines

To set depth, install stroke control collars on the front center cylinder (5" dia. x 10" stroke).

24-1/2' - 44-1/2' Machines

After determining desired tillage depth, set depth control plunger accordingly. Standard plunger hole spacing gives 5/16" cylinder stroke adjustment. By rotating plunger 90 degrees, a half step adjustment can be achieved. See drawing below.



⚠ WARNING

**TO AVOID INJURY
INSTALL CYLINDER
LOCKS BEFORE
TRANSPORTING OR
SERVICING MACHINE.**

8Z0342

IMPORTANT

**TO REPHASE CYLINDERS, RAISE MACHINE
AND MAINTAIN HYDRAULIC PRESSURE
TEN SECONDS AFTER CYLINDERS ARE
FULLY EXTENDED. QUICKLY RETRACT
CYLINDERS AT LEAST 1/2".
REPHASING SHOULD BE DONE EVERY
HOUR OF OPERATION TO MAINTAIN
UNIFORM TILLAGE DEPTH .**

8Z0340

SECTION 3 - OPERATION & MAINTENANCE

TRANSPORTING

The Summers Diamond Disk is equipped with manual wing and center lift cylinder locks. The following procedure should be used to prepare disk for transport.

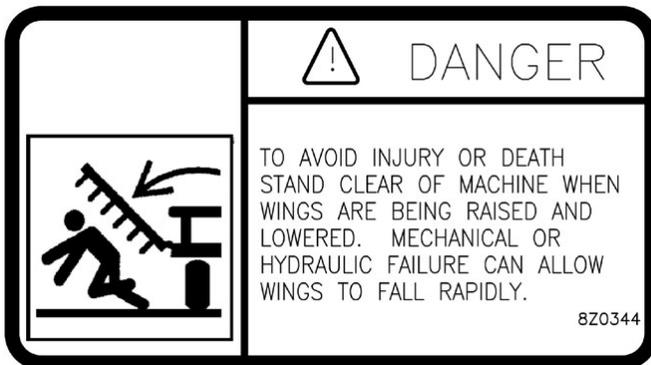
1. Check that wing locks are in the storage positions.
2. Fully extend main lift cylinders, quickly lower disk approximately 1", raise wings.
3. Install safety locks on wings and center lift cylinders.
4. USE a safety chain between tractor drawbar and disk hitch when transporting on public roads.
5. Check wheel bolts / nuts after first 20 miles of road transport and every 60 miles there after.

Road the implement at a reasonable speed not to exceed 20 miles per hour.

Always use an ASAE "Slow Moving Vehicle" emblem and Safety Lights when transporting on a road or highway. Comply with your state and local laws governing lighting and maximum width regulations. Transport during daylight hours only.

NOTE: Because of the tricycle tire arrangement of the disk center section, the front set of duals tend to "scuff" during sharp turns on hard surfaces such as concrete or pavement.

Avoid very sharp turns with disk at all times. If necessary to make a sharp turn, do so with wings down and proceed slowly.



STORAGE

Proper rust prevention treatment of equipment before placing in storage will not only lengthen its useful life, but will assist in maintaining optimum performance when put back into service.

The following list contains suggestions for preparing your disk for storage.

1. Clean the entire machine. Remove all dirt and excessive grease from disk.
2. Check disk over thoroughly for damaged or worn parts, cracked or broken blades, and loose bolts.
3. Wheel bearings should be cleaned and repacked each year.
4. Grease all zerks on the disk.
5. Block up the disk to remove weight from the tires.
6. If the disk is lowered to the ground, place a board under the disk blades.
7. Disconnect rods and fully retract the cylinders to prevent rusting of shafts and subsequent seal damage. If left extended, coat rods with grease to prevent corrosion. Remove grease prior to retracting cylinders.
8. For safety, do not store the disk with the wings folded up.
9. Clean and place a protective coating of heavy oil or grease on earth-working parts to prevent rusting.
10. Touch-up any spots where the paint has been scratched or worn off.

SECTION 3 - OPERATION & MAINTENANCE

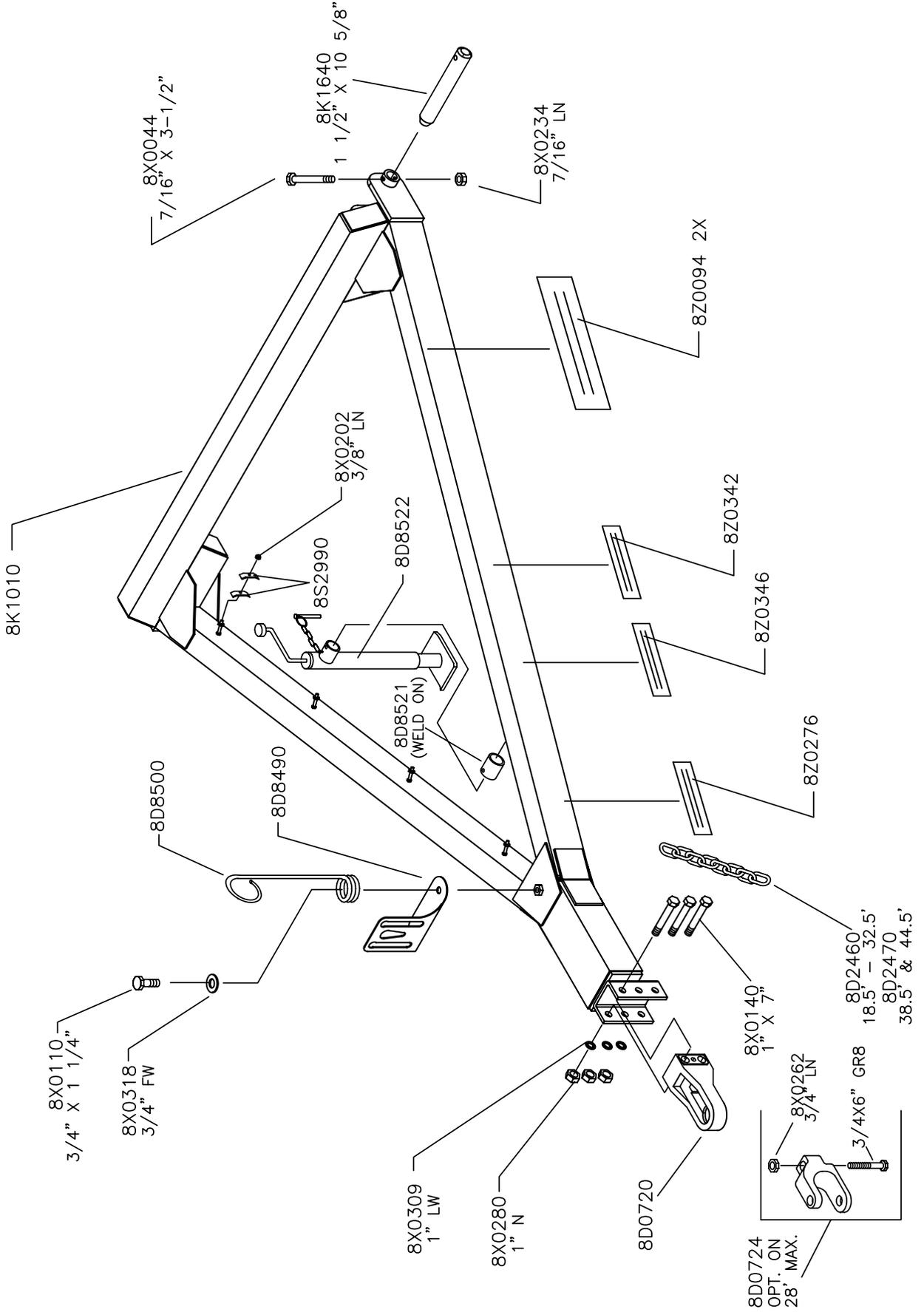
TROUBLESHOOTING

NO.	PROBLEM	CAUSE	CORRECTION	PAGE
1	Trash buildup ahead or behind chisel plow shank.	Working in unusually heavy trash.	Check that cross tube (8HD5150) is rotated to provide maximum clearance between shank and harrow.	4-20
			Install Coulter Option (8K6890)	4-11
			Harrow section can be lifted and "locked" up if conditions require.	4-19
2	Leaving center valley.	Rear gangs cutting too deep.	Level disk using threaded adjustment bolts above each cylinder/wheel assembly.	3-2
			Install additional 2 8K5025N blades at rear center.	4-10
3	Gangs plugging.	Extremely wet field conditions.	Allow to dry if possible.	
		Scrapers adjusted improperly.	Adjust scrapers so scraping edge is flush against each blade, but not tight enough to prevent gang from turning freely.	2-3 or 2-5, 3-1
			Under some soil and residue conditions, scrapers will perform better if set 1 to 1-1/4" away from blades.	2-3 or 2-5, 3-1
			Adjust machine to run rear gangs deeper.	3-2
4	Poor penetration, center section.	Disk not running level from front to rear.	Level disk using threaded adjustment bolts above each cylinder/wheel assembly.	2-2 or 2-4, 3-2
		Wheels are holding disk out of the ground.	Retract hydraulic cylinders for desired depth.	3-2
		High tractor drawbar.	Raise disk hitch to top hole setting.	2-3 or 2-5
5	Hydraulic cylinders not synchronized	Hydraulics have drifted or air has entered the system.	Hold hydraulic control lever with the hydraulic cylinders fully extended a few seconds to synchronize rephasing cylinders.	3-1, 3-2
6	Leaving ridge 2-4 feet from disk center.	Side draft.	Level disk using threaded adjustment bolts above each cylinder/wheel assembly.	3-2
			Recheck gang spacing.	2-6 - 2-9
7	Plugging at disk front center.	Wet conditions or extremely high residue conditions.	Replace additional front center blades with 8K5025N blades.	4-10
			Install second stalk fingers 180 degrees from standard on front center gangs. Order 2: 8X0257 and 2: 8K5214	4-10
8	Wings do not penetrate.	Dry/hard conditions.	Adjust wing cylinders to lift wheels off ground.	3-2
			Add 8K9250 Wing Wt. Package or 8K9252 Double Weight Package.	4-12
9	Gang bolts do not stay tight.	Gangs have run loose for extended time.	Disassemble gang, clean and replace worn components.	4-10

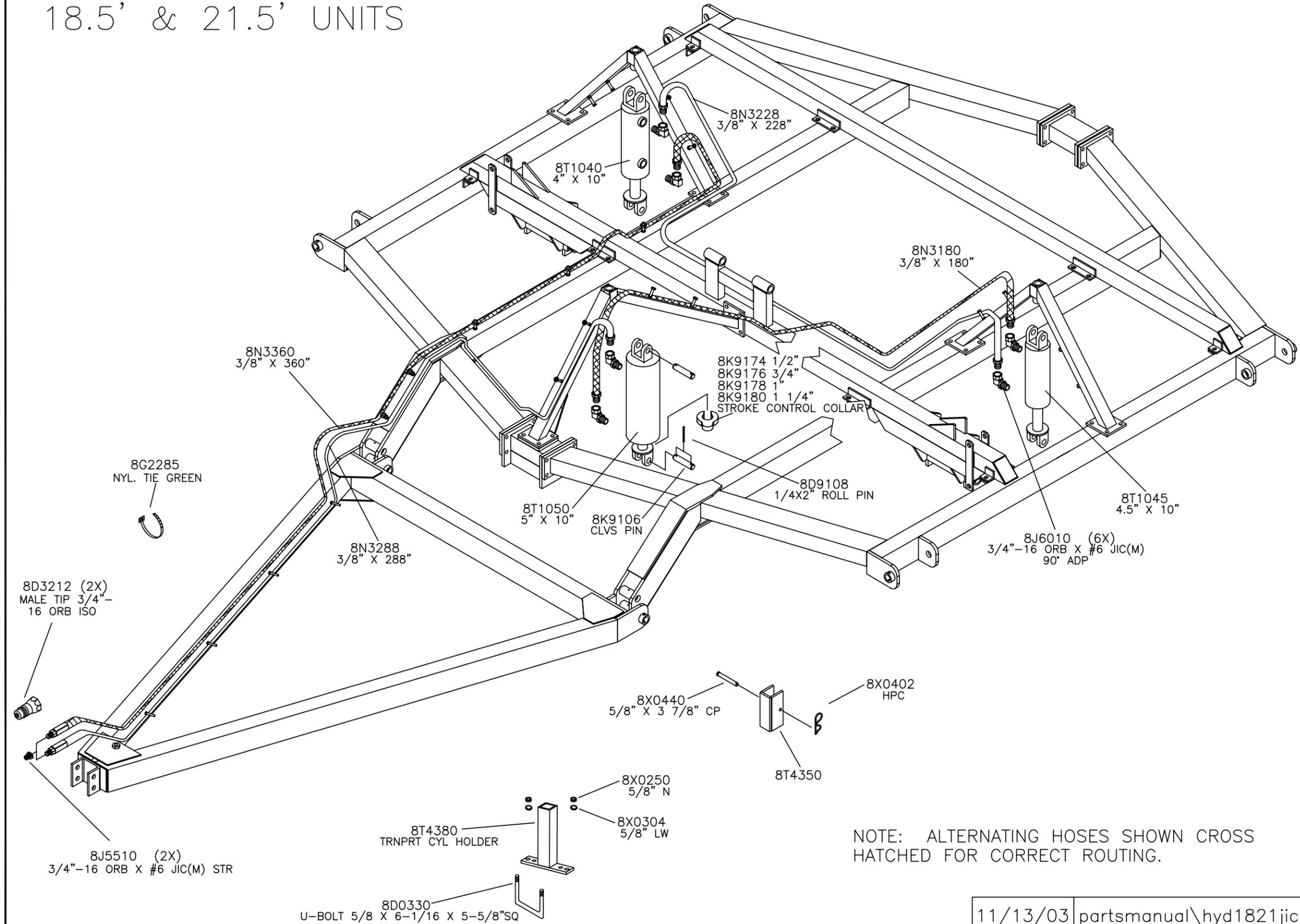
BRING OWNER REGISTER INFORMATION LOCATED AT THE BEGINNING OF THIS MANUAL WHEN ORDERING PARTS (SERIAL NUMBER IS LOCATED AT FRONT OF DISK BY HITCH PIECE).

SECTION 4 - PARTS

HITCH

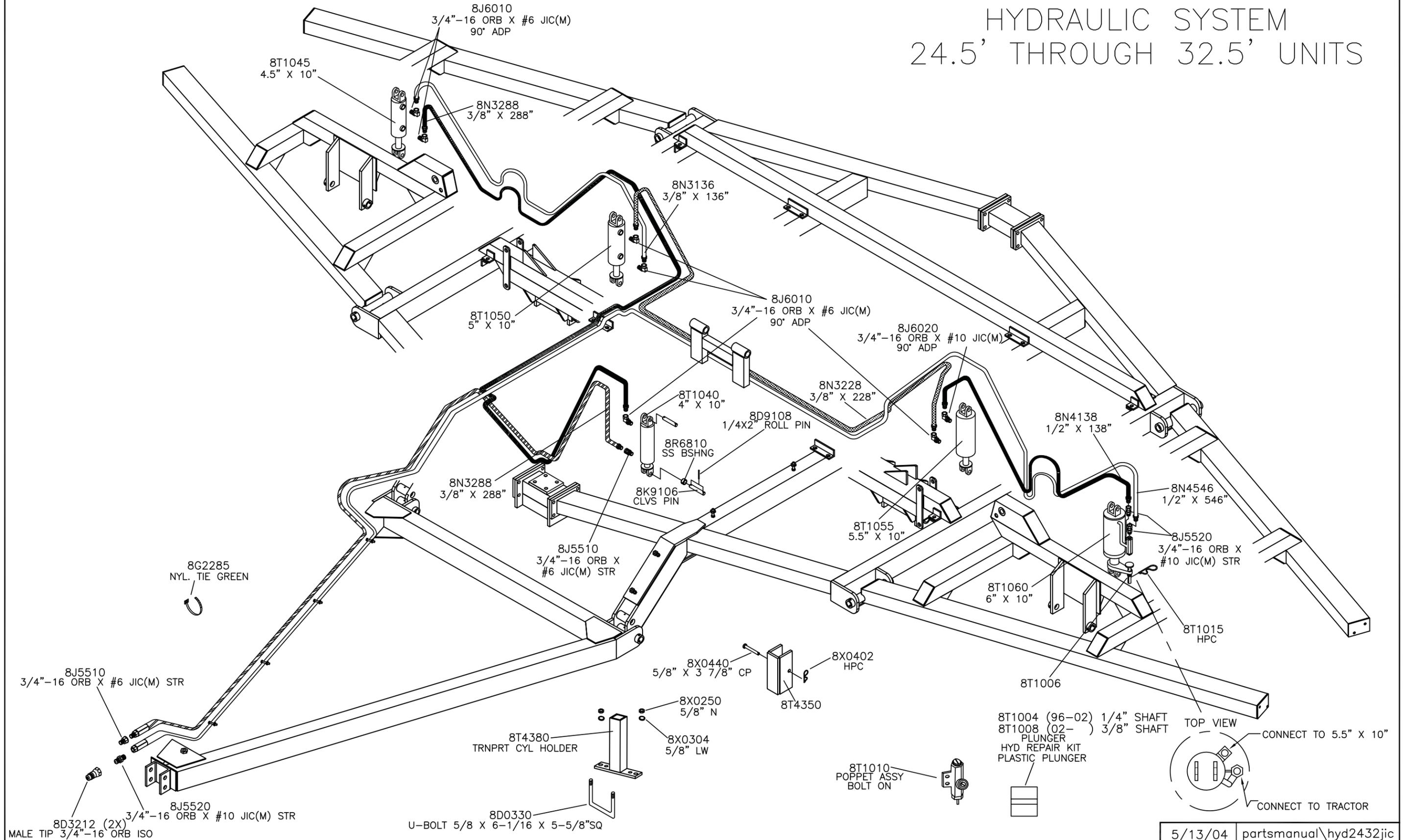


HYDRAULIC SYSTEM 18.5' & 21.5' UNITS

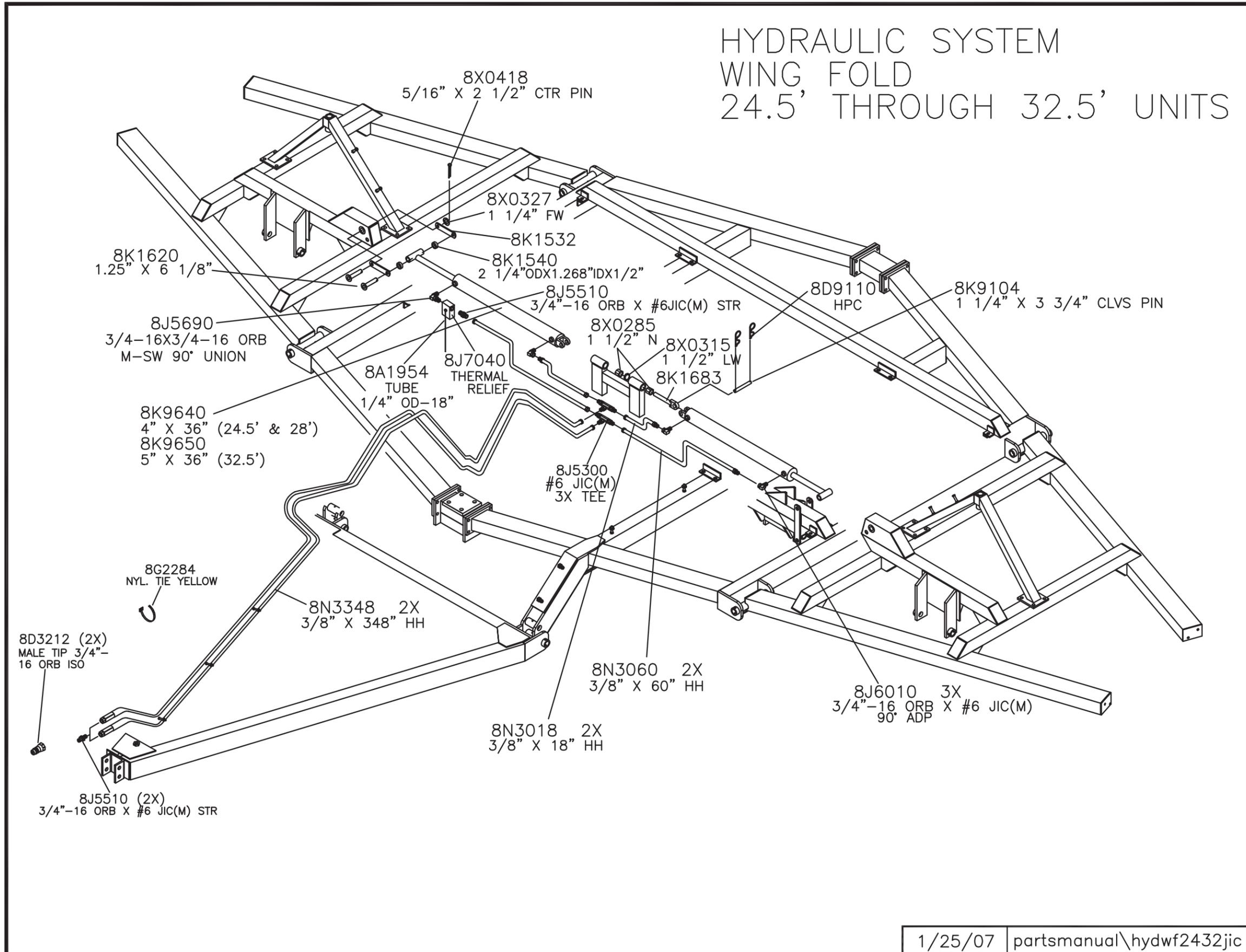


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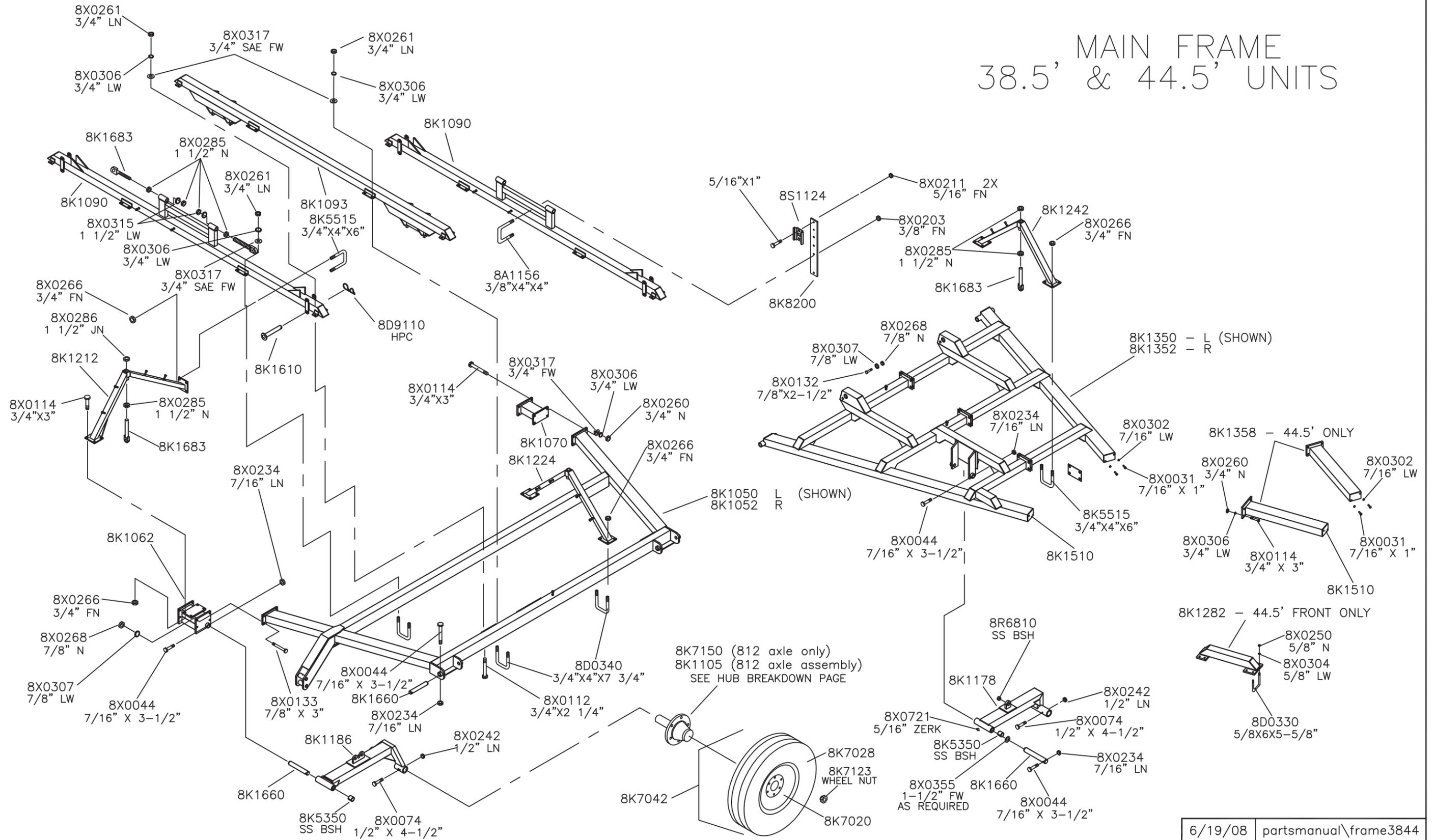
HYDRAULIC SYSTEM 24.5' THROUGH 32.5' UNITS



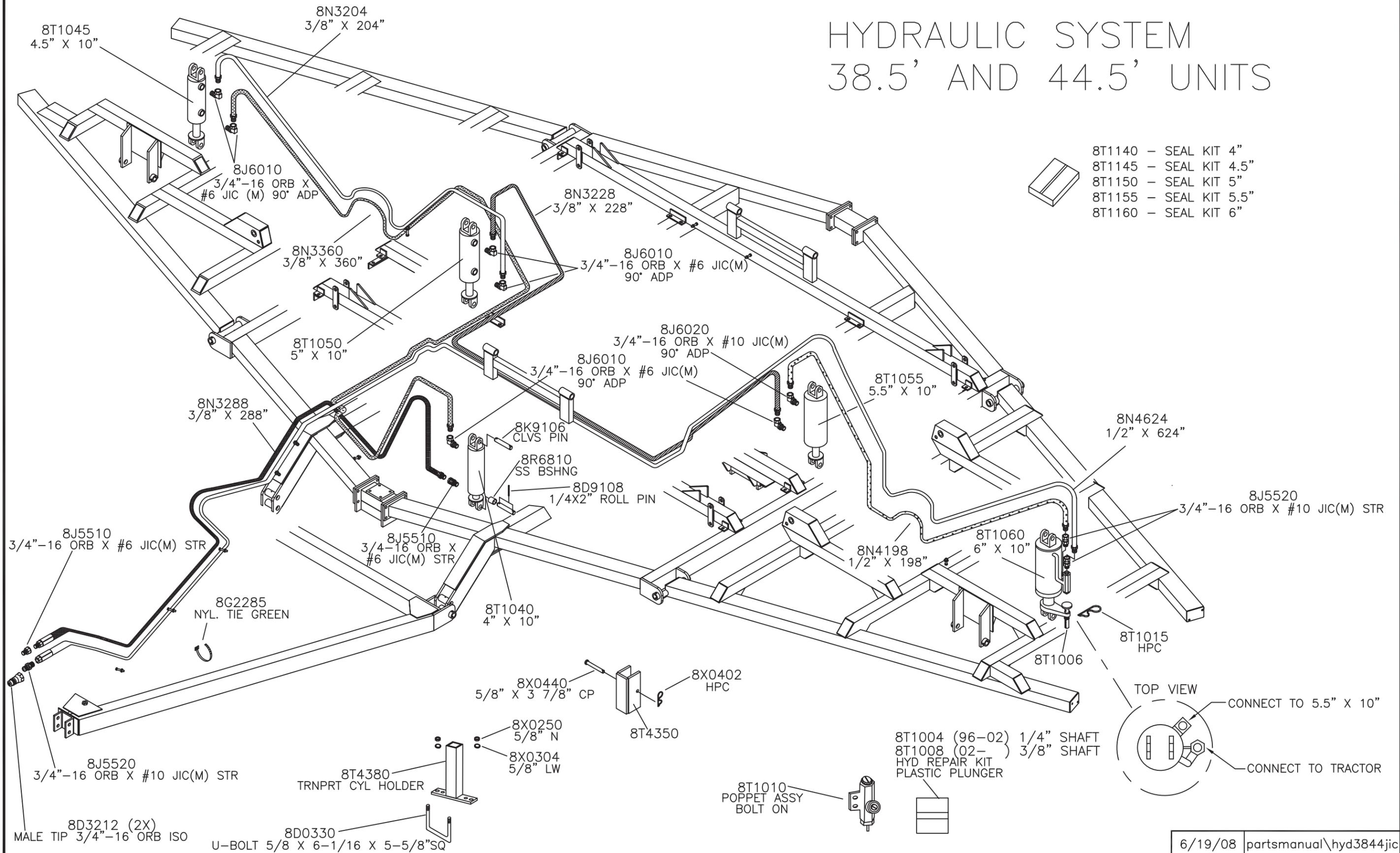
HYDRAULIC SYSTEM
WING FOLD
24.5' THROUGH 32.5' UNITS



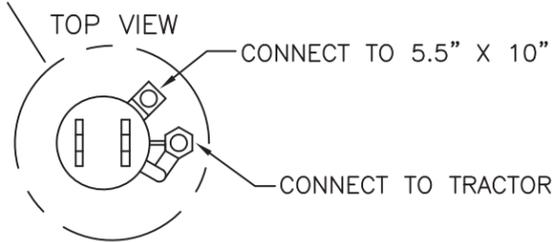
MAIN FRAME 38.5' & 44.5' UNITS



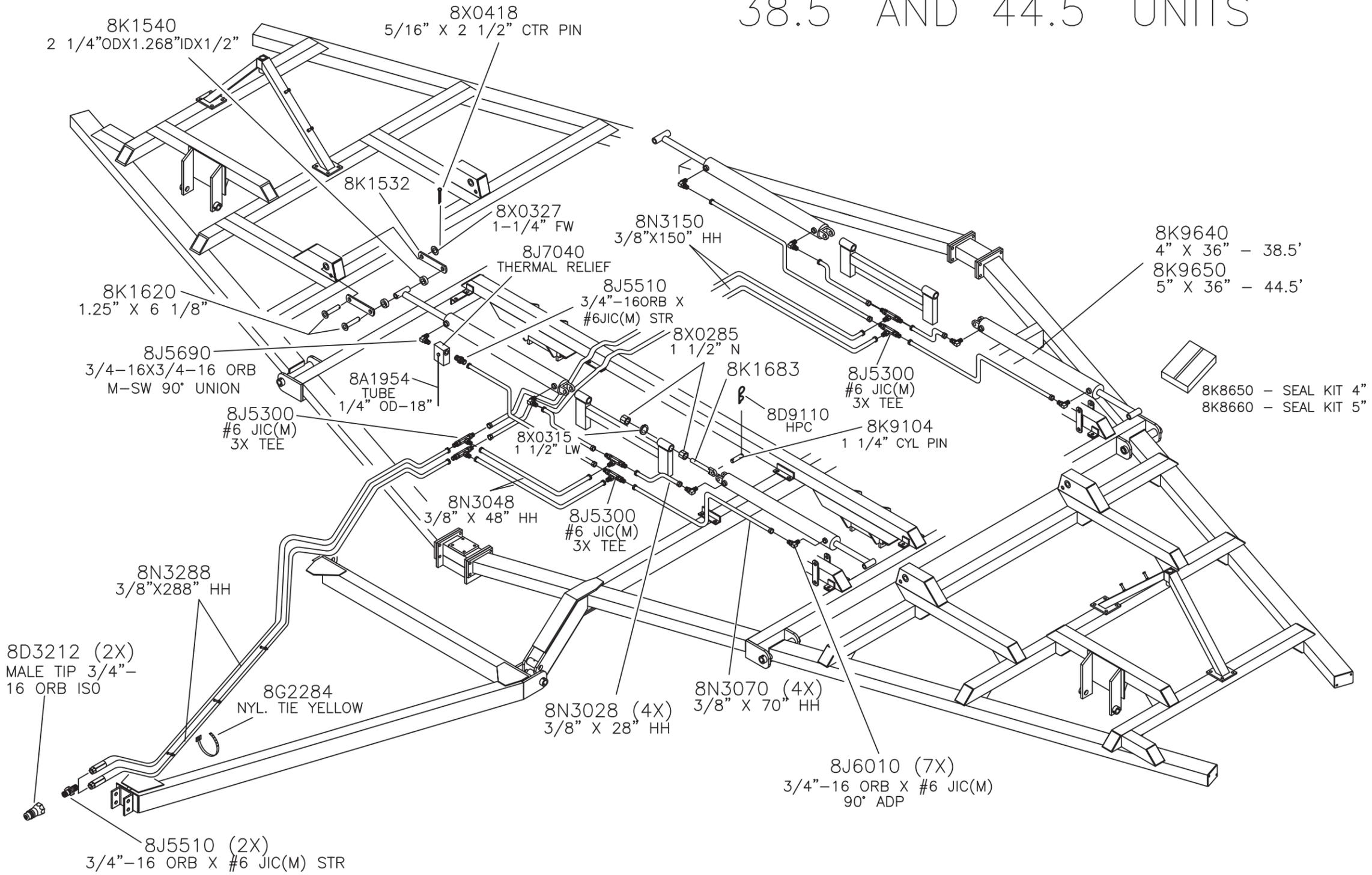
HYDRAULIC SYSTEM 38.5' AND 44.5' UNITS



- 8T1140 - SEAL KIT 4"
- 8T1145 - SEAL KIT 4.5"
- 8T1150 - SEAL KIT 5"
- 8T1155 - SEAL KIT 5.5"
- 8T1160 - SEAL KIT 6"

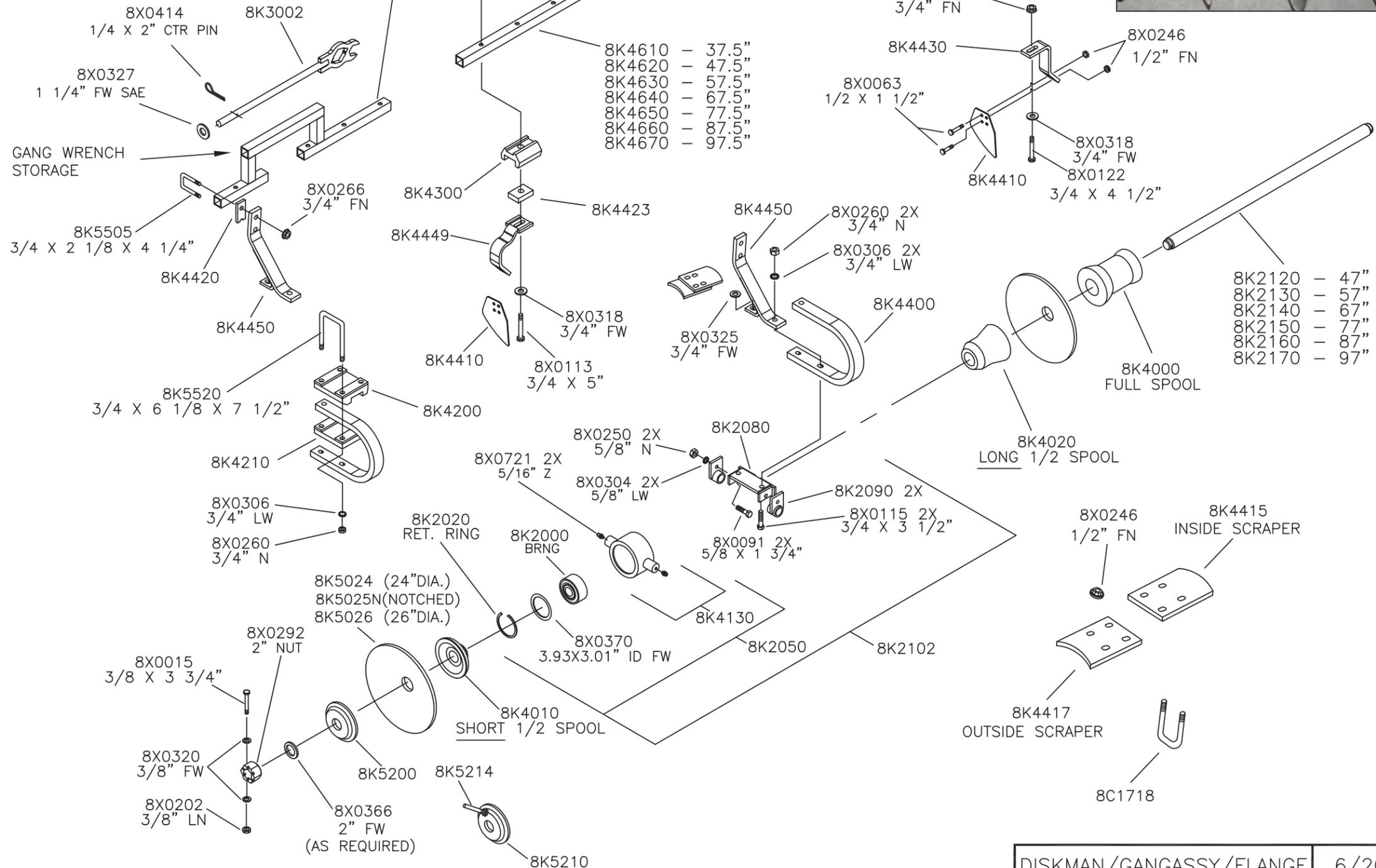
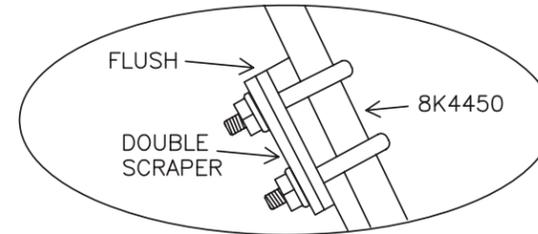


HYDRAULIC SYSTEM WING FOLD 38.5' AND 44.5' UNITS



GANG ASSEMBLY

- 8K4690 - 47" INSIDE(18 1/2' & 21 1/2')
- 8K4692 - 47" OUTSIDE(18 1/2')
- 8K4698 - 67" OUTSIDE(21 1/2')
- 8K4700 - 67" CENTER(24 1/2' - 32 1/2')
- 8K4710 - 77" CENTER(38 1/2' & 44 1/2')



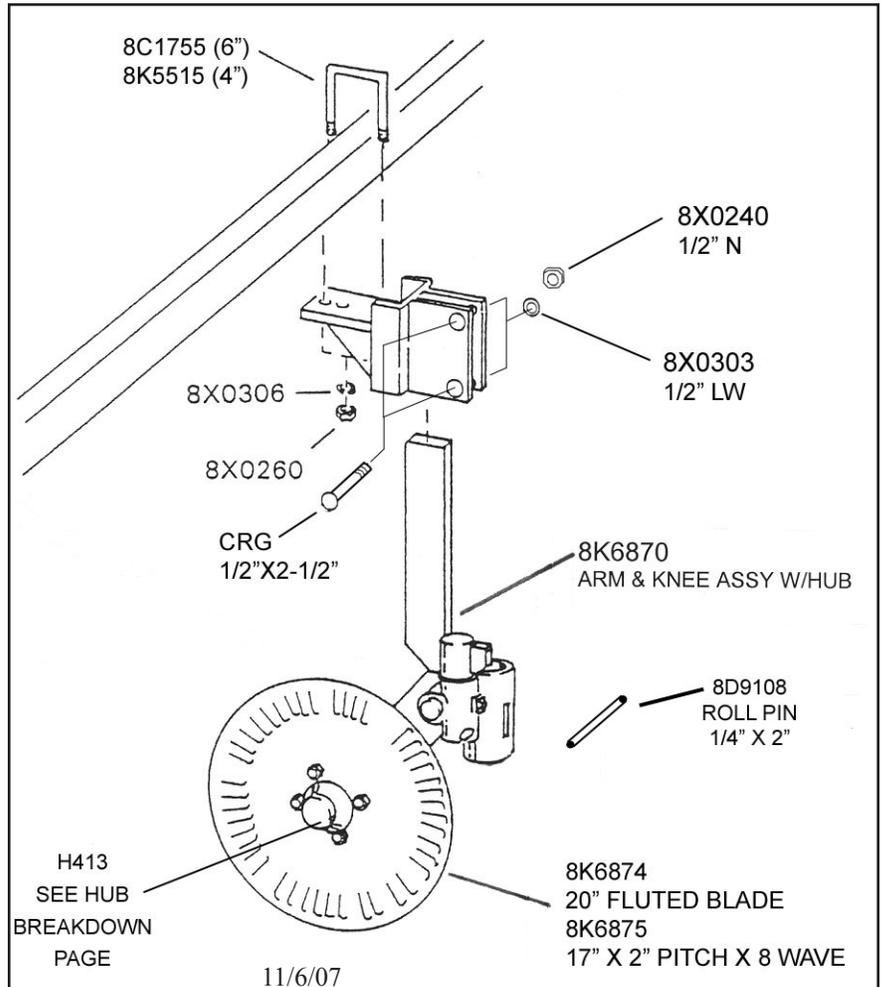
SECTION 4 – PARTS



Rear Center - Ahead of Rear Gangs

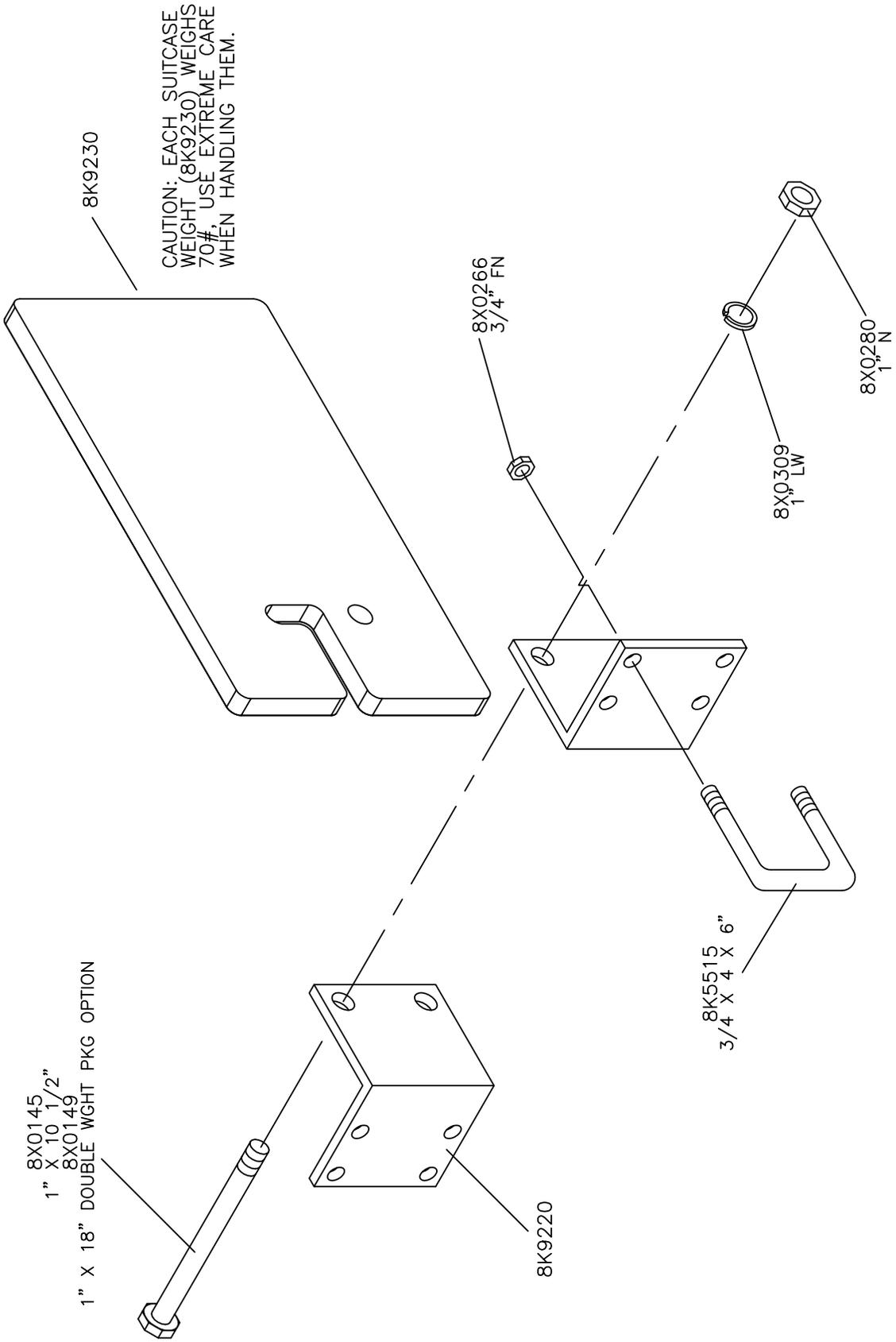
**MOUNTING INSTRUCTIONS
FOR DISK COULTER
ASSEMBLY (8K6890)**

Mount coulters assembly with bracket and hardware provided. Adjust coulters penetration by loosening the 1/2" diameter retaining carriage bolts and sliding coulters assembly up or down to desired working depth.



SECTION 4 - PARTS

WING WEIGHT PACKAGE



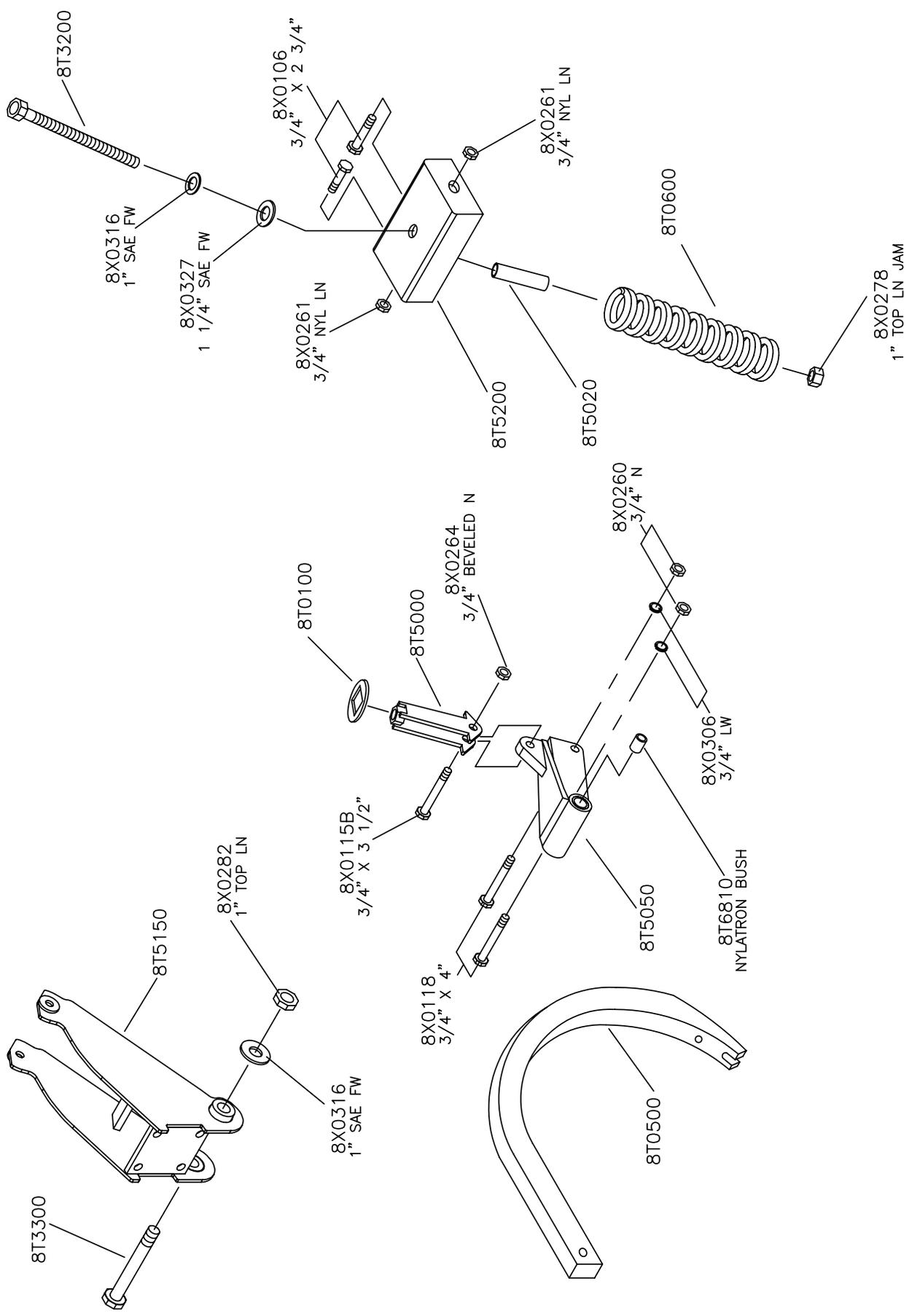
8K9250 6/19/08

SECTION 4 - PARTS

11/13/03

TRIP ASSEMBLY

CP/TRIPASSY



Summers Mfg. Co., Inc.

Front Center Disk Blade (8K4950)

Installation Instructions

Refer to following Photos, Parts Breakdown and Steps when installing the Front Center Disk Blade.

- a. Hang Front Center Disk Blade Assembly as shown in Photo A. Use appropriate lifting device, the assembly weighs 129 LB.
- b. Attach C-Shank to rear cross tube with Mounting Flats (8K4935) and hardware provided - do not tighten.



PHOTO A

- c. Slide Center Disk Blade Assembly so inside rear 3/4" X 10" bolt is 12" from center line of Disk (Photo B). Securely tighten all hardware.

- d. Field test Center Disk Blade. If required, Assembly can be adjusted side to side by loosening 3/4" X 10 bolts, reposition and retighten hardware. Depth of the Center Disk Blade can be adjusted by installing or removing 8K4930 flats.

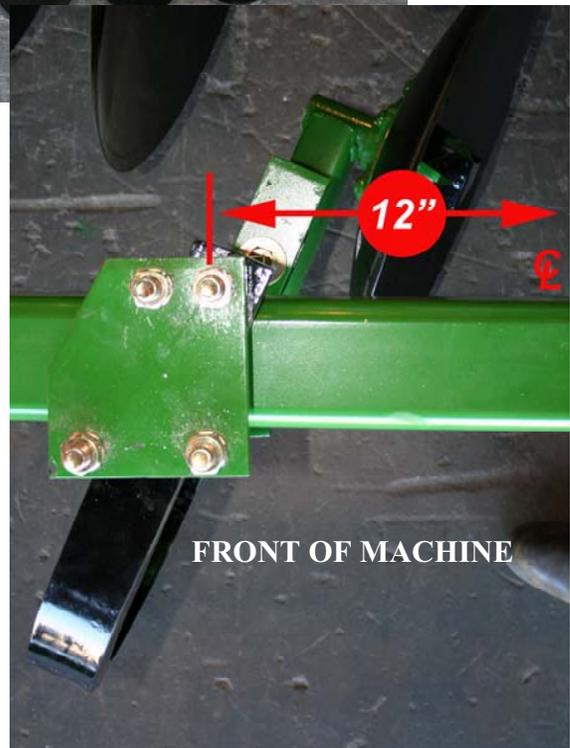
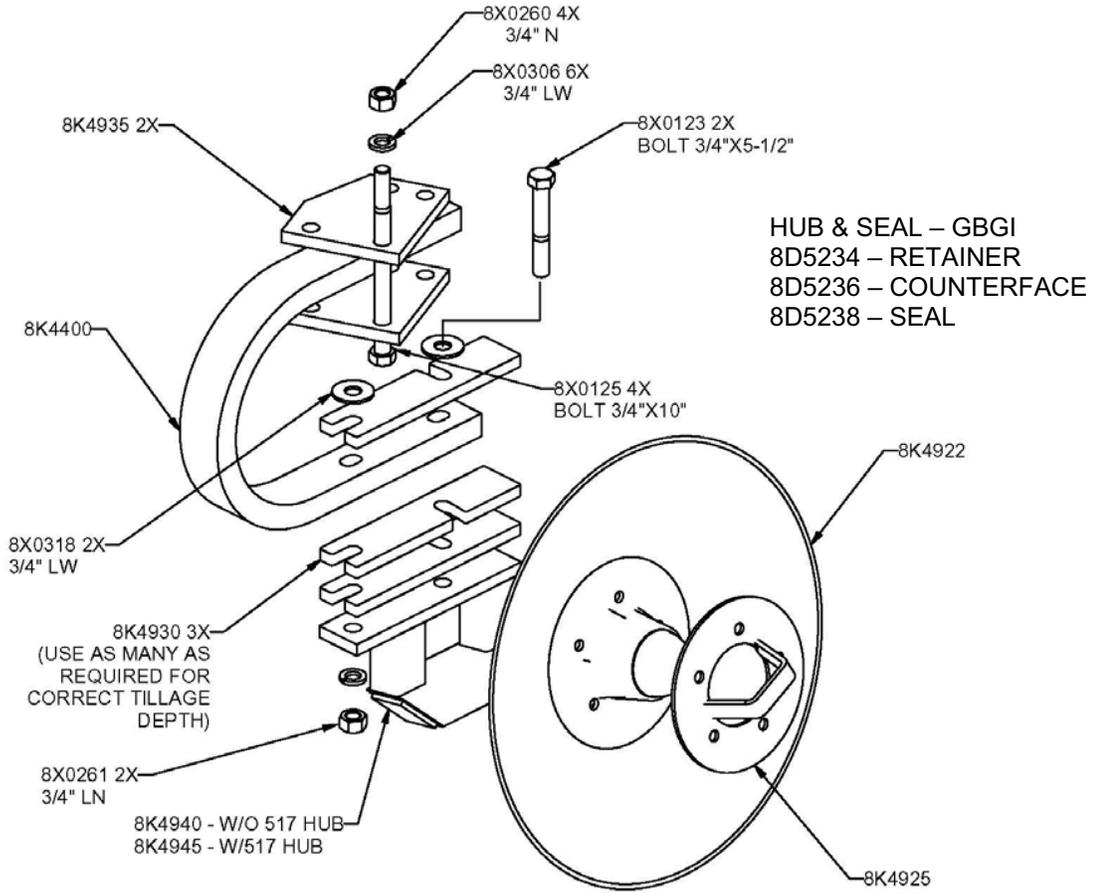


PHOTO B

SECTION 4 – PARTS

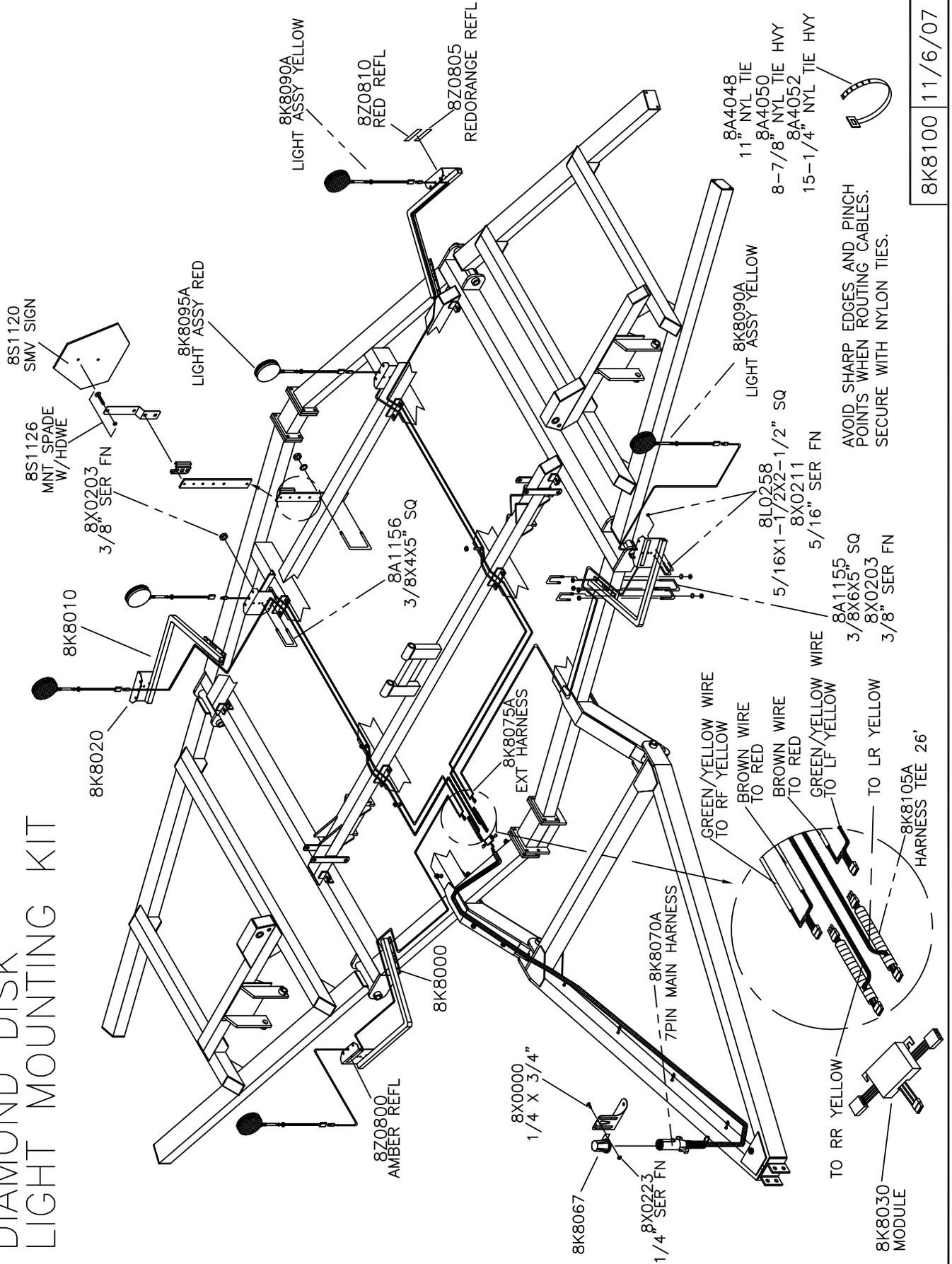


PHOTO C



SECTION 4 - PARTS

DIAMOND DISK
LIGHT MOUNTING KIT

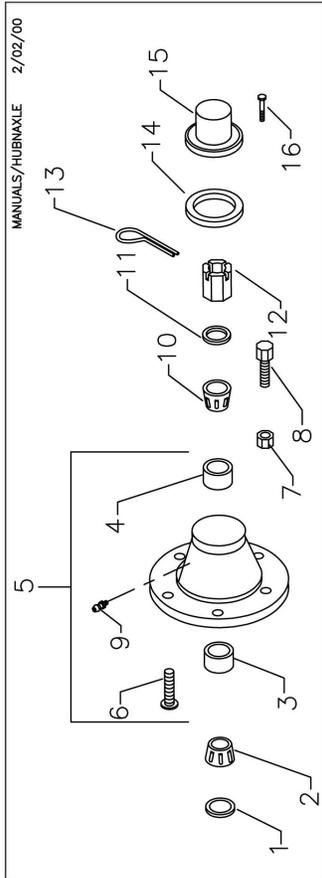


8K8100 11/6/07

HUB AND AXLE COMPONENTS

Assembly Notes:

- A. Tighten axle nut to 45 ft.-lbs, loosen nut until first slot is aligned with hole in axle, install cotter pin and bend to retain.
- B. Before towing machine, pack wheel bearings and fill 1/2 of hub cavity with high quality bearing grease.



SMC
INDUSTRY

Part Number
Part Number or Size

HUB	1. SEAL	2. INNER BEARING	3. INNER RACE	4. OUTER RACE	5. HUB ASSY	6. WHEEL STUD	7. WHEEL NUT	8. WHEEL BOLT	9. HUB ZERK	10. OUTER BEARING	11. AXLE WASHER	12. AXLE NUT	13. COTTER PIN	14. HUB CAP GASKET	15. HUB CAP	16. HUB CAP BOLT
H413	8D5120	8D5117	8D5336	8D5330	M6527850	N/A	N/A	8D5114	8X0708	8D5118	8X0317	8D5112	8X0410	N/A	M6527846	N/A
	SE11	LM67048	LM67010	LM11910	H413	N/A	N/A	WB10	1/4-28NF	LM11949	3/4" I.D.	3/4"-16	8/16X1"	N/A	DC24	N/A
H511	8D5120	8D5117	8D5336	8D5330	8D5111	N/A	N/A	8D5114	8X0721	8D5118	N/A	8D5112	8X0410	N/A	8D5113	N/A
	SE11	LM67048	LM67010	LM11910	H511	N/A	N/A	WB10	5/16-24NF	LM11949	N/A	3/4"-16	3/16X1"	N/A	DC12	N/A
H517	8D5234	8D5217	8D5332	8D5336	8D5211	8D5215	8D5214	N/A	8X0721	8D5117	8S5219	8D5212	8X0415	N/A	8D5213	N/A
	8D5236	LM48548	LM48510	LM67010	H517	WB16	1/2-20UNF	N/A	5/16-24NF	LM67048	7/8" I.D.	7/8"-14	3/16X1-1/2"	N/A	DC13	N/A
H611	8D5221	8D5317	8D5334	8D5336	8D5311	N/A	N/A	8D5114	8X0708	8D5117	8D5319	8D5312	8X0415	N/A	8D5213	N/A
	SE13	LM29749	LM29710	LM67010	H611	N/A	N/A	WB10	1/4-28NF	LM67048	1" I.D.	1"-14	3/16x1-1/2"	N/A	DC13	N/A
H614	8R6922**	8R6917	8R6925	8D5332	8R6911	N/A	N/A	8R6914	8X0708	8D5217	8D5319	8D5312	8X0415	N/A	8R6913	N/A
	SE57	LM603049	LM603011	LM48510	H614	N/A	N/A	WB12	1/4-28NF	LM48548	1" I.D.	1"-14	3/16x1-1/2"	N/A	DC15	N/A
HD812	***8K7127 SEAL SE77	8K7117	8K7130	8K7132	8K7111	8K7115-9/16**	8K7116-9/16**	N/A	8X0708	8K7118	8D5319	8D5312	8X0415	N/A	8K7113	N/A
	8K7128 SLEEVE SE77-1	LM3780	LM3720	LM2720	HD812	8K7122-5/8"	8K7123-5/8"	N/A	1/4-28NF	LM2790	1" I.D.	1"-14	3/16X1-1/2"	N/A	DC17	N/A
						WB41	WB40									
						WB46	WB118									

** GBGI (Not Shown), 8R6921 Triple Lip (Shown)
*** Pre 2006 8K7120(SE17)

614 HUB W/GBGI SEAL

INSTALLATION INSTRUCTIONS FOR 8R6922 SEAL ASSEMBLY (3 PIECE-GBGI) FOR H614 HUB:

SEAL SUPPORT (2 - 8R6927)

PRESS SEAL SUPPORT (2) ONTO AXLE $5/8"$ ($+1/32"$, $-0"$) PAST INNER BEARING RETAINING SHOULDER. SUPPORT WILL CONTACT MACHINED STEP ON AXLE.

A: IF SEAL SUPPORT IS NOT PRESSED ON AXLE FAR ENOUGH, THE SEAL SUPPORT WILL RUB ON HUB.

B: IF SEAL SUPPORT IS PRESSED TOO FAR ONTO AXLE, IT WILL CAUSE IMPROPER CONTACT BETWEEN RUBBER SEAL (3) AND INNER SEAL SUPPORT (1) RESULTING IN BEARING CONTAMINATION AND FAILURE.

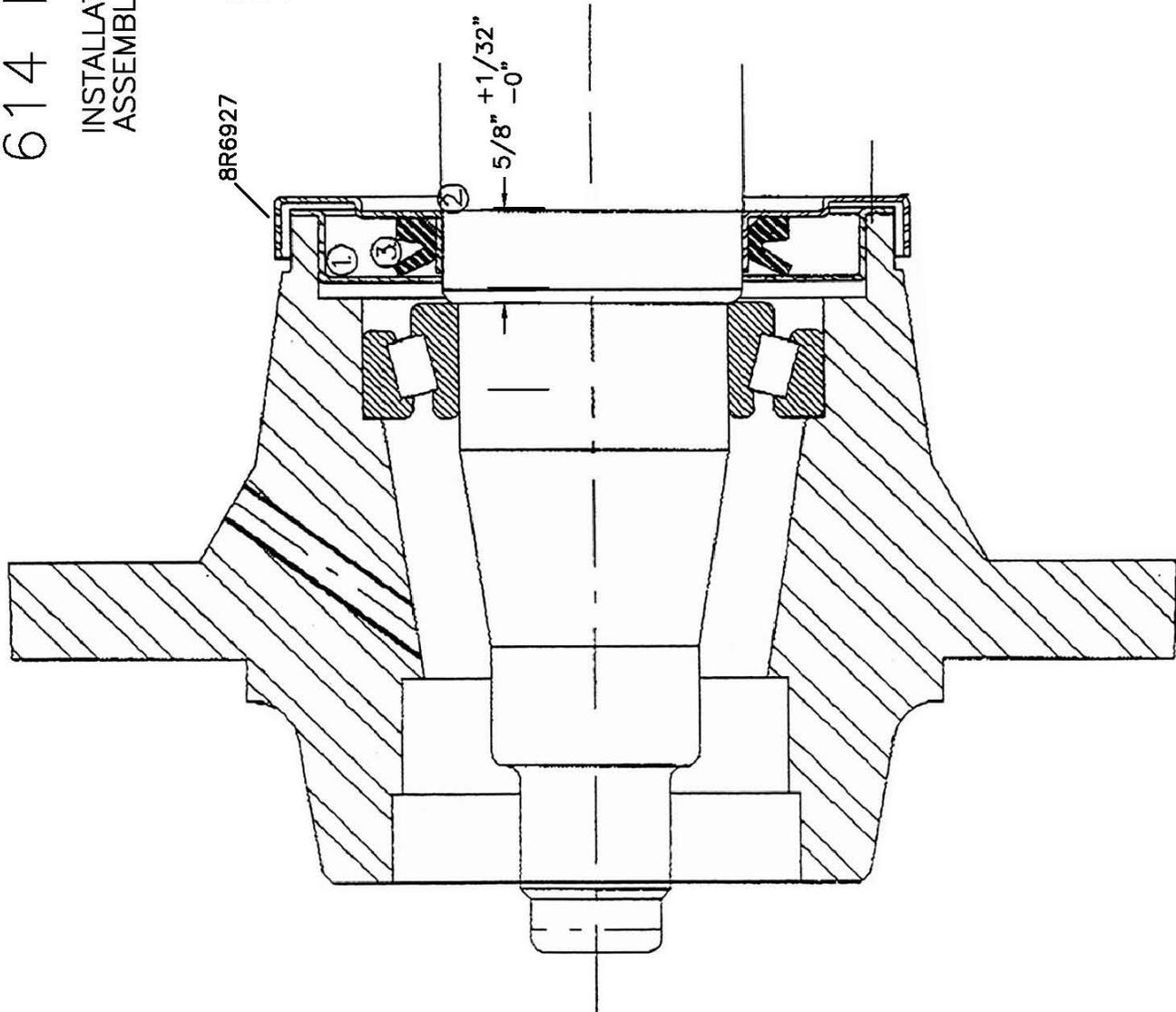
NOTE: APPLY THIN LAYER OF GREASE TO COUNTERFACE (1) SURFACE AT TIME OF SEAL INSTALLATION.

SEAL COUNTERFACE (1 - 8R6924)

PRESS SEAL COUNTERFACE INTO HUB UNTIL SHOULDER CONTACTS HUB ($1/2"$).

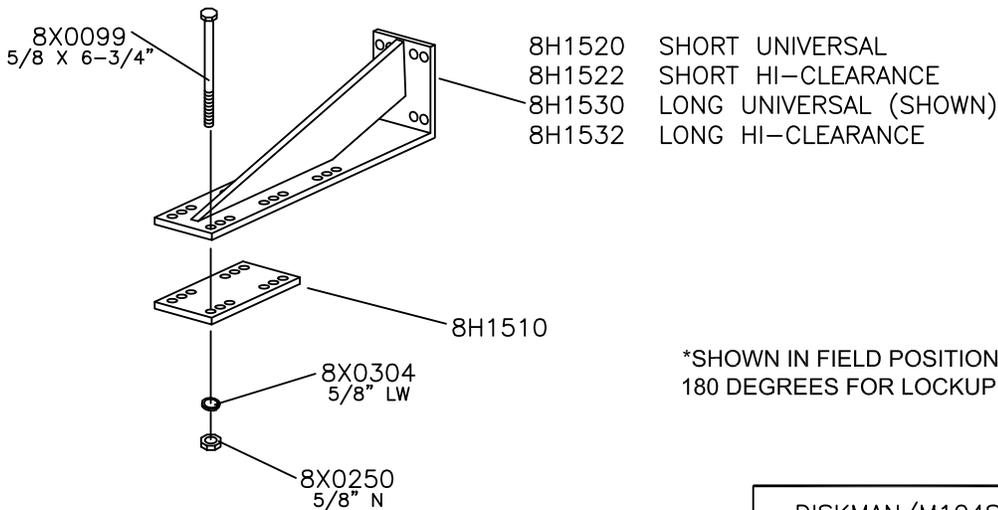
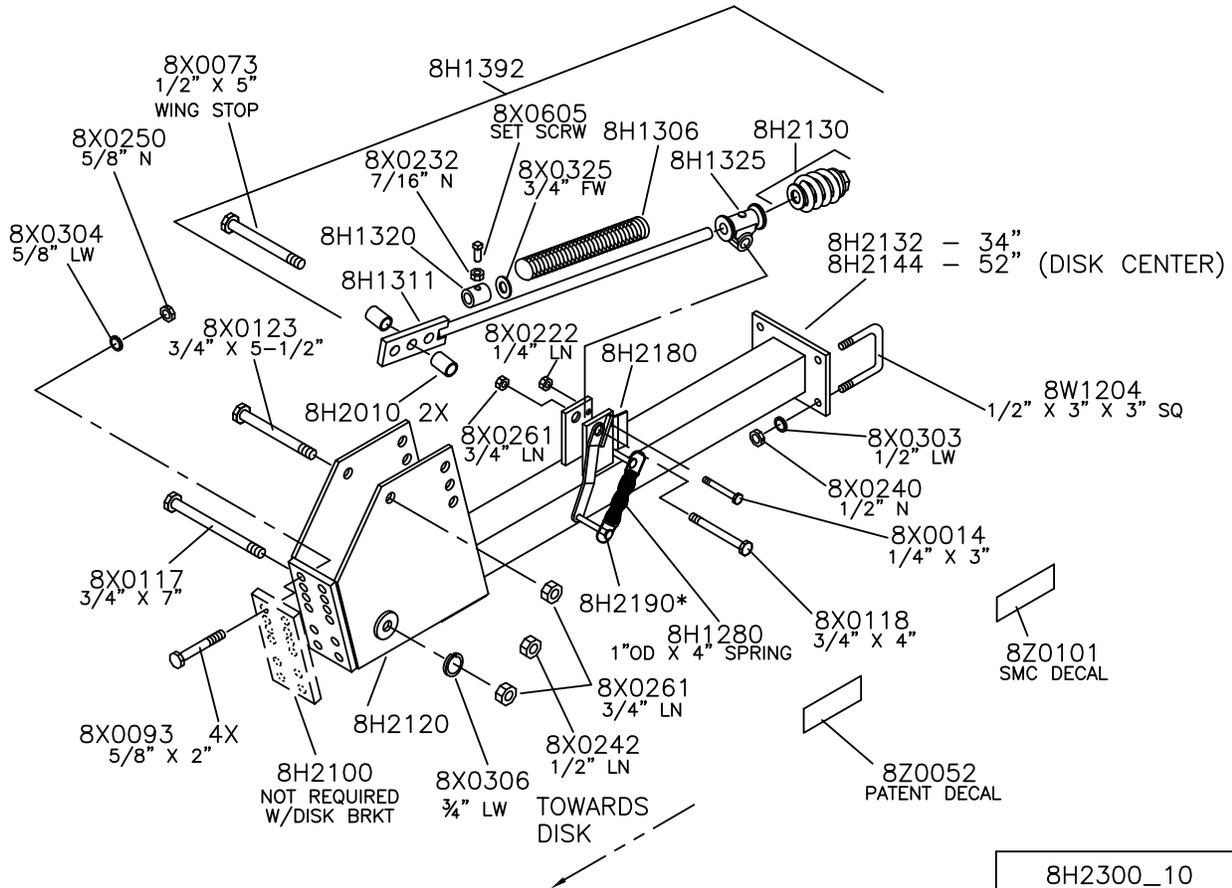
V-SEAL (3 - 8R6923 (A-994))

STRETCH V-SEAL OVER SEAL SUPPORT UNTIL ITS BACK IS SEATED AGAINST THE BACK SHOULDER OF SEAL SUPPORT AND LIES SMOOTH ALL AROUND.



SECTION 4 - PARTS

MOUNTED HARROW - MOUNTING ARM ASSEMBLY



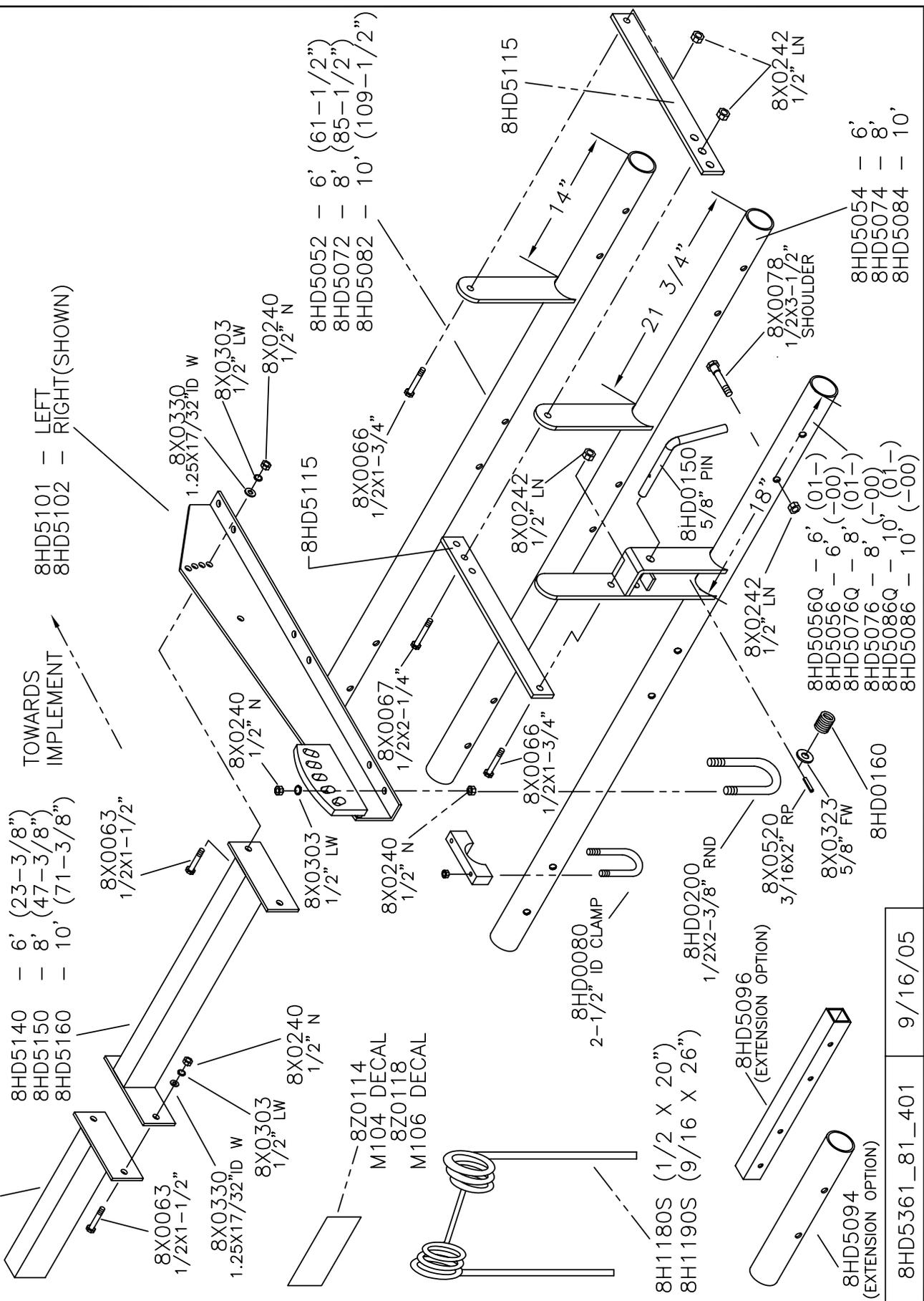
*SHOWN IN FIELD POSITION, ROTATE
180 DEGREES FOR LOCKUP POSITION.

DISKMAN/M104SLTAA

6/19/08

SECTION 4 - PARTS

6', 8' & 10' 3 BAR SECTION ASSEMBLY MODEL 104/106



8HD5101 - LEFT
8HD5102 - RIGHT (SHOWN)

TOWARDS
IMPLEMENT

8HD5140 - 6' (23-3/8")
8HD5150 - 8' (47-3/8")
8HD5160 - 10' (71-3/8")

8HD5052 - 6' (61-1/2")
8HD5072 - 8' (85-1/2")
8HD5082 - 10' (109-1/2")

8HD5054 - 6'
8HD5074 - 8'
8HD5084 - 10'

8HD5056Q - 6' (01-)
8HD5056 - 6' (-00)
8HD5076Q - 8' (01-)
8HD5076 - 8' (-00)
8HD5086Q - 10' (01-)
8HD5086 - 10' (-00)

8HD5096
(EXTENSION OPTION)

8HD5094
(EXTENSION OPTION)

8HD5361_81_401

9/16/05

SECTION 4 – PARTS

NOTES

<u>Stock #</u>	<u>Description</u>	<u>9/15/05</u>	<u>Stock #</u>	<u>Description</u>
8A4048	NYLON TIE .18 X 11"		8HD5101	SIDE PLT 1/4"3BR104/6LEFT00-
8A4050	NYLON TIE .30 X 8-7/8"		8HD5102	SIDE PLT 1/4"3BR104/6RGHT00-
8A4052	NYLON TIE .30 X 15-1/4"		8HD5115	CONNCTNG BAR (3/8X2-17.5)00-
8C1700	U-BOLT 3/8" X 2 X 4-7/8" SQ		8HD5120	CONNCTNG BAR (3/8X2X30.5)93-
8C1710	U-BOLT 3/8" X 8 X 9" SQ		8HD5140	CROSS TUBE W/FLAT 6"M104/M106
8C1720	U-BOLT 1/2 X 2-5/8 X 3-3/4 SQ		8HD5150	CROSS TUBE W/FLAT 8"M104/M106
8C1740	U-BOLT 1/2 X 4-1/4 X 7-1/4" RD		8HD5160	CROSS TUBE W/FLAT 10"M104/M106
8C1750	U-BOLT 3/4 X 3 X 5-1/2" SQ		8HD5180	EXT.BRCKT LEFT M94-106 2ND ARM
8C1755	U-BOLT 3/4 X 6 X 6" SQ		8J5100	#6 JIC(M) X #6 JIC(M) UNION
8C1760	U-BOLT 3/4 X 8 X 6" SQ		8J5110	#10 JIC(M) X #10 JIC(M) UNION
8C1780	U-BOLT 7/8 X 8 X 10" SQ		8J5200	#10 JIC(F) X #6 JIC(M)HEX BUSH
8C6010	WASHER 3-1/16OD X 1.03ID X 1/4		8J5300	#6 JIC(MALE) 3X TEE
8C6012	WASHER 3-1/16OD X 1.28ID X 1/4		8J5310	#10 JIC(MALE) 3X TEE
8C6015	WASHER 3-1/16OD X 1.53ID X 1/4		8J5500	9/16"-18 ORB X #6 JIC(M) STR
8D0330	U-BOLT 5/8 X 6-1/16 X 5-5/8"SQ		8J5510	3/4" -16 ORB X #6 JIC(M) STR
8D0340	U-BOLT 3/4 X 4 X 7-3/4" SQ		8J5520	3/4" -16 ORB X #10 JIC(M) STR
8D0350	U-BOLT 3/4 X 4 X 10 SQ		8J5540	7/8"-14 ORB X #10 JIC(M) STR
8D0720	HITCH PIECE CAST CAT.3CTD PNTD		8J5600	9/16"-18 ORB X #6 JIC(F-SW)STR
8D0722	PERFECT HITCH BACKSTOP W/HDWE		8J5620	3/4" -16 ORB X #6 JIC(F-SW)STR
8D0724	CLEVIS OPT.HITCH CAT.3CTD99-		8J5680	3/4"-16 ORB X 3/4"-16ORB UNION
8D0730	URETHANE CUSHION FOR PRFCTHTCH		8J5690	3/4-16X3/4-16 ORB M-SW90*UNION
8D2460	SAFETY CHAIN 3/8"X 59" 20200#		8J5700	#6 JIC(F-SW) X #6 JIC(M)90*ADP
8D2470	SAFETY CHAIN 7/16"X 64" 30400#		8J5800	3/8"FPT X #6 JIC(F-SW) STR
8D3035	WHEEL 15 X 8" 6 BOLT-VLV GRD		8J5810	1/2"FPT X #10 JIC(F-SW) STR
8D3130	U-BOLT 3/8 X 1-3/4 X 2-1/2 RD		8J6000	9/16"-18 ORB X #6 JIC(M)90*ADP
8D3140	U-BOLT 1/2 X 4-3/8 X 7-1/4" SQ		8J6002	9/16"-18 ORB X #6 JIC(M) TEE
8D3150	U-BOLT 1/2 X 3 X 7-1/4" SQ		8J6010	3/4" -16 ORB X #6 JIC(M)90*ADP
8D3152	U-BOLT 1/2 X 3-3/8 X 7-1/4" SQ		8J6020	3/4"-16 ORB X #10 JIC(M)90*ADP
8D3212	MALE TIP 3/4"-16ORB ISO		8J6026	7/8"-14 ORB X #6 JIC(M)90*ADP
8D5313	NUT HEX SLOTTED 1"-14 GR2 Z		8J6030	7/8"-14 ORB X #10 JIC(M)90*ADP
8D5315	NUT HEX SLOT 1.25"-12 GR2 ZDI		8J6060	3/4"-16ORB X #6JIC(F-SW)90*ADP
8D5319	WASHER AXLE 1"		8J7000	HYD BALL VALVE 9/16"-18ORB(2X)
8D5332	RACE FOR H517 H614 LM48510		8J7040	THERMAL RELIEF MANIFLD 4000PSI
8D8490	PIONEER/ISO TIP HOLDER 97-		8J7110	TANK CHK VLV 7/8-14ORB ML/FML
8D8500	HYD HOSE HOLDER PTD BLK		8J7116	3/4"-16 ORB(2X)1WAY 1/16"RESTR
8D8521	JACK SPOOL 3 X 2.56- 1-29/32"		8J7216	#6JIC(M)X6JIC(F)1/16"RSTR GOLD
8D8522	5000 LB JACK 15" LIFT 5/8"PIN		8J7232	#6JIC(M)X6JIC(F)1/32"RSTR SLVR
8D9108	ROLL PIN 1/4 X 2" ZDI		8K1010	HITCH - DISK 84-
8G2284	NYLON TIE .187 X 7-1/2" YELLOW		8K1040	CENTER FRAME 14.5' LEFT 84-
8G2285	NYLON TIE .187 X 7-1/2" GREEN		8K1042	CENTER FRAME 14.5' RGHT 84-
8H1180S	HARROW TOOTH 1/2 X 20" STR		8K1050	CENTER FRAME 16' LEFT 84-
8H1190S	HARROW TOOTH 9/16 X 26" STR		8K1052	CENTER FRAME 16' RGHT 84-
8H1306	SPRING MEDIUM 1.5"OD-15" 50#1"		8K1062	SPLICE TUBE FRNT W/BLT PL84-
8H1311	SUPPORT ROD		8K1070	SPLICE TUBE REAR 84-
8H1320	COLLAR ADJUSTMENT		8K1081	CROSSTUBE 18.5-32.5 FRONT98-
8H1325	SWIVEL - CAST - MNTD HARROW		8K1082	CROSSTUBE 18.5-32.5 REAR 84-
8H1392	SUPPORT ROD ASSEMBLY HD 1ARM		8K1090	CROSSTUBE 16'FRNT/RR CNTR84-
8H1510	MT PLATE(FLAT1/2X5-10") 6"MAX.		8K1093	CROSSTUBE 38.5+44.5MIDDLE98-
8H1520	MT BRACKET SHORT (13") UNIV		8K1100	614HUB&AXLEASSY(GBGI)FOR2"RCVR
8H1522	MT BRACKET SHORT (20")HI-CLR		8K1105	HD812HUB&AXLE ASSY FOR2.5"RCVR
8H1530	MT BRACKET LONG (25") UNIV		8K1105S	HD812HUB&AXLE ASSY FOR 2" RCVR
8H1532	MT BRACKET LONG (29")HI-CLR		8K1112	LIFTARM 24.5' WING LEFT98-
8H2010	PIPE SPACER 3/4 X 1 1/2" 1 ARM		8K1122	LIFTARM 24.5' WING RGHT98-
8H2120	MOUNTING BRACKET 1ARM		8K1134	LIFTARM 28' + 32.5' WING00-
8H2130	ADJ NUT W/SPRING-ROD ASSY 1ARM		8K1146	LIFTARM18.5-32.5 FRNTCNTR98-
8H2132	CARRIER ARM 34"DSK M94/104/106		8K1152	LIFTARM18.5-32.5 REARCNT98-
8H2142	CARRIER ARM 42" M94/104/106		8K1178	LIFTARM38.5+44.5 RRC+WING00-
8H2180	CLIP W/PIVOT AUTO LOCK UP 1ARM		8K1186	LIFTARM38.5+44.5 FRNTCNTR98-
8H2190	HANDLE W/PIN AUTO LOCK UP 1ARM		8K1212	A-FRAME18.5-44.5 FRNTCNTR98-
8H2300	MNTG ARM ASSY 34" M94/104/106		8K1221	A-FRAME18.5-32.5 REARCNT98-
8H2310	MNTG ARM ASSY 42" M94/104/106		8K1224	A-FRAME38.5+44.5 REARCNT98-
8HD5094	EXT PIPE2.375"ODX.148-12"01-		8K1232	A-FRAME 24.5' WING 98-
8HD5096	EXT TUBE1.5SQ11GA-23-3/4"01-		8K1242	A-FRAME 28-44.5' WING 98-
8HD5097	M104 1 TINE EXT OPT PAIR 03-		8K1280	WING TRUSS FRONT 18.5 & 21.5'
8HD5098	M106 1 TINE EXT OPT PAIR 03-		8K1282	WNG TRUSS REAR18.5 FRNT/RR44.5

<u>Stock #</u>	<u>Description</u>
8K1284	WING TRUSS REAR 21.5'
8K1290	STUB TUBE L FRONT 18.5'
8K1292	STUB TUBE R FRONT 18.5'
8K1294	STUB TUBE L REAR 18.5'
8K1296	STUB TUBE R REAR 18.5'
8K1300	STUB TUBE L FRONT 21.5'
8K1302	STUB TUBE R FRONT 21.5'
8K1304	STUB TUBE L REAR 21.5'
8K1306	STUB TUBE R REAR 21.5'
8K1310	WING 24.5' L
8K1312	WING 24.5' R
8K1320	WING 28' & 32.5' L
8K1322	WING 28' & 32.5' R
8K1350	WING 38.5' & 44.5' PART 1 LEFT
8K1352	WING 38.5' & 44.5' PART 1 RIGHT
8K1358	WING 44.5' PART 2 L & R 98-
8K1510	TUBE END CAP 1/4 X 4 - 6"
8K1532	CYL PULL PL 1/2 X 2.5 X 12.25"
8K1540	TUBE 2-1/4 OD X 1.268 - .5"
8K1610	PIN 3/4 X 6.25" SAFETY LOCK
8K1620	PIN 1.25 X 6-1/8"
8K1640	PIN 1.5 X 10-5/8" HITCH
8K1660	PIN 1-1/2 X 15-1/2" HARDENED
8K1683	CYL.BOLT1.5"X1.25"EYEX10-3/8PL
8K1900	SEAL GBGI V WALKING TANDEM
8K1920	RETAINING RING 2-7/8" INV00-
8K2000	GANG BEARING 2" I.D. NOMINAL
8K2020	RETAINING RING BEARING
8K2050	HOUSNG W/BRNG
8K2080	BRG MT BRACKET BASE
8K2090	BRG MT BRACKET PIVOT TUBE
8K2102	BRG MT BRACKET COMPLETE W/BRG
8K2104	SPRING SHANK COMPLETE W/BRG
8K2120	GANG ROD 2" DIA X 47"
8K2130	GANG ROD 2" DIA X 57"
8K2140	GANG ROD 2" DIA X 67"
8K2150	GANG ROD 2" DIA X 77"
8K2160	GANG ROD 2" DIA X 87"
8K2170	GANG ROD 2" DIA X 97"
8K3002	GANG WRENCH FOR DISK BLCK00-
8K4000	SPOOL FULL DCTLE MCHNED
8K4010	SPOOL HALF SHORT DCTLE MCHNED
8K4020	SPOOL HALF LONG DCTLE MCHNED
8K4130	HOUSING BRG TOGGLE MT CAST
8K4200	CLAMP GANG MOUNT W/PEG CAST
8K4210	CLAMP GANG MOUNT CAST
8K4300	CLAMP SCRAPER MOUNT CAST
8K4400	SPRING SHANK GANG MOUNT
8K4410	SCRAPER PLATE DISK PTD
8K4420	CLAMP 1/2 X 2 - 4.25"
8K4430	ARM 5/8 X 2.5 - 15.375" HR1044
8K4448	ARM ADJ.DBL.SCRPR HR1044 99-
8K4449	ADJ.DOUBLE SCRAPER BRCKT 99-
8K4450	BRACKET BAR MT 7K4110 7K4120
8K4610	SCRAPER MT TUBE 2 SQ X 38"
8K4620	SCRAPER MT TUBE 2 SQ X 48"
8K4630	SCRAPER MT TUBE 2 SQ X 58"
8K4640	SCRAPER MT TUBE 2 SQ X 68"
8K4650	SCRAPER MT TUBE 2 SQ X 78"
8K4660	SCRAPER MT TUBE 2 SQ X 88"
8K4670	SCRAPER MT TUBE 2 SQ X 98"
8K4690	MT TUBE ASSY 2SQ X 47" INSIDE
8K4692	MT TUBE ASSY 2SQ X 47" OUTSIDE
8K4698	MT TUBE ASSY 2SQ X 67" OUTSIDE
8K4700	MT TUBE ASSY 2SQ X 67" 14 CTR

<u>Stock #</u>	<u>Description</u>
8K4710	MT TUBE ASSY 2SQ X 77" 16.5CTR
8K5024	BLADE DISK 1/4 X 24" W/2"HOLE
8K5024C	BLADE 1/4 X 24" CONSERVATION
8K5026	BLADE DISK 1/4 X 26" W/2"HOLE
8K5200	WASHER GANG BOLT 2.030"ID
8K5210	WASHER GANG BLT FOR STALK FNGR
8K5214	STALK FINGER 3/4 X 6"
8K5350	SPLITSTEELBUSH 2"ODX1.5"IDX2"
8K5505	U-BOLT 3/4 X 2-1/8 X 4-1/4" SQ
8K5515	U-BOLT 3/4 X 4 X 6" SQ ZI-DI
8K5520	U-BOLT 3/4 X 6-1/8 X 7-1/2" SQ
8K6870	ARM & KNEE ASSY W/HUB CLTR OPT
8K6874	20" FLUTED BLADE COULTR OPT BJ
8K6890	COULTER DISK 20" W/MNTNG BRCKT
8K6940	CULT SHOVEL 16"
8K6942	SHOVEL REVERSIBLE16X4-1/2X1/4"
8K6952S	SPACER TUBE SHNK HGHT ADJ96-
8K6954S	BLT PLT SHANK HGHT(6X6.5)96-
8K6956S	CLEVIS SHANK HEIGHT ADJ 96-
8K6960S	SHANK HGHT ADJST W/HRDWRE96-
8K6965	SHIM PLATE 10GA X 6- 8"W/HOLES
8K6966	SHIM PLATE 3/16 X 6- 8"W/HOLES
8K6968	CENTER TUBE SHANK MT
8K6969	CENTER TUBE SHANK MT OFFSET 4"
8K7020	WHEEL 15 X 10" 8 BOLT-VLV GRD
8K7025	TIRE 11L X 15" 10PLY TUBELESS
8K7026	TIRE 11L X 15" LRF TL HWYSRV
8K7028	TIRE 12.5L X 15" LRF TL HWYSRV
8K7033	11L X 15 LRF ON 15X8X6 WHEEL
8K7035	11L X 15 10PLY ON 15X 8X 6 WHL
8K7037	11L X 15 LRF ON 15X 8X 8 WHEEL
8K7042	12.5L X 15 LRF ON 15X10X 8 WHL
8K7111	HUB HD812 W/ZERK 8 BOLT
8K7113	HUB CAP HD812
8K7117	BEARING LM3780
8K7118	BEARING LM2790
8K7120	SEAL 2-1/2"ID HD812
8K7122	WHEEL STUD 5/8-18 UNF X 2.5"
8K7123	WHEEL BOLT NUT 5/8-18 UNF
8K7130	INNER RACE FOR HD812 LM3720
8K7132	OUTER RACE FOR HD812 LM2720
8K7150	AXLE HD812 2-1/2"DIA X11-1/2"
8K7150S	AXLE H812 X 11.5" 2"DIA.DISK
8K8000	FLAT BRCKT LIGHT3/8X3.5-11.38"
8K8010	TUBE LGHT BRCKT1.5SQ55.5"00-
8K8020	MOUNTNG BRCKT LIGHT 00-
8K8060	3 PIN WTHRPCKT SHRD/TOWR 12"EXT
8K8067	DUST CAP FOR 7PIN CONNECT00-
8K8068	7PIN MAIN HARNSS W/DUSTCP SHRT
8K8070	7PIN MAIN HARNSS W/DUSTCP LONG
8K8075	EXTENSION HRNSS NONDRAWBR00-
8K8088	LENS ONLY YELLOW GROTE LGHTASY
8K8090	LIGHT ASMBLY YELLOW W/PIG00-
8K8092	LENS ONLY RED GROTE LIGHT ASSY
8K8094	LIGHT ASSY RED W/2WR TERM00-
8K8105	HARNSS TEE 26' 2WIRE WTHRPACK
8K8200	BRCKT SMV ATTCH 4-8"FRAME98-
8K8650	SEAL KIT 4 X 36" CTD
8K8660	SEAL KIT 5 X 36" CTD
8K9106	PIN 1.25 X 4.375" HARDENED
8K9174	STROKE CNTRL COLLAR 1/2" 2"ROD
8K9176	STROKE CNTRL COLLAR 3/4" 2"ROD
8K9178	STROKE CNTRL COLLAR 1" 2"ROD
8K9180	STROKE CNTRL COLLAR 1-1/4"2"RD
8K9190	TRANSPORT STOP 7.5" 2"ROD

<u>Stock #</u>	<u>Description</u>	<u>Stock #</u>	<u>Description</u>
8K9220	ANGLE 6X6X1/2- 6.25"WGHT PCKGE	8S0315	U-BOLT 3/8 X 3 X 4-1/8" RD
8K9230	SUITCASE WEIGHT PNTD 1.25"X70#	8S0319	U-BOLT 3/8 X 3 X 4-1/8" SQ
8K9640	HYD CYL 4 X 36" W/3" STOP TUBE	8S0320	U-BOLT 3/8 X 3 X 5-1/8" SQ
8K9650	HYD CYL 5 X 36" W/3" STOP TUBE	8S0330	U-BOLT 1/2 X 3 X 4-1/4" SQ
8N3018	3/8X 18"HYD HOSE #6FJX3000PSI	8S0340	U-BOLT 1/2 X 4 X 5-1/4" SQ
8N3028	3/8X 28"HYD HOSE #6FJX3000PSI	8S0345	U-BOLT 1/2 X 5 X 6-1/4" SQ
8N3035	3/8X 35"HYD HOSE #6FJX3000PSI	8S0350	U-BOLT 1/2 X 2 X 7-1/2" SQ
8N3048	3/8X 48"HYD HOSE #6FJX3000PSI	8S0360	U-BOLT 5/8 X 6 X 4-1/2" SQ
8N3060	3/8X 60"HYD HOSE #6FJX3000PSI	8S1120	SLOW MOVING VEHICLE SIGN
8N3070	3/8X 70"HYD HOSE #6FJX3000PSI	8S1124	MOUNTING SOCKET SMV SIGN ZDI
8N3084	3/8X 84"HYD HOSE #6FJX3000PSI	8S1126	MNTNG SPADE W/HRDWRE SMV SIGN
8N3096	3/8X 96"HYD HOSE #6FJX3000PSI	8S2990	HYD HOSE CLAMP-LARGE-NYLON
8N3124	3/8X 124"HYD HOSE #6FJX3000PSI	8T0100	SPRG BASE WSHR SQ HOLED 97-
8N3136	3/8X 136"HYD HOSE #6FJX3000PSI	8T0400	FC 7T0400 W/ 1-33/64" HOL99-
8N3150	3/8X 150"HYD HOSE #6FJX3000PSI	8T0500	SHANK CHISEL EDGE-ON PTD96-
8N3156	3/8X 156"HYD HOSE #6FJX3000PSI	8T0600	SPRING CHSL TRIP 700# PTD96-
8N3160	3/8X 160"HYD HOSE #6FJX3000PSI	8T1006	PLUNGER PIN W/HOLES RAM 98-
8N3180	3/8X 180"HYD HOSE #6FJX3000PSI	8T1008	HYDPLNGR REPAIR KIT HDRAM02-
8N3204	3/8X 204"HYD HOSE #6FJX3000PSI	8T1010	POPPET ASSY HD BLT-ON RAM02-
8N3216	3/8X 216"HYD HOSE #6FJX3000PSI	8T1015	HAIRPIN CLIP FOR PLUNGER PIN
8N3228	3/8X 228"HYD HOSE #6FJX3000PSI	8T1040	REPHASE CYL 4.0 X 10" 96-
8N3252	3/8X 252"HYD HOSE #6FJX3000PSI	8T1045	REPHASE CYL 4.5 X 10" 96-
8N3288	3/8X 288"HYD HOSE #6FJX3000PSI	8T1050	REPHASE CYL 5.0 X 10" 96-
8N3312	3/8X 312"HYD HOSE #6FJX3000PSI	8T1055	REPHASE CYL 5.5 X 10" 96-
8N3330	3/8X 330"HYD HOSE #6FJX3000PSI	8T1060	REPHASE CYL 6 X 10W/STRK CNTRL
8N3348	3/8X 348"HYD HOSE #6FJX3000PSI	8T1140	SEAL KIT 4.0 X 10"RAM 98-
8N3360	3/8X 360"HYD HOSE #6FJX3000PSI	8T1145	SEAL KIT 4.5 X 10"RAM 98-
8N3390	3/8X 390"HYD HOSE #6FJX3000PSI	8T1150	SEAL KIT 5.0 X 10"RAM 98-
8N3432	3/8X 432"HYD HOSE #6FJX3000PSI	8T1155	SEAL KIT 5.5 X 10"RAM 98-
8N3462	3/8X 462"HYD HOSE #6FJX3000PSI	8T1160	SEAL KIT 6.0 X 10"RAM 98-
8N3534	3/8X 534"HYD HOSE #6FJX3000PSI	8T2988	CLAMP 3/8" WIRING MTL/RUB BACK
8N3570	3/8X 570"HYD HOSE #6FJX3000PSI	8T2990	HYD HOSE CLAMP MTL/RUB BACK
8N3606	3/8X 606"HYD HOSE #6FJX3000PSI	8T3200	BOLT 1X11"W/6.5"THD Z GR596-
8N4016	1/2X 16"HYD HOSE#10FJX3000PSI	8T3300	PIVOT BOLT CHISEL TRIP ASSY.Z
8N4060	1/2X 60"HYD HOSE#10FJX3000PSI	8T3620	PIN 1-1/2 X 12-1/2" HRDND&ZINC
8N4114	1/2X 114"HYD HOSE#10FJX3000PSI	8T3640	PIN 1-1/2 X 19" HARDENED
8N4120	1/2X 120"HYD HOSE#10FJX3000PSI	8T4132	WLKNG TNDM 7.5"C-C 2" ID 98-
8N4138	1/2X 138"HYD HOSE#10FJX3000PSI	8T5000	HOLDER SPRING TRIP ASSY.96-
8N4198	1/2X 198"HYD HOSE#10FJX3000PSI	8T5020	PIPE SPRING STOP TRIP 96-
8N4216	1/2X 216"HYD HOSE#10FJX3000PSI	8T5050	HOLDER SHANK TRIP ASSY.96-
8N4228	1/2X 228"HYD HOSE#10FJX3000PSI	8T5150	BRACKET MNTNG TRIP ASSY.96-
8N4546	1/2X 546"HYD HOSE#10FJX3000PSI	8T5150C	PNTDCAST MNT BRCKT CHTRIP02-
8N4624	1/2X 624"HYD HOSE#10FJX3000PSI	8T5200	CAP SWIVEL TRIP ASSY.96-
8N6060	3/4X 60"HYD HOSE#10FJX3000PSI	8T5345	SPLITSTEELBUSH2"ODX1.5"IDX1.5"
8N6400	3/4X 400"HYD HOSE#10FJX3000PSI	8W1200	U-BOLT 1/2 X 2 X 3-1/4" SQ
8N6570	3/4X 570"HYD HOSE#10FJX3000PSI	8W1204	U-BOLT 1/2 X 3 X 3" SQ
8N6588	3/4X 588"HYD HOSE#10FJX3000PSI	8X0000	BOLT 1/4-20X3/4"FULLTHDGR5 ZDI
8R6808	SPLTSTEELBSH1.25"ODX1"IDX.75"	8X0000B	BOLT 1/4-20NC X 1" GR5 ZDI
8R6901	AXLE H614 STR 2"CR X 9.5" RCVR	8X0001	BOLT 3/8-16NC X 3/4" GR5 ZDI
8R6911	HUB H614 W/ZERK 6 BOLT	8X0001B	BOLT 3/8-24NF X 3/4" GR5 ZDI
8R6913	HUB CAP H614	8X0002	BOLT 3/8-16NC X 1" GR5 ZDI
8R6914	WHEEL BOLT 9/16"-18 UNF	8X0003	BOLT 1/4-20NC X 4-1/2" GR5 ZDI
8R6917	BEARING LM603049	8X0004	BOLT 3/8-16NC X 1-1/4" GR5 ZDI
8R6922	SEAL ASSY GBGI H614 HUB 00-	8X0005	BOLT 1/4-20NC X 3-3/4" GR5 ZDI
8R6923	SEAL ONLY GBGI H614 HUB 00-	8X0005B	BOLT 1/4-20NC X 4" GR5 ZDI
8R6924	COUNTRFACE GBGI H614 HUB 00-	8X0005D	BOLT 1/4-20NC X 5" GR5ZDI
8R6925	INNER RACE FOR H614 LM603011	8X0006	BOLT 3/8-16NC X 2-1/2" GR5 ZDI
8R6927	SEAL SUPPORT GBGI FOR 614 AXLE	8X0007	BOLT 3/8-16NC X 1-1/2" GR5 ZDI
8S0250	U-BOLT 1/4 X 1 X 1-3/4" RD	8X0007B	BOLT 3/8-16NC X 1-3/4" GR5 ZDI
8S0280	U-BOLT 5/16 X 2 X 2-3/4 RD	8X0008	BOLT 3/8-16NC X 2" GR5 ZDI
8S0282	U-BOLT 5/16 X 2 X 2-3/4"	8X0008B	BOLT 3/8-16X 2"FULLTHD GR5 PLN
8S0290	U-BOLT 3/8 X 2-1/4 X 3-1/8" RD	8X0009	BOLT 1/4-20NC X 2" GR5 ZDI
8S0295	U-BOLT 3/8 2-5/8 X 4-1/4" RD	8X0010	BOLT 1/4-20NC X 1-1/4" GR5 ZDI
8S0300	U-BOLT 3/8 X 2 X 4" SQ	8X0011	SCREW RD HD SLOT1/4-20X1.5"ZDI
8S0310	U-BOLT 3/8 X 4 X 4" SQ	8X0012	BOLT 1/4-20NC X 3-1/2" GR5 ZDI

<u>Stock #</u>	<u>Description</u>	<u>Stock #</u>	<u>Description</u>
8X0013	BOLT 1/4-20NC X 2-1/2" GR5 ZDI	8X0092	BOLT 5/8-11NC X 2-3/4" GR5 ZDI
8X0013F	SCREW FLATHEAD 1/4-20 X 3" ZDI	8X0093	BOLT 5/8-11NC X 2" GR5 ZDI
8X0014	BOLT 1/4-20NC X 3" GR5 ZDI	8X0094	BOLT 5/8-11NC X 4-1/2" GR5 ZDI
8X0015	BOLT 3/8-16NC X 3-3/4" GR5 ZDI	8X0095	BOLT 5/8-11NC X 5" GR5 ZDI
8X0016	BOLT 3/8-16NC X 3" GR5 ZDI	8X0096	BOLT 5/8-11NC X 4" GR5 ZDI
8X0017	BOLT 3/8-16NC X 5" GR5 ZDI	8X0097	BOLT 5/8-11NC X 5-1/2" GR5 ZDI
8X0018	BOLT 3/8-16NC X 4" GR5 ZDI	8X0098	BOLT 5/8-11X 3.5"FULLTHDGR5ZDI
8X0019	BOLT 3/8-16NC X 4-1/2" GR5 ZDI	8X0099	BOLT5/8-11X6.75"W/3.5THDGR5ZDI
8X0020	BOLT 3/8-16X3.5"FULLTHDGR5 ZDI	8X0100	BOLT 5/8-11NC X 7" GR5 ZDI
8X0021	BOLT 5/16-18NC X 3/4" GR5 ZDI	8X0101	BOLT 5/8-11NC X 8" GR5 ZDI
8X0021A	BOLT 5/16-18NC X 1" GR5 ZDI	8X0102	BOLT 5/8-11NC X 9" GR5 ZDI
8X0021B	BOLT 5/16-18NC X 1-1/4"GR5 ZDI	8X0103	BOLT 5/8-11NC X 7-1/2" GR5 ZDI
8X0022	SCKT CAP 5/16-18 X 1" GR5ZDI	8X0104	BOLT 5/8-11X6.5"FULLTHD GR5ZDI
8X0023	BOLT 5/16-18NC X 2" GR5 ZDI	8X0105	BOLT 5/8-11NC X 6-1/2" GR5 ZDI
8X0024	BOLT 5/16-18NC X 4-1/2"GR5 ZDI	8X0106	BOLT 3/4X2.75"W/1.38THD GR8ZDI
8X0026	BOLT 5/16-18NC X 2-3/4"GR5 ZDI	8X0107	BOLT 3/4-10NC X 2" GR5 ZDI
8X0027	BOLT 5/16-18NC X 4" GR5 ZDI	8X0110	BOLT 3/4-10NC X 1-1/4" GR5 ZDI
8X0028	SCKT CAP 3/8-16NC X 2" GR8 PLN	8X0111	BOLT 3/4-10NC X 2-1/2" GR5 ZDI
8X0029	BOLT 5/16-18NC X 3-1/2"GR5 ZDI	8X0112	BOLT 3/4-10NC X 2-1/4" GR5 ZDI
8X0030	BOLT 5/16-18NC X 5" GR5 ZDI	8X0113	BOLT 3/4-10NC X 5" GR5 ZDI
8X0031	BOLT 7/16-14NC X 1" GR5 ZDI	8X0114	BOLT 3/4-10NC X 3" GR5 ZDI
8X0033	BOLT 7/16X1.25 5/8"THD GR5 ZDI	8X0115	BOLT 3/4-10NC X 3-1/2" GR5 ZDI
8X0034	BOLT 7/16X1.75 W/1"THD GR5 ZDI	8X0115A	BOLT 3/4X10-3.5"FULLTHD GR5ZDI
8X0035	BOLT 7/16-14NC X 1-1/2"GR5 ZDI	8X0115B	BOLT 3/4-10NC X 3-1/2" GR8 ZDI
8X0036	BOLT 7/16-14NC X 2" GR5 ZDI	8X0116	BOLT 3/4-10NC X 6" GR5 ZDI
8X0037	PLOW BOLT 1/2-13NC X 2"GR5 ZDI	8X0117	BOLT 3/4-10NC X 7" GR5 ZDI
8X0038	BOLT 7/16-14NC X 2-1/2"GR5 ZDI	8X0118	BOLT 3/4-10NC X 4" GR5 ZDI
8X0041	BOLT 7/16-14NC X 3" GR5 ZDI	8X0118A	BOLT 3/4-10NC X 4-1/4" GR5 ZDI
8X0044	BOLT 7/16-14NC X 3-1/2"GR5 ZDI	8X0119	BOLT 3/4-10NC X 7-1/2" GR5 ZDI
8X0045	BOLT 7/16-14NC X 4-1/2"GR5 ZDI	8X0120	BOLT 3/4-10NC X 9" GR5 ZDI
8X0046	BOLT 7/16-14NC X 7-1/4"GR5 ZDI	8X0121	BOLT 3/4-10NC X 6-1/2" GR5 ZDI
8X0047	BOLT 7/16-14NC X 6" GR5 ZDI	8X0122	BOLT 3/4-10NC X 4-1/2" GR5 ZDI
8X0048	CRG 7/16-14NC X 3-1/2" GR5 ZDI	8X0123	BOLT 3/4-10NC X 5-1/2" GR5 ZDI
8X0049	CRG 7/16-14NC X 4" GR5 ZDI	8X0125	BOLT 3/4-10NC X 10" GR5 ZDI
8X0060	BOLT 1/2-13NC X 1" GR5 ZDI	8X0126	BOLT 3/4-10NC X 8" GR5 ZDI
8X0061	BOLT 1/2-13NC X 1-1/4" GR5 ZDI	8X0130	BOLT 7/8-9NC X 2" GR5 ZDI
8X0062	BOLT 1/2-13NC X 2" GR5 ZDI	8X0132	BOLT 7/8-9NC X 2-1/2" GR5 ZDI
8X0063	BOLT 1/2-13NC X 1-1/2" GR5 ZDI	8X0133	BOLT 7/8-9NC X 3" GR5 ZDI
8X0064	CRG 1/2-13NC X 1-1/2" GR5 ZDI	8X0135	BOLT 7/8-9NC X 7-1/2" GR5 ZDI
8X0065	CRG 1/2-13NC X 2" GR5 ZDI	8X0136	BOLT 7/8-9NC X 9" GR5 ZDI
8X0066	BOLT 1/2-13NC X 1-3/4" GR5 ZDI	8X0137	BOLT 1-8NC X 4-1/2" GR5 ZDI
8X0066S	SCKT CAP 1/2-13 X 1.75"GR8 PLN	8X0138	BOLT 1-8NC X 5-1/2" GR5 ZDI
8X0067	BOLT 1/2-13NC X 2-1/4" GR5 ZDI	8X0139	BOLT 1-8NC X 3" GR5 ZDI
8X0068	BOLT 1/2-13NC X 2-1/2" GR5 ZDI	8X0140	BOLT 1-8NCX7" W/1.5"THD GR5ZDI
8X0069	BOLT 1/2-13NC X 3" GR5 ZDI	8X0141	BOLT 1-8NC X 7-1/2" GR5 ZDI
8X0070	BOLT 1/2-13NC X 3-1/4" GR5 ZDI	8X0142	BOLT 1-8NC X 2-1/2" GR5 ZDI
8X0071	BOLT 1/2-13X 3"SHOULDR GR2 ZDI	8X0143	BOLT 1-8NC X 5" GR5 ZDI
8X0072	BOLT 1/2-13NC X 3-3/4" GR5 ZDI	8X0144	BOLT 1-8NC X 9-1/2" GR5 ZDI
8X0073	BOLT 1/2-13NC X 5" GR5 ZDI	8X0145	BOLT 1-8NC X 10-1/2" GR5ZDI
8X0074	BOLT 1/2-13NC X 4-1/2" GR5 ZDI	8X0149	BOLT 1-8NC X 18" GR5ZDI
8X0075	BOLT 1/2-13NC X 6" GR5 ZDI	8X0201	NUT HEX 3/8"-16NC GR2 ZDI
8X0076	BOLT 1/2-13NC X 5-1/2" GR5 ZDI	8X0202	NUT NY-LOCK 3/8"-16NC GR2 ZDI
8X0077	BOLT 1/2-13NC X 7-1/2" GR5 ZDI	8X0203	NUT SER FLANGE3/8"-16NC GR2ZDI
8X0078	BOLT 1/2-13X3.5"SHOULDR GR2ZDI	8X0204	NUT HEX 3/8"-16NC GR2 GALV
8X0079	BOLT 1/2-13NC X 10" GR5 ZDI	8X0205	NUT HEX 10-24 ZDI
8X0080	BOLT 1/2-13NC X 11" GR5 ZDI	8X0210	NUT HEX 5/16"-18NC GR2 ZDI
8X0081	BOLT 1/2-13NC X 7" GR5 ZDI	8X0211	NUT SER FLANG5/16"-18NC GR2ZDI
8X0082	BOLT 1/2-13NC X 6-1/2" GR5 ZDI	8X0212	NUT NY-LOCK 5/16"-18NC GR2 ZDI
8X0083	BOLT 1/2-13NC X 8" GR5 ZDI	8X0213	NUT 5/16"-18NCX3/8"-24NFGR2ZDI
8X0084	BOLT 1/2-13NC X 9" GR5 ZDI	8X0218	NUT SQ 1/4"-20NC GR2 SS
8X0085	BOLT 5/8-11NC X 1" GR5 ZDI	8X0219	NUT HEX 1/4"-20NC LEFT GR2 ZDI
8X0086	BOLT 5/8-11NC X 1-1/4" GR5 ZDI	8X0220	NUT HEX 1/4"-20NC GR2 ZDI
8X0087	BOLT 5/8-11NC X 1-1/2" GR5 ZDI	8X0221	NUT NY-LOCK 1/4"-20NC GR2 SS
8X0090	BOLT 5/8-11NC X 2-1/4" GR5 ZDI	8X0222	NUT NY-LOCK 1/4"-20NC GR2 ZDI
8X0091	BOLT 5/8-11NC X 1-3/4" GR5 ZDI	8X0223	NUT SER FLANG 1/4"-20NC GR2ZDI

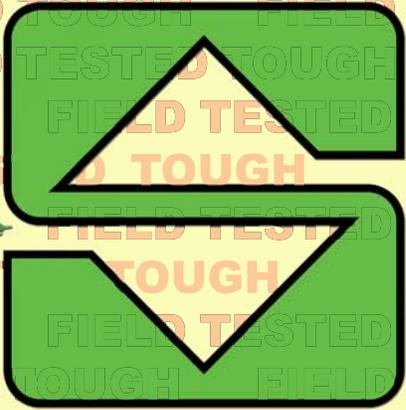
<u>Stock #</u>	<u>Description</u>	<u>Stock #</u>	<u>Description</u>
8X0232	NUT HEX 7/16"-14NC GR2 ZDI	8X0324	WASHER FLAT 5/8 (11/16" ID)ZDI
8X0234	NUT NY-LOCK 7/16"-14NC GR2 ZDI	8X0325	WASHER FLAT 3/4 (13/16"ID) PLN
8X0240	NUT HEX 1/2"-13NC GR2 ZDI	8X0326	WASHER FLAT 1-1/8 (1.25"ID)PLN
8X0242	NUT NY-LOCK 1/2"-13NC GR2 ZDI	8X0327	WASHER SAE FLAT 1-1/4" ZDI
8X0246	NUT HEX 9/16"-12NC GR2 ZDI	8X0329	WASHER FLAT 5/16"(3/8" ID) ZDI
8X0250	NUT HEX 5/8"-11NC GR2 ZDI	8X0330	WASHER 1.25 X 17/32"ID ZDI
8X0251	NUT JAM 5/8"-11NC GR2 ZDI	8X0331	WASHER 1.25 X 15/32"ID ZDI
8X0252	NUT HEX 5/8"-11NC GR2 PLN	8X0332	WASHER FLAT 1/4 (5/16" ID) ZDI
8X0253	NUT NY-LOCK 5/8"-11NC GR2 ZDI	8X0362	MACH BUSHING 2 7/8 OD 1 7/8 ID
8X0254	NUT SQ 5/8"-11NC GR2 PLN	8X0364	WASHER 3-1/2"ODX2-1/2"ID 14GA
8X0255	THD ROD COUPLER HD 5/8"-11 PLN	8X0366	WASHER 3-1/16"OD X 2"ID
8X0257	NUT HEX 3/4"-10NC GR2 PLN	8X0368	WASHER SAE FLAT 1-1/2" PLN
8X0258	NUT SQ 3/4"-10NC GR2 PLN	8X0370	WASHER 3.934 X 3.016"ID X 14GA
8X0259	NUT JAM 3/4"-10NC GR2 ZDI	8X0402	HAIR PIN CLIP 1/8 X 2-9/16"
8X0260	NUT HEX 3/4"-10NC GR2 ZDI	8X0410	COTTER PIN 3/16 X 1" ZDI
8X0261	NUT NY-LOCK 3/4"-10NC GR2 ZDI	8X0414	COTTER PIN 1/4 X 2" ZDI
8X0262	NUT TOP LOCK 3/4"-10NC GR2 PLN	8X0415	COTTER PIN 3/16 X 1-1/2" ZDI
8X0263	NUT TOP LOCK 3/4"-16NF GR2 ZDI	8X0418	COTTER PIN 5/16 X 2-1/2" ZDI
8X0264	BEVEL NUT CNTR LOCK3/4"-10 ZDI	8X0420	CLEVIS PIN 7/16 X 1-3/4" ZDI
8X0265	NUT CNTR LOCK3/4"-10NC GR2 ZDI	8X0421	CLEVIS PIN 1/2 X 2" PLN
8X0267	NUT HEX 7/8"-9NC GR2 PLN	8X0422	CLEVIS PIN 1/2 X 2-1/4" ZDI
8X0268	NUT HEX 7/8"-9NC GR2 ZDI	8X0425	CLEVIS PIN 1/2 X 3" ZDI
8X0269	NUT JAM 7/8"-9NC GR2 ZDI	8X0428	CLEVIS PIN 1/2 X 5-1/4" ZDI
8X0277	NUT JAM 1"-8NC GRZ ZDI	8X0432	CLEVIS PIN 1/2 X 6" ZDI
8X0278	NUT JAM TOP LOCK1"-8NC GR2 ZDI	8X0440	CLEVIS PIN 5/8 X 3-7/8" ZDI
8X0279	NUT HEX 1"-8NC GR2 PLN	8X0462	CLEVIS PIN 3/8 X 3" W/HOLEZDI
8X0280	NUT HEX 1"-8NC GR2 ZDI	8X0520	ROLL PIN 3/16 X 2" Z
8X0281	NUT NY-LOCK 1"-8NC GR2 ZDI	8X0590	SET SCRW SQ HD 1/4-20X1/2"ZDI
8X0282	NUT TOP LOCK 1"-14NF GR2 ZDI	8X0605	SET SCRW SQ HD 7/16-14X1" ZDI
8X0283	NUT JAM 1.25"-7NC GR2 ZDI	8X0606	SET SCRW SQ HD 7/16-14X1.5"ZDI
8X0284	NUT HEX 1.25"-7NC GR2 ZDI	8X0610	SET SCRW SCKT 3/8-16X 5/16"PLN
8X0285	NUT HEX 1.5"-6NC GR2 ZDI	8X0614	SET SCRW SQ HD 5/8-11 X 2" PLN
8X0286	NUT JAM 1.5"-6NC GR2 ZDI	8X0618	SET SCRW SQ HD 5/8-11 X 3" PLN
8X0288	NUT NY-LOCK 1.25"-7NC GR2 ZDI	8X0630	SET SCRW SCKT HD 3/8-24X 1"PLN
8X0290	NUT HEX SLOT 1.25"-7NC GR2 ZDI	8X0632	SET SCRW SCKT 7/16-14X 1.5"PLN
8X0292	NUT HVY HX SLOT 2"-4.5 GR2 PLN	8X0640	SET SCRW SQ HD 1/2-13X 1.5"PLN
8X0300	LOCKWASHER 5/16 ZDI	8X0721	ZERK 5/16-24 NF ZDI
8X0301	LOCKWASHER 3/8 ZDI	8Z0070	"SUMMERS" SECT DECAL 1.25 X 6"
8X0302	LOCKWASHER 7/16 ZDI	8Z0075	TRNSPRT LCK WARNNG DCL TILLAGE
8X0303	LOCKWASHER 1/2 ZDI	8Z0079	"SUMMERS" DECAL 5X20"
8X0304	LOCKWASHER 5/8 ZDI	8Z0087	"WARNING"PINCH POINT2.5X7-1/2"
8X0306	LOCKWASHER 3/4 ZDI	8Z0092	"WARNING"HINGE DECAL 5 X12.5"
8X0307	LOCKWASHER 7/8 ZDI	8Z0093	"WARNING"AUTOFLD DCL4.5X12.75"
8X0308	LOCKWASHER 1/4 ZDI	8Z0094	DIAMOND DISK DECAL 5 X 30"
8X0309	LOCKWASHER 1 ZDI	8Z0114	M104 ID DECAL 01-
8X0311	LOCKWASHER 1-1/4 ZDI	8Z0202	"SUMMERS" DECAL 4X13.5"
8X0312	WASHER FENDER 1/4X1-1/4" SS	8Z0340	REPHASING CYLINDERS DECAL
8X0313	WASHER SPRING 2-1/2ODX1-1/4"ID	8Z0342	INSTALL CYL LOCKS DECAL
8X0314	WASHER FLT2"ODX49/64"ID-1/4"BL	8Z0344	WING DANGER DECAL
8X0315	WASHER SPRING 2"OD X 1"ID BL	8Z0346	ELECTROCUTION-TILL DECAL
8X0316	WASHER SAE FLAT 1" ZDI	8Z0348	GAUGE WHL DEPTH DECAL
8X0317	WASHER SAE FLAT 3/4" ZDI	8Z0350	GREASE GANG BEARING DECAL04-
8X0318	WASHER FLAT 3/4 (13/16"ID) ZDI	8Z0800	REFLECTOR AMBER ADHSV-BCK98-
8X0319	WASHER 7/8ODX17/32IDX16GA ZDI	8Z0805	REFLCTR REDORANGE ADHSVCK99-
8X0320	WASHER FLAT 3/8 (7/16" ID) ZDI	8Z0810	REFLECTOR RED ADHSV-BCK98-
8X0322	WASHER FLAT 1/2 (9/16" ID) ZDI	8Z1090	OPER MAN DISK SERIES 10 00-
8X0323	WASHER SAE FLAT 5/8" ZDI		

History of Summers Manufacturing Co., Inc.

- 1965 – Summers Manufacturing is founded by Harley Summers, who purchases patent rights for Goebel truck and pickup hoists from the Goebel Brothers of Lehr, ND. These hoists, produced in Harley Summers' blacksmith shop the first year, were distributed nationwide by a Cincinnati, Ohio, dealer. With increasing sales, the company soon outgrows the small shop. Summers wins the Herman harrow contract, beginning the company's Herman culti-harrow line. Summers builds a 7,200 square-foot factory in Maddock to meet the demand for truck and pickup hoists, as well as Herman harrows.
- 1969 – Firm incorporates and becomes officially known as Summers Manufacturing Company, Inc.
- 1970 – Summers purchases rights to manufacture/market the Herman Harrow.
- 1973 – Company builds new 20,000 square-foot plant and offices in Maddock, adding a 20,000 square-foot assembly plant in the fall of 1975 (completed in January 1976), bringing total square footage of Maddock factories to 47,000.
- 1977 – Summers introduces the Agri-sprayer, used in conjunction with the Herman culti-harrow to incorporate herbicides and liquid fertilizer.
- 1980 – Company purchases manufacturing and distributing rights to Crown rockpickers from Crown Manufacturers of Regina, Saskatchewan. This forces another expansion project – a 26,000 square foot factory on a 24 acre site in Devils Lake, ND Industrial Park.
- 1981 – Company establishes a branch facility in Regina, Saskatchewan.
- 1982 – Devils Lake plant begins operations in January, manufacturing supersprayers and rockpickers. The Maddock factory begins producing the Superweeder, a combination cultivator and harrow.
- 1983 – Summers buys manufacturing and distributing rights to the Fargo Field Sprayer line from Mid America Steel (formerly Fargo Foundry), Fargo. This field sprayer line is manufactured at the Devils Lake plant. Harley Summers is selected North Dakota's small-businessman of the year by the Small Business Administration.
- 1984 – Herman Diamond Disk, a disk harrow made in a diamond shape to reduce blade breakage from rocks, comes off the assembly line.
- 1985 – Summers signs a contract with Melroe Company of Bismarck to obtain exclusive manufacturing rights to the Melroe harrow line.
- 1989 – Summers purchases TorMaster Company of Hordean, Manitoba, giving the company a line of rolling packer equipment, comprised of harrow packers and hydraulic folding packer drawbars.
- 1992 – A new engineering office/parts department is added to the Devils Lake factory.
- 1993 – Company adds two new products: a pickup-mounted sprayer with booms of 80 and 90 feet, and the Summers Superharrow, an extra-heavy-duty residue-management tool designed for the minimum and no-till farmer.
- 1994 – a 50 by 125 foot addition to the Maddock factory is completed. Construction begins on a 24,576 square-foot addition to the Devils Lake factory, which will enable the company to increase production of truck-mounted and pull-type supersprayers and rockpickers.
- 1996 – 1500 square foot office area added to the Maddock plant. Company introduces Chisel Plow with floating hitch and 700# trip assembly.
- 1997 – 16,800 square foot warehouse in Maddock purchased from local business.
- 1999 - Company introduces the Ultimate suspended boom trailer sprayer with hydraulic folding booms. Additional sizes were added to the Chisel Plow line, now ranging from 28' to 54'.
- 2000 - Company introduces the Supercoulter, the innovative solution for excessive field residue management on no-till, minimum-till, and conventional-till farming operations.
- 2001 - Cold storage building completed at Devils Lake. Company extends boom lengths up to 110 feet on the Ultimate Super-sprayer.
- 2002 - Company adds a warehouse and service man in Aberdeen, SD.
- 2003 - Company introduces the Ultimate NT Supersprayer featuring a bolt on axle for easier adjustment, and a new family of tanks that feature a drainable sump and a common width dimension.
- 2004 - A 124 ft. x 310 ft. addition is added onto the current Devils Lake plant.
- 2005 - The Summers Superroller is added to the "Field Tested Tough" product line. Additional sizes of 56', 58' and 60' are added to the Superchisel line. Ultimate-Ultra NT Supersprayer introduced featuring 120' & 133' booms.
- 2006 - The Summers Coulter-Chisel, Rolling Choppers and 30' Superroller were included in product line.
- 2007 - 62' & 84' 5 Section Landrollers and a 20' Coulter-Chisel were introduced.
- 2008 - Disk-Chisels, ranging from 16' to 40' widths, are added to product line.
- Summers distributes on a wholesale level to dealers and distributors throughout markets in North Dakota, South Dakota, Minnesota, Montana, Iowa, Washington, Idaho, Oregon, Utah, Colorado, Kansas, Nebraska, Oklahoma, Texas, Manitoba, Saskatchewan, Alberta, British Columbia, Kazakhstan, Russia and Australia, making it an international company.



SUMMERS



Manufacturing

