

# Farm King

## OPERATOR AND PARTS MANUAL

### Tandem Disc

Model 6650 - Medium Duty - 3 Section

(Models after 04.01.2013 w/ serial number 54248 and higher.)



092015

88705168



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**Manufacturer’s Statement:** For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on ground type, applied techniques, weather conditions and other factors.

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# Farm King





## WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer Name:	Dealer Name:		
Customer Address:	Dealer Address:		
City:	Prov / State:	City:	Prov / State:
Postal / Zip Code:	Phone:	Postal / Zip Code:	Phone:

Equipment Name Model:	Serial Number:	Delivery Date:
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I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

### Dealer Inspection Report

<input type="checkbox"/>	Scrapers Adjusted Properly
<input type="checkbox"/>	Lubricate Machine
<input type="checkbox"/>	Level Machine
<input type="checkbox"/>	Hydraulic Lockout Valves Function Properly
<input type="checkbox"/>	Correct # Of Depth Stops
<input type="checkbox"/>	Wheel Bolt / Lug Nut Torque
<input type="checkbox"/>	Fasteners Tight
<input type="checkbox"/>	Front And Rear Gangs Set At Medium Angle
<input type="checkbox"/>	Adjust Mounted Harrows As Required (if equipped)
<input type="checkbox"/>	Check Overlap Measurement Of Front Gangs
<input type="checkbox"/>	Check Opening Measurement Between Two Inner Blades Of Rear Main Frame Gangs
<input type="checkbox"/>	Hydraulic Cylinders
<input type="checkbox"/>	Hydraulic Hoses
<input type="checkbox"/>	Electrical Harness
<input type="checkbox"/>	Tire Pressure

### Safety

<input type="checkbox"/>	All Lights And Reflectors Installed
<input type="checkbox"/>	All Lights And Reflectors Cleaned And Working
<input type="checkbox"/>	Safety Chain On Hitch
<input type="checkbox"/>	All Decals Installed
<input type="checkbox"/>	Guards And Shields Installed And Secure
<input type="checkbox"/>	Review Operating And Safety Instructions
<input type="checkbox"/>	General Adjustment And Set-up Procedures
<input type="checkbox"/>	Transportation Requirements And Regulations

Date:	Dealer Rep. Signature:
-------	------------------------

The above equipment and Operator And Parts Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date:	Customer / Owner's Signature:
-------	-------------------------------

Remove this Warranty Registration Form from the Operator And Parts Manual. Make two copies of the form. Send original Warranty Registration Form to Farm King. Give one copy to the customer and the dealer will keep one copy.

# Farm King



**INTRODUCTION**

This Operator And Parts Manual was written to give the owner / operator instructions on the safe operation, maintenance and part identification of the Farm King equipment. **READ AND UNDERSTAND THIS OPERATOR AND PARTS MANUAL BEFORE OPERATING YOUR FARM KING EQUIPMENT.** If you have any questions, see your Farm King dealer. This manual may illustrate options and accessories not installed on your Farm King equipment.

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# Farm King



**OWNER’S INFORMATION**

Thank you for your decision to purchase a Farm King 6650 Tandem Disc. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator and Parts Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Farm King is continually working to improve its products. Farm King reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Farm King makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

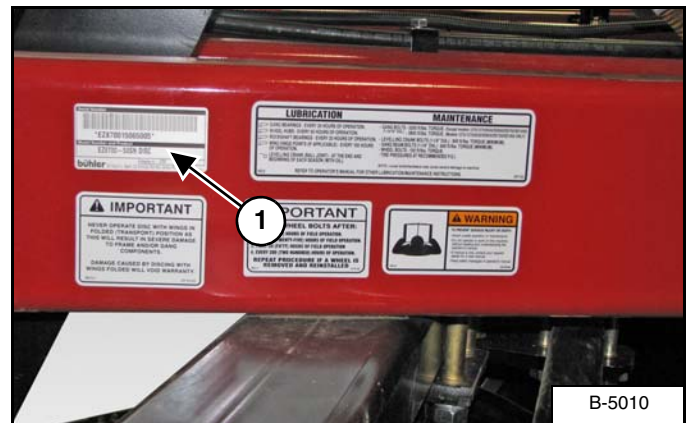
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at [www.farm-king.com](http://www.farm-king.com) for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel of the implement.

**Serial Number Location**

Please enter the model and serial number in the space provided for easy reference.

**Figure 1**



**Model Number:** \_\_\_\_\_

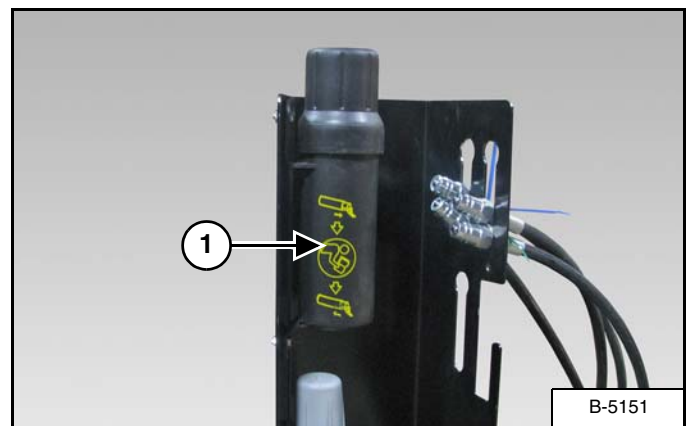
**Serial Number:** \_\_\_\_\_

The serial number plate (Item 1) [Figure 1] is located on the LH main frame.

Always use your serial number when requesting information or when ordering parts.

**Manual Storage**

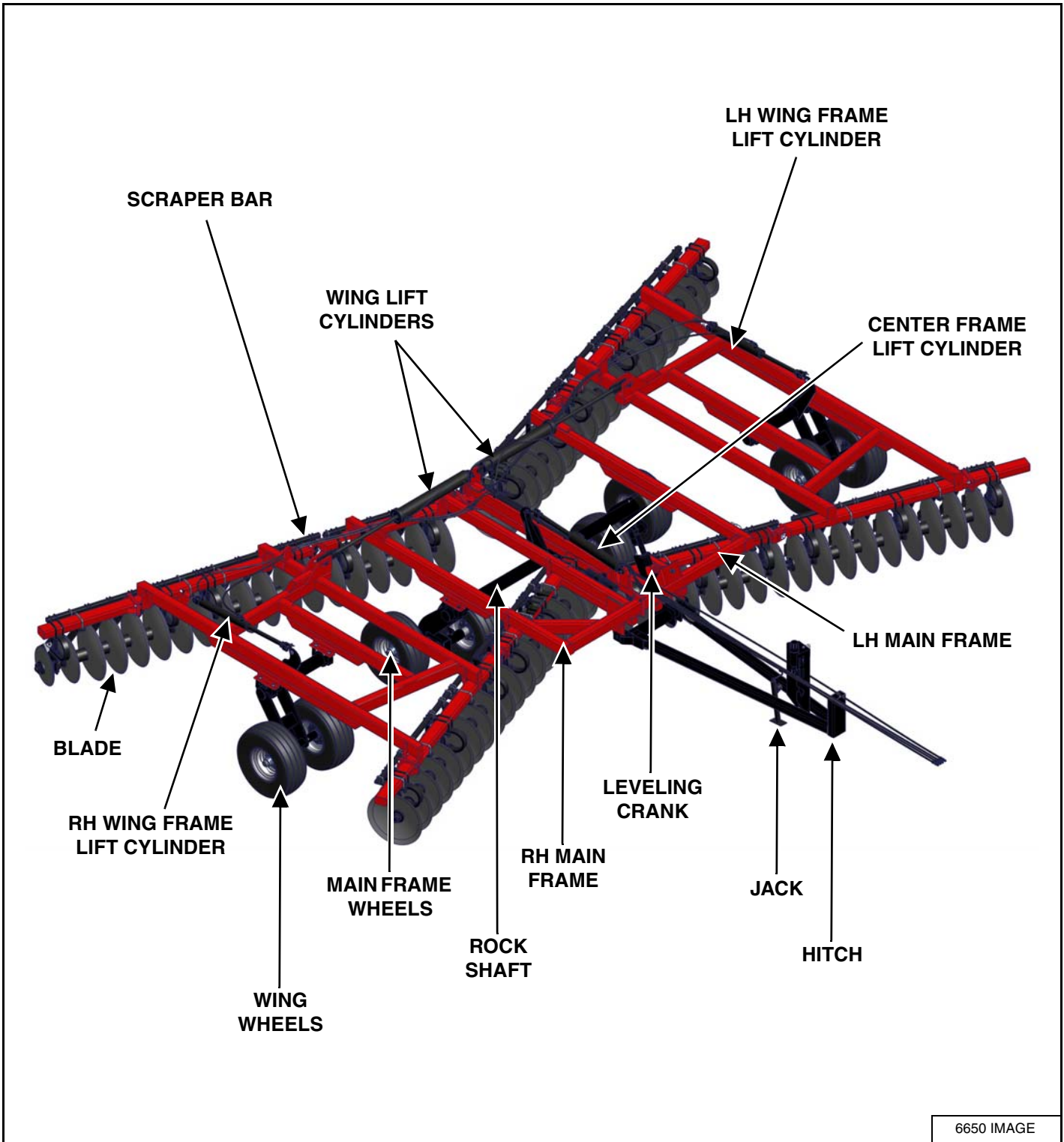
**Figure 2**



The Operator And Parts Manual and other documents can be stored in the canister (Item 1) [Figure 2] located on the hitch.

**EQUIPMENT IDENTIFICATION**

**Component Location**



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# Farm King





**SAFETY INSTRUCTIONS**

**Safe Operation Is The Operator’s Responsibility**

	<p><b>Safety Alert Symbol</b></p>
<p>This symbol with a warning statement means: “Warning, be alert! Your safety is involved!” Carefully read the message that follows.</p>	



**CAUTION**

The signal word **CAUTION** on the machine and in the manuals 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.



**DANGER**

The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING**

The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**IMPORTANT**

This notice identifies procedures which must be followed to avoid damage to the machine.

**Safe Operation Needs A Qualified Operator**



**WARNING**

**Operators must have instructions before operating the machine. Untrained operators can cause injury or death.**

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

*A Qualified Operator Must Do The Following:*

*Understand the Written Instructions, Rules and Regulations*

- The written instructions from Farm King include the Warranty Registration, Dealer Inspection Report, Operator And Parts Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer’s work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

*Have Training with Actual Operation*

- Operator training must consist of a demonstration and verbal instruction. This training is given by the machine owner prior to operation.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area. Always fasten seat belt before operating.

*Know the Work Conditions*

- Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.
- Know the location of any overhead or underground power lines. Call local utilities and have all underground power lines marked prior to operation.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service.

**SAFETY INSTRUCTIONS (CONT'D)****Use Safety Rules**

- Read and follow instructions in this manual and the tractor's Operators Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Stay clear of overhead power lines when raising or lowering the wings. Electrocution can occur without direct contact.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator And Parts Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders, especially small children.
- DO NOT permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved tractors.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment. "MAY VOID WARRANTY"
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.

- Always relieve the pressure in hydraulic system and close both hydraulic lockup valves when the disc is not being operated.
- Always stay clear of the folding wing when it is being raised, lowered or placed in the folded position.
- When operating on hillsides, use extreme care. The tractor may tip over if it strikes a hole, ditch or other irregularity.

**Transport Safety**

- Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- Use the SMV emblem and warning light. Local laws should be checked for all highway lighting and marking requirements.
- Check all reflectors for visibility and cleanliness before transporting the disc.
- Always place both hydraulic lock up valves in "closed" position before transporting.
- Always install the complete package of depth control stops (17 in. long) on shaft of main frame cylinder.
- Always attach a safety chain to the tractor drawbar and the disc hitch before transporting the disc.
- Always yield to oncoming traffic in all situations and move to the side of the road so any following traffic may pass.
- Always enter curves or drive up or down hills at a low speed and at a gradual steering angle.
- Never allow riders on either tractor or equipment.
- Keep tractor in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).
- Stay clear of overhead power lines when raising or lowering the wings. Electrocution can occur without direct contact.

**Machine Requirements And Capabilities**

- Fasten seat belt securely. If equipped with a foldable Roll-Over Protective Structure (ROPS), only fasten seat belt when ROPS is up and locked. DO NOT wear seat belt if ROPS is down.
  - Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
  - Keep bystanders clear of moving parts and the work area. Keep children away.
  - Use increased caution on slopes and near banks and ditches to prevent overturn.
  - Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
  - Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator's position:
    1. Always park on a flat level surface.
    2. Place all controls in neutral.
    3. Engage the parking brake.
    4. Stop engine.
    5. Wait for all moving parts to stop.
  - Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
  - Start the equipment only when properly seated in the operator's seat. Starting a machine in gear can result in serious injury or death.
  - Operate the machine and equipment from the operator's position only.
  - The parking brake must be engaged before leaving the operator's seat. Rollaway can occur because the transmission may not prevent machine movement.

**FIRE PREVENTION**



**Maintenance**

The machine and some equipment have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

**Operation**

The Farm King machine must be in good operating condition before use.

Check all of the items listed on the service schedule under the 8 hour column. (See "SERVICE SCHEDULE" on page 101.)

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

**Starting**

Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the tractor's operator's manual for connecting the battery and for jump starting.

**Electrical**



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

**Hydraulic System**

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

**Fueling**



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

**FIRE PREVENTION (CONT'D)****Welding And Grinding**

Always clean the machine and equipment, disconnect the battery, and disconnect the wiring from the machine controls before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

**Fire Extinguishers**

Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

**SAFETY SIGNS (DECALS)**

Follow the instructions on all the Signs (Decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.

Left Main Frame (Front Left Side)



1

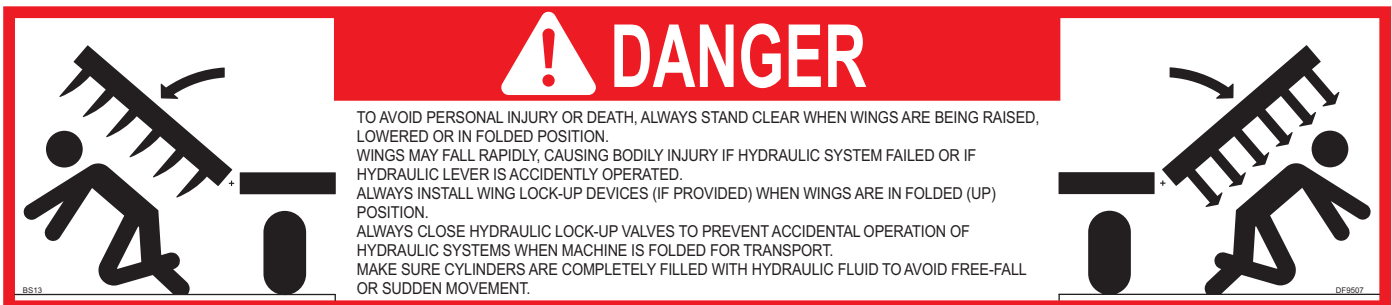


p/n EZA75764

Outside Of Left & Right Main Frame



1



p/n EZDF9507



Front Of Main Frame



①

<b>IMPORTANT</b>	<b>⚠ WARNING</b>
<p style="text-align: center;"><b>TRANSPORT LOCKUP VALVES</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>LIFT</b></p> </div> <div style="text-align: center;"> <p><b>WINGS</b></p> </div> </div>	<ul style="list-style-type: none"> <li>TO PREVENT ACCIDENTAL OPERATION OF HYDRAULIC SYSTEM WHILE TRANSPORTING MACHINE ALWAYS PLACE LOCKUP VALVES IN CLOSED POSITION.</li> <li>ALWAYS RELEASE HYDRAULIC PRESSURE IN ALL CYLINDERS AND CLOSE HYDRAULIC LOCKUP VALVES BEFORE UNHITCHING FROM TRACTOR OR WHEN PARKING WITH TRACTOR. THIS WILL PREVENT WING(S) FROM UNFOLDING AND FALLING DUE TO <b>THERMAL EXPANSION</b> OF HYDRAULIC OIL CAUSING MACHINE DAMAGE, PROPERTY DAMAGE OR INJURY OR DEATH TO PERSONS NEARBY.</li> <li>ALWAYS BLOCK UP FRAME OR LOWER MACHINE TO GROUND WHEN SERVICING OR REPAIRING MACHINE. <b>DO NOT RELY</b> ON LOCKUP VALVE AS A SAFETY DEVICE WHEN WORKING ON MACHINE.</li> </ul> <p style="text-align: right; font-size: small;">EZDF13001</p>

p/n EZDF13001

②

<p><b>OBSERVE SAFETY RECOMMENDATIONS IN OPERATOR'S MANUAL.</b></p>	<p><b>⚠ CAUTION</b></p>	<p><b>READ AND UNDERSTAND OPERATOR'S MANUAL BEFORE OPERATING.</b></p>
<p>WHEN TRANSPORTING THIS MACHINE, LOCK ROCKSHAFT BY ENGAGING LOCK-UP DEVICES.</p> <p>WHEN TRANSPORTING THIS MACHINE OVER PUBLIC ROADS, USE THE S.M.V. EMBLEM AND WARNING LIGHTS FOR PROTECTION OF TRACTOR AND OTHER MOTOR VEHICLE OPERATORS. CHECK LOCAL LAWS FOR WIDTH AND WEIGHT MAXIMUMS.</p> <p>TRANSPORT THIS MACHINE WITH A TRACTOR ONLY.</p> <p>NEVER ALLOW ANYONE TO RIDE ON DRAW BAR OF TRACTOR OR ON THIS MACHINE.</p> <p>DO NOT SERVICE OR ADJUST THIS MACHINE WHILE IT IS IN MOTION.</p>	<p><b>FAILING TO OBSERVE SAFETY RECOMMENDATIONS MAY RESULT IN SERIOUS INJURY OR DEATH.</b></p> <p>NEVER STAND BETWEEN TRACTOR AND THIS MACHINE WHEN HITCHING UNLESS ALL CONTROLS ARE IN NEUTRAL AND BRAKES LOCKED.</p> <p>PARK OR BLOCK THIS MACHINE SO IT WILL NOT ROLL WHEN DISCONNECTED FROM TRACTOR.</p> <p>DO NOT EXCEED 10 MPH (16KM/H) WHEN TRANSPORTING THIS MACHINE ON SMOOTH SURFACES. REDUCE SPEED ON ROUGH SURFACES.</p>	<p>WHEN WORKING ON, UNDER OR AROUND THIS MACHINE, ALWAYS PLACE SAFETY SUPPORTS UNDER FRAME. IF SUPPORTS ARE NOT AVAILABLE, UNFOLD WINGS AND LOWER MACHINE TO GROUND.</p> <p>DO NOT DISASSEMBLE OR LOOSEN HYDRAULIC COMPONENTS WHEN THERE IS PRESSURE WITHIN THOSE COMPONENTS.</p> <p>CHECK HYDRAULIC HOSES PERIODICALLY FOR SIGNS OF RUPTURE AND LEAKS. USE A CARDBOARD AS BACKSTOP TO CHECK FOR ESCAPING HIGH PRESSURE OR HOT FLUID.</p> <p>WHEN TRANSPORTING THIS MACHINE, USE A HITCH SAFETY CHAIN.</p> <p style="text-align: right; font-size: small;">EZDF9510</p>

p/n EZDF9510

③

**⚠ DANGER**

SERIOUS INJURY OR DEATH CAN RESULT FROM CONTACT WITH ELECTRICAL LINES. USE CARE TO AVOID CONTACT WITH ELECTRICAL LINES WHEN MOVING OR OPERATING THIS MACHINE.

**⚠ CAUTION**

WATCH FOR OVERHEAD OBSTRUCTIONS WHEN TRANSPORTING THIS MACHINE

WHEN TRANSPORTING THIS MACHINE WITH WINGS FOLDED (UP), BE SURE THERE IS SUFFICIENT CLEARANCE UNDER ALL POWER LINES AND OTHER OVERHEAD OBSTRUCTIONS.

p/n EZDF9510

**EQUIPMENT DECALS AND SIGNS**

**NOTE: All safety related decals are shown in the Safety Signs Section. (See "SAFETY SIGNS (DECALS)" on page 18.)**

Check and replace any worn, torn, hard to read or missing decals on your equipment.

Part Number EZDF13120



Part Number EZA75759



Part Number EZDF7152

LUBRICATION	MAINTENANCE
<ul style="list-style-type: none"> <li> GANG BEARINGS - EVERY 20 HOURS OF OPERATION.</li> <li> WHEEL HUBS - EVERY 50 HOURS OF OPERATION.</li> <li> ROCKSHAFT BEARINGS - EVERY 20 HOURS OF OPERATION.</li> <li> WING HINGE POINTS (IF APPLICABLE) - EVERY 100 HOURS OF OPERATION.</li> <li> LEVELLING CRANK (BALL JOINT) - AT THE END AND BEGINNING OF EACH SEASON (WITH OIL).</li> </ul>	<ul style="list-style-type: none"> <li>- GANG BOLTS - 3200 ft/lbs. TORQUE. (Except models 1275/1375/8550/SD650/SD750/SD1050 (1-15/16" DIA.) - 3800 ft/lbs. TORQUE. (Models 1275/1375/8550/SD650/SD750/SD1050 ONLY)</li> <li>- LEVELLING CRANK BOLTS (1-1/4" DIA.) - 840 ft/lbs TORQUE (MINIMUM).</li> <li>- GANG BEAM BOLTS (1-1/4" DIA.) - 840 ft/lbs. TORQUE (MINIMUM).</li> <li>- WHEEL NUTS AND BOLTS - 150 LBS TORQUE (9/16" DIA) - 240 LBS TORQUE (5/8" DIA) - 420 LBS TORQUE (3/4" DIA)</li> <li>- TIRE PRESSURES AT RECOMMENDED P.S.I.</li> </ul> <p>NOTE: Loose bolts/hardware may cause severe damage to machine.</p>
BS13	DF152

**REFER TO OPERATOR'S MANUAL FOR OTHER LUBRICATION/MAINTENANCE INSTRUCTIONS.**

Part Number 967055 (Amber)



Part Number 967053 (Red)



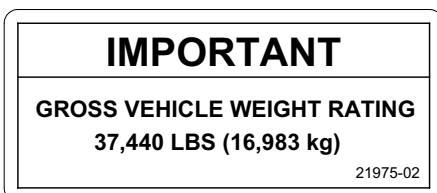
Part Number EZDF13400



Part Number EZDF13357



Part Number 21975-02







# Farm King



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**GENERAL ASSEMBLY INFORMATION**

**Component Unloading And Identification**



**ELECTROCUTION HAZARD**

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when unloading and assembling the tandem disc.
- Electrocution can occur without direct contact.



- DO NOT permit bystanders to be in the work area when unloading and assembling the tandem disc components.
- DO NOT work under suspended parts.
- Keep away from moving parts.
- Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the tandem disc components.

Unload the crate(s) and components on a flat level area of adequate size to assemble the 6650 Tandem Disc.



Unload crate(s) and tandem disc components carefully to prevent damage to any of the components.

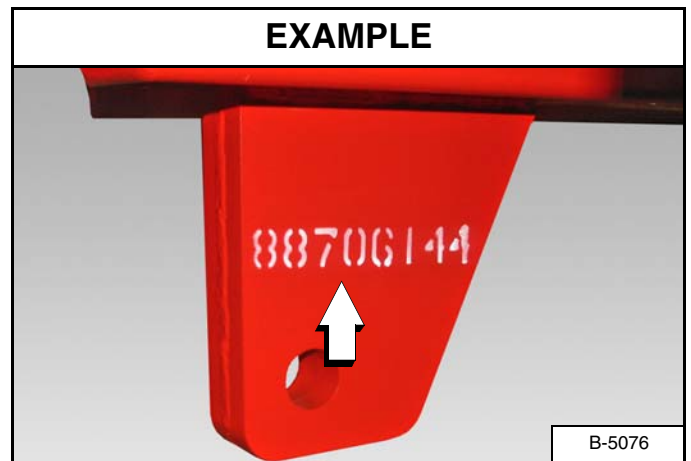
**NOTE: If any components are damaged, missing or replacement parts are required, contact your Farm King Dealer.**

Assemble the 6650 Tandem Disc in the following order:

Using the packing list, locate and place all components and hardware in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the 6650 Tandem Disc.

1. Main Frame (See “Main Frame Assembly” on page 26.)
2. Wings (See “Installing The Wing Frames” on page 35.)
3. Hydraulics (See “HYDRAULICS” on page 41.)
4. Gang Extensions (See “Installing The Gang Extensions” on page 59.)
5. Gang Sections (See “GANG SECTIONS” on page 57.)

**Figure 3**



Larger components are marked for identification [Figure 3].

**BASE GROUP**

**Main Frame Assembly**

Assemble the main frame on a flat level surface.

**NOTE:** The following images throughout the assembly section of this manual may not show your exact tandem disc components as they appear but the procedure is correct for all 6650 Tandem Discs.



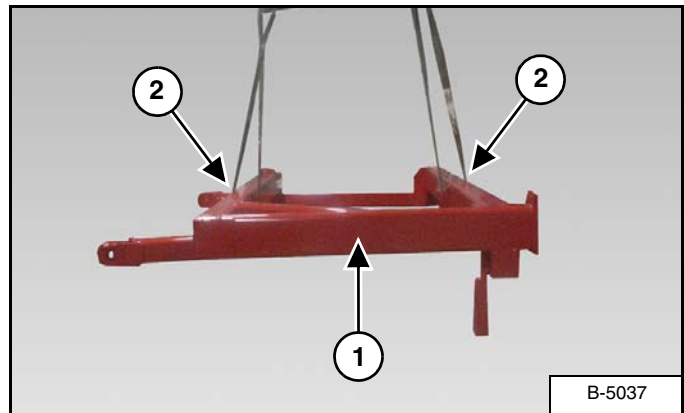
- DO NOT permit bystanders to be in the work area when lowering, raising or folding wing.
- DO NOT work under suspended parts.
- Keep away from moving parts.
- Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the tandem disc components.



Always use chains, straps and lifting devices that are in good condition and of adequate size to lift the tandem disc components.

**NOTE:** Support stands approximately 36 inches (914.4 mm) high equipped with rotating casters / wheels are recommended when assembling the main frame of the tandem disc.

Figure 4



Locate RH main frame section (Item 1). Install straps (Item 2) [Figure 4] around the RH main frame section.

Connect the straps to an approved lifting device.

Raise and move the RH main frame section to the assembly area.

Lower the RH main frame section onto support stands and remove straps.

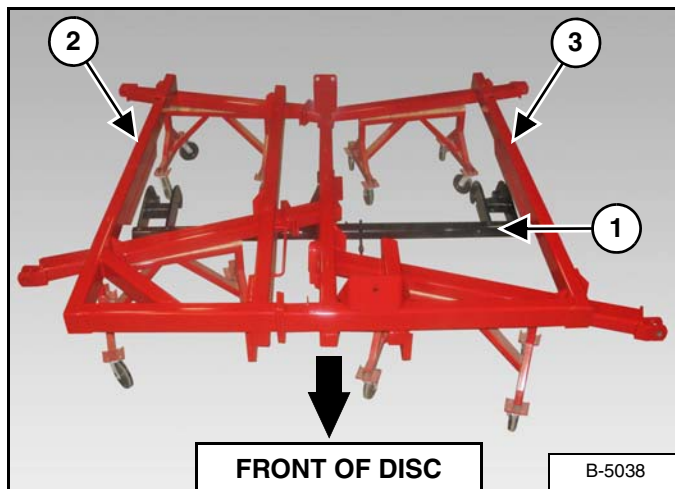
Repeat procedure for LH main frame section.



**AVOID INJURY OR DEATH**

Keep fingers and hands out of pinch points when assembling the equipment.

Figure 5



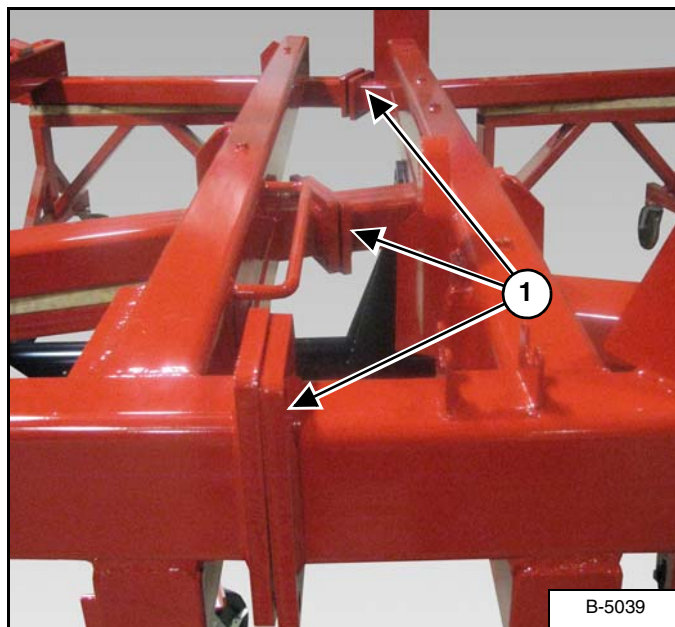
Locate the main frame rockshaft (Item 1) [Figure 5]. Install straps around the main frame rockshaft.

Connect the straps to an approved lifting device.

Raise and move the main frame rockshaft to the assembly area.

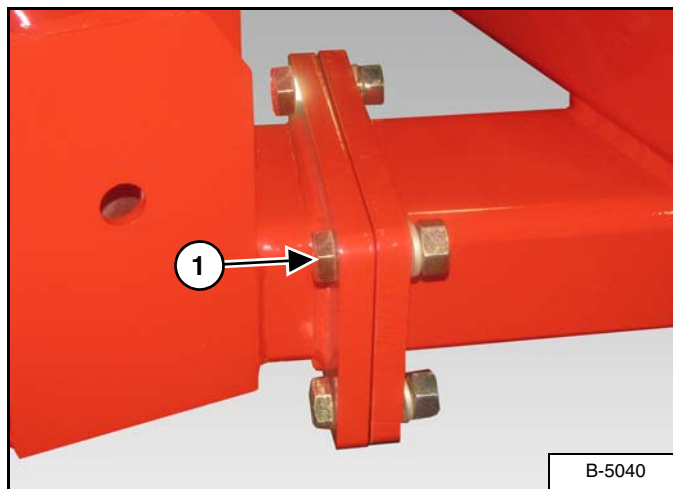
Position the RH (Item 2) & LH (Item 3) [Figure 5] main frame sections over the main frame rockshaft.

Figure 6



Align the three center connecting flanges (Item 1) [Figure 6] of the RH & LH main frame sections.

Figure 7

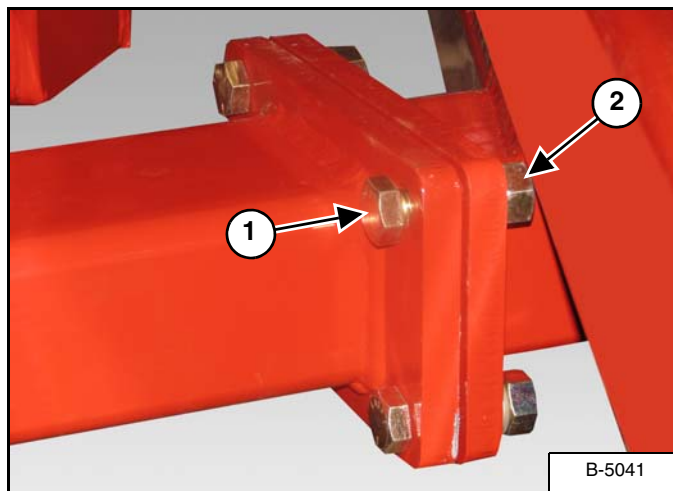


Install four 3/4" x 3" bolts (Item 1) [Figure 7] through the RH & LH main frames rear connecting flanges.

Install one 3/4" lock washer and 3/4" nut onto each bolt. Do not tighten at this time.

Repeat for front connecting flanges.

Figure 8



Install four 3/4" x 3" bolts (Item 1) [Figure 8] through the RH & LH main frames center connecting flanges.

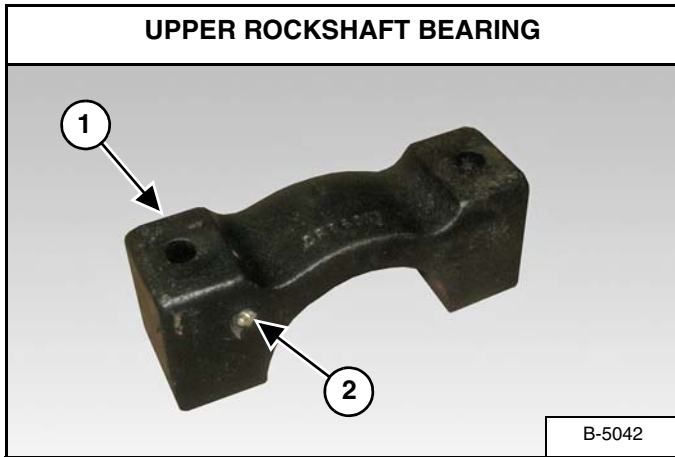
**NOTE:** Install one 3/4" nut (Item 2) [Figure 8] (no lock washer) onto the bolt in the upper rear corner of the center connecting flanges.

Install one 3/4" lock washer and 3/4" nut onto three remaining bolts. Do not tighten at this time.



**Installing The Main Frame Rockshaft**

**Figure 9**



Locate the upper rockshaft bearings (Item 1) [Figure 9].

Locate and install grease fitting (Item 2) [Figure 9] (if required).

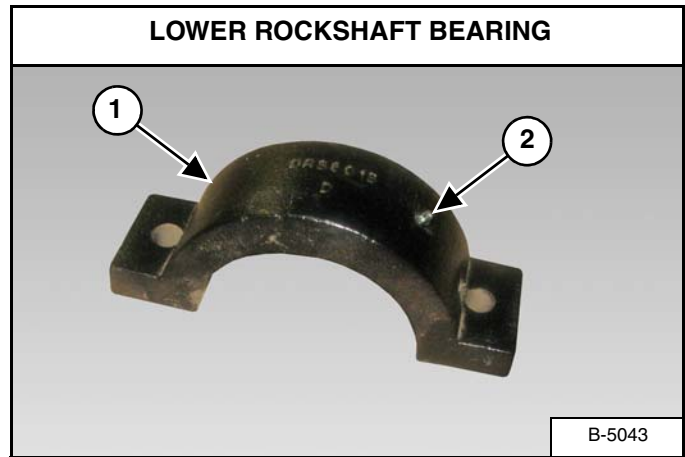
Apply thin layer of grease to rockshaft bearings.

**! IMPORTANT**

**UPPER ROCKSHAFT BEARINGS**

Always install the upper rockshaft bearings with the grease fitting on the same side as the tire attached, except for the center rockshaft bearing. Always install the center upper rockshaft bearing with the grease fitting towards the rear.

**Figure 10**



Locate the lower rockshaft bearings (Item 1) [Figure 10].

Locate and install grease fitting (Item 2) [Figure 10] (if required).

Apply thin layer of grease to rockshaft bearings.

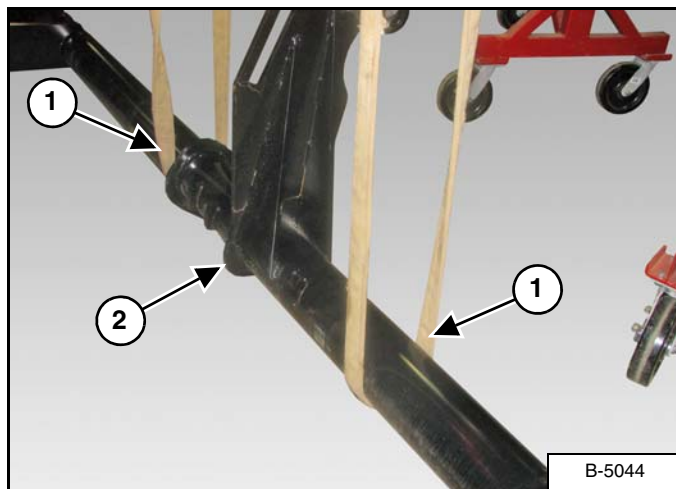
**! IMPORTANT**

**LOWER ROCKSHAFT BEARINGS**

Always install the lower rockshaft bearings with the grease fitting opposite of the upper rockshaft bearing grease fitting.



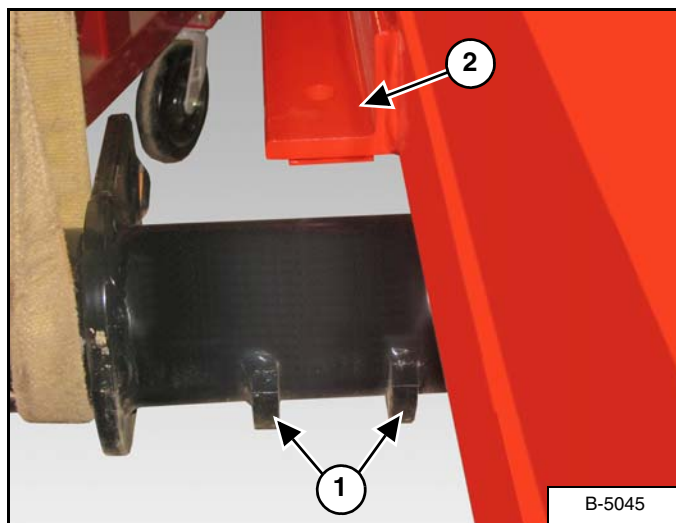
Figure 11



Install straps (Item 1) around the main frame rockshaft (Item 2) [Figure 11].

Connect the straps to an approved lifting device.

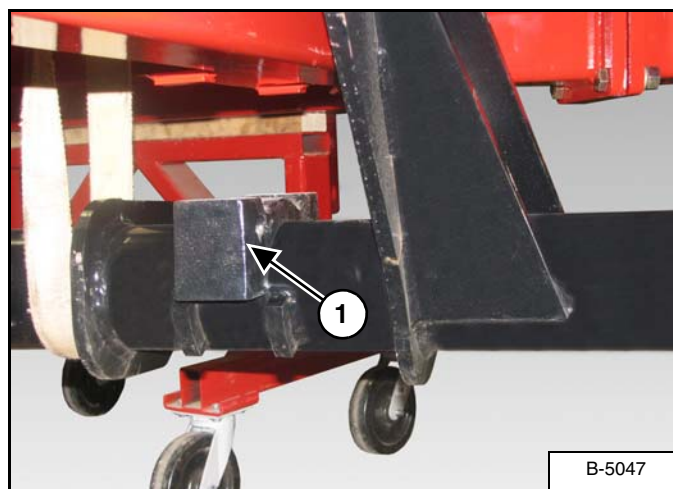
Figure 12



Raise the main frame rockshaft (Do not contact main frame sections).

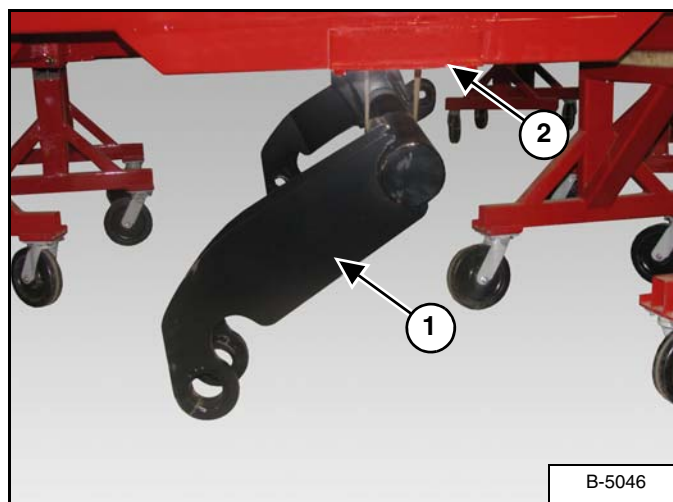
Align / center the two tabs (Item 1) below the rockshaft bearing mount (Item 2) [Figure 12] (center rockshaft bearing).

Figure 13



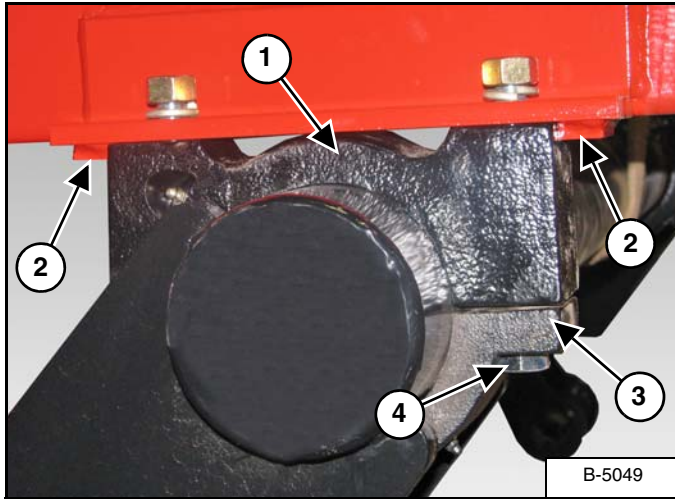
Place one upper rockshaft bearing (Item 1) [Figure 13] (with grease fitting towards the rear) onto the rockshaft (center location).

Figure 14



Raise rockshaft (Item 1) slightly, allowing adequate space between the rockshaft and RH rockshaft bearing mount (Item 2) [Figure 14] to install upper rockshaft bearing.

Figure 15



Place one upper rockshaft bearing (Item 1) [Figure 15] onto the rockshaft.

Raise the rockshaft, aligning the upper rockshaft bearing between the two tabs (Item 2) [Figure 15] on the rockshaft bearing mount. Continue raising the rockshaft until the upper bearing contacts the mount.

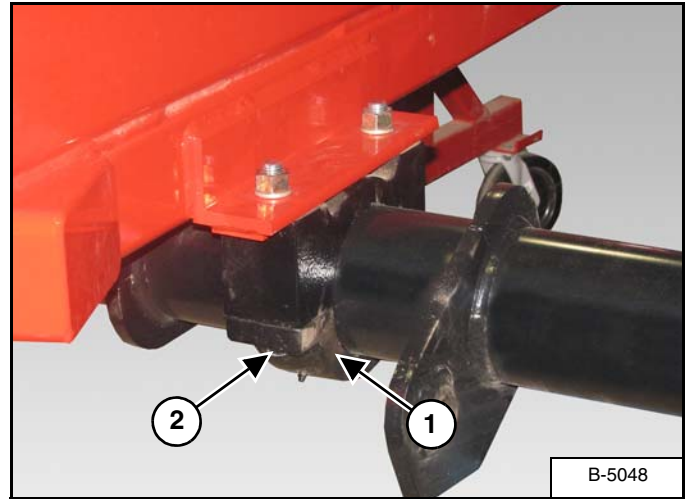
**NOTE: Verify that center rockshaft bearing tabs are still in line with the center rockshaft bearing mount.**

Align and install lower rockshaft bearing (Item 3) [Figure 15] (grease fitting facing towards the front).

Install two 3/4" x 6-1/2" Grade 5 bolts (Item 4) [Figure 15] up through the lower, upper rockshaft bearings and mount. Install one 3/4 lock washer and 3/4" nut onto each bolt. Do not tighten at this time.

Repeat procedure for LH upper & lower bearing.

Figure 16



Raise the rockshaft, aligning the upper rockshaft bearing between the two tabs on the center rockshaft bearing mount. Continue raising the rockshaft until the upper bearing contacts the mount.

Align and install center lower rockshaft bearing (Item 1) [Figure 16] (grease fitting facing towards the front).

Install two 3/4" x 6-1/2" Grade 5 bolts (Item 2) [Figure 16] through the lower, upper rockshaft bearings and mount. Install one 3/4 lock washer and 3/4" nut onto each bolt. Do not tighten at this time.

Verify all bearing grease fittings are facing the correct directions.

Tighten the rockshaft bearings.

Slowly lower the main frame rockshaft.

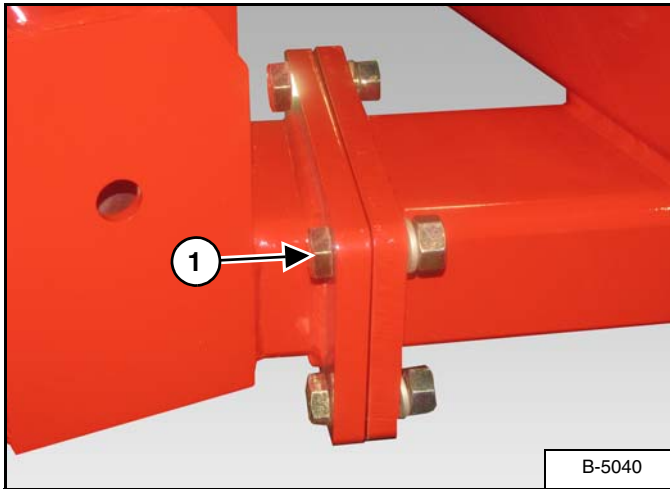
**NOTE: Rockshaft must move / rotate freely inside the upper & lower rockshaft bearings.**

**! IMPORTANT**



If the main frame rockshaft does not move / rotate freely, install shims between lower and upper rockshaft bearings as needed until the main frame rockshaft moves / rotates freely.

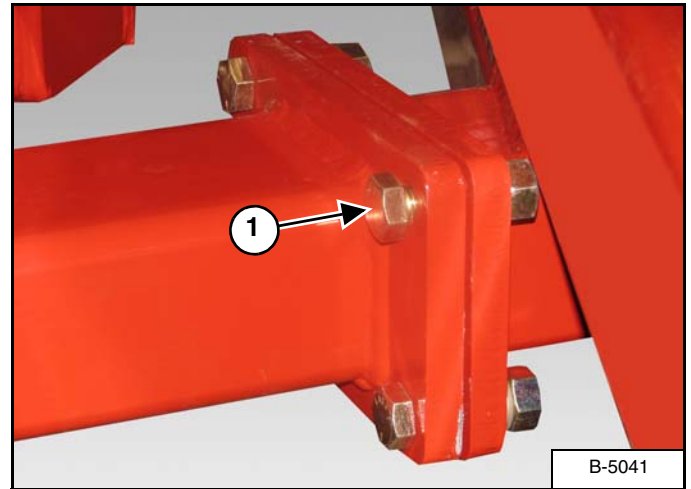
**Figure 17**



Tighten the four 3/4" x 3" bolts (Item 1) [Figure 17] on the rear RH & LH main frame connecting flanges.

Repeat for front connecting flanges.

**Figure 18**



Tighten four 3/4" x 3" bolts (Item 1) [Figure 18] on the center RH & LH main frame connecting flanges.

**! IMPORTANT**

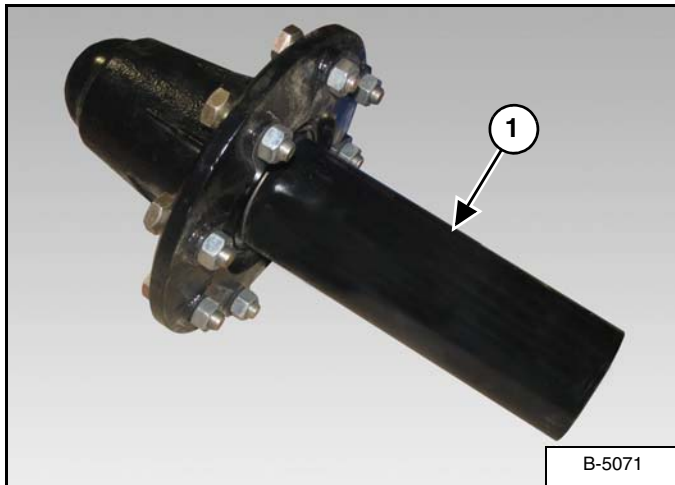


If the center LH and RH main frame connecting flanges have a gap after tightening the front and rear connecting flanges, install two hole shims between center connecting flanges to take up the gap.

**Installing The Main Frame Spindles and Wheels**

**NOTE:** The following procedure shows the spindles and wheels on the RH side of the main frame. The procedure is the same for the LH side of the main frame.

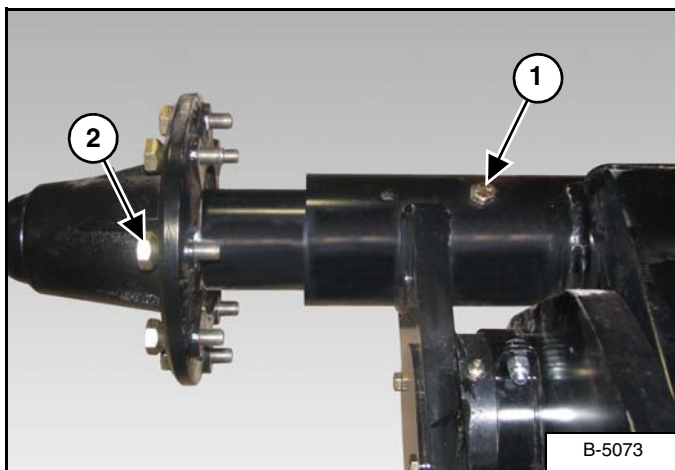
**Figure 19**



Locate four hub assemblies with (large) spindles (Item 1) [Figure 19].

Remove the eight 9/16" NF nuts from each spindle.

**Figure 20**

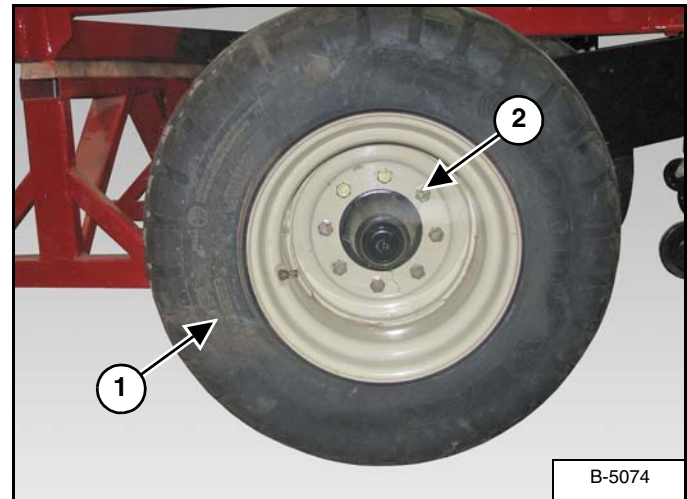


Align spindle mounting hole with the inner mounting hole (Item 1) [Figure 20] of the walking beam (both sides).

Install one 1/2" x 5-1/2" Grade 5 bolt through the walking beam and spindle (both sides). Install one 1/2" lock nut on the bolt and tighten (both sides).

Remove the eight 9/16" NF x 1-11/16" wheel bolts (Item 2) [Figure 20].

**Figure 21**

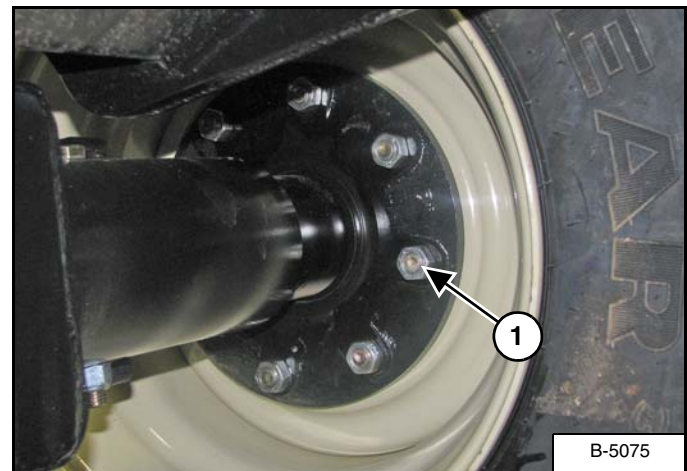


*Tire Size 12.5L x 15 FI*

Align wheel (Item 1) with the spindle. Install the eight 9/16" NF x 1-11/16" wheel bolts (Item 2) [Figure 21] (both wheels).

Tighten wheel bolts in a criss-cross pattern to 130 ft.-lb. (176.3 N•m) torque.

**Figure 22**



Install the eight 9/16" NF nuts (Item 1) [Figure 22] on the wheel bolts and tighten against the inside of the spindle to secure the wheel bolts (both wheels).

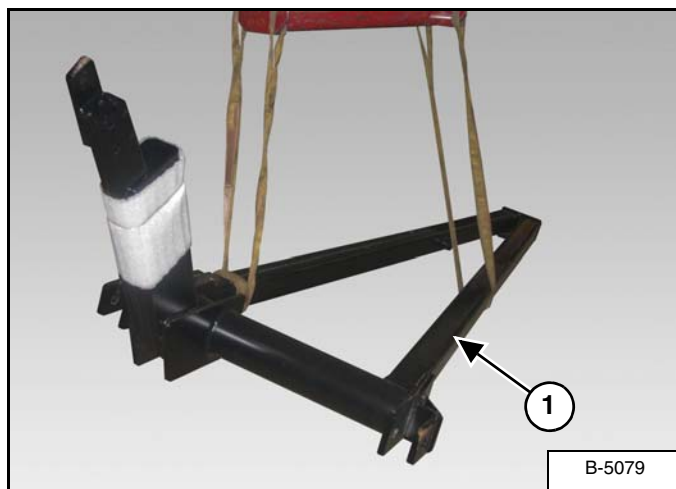
Repeat the following procedures for the LH side of main frame.

Install LH spindles and wheels. (See "Installing The Main Frame Spindles and Wheels" on page 32.)



Installing The Hitch

Figure 23

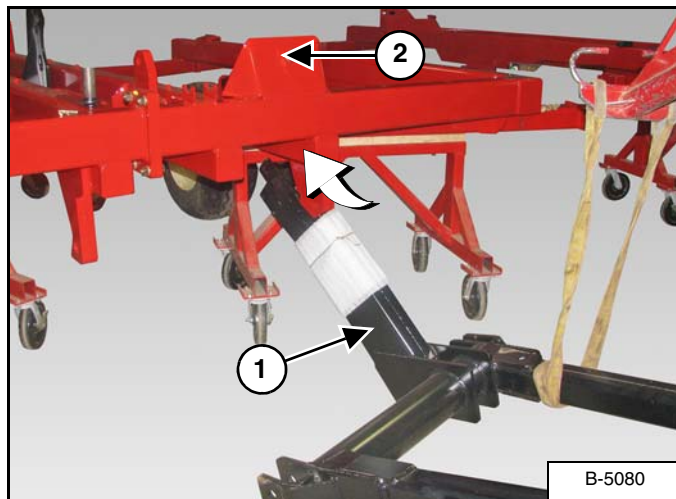


Locate the hitch assembly (Item 1) [Figure 23]. Install straps around the hitch assembly.

Connect the straps to an approved lifting device.

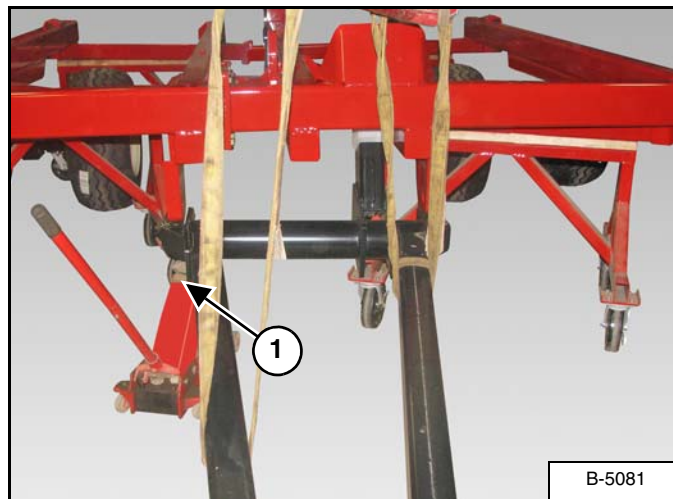
Raise and move the hitch assembly to the assembly area.

Figure 24



Lower and guide the hitch assembly (Item 1) under the front of the main frame assembly, below the compression spring mounting plate (Item 2) [Figure 24].

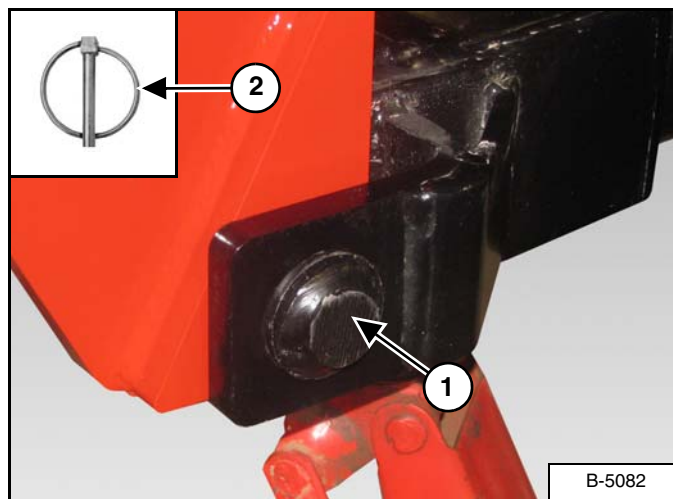
Figure 25



Raise the hitch assembly, aligning the hitch mounts with the mounting brackets on the main frame.

Place floor jack (Item 1) [Figure 25] under the RH side hitch mount (helps stabilize hitch). Raise the floor jack and lifting device at the same time until the hitch mounts are in line with the main frame mounting brackets.

Figure 26



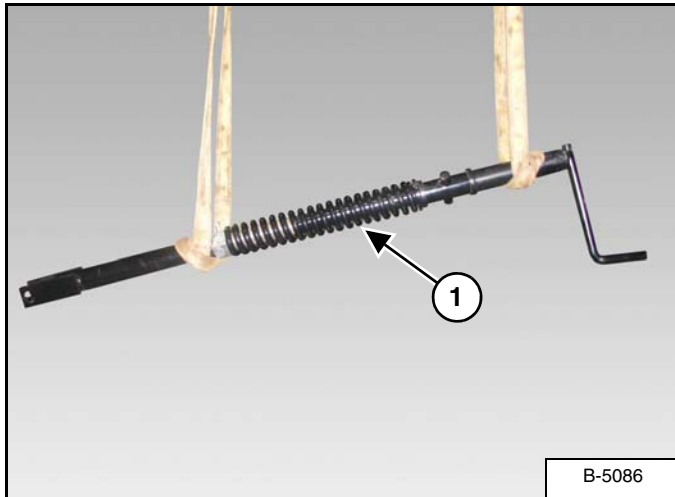
Locate the two hitch mounting pins (Item 1) [Figure 26].

Install the hitch mounting pin through the outer hitch mount, main frame mounting bracket and inner hitch mount (both sides).

Install one locking hitch pin (Item 2) [Figure 26] to secure the hitch to the main frame.

Installing The Leveling Crank Assembly

Figure 27

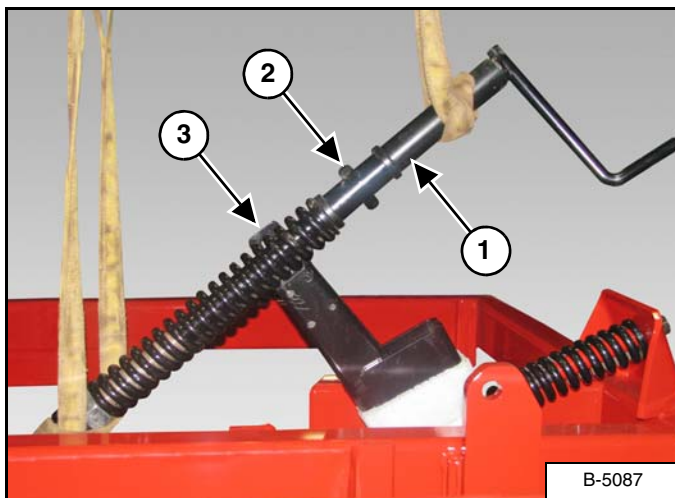


Locate the leveling crank assembly (Item 1) [Figure 27]. Install straps around the leveling crank assembly.

Connect the straps to an approved lifting device.

Raise and move the leveling crank assembly to the assembly area.

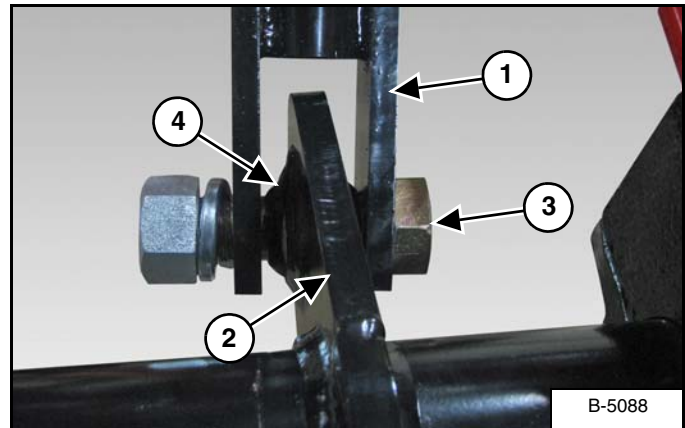
Figure 28



Lower the leveling crank assembly (Item 1) so lugs (Item 2) on trunion tube can be installed in hitch leveling arm lugs (Item 3) [Figure 28].

**NOTE: Be sure grease fitting on trunion tube is facing up.**

Figure 29



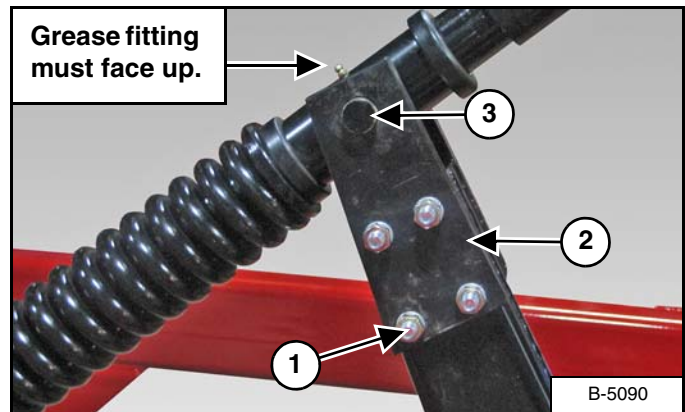
Position the clevis end (Item 1) of the leveling crank assembly over the connecting link (Item 2) [Figure 29] on the rockshaft (just left of center).

Lubricate ball in ball joint (Item 4) [Figure 29] so it can rotate freely.

Install one 1-1/4" x 4-3/4" bolt (Item 3) [Figure 29] through the clevis and connecting link. Install one 1-1/4" lock washer and nut on the bolt and tighten.

**NOTE: Tighten bolt (Item 3) so it is tight against ball joint (Item 4) [Figure 29].**

Figure 30



Locate four 1/2" x 5" Grade 5 bolts (Item 1), four 1/2" lock washers, four 1/2" nuts and the leveling lug hitch plate (Item 2) [Figure 30].

Install the leveling lug hitch plate onto the peg (Item 3) [Figure 30] of the leveling crank.

Install the four 1/2" x 5" Grade 5 bolts through the leveling lug hitch plate and leveling crank assembly. Install one 1/2" lock washer and 1/2" nut on each bolt and tighten.

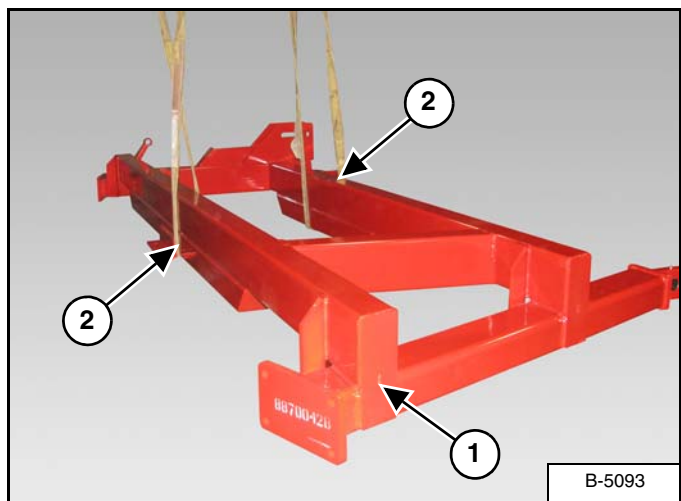
Remove straps.

**Installing The Wing Frames**

**NOTE:** Support stands approximately 36 inches (914.4 mm) high equipped with rotating casters / wheels are recommended when installing the wing frames onto the main frame.

**NOTE:** The following procedure shows the RH wing frame installation. The procedure is the same for the LH wing frame.

**Figure 31**



Locate RH wing frame (Item 1). Install straps (Item 2) [Figure 31] around the RH main frame section.

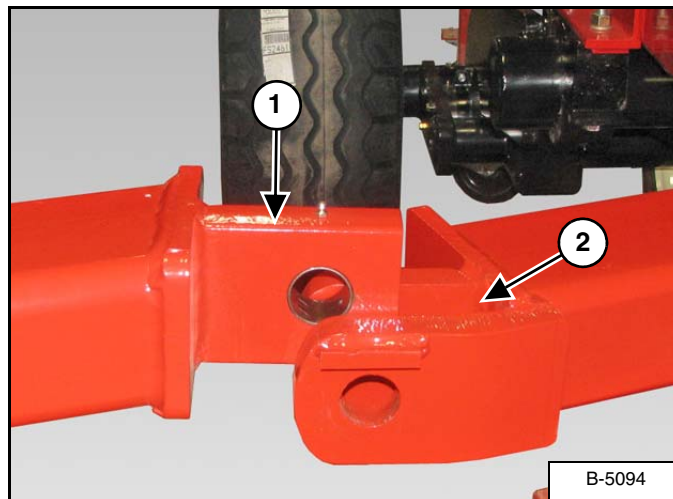
Connect the straps to an approved lifting device.

Raise and move the RH wing frame to the assembly area.

Lower the RH wing frame onto support stands and remove straps.

Repeat procedure for LH wing frame.

**Figure 32**

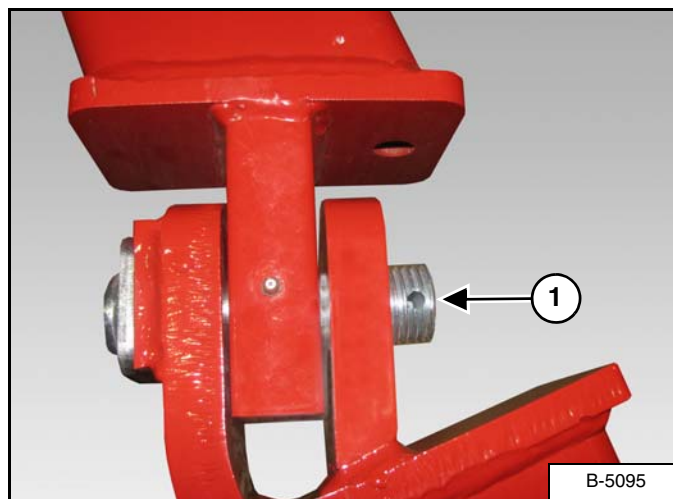


Move the RH wing frame towards the main frame.

Position the wing connecting link (Item 1) inside the main frame wing mounts (Item 2) [Figure 32].

Apply thin layer of grease to bushing.

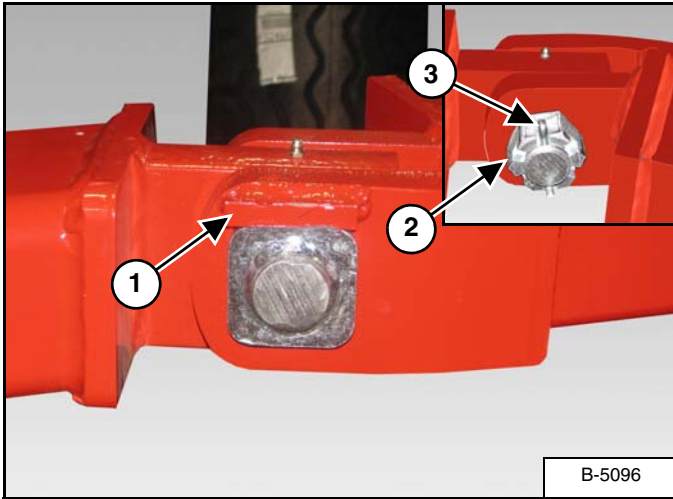
**Figure 33**



Locate two 1-1/2" wing hinge pins (Item 1) [Figure 33].

Install the wing hinge pin with cotter pin hole up & down (both locations).

Figure 34



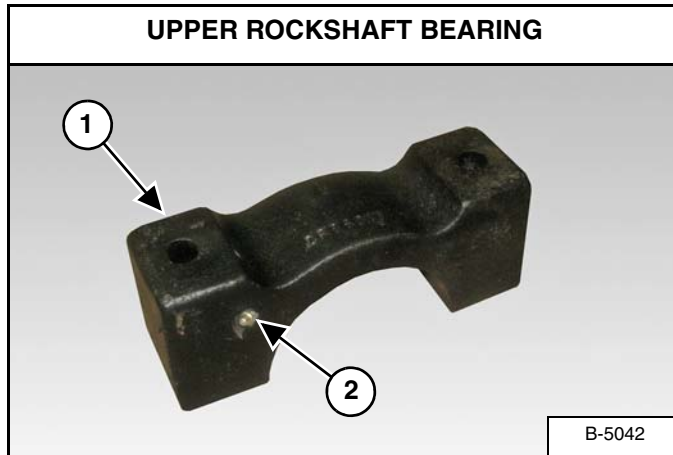
The wing hinge pin's square collar must be under the tab (Item 1) **[Figure 34]** to secure the wing hinge pin in position (both locations).

Install and tighten one 1-1/2" Grade 2 slotted nut (Item 2) against the main frame wing mount. Adjust slotted nut as needed to install the 5/16" x 2-1/4" cotter pin (Item 3) **[Figure 34]** (both locations).



**Installing The Wing Rockshafts**

**Figure 35**



Locate the upper rockshaft bearings (Item 1) [Figure 35].

Locate and install grease fitting (Item 2) [Figure 35] (if required).

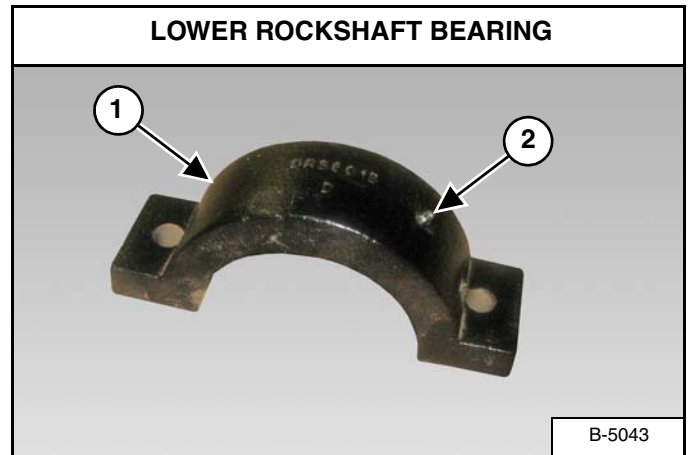
Apply thin layer of grease to rockshaft bearings.

**! IMPORTANT**

**UPPER ROCKSHAFT BEARINGS**

**Always install the upper rockshaft bearings with the grease fitting on the same side as the tire attached.**

**Figure 36**



Locate the lower rockshaft bearings (Item 1) [Figure 36].

Locate and install grease fitting (Item 2) [Figure 36] (if required).

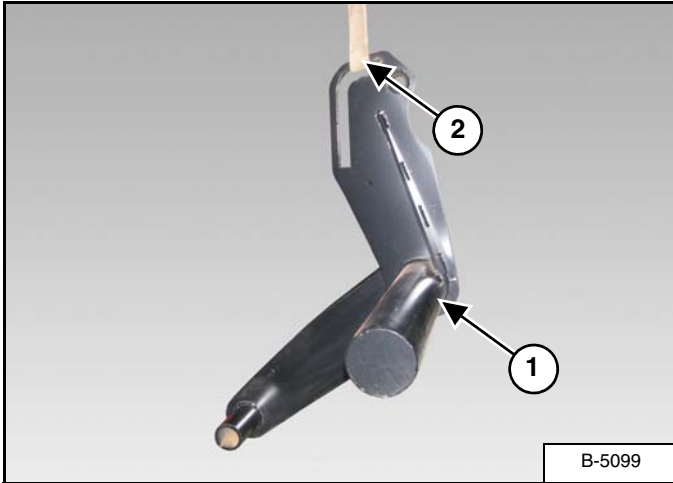
Apply thin layer of grease to rockshaft bearings.

**! IMPORTANT**

**LOWER ROCKSHAFT BEARINGS**

**Always install the lower rockshaft bearings with the grease fitting opposite of the upper rockshaft bearing grease fitting.**

Figure 37

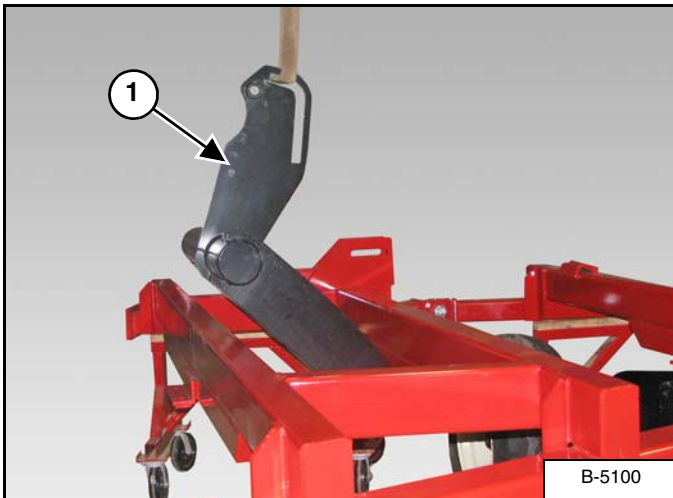


Locate RH wing rockshaft (Item 1). Install a strap (Item 2) [Figure 37] through the RH wing rockshaft.

Connect the straps to an approved lifting device.

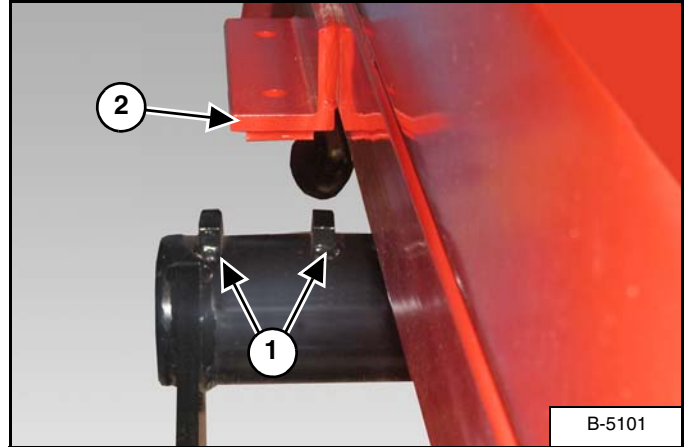
Raise and move the RH wing rockshaft to the assembly area.

Figure 38



Lower the RH wing rockshaft (Item 1) [Figure 38] down through the outer opening in the wing frame.

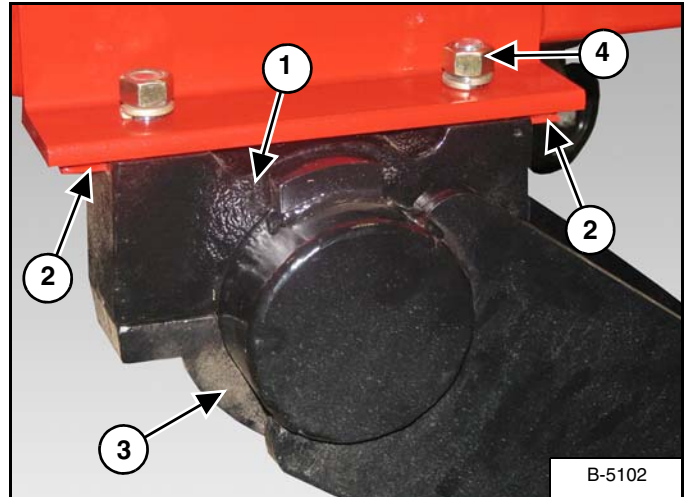
Figure 39



Rotate the RH wing rockshaft until the rockshaft legs are forward.

Adjust the rockshaft until the two tabs (Item 1) are centered under the rockshaft bearing mount (Item 2) [Figure 39].

Figure 40



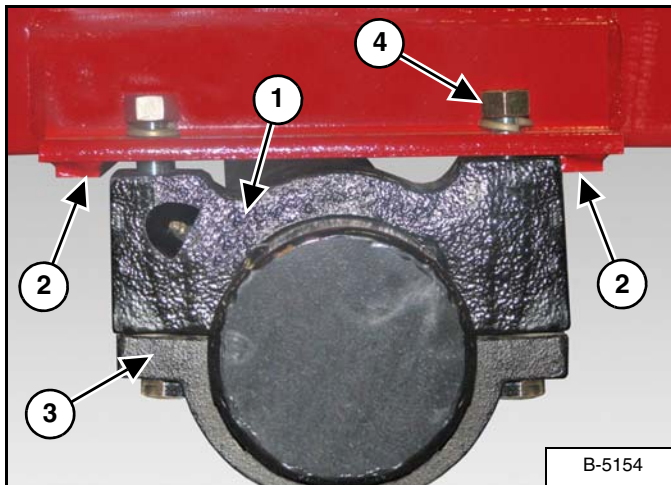
Place one upper rockshaft bearing (Item 1) [Figure 40] (grease fitting towards the FRONT) onto the rockshaft.

Raise the rockshaft, aligning the upper rockshaft bearing between the two tabs (Item 2) [Figure 40] on the rockshaft bearing mount. Continue raising the rockshaft until the upper bearing contacts the mount.

Align and install lower rockshaft bearing (Item 3) [Figure 40] (grease fitting facing towards the front).

Install two 3/4" x 6-1/2" Grade 5 bolts through the lower, upper rockshaft bearings and mount. Install one 3/4" lock washer and 3/4" nut (Item 4) [Figure 40] onto each bolt. Do not tighten at this time.

Figure 41



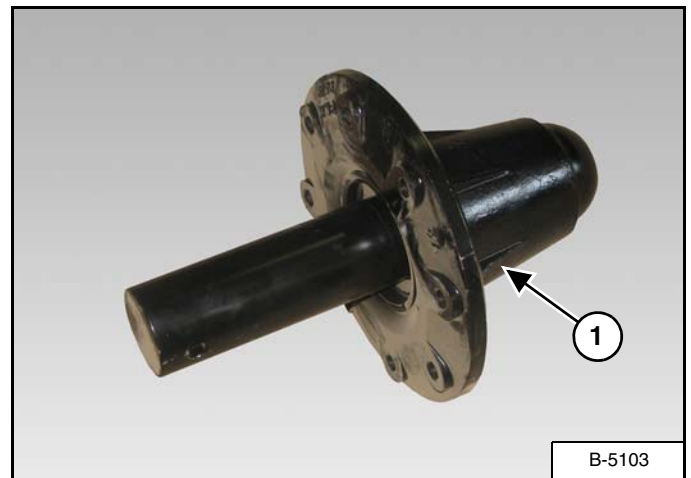
Place one upper rockshaft bearing (Item 1) [Figure 41] (grease fitting towards the front) onto the rockshaft.

Raise the rockshaft, aligning the upper rockshaft bearing between the two tabs (Item 2) [Figure 41] on the rockshaft bearing mount. Continue raising the rockshaft until the upper bearing contacts the mount.

Align and install lower rockshaft bearing (Item 3) [Figure 41] (grease fitting facing towards the rear).

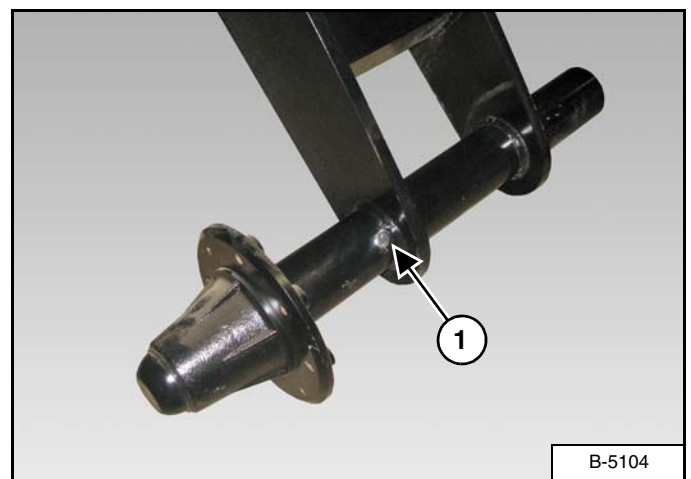
Install two 3/4" x 6-1/2" Grade 5 bolts through the lower, upper rockshaft bearings and mount. Install one 3/4 lock washer and 3/4" nut (Item 4) [Figure 41] onto each bolt. Do not tighten at this time.

Figure 42



Locate two / four eight-bolt hub assemblies with (small) spindles (Item 1) [Figure 42].

Figure 43

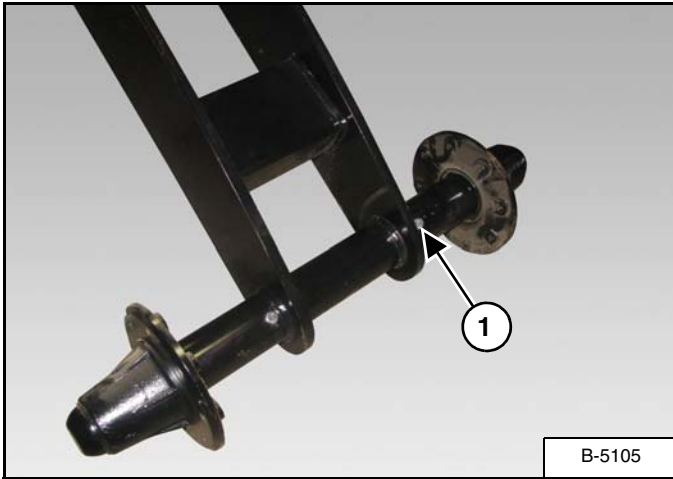


Insert one hub assembly into the outer mount tube at the bottom of the wing rockshaft (both sides).

Align spindle mounting hole with the outer mounting hole (Item 1) [Figure 43] of the mount tube (both sides).

Install one 1/2" x 4" Grade 5 bolt through the mount tube and spindle. Install one 1/2" lock nut on the bolt and tighten (both sides).

**Figure 44**

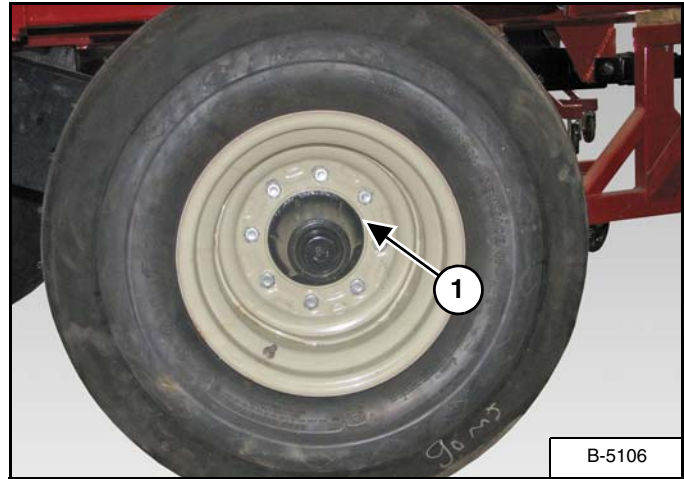


Insert another hub assembly (if required) into the inner mount tube at the bottom of the wing rockshaft (both sides).

Align second spindle (if required) mounting hole with the inner mounting hole (Item 1) **[Figure 44]** of the mount tube (both sides).

Install one 1/2" x 4" Grade 5 bolt through the mount tube and spindle. Install one 1/2" lock nut on the bolt and tighten (both sides).

**Figure 45**



*Tire Size 12.5L x 15 FI*

Remove eight 9/16" NF x 1-1/4" wheel bolts from each hub.

Align wheel with the hub (Item 1) **[Figure 45]**. Reinstall the eight 9/16" NF x 1-1/4" wheel bolts (both wheels).

Tighten wheel bolts in a criss-cross pattern to 130 ft.-lb. (176.3 N•m) torque.



HYDRAULICS

Installing Main Frame Rockshaft Hydraulic Cylinder



AVOID INJURY OR DEATH

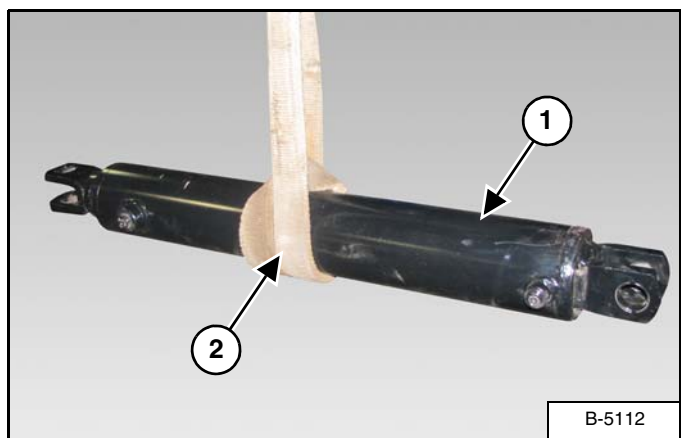
Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.



Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Figure 46



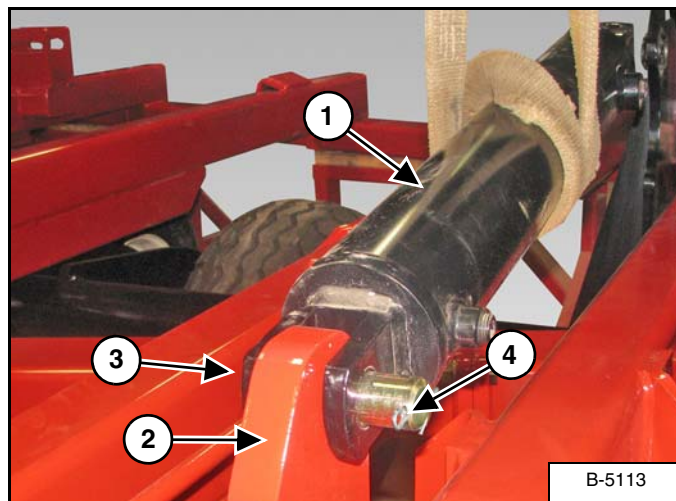
Locate one 4" x 24" hydraulic cylinder (Item 1) [Figure 46].

Install a strap (Item 2) [Figure 46] around the hydraulic cylinder.

Connect the strap to an approved lifting device.

Raise and move the hydraulic cylinder to the assembly area.

Figure 47

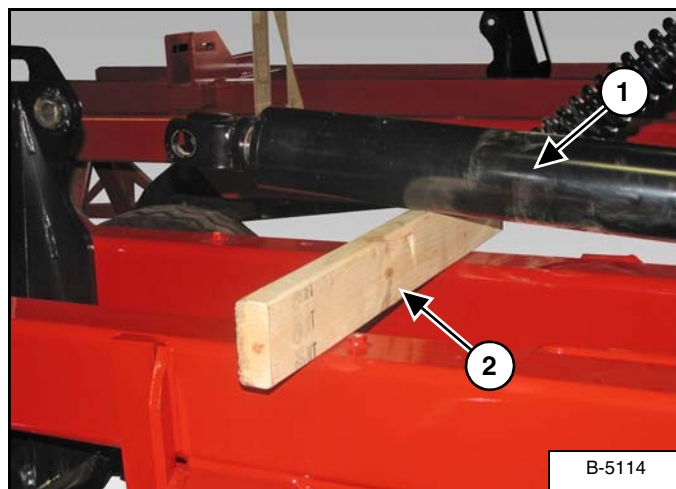


Align the 4" x 24" hydraulic cylinder (Item 1) with the mount (Item 2) [Figure 47] (ports facing left) at the front of the LH main frame.

Apply thin coat of grease to mount hole.

Locate and install one cylinder pin (Item 3) through the wing lift hydraulic cylinder and mount. Install one 5/16" x 1-3/4" cotter pin (Item 4) [Figure 47].

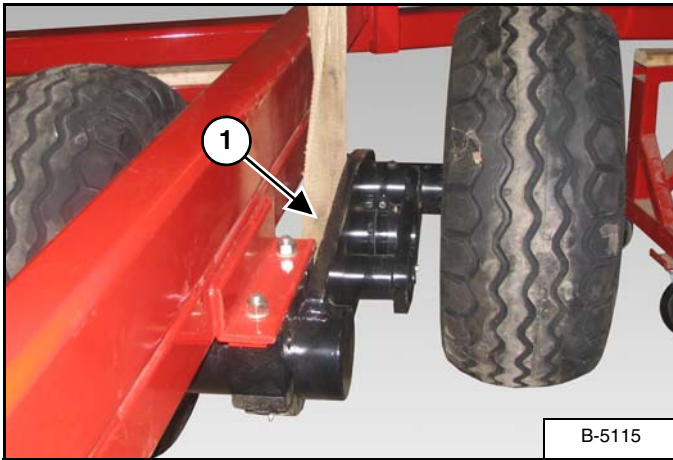
Figure 48



Lower the 4" x 24" hydraulic cylinder (Item 1) onto a block (Item 2) [Figure 48].

Remove strap.

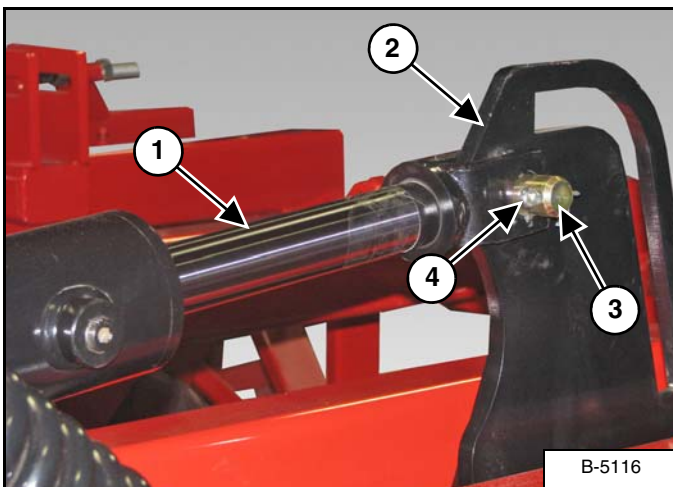
**Figure 49**



Install a strap (Item 1) [Figure 49] around the main frame rockshaft.

Connect the strap to an approved lifting device.

**Figure 50**



Loosen port plugs to allow the cylinder rod to be extended.

Raise the main frame rockshaft, extend the hydraulic cylinder rod (Item 1) towards the rockshaft mounting bracket (Item 2) [Figure 50].

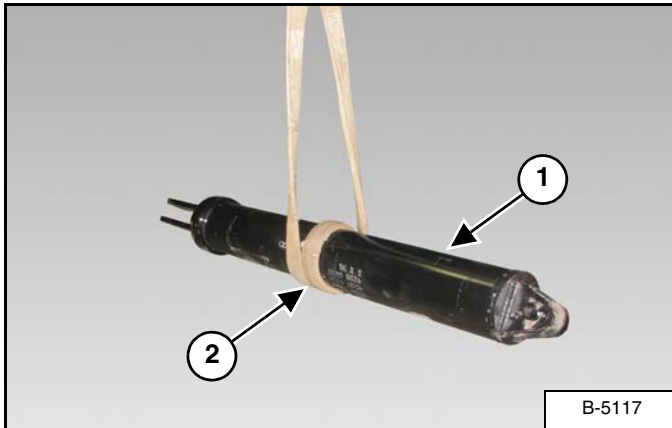
Align clevis with the hole in the rockshaft mounting bracket. Install cylinder pin (Item 3) through the clevis and rockshaft mounting bracket. Install one 5/16" x 1-3/4" cotter pin (Item 4) [Figure 50].

Remove block, lower main frame rockshaft until wheels contact the ground. Remove the strap.

Apply thin layer of grease to spring bushing in rockshaft arm

Installing Wing Lift Cylinders

Figure 51



Locate the two wing lift hydraulic cylinders (Item 1) [Figure 51].

Wing Lift Hydraulic Cylinder Sizes

4" x 36" - Narrow Wing Models (25 ft. to 29-1/2 ft.)

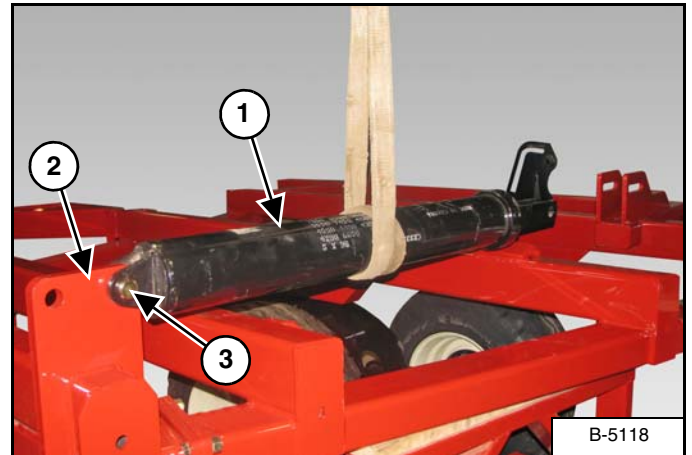
5" x 36" - Wide Wing Models (32 ft. and up)

Install a strap (Item 2) [Figure 51] around the hydraulic cylinder.

Connect the strap to an approved lifting device.

Raise and move the hydraulic cylinder to the assembly area.

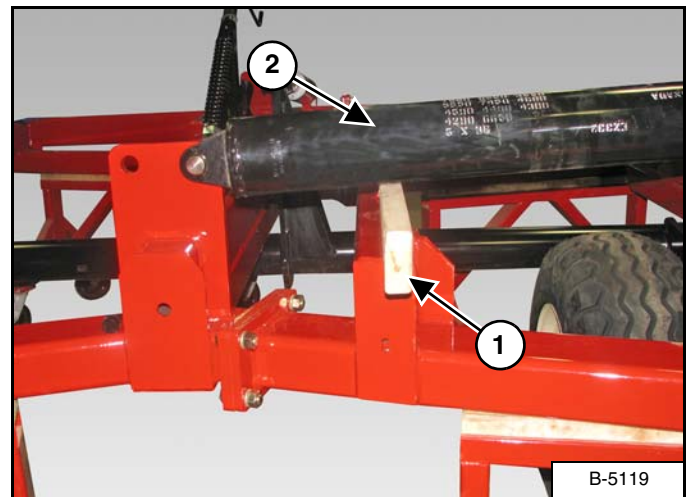
Figure 52



Align RH wing lift cylinder (Item 1) (ports facing forward) with the right hole on the mounting plate (Item 2) [Figure 52] located at the rear of the LH main frame.

Install one cylinder pin (Item 3) [Figure 52] through the RH wing lift cylinder and mounting plate. Install one 5/16" x 1-3/4" cotter pin.

Figure 53



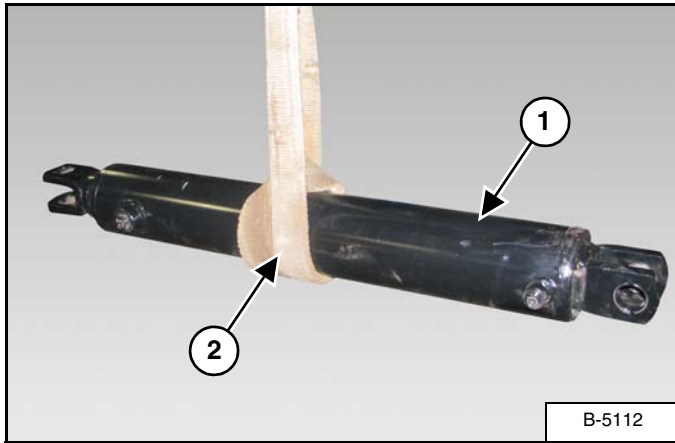
Place a block (Item 1) under the RH wing lift cylinder (Item 2) [Figure 53].

Lower RH wing lift cylinder onto the block and remove strap.

Repeat procedure for LH wing lift cylinder.

Installing Wing Rockshaft Hydraulic Cylinders

Figure 54



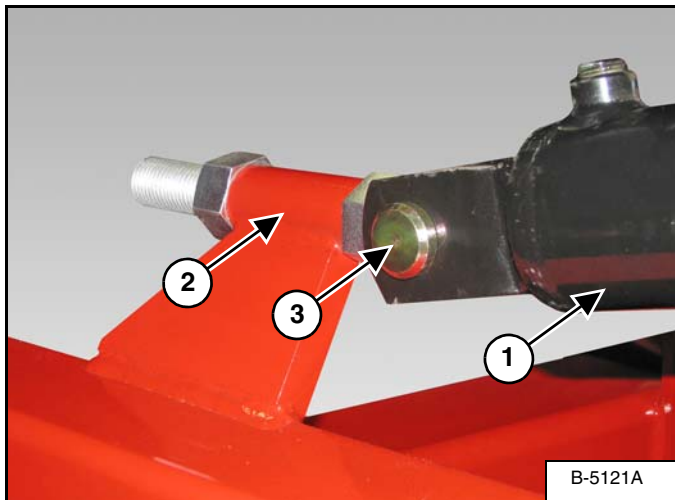
Locate one 3" x 24" hydraulic cylinder (Item 1) [Figure 54].

Install a strap (Item 2) [Figure 54] around the hydraulic cylinder.

Connect the strap to an approved lifting device.

Raise and move the hydraulic cylinder to the assembly area.

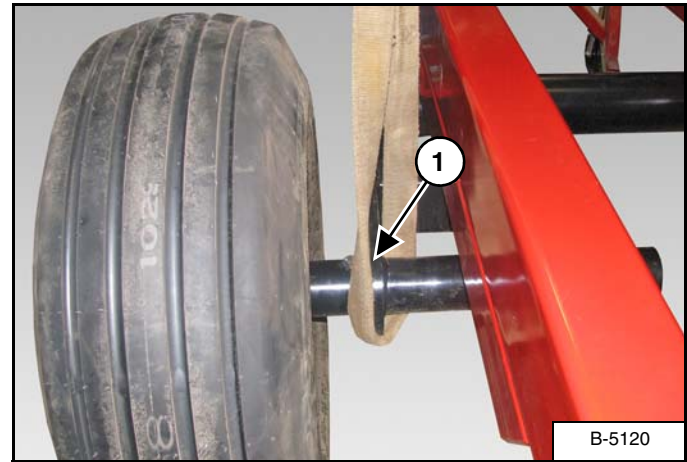
Figure 55



Align RH wing rockshaft cylinder (Item 1) (ports facing up) with the RH wing mounting bracket & eye-bolt rod (Item 2) [Figure 55].

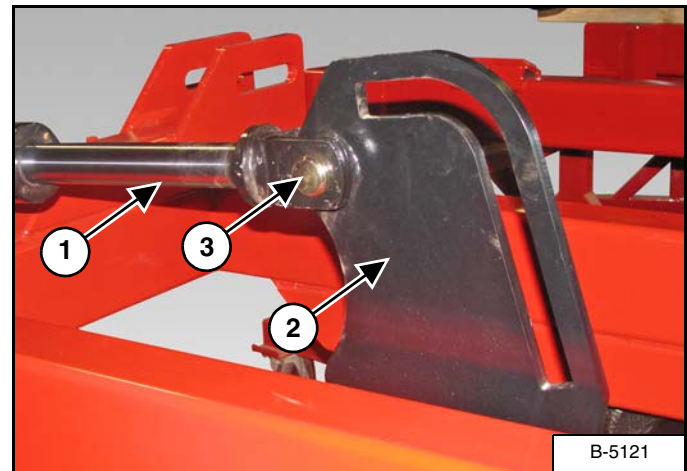
Install one cylinder pin (Item 3) [Figure 55] through the RH wing lift cylinder and mounting plate. Install one 5/16" x 1-3/4" cotter pin.

Figure 56



Install a strap (Item 1) [Figure 56] around the RH wing rockshaft.

Figure 57



Loosen port plugs to allow the cylinder rod to be extended.

Raise the RH wing rockshaft, extend the hydraulic cylinder rod (Item 1) towards the rockshaft mounting bracket (Item 2) [Figure 57].

Align clevis with the hole in the rockshaft mounting bracket. Install cylinder pin (Item 3) [Figure 57] through the clevis and rockshaft mounting bracket. Install one 5/16" x 1-3/4" cotter pin.

Lower RH wing rockshaft until wheels contact the ground. Remove the strap.

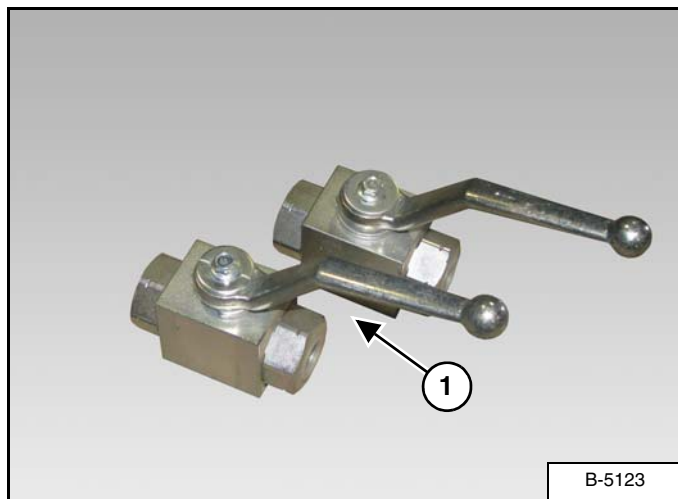
Repeat procedure for LH 3-1/2" x 24" wing rockshaft hydraulic cylinder.

Apply thin layer of grease to spring bushing in rockshaft arm.



## Installing Hydraulic Control Valves

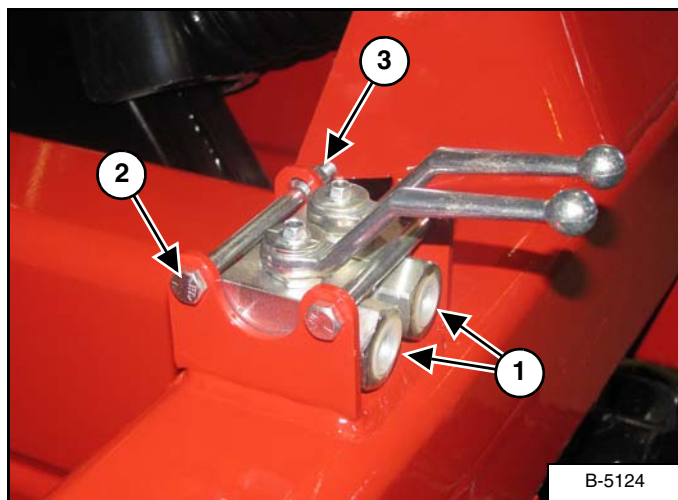
Figure 58



Locate the two 3/8" 2-way ball valves (Item 1) [Figure 58], two 5/16" x 4" Grade 5 bolts and two 5/16" lock nuts.

Rotate each ball valve lever 1/4 turn.

Figure 59



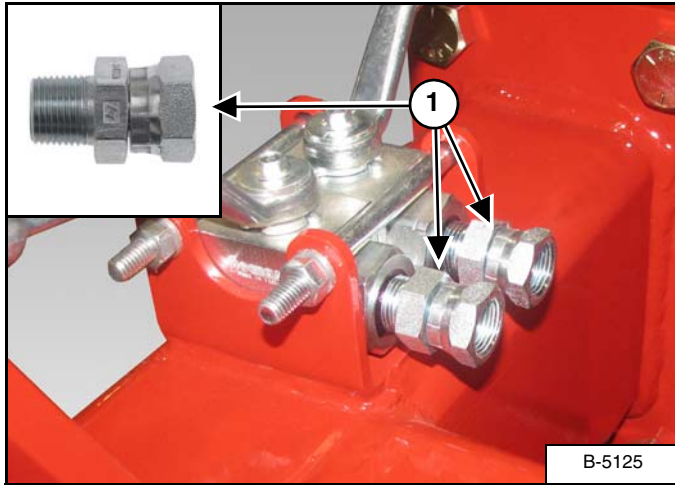
Position the two balls valves (Item 1) [Figure 59] (levers facing forward) between the two mounting brackets on the front of LH main frame.

Install the two 5/16" x 4" Grade 5 bolts (Item 2) through the mounting brackets (over the ball valves). Install one 5/16" lock nut (Item 3) [Figure 59] on each bolt and tighten. Do not over tighten.

**Installing Hydraulic Fittings**

*Control Valve Fittings*

**Figure 60**



Locate two 3/8" male-female swivel fittings (Item 1) [Figure 60].

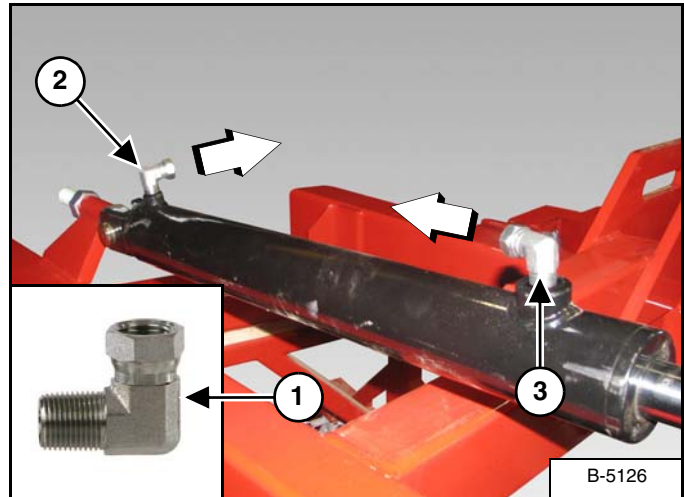
Apply thread sealant to the two fittings.

**NOTE: Do not use teflon tape.**

Install the two fittings (facing the rear of the disc) into the ball valves.

*Wing Rockshaft Cylinder Fittings*

**Figure 61**



Locate four 90° 1/2" swivel street elbows (Item 1) [Figure 61].

Apply thread sealant to the two fittings.

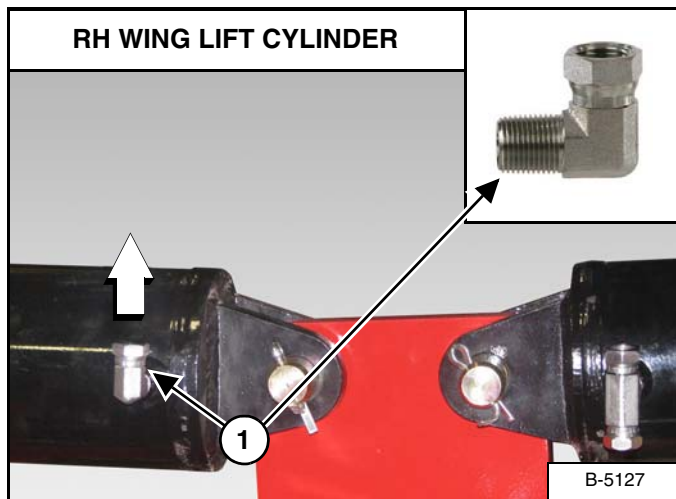
Install the rear fitting (Item 2) [Figure 61] and tighten until the fitting is facing the center.

Install the front fitting (Item 3) [Figure 61] and tighten until the fitting is facing the rear fitting.

Repeat procedure for LH wing rockshaft cylinder.

Wing Lift Cylinder Fittings

Figure 62

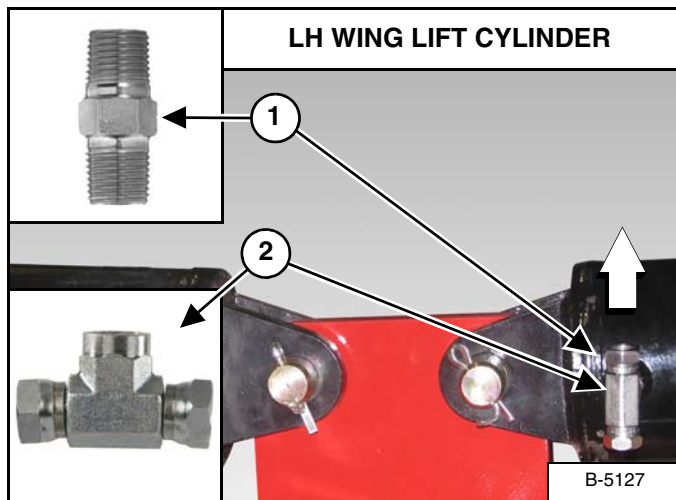


Locate one 90° 3/8" swivel street elbow (Item 1) [Figure 62].

Apply thread sealant to the fitting.

Install the rear fitting and tighten until the fitting is facing up.

Figure 63

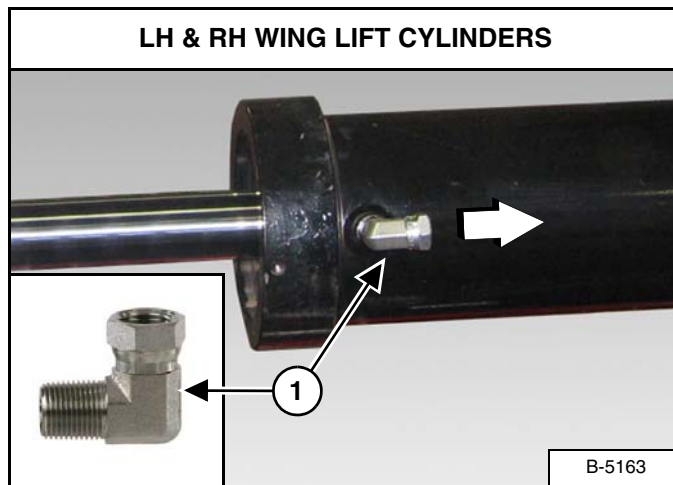


Locate one 3/8" close nipple (Item 1) and one 3/8" x 3/8" x 3/8" swivel tee (Item 2) [Figure 63].

Apply thread sealant to both ends of the close nipple.

Install the close nipple into the cylinder port, then install and tighten the swivel tee until facing up / down.

Figure 64



Locate two 90° 3/8" swivel street elbows (Item 1) [Figure 64].

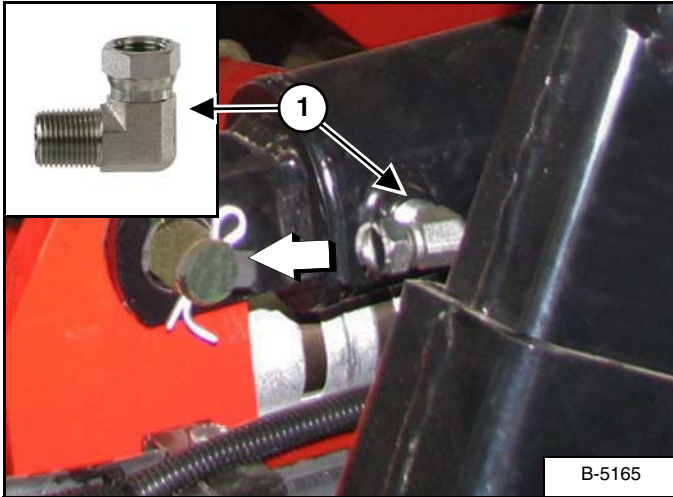
Apply thread sealant to the two fittings.

Install one 90° 3/8" swivel street elbow (Item 1) [Figure 64] into the rod end of the RH wing lift cylinder, then tighten until the fitting is facing the center.

Repeat for LH wing lift cylinder.

*Main Frame Rockshaft Lift Cylinder Fittings*

**Figure 65**

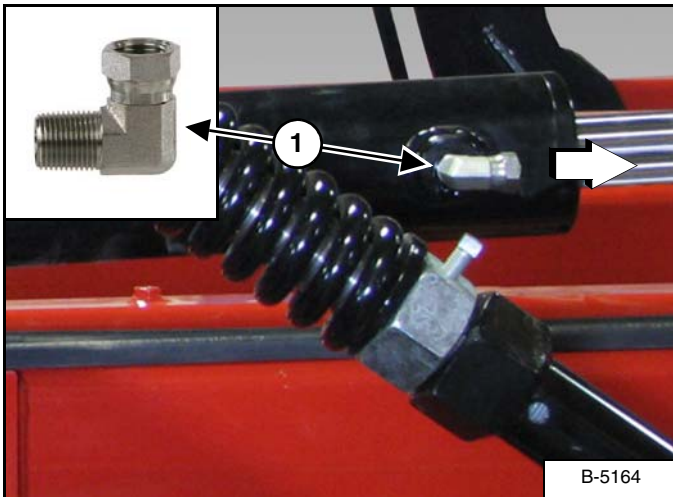


Locate one 90° 1/2" swivel street elbow (Item 1) **[Figure 65]**.

Apply thread sealant to the fitting.

Install the 90° 1/2" swivel street elbow (Item 1) **[Figure 65]** into the base end of the main frame rockshaft lift cylinder, then tighten until the fitting is facing forward (slightly up).

**Figure 66**

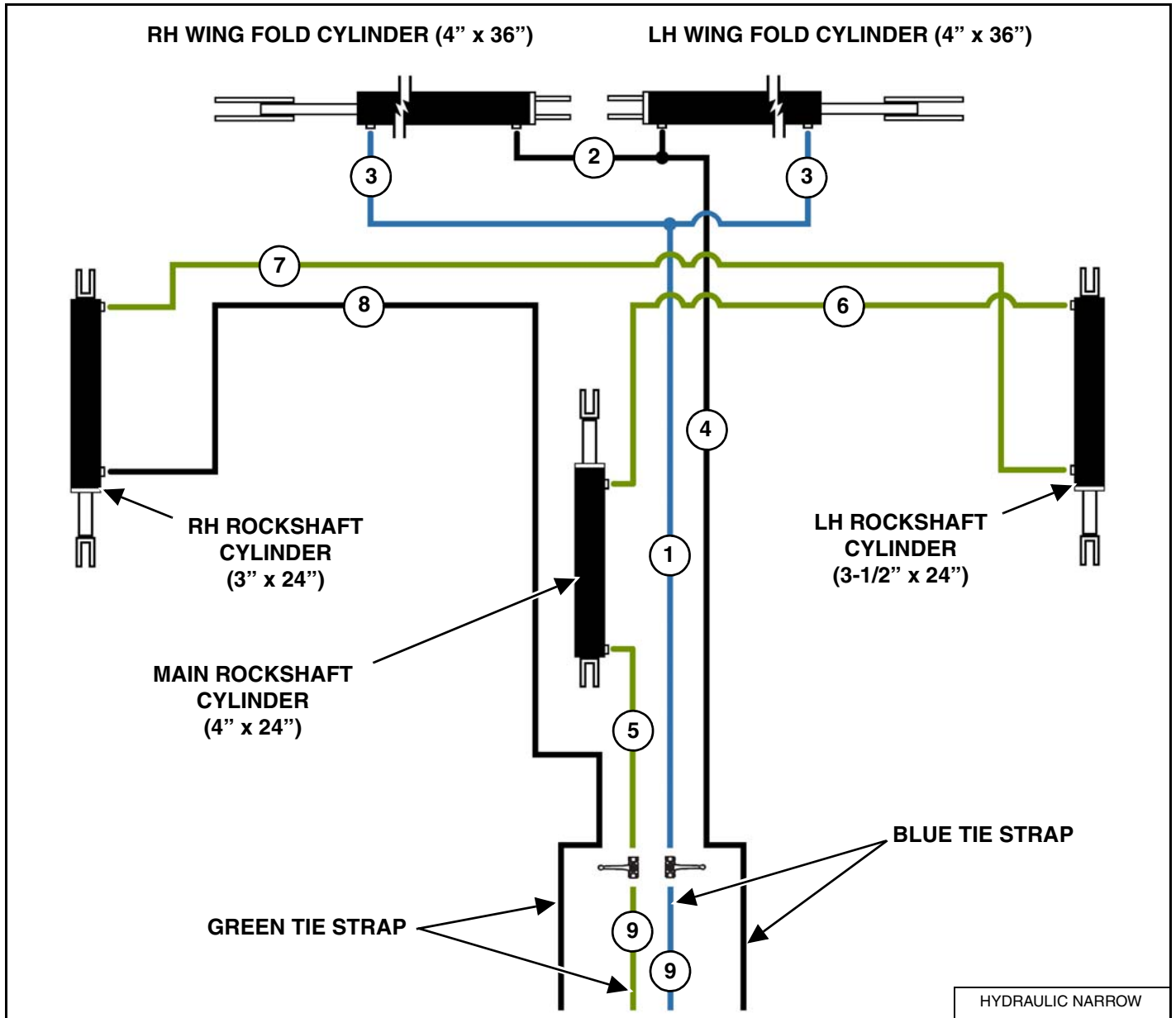


Locate one 90° 1/2" swivel street elbow (Item 1) **[Figure 66]**.

Apply thread sealant to the fitting.

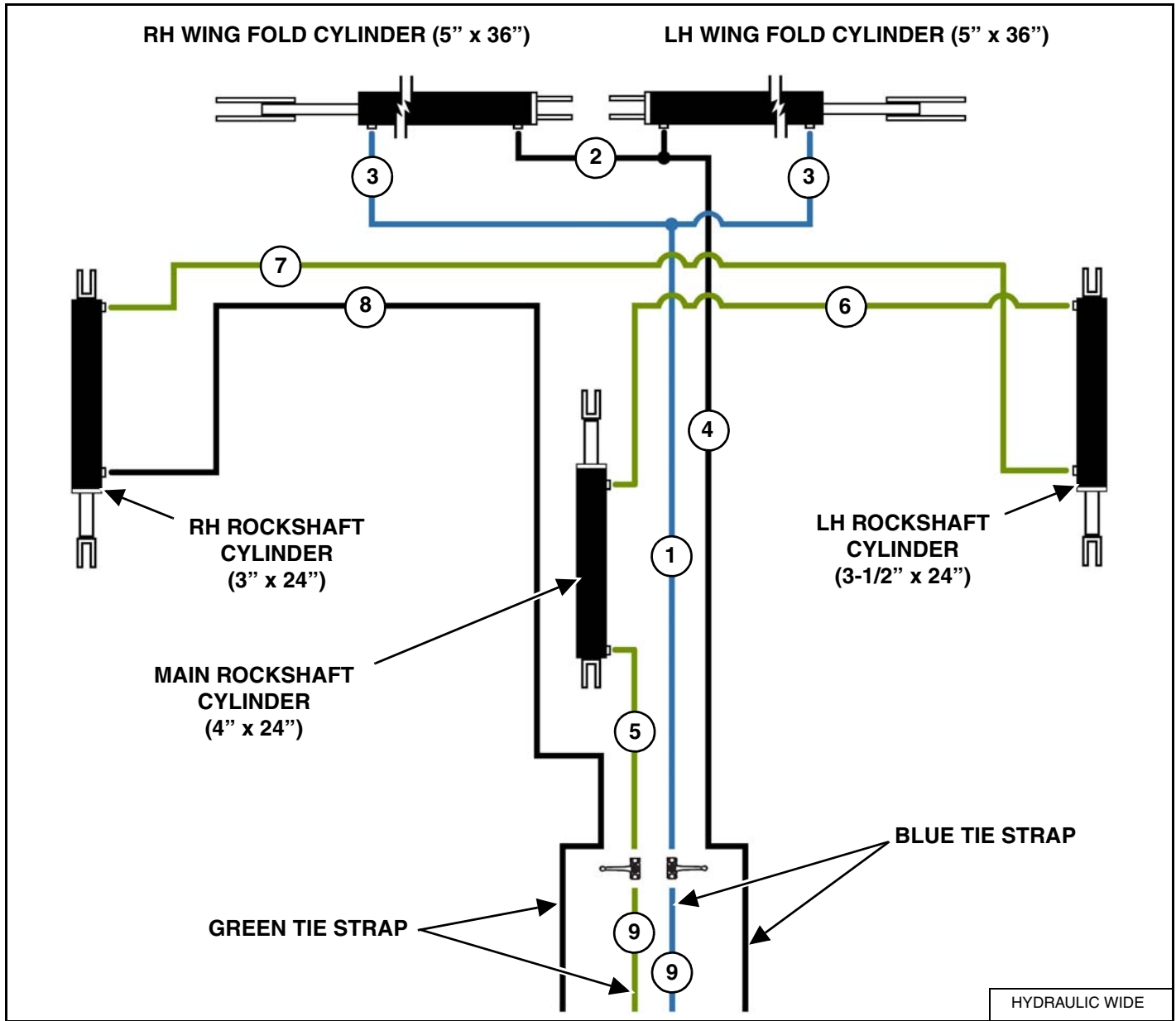
Install the 90° 1/2" swivel street elbow (Item 1) **[Figure 66]** into the rod end of the main frame rockshaft lift cylinder, then tighten until the fitting is facing to the rear.

Hydraulic Hose Identification - Narrow Wing



ITEM	DESCRIPTION	HOSE ROUTING	QTY
1	106" HOSE ASSEMBLY	From shut-off valve to swivel tee on wing cylinder (rod end)	1
2	24" HOSE ASSEMBLY	From swivel tee to base end of wing cylinder	1
3	54" HOSE ASSEMBLY	From RH wing cylinder rod end to swivel tee on LH wing cylinder rod end	2
4	294" HOSE ASSEMBLY	From tractor to swivel tee on wing cylinder (base end)	1
5	20" HOSE ASSEMBLY	From shut-off to main rockshaft cylinder (base end)	1
6	190" HOSE ASSEMBLY	From main rockshaft cylinder (rod end) to LH rockshaft cylinder (base end)	1
7	274" HOSE ASSEMBLY	From LH rockshaft cylinder (rod end) to RH rockshaft cylinder (base end)	1
8	420" HOSE ASSEMBLY	From RH rockshaft cylinder (rod end) to tractor	1
9	179" HOSE ASSEMBLY	From tractor to shut-off valve	2

Hydraulic Hose Identification - Wide Wing



ITEM	DESCRIPTION	HOSE ROUTING	QTY
1	106" HOSE ASSEMBLY	From shut-off valve to swivel tee on wing cylinder (rod end)	1
2	54" HOSE ASSEMBLY	From swivel tee to base end of wing cylinder	1
3	24" HOSE ASSEMBLY	From RH wing cylinder rod end to swivel tee on LH wing cylinder rod end	2
4	294" HOSE ASSEMBLY	From tractor to swivel tee on wing cylinder (base end)	1
5	20" HOSE ASSEMBLY	From shut-off to main rockshaft cylinder (base end)	1
6	220" HOSE ASSEMBLY	From main rockshaft cylinder (rod end) to LH rockshaft cylinder (base end)	1
7	334" HOSE ASSEMBLY	From LH rockshaft cylinder (rod end) to RH rockshaft cylinder (base end)	1
8	440" HOSE ASSEMBLY	From RH rockshaft cylinder (rod end) to tractor	1
9	179" HOSE ASSEMBLY	From tractor to shut-off valve	2



Hydraulic Hose Installation And Routing



**AVOID INJURY OR DEATH**

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

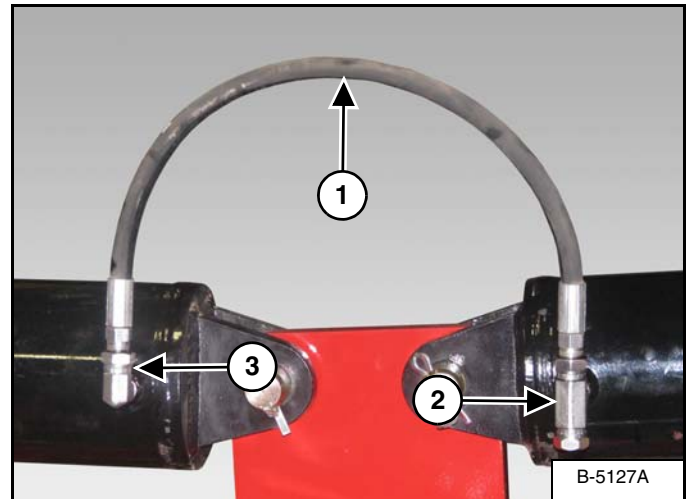


Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.



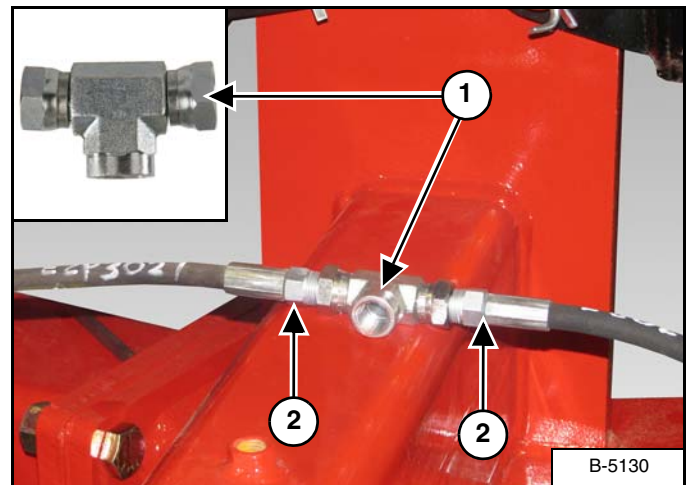
Apply thread sealant to the threads of all hydraulic hose fittings before installing.

**Figure 67**



Install the 24" hydraulic hose (Item 1) from the top of the swivel tee (Item 2) on the LH wing cylinder to the 90° 3/8" street elbow (Item 3) [Figure 67] at the base end of the RH wing cylinder.

**Figure 68**



Locate one 3/8" swivel tee fitting (Item 1) [Figure 68].

Install one 54" hydraulic hose (Item 2) [Figure 68] into each end of the swivel tee.

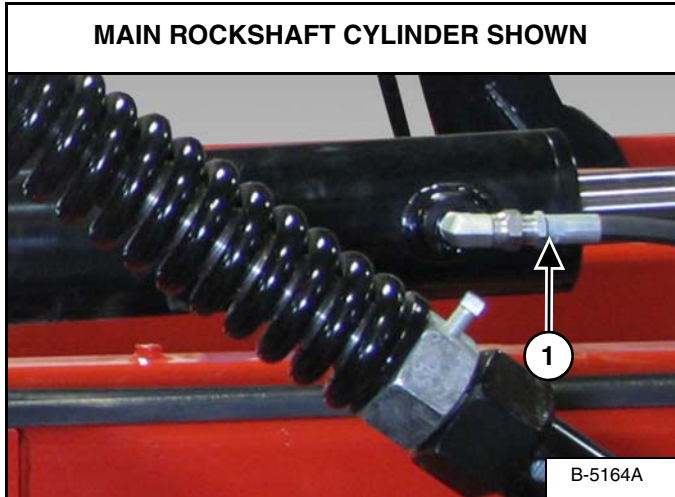
Install the opposite end of the 54" hydraulic hoses to the 90° 3/8" street elbow at the rod end of the RH & LH wing cylinders.

*MAIN Rockshaft Cylinder To LH Rockshaft Cylinder Connecting Hose Sizes*

190" Long - Narrow Wing Models

220" Long - Wide Wing Models

**Figure 69**



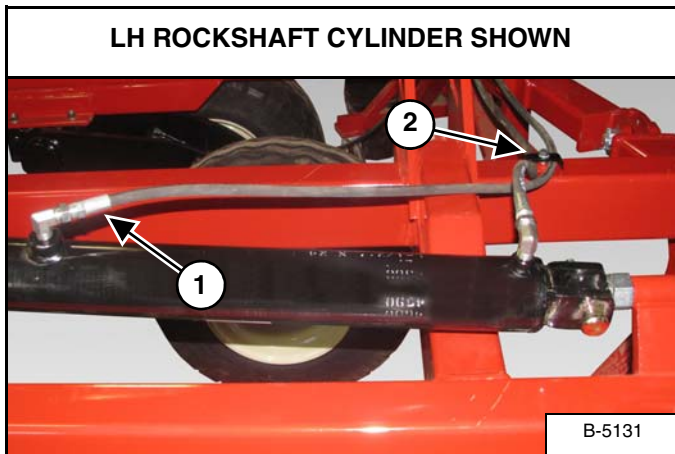
Install hydraulic hose (Item 1) [Figure 69] into the street elbow at the rod end of the main rockshaft cylinder. Route and install the hose into the street elbow at the base end of the LH rockshaft cylinder.

*RH & LH Rockshaft Cylinder Connecting Hose Sizes*

420" Long - Narrow Wing Models

440" Long - Wide Wing Models

**Figure 70**



Install the hydraulic hose (Item 1) [Figure 70] into street elbow at the rod end of the LH rockshaft cylinder. Route and install the hose into the street elbow at the base end of the RH rockshaft cylinder.

*RH & LH Rockshaft Cylinder Connecting Hose Sizes*

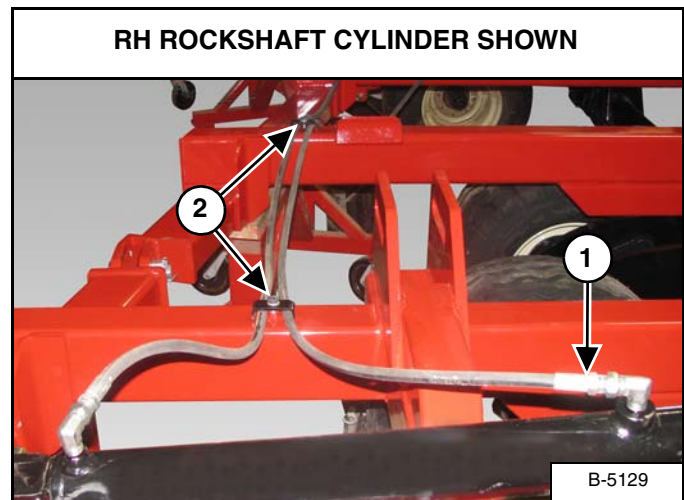
274" Long - Narrow Wing Models

334" Long - Wide Wing Models

Locate one 2-line hose retainer (Item 2) [Figure 70], one 1/2" x 3/4" bolt and one 1/2" lock washer.

Place the 1/2" lock washer on the 1/2" bolt. Install the bolt through the 2-line hose retainer, position the two hoses inside the 2-line hose retainer, align bolt with the weld nut on the frame (as shown), install and tighten the bolt into the weld nut.

**Figure 71**



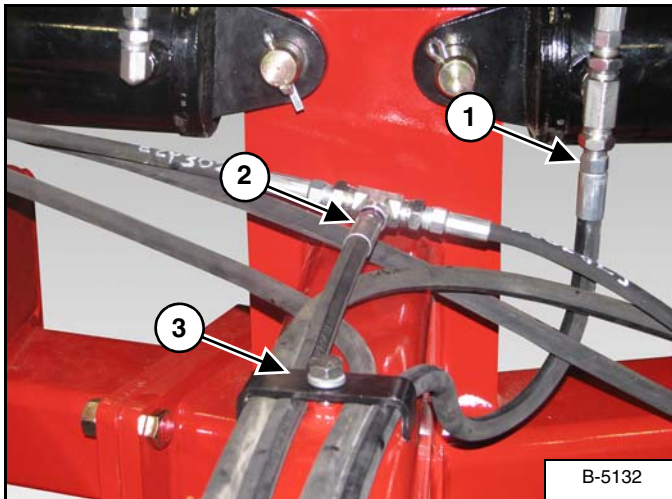
Install the hydraulic hose (Item 1) [Figure 71] into the street elbow at the rod end of the RH rockshaft cylinder. Route the hose along the rear of the machine, down the center of the main frame and to the hitch / tractor.

Locate two 2-line hose retainers (Item 2) [Figure 71], two 1/2" x 3/4" bolts and two 1/2" lock washers.

Place one 1/2" lock washer on each 1/2" bolt. Install one bolt through each 2-line hose retainer, position the two hoses inside the 2-line hose retainers, align bolts with the weld nuts on the frame (as shown), install and tighten the bolts into the weld nuts.



Figure 72



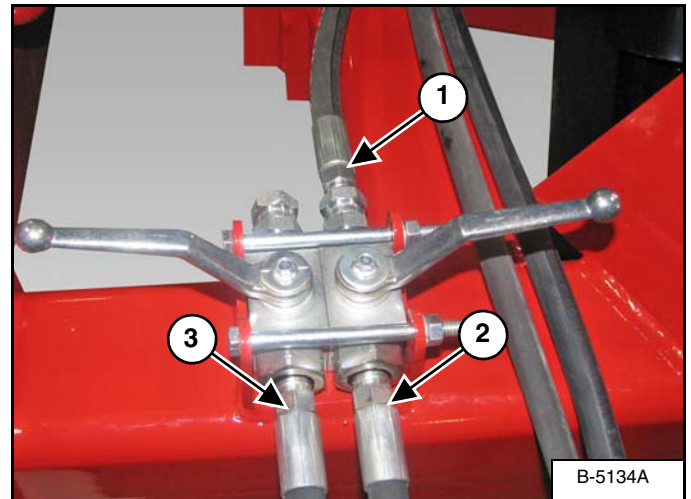
Install the 294" hydraulic hose (Item 1) [Figure 72] into the bottom side of the swivel tee on the LH wing cylinder. Route the hose down the center of the machines frame and to the hitch / tractor.

Install the 106" hydraulic hose (Item 2) [Figure 72] into the swivel tee (connected to the rod ends of the LH & RH wing cylinders). Route the hose down the center of the machine frame to the shut-off valves.

Locate one 4-line hose retainer (Item 3) [Figure 72], one 1/2" x 3/4" bolt and one 1/2" lock washer.

Place the 1/2" lock washer on the 1/2" bolt. Install the bolt through the 4-line hose retainer, position the four hoses inside the 4-line hose retainer, align bolt with the weld nut on the frame (as shown), install and tighten the bolt into the weld nut.

Figure 73

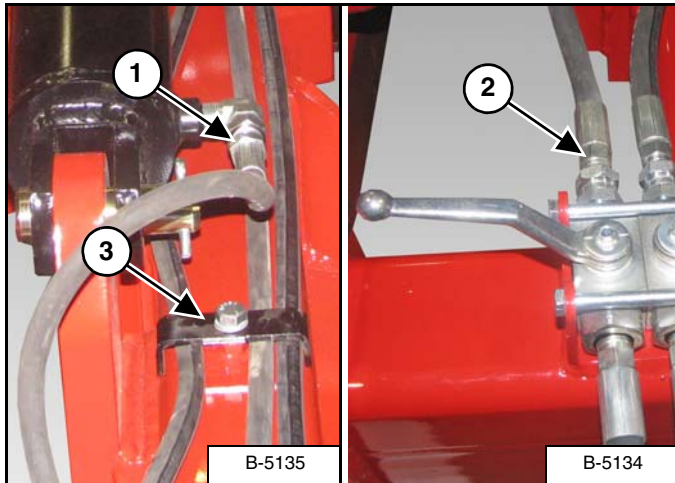


Install the 106" hydraulic hose (Item 1) [Figure 73] (from swivel tee in [Figure 72]) into the LH shut-off valve.

Install the one 179" hydraulic hose (Item 2) [Figure 73] into the front side of the LH shut-off valve. Route the hose to the hitch / tractor (Blue tie strap).

Install the one 179" hydraulic hose (Item 3) [Figure 73] into the front side of the RH shut-off valve. Route the hose to the hitch / tractor (Green tie strap).

Figure 74



Install the 20" hydraulic hose (Item 1) [Figure 74] into the street elbow at the base end of the main rockshaft cylinder. Route and install the hose to the RH shut-off valve (Item 2) [Figure 74].

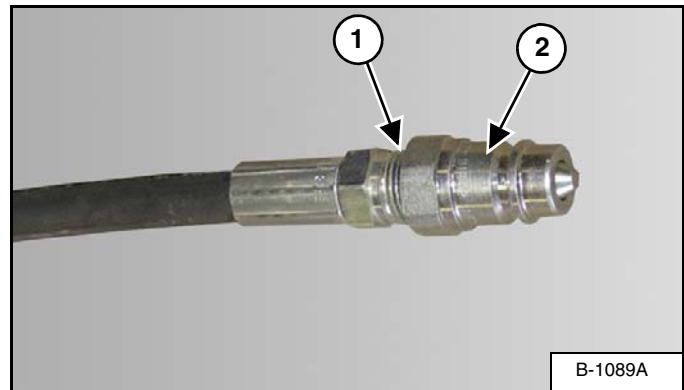
Locate one 4-line hose retainer (Item 3) [Figure 74], one 1/2" x 3/4" bolt and one 1/2" lock washer.

Place the 1/2" lock washer on the 1/2" bolt. Install the bolt through the 4-line hose retainer, position the three hoses inside the 4-line hose retainer, align bolt with the weld nut on the frame (as shown), install and tighten the bolt into the weld nut.

Locate the remaining 2 and 4-line hose retainers, 1/2" x 3/4" bolts and 1/2" lock washers. Install the correct hose retainers at all weld nut locations to secure all hydraulic hoses to the machines frame.

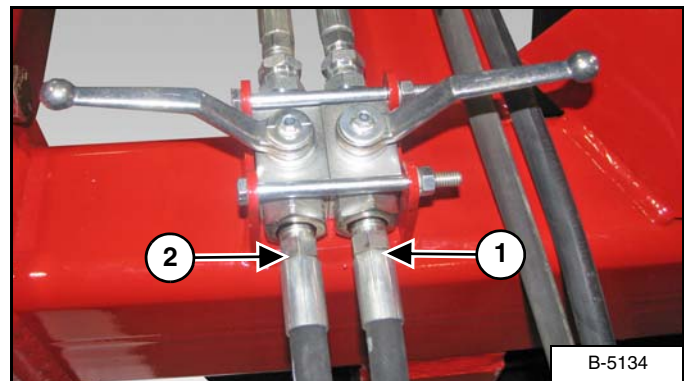
Pressure And Return Hose Fittings

Figure 75



Apply thread sealant to the threads (Item 1) of the hydraulic hose fitting, then install and tighten the male quick coupler fitting (Item 2) [Figure 75] on each set of hydraulic hoses: wing fold hoses (Blue tie straps) and raise/lower hoses (Green tie straps).

Figure 76



After installing the male quick coupler fittings, install the Blue and Green tie straps to identify the hydraulic circuits.

Blue Tie Straps (Wing Fold)

Install one Blue tie strap onto the hydraulic hose connected to the LH shut-off valve (Item 1) [Figure 76].

Install one Blue tie strap onto the hydraulic hose connected to the swivel tee at the base end of the LH wing cylinder.

Green Tie Straps (Raise / Lower)

Install one Green tie strap onto the hydraulic hose connected to the RH shut-off valve (Item 2) [Figure 76].

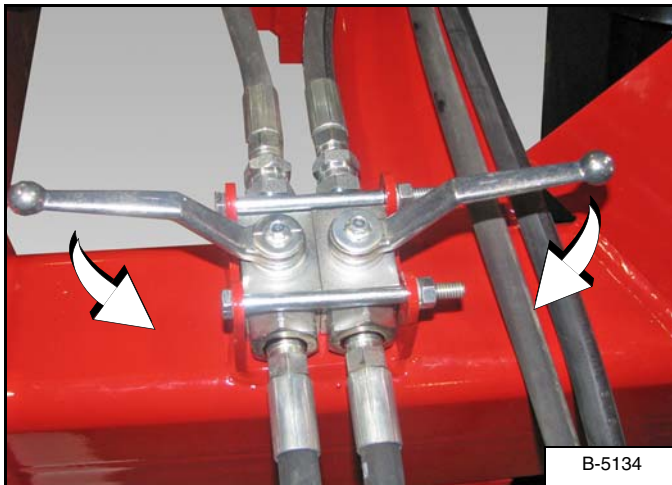
Install one Green tie strap onto the hydraulic hose connected to the swivel tee connecting the rod ends of the RH & LH wing cylinders.

Enter the tractor, start the engine and move the tractor in front of the tandem disc hitch.

Engage parking brake and exit the tractor.

Connect the hydraulic hoses to the tractor's auxiliary hydraulics.

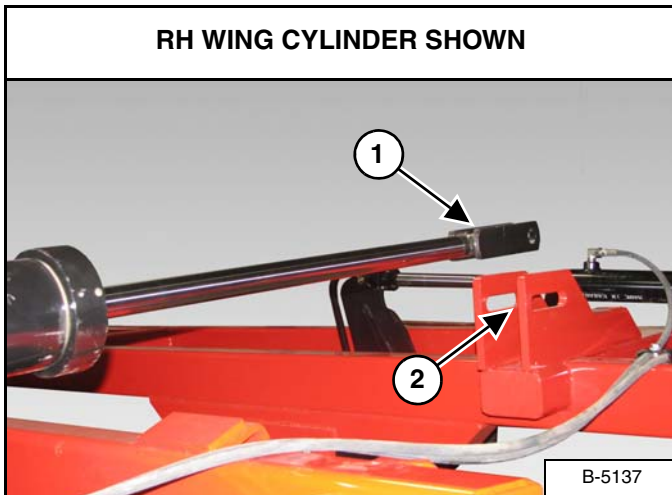
**Figure 77**



Open the two shut-off valves [Figure 77].

Enter the tractor and engage tractor auxiliary hydraulics. Using the tractor's auxiliary controls, cycle the hydraulic cylinders on the tandem disc to remove all air from the system.

**Figure 78**

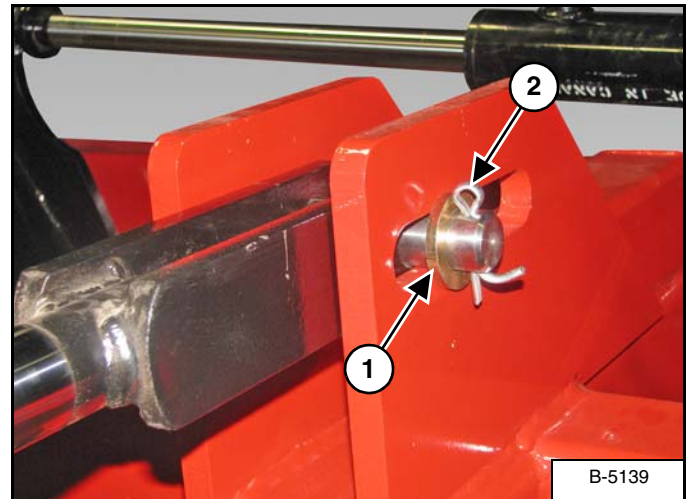


Fully extend the RH & LH wing cylinders.

Turn tractor engine off and exit the tractor.

Align the clevis (Item 1) with the mounting bracket (Item 2) [Figure 78] on the RH & LH wings.

**Figure 79**



Locate one 1-1/4" x 5-13/16" cylinder pin, three 1-9/32" ID x 2" OD x 1/4" washers, and one 5/16" x 1-3/4" cotter pin.

Install one washer onto the end of the cylinder pin. Push the pin through the first bracket of the cylinder mount and the cylinder clevis.

Slide another washer between the cylinder clevis and the second bracket of the cylinder mount.

Push the cylinder pin through the washer and second bracket of the cylinder mount.

Install another washer (Item 1) [Figure 79] on the end of the cylinder pin and secure with a cotter pin (Item 2) [Figure 79]. Then install the cylinder pin through the mounting bracket and clevis.

Repeat for LH wing cylinder.

Enter the tractor and start the engine.

Using the tractor's auxiliary controls, cycle the hydraulic cylinders on the tandem disc to test for correct operation.

Fully raise the tandem disc frame and fully unfold RH & LH wings.

Turn tractor engine off and exit the tractor.

Close shut-off valves.

**PURGING / REPHASING HYDRAULIC SYSTEM** **IMPORTANT**

**Failure to purge hydraulic system of air or rephase depth control cylinders, could result in uneven working depth across the width of the machine, as one or more cylinders may creep, “bounce” or move erratically.**

---

**Purging Hydraulic System**

Following assembly and prior to placing the tandem disc into field service, it is important the series depth control cylinders be purged of air that has been trapped in the system.

Use the following procedure to purge trapped air from the hydraulic system:

1. Connect the tandem disc hydraulics to tractor and remove all depth control stops.
2. Raise tandem disc to extend lift cylinders fully and hold hydraulic lever in the UP position for (3) three minutes.
3. Lower tandem disc to retract lift cylinders fully.

**NOTE: All lift cylinders may not fully retract.**

4. Raise tandem disc again and hold hydraulic lever in the UP position for another (3) three minutes.

**Rephasing Hydraulic System**

Following the initial purging of the series hydraulic system, it is recommended practice to rephase the depth cylinders several times each day by holding hydraulic lever in the UP position for (5-10) five to ten seconds. This can be normally done when disc is raised to make a turn at the end of the field.

 **IMPORTANT**

**Hydraulic pressure in the tandem disc system must be relieved at the end of the day and prior to uncoupling from tractor. Always lower tandem disc with the tractor running, failure to do so will result in air getting back into the rephasing system.**

---

**GANG SECTIONS**

**Gang Beam Extension Chart**

9 INCH SPACING					
WIDTH	FRAME TYPE	# OF BLADES	# OF BEARINGS	FRONT GANG BEAM EXTENSIONS	REAR GANG BEAM EXTENSIONS
26.5 Ft.	Narrow	70	22	18 In.	40 In.
29.5 Ft.	Narrow	78	24	34 In.	54 In.
32.5 Ft.	Wide	86	26	28 In.	45 In.
35.5 Ft.	Wide	94	28	46 In.	66 In.

10.5 INCH SPACING					
WIDTH	FRAME TYPE	# OF BLADES	# OF BEARINGS	FRONT GANG BEAM EXTENSIONS	REAR GANG BEAM EXTENSIONS
25 Ft.	Narrow	58	20	12 In.	34 In.
29 Ft.	Narrow	66	24	32 In.	54 In.
32 Ft.	Wide	74	24	28 In.	45 In.
35.5 Ft.	Wide	82	26	46 In.	66 In.



General Information



- **DO NOT** permit bystanders to be in the work area when unloading and assembling the tandem disc components.
- **DO NOT** work under suspended parts.
- **Keep away** from moving parts.
- **Always use** lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the tandem disc components.



**AVOID INJURY OR DEATH**

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- **When fluids** are under pressure.
- **Flying debris** or loose material is present.
- **Engine** is running.
- **Tools** are being used.



**AVOID INJURY OR DEATH**

Keep fingers and hands out of pinch points when assembling the equipment.



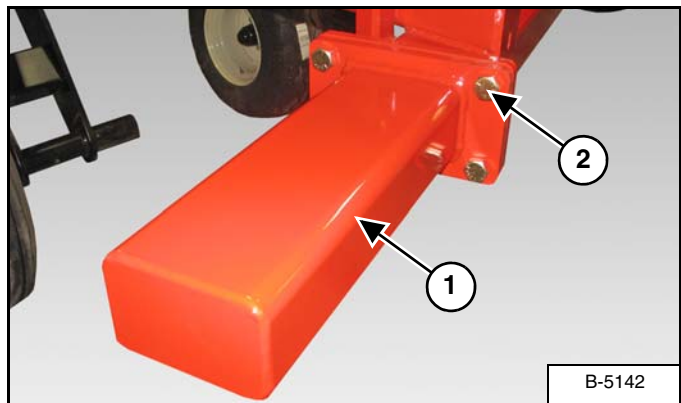
**Always wear protective gloves** when installing, removing or servicing gang sections to help prevent injury from cutting edges of blades.

Identify the front / rear and left / right gang sections.

For additional gang section information. (See "GANG PATTERNS" on page 76.)

**Installing The Gang Extensions**

**Figure 80**



Locate the two short and two long gang extensions (Item 1) [Figure 80], eight 3/4" x 3" bolts, eight 3/4" lock washers and eight 3/4" nuts.

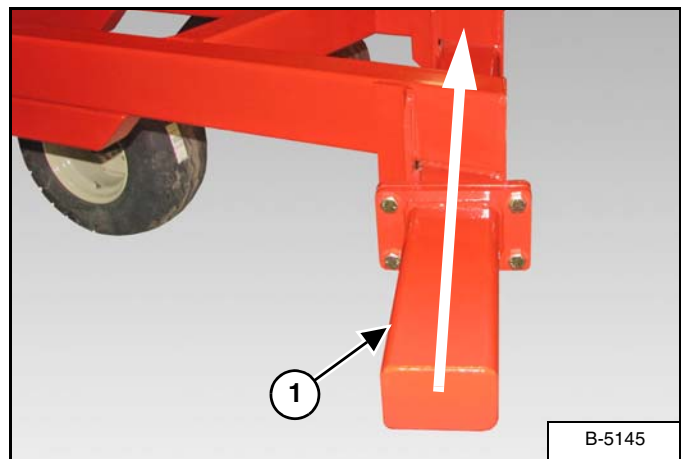
Align the extension with the main frame mounting flange on the wing. Install four 3/4" x 3" bolts (Item 2) [Figure 7] through the two flanges.

Install one 3/4" lock washer and 3/4" nut onto each bolt. Tighten bolts and nuts.

Repeat for remaining gang extensions.

**NOTE: Short gang extensions in front and long gang extensions in the rear.**

**Figure 81**



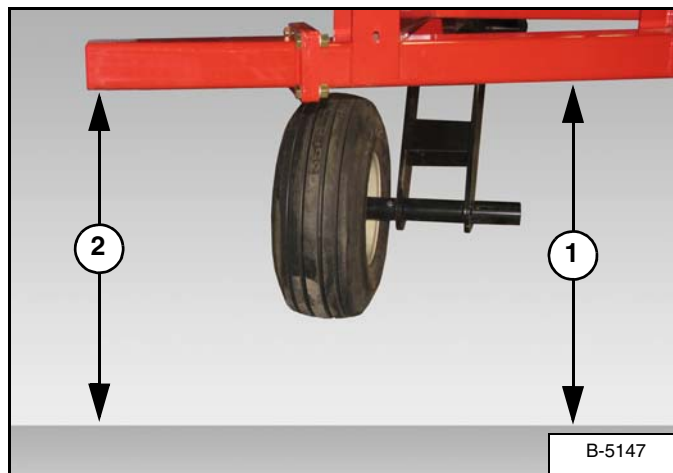
Visually check that the gang extension (Item 1) [Figure 81] is aligned with the main frame (left / right alignment).

**NOTE: Gang extensions must be within ±1/4 inch front to back when aligning with the main frame.**

Add shims as needed to align the gang extension. (See "Shimming Gang Extensions" on page 60.)

Repeat for remaining gang extensions.

**Figure 82**



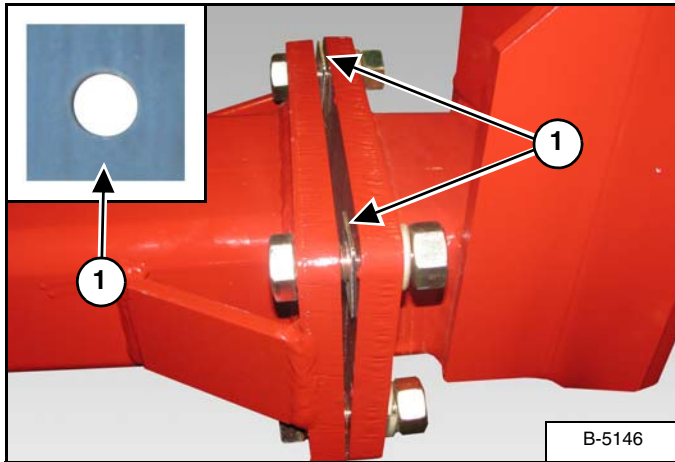
Measure the distance (Item 1) from the ground to the bottom edge of the main frame. Then measure the distance (Item 2) [Figure 82] from the ground to the bottom edge of the gang extension.

**NOTE: Gang extensions must be within ±1/4 inch of the distance from the ground to bottom of the main frame.**

Add shims as needed to level the gang extension. (See "Shimming Gang Extensions" on page 60.)

Repeat for remaining gang extensions.



*Shimming Gang Extensions***Figure 83**

Locate 1" x 1" gang extension shims (Item 1) **[Figure 83]**.

Install shims (Item 1) **[Figure 83]** between the flanges in correct locations to align or level gang extensions with the main frame.

Tighten bolts and nuts (holding shims flush with flanges).

Visually inspect and measure the gang extension.

Repeat shimming procedure until the gang extension is aligned / leveled with the main frame within  $\pm 1/4$  inch.

 **IMPORTANT**

**Always keep each gang section and corresponding scraper assembly together.**

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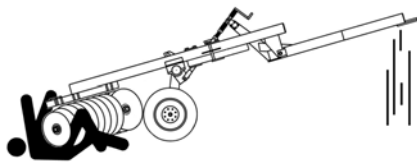
Remove scraper assemblies and bundling tie bars from gang sections. The scraper assembly bundled with each gang section will be assembled / installed together.

**NOTE: The 5/8" x 2" U-bolts used to bundle scraper assemblies must be saved to assemble scraper bar to gang beam later.**

**Installing The Gang Sections**

*Installing The Inside Gang Sections*

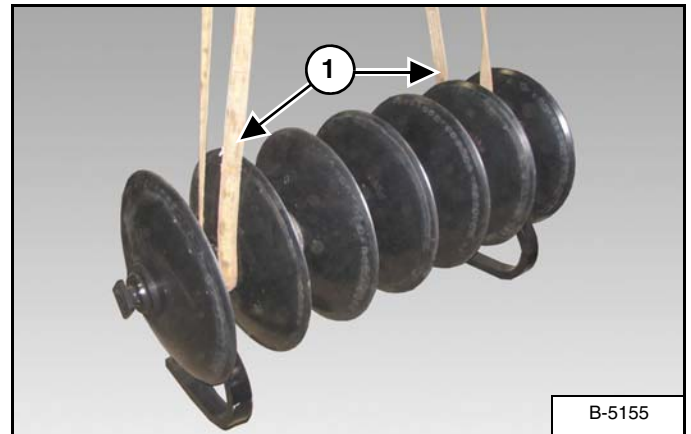
**NOTE:** The following procedure shows installing the left front gang sections. The procedure is correct for all gang sections.



**AVOID SERIOUS INJURY OR DEATH**

- Always install front gang sections first.
- When installing or removing gang sections, always securely block / support the main frame to avoid tipping.
- DO NOT work under suspended parts.
- Always use lifting devices / supports of adequate size and strength to securely support the tandem disc.

**Figure 84**



Locate the front left, inside gang section. (Refer to the gang section diagram for the correct corresponding letter and orientation.)

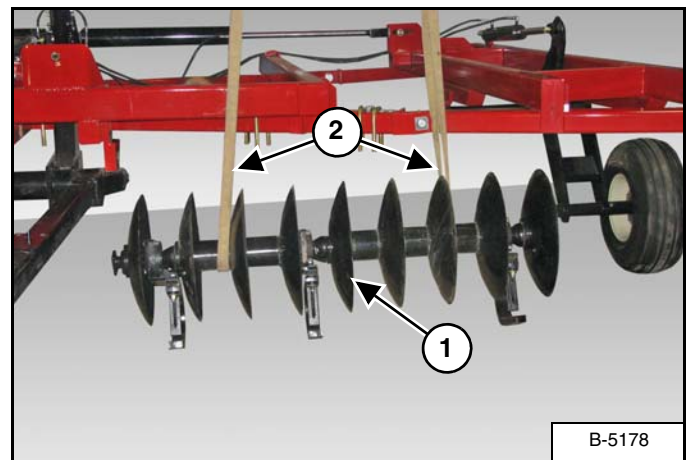
Install straps (Item 1) [Figure 84] around the gang section.

Connect the straps to an approved lifting device.

Raise and move the gang section to the assembly area.

**NOTE:** The background has been removed from some of the following images for picture clarity.

**Figure 85**

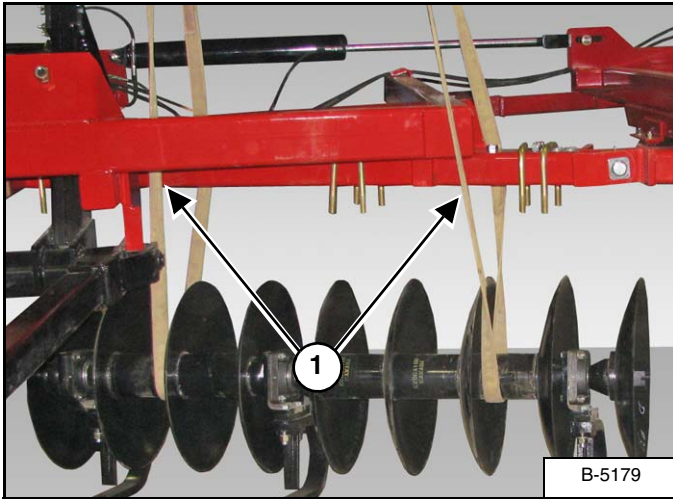


Lower the gang section (Item 1) [Figure 85] onto the ground in front of the left main frame.

Remove straps (Item 2) [Figure 85] from the lifting device.

**NOTE:** Do not remove straps from around the gang section.

Figure 86



Route straps (Item 1) [Figure 86] in front and behind the gang beam, straddling in the gang beam.

Connect the straps to an approved lifting device.

Raise the gang section and move inner blade towards the center of the main frame. Lower gang section to the ground.

Standard Rigid Hangers

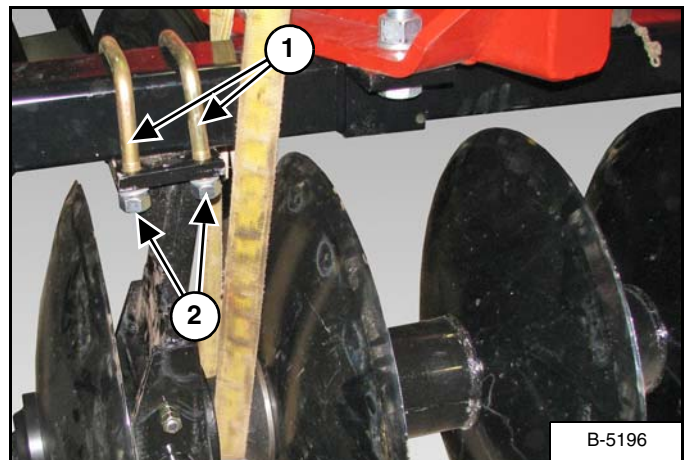
See “Stone Flex Hangers” on page 63 for installing stone flex hangers.

**NOTE:** The following image may not show your gang section exactly as it appears but the procedure is correct.



**Hanger bracket must be sitting square with gang beam before tightening u-bolts.**

Figure 87



Locate two 7/8” x 5-7/8” u-bolts, four 7/8” lock washers and four 7/8” nuts per bearing hanger (each hanger bracket).

Raise the gang section until the mounting plate contacts the bottom of the gang beam.

Install two 7/8” x 5-7/8” U-bolts (Item 1) [Figure 87] over the gang beam and down through the mounting plate holes.

Install 7/8” lock washers and 7/8” nuts (Item 2) [Figure 87] onto the u-bolts. Do not tighten at this time.

Repeat for remaining rigid hanger bearings on the gang section.

Stone Flex Hangers

**NOTE:** The following images may not show your gang section exactly as it appears but the procedure is correct.

**! IMPORTANT**

Hanger bracket must be sitting square with gang beam before tightening u-bolts.

**! IMPORTANT**

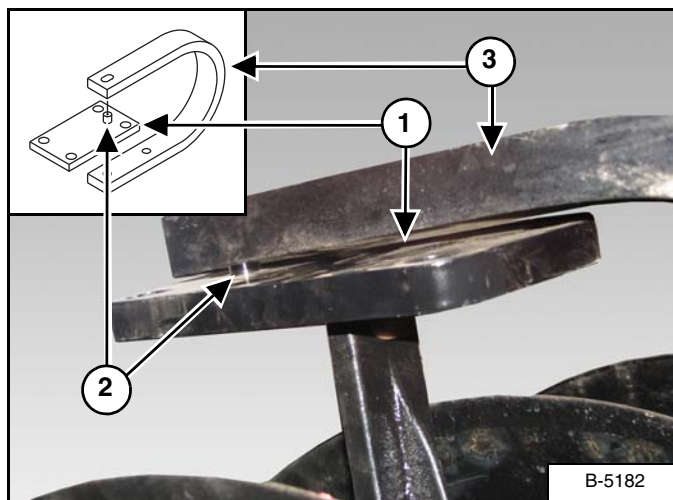


**STONE FLEX HANGERS**

If the disc is equipped with stone flex hangers:

Always install the gang sections with open end of the spring shank facing the rear of the tandem disc.

Figure 88



Locate one backing plate (Item 1) [Figure 88] per bearing hanger (each gang section).

Insert the peg (Item 2) into the slot at the end of the spring shank (Item 3) [Figure 88].

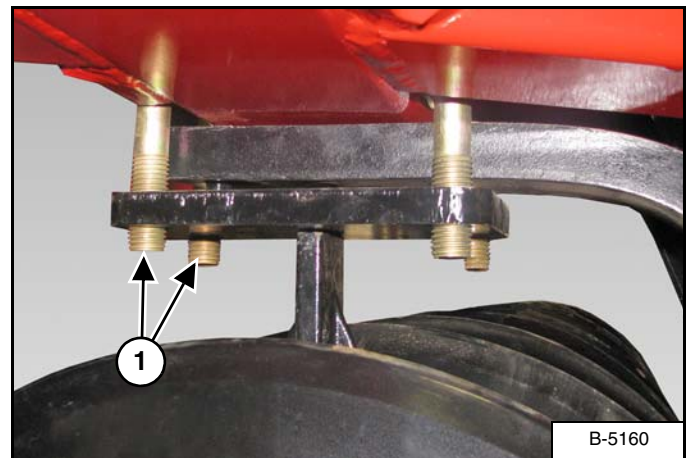
Rotate the backing plate 180° under the spring shank.

Rotate spring shank and backing plate up, under the gang beam.

**! IMPORTANT**

All bearing hangers must be positioned square under gang beam.

Figure 89

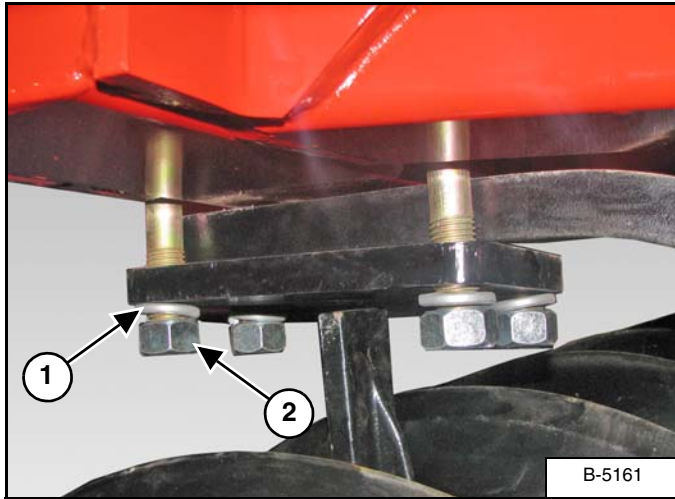


Locate two 7/8" x 7-1/8" u-bolts, four 7/8" lock washers and four 7/8" nuts per bearing hanger (each gang section).

Raise the gang section until the spring shank contacts the bottom of the gang beam.

Install two 7/8" x 7-1/8" U-bolts (Item 1) [Figure 89] over the gang beam and down through the backing plate holes.

**Figure 90**

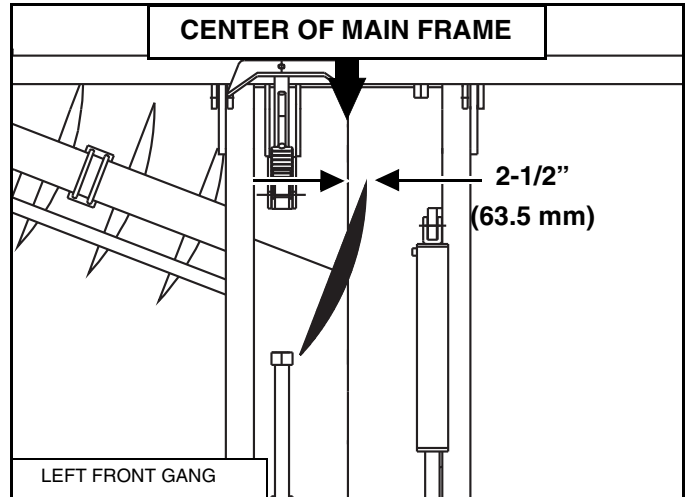


Install 7/8" lock washers (Item 1) and 7/8" nuts (Item 2) [Figure 90] onto the u-bolts. Do not tighten at this time.

Repeat [Figure 88] - [Figure 90] for remaining hanger bearings on the gang section.

*Positioning Front Left Inside Gang Section*

**Figure 91**



Locate and mark the center of the main frame.

Position the front inside gang section, so that the leading edge of inside blade is approximately 2-1/2" (63.5 mm) past center of main frame [Figure 91].

**! IMPORTANT**

**Always tighten inside hanger bearing u-bolts first, while maintaining the 2-1/2" (63.5 mm) spacing past center of main frame. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.**

**! IMPORTANT**

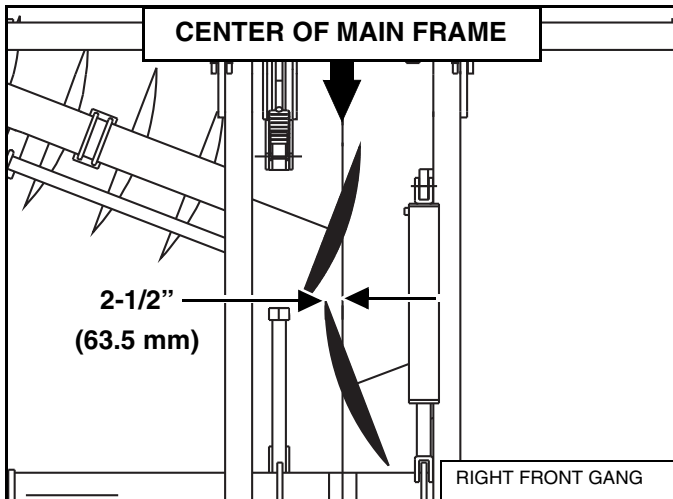
**Verify that all bearing hangers are positioned square under gang beam before tightening the u-bolts.**

Tighten inside hanger bearing u-bolts, then tighten remaining hanger bearing u-bolts on the inside gang section.



Positioning Front Right Inside Gang Section

Figure 92



Position the front right inside gang section, so that the leading edge of inside blade is approximately 2-1/2" (63.5 mm) past center of main frame [Figure 92].

**! IMPORTANT**

Always tighten inside hanger bearing u-bolts first, while maintaining the 2-1/2" (63.5 mm) spacing past center of main frame. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.

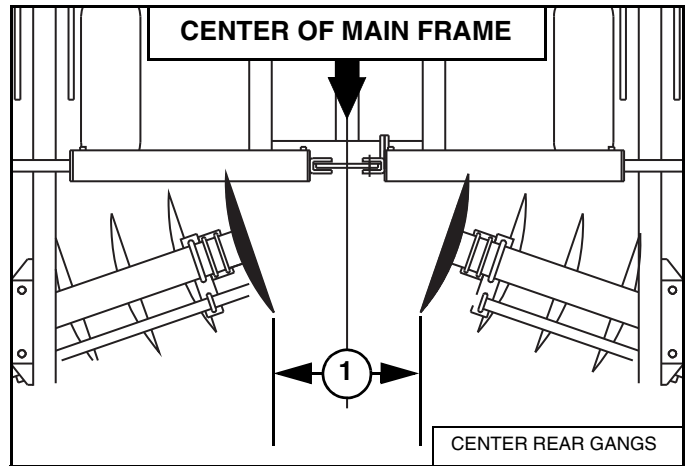
**! IMPORTANT**

Verify that all bearing hangers are positioned square under gang beam before tightening the u-bolts.

Tighten inside hanger bearing u-bolts, then tighten remaining hanger bearing u-bolts on the inside gang section.

Positioning Inside Rear Gang Sections

Figure 93



Center rear inside gang sections, so that the distance between the rear edge of the two inside blades (Item 1) [Figure 93], is equal to 2" (50.8 mm) less than diameter of blades with a maximum of 24" (610 mm).

**EXAMPLE** - if the disc is equipped with 24" (610 mm) diameter blades, (Item 1) [Figure 93] would be set at 22" (559 mm).

**NOTE:** If the disc is equipped with 26" (660 mm) or 28" (711 mm) diameter blades, (Item 1) [Figure 93] would be set at a maximum of 24" (610 mm).

**! IMPORTANT**

Always tighten inside hanger bearing u-bolts first, while maintaining the desired spacing between the rear edge of the two inside blades. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.

**! IMPORTANT**

Verify that all bearing hangers are positioned square under gang beam before tightening the u-bolts.

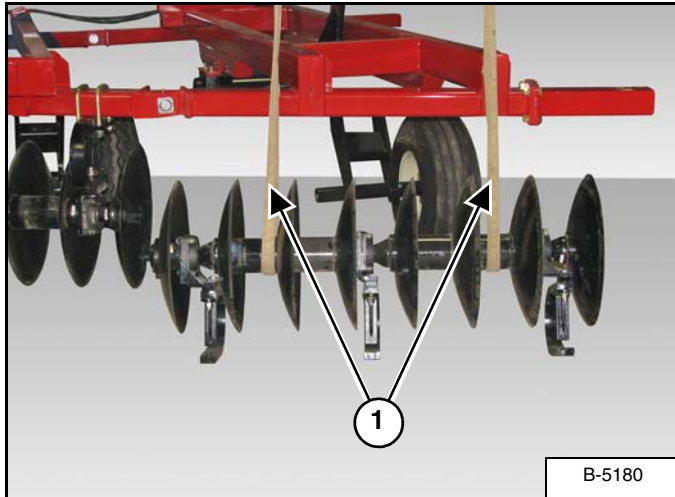
Tighten inside hanger bearing u-bolts, then tighten remaining hanger bearing u-bolts on the rear gang sections.



Outside Gang Section Installation

**NOTE: The following procedure shows installing the left front outside gang section. The procedure is the same for all outside gang sections.**

Figure 94



Locate the front left, outside gang section. (Refer to the gang section diagram for the correct corresponding letter and orientation.)

Install straps (Item 1) [Figure 94] around the gang section.

Connect the straps to an approved lifting device.

Raise and move the gang section to the assembly area.

Lower the gang section onto the ground in front of the left wing frame.

Remove straps from the lifting device.

**NOTE: Do not remove straps from around the gang section.**

Route straps (Item 1) [Figure 94] in front and behind the wing gang beam, straddling the wing gang beam.

Connect the straps to an approved lifting device.

**NOTE: When adjusting / aligning gang sections, always maintain the designated blade spacing between gang sections.**

Raise the gang section and move inner blade towards the inside gang section (approximate blade spacing distance). Lower gang section to the ground.

Standard Rigid Hangers

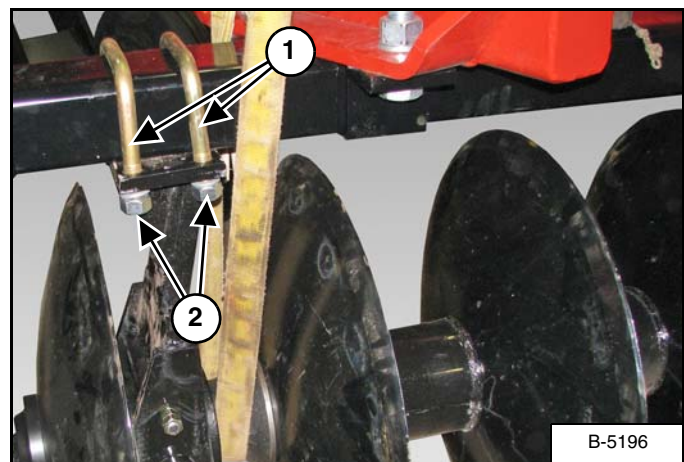
For installing stone flex hangers, See “Stone Flex Hangers” on page 63. Also on next page.

**NOTE: The following image may not show your gang section exactly as it appears but the procedure is correct.**



**Hanger bracket must be sitting square with gang beam before tightening u-bolts.**

Figure 95



Locate two 7/8" x 5-7/8" u-bolts, four 7/8" lock washers and four 7/8" nuts per bearing hanger (each hanger bracket).

Raise the gang section until the mounting plate contacts the bottom of the gang beam.

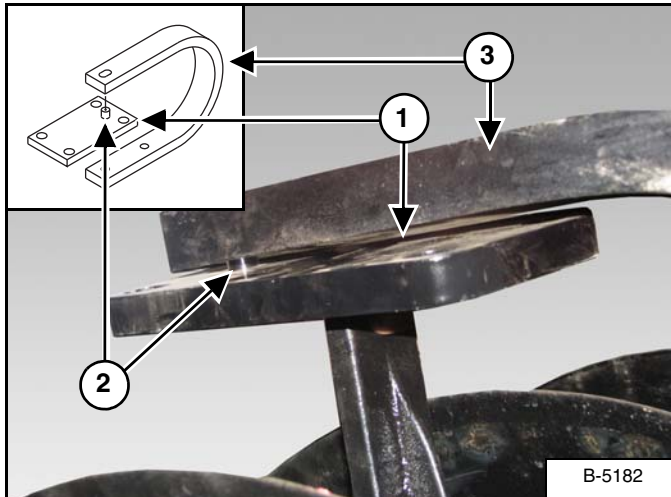
Install two 7/8" x 5-7/8" U-bolts (Item 1) [Figure 95] over the gang beam and down through the mounting plate holes.

Install 7/8" lock washers (Item 1) and 7/8" nuts (Item 2) [Figure 95] onto the u-bolts. Do not tighten at this time.

Repeat for remaining rigid hanger bearings on the gang section.

*Stone Flex Hangers*

**Figure 96**



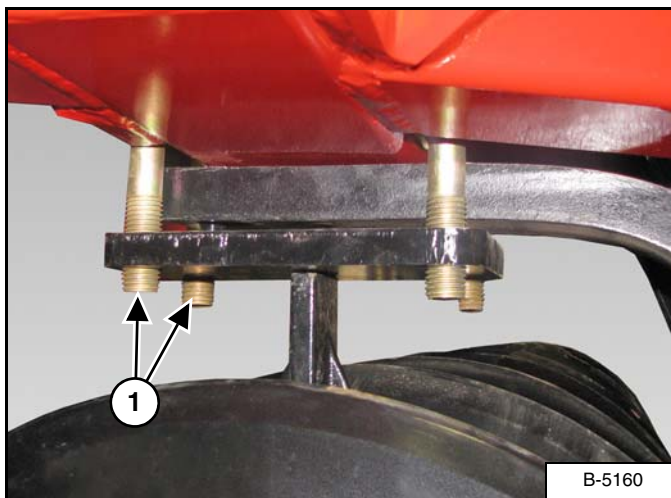
Locate one backing plate (Item 1) [Figure 96] per bearing hanger (each gang section).

Insert the peg (Item 2) into the slot at the end of the spring shank (Item 3) [Figure 96].

Rotate the backing plate 180° under the spring shank.

Rotate spring shank and backing plate up, under the gang beam.

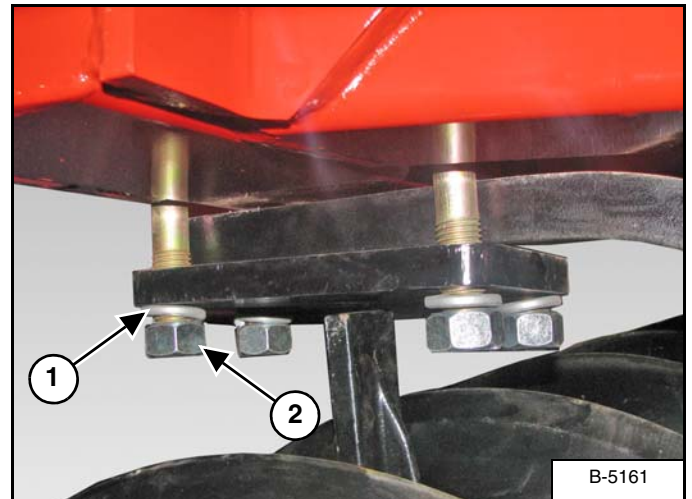
**Figure 97**



Raise the gang section until the spring shank contacts the bottom of the gang beam.

Install two 7/8" x 7-1/8" U-bolts (Item 1) [Figure 97] over the gang beam and down through the backing plate holes.

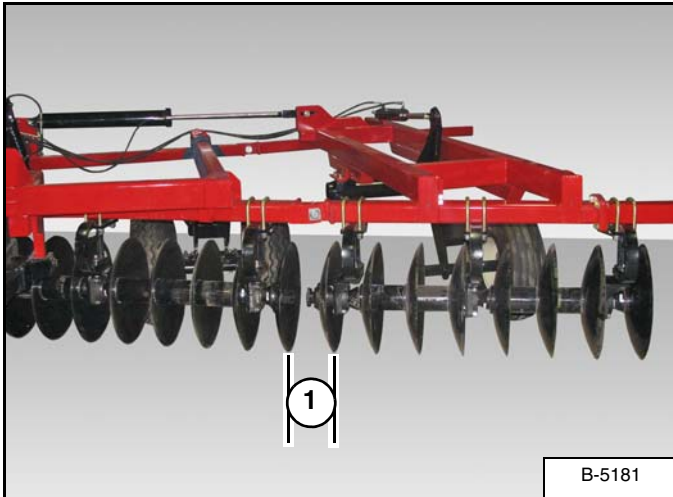
**Figure 98**



Install 7/8" lock washers (Item 1) and 7/8" nuts (Item 2) [Figure 98] onto the u-bolts. Do not tighten at this time.

Repeat [Figure 96] - [Figure 98] for remaining hanger bearings on the gang section.

Figure 99



Adjust outside gang section (in or out) until the spacing (Item 1) [Figure 99] between inside and outside gangs is at the designated blade spacing.

## ! IMPORTANT

**Always tighten inside hanger bearing u-bolts first, while maintaining designated blade spacing. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.**

**Verify that all bearing hangers are positioned square under gang beam before tightening the u-bolts.**

Tighten inside hanger bearing u-bolts, then tighten remaining hanger bearing u-bolts on the front inside gang section.

## ! IMPORTANT

### 410WSS BEARING ONLY

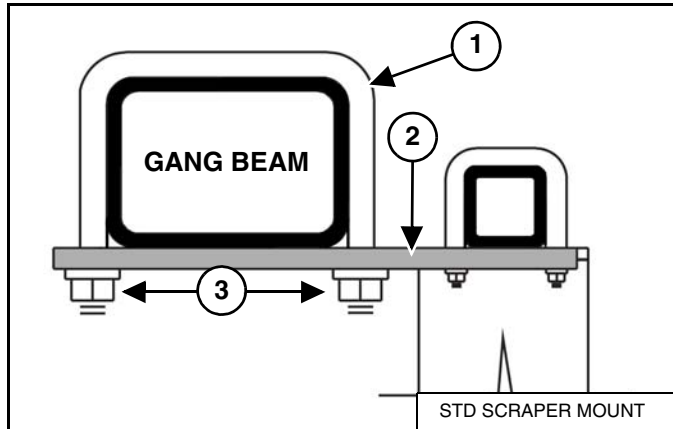
**Loosen all the bolts, which fasten the bearings to the hangers. Then turn the disc blades to allow the bearings to align themselves. Re-tighten all the bolts. This will ensure proper bearing alignment.**

Install remaining gang sections. (See “Installing The Gang Sections” on page 61.)

**Installing The Scraper Bar And Scrapers**

*Standard Scraper Bar Mounting*

**Figure 100**



Install one 3/4" x 6-7/8" u-bolt (Item 1) over the gang beam and down through the scraper bar mount (Item 2). Install two 3/4" lock washers and two 3/4" nuts (Item 3) [Figure 100] on the u-bolt. Do not tighten at this time.

Continue installing the remaining scraper bar mounts as required.

**NOTE:** Mount (Item 2) [Figure 100] is positioned so scraper bar is located at rear of gangs.

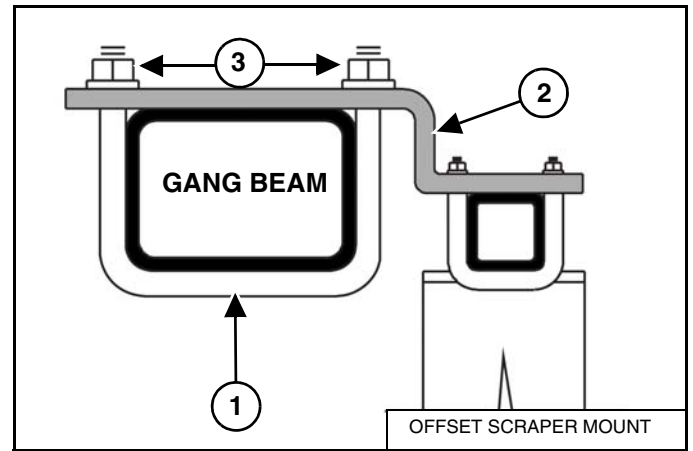
**NOTE:** Each disc model is supplied with one scraper mount bracket per hanger.

Offset scraper mount brackets are provided for tight locations where the standard scraper bracket won't fit. There are four offset brackets supplied per machine. If required, use offset brackets as standard scraper brackets.

In general, locate the outside bracket for each scraper bar as close to the end as possible. Try to avoid having the outer brackets located behind two scrapers. Locate the inner brackets next to bearing hangers.

*Offset Scraper Bar Mounting*

**Figure 101**



Install one 3/4" x 6-7/8" u-bolt (Item 1) over the gang beam and up through the scraper bar mount (Item 2). Install two 3/4" lock washers and two 3/4" nuts (Item 3) [Figure 101] on the u-bolt. Do not tighten at this time.

Continue installing the remaining scraper bar mounts as required.

**NOTE:** Mount (Item 2) [Figure 101] is positioned so scraper bar is located at rear of gangs.

Locate each gang section, corresponding scraper assemblies and hardware that were removed before installing gang sections.

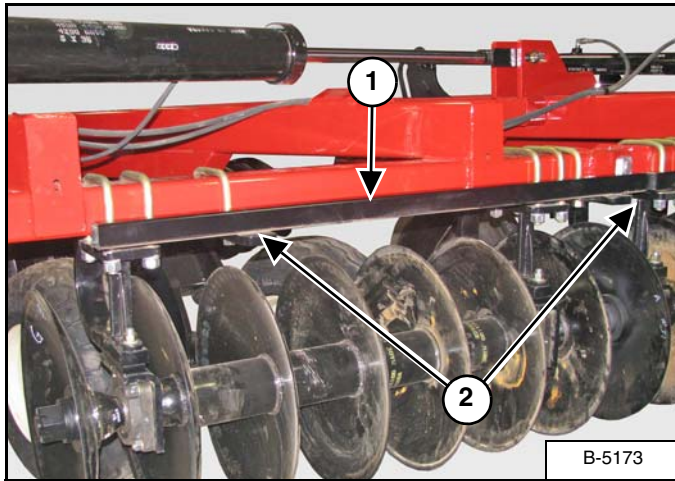
! IMPORTANT

**Each gang section and corresponding scraper assembly must be installed together.**



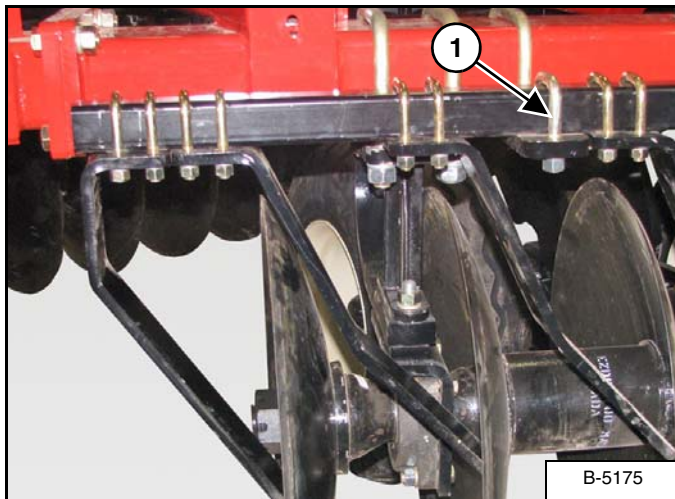
*Installing The Scraper Bars*

**Figure 102**



Place the corresponding scraper bar (Item 1) onto the mounts (Item 2) [Figure 102].

**Figure 103**

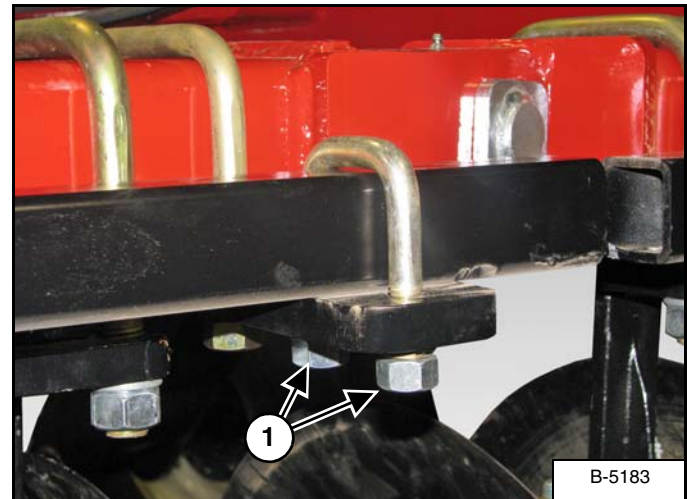


Install 5/8" x 2" u-bolts (Item 1) [Figure 103] down, over the scraper bar and into the mounts.

**! IMPORTANT**

Scrapers are pre-installed on the scraper bars at the factory.

**Figure 104**

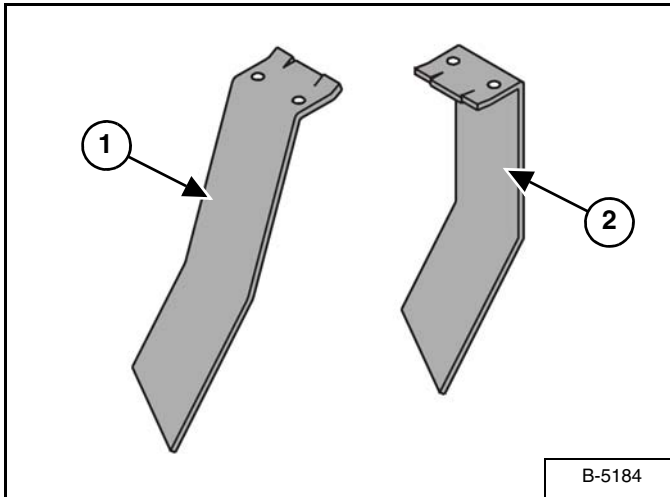


Install 5/8" lock washers and 5/8" nuts (Item 1) [Figure 104] onto each u-bolt. Do not tighten at this time.

Continue installing the remaining corresponding scraper bars.

*Standard Scrapers*

**Figure 105**

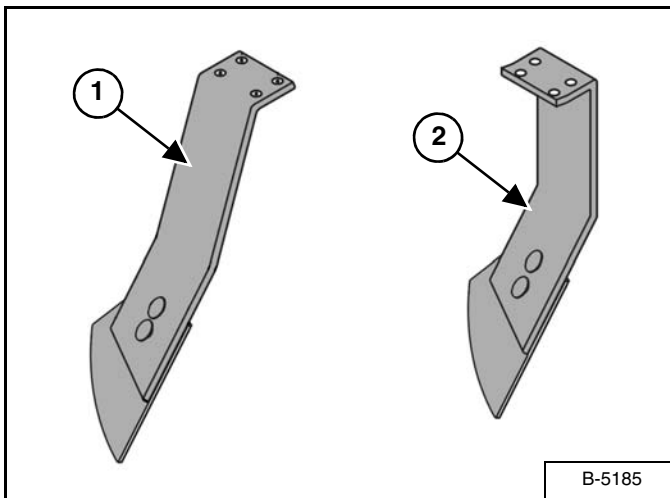


Front LH / rear RH standard scraper (Item 1) and front LH / rear RH standard 90° scraper (Item 2) [Figure 105].

**NOTE: Front RH and rear LH scrapers are opposite of the scrapers shown in [Figure 105].**

*Wide Pan Scrapers*

**Figure 106**

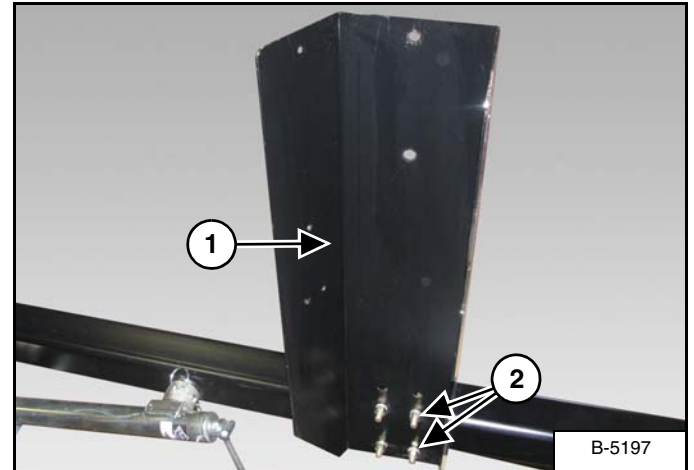


Front LH / rear RH wide pan scraper (Item 1) and front LH / rear RH wide pan 90° scraper (Item 2) [Figure 106].

**NOTE: Front RH and rear LH scrapers are opposite of the scrapers shown in [Figure 106].**

**Installing Hydraulic Hose Bracket**

**Figure 107**



Locate the hydraulic hose bracket (Item 1) [Figure 107], two 1/2" x 4-9/16" u-bolts, four 1/2" lock washers and four 1/2" nuts.

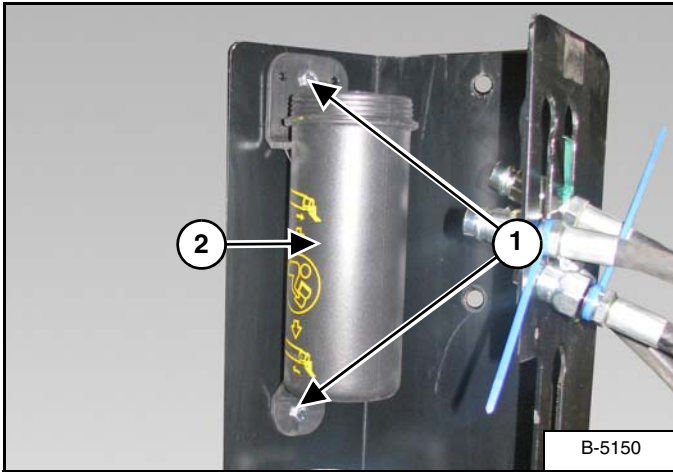
Align the hydraulic hose bracket on the same side as the hitch jack. Position the bracket on tube approximately 16" from the end of the tube.

Install the two 1/2" x 4-9/16" u-bolts around the hitch and through the hydraulic hose bracket (Item 1). Install the four 1/2" lock washers and 1/2" nuts (Item 2) [Figure 107] on the u-bolts. Tighten nuts to secure the hydraulic hose bracket to the hitch.



## Installing Manual Storage Container

Figure 108



Locate the manual storage container (Item 1) [Figure 108], two 5/16" x 3/4" bolts, two 5/16" lock washers and two 5/16" nuts.

Align the manual storage container with the mounting bracket on the hitch.

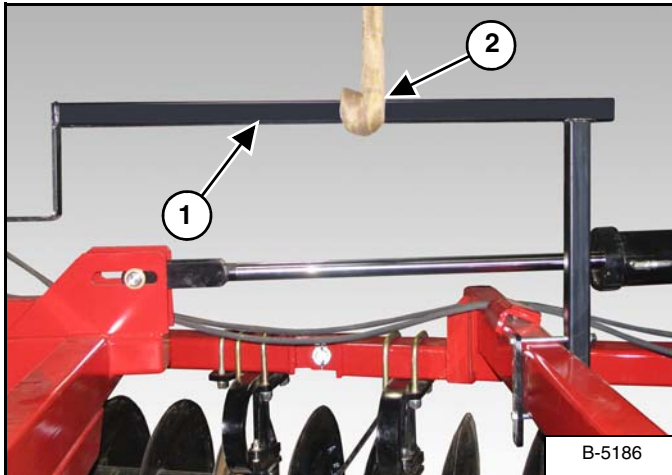
Install the two 5/16" x 3/4" bolts (Item 1) through the manual storage container (Item 2) and mounting bracket. Install one 5/16" lock washer and 5/16" nut on each bolt. Tighten bolts and nut to secure the manual storage container to the mounting bracket.

Install manual storage container cap.

**LIGHT KIT**

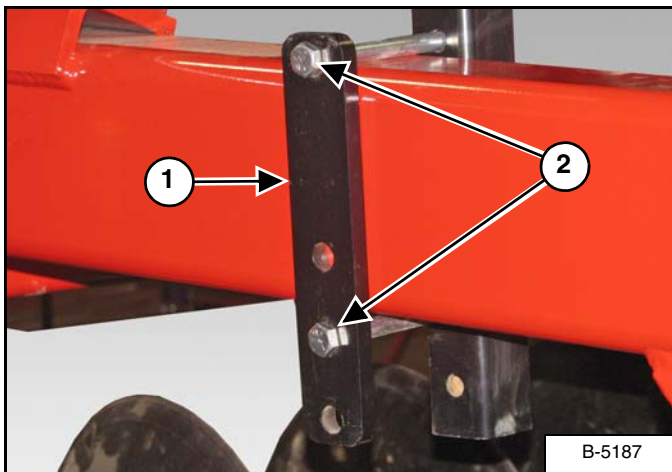
**Installation**

**Figure 109**



Locate one light bracket (Item 1) [Figure 109].  
 Install a strap (Item 2) [Figure 109] around the light bracket (twice).  
 Connect the strap to an approved lifting device.  
 Raise and move the light bracket to the assembly area.

**Figure 110**



Locate one backing plate (Item 1) [Figure 110], two 1/2" x 8-1/2" bolts, two 1/2" lock washers and two 1/2" nuts.

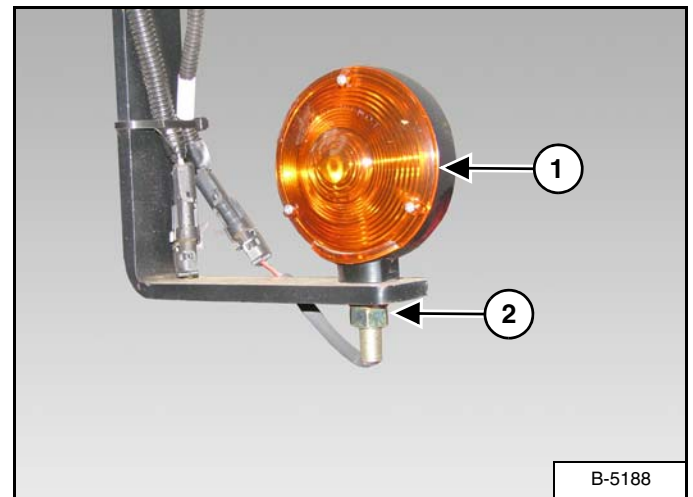
Position the light bracket towards the rear on the outside frame of the RH center frame. Lower the light bracket inside the frame, align the backing plate and install the two 1/2" bolts (Item 2) [Figure 110], through the backing plate and light bracket. Install 1/2" lock washers and nuts on the bolts. Visually inspect that the light bracket is square (plumb) with the main frame.

**NOTE: Verify that the light bracket is positioned in a location where the RH wing will not damage the light bracket when folded.**

Tighten the 1/2" bolts and nuts to secure the light bracket to the main frame.

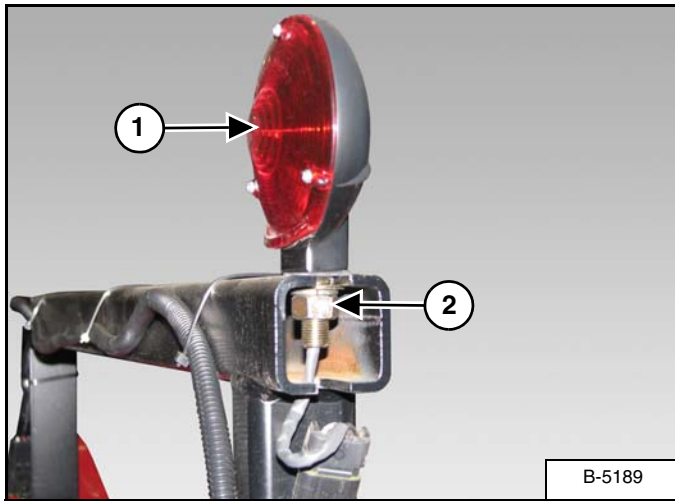
Repeat for installing opposite light bracket.

**Figure 111**



Locate one amber light (Item 1) [Figure 111].  
 Install the amber light assembly into the lower slot of the light bracket. Position the amber light facing front / rear of the machine.  
 Tighten nut (Item 2) [Figure 111].  
 Repeat for opposite amber light assembly.

Figure 112



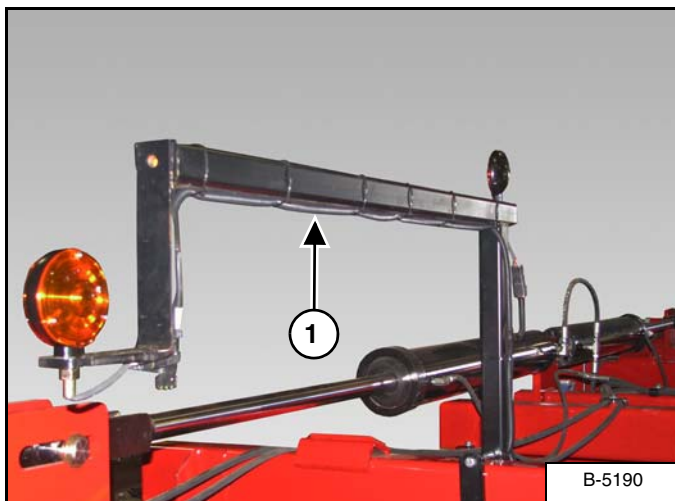
Locate one red light assembly (Item 1) [Figure 112].

Install the red light assembly into the upper slot of the light bracket. Position the red light facing the rear of the machine.

Tighten nut (Item 2) [Figure 112].

Repeat for opposite red light assembly.

Figure 113



Locate the wire harness (Item 1) [Figure 113].

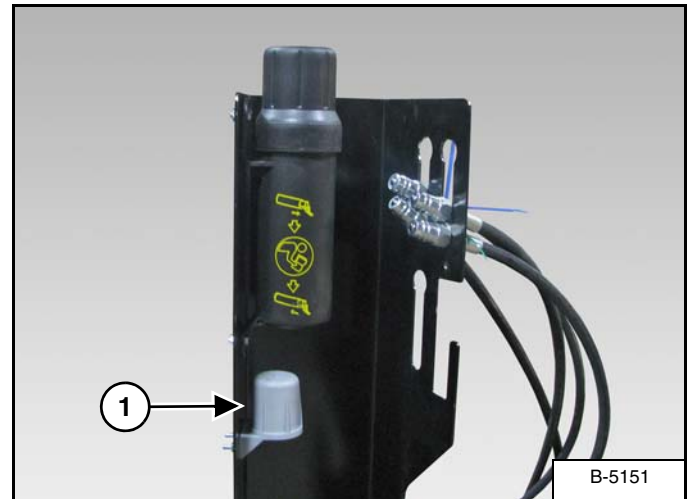
Connect the wire harness to each of the amber and red lights (both sides).

**NOTE: Harness plugs are marked with either LH or RH. Make sure lamp plugs are connected to the correct side.**

Route the wire harness down the center of the main frame (along hydraulic hoses) and the front of the hitch.

Using cable ties, secure wire harness to the light brackets and hydraulic hoses.

Figure 114



Install storage cup below manual holder using one 1/4" x 5/8" bolt, 1/4" lockwasher, and 1/4" nut.

Install the wire harness 7-pin connector in the storage cup (Item 1) [Figure 114] on the hydraulic hose bracket.

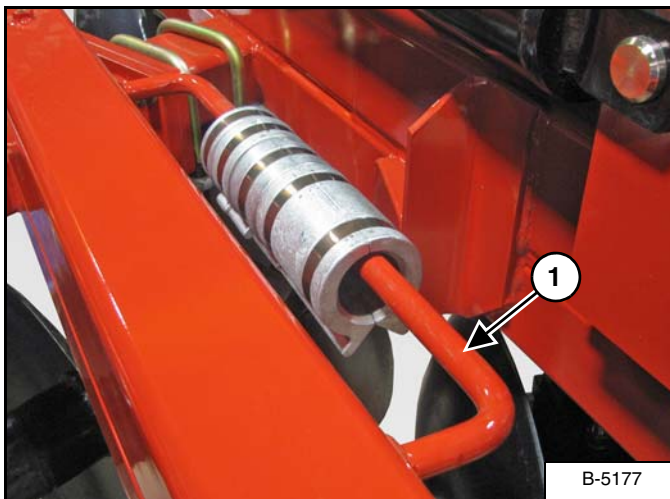
DEPTH STOPS

Figure 115



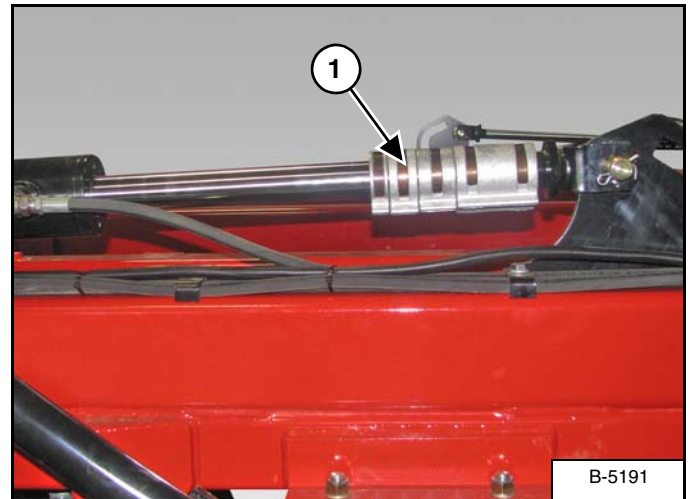
Locate the two sets of depth stops [Figure 115].

Figure 116



Store unused depth stops on the rod (Item 1) [Figure 116] just behind the front main frame (center).

Figure 117



Install depth stops (Item 1) [Figure 117] on the main rockshaft cylinder as needed for transport or to maintain working depth.

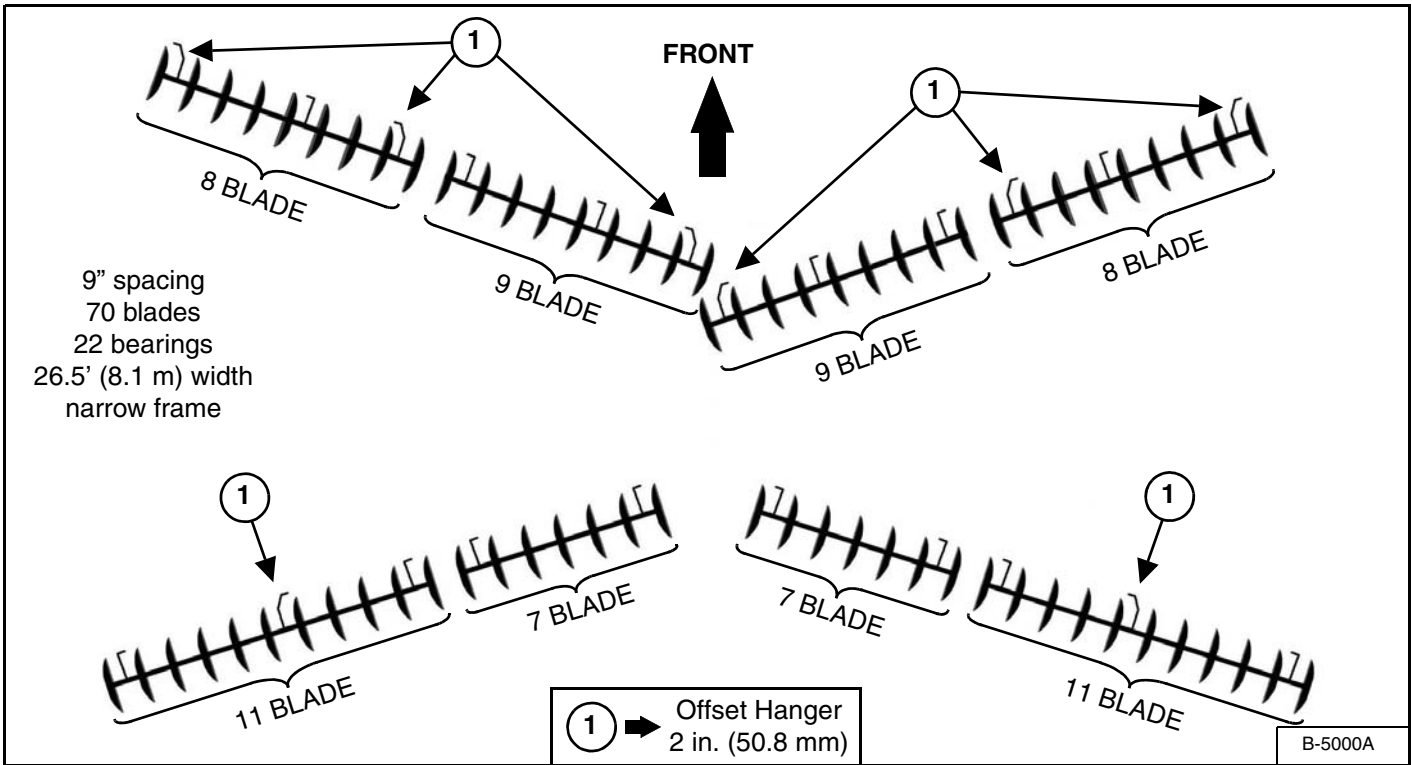
**! IMPORTANT**

**ALL** depth stops must be installed on main frame rockshaft cylinder when transporting disc.

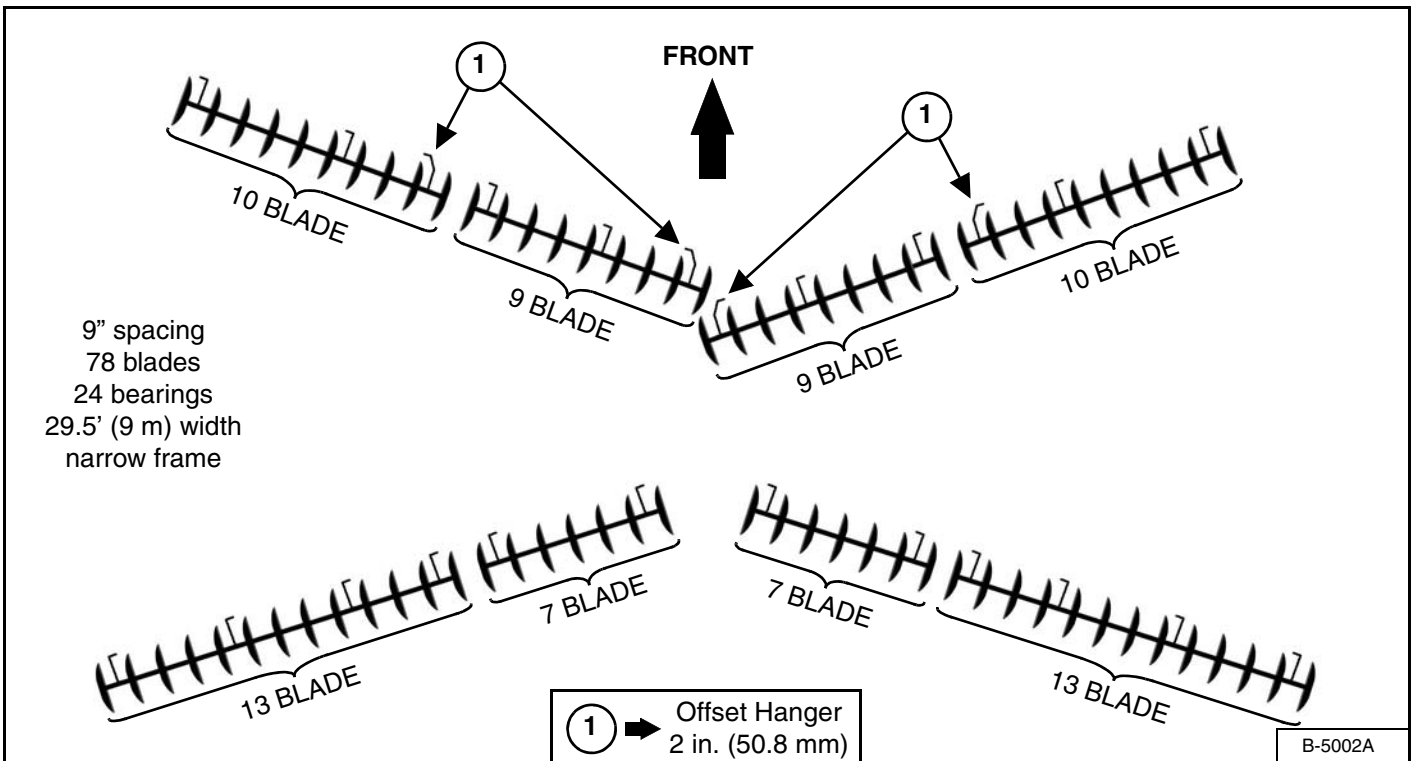
The depth stops will have a total length of 17 inches

**GANG PATTERNS**

**9 Inch Spacing - 70 Blades / 22 Bearings**

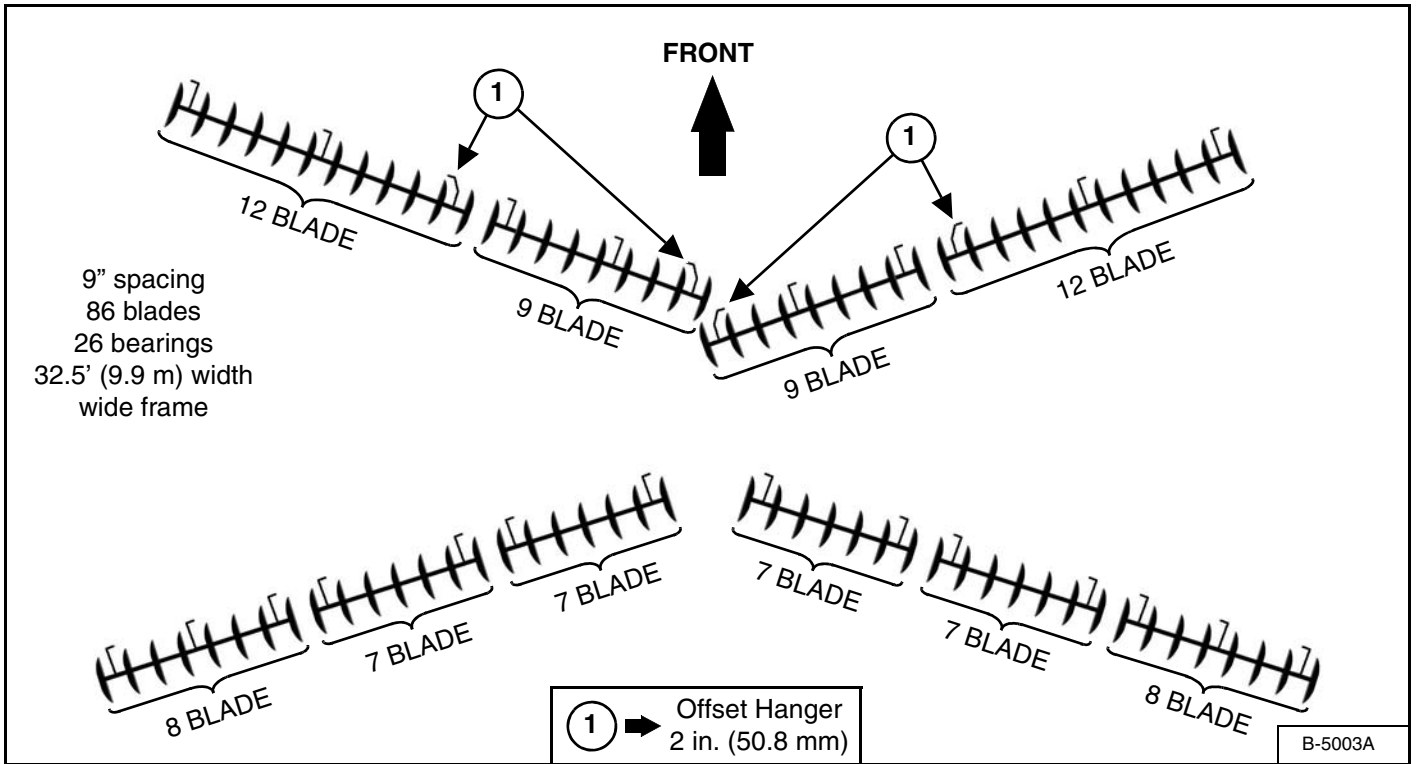


**9 Inch Spacing - 78 Blades / 24 Bearings**

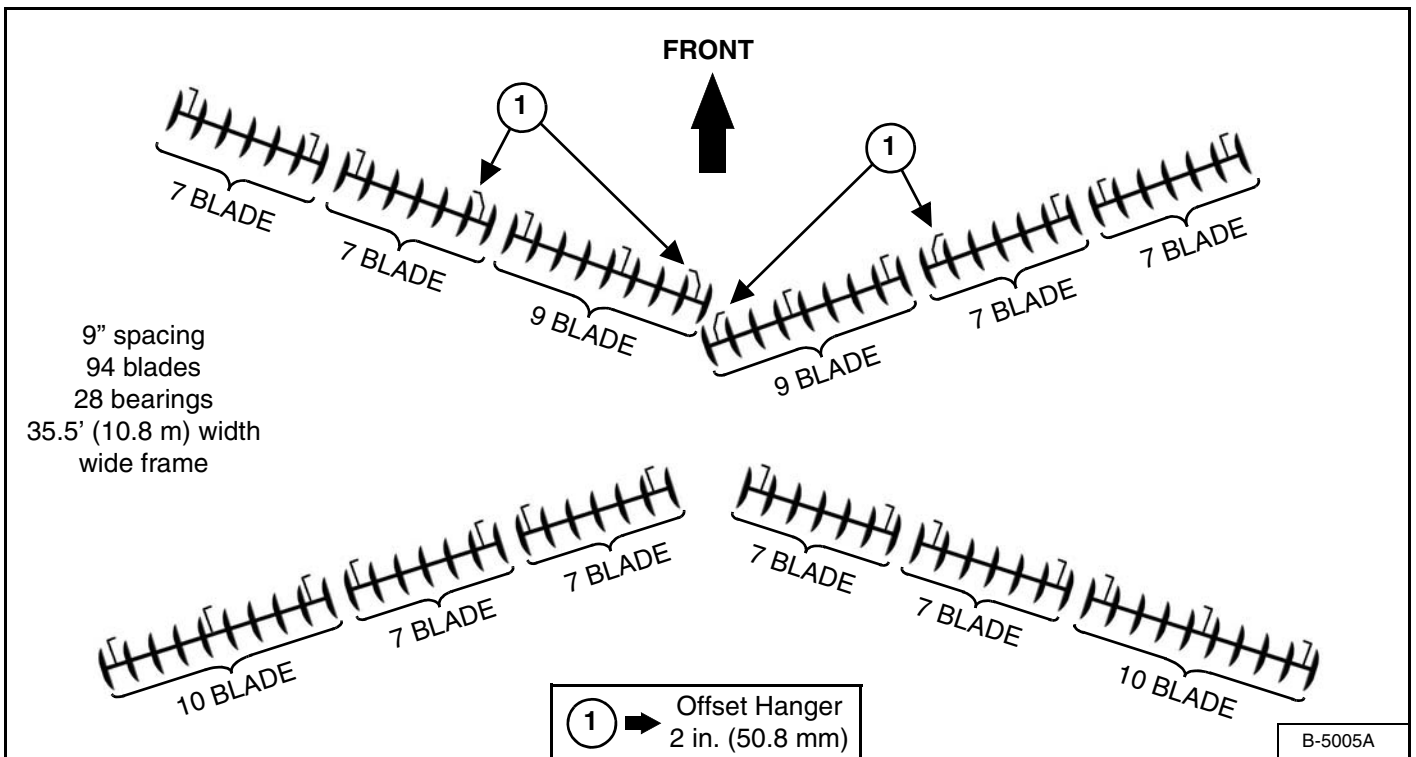


**GANG PATTERNS (CONT'D)**

**9 Inch Spacing - 86 Blades / 26 Bearings**



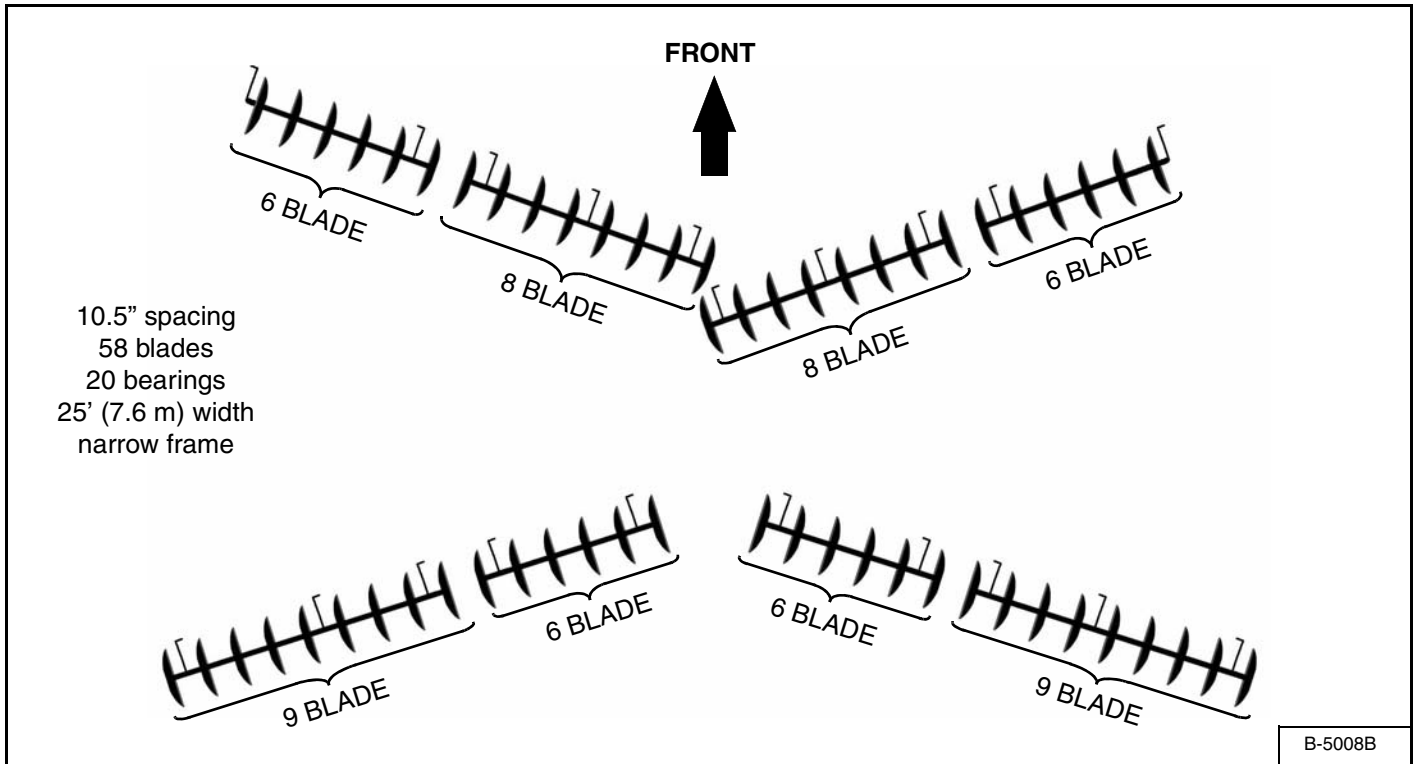
**9 Inch Spacing - 94 Blades / 28 Bearings**



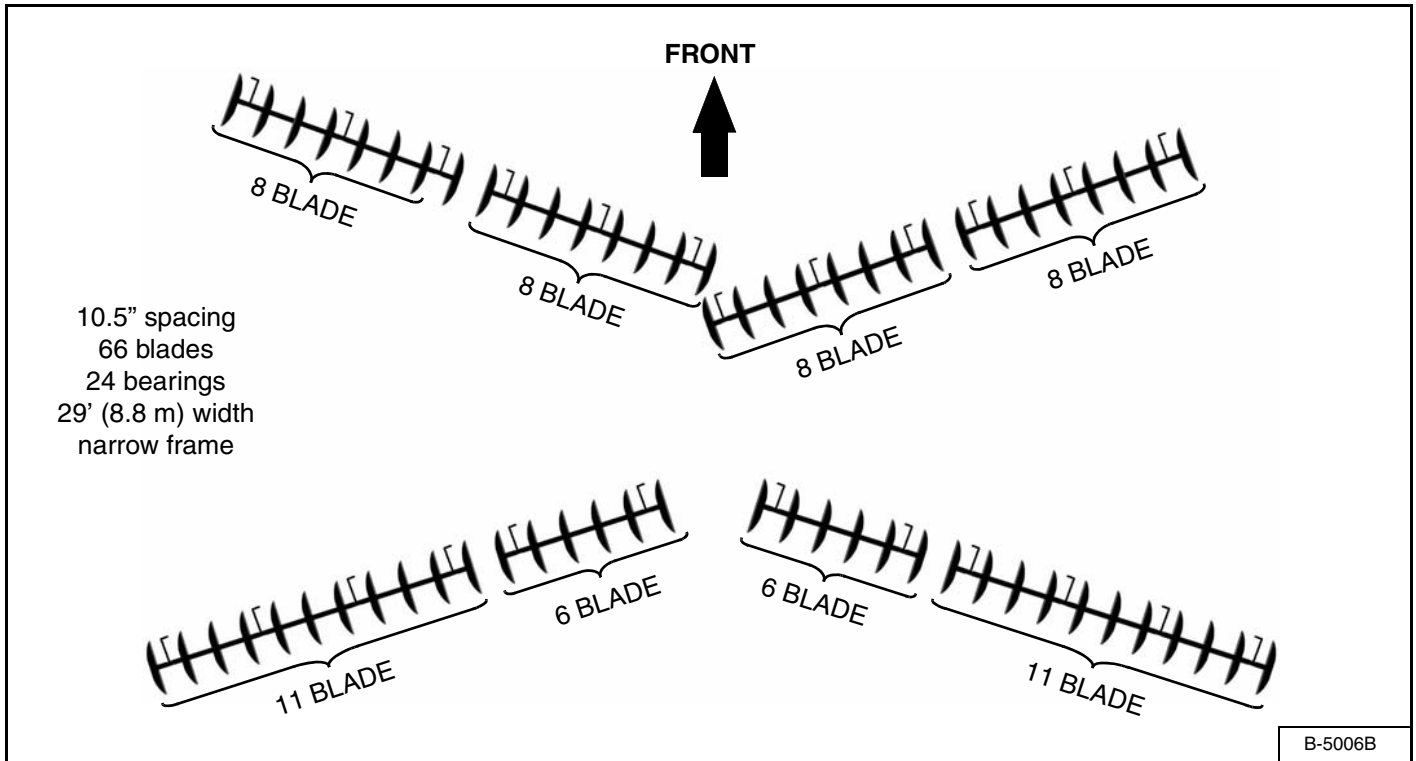


**GANG PATTERNS (CONT'D)**

**10-1/2 Inch Spacing - 58 Blades / 20 Bearings**

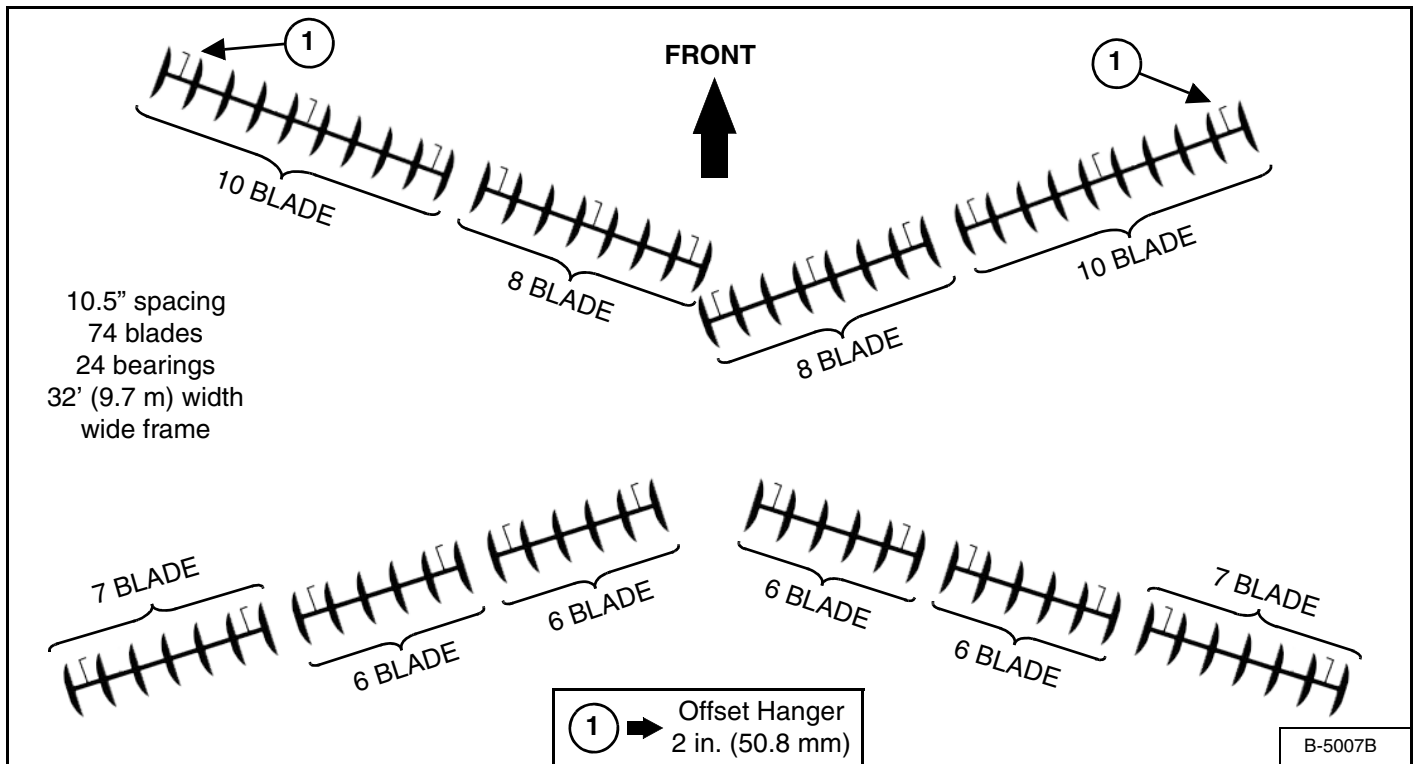


**10-1/2 Inch Spacing - 66 Blades / 24 Bearings**

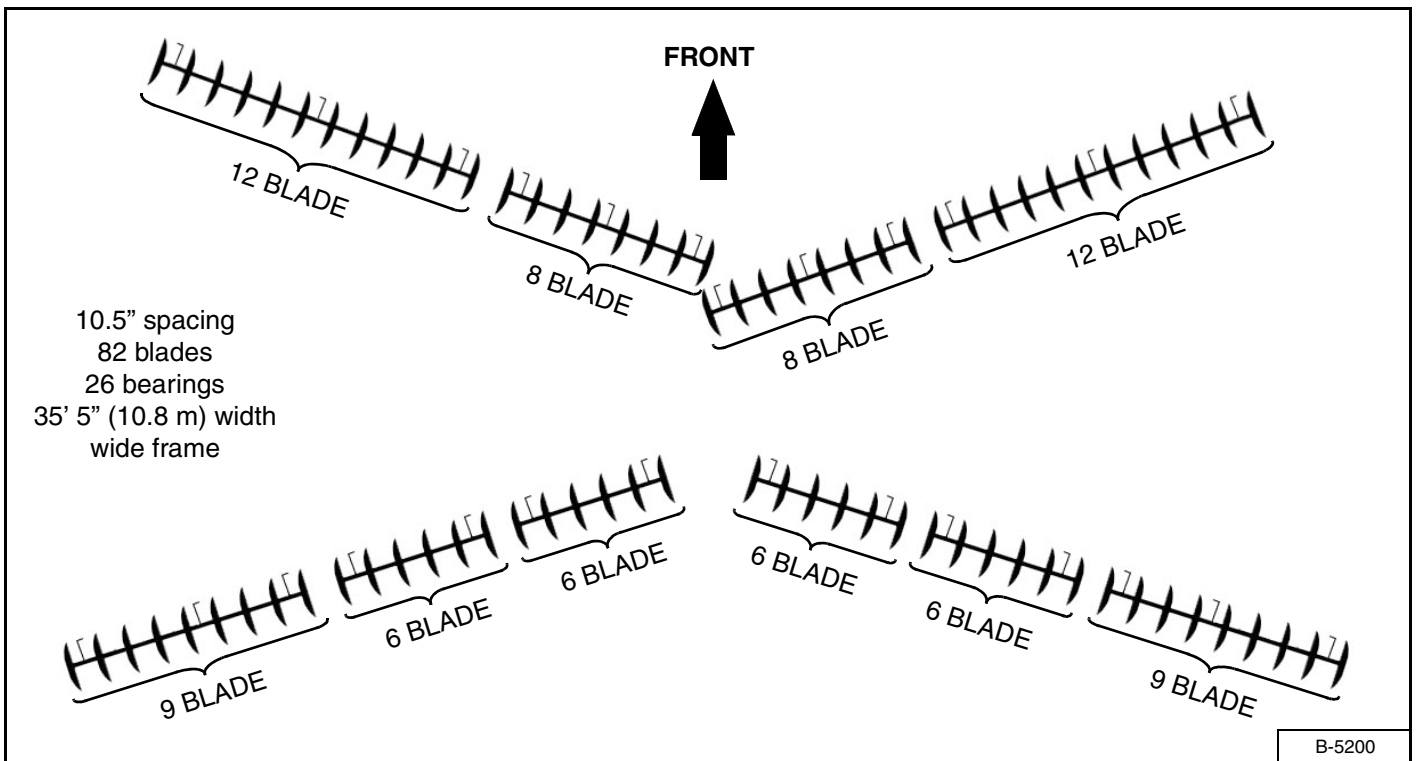


**GANG PATTERNS (CONT'D)**

**10-1/2 Inch Spacing - 74 Blades / 24 Bearings**



**10-1/2 Inch Spacing - 82 Blades / 26 Bearings**



# Farm King



**OPERATION**

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# Farm King



**GENERAL INFORMATION**

**Pre - Operation Checklist**

Before operating the Tandem Disc for the first time and each time thereafter, check the following items:



**MOVING PART HAZARD**

To prevent serious injury or death from moving parts:

- Clear area of all bystanders before starting or moving the tractor and disc.
- Keep hands, feet, hair and clothing away from moving parts.
- Disconnect and lockout power source before adjusting or servicing.
- Do not stand or climb on machine when operating.



**AVOID INJURY OR DEATH**

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

1. Lubricate the equipment per the schedule outlined in the Maintenance Section. (See “SERVICE SCHEDULE” on page 101.)
2. Check the Tandem Disc hitch for damaged, loose or missing parts. Repair as needed before operation.

3. Check that center frame tire pressure is 90 psi (621 kpa).
4. Check that wing frame tire pressure is 60 psi (414 kpa).
5. Check that wheel bolt torque is 130 ft-lb (176.3 N•m).
6. Fully clean the equipment. (See “CLEANING THE TANDEM DISC” on page 109.)
7. Check tandem disc for damaged or loose components and hardware. Replace damaged components (if required) and tighten all hardware before operating the tandem disc.
8. Check wings for proper operation. Adjust wings as needed before operating the tandem disc.
9. Inspect all electrical connections to ensure proper function of the machine.
10. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

11. Check condition of all hydraulic components for leaks. Repair as required.

**NOTE: Do not operate with hydraulic leaks.**

12. Verify that the tandem disc is properly connected to the tractor with the safety chain.



**Break - In Checklist**

Check the following mechanical items after 1 hour of operation and again after 10 hours of operation:

1. Check condition of all hydraulic components for leaks. Tighten fittings to correct leaks or replace components. Do not operate with hydraulic leaks.

**Figure 118**

2. Check the tandem disc hitch for damaged, loose or missing parts **[Figure 118]**. Repair as needed before operation.
3. Check for loose fasteners and hardware. Tighten as required.
4. Check that center frame tire pressure is 90 psi (621 kpa).
5. Check that wing frame tire pressure is 60 psi (414 kpa).
6. Check that wheel bolt torque is 130 ft-lb (176.3 N•m).

 **IMPORTANT**

**Wheel bolts must be kept tight. If bolts are not tight, bolts will loosen causing severe damage to hub, wheel and tire. Check wheel bolts periodically, especially the first few hours of either transport or field work.**

Tractor Requirements



**AVOID SERIOUS INJURY OR DEATH**

The tractor must be equipped with an approved Roll Over Protection Structure (ROPS) and safety belts to help prevent personal injury or death caused by tractor roll over.



- Keep shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

**NOTE:** The following information will depend on working depth, soil type, field speed, etc.

*9 in. (230 mm) Spacing*

The 6650 Tandem Disc with 9 in. (230 mm) spacing will require a tractor with minimum 6.0 to 8.0 DBHP/foot (4.5 to 6.0 kW per 305 mm).

*10.5 in. (267 mm) Spacing*

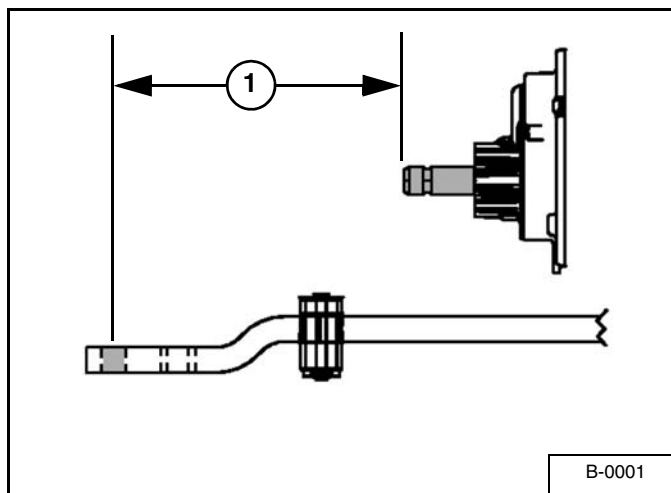
The 6650 Tandem Disc with 10.5 in. (267 mm) spacing will require a tractor with minimum 6.0 to 8.0 DBHP/foot (4.5 to 6.0 kW per 305 mm).



Using a tractor with greater HP than the recommended range may cause severe damage to frame and / or gang components of implement and thereby void warranty.

Drawbar Adjustment

Figure 119



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) [Figure 119] is 16 inches (410 mm) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

Entering And Leaving The Operator's Position



**Follow the instructions in your tractor's operation manual for the correct procedure.**

*Entering The Operator's Position*

Move to the operator's position, start the engine and release the parking brake.

*Leaving The Operator's Position***AVOID INJURY OR DEATH****Before you leave the operator's position:**

- **Always park on a flat level surface.**
- **Place all controls in NEUTRAL.**
- **Engage the park brake.**
- **Stop the engine and remove the key.**
- **Wait for all moving parts to stop.**

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

**INITIAL SET-UP****Connecting The Tandem Disc To The Tractor**

Always inspect the tractor's drawbar and tandem disc hitch before connecting. See the tractor's owner's manual.

Verify that the tractor's drawbar is adjusted correctly for use with the Tandem Disc. (See "Drawbar Adjustment" on page 85.)

Enter the operator's position. (See "Entering The Operator's Position" on page 85.)

Move the tractor into position in front of the Tandem Disc.

**AVOID INJURY OR DEATH**

**Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.**

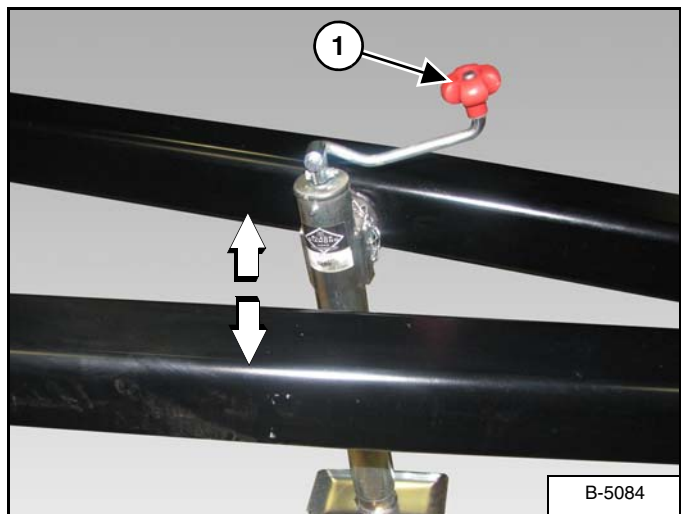
Move the tractor backwards, aligning the drawbar with the tandem disc hitch.

**NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.**

If the tandem disc hitch needs to be adjusted, stop the tractor when drawbar is just in front of the Tandem Disc hitch.

Leave the operator's position. (See "Leaving The Operator's Position" on page 86.)

Figure 120



Turn the handle (Item 1) [Figure 120] clockwise to raise the hitch or counterclockwise to lower the hitch.

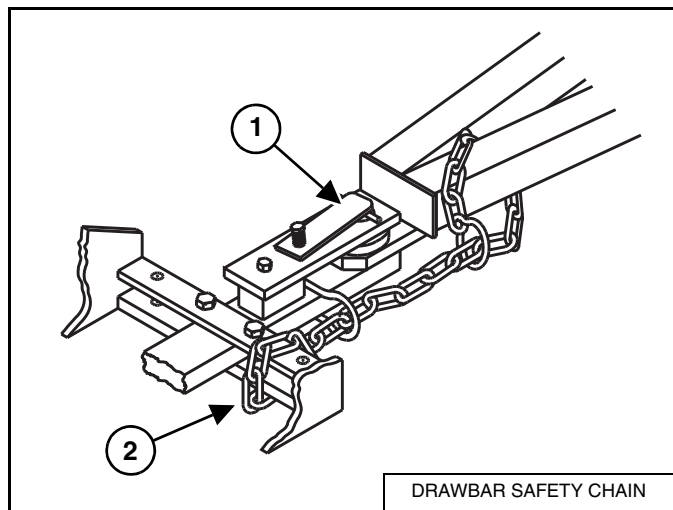
Lower or raise the Tandem Disc hitch until aligned with the tractor's drawbar.

Move to the operator's seat, start the engine and release the parking brake.

Move the tractor backwards, aligning the drawbar hitch pin hole with the Tandem Disc hitch pin hole(s).

Stop the tractor and leave operator's position.

Figure 121



Install the hitch pin (Item 1) [Figure 121] and retaining pin to securely fasten the Tandem Disc hitch to the tractor drawbar.

Attach the safety chain (Item 2) [Figure 121] around the drawbar mount.

**NOTE: Always use a safety chain with a strength rating greater than the gross weight of the towed machine.**



**AVOID INJURY OR DEATH**

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

**NOTE: Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.**

**Connecting Hydraulic Lines**



**HIGH PRESSURE FLUID HAZARD**

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

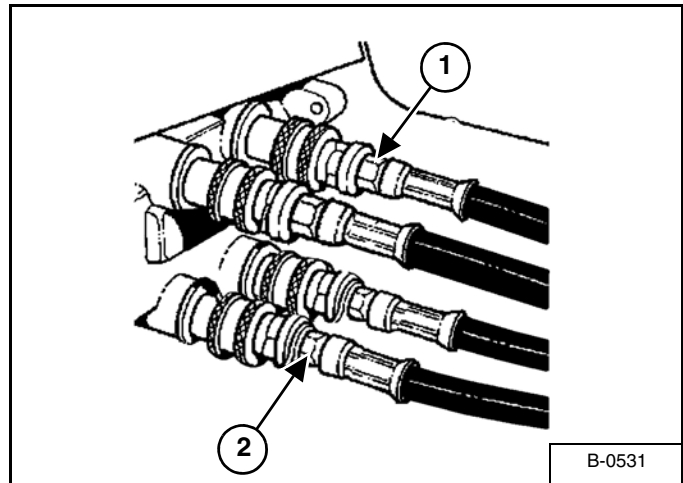


- Contain and dispose of any oil leakage in an environmentally safe manner.
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

**NOTE:** Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

*To Connect:*

**Figure 122**



Connect the hydraulic lines to the tractor [Figure 122].

1. Raise / Lower (Green Ties).
2. Fold / Unfold (Blue Ties).

*To Disconnect:*



**AVOID BURNS**

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

Pull on the hydraulic lines to disconnect.

**Connect Electrical Harness**

Connect the tandem disc's lighting harness to the tractor's electrical system.

Lateral Adjustment



The tandem disc frame must be leveled front to rear & side to side until the tandem disc is parallel with the ground prior to operation.



**AVOID INJURY OR DEATH**

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

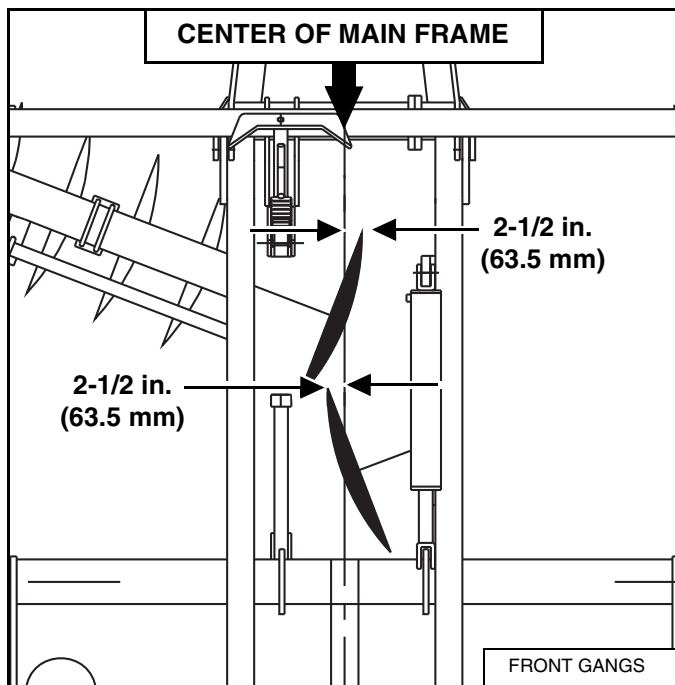
Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 85.)

Park the tractor / equipment on a flat level surface.

Stop the tractor, place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position. (See "Leaving The Operator's Position" on page 86.)

Front Gangs

Figure 123



Loosen bearing hanger U-bolts and position the front inside gang sections, so that the leading edge of inside blade is approximately 2-1/2" (63.5 mm) past center of main frame [Figure 123].



Always tighten inside hanger bearing u-bolts first, while maintaining the 2-1/2" (63.5 mm) spacing past center of main frame. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.



Hanger bracket must be sitting square with gang beam before tightening u-bolts.



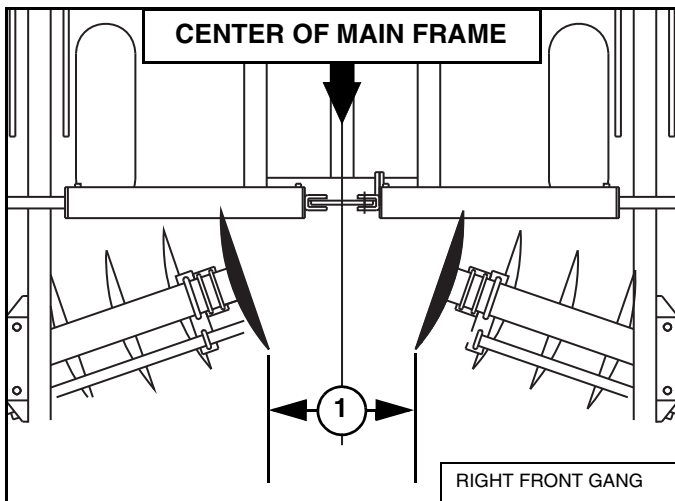
Rear Gangs

**! IMPORTANT**

The opening between the rear gang must be set at a distance that will allow furrow left by the front gangs to be filled evenly.

**NOTE:** The distance the rear gangs are set apart is determined by the discing speed, discing depth, gang angle and soil conditions. If the rear gangs are set too close together, the rear gangs will leave a ridge at center. If rear gangs are set too far apart, the furrow at center left by the front gangs will not be filled.

Figure 124



Center rear inside gang sections, so that the distance between the rear edge of the two inside blades (Item 1) [Figure 124], is equal to 2" (50.8 mm) less than diameter of blades with a maximum of 24" (610 mm).

**EXAMPLE** - if the disc is equipped with 24" (610 mm) diameter blades, the distance between the rear edge of the two inside blades (Item 1) [Figure 124] would be set at 22" (559 mm).

**NOTE:** If the disc is equipped with 26" (660 mm) or 28" (711 mm) diameter blades, the distance between the rear edge of the two inside blades (Item 1) [Figure 124] would be set at a maximum of 24" (610 mm).

To adjust the distance between the rear gangs, loosen the bearing hanger u-bolts and reposition the gang sections.

**NOTE:** It may be necessary to increase distance between rear gangs in order to collect enough soil to fill furrow.

An increase in discing speed may require rear gangs to be set further apart. A decrease in discing speed may require rear gangs to be set closer together.

**! IMPORTANT**

Be sure the blade to blade distance between individual gangs are adjusted to match discs blade spacing.

Front And Rear Gang Adjustments Completed

**! IMPORTANT**

Always tighten inside hanger bearing u-bolts first, while maintaining the desired spacing between the rear edge of the two inside blades. Tighten all bearing hanger u-bolts to 430 ft.-lb. (583 N•m) torque.

**NOTE:** Before tightening bearing hanger U-bolts, ensure that each bearing hanger is positioned flat under the gang beam to avoid preloading bearings and / or other gang components.

Tighten bearing hanger u-bolts.

**Front To Rear Adjustment**

Move to the operator’s position. (See “Entering The Operator’s Position” on page 85.)

Park the tractor / equipment on a flat level surface.

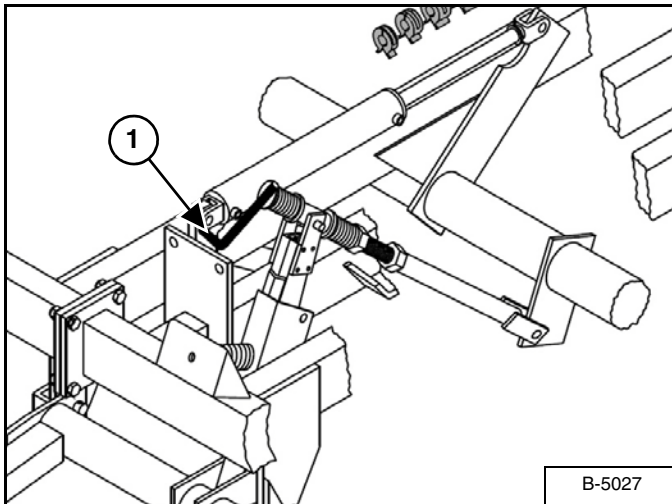
Stop the tractor and leave the operator’s position. (See “Leaving The Operator’s Position” on page 86.)

*Lowering / Raising The Front Gangs*



Always keep disc level from front to rear. Discing with front gangs lower than rear gangs will cause ridging at outside and may cause damage to disc components.

**Figure 125**



**Lowering Front Gangs** - Turn crank, (Item 1) [Figure 125], IN (clockwise)

**Raising Front Gangs** - Turn crank, (Item 1) [Figure 125], OUT (counter clockwise)

**Setting Discing Depth**

Move to the operator’s position. (See “Entering The Operator’s Position” on page 85.)

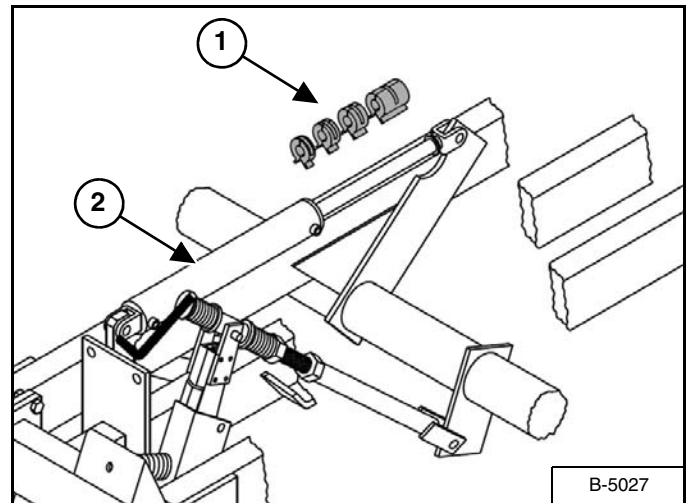
While moving forward, lower disc into the ground until disc reaches desired discing depth.

Stop the tractor and leave the operator’s position. (See “Leaving The Operator’s Position” on page 86.)



To keep disc level, transport wheels must be riding on ground gauging desired discing depth.

**Figure 126**



Install the necessary depth control stops (Item 1) on center frame cylinder (Item 2) [Figure 126] to maintain the desired cutting depth.

**Leveling Wing Frames**

Move to the operator's position. (See "Entering The Operator's Position" on page 85.)

Move the tractor / equipment to a flat level surface.

Stop the tractor and leave the operator's position. (See "Leaving The Operator's Position" on page 86.)

**! IMPORTANT**

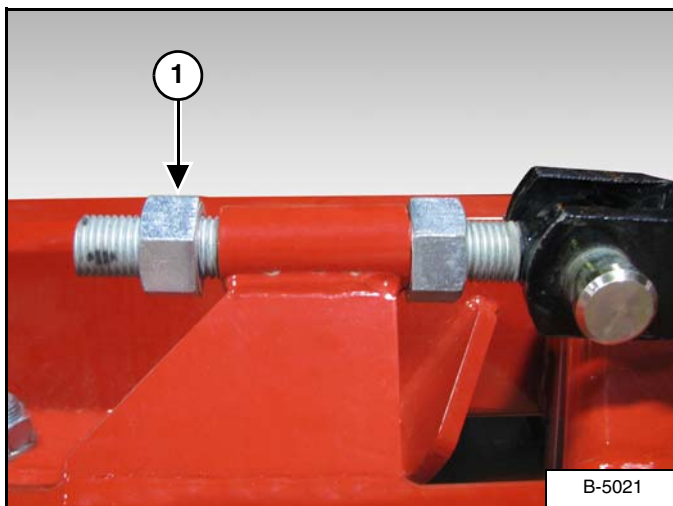
Before leveling wing frames, verify center frame is level from front to rear.

**! IMPORTANT**

For even blade penetration, outside of wing frames must be level with center frame or even 1/2 in. (12.7 mm) higher than center frame.

*Raising Outside Wing Frame*

**Figure 127**

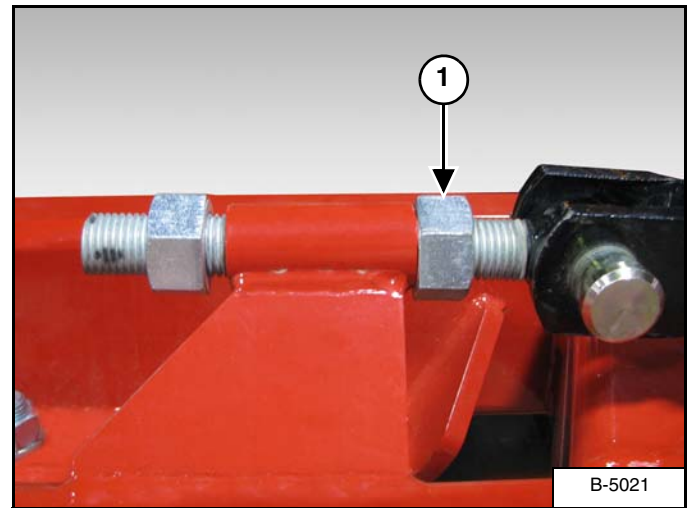


Loosen rear nut (Item 1) [Figure 127] of I-bolt and tighten front nut. This will lower the wheels raising outside of wing.

After adjustments are complete, lock I-bolt by tightening rear nut against I-bolt holder.

*Lowering Outside Wing Frame*

**Figure 128**



Loosen front nut (Item 1) [Figure 128] of I-bolt and tighten rear nut. This will raise the wheels allowing outside of wing to lower.

After adjustments are complete, lock I-bolt by tightening rear nut against I-bolt holder.

**! IMPORTANT**

Verify that the axis of clevis pin is horizontal and cylinder ports are facing up. If cylinder and I-bolt are not positioned properly, cylinder will not be free to pivot when activated, causing serious damage.

**! CAUTION**

If cylinder and I-bolt are not positioned properly, cylinder will not be free to pivot when activated, causing serious damage.

**OPERATING THE TANDEM DISC**

**Field Operation**

Move to the operator’s position, start the engine and release the parking brake. (See “Entering The Operator’s Position” on page 85.)

Move the tractor / equipment to the starting point of the work area.

Stop the tractor and engage the parking brake.

Make lateral adjustments (if required). (See “Lateral Adjustment” on page 89.)

Level wing frames (if required). (See “Leveling Wing Frames” on page 92.)

Set discing depth (if required). (See “Setting Discing Depth” on page 91.)



**ELECTROCUTION HAZARD**

To prevent serious injury or death from electrocution:

- Be aware of overhead / underground powerlines.
- Keep away from powerlines when transporting or folding / unfolding wings.
- Electrocution can occur without direct contact.



**AVOID SERIOUS INJURY OR DEATH**

- Do not stand under wings when folding / unfolding.
- Keep bystanders away.

**NOTE:** When extending wing lift cylinders, there will be a short pause before cylinders fully extend.

Using the tractor controls, lower wings until the wing wheels make contact with the ground. Continue to hold the tractor control until the wing lift cylinders are fully extended, placing the wings in the field position.

Stop the tractor and leave the operator’s position. (See “Leaving The Operator’s Position” on page 86.)



**AVOID SEVERE EQUIPMENT DAMAGE**

When operating the tandem disc:

- Always keep disc level when operating.
- Do not make sharp turns with the disc in ground.
- Always lift the disc out of ground before making sharp turns.
- Do not operate disc in field with wings folded in transport position.
- Do not disc with front gangs cutting deeper than rear gangs.
- Always place the hitch jack in the horizontal / transport position when operating.
- Always keep transport wheels in contact with the ground.
- Always operate the disc with the tractor drawbar pinned at center of tractor.



**MACHINE TIPPING OR ROLL OVER CAN CAUSE SERIOUS INJURY OR DEATH**

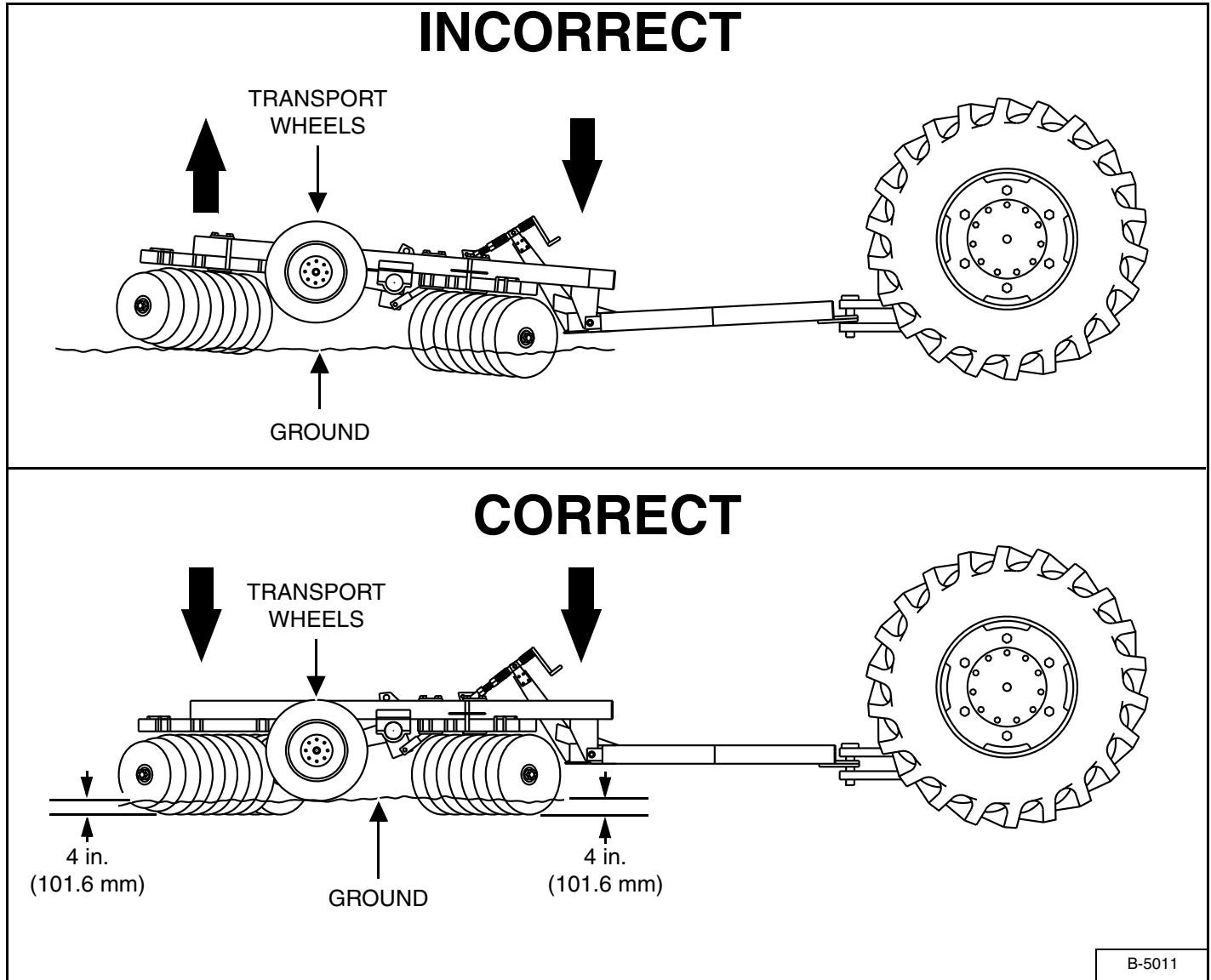
- Turn on level ground. Slow down when turning.
- Go up and down slopes, not across them.
- Check for adequate traction.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 85.)

**Recommended operating speed is 5 - 7 mph (8 - 11 kph).**

Move tractor and tandem disc forward, slowly lower tandem disc into the ground until the transport wheels make contact with the ground and the disc reaches desired discing depth.

**Figure 129**



To keep the tandem disc level, transport wheels must be contacting the ground gauging desired discing depth (CORRECT) [Figure 129].

**NOTE:** If conditions are such that disc cannot penetrate to maximum depth, Do Not raise transport wheels off ground (INCORRECT) [Figure 129]. Raised transport wheels may cause front of disc to drop causing front gangs to cut deeper than rear gangs.

### *Uneven And Deep Front Gang Penetration*

- Front of disc may drop because rockshaft and hitch leveling arm is linked. As the wheels are raised, the hitch leveling arm is pulled back allowing hitch to float. If hitch is allowed to float it will not support front of disc allowing front gang to drop.
- With front of disc lower than the rear, the front outside blades will cut much deeper than the front inside blades. This means that more of the disc's weight is placed on the front outside blades, forcing them deeper into the ground.
- Uneven and deep front gang penetration in tough conditions will place excessive strain on blades, gang bearings, frame and hitch, and will lead to a premature failure of parts especially outside blades and bearings of front gangs.



### **AVOID EQUIPMENT DAMAGE**

**Operating disc with transport wheels off ground will cause uneven discing and place undue strain on machine which could lead to parts failure. Always operate disc with transport wheels on ground even if soil conditions will not allow disc to penetrate to maximum depth.**

---

### **Rephasing Rockshaft Cylinders**

**NOTE: Periodically, the hydraulic lift cylinders on wing frame will not be synchronized with center frame cylinder. This will cause uneven cutting depth. If this happens, rephase the lift cylinders.**

### *Procedure*

Fully lift the tandem disc completely out of the ground, continue holding the tractor's control lever until all (3) three rockshaft cylinders are fully extended.

### **ADDITIONAL OPERATING RECOMMENDATIONS**

#### **Remove Ridge At Center Of Disc**

Make one or more of the following adjustments:

- Level disc from front to rear using leveling crank.
- Increase discing speeds.
- Increase distance between rear gangs.

#### **Remove Furrow At Center Of Disc**

Make one or more of the following adjustments:

- Level disc from front to rear using leveling crank.
- Reduce discing speeds.
- Decrease distance between rear gangs.

#### **Remove Unbroken Ground Left By Front Gangs**

Make the following adjustment:

- Adjust leading edge of inside blade of each front gang so it is 2-1/2 in. (63.5 mm) past center of disc.

#### **Reduce Gang Plugging**

Make the following adjustment:

- Adjust scrapers so they contact blades.



**TRANSPORTING**

**Requirements**

Comply with federal, state, local and provincial laws regarding the transport of farm equipment on public roadways.



**AVOID SERIOUS INJURY OR DEATH**

**Use of an unapproved hitch or tractor can result in loss of control, leading to serious injury or death.**

**Tractor and hitch must have the rated capacity to tow equipment.**



**AVOID SERIOUS INJURY OR DEATH**

**Excess weight will greatly increase tractor stopping distance and may cause the operator to lose control of the tractor.**



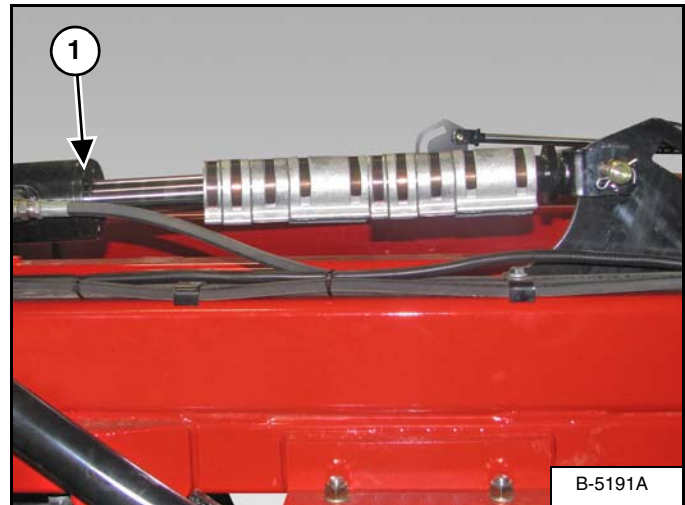
**Tractor must have adequate braking capacity to safely control tandem disc GVW (Gross Vehicle Weight) trailing load. Do not tow over 20 mph (32 kph). Tractor unit should weigh approximately 67% of GVW.**

Verify that the tractor is approved for transporting the equipment and that the equipment is securely attached to the tractor.

Verify safety chain is installed and properly connected before transporting equipment.

Verify that the SMV (Slow Moving Vehicle) emblem, all lights and reflectors are clean and visible.

**Figure 130**



When transporting disc, always place the complete depth control package 17 in. (431.80 mm) long on shaft of 4 in. x 24 in. (102 mm x 610 mm) main frame lift cylinder (Item 1) [Figure 130].

**Transport Position**

Wings fully raised, depth control package in place and lockup valves in closed position.



**All depth stops must be installed and lock up valves closed when transporting disc.**

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**TROUBLESHOOTING**

**General Chart**



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

**NOTE:** If a problem is encountered that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor or dealer. Before you call, please have this Operator And Parts Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	CORRECTION
Outside blades of front wings are cutting too deep causing disc to ridge at outside.	Wheels raised off ground causing front disc to drop.	Lower wheels to ground to gauge discing depth.
	Tire pressure is low on outer wheels causing disc to cut deep at outside.	Inflate tire, (See "Tire Pressure" on page 108.)
	Disc is lower at front than at rear.	Using leveling crank, raise front of disc.
	Wing wheel not adjusted for proper cutting depth.	Raise outside of wing by adjusting lift cylinder I-bolt.
	Wing rockshaft cylinders are not synchronized with center frame rockshaft cylinder.	Rephase rockshaft cylinders.
Outside blades of front wings are not cutting deep enough.	Disc is higher at front than rear.	Using leveling crank, raise front of disc.
Outside blades on front and rear gangs are cutting too deep.	Tire pressure is low for wing wheels causing wings to cut deeper.	Check tire inflation for all wheels. (See "Tire Pressure" on page 108.)
	Outside of wing frame is lower than main frame.	Raise outside of wing with wing rockshaft cylinder anchor bolt.
	Wing rockshaft cylinders are not synchronized with center frame rockshaft cylinder.	Rephase rockshaft cylinders.
Outside blades on front and rear gangs are not cutting deep enough.	Tire pressure is lower on center section wheels than wing section wheel causing center section to cut deeper	Check tire inflation for all wheels. (See "Tire Pressure" on page 108.)
	Outside of wing frame(s) is higher than main frame.	Lower outside of wing with wing rockshaft cylinder anchor bolt.
	Wing rockshaft cylinder is not synchronized with main frame rockshaft cylinder.	Rephase rockshaft cylinders.

PROBLEM	CAUSE	CORRECTION
Disc is leaving a ridge at center of discing	Rear gangs are cutting deeper than front gangs.	Level disc.
	High discing speed is causing disc to throw dirt further resulting in a pile at center.	Decrease discing speed.
	Rear gangs are too close together.	Increase distance between rear gangs.
Rear gangs are not filling furrow left by front gangs at center of disc.	Front gangs are cutting deeper than rear gangs.	Level disc.
	A low discing speed is causing disc to not throw dirt far enough to fill furrow left by front center blades.	Increase discing speed.
	Rear gangs are too far apart.	Decrease distance between rear gangs.
Front gangs are leaving unbroken ground at center of disc.	Front gangs are either overlapped too much or not enough.	Adjust overlap of front gangs.
Disc gangs are plugging.	Scrapers are too far from blades.	Adjust scrapers so they are contacting blades.
	Thrash conditions too heavy for your machine cylinder(s).	Contact your dealer.
When raising disc out of ground, main frame comes out of ground while outside of wing(s) lags behind or does not come out of ground.	Piston seals on wing rockshaft cylinder(s) are damaged.	Replace piston seals of wing rockshaft cylinder.
When raising disc out of ground, main frame rockshaft cylinder is fully extended while wing rockshaft cylinder(s) are not fully extended.	Rockshaft cylinders not synchronized.	Rephrase rockshaft cylinders.
When raising disc out of ground wing rockshaft cylinder is fully extended while main frame rockshaft cylinder(s) are not fully extended.	Rockshaft cylinders not synchronized.	Rephrase rockshaft cylinders.
Outer wing blades will not penetrate soil.	Soil condition too hard for your machine.	Add weights to outside of wing frame. Contact your Dealer for available weights.
All section of disc will not penetrate soil.	Soil condition too hard for your machine.	Contact your Dealer.

**SERVICE SCHEDULE**

**Maintenance Intervals**

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the 6650 Tandem Disc.



Instructions are necessary before operating or servicing equipment. Read and understand the Operator and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
<b>Daily Maintenance (or every 8 hours)</b>								
1	Tire Pressure	•						pg. 108
2	Wheel Bolts	•						pg. 107
3	Hydraulic Cylinders	•						-
4	Gang Bolts	•						-
5	Bearing Bolts	•						pg. 105
6	Bearing Hanger U-Bolts	•						pg. 105
<b>Every 2 Days (or every 20 hours)</b>								
7	Gang Bearings			•				pg. 102
8	Rockshaft Bearings (Top & Bottom)			•				pg. 103
<b>Weekly (or every 50 hours)</b>								
9	Axle Bearing	•		•				pg. 103
10	Walking Axles	•		•				pg. 103
11	Rockshaft Hydraulic Cylinder Pins	•		•				pg. 103
<b>Monthly (or every 100 hours)</b>								
12	Leveling Crank	•		•				pg. 104
13	Wing Hinge Points	•		•				pg. 104
<b>Annually (or every 500 hours)</b>								
14	Leveling Crank Ball Joint	•		•				pg. 104
15	Wheel Bearings	•		•				pg. 108



**LUBRICATION**

**Recommendations**

Always use a good quality multi-purpose / lithium base grease when lubricating the equipment.



If 410WSS series bearings are over lubricated, there is a possibility the seals can be pushed out. T2-215 series bearings have internal seals that can not be over lubricated.

- Always use a hand-held grease gun.
- Clean fitting before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If fittings will not take grease, remove and clean thoroughly. Replace fitting if necessary.

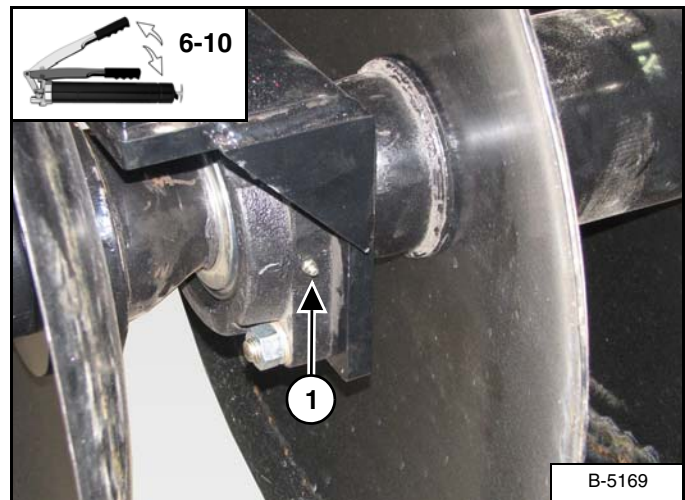
**Locations**



Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Lubricate the following grease locations **EVERY 20 HOURS:**

**Figure 131**

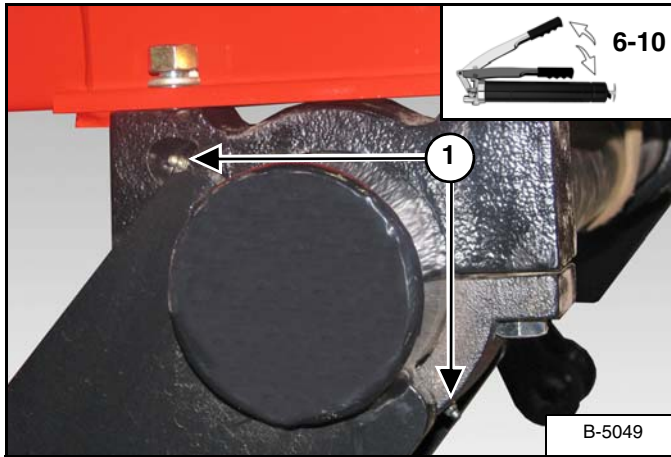


Apply six - ten pumps of grease to the gang bearings (Item 1) [Figure 131] (all locations).

**NOTE:** 410WSS bearings shown in [Figure 131].

Lubricate the following grease locations **EVERY 20 HOURS:**

Figure 132



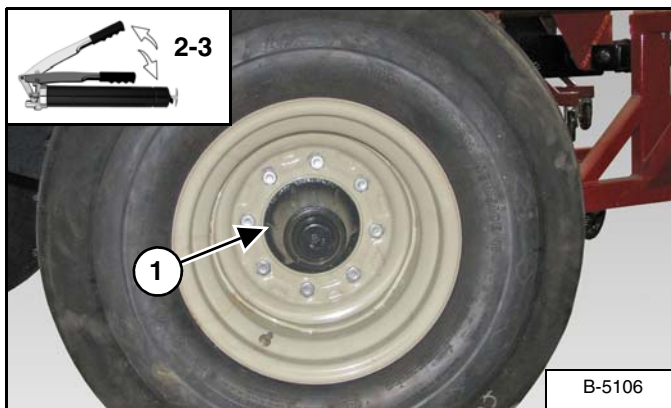
Apply six - ten pumps of grease to the rockshaft bearings (Item 1) [Figure 132] (all locations).



Lower disc so gangs are resting on ground before greasing rockshaft bearings.

Lubricate the following grease locations **EVERY 50 HOURS:**

Figure 133

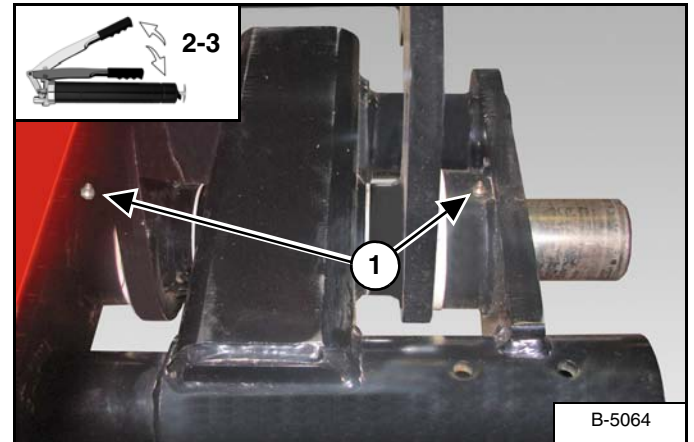


Apply two - three pumps of grease to the axle bearings (Item 1) [Figure 133] (all locations).

**Repacking Wheel Bearings:** Remove dust cap. Grease hub until new grease comes out outer end of hub.

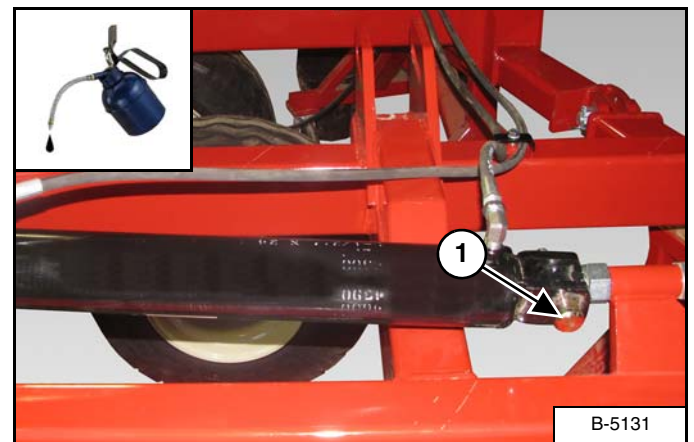
Lubricate the following grease locations **EVERY 50 HOURS:**

Figure 134



Apply two - three pumps of grease to the walking axles (Item 1) [Figure 134] (all locations).

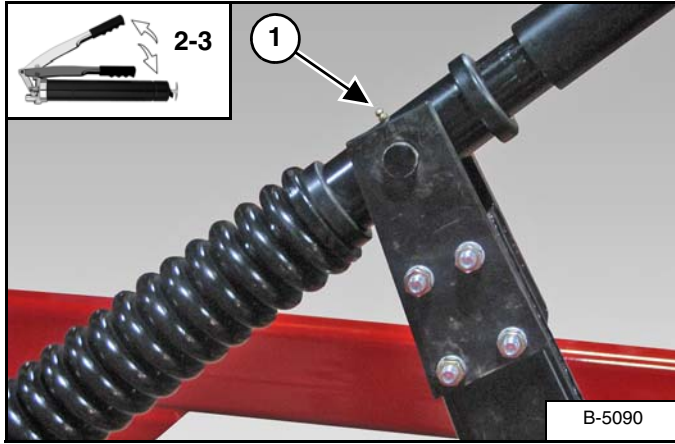
Figure 135



Apply oil to the rockshaft hydraulic cylinder pins (Item 1) [Figure 135] (all locations).

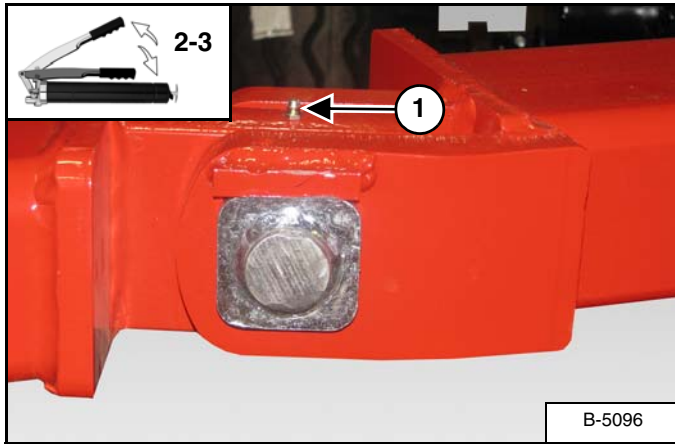
Lubricate the following grease locations **EVERY 100 HOURS**:

**Figure 136**



Apply two - three pumps of grease to the leveling crank (Item 1) [Figure 136].

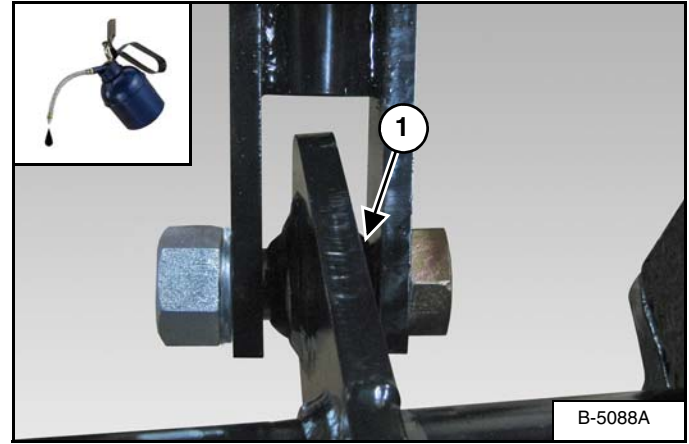
**Figure 137**



Apply two - three pumps of grease to the wing hinge points (Item 1) [Figure 137] (all locations top & bottom).

Lubricate the following grease locations **EVERY 500 HOURS**:

**Figure 138**



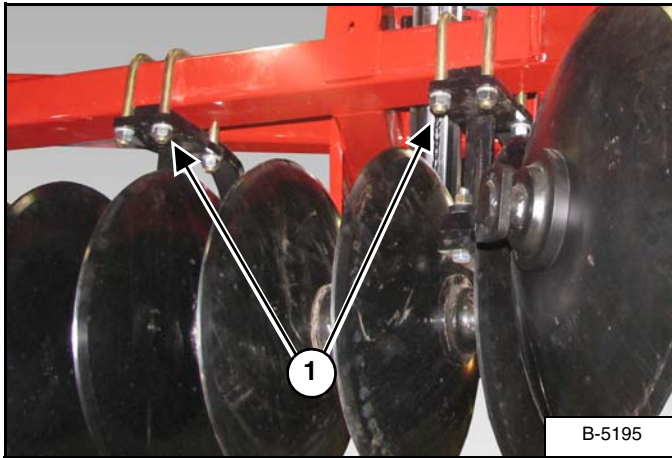
Apply oil to the leveling crank ball joint (Item 1) [Figure 138].

**BEARING HANGERS**

**Inspection**

Inspect and tighten all bearing hanger u-bolts after the first 10 hours of operation and daily thereafter.

**Figure 139**



Tighten all bearing hanger u-bolts (Item 1) **[Figure 139]**.

Torque bearing hanger u-bolts to 430 ft. - lb. (583.0 N•m)

**LEVELING CRANK**

**Inspection**

**Figure 140**



Torque leveling crank bolt - 1-1/4 in. (31.7 mm) diameter - 840 ft. - lb. (1139 N•m)

**! IMPORTANT**

**Leveling crank spring tension should not be changed from factory setting.**



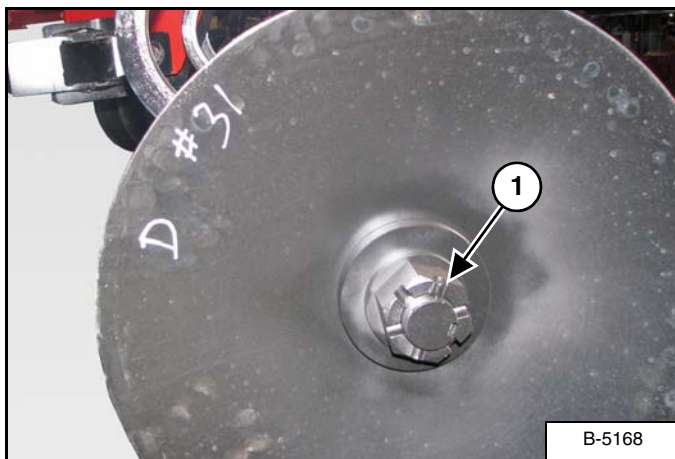
**GANG SECTION**

**Gang Bolt Inspection**



Always lower the disc to the ground when servicing or making adjustments. If disc must be serviced or adjusted in the raised position, place blocks under frame. Do not rely on hydraulic lock up valves as a safety device.

**Figure 141**



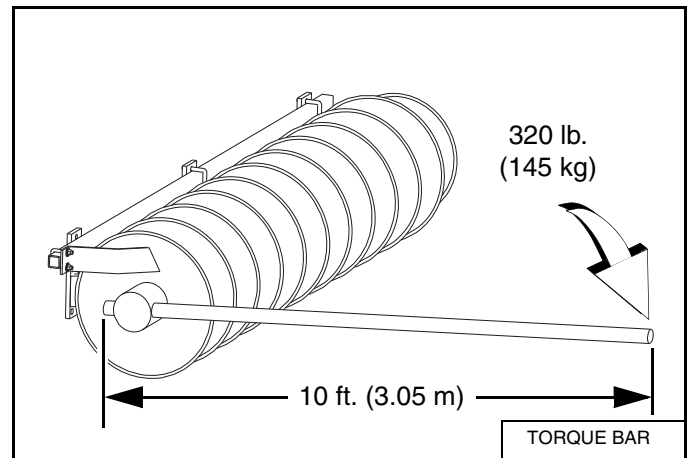
Visually inspect the gang bolt (Item 1) [Figure 141] daily.

**Tightening Gang Bolt**

Tighten 1-15/16" gang bolts to 3200 ft. - lb. (4339 N•m) torque.

**NOTE:** Visually inspect gang bolts daily.

**Figure 142**



Install a 10 ft. bar of adequate size [Figure 142] and strength in socket wrench. Apply 320 lb. (145 kg) of force to end of bar and tighten gang bolt to 3200 ft. - lb. (4339 N•m).



**After repairing a gang, the gang bolt should be re-tightened after 2 hours of operation.**

**NOTE:** Severe damage will occur if gang bolts are loose.

**AXLES**

**Wheel Bolts Torque**



**CHECK WHEEL BOLTS AFTER:**

1. First 5 (five) hours of field operation.
2. First 25 (twenty-five) hours of field operation.
3. First 50 (fifty) hours of field operation.
4. Every 200 (two hundred) hours of operation.

**REPEAT PROCEDURE IF A WHEEL IS REMOVED OR REINSTALLED**

Tighten wheel bolts to 130 ft. - lb. (176.3 N•m) torque.

**Tire / Wheel Replacement**

Periodically check tires for cuts, bulges and damaged rims.



**AVOID INJURY OR DEATH**

**Before you leave the operator's position:**

- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

Fully raise wings into transport position and secure with safety chain.



If wings are folded into transport position, always install a safety chain between each wing frame and main frame to prevent wings from falling.



**AVOID INJURY OR DEATH**

- Always chock tires before performing any maintenance or service.

Remove the eight wheel bolts and remove the tire / wheel.



Main frame wheels are attached with lock nuts. Remove lock nuts first, from the backside of each hub before removing the wheel bolts.

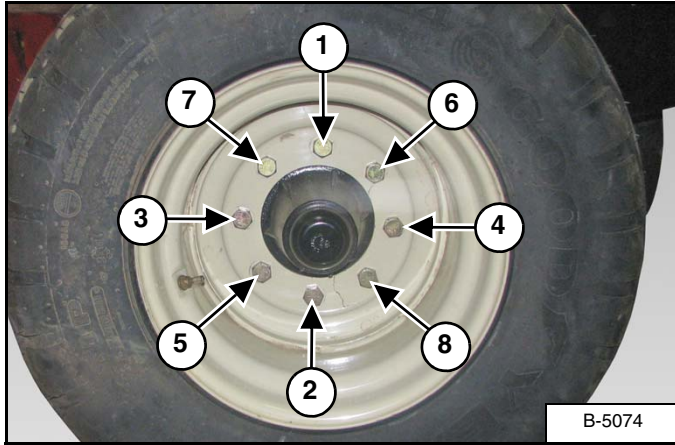
Place chock blocks behind and in front of the opposite tire to be removed.

Raise axle frame with jack until the tire / wheel is slightly off the ground.

**NOTE: Place blocks / stands under the frame to secure the tandem disc when tire / wheel is raised off the ground.**



Figure 143



Install the new tire with the valve stem facing out.

Reinstall eight wheel bolts (Items 1 - 8) [Figure 143].

Tighten wheel bolts in a criss-cross pattern [Figure 143]. Tighten wheel bolts to 130 ft. - lb. (176.3 N•m) of torque.

*Center Frame Tires*

Install eight 9/16" NF nuts on the wheel bolt threads that extend past the back side of the hub. Tighten nuts against the hub.

**Wheel Bearings**

Inspect and re-pack the wheel bearings annually with a quality SAE multi purpose type grease.

**Tire Pressure**



**When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly.**

*Center Frame Tires*

Check tire pressure daily. Fill tires to 90 psi (621 kpa).

*Wing Frame Tires*

Check tire pressure daily. Fill tires to 60 psi (414 kpa).

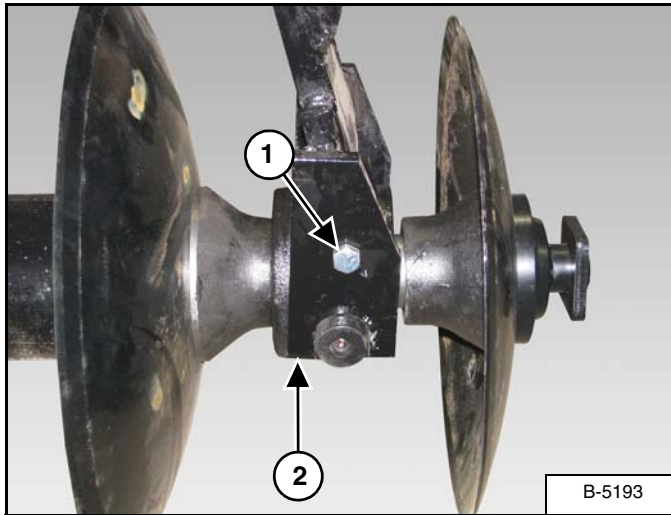
**CLEANING THE TANDEM DISC**

Fully Clean the Tandem Disc EVERY 50 HOURS:

Keep the Tandem Disc free of any debris.

**SERVICING T2-215 BEARINGS (IMPORTANT NOTES)**

Figure 144



1. If T2-215 bearing must be dismantled, double set screws (Item 2) [Figure 144] must be removed from bottom of housing to remove seal cap.
2. When replacing grease seals in T2-215 bearing, ensure they are installed correctly. The I.D. of the outer shield is larger on one side than the other. Be sure the side with the larger I.D. of both seals are facing out. The rubber seal may be damaged if grease seal is not installed correctly.
3. When reinstalling bearing hanger on T2-215 bearing (if gangs are dismantled) do not over tighten the 5/8" x 10" bolts (Item 1) [Figure 144]. Snug / tighten the inner nut against bearing hanger. Tighten outer jam nut against inner nut to secure in position.

**NOTE:** The bolt may break during field operations if it is over tightened.

**NOTE:** Bolt (Item 1) [Figure 144] is 5/8" x 11" if equipped with wear guards.

**WING LIFT CYLINDER**

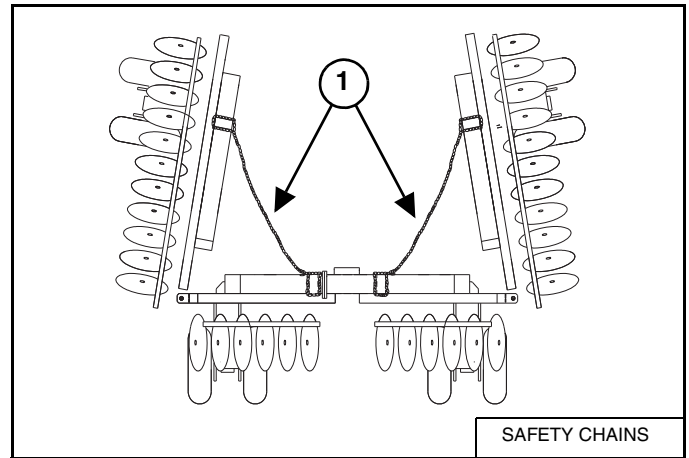
**Removal And Installation**



**AVOID SERIOUS INJURY OR DEATH**

If wing cylinders or wing lift hydraulic hoses are removed when wings are folded into transport position, always install a safety chain between each wing frame and main frame to prevent wings from falling.

Figure 145



If wing lift cylinder hydraulic system must be serviced or repaired with wings in folded position, install safety chains (Item 1) [Figure 145], between each wing frame and main frame to prevent wings from falling.



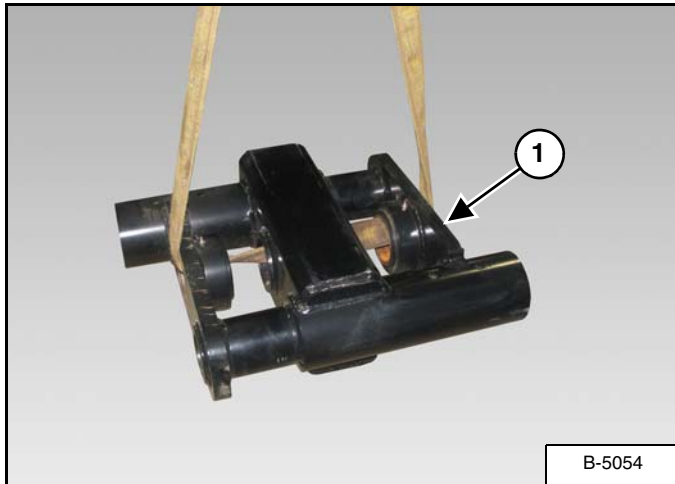
Always install a chain on both wings even if only one cylinder is being worked on.

**WALKING BEAMS**

**Installing The Walking Beams**

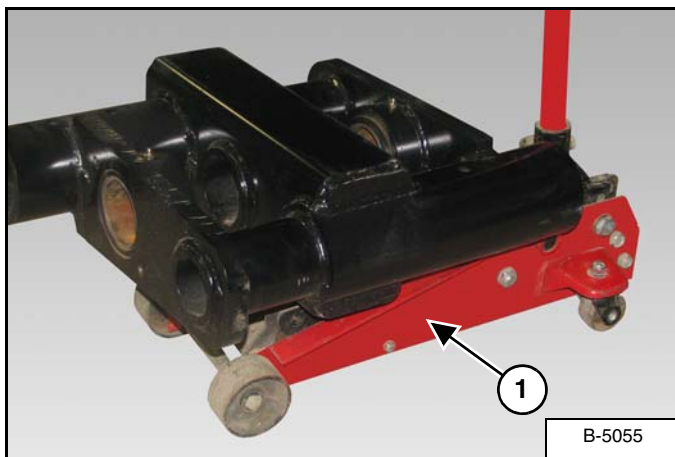
**NOTE:** The following procedure shows the walking beam installation on the RH side of the main frame. The procedure is the same for the LH side of the main frame.

Figure 146



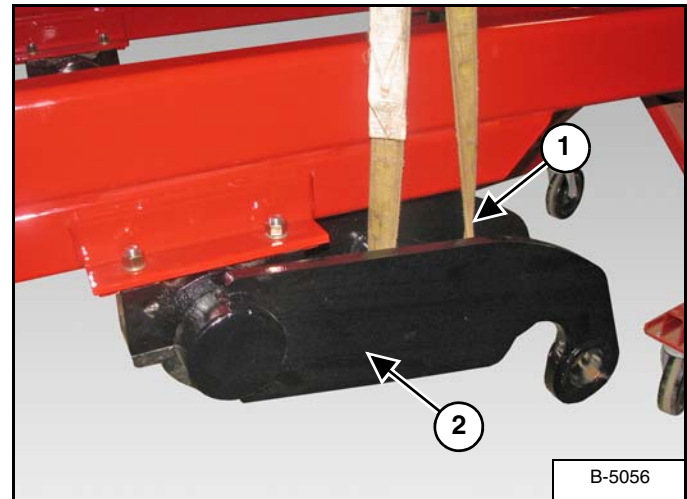
Locate the walking beams (Item 1) [Figure 146]. Install a strap through pivot holes of the walking beam.  
Connect the straps to an approved lifting device.  
Raise and move the walking beam to the assembly area.

Figure 147



Lower the walking beam onto a floor jack (Item 1) [Figure 147].  
**NOTE:** Adjust / center walking beam on the floor jack's lifting plate before removing strap.

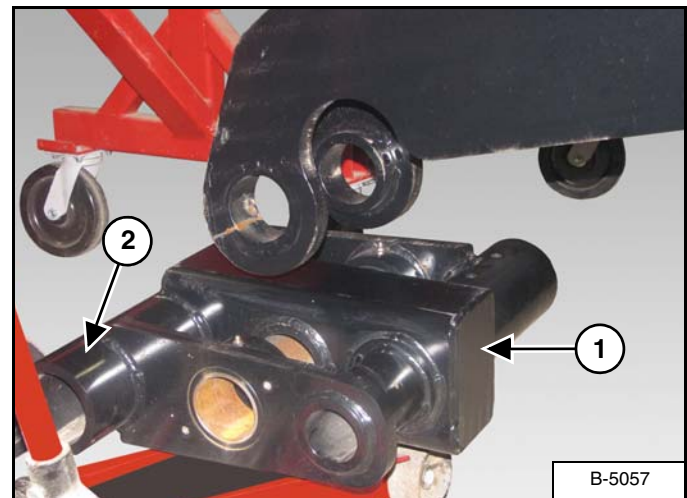
Figure 148



Install a strap (Item 1) around the LH side of the main frame rockshaft (Item 2) [Figure 148].

Raise the rockshaft until there is adequate space to allow the walking beam to be rolled into position below the rockshaft.

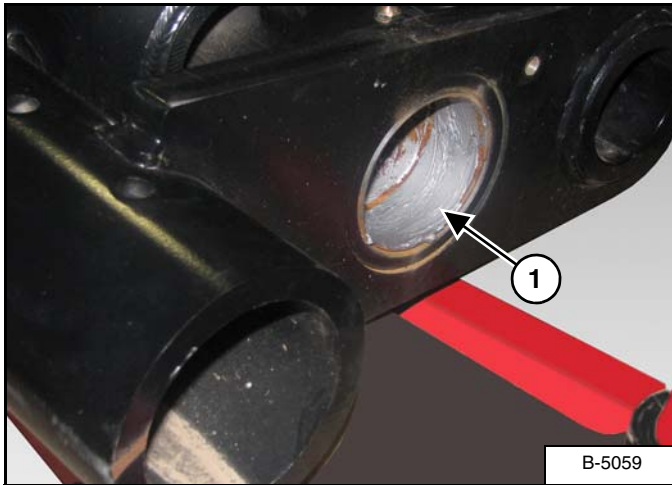
Figure 149



Move the walking beam into position under the rockshaft, with the rectangular plate (Item 1) [Figure 149] facing forward (front of disc).

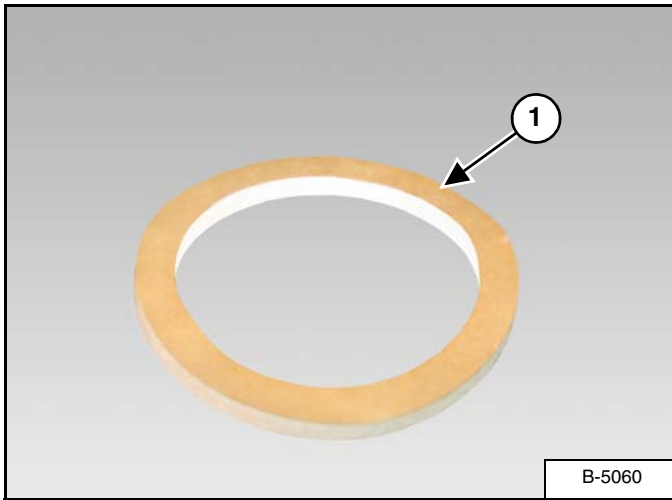
**NOTE:** Walking beams must be positioned so the rear wheel spindle (Item 2) [Figure 149] is on the outside (both RH and LH side).

Figure 150



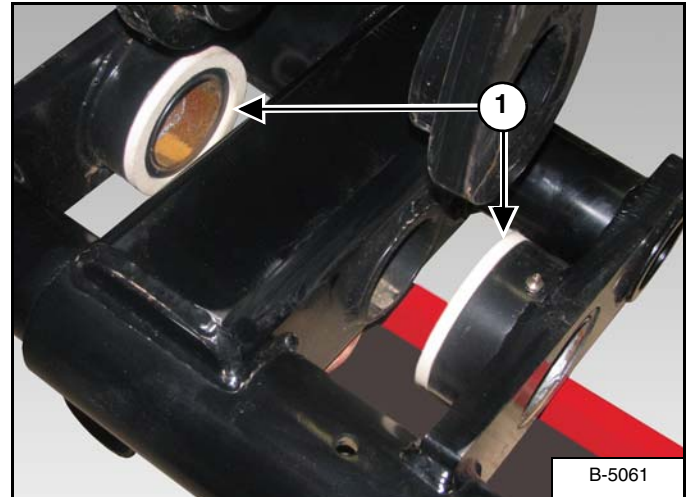
Apply an anti-seize compound (Item 1) [Figure 150] to the inside walking beam pivot holes (both sides).

Figure 151



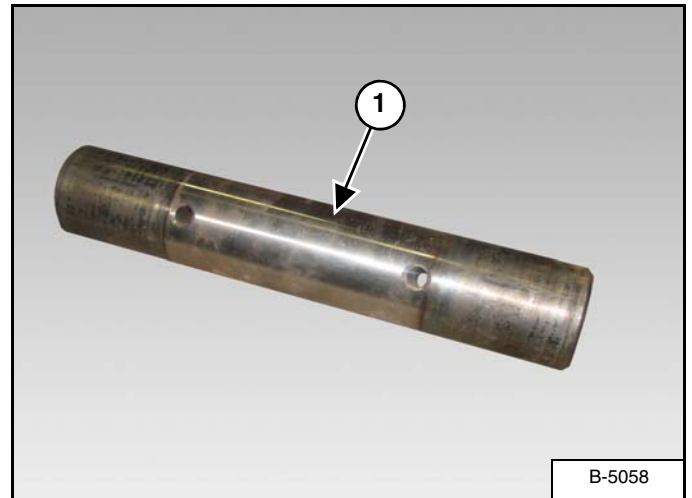
Locate two walking beam seals (Item 1) [Figure 151]. Remove backing from seals to expose adhesive surface.

Figure 152



Install the walking beam seals (Item 1) [Figure 152] over the collars on the walking beam. Press firmly to secure the seals onto the walking beam.

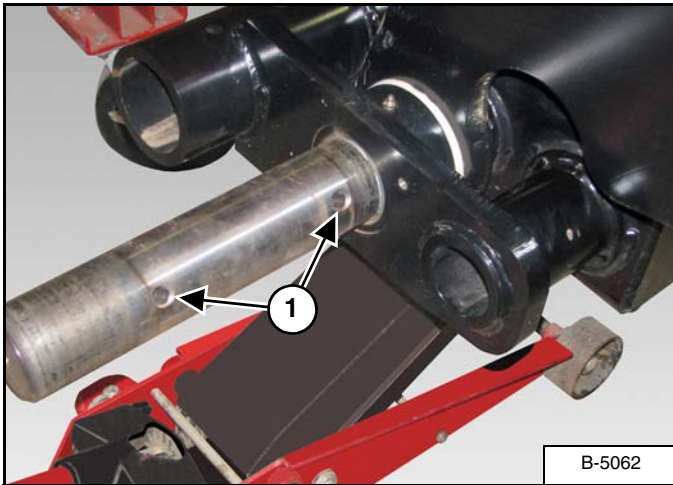
Figure 153



Locate one walking beam pivot pin (Item 1) [Figure 153].



Figure 154

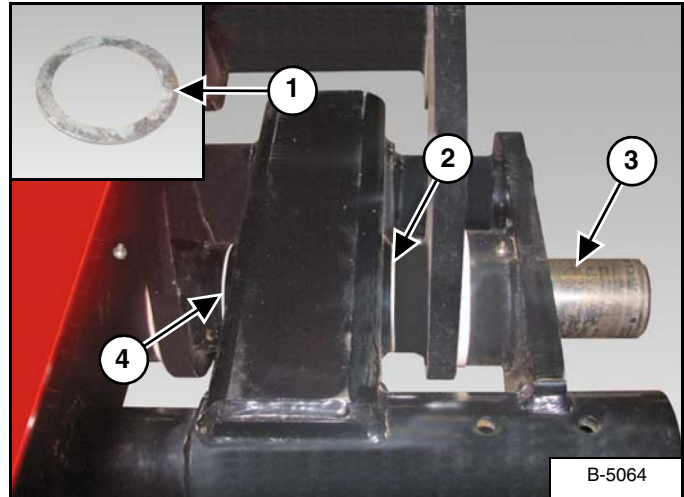


Raise floor jack until the walking beam pivot holes are aligned with the rockshaft legs [Figure 154].

**NOTE: Raise floor jack and position walking beam carefully not to damage the seals.**

Align the mounting holes (Item 1) [Figure 154] of the pivot pin with the mounting holes of the walking beam. Insert pivot pin until the end is flush with the inside of the first (outside) rockshaft leg.

Figure 155



Locate shims (Item 1) [Figure 155].

Install shim / shims (Item 2) [Figure 155] at the outside rockshaft leg (as required).

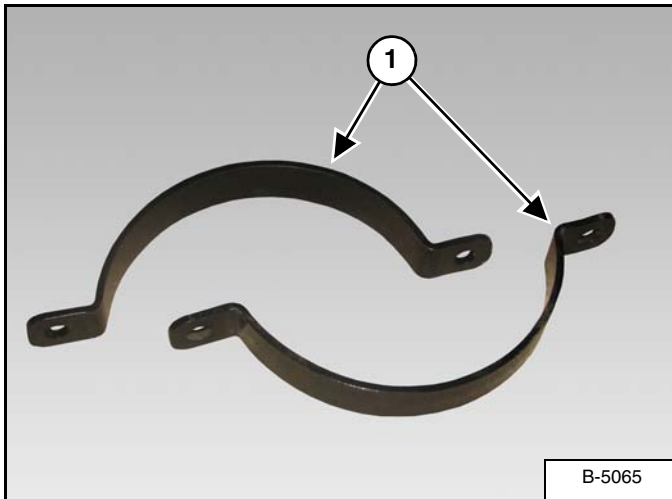
**NOTE: Walking beam pivot pin must be installed with minimal force. Install by hand or a light weight plastic or rubber mallet.**

Insert pivot pin (Item 3) [Figure 155] through the shim / shims and center frame of the walking beam until the end of the pivot pin is flush with the inside of the center frame.

Install shim / shims (Item 4) [Figure 155] at the inside rockshaft leg (as required).

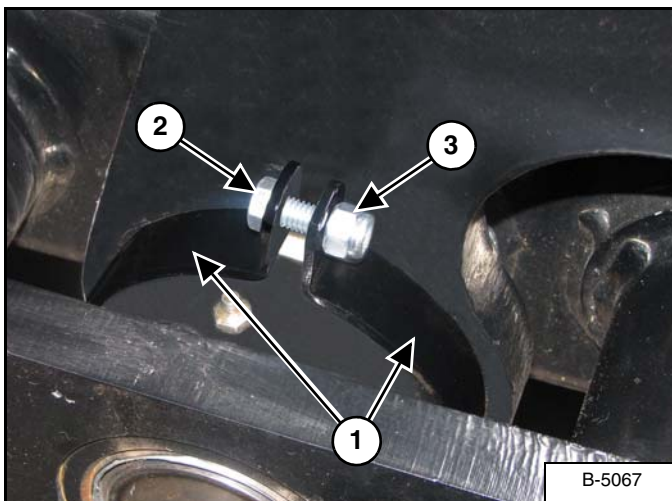
Insert pivot pin (Item 3) [Figure 155] through the shim / shims until the end of the pivot pin is flush with the inside of walking beam.

Figure 156



Locate four seal clamps (Item 1) [Figure 156], eight 3/8" x 3/4" bolts and eight 3/8" lock nuts.

Figure 157

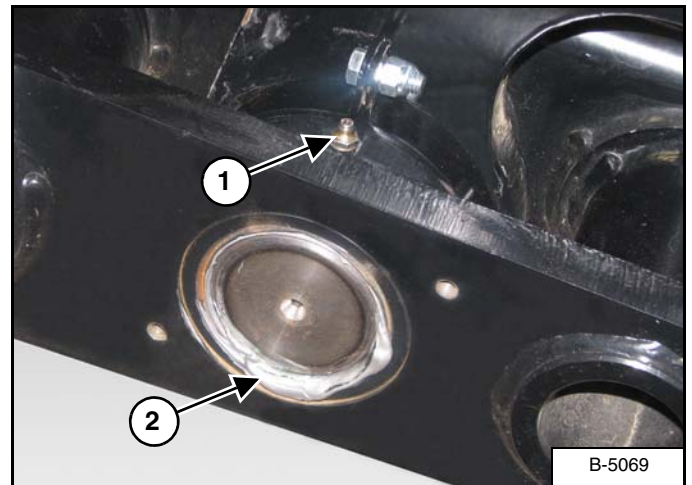


Position two seal clamps (Item 1) over the outside walking beam pivot, covering the seal. Install one 3/8" x 3/4" bolt (Item 2) through the two seal clamps (both ends) and install a 3/8" lock nut (Item 3) [Figure 157] on each bolt.

Push the seal clamps firmly against the rockshaft leg and tighten bolts and lock nuts.

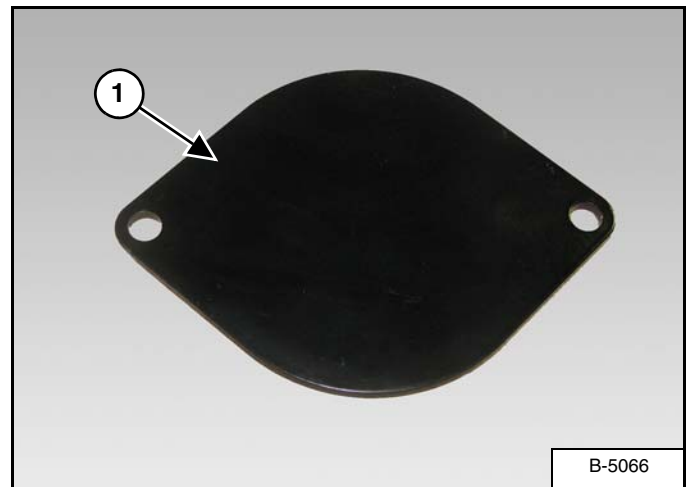
Repeat for inside walking beam pivot / seal location.

Figure 158



Apply a good quality lithium grease to inside and outside walking beam pivots grease fittings (Item 1) until extra grease (Item 2) [Figure 158] shows.

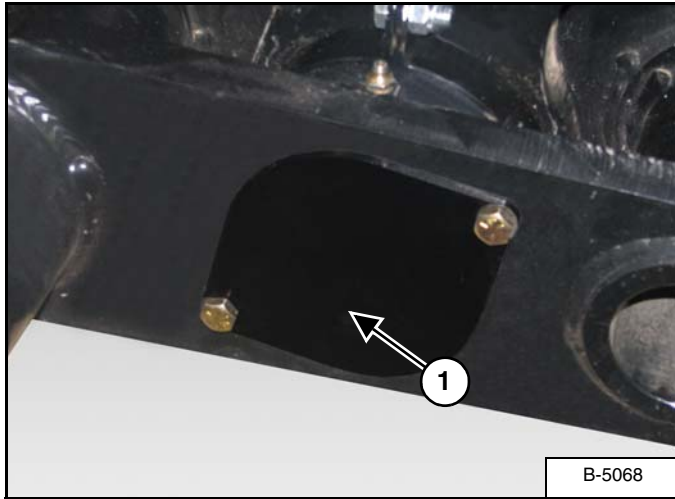
Figure 159



Locate two walking beam shaft covers (Item 1) [Figure 159] and four 3/8" x 3/4" bolts.



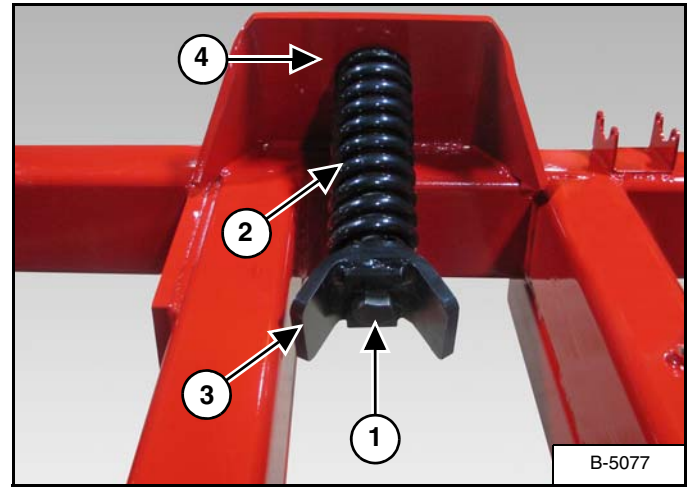
Figure 160



Install one walking beam shaft cover (Item 1) [Figure 160] on the inside and outside of the walking beam using four 3/8" x 3/4" bolts.

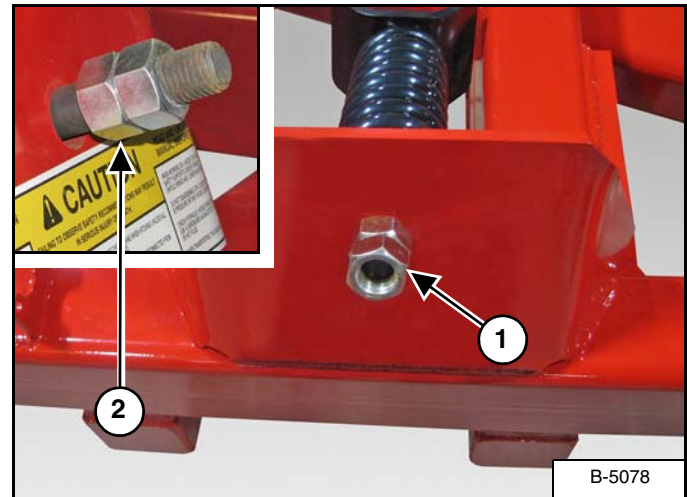
HITCH COMPRESSION SPRING

Figure 161



Install the 1" x 14" bolt (Item 1), through the compression spring (Item 2), spring cushion plate (Item 3). Install the threaded bolt end through the mounting plate (Item 4) [Figure 161] on the main frame.

Figure 162



Install two 1" nuts (Item 1) [Figure 162] onto the 1" x 14" bolt.

Tighten the inside nut so the spring is compressed by 1 inch, then tighten outside nut against the inside securing the compression spring assembly to the main frame.

**FRAME SPRING BUSHINGS**

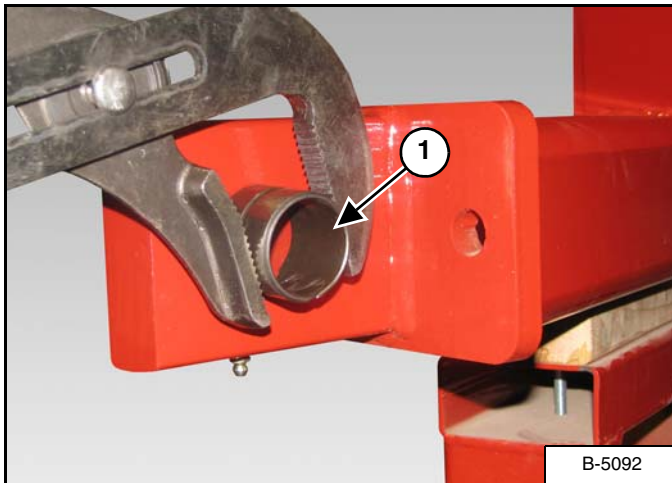
**Removal And Installation**

*Removal*

Using a pin / punch, gently tap the spring bushing until removed from the wing connecting link.

*Installation*

**Figure 163**



Using an adjustable pliers, align the spring bushing (Item 1) [Figure 163] with the wing connecting link, compress / squeeze the spring bushing and lightly tap into position with hammer.

**NOTE: Spring bushing must be fully seated inside the wing connecting link. Spring bushing must be flush with the wing connecting link.**

**ROCKSHAFT SPRING BUSHINGS**

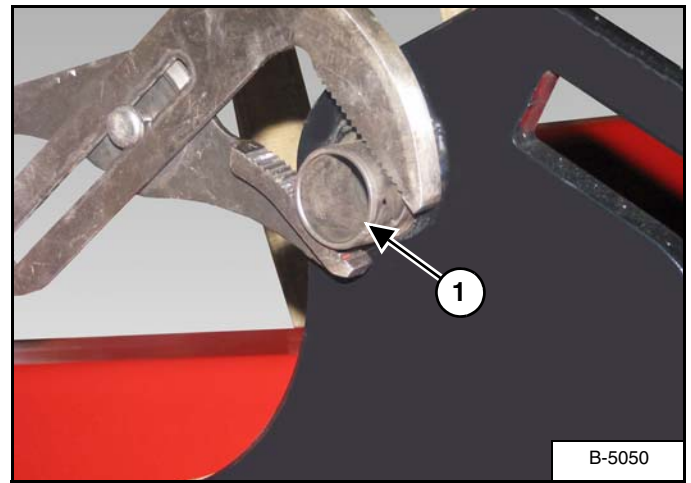
**Removal And Installation**

*Removal*

Using a pin / punch, gently tap the spring bushing until removed from the wing rockshaft cylinder mount.

*Installation*

**Figure 164**



Using an adjustable pliers, align the spring bushing (Item 1) [Figure 164] with the wing rockshaft cylinder mount, compress / squeeze the spring bushing and lightly tap into position with hammer.

**NOTE: Spring bushing must be fully seated inside the wing rockshaft cylinder mount. Spring bushing must be flush with the wing rockshaft cylinder mount.**

Repeat procedure for LH wing rockshaft (if required).

## SCRAPER BARS

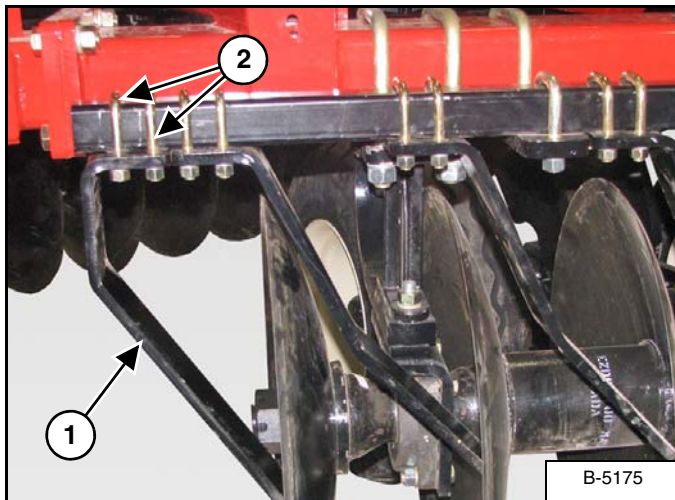
### Removal And Installation

#### Removal

Remove u-bolts from the scraper being replaced (as required).

#### Installation

Figure 165



**NOTE: Install inside scraper (Item 1) [Figure 167] first. Place the inside scraper approximately 1-1/2" from the inside end of the scraper bar.**

Install two 1/2" x 2-1/2" u-bolts (Item 2) [Figure 165] over the scraper bar and down through the scraper. Install 1/2" lock washers and 1/2" nuts on the two u-bolts.

Tighten the two 1/2" x 2-1/2" u-bolts (Item 2) [Figure 165] and nuts to secure the scraper to the scraper bar.

Adjust scraper bar left / right until the first scraper is approximately 1/8" from the blade.

Tighten the first scraper bar mount u-bolts. Securing the scraper bar in position while installing the remaining scrapers.

**NOTE: Scraper bar mounts may need to be moved to allow adequate space for the remaining scrapers to be installed.**

After all scrapers have been installed on the gang section and adjusted to 1/8" from the blades, tighten all scraper bar mount u-bolts and scraper bar u-bolts.

## SAFETY SIGN (DECAL) INSTALLATION

### Procedure

**! IMPORTANT**

**When replacing safety signs (decals), the temperature must be above 10° C (50° F).**

- Remove all portions of the damaged safety sign (decal).
- Thoroughly clean the area with glass cleaner. Remove all adhesive residue.
- Allow the area to dry completely before installing the new safety sign (decal).
- Position the safety sign (decal) in the correct location. Remove a small portion of the backing paper on the safety sign (decal).
- Press on the safety sign (decal) where the backing paper has been removed.
- Slowly remove the remaining backing paper, pressing on the safety sign (decal) as the backing paper is removed.
- Using the backing paper, pressing firmly, move the backing paper over the entire safety sign (decal) area.

**NOTE: Small air pockets can be pierced with a pin and smoothed out using the piece of the backing paper.**

**STORAGE AND RETURN TO SERVICE**

**Storage**

Sometimes it may be necessary to store your Farm King Tandem Disc for an extended period of time. Below is a list of items to perform before storage.



**AVOID SERIOUS INJURY OR DEATH**

Always relieve the pressure in hydraulic system and close both hydraulic lockup valves when the disc is not being operated. Wings may unfold due to thermal expansion of hydraulic oil causing damage to disc, property or severe injury or death to person(s) nearby.



Do not leave cylinders under hydraulic pressure, especially if cylinders are activated during cool temperatures. The expansion of oil which takes place when machine is in a warmer environment may cause serious damage to cylinder, lines or hoses. Always release hydraulic pressure and close lockup valves before unhitching from tractor.



**DO NOT permit children to play on or around the stored machine.**

- Set planks under each wheel.
- Lower transport wheels to lift disc blades above the ground.
- Relieve pressure in all hydraulic cylinders.
- Disconnect hydraulic hoses from tractor and cap.
- Thoroughly clean the equipment.
- Lubricate the equipment.
- Inspect the hitch and all welds on the equipment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing safety signs (decals). Replace if necessary.
- Replace worn or damaged parts.
- Touch up all paint nicks and scratches to prevent rusting.
- Store the tandem disc in a clean, dry, sheltered area.
- Place the equipment flat on the ground.
- Storing Outdoors - Cover hydraulic cylinders and hoses with weatherproof material and coat all exposed cylinder shafts with grease.

**Return To Service**

After the Farm King tandem disc has been in storage, it is necessary to follow a list of items to return the equipment to service.



**Do not attempt to lift disc out of frozen ground by lowering transport wheels causing serious damage to disc components.**

- Lubricate the equipment.
- Clean and inspect tandem disc.
- Tighten loose hardware and replace damaged parts.
- Inspect and repack wheel bearings with a SAE multi purpose type grease.
- Check that tires are properly inflated.
- Connect to a tractor and operate equipment, verify all functions operate correctly.
- Check for leaks. Repair as needed.
- Review the Operator's Manual.

# Farm King





**PARTS IDENTIFICATION**

(Models after 04.01.2013 w/ serial number 54248 and higher.)

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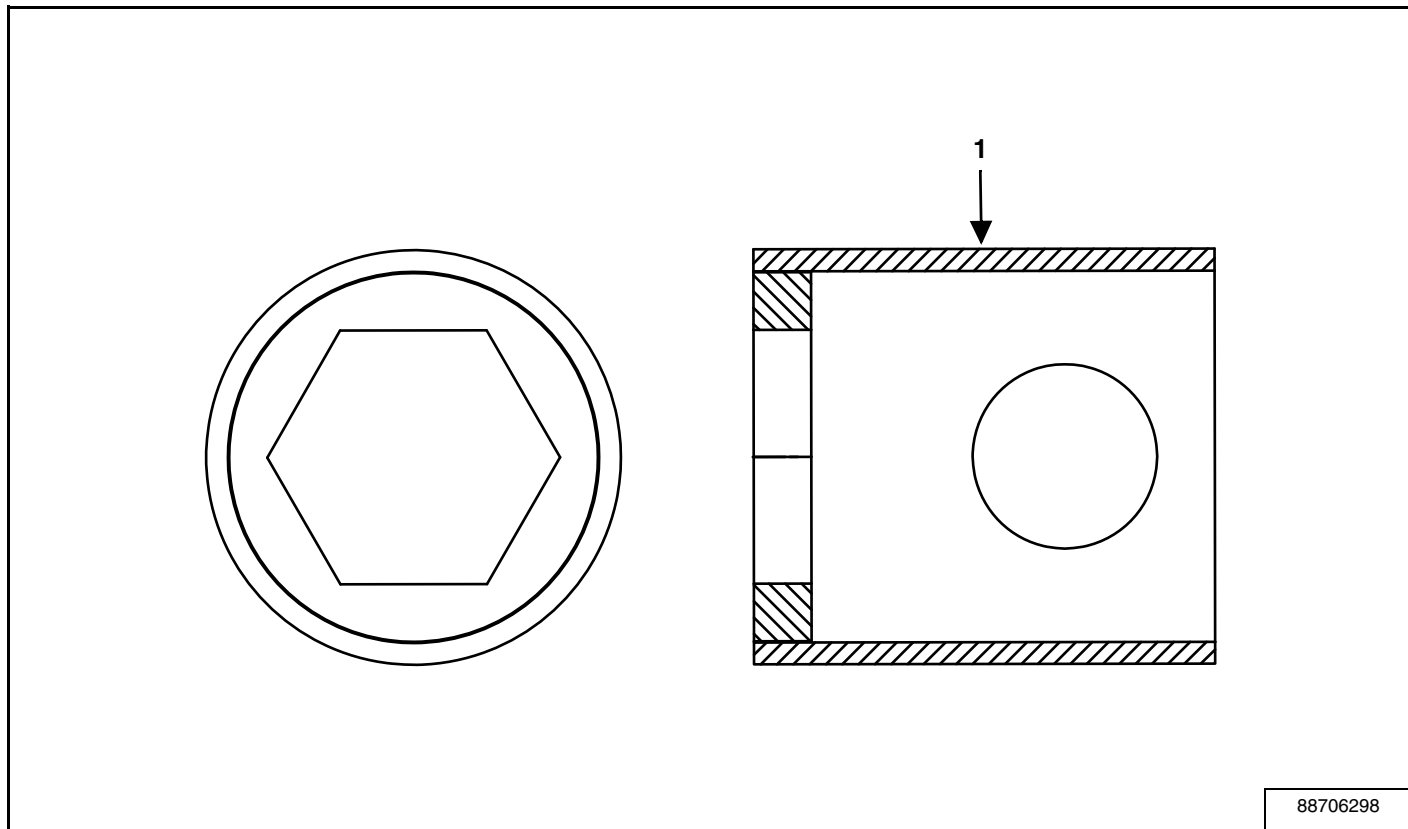
# Farm King



**GENERAL INFORMATION**

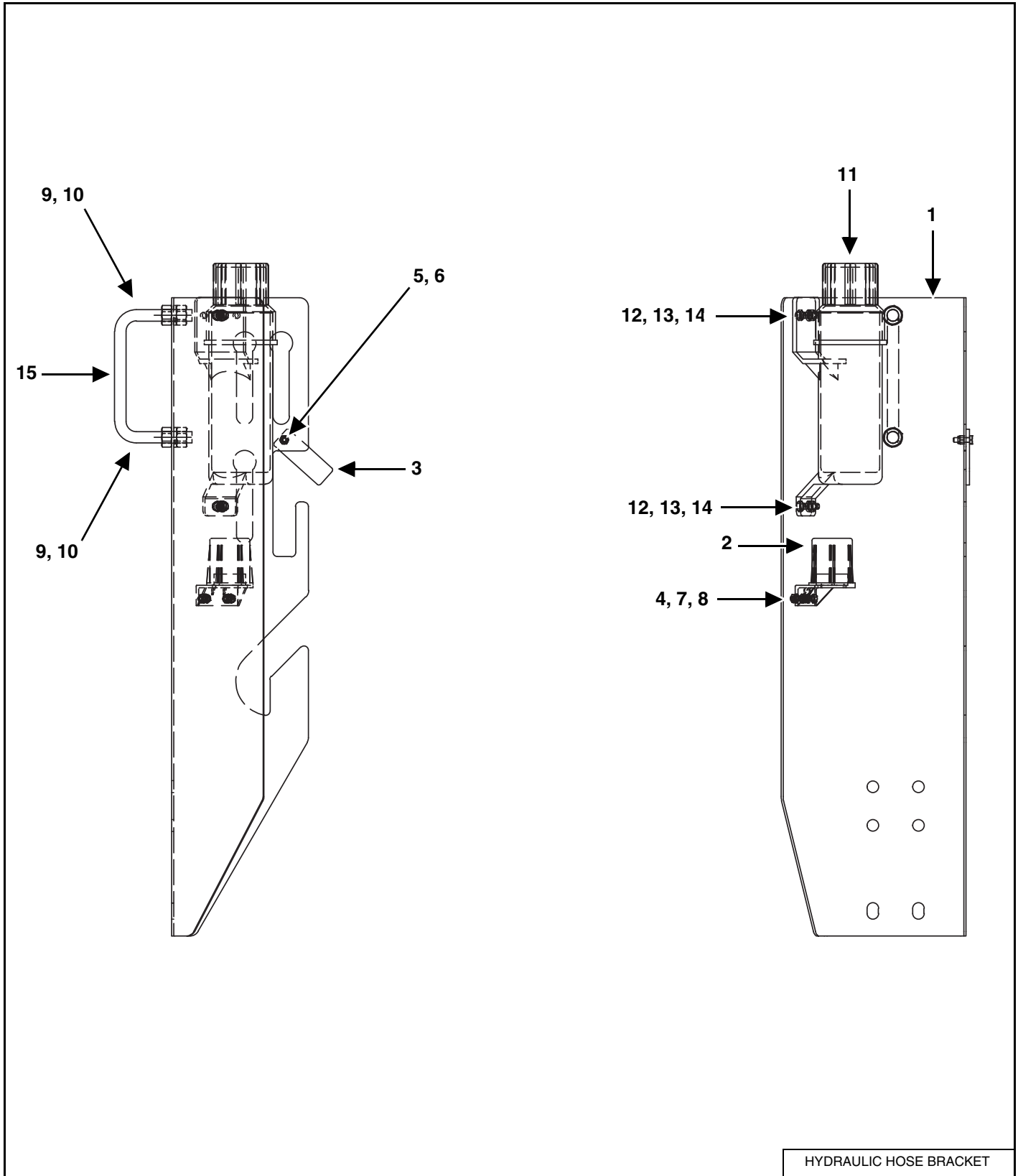
The parts identification section lists descriptions, part numbers and quantities for the 6650 Tandem Disc. Contact your Farm King dealer for additional 6650 Tandem Disc parts information.

**Gang Socket**



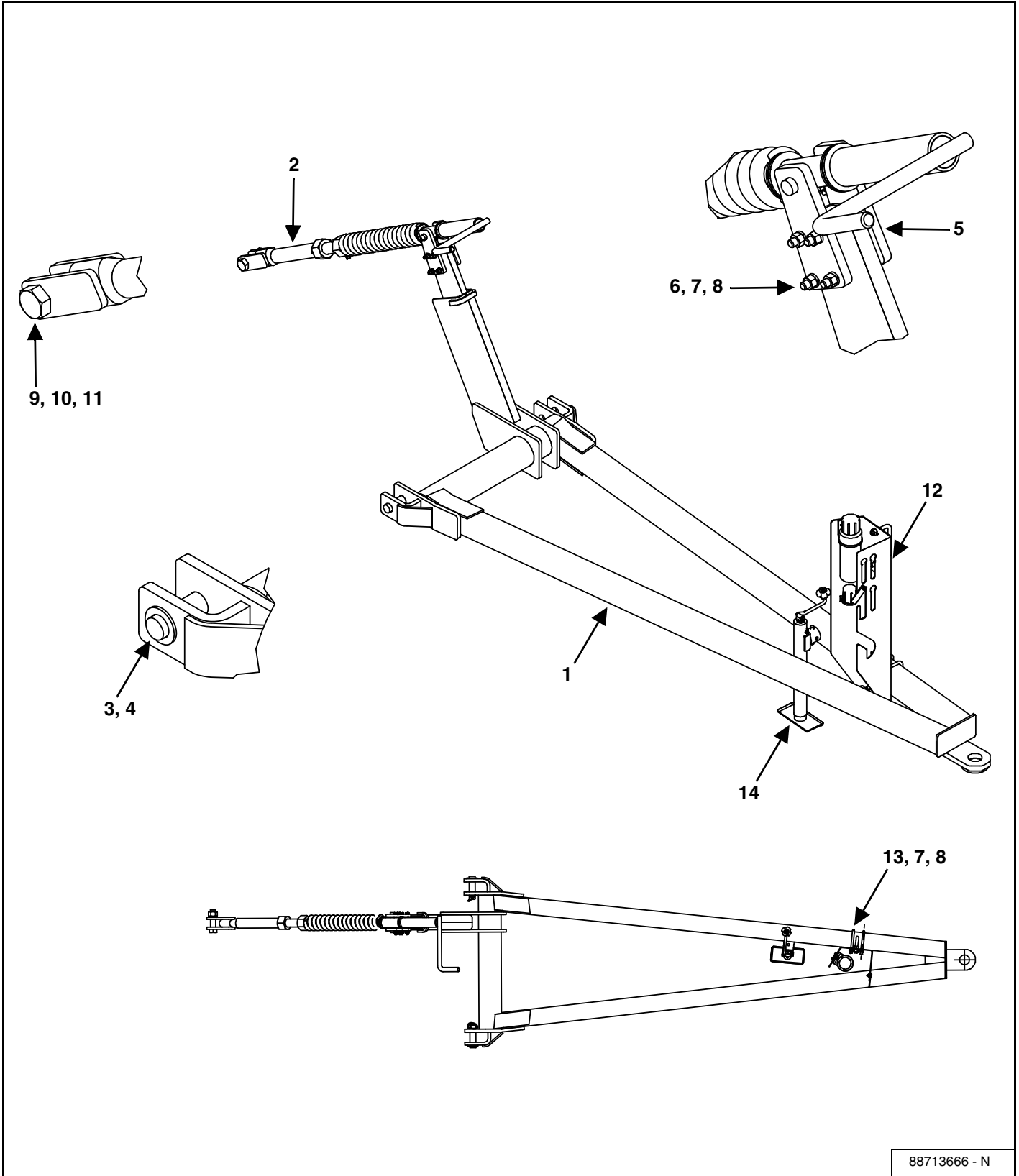
ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDGA35	SOCKET-W.A. WRENCH	1

**Hydraulic Hose Bracket**



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88704487	HYDRAULIC HOSE SUPPORT BRACKET	1
2	88704488	ELECTRICAL PLUG STORAGE HOLDER	1
3	88704489	CONNECTOR STOP TAB	1
4	EZB025006	BOLT, 1/4" NC x 5/8" HEX	2
5	EZB025009	BOLT, 1/4" NC x 7/8" HEX	1
6	EZBN025L	NYLON LOCK NUT, 1/4" NC HEX	1
7	7770	N G5 P.25 86505597	2
8	80682	LW P.25 86505602	2
9	EZBN062	NUT, 5/8" NC HEX GR 5 ZNC	4
10	EZBW062L	LOCK WASHER, 5/8" x 9/16" x 5/32" ZNCR	2
11	909277	MANUAL HOLDER	1
12	EZB031010	BOLT, 5/8" NC x 2" HEX GR 5 ZNCR	2
13	EZBW031L	LOCKWASHER, 5/16" x 19/32" x 3/32"	2
14	EZBN031	NUT, 5/16" NC HEX	2
15	EZC60252	U-BOLT, 5/8" x 6-11/16" x 3-7/16" GR 5 PL	1

Hitch And Crank Assembly - Narrow Wing Frame

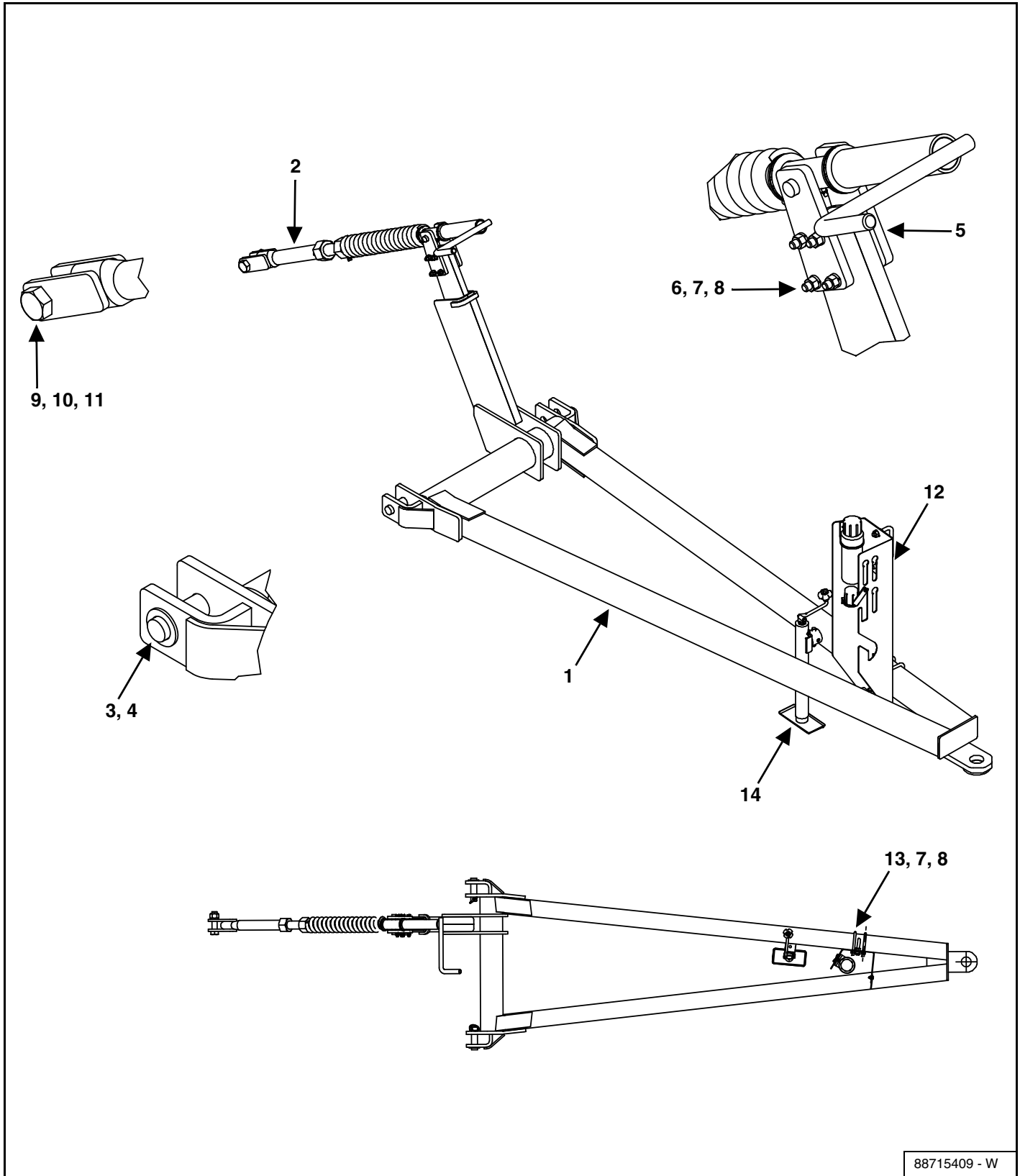


88713666 - N

ITEM	PART NUMBER	DESCRIPTION	QTY
1	88706296	HITCH-W.A.	1
2	88706219	LEVELING CRANK ASSY	1
3	EZDHA9605	PIN, W.A. HITCH	2
4	EZDH12517	PIN, HITCH LOCK	2
5	EZDH5146	PLATE, LEVELING LUG HITCH	1
6	EZB050050	BOLT, HEX CAP 1/2 NC x 5 GR5 ZNCR	4
7	EZBW050L	LOCK WASHER, 1/2 x 7/8 x 1/8 ZNCR	8
8	EZBN050	NUT, HEX 1/2 NC ZNCR	8
9	EZDR5215	BOLT, HEX 1-1/4 NC x 4-3/4	1
10	EZBW125L	LOCK WASHER, 1-1/4 x 1 x 5/16 ZNCR	1
11	EZBN125	NUT, HEX 1-1/4 NC GR2 ZNCR	1
12	88708500	HYD HOSE, BRACKET	1
13	EZA75015	U-BOLT, 1/2" x 4-9/16"	2
14	EZDHB5170	JACK ASSY - 5000LB - USED PRIOR TO JULY 1, 2015	1
	88715180	JACK ASSY - 7000 lb. - USED AFTER JULY 1, 2015	1



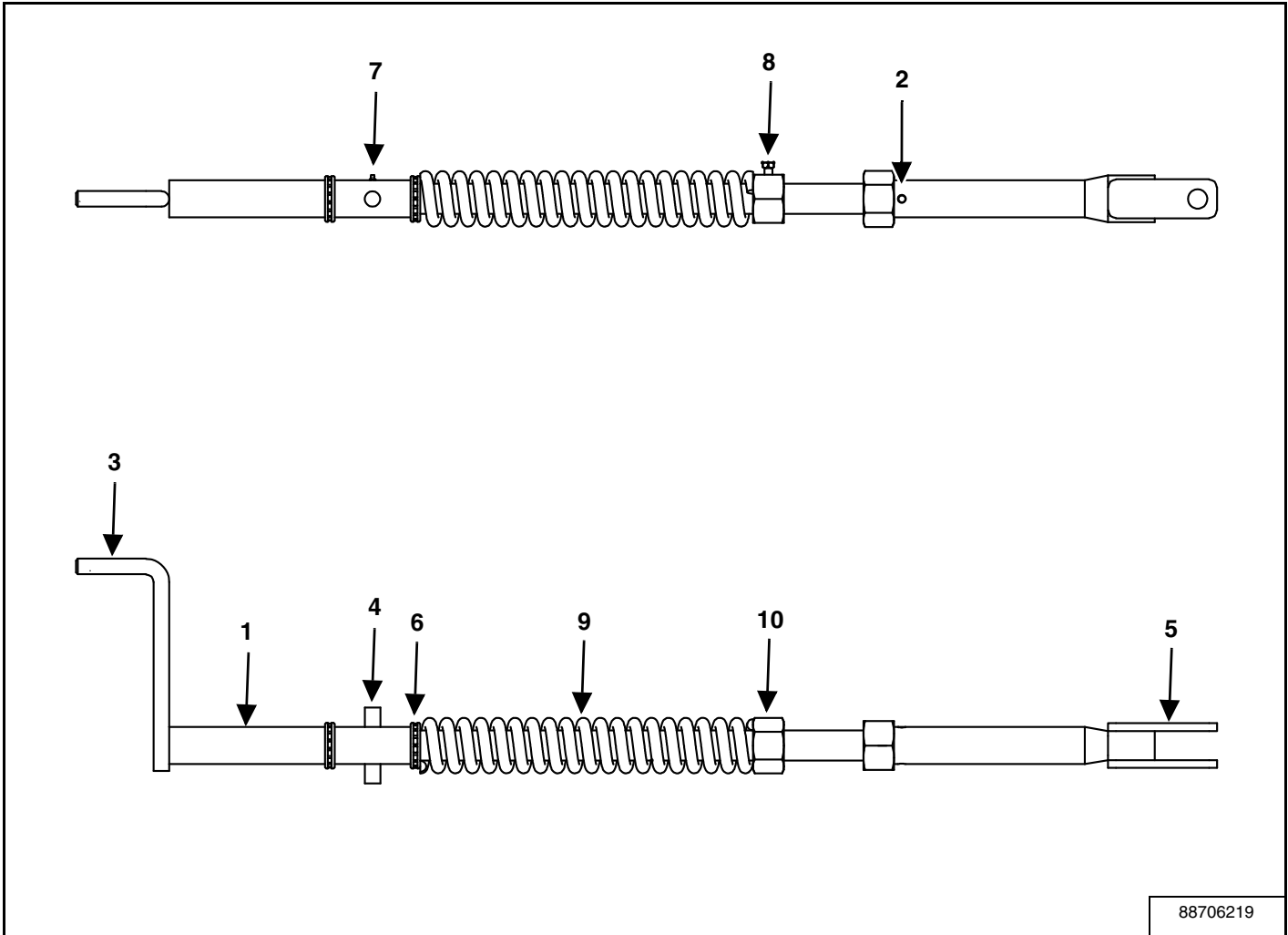
**Hitch And Crank Assembly - Wide Wing Frame**



88715409 - W

ITEM	PART NUMBER	DESCRIPTION	QTY
1	88706296	HITCH-W.A.	1
2	88713236	LEVELING CRANK-ASSY TD WIDE	1
3	EZDHA9605	PIN, W.A. HITCH	2
4	EZDH12517	PIN, HITCH LOCK	2
5	EZDH5146	PLATE, LEVELING LUG HITCH	1
6	EZB050050	BOLT, HEX CAP 1/2 NC x 5 GR5 ZNCR	4
7	EZBW050L	LOCK WASHER, 1/2 x 7/8 x 1/8 ZNCR	8
8	EZBN050	NUT, HEX 1/2 NC ZNCR	8
9	EZDR5215	BOLT, HEX 1-1/4 NC x 4-3/4	1
10	EZBW125L	LOCK WASHER, 1-1/4 x 1 x 5/16 ZNCR	1
11	EZBN125	NUT, HEX 1-1/4 NC GR2 ZNCR	1
12	88708500	HYD HOSE, BRACKET	1
13	EZA75015	U-BOLT, 1/2" x 4-9/16"	2
14	EZDHB5170	JACK ASSY - 5000LB - USED PRIOR TO JULY 1, 2015	1
	88715180	JACK ASSY - 7000 lb. - USED AFTER JULY 1, 2015	1

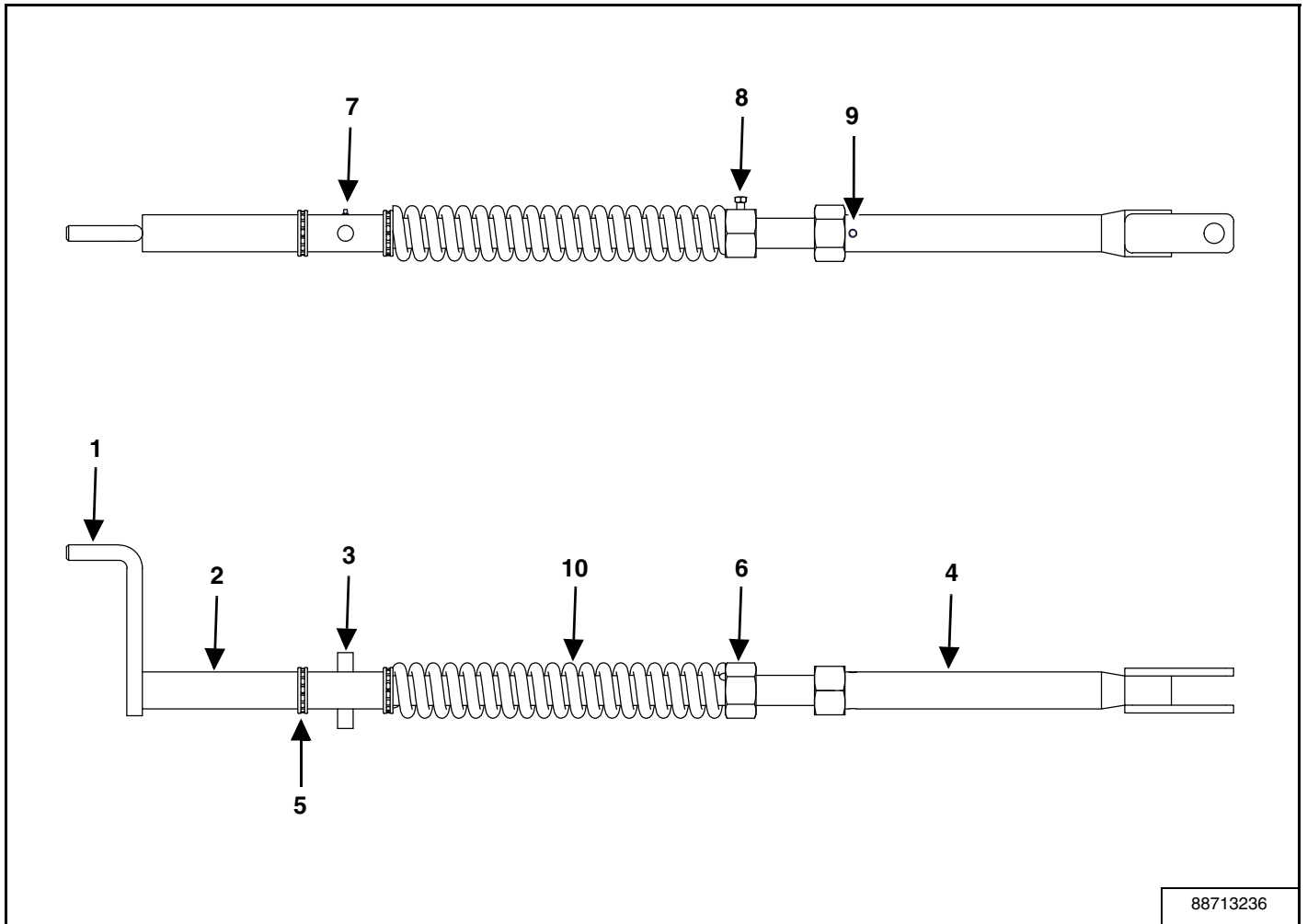
Leveling Crank Assembly - Narrow Wing Frame



88706219

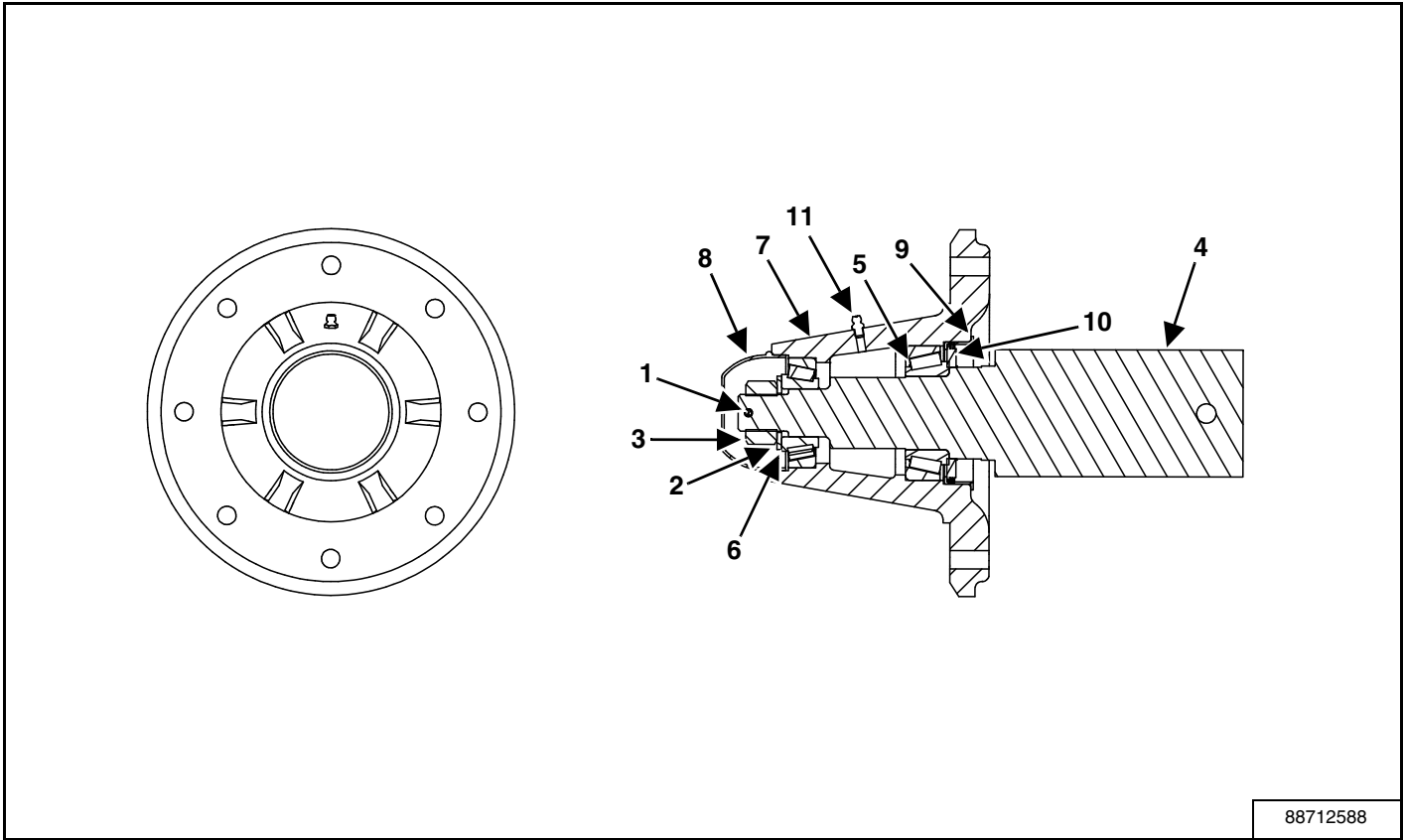
ITEM	PART NUMBER	DESCRIPTION	QTY
1	88706295	TUBE, TOP SPACER CRANK	1
2	88706044	PIN, LOCK, CRANK	1
3	EZDCA9970	LEVELING CRANK-W.A.	1
4	EZDCA5184	TRUNION PIVOT-W.A. LEVEL CRANK	1
5	88706297	LEVELING PIPE-W.A.	1
6	EZDC15	BEARING, THRUST, TIMKEN T199	2
7	EZ10GN1	FITTING, ZERK, 1/4 UNF ST	1
8	EZB050010S	SET SCREW, SQ HD 1/2 NC x 1	1
9	EZDC9618	SPRING, COMPRESSION	1
10	EZDH5	NUT, HEX 2 NC GR2 W/SET	1

Leveling Crank Assembly - Wide Wing Frame



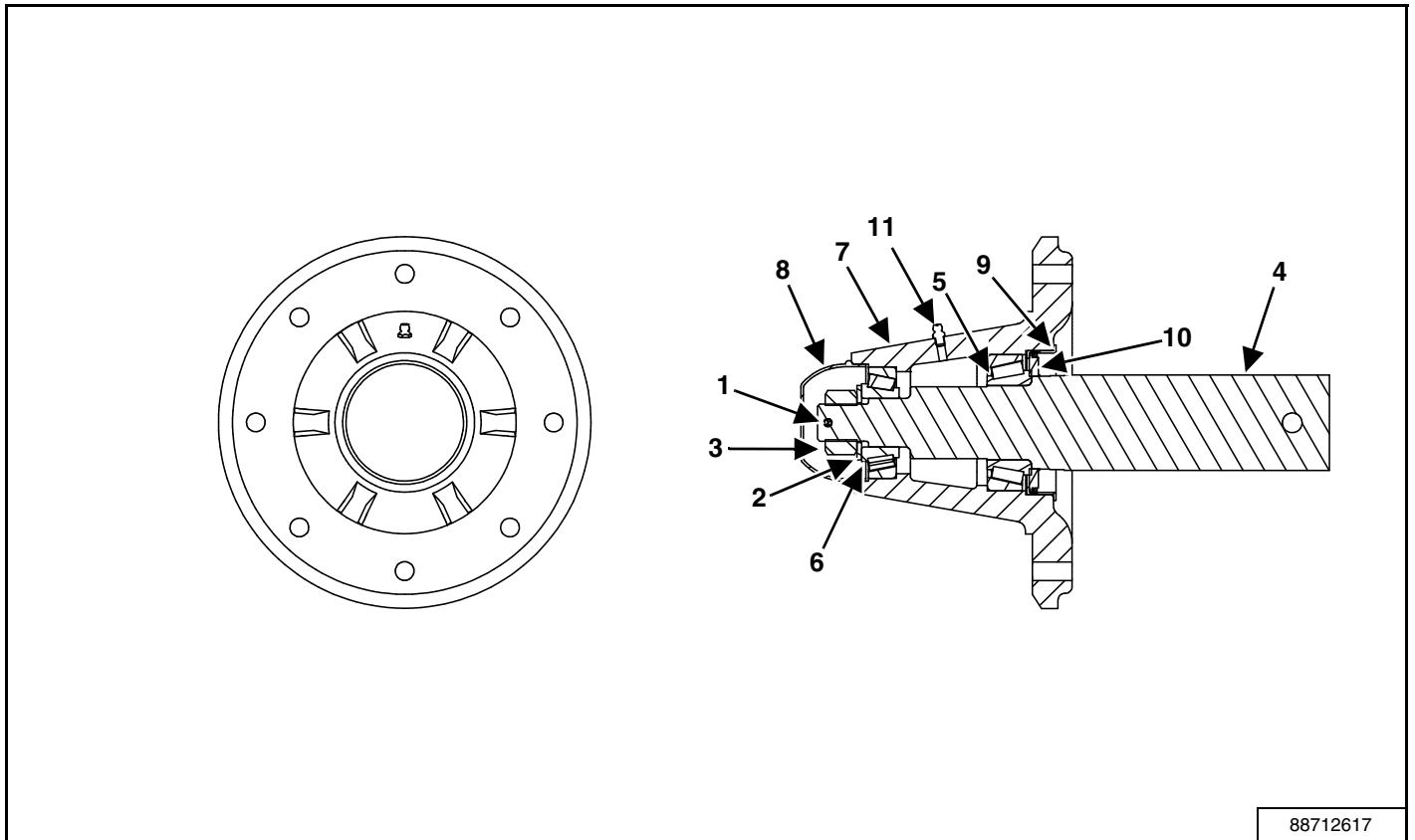
ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDCA9970	LEVELING CRANK-W.A.	1
2	88706295	TUBE, TOP SPACER CRANK	1
3	EZDCA5184	TRUNION PIVOT-W.A. LEVEL CRANK	1
4	88706297	LEVELING PIPE-W.A.	1
5	EZDC15	BEARING, THRUST, TIMKEN T199	2
6	EZDH5	NUT, HEX 2 NC GR2 W/SET	1
7	EZ10GN1	FITTING, ZERK, 1/4 UNF ST	1
8	EZB050010S	SET SCREW, SQ HD 1/2 NC x 1	1
9	88706044	PIN, LOCK, CRANK	1
10	EZDC9619	SPRING, COMPRESSION	1

Hub And Spindle Assembly - Main Frame



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZBP18125	PIN, COTTER, 3/16" x 1-1/4"	1
2	EZBW20010612F	FLAT WASHER, 1-1/16" x 2" x 1/8"	1
3	EZDR110	NUT, HEX SLOT 1-14 NS GR5 ZNCR	1
4	88712587	SPINDLE-812 16-3/4" x 3-1/2" OD	1
5	EZDR9684	BEARING CONE, 3780	1
6	EZDR9685	BEARING CONE, 2790	1
7	EZDRA9679	HUB-ASSY W/CUPS 8 BOLT	1
8	EZDR9681	HUB CAP	1
9	DR13200	HUB SEAL CUP, 8 BOLT	1
10	DR13201	HUB SEAL, 8 BOLT (812)	1
11	EZ10GN1	STRAIGHT GREASE FITTING, 1/4" - 28	1

**Hub And Spindle Assembly- Wing Frame**

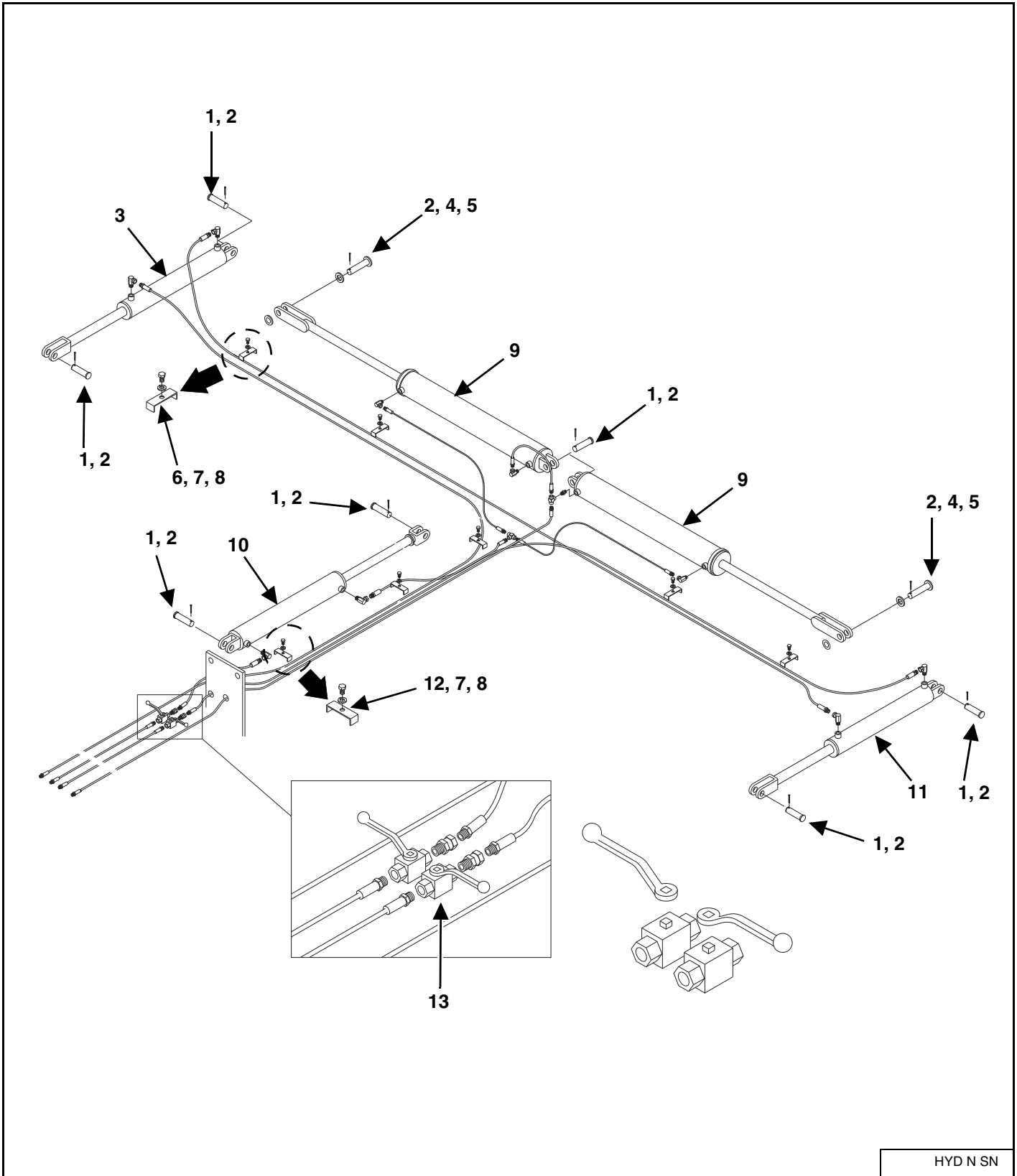


88712617

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZBP18125	PIN, COTTER, 3/16 x 1-1/4	1
2	EZBW20010612F	WASHER, FLAT, 1-1/16 x 2 x 1/8	1
3	EZDR110	NUT, HEX SLOT 1-14 NS GR5 ZNCR	1
4	EZDR13004	SPINDLE-812 13-3/4	1
5	EZDR9684	BEARING CONE, 3780	1
6	EZDR9685	BEARING CONE, 2790	1
7	EZDRA9679	HUB-ASSY W/CUPS 8 BOLT	1
8	EZDR9681	HUB CAP	1
9	DR13200	HUB SEAL CUP, 8 BOLT	1
10	DR13201	HUB SEAL, 8 BOLT (812)	1
11	EZ10GN1	STRAIGHT GREASE FITTING, 1/4" - 28	1

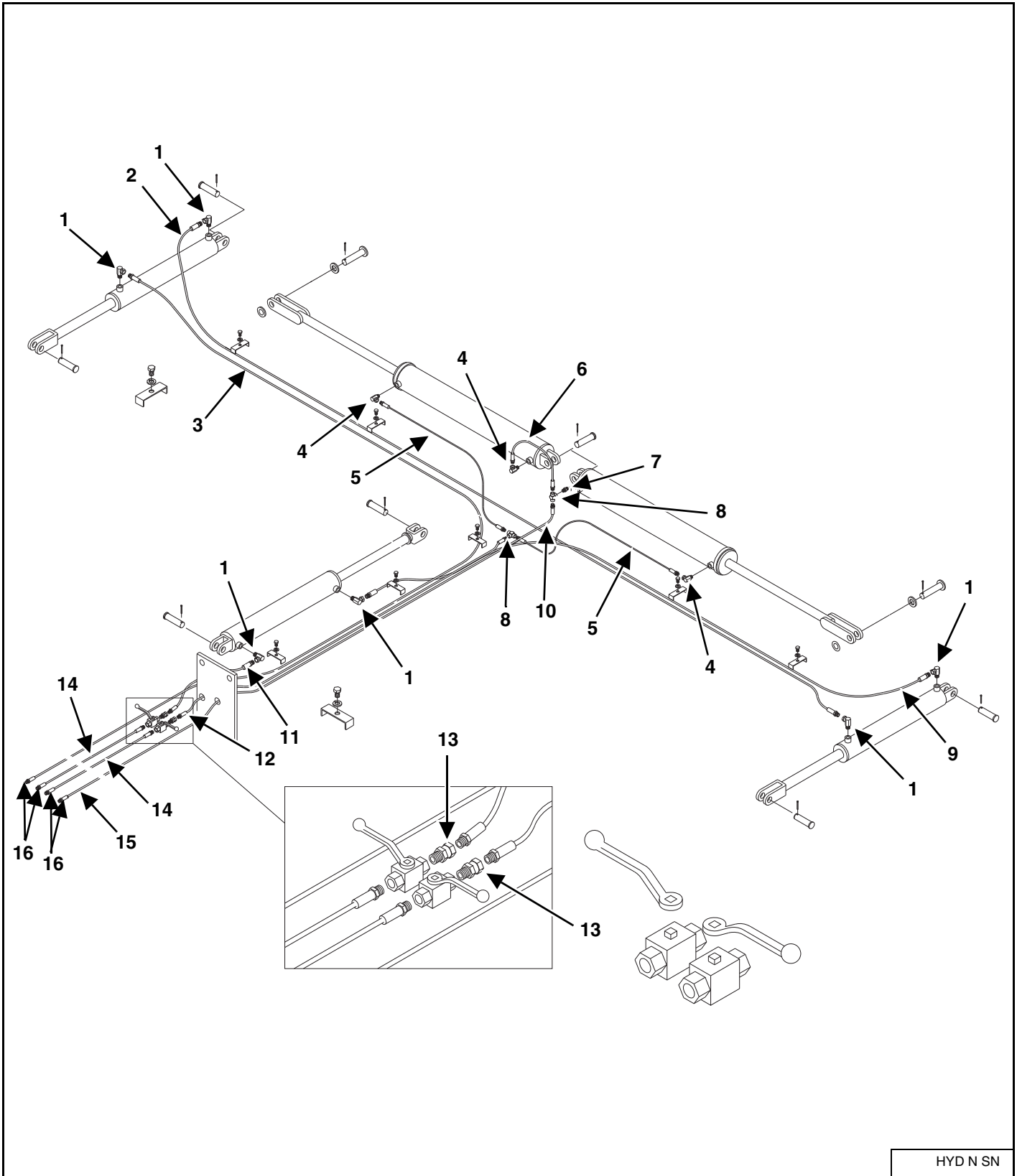


Hydraulic Components - Narrow Wing Frame



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDR5262	PIN, CYLINDER	8
2	EZBP31175	COTTER PIN, 5/16" x 1-3/4"	10
3	EZ304	CYLINDER ASSEMBLY, REPHASING 3" DIA x 24 STROKE	1
4	EZDF5068	WASHER, 1-9/32" ID x 2" OD x 1/4"	6
5	EZS81856	PIN, CYLINDER 1-1/4" x 5-13/16" LG	2
6	EZDL9771	HOSE RETAINER	6
7	EZBW050L	LOCK WASHER, 1/2" ZNCR	9
8	EZB050007	BOLT, CSHH G5 P 1/2" x 3/4"	9
9	EZ248	WING LIFT CYLINDER, 4" x 36"	2
10	EZ306	CYLINDER ASSEMBLY, REPHASING 4" DIA x 24" STROKE	1
11	EZ305	CYLINDER ASSEMBLY, REPHASING 3-1/2" DIA x 24" STROKE	1
12	EZDL13186	HOSE CLAMP, 4 LINE	3
13	EZDL13099	BALL VALVE, GE2 - N 3/8" 2 WAY	2

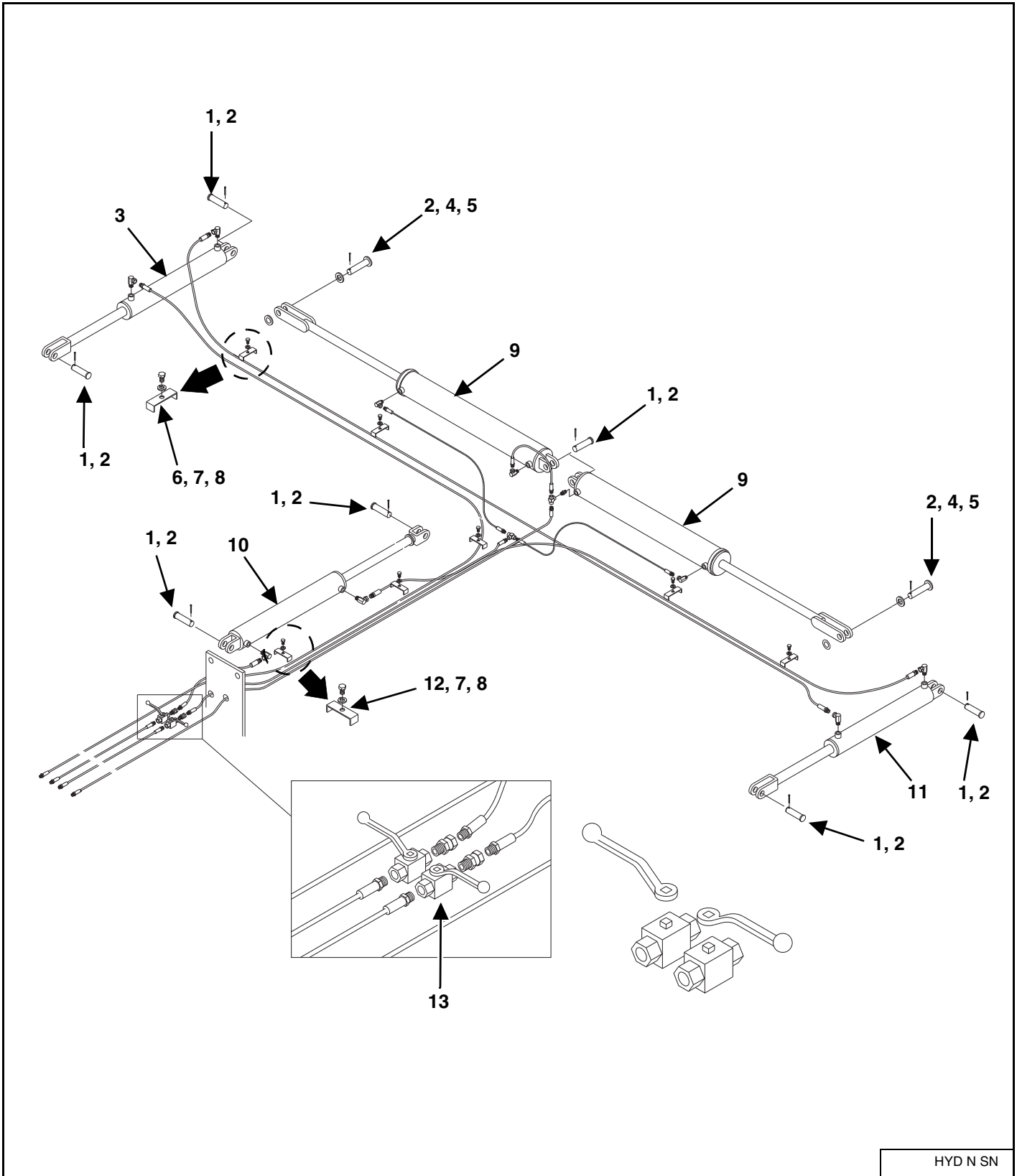
Hydraulic Plumbing - Narrow Wing Frame



HYD N SN

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDL9775	SWIVEL STREET ELBOW, 1/2" 90 DEGREE	6
2	EZD4368	HOSE ASSY, 274" LG.	1
3	EZD4330	HOSE ASSY, 418" LG.	1
4	EZDL9769	SWIVEL STREET ELBOW, 3/8" 90 DEGREE	3
5	EZP3027	HOSE ASSY, 54" LG.	2
6	EZL2939	HOSE ASSY, 24" LG.	1
7	EZL1720	MALE-MALE UNION	1
8	EZDL9767	SWIVEL TEE, 3/8" x 3/8" x 3/8"	2
9	EZD4501	HOSE ASSY, 190" LG.	1
11	EZD4525	HOSE ASSY, 24" LG.	1
12	EZL3092	HOSE ASSY, 100" LG.	1
13	EZL1619	MALE-FEMALE SWIVEL, 3/8" (9.39 mm)	2
14	EZD4335	HOSE ASSY, 172" LG.	2
15	EZD4381	HOSE ASSY, 294" LG.	1
16	EZL397	COUPLER 1/2", MALE NIPPLE	4
NS	EZB031040	BOLT, 5/16" x 4 UNC GRADE 5	2
NS	EZBW031L	LOCK WASHER, P 0.3125 86505602	2
NS	EZBN031	NUT, G5 P 0.3125 86505597	2
NS	88704516	TIE, HYD RAISE / LOWER GR	2
NS	88704517	TIE, HYD WING FOLD BL	2
NS	EZC50716	PACKAGE, WADLER DEPTH STOPS	2
NS	2747	TIE STRAP, 14.4" OLG NYLON B1	AR

Hydraulic Components - Wide Wing Frame

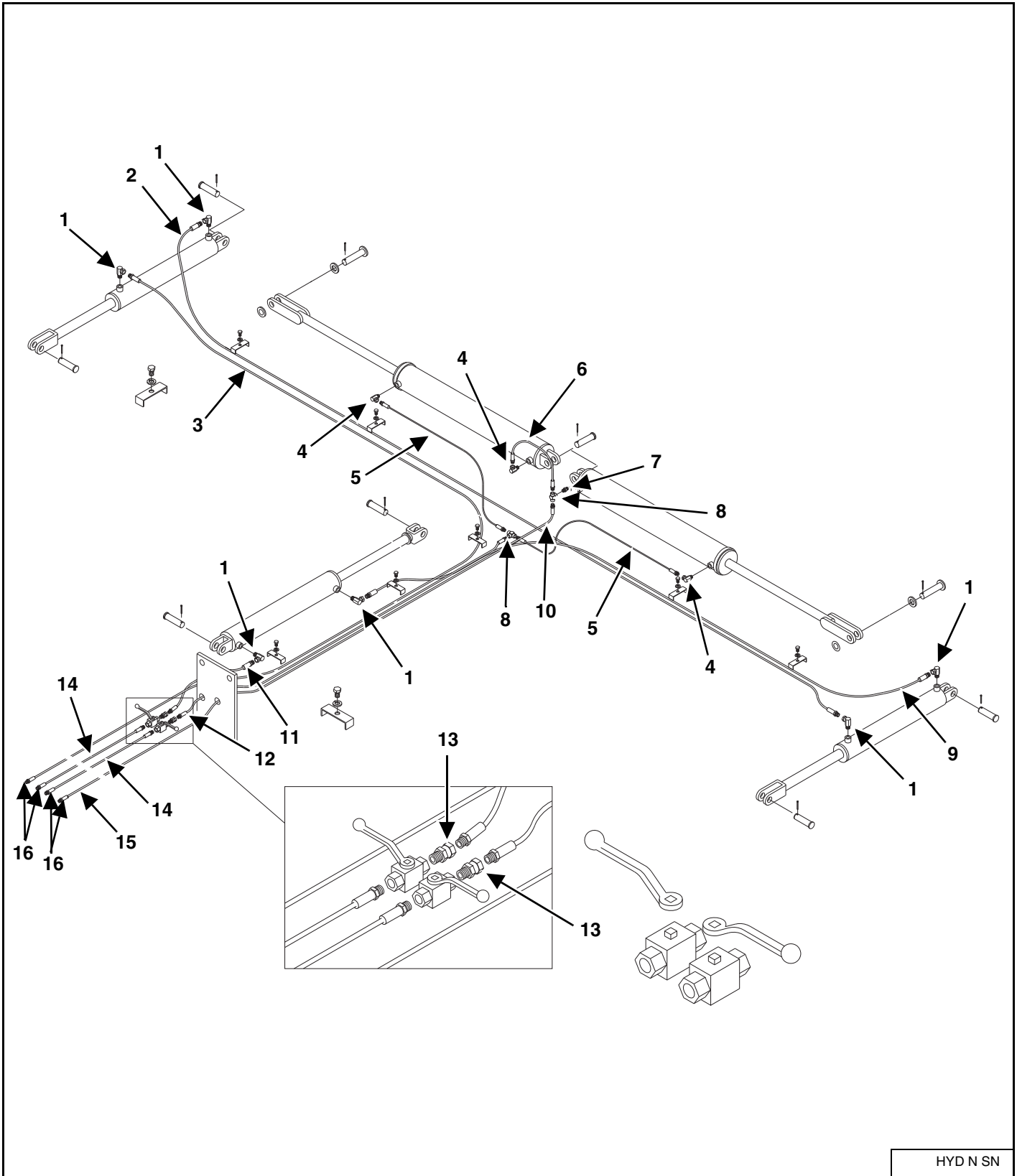


HYD N SN

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDR5262	PIN, CYLINDER	8
2	EZBP31175	COTTER PIN, 5/16" x 1-3/4"	10
3	EZ304	CYLINDER ASSEMBLY, REPHASING 3" DIA x 24 STROKE	1
4	EZDF5068	WASHER, 1-9/32" ID x 2" OD x 1/4"	6
5	EZS81856	PIN, CYLINDER 1-1/4" x 5-13/16" LG	2
6	EZDL9771	HOSE RETAINER	6
7	EZBW050L	LOCK WASHER, 1/2" ZNCR	9
8	EZB050007	BOLT, CSHH G5 P 1/2" x 3/4"	9
9	EZ332	WING LIFT CYLINDER, 5" x 36"	2
10	EZ306	CYLINDER ASSEMBLY, REPHASING 4" DIA x 24" STROKE	1
11	EZ305	CYLINDER ASSEMBLY, REPHASING 3-1/2" DIA x 24" STROKE	1
12	EZDL13186	HOSE CLAMP, 4 LINE	3
13	EZDL13099	BALL VALVE, GE2 - N 3/8" 2 WAY	2



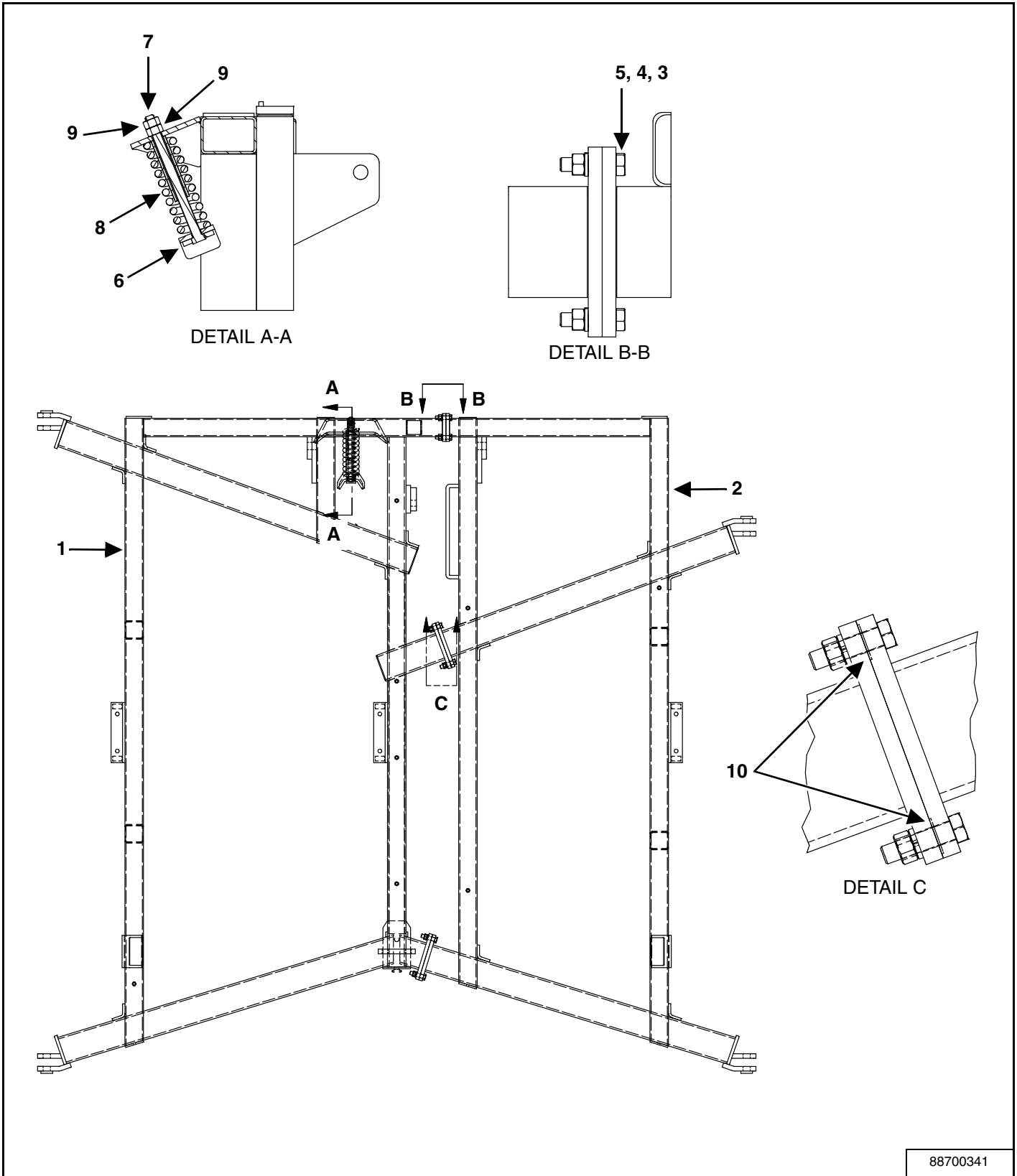
Hydraulic Plumbing - Wide Wing Frame



HYD N SN

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDL9775	SWIVEL STREET ELBOW, 1/2" 90 DEGREE	6
2	EZD4481	HOSE ASSY, 334" LG.	1
3	EZD4479	HOSE ASSY, 440" LG.	1
4	EZDL9769	SWIVEL STREET ELBOW, 3/8" 90 DEGREE	3
5	EZP3027	HOSE ASSY, 54" LG.	2
6	EZL2939	HOSE ASSY, 24" LG.	1
7	EZL1720	MALE-MALE UNION	1
8	EZDL9767	SWIVEL TEE, 3/8" x 3/8" x 3/8"	2
9	EZD4483	HOSE ASSY, 220" LG.	1
11	EZD4336	HOSE ASSY, 20" LG.	1
12	EZL4344	HOSE ASSY, 106" LG.	1
13	EZL1619	MALE-FEMALE SWIVEL, 3/8" (9.39 mm)	2
14	EZD4382	HOSE ASSY, 179" LG.	2
15	EZD4381	HOSE ASSY, 294" LG.	1
16	EZL397	COUPLER 1/2", MALE NIPPLE	4
NS	EZB031040	BOLT, 5/16" x 4 UNC GRADE 5	2
NS	EZBW031L	LOCK WASHER, P 0.3125 86505602	2
NS	EZBN031	NUT, G5 P 0.3125 86505597	2
NS	88704516	TIE, HYD RAISE / LOWER GR	2
NS	88704517	TIE, HYD WING FOLD BL	2
NS	EZC50716	PACKAGE, WADLER DEPTH STOPS	2
NS	2747	TIE STRAP, 14.4" OLG NYLON B1	AR

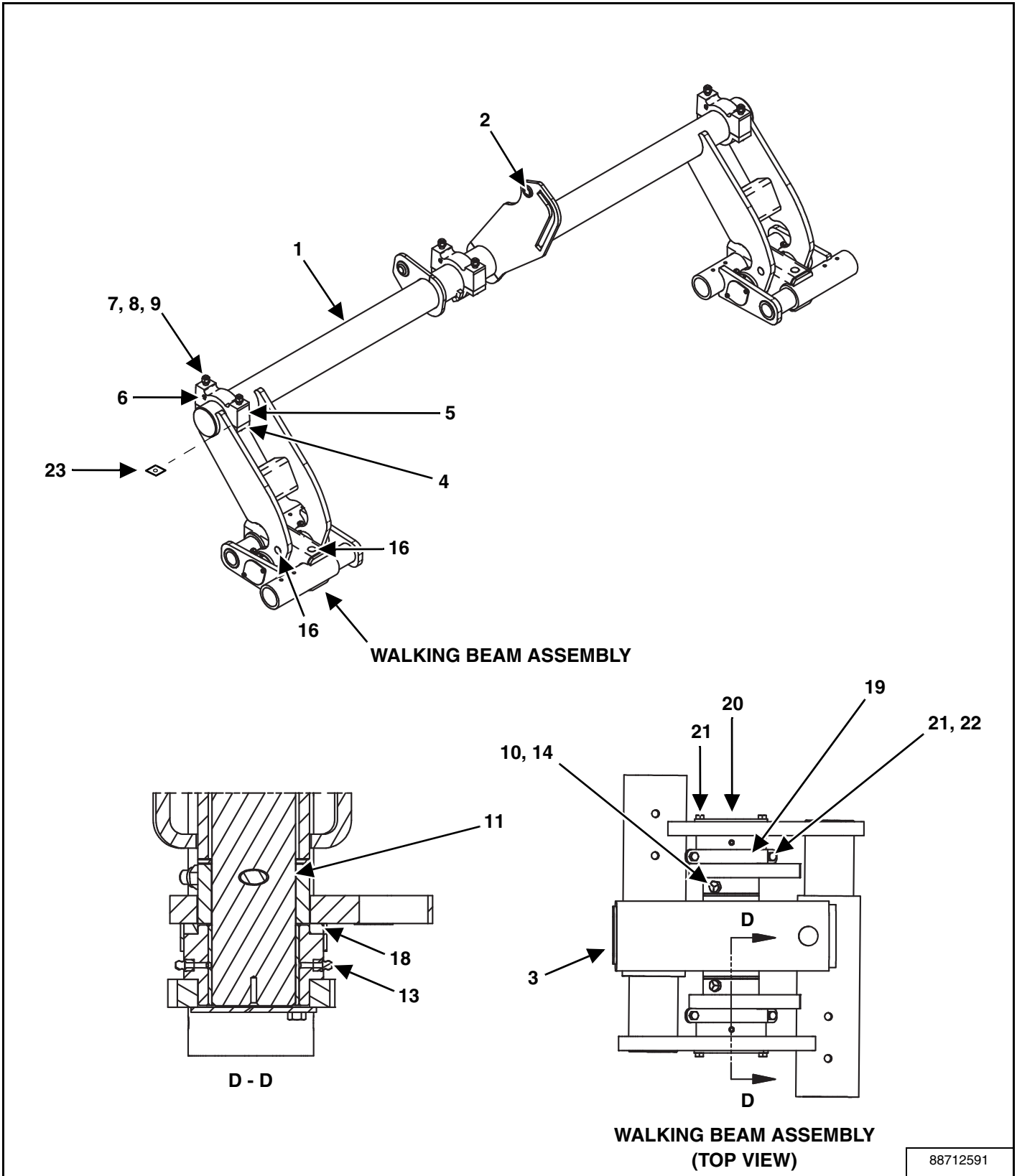
Main Frame Assembly



88700341

ITEM	PART NUMBER	DESCRIPTION	QTY
1	88706143	FRAME-W.A. MN TD600 L/H RED	1
2	88706144	FRAME-W.A. MN TD600 R/H RED	1
3	EZBN075	NUT, 0.75" G5 P 86505597	12
4	EZBW075L	LOCK WASHER, 0.75" P 86505602	12
5	EZB075030	BOLT, CSHH G5P 0.75" x 3.0" 86505344	12
6	EZDFA10536	PLATE, W.A. SPRING CUSHION	1
7	EZB100140	BOLT, HEX 1"-8 NC x 14"	1
8	EZDC9615	SPRING, COMPRESSION	1
9	EZBN100	NUT, HEX GR5 ZNCR 1"-8	2
10	88713355	PLATE, SHIM MAIN FRAME	AR

Rockshaft Assembly - Main Frame

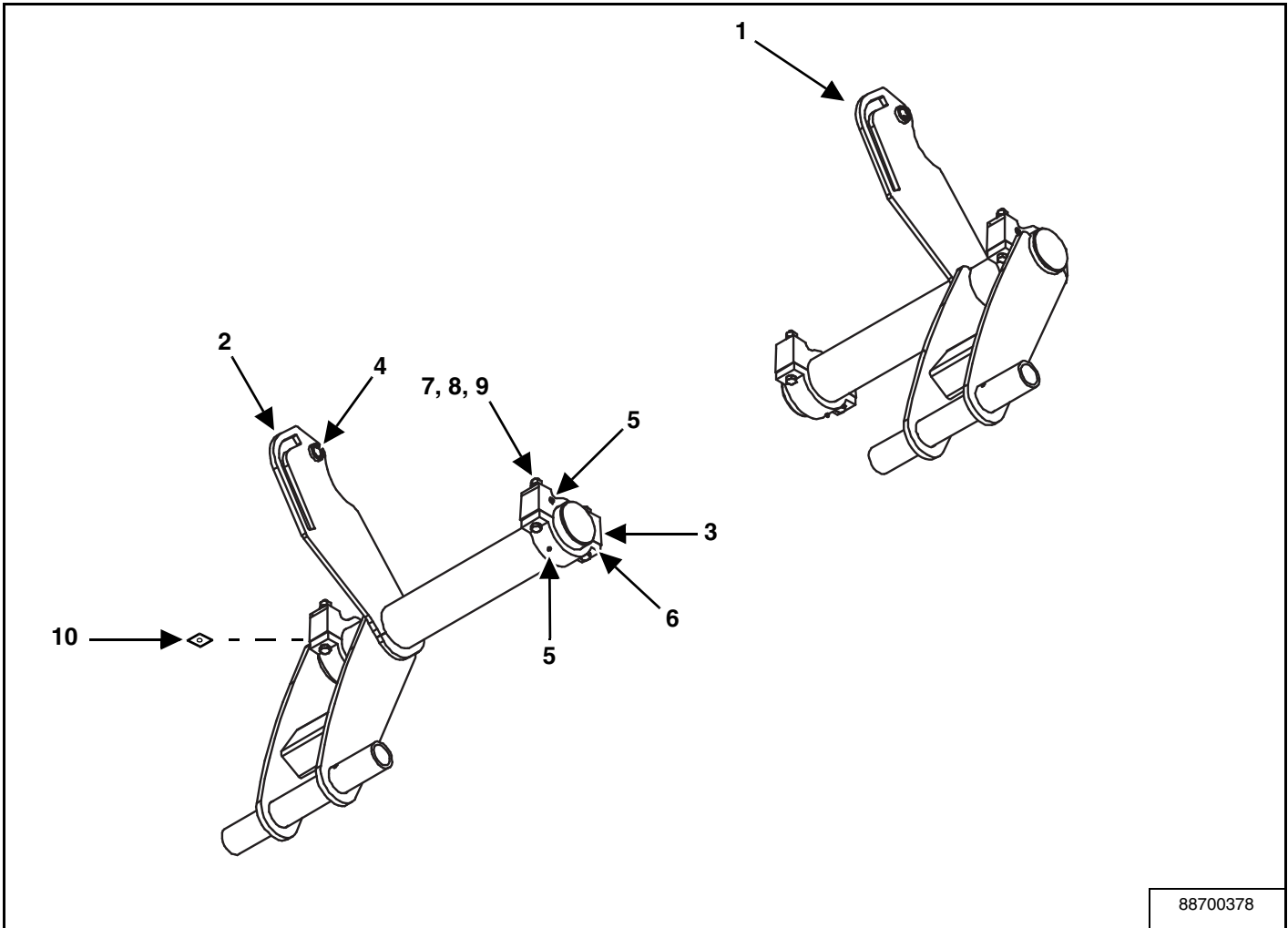


88712591

ITEM	PART NUMBER	DESCRIPTION	QTY
1	88712574	ROCKSHAFT, MAIN FRAME, WELDMENT	1
2	EZDR13120	BUSHING, SPRING	1
3	88713893	BEAM, ASSY WALKING	2
4	EZDR8601B	HOUSING, BEARING BOTTOM	3
5	EZDR8601T	HOUSING, BEARING TOP	3
6	EZ10GN1	FITTING, ZERK, 1/4" UNF ST	3
7	EZB075065	BOLT, HEX 3/4" NC x 6-1/2" GR5 ZNCR	6
8	EZBW075L	LOCK WASHER, 3/4" ZNCR	6
9	EZBN075	NUT, HEX 3/4" NC GR5 ZNCR	6
10	EZBN050L	LOCK NUT, 1/2" NC HEX NYL, ZNCR	4
11	88713892	PIN, PIVOT WB	2
12	88713573	WASHER, THRUST WB	4
13	80710	FITTING LUBE, 1/8" NPT	8
14	EZB050050	BOLT, HEX CAP 1/2" NC x 5" GR5 ZNCR	4
15	86050059	STD GREASE, LITHIUM	AR
16	21867	DECAL, GREASE DAILY	6
17	86557158	ANTI SEIZE, PER 86557157	AR
18	88713905	SEAL, WALKING BEAM	4
19	88713911	CLAMP, WB SEAL	8
20	88713910	COVER, WALKING BEAM SHAFT	4
21	EZB037007	BOLT, CCHH G5P 3/8" x 3/4"	16
22	EZBN037L	NUT, HEX NYL 3/8" NC	8
23	EZC50692	ROCKSHAFT BEARING SHIM	AR

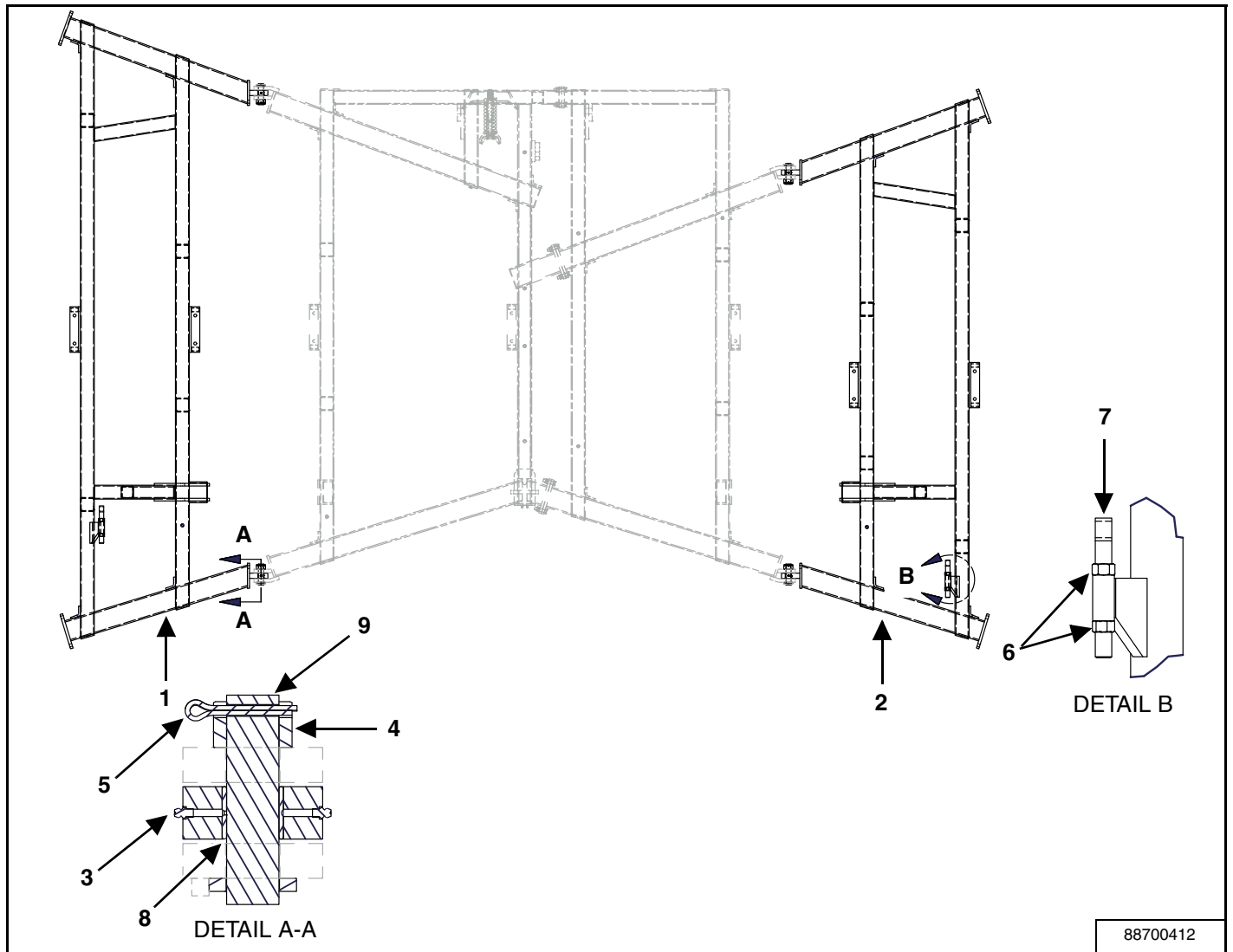


**Rockshaft Assembly - Wing Frame**



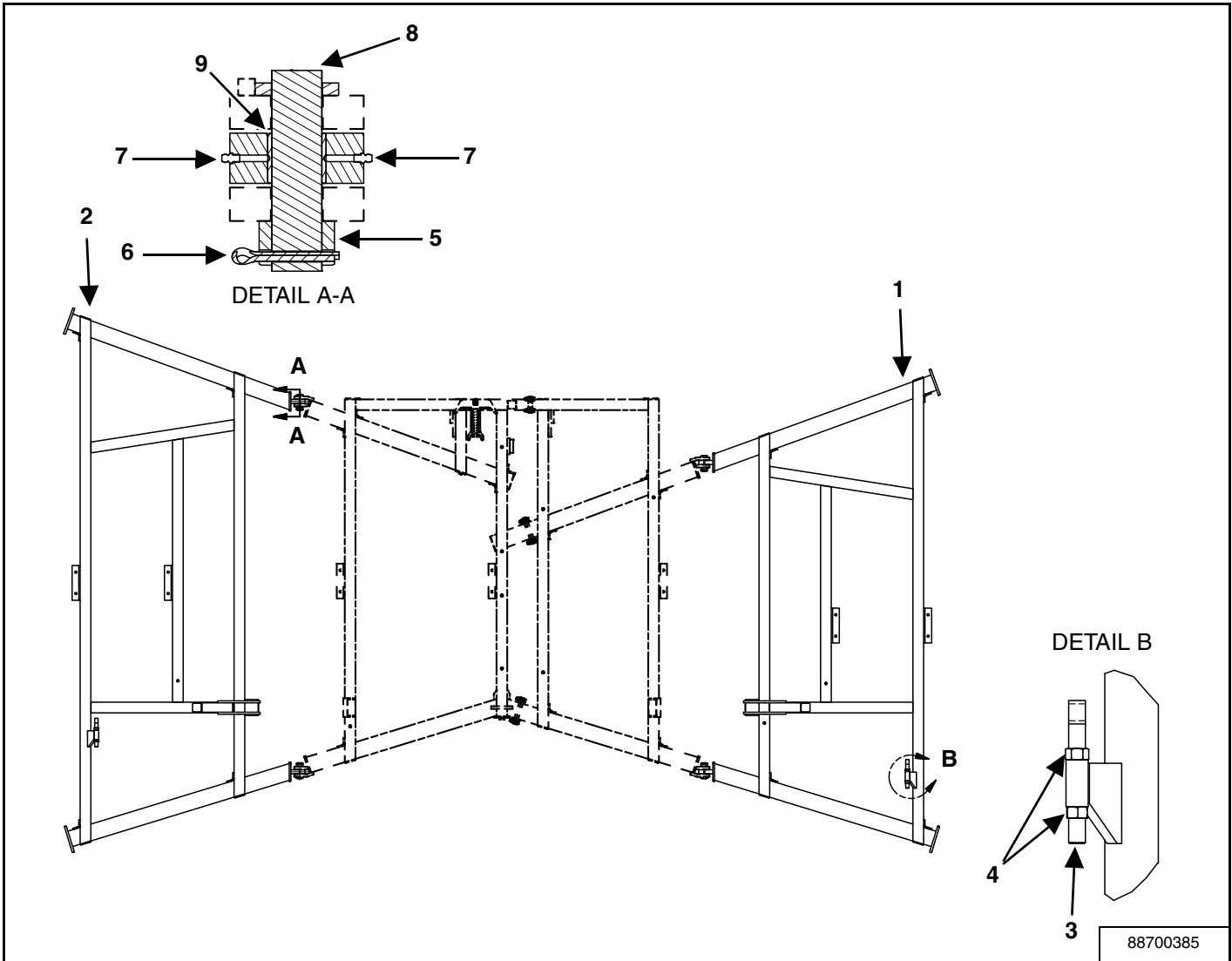
ITEM	PART NUMBER	DESCRIPTION	QTY
1	88712609	ROCKSHAFT WING L/H, WELDMENT	1
2	88712610	ROCKSHAFT WING R/H, WELDMENT	1
3	EZDR8601T	HOUSING, BEARING TOP	4
4	EZDR13120	BUSHING, SPRING	2
5	EZ10GN1	FITTING, ZERK, 1/4 UNF ST	8
6	EZDR8601B	HOUSING, BEARING BOTTOM	4
7	EZB075065	BOLT, HEX 3/4 NC x 6-1/2 GR5 ZNCR	8
8	EZBW075L	LOCK WASHER, 3/4 x 1-1/4 x 3/16 ZNCR	8
9	EZBN075	NUT, HEX 3/4 NC GR5 ZNCR	8
10	EZC50692	ROCKSHAFT BEARING SHIM	AR

Wing Frame Assembly - Narrow Wing Frame



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88700426	FRAME-W.A. NAR WING TD600 L/H RED	1
2	88700428	FRAME-W.A. NAR WING TD600 R/H RED	1
3	EZ10GN1	FITTING, ZERK, 1/4 UNF ST	8
4	EZDH5165	NUT, HEX SLOT 1-1/2 NC GR 2	4
5	EZBP31225	PIN, COTTER, 5/16 x 2-1/4	4
6	EZBN100	NUT, HEX 1-8 NC GR 5 ZNCR	4
7	EZDFA9564	ROD-W.A. EYE BOLT	2
8	EZDG13286	BUSHING, SPRING W/OIL GROOVE	4
9	EZDG13009	PIN, WING HINGE 1-1/2	4

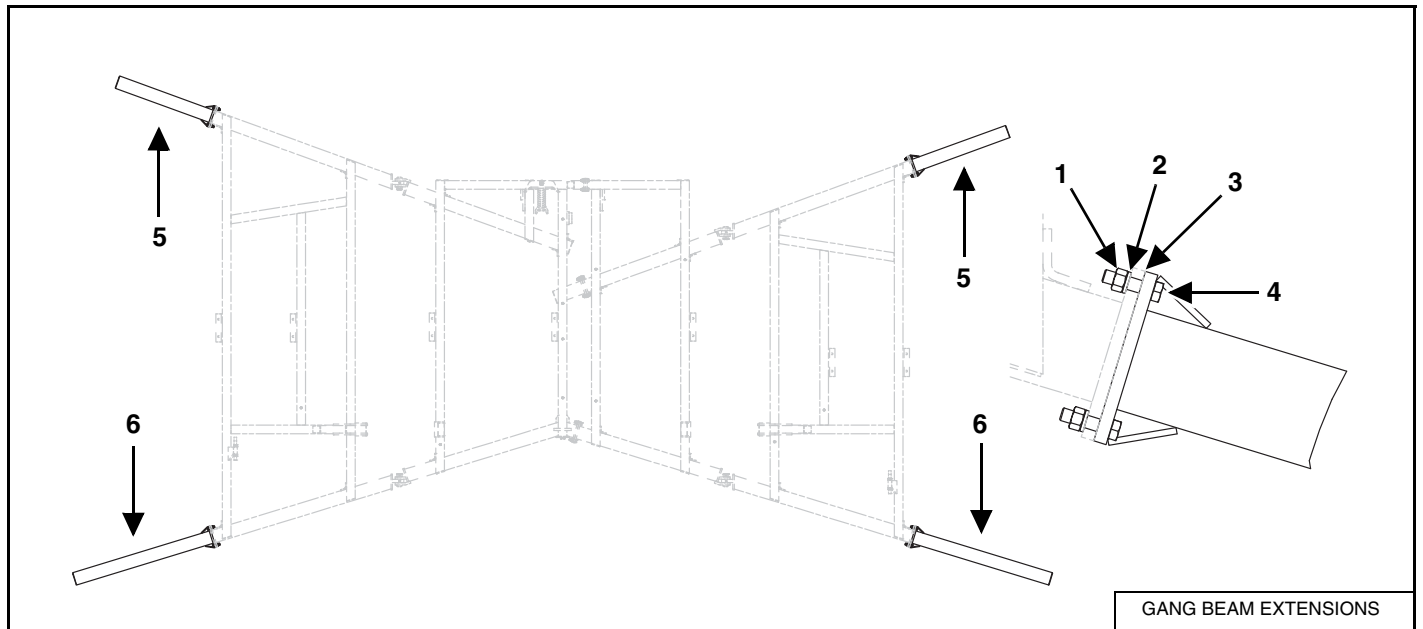
**Wing Frame Assembly - Wide Wing Frame**



88700385

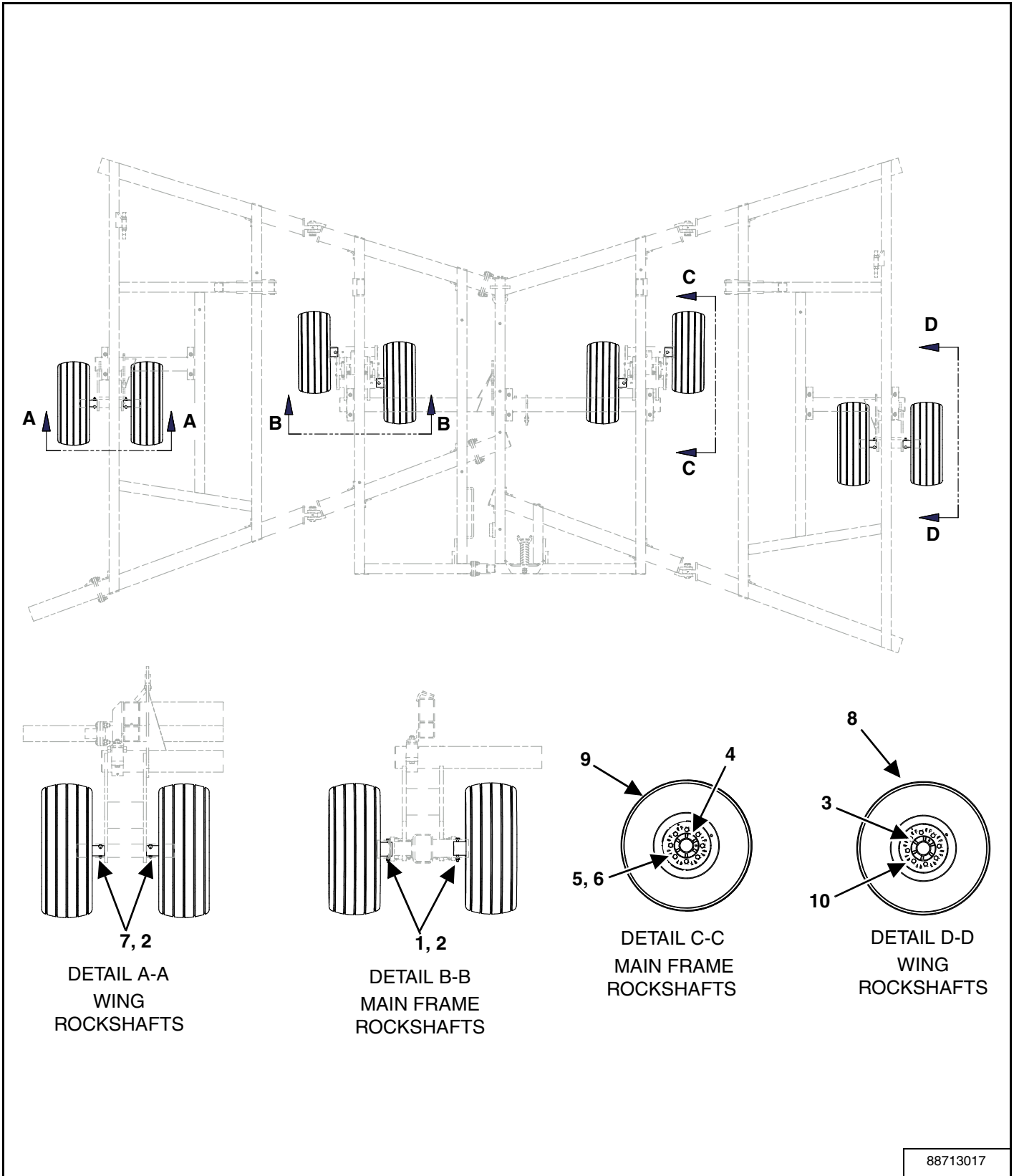
ITEM	PART NUMBER	DESCRIPTION	QTY
1	88706145	FRAME-W.A. WING TD600 L/H RED	1
2	88706146	FRAME-W.A. WING TD600 R/H RED	1
3	EZDFA9564	ROD-W.A. EYE BOLT	2
4	EZBN100	NUT, HEX 1-8 NC GR 5 ZNCR	4
5	EZDH5165	NUT, HEX SLOT 1-1/2 NC GR 2	4
6	EZBP31225	PIN, COTTER, 5/16 x 2-1/4	4
7	EZ10GN1	FITTING, ZERK, 1/4 UNF ST	8
8	EZDG13009	PIN, WING HINGE 1-1/2	4
9	EZDG13286	BUSHING, SPRING W/OIL GROOVE	4

Gang Beam Extensions



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZBN075	NUT, 3/4" NC HEX GR 5 PL	16
2	EZBW075L	LOCK WASHER, 3/4"	16
3	EZDF10046	SHIM, 1" x 1" 14 GA	AR
4	EZB075030	BOLT, 3/4" x 3" GR 5 PL	16
5	EZDG13405	18" GANG BEAM EXTENSION - 70 BLADE - 9" SPACING	2
	EZDG13407	34" GANG BEAM EXTENSION - 78 BLADE - 9" SPACING	2
	EZDG13408	28" GANG BEAM EXTENSION - 86 BLADE - 9" SPACING	2
	EZDG13416	46" GANG BEAM EXTENSION - 94 BLADE - 9" SPACING	2
	EZDG13411	12" GANG BEAM EXTENSION - 58 BLADE - 10.5" SPACING	2
	EZDG13413	32" GANG BEAM EXTENSION - 66 BLADE - 10.5" SPACING	2
	EZDG13408	28" GANG BEAM EXTENSION - 74 BLADE - 10.5" SPACING	2
	EZDG13416	46" GANG BEAM EXTENSION - 82 BLADE - 10.5" SPACING	2
6	EZDG13417	40" GANG BEAM EXTENSION - 70 BLADE - 9" SPACING	2
	EZDG13419	54" GANG BEAM EXTENSION - 78 BLADE - 9" SPACING	2
	EZDG13426	45" GANG BEAM EXTENSION - 86 BLADE - 9" SPACING	2
	EZDG13428	66" GANG BEAM EXTENSION - 94 BLADE - 9" SPACING	2
	EZDG13407	34" GANG BEAM EXTENSION - 58 BLADE - 10.5" SPACING	2
	EZDG13419	54" GANG BEAM EXTENSION - 66 BLADE - 10.5" SPACING	2
	EZDG13426	45" GANG BEAM EXTENSION - 74 BLADE - 10.5" SPACING	2
	EZDG13428	66" GANG BEAM EXTENSION - 82 BLADE - 10.5" SPACING	2

**Tire Assembly**

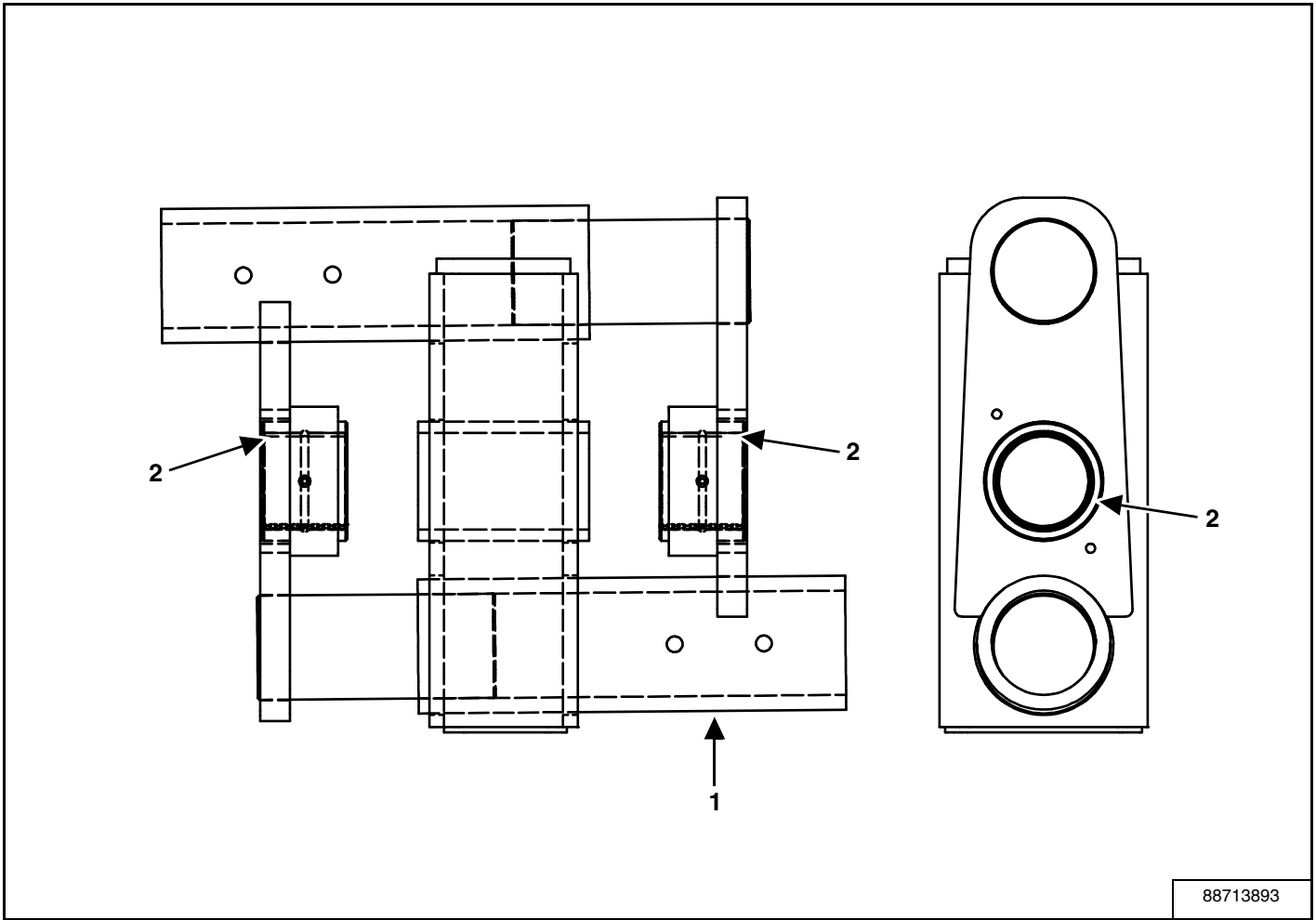


88713017

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZB050055	BOLT, HEX CAP 1/2 NC x 5.5 GR5 ZNCR	4
2	EZBN050L	LOCK NUT, NYL, HEX 1/2 NC ZNCR	8
3	88712617	812 HUB WING SPINDLE, ASSY	4
4	88712588	ASSY, 8 BOLT SPINDLE LARGE SPINDLE - MAIN FRAME	4
5	EZDR9670	NUT, HEX 9/16 NC PLATED	32
6	EZDR9671	BOLT, WHEEL 9/16 NF x 1-11/16	32
7	EZB050045	BOLT, HEX CAP 1/2 NC x 4-1/2 GR5 ZNCR	4
8	88713885	TIRE - 12.5L15FID 8 BOLT RIM - WING FRAME	4
9	88706457	ASSY-WHEEL AND TIRE 8-BOLT - MAIN FRAME	4
10	EZDR125	WHEEL BOLT, 9/16" NF x 1-1/8"	32

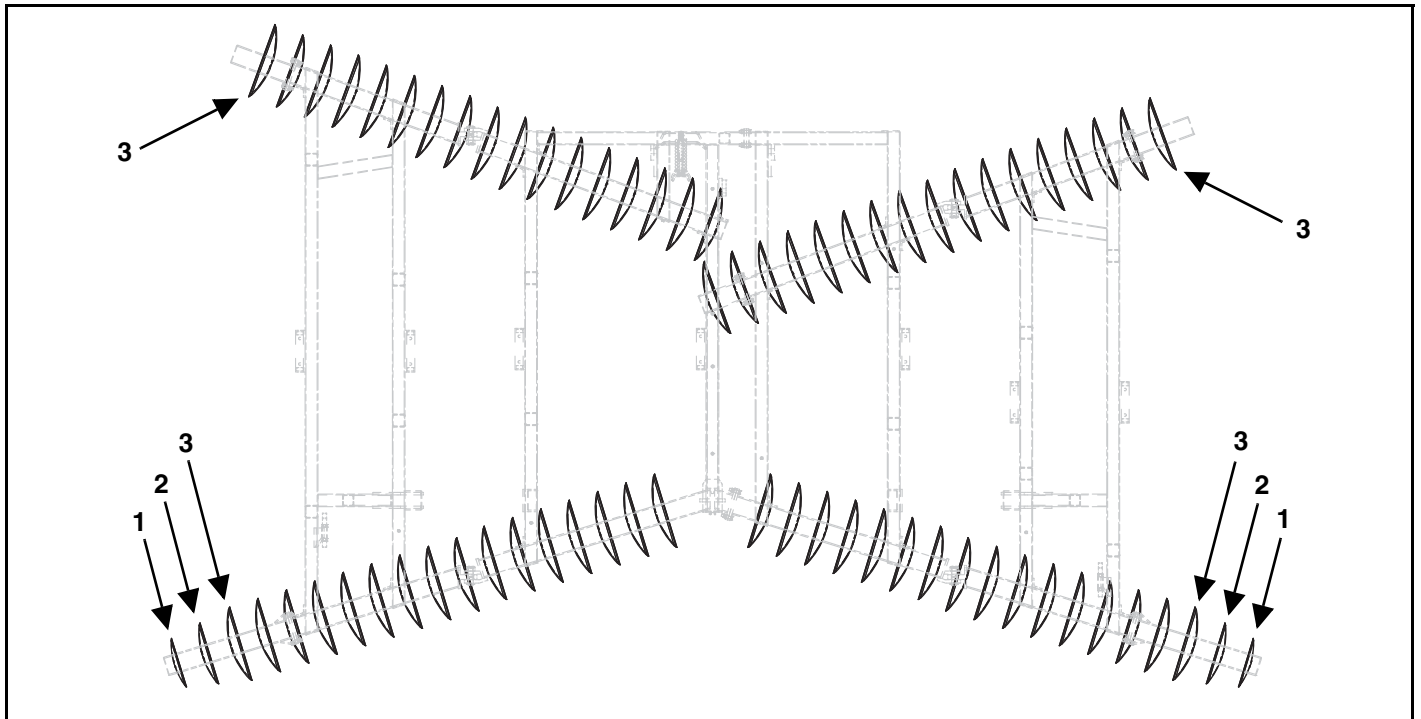


**Walking Beams Assembly**



ITEM	PART NUMBER	DESCRIPTION	QTY
1	88713888	WALKING BEAM WELDMENT	1
2	88713643	BUSHING, PIVOT, WALKING BEAM	2

**Disc Gang - 9 In. & 10.5 In. Spacing (W / Standard Hangers for 410WSS Bearings)**



ITEM	PART NUMBER	BLADE OPTIONS - 9" SPACING - 24" BLADES	QTY
1	EZDG84	Blade-Plain Outrig 16" x 0.157"	*
2	EZDG149	Blade-Plain Outrig 20" x 0.236"	*
3	EZDG76	Blade-Plain 24" x 0.276"	*
	EZDG137	Blade-Plain 24" x 0.313"	*
	EZDG138	Blade-Notched 24" x 0.313"	*
*	As Required		

ITEM	PART NUMBER	BLADE OPTIONS - 9" SPACING - 26" BLADES	QTY
1	EZDG133	Blade-Plain Outrig 18" x 0.197"	*
2	EZDG64	Blade-Plain Outrig 22" x 0.250"	*
3	EZDG74	Blade-Plain 26" x 0.313"	*
	EZDG75	Blade-Notched 26" x 0.313"	*
*	As Required		

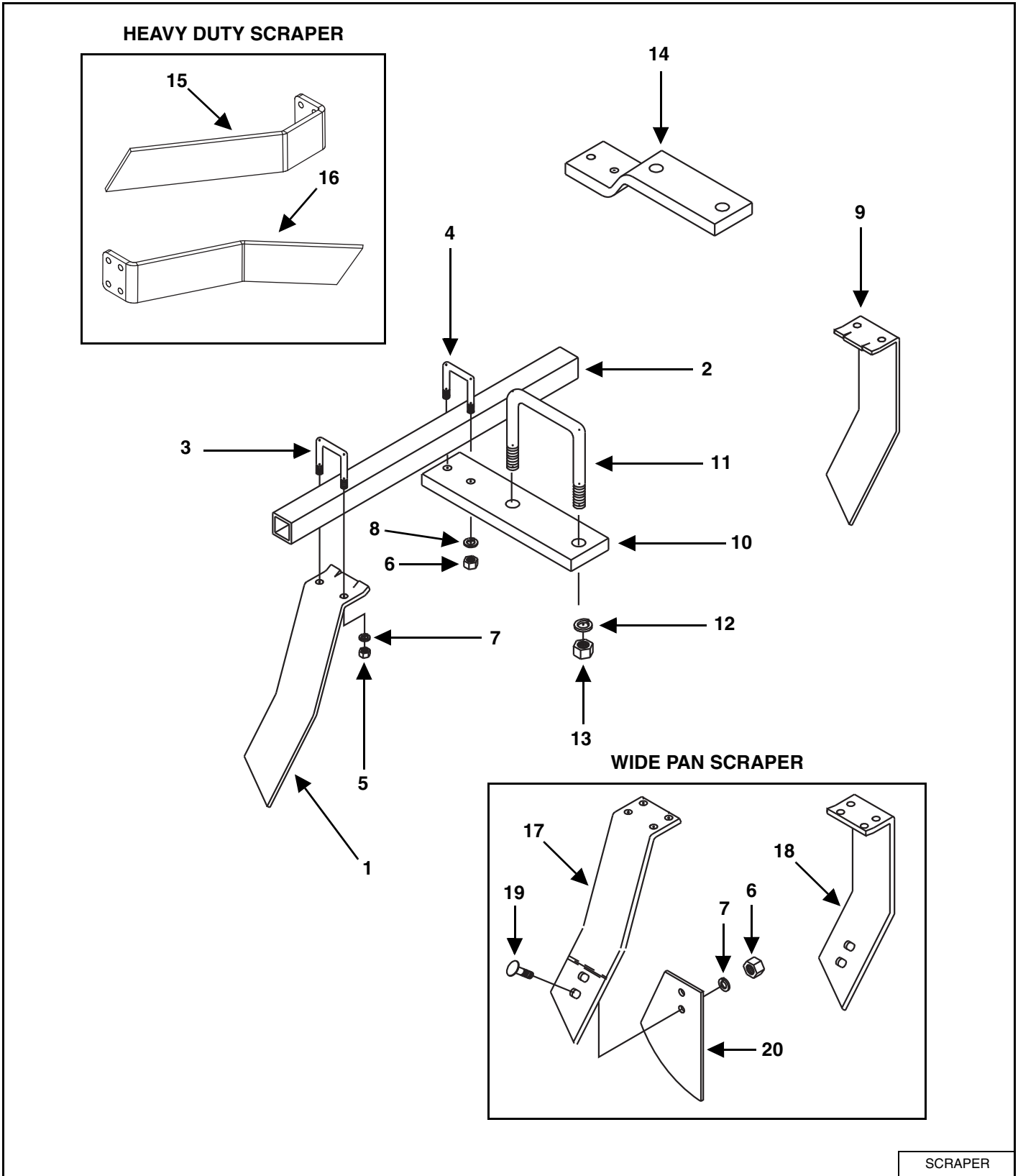
ITEM	PART NUMBER	BLADE OPTIONS - 10.5" SPACING - 26" BLADES	QTY
1	EZDG133	Blade-Plain Outrig 18" x 0.197"	*
2	EZDG64	Blade-Plain Outrig 22" x 0.250"	*
3	EZDG74	Blade-Plain 26" x 0.313"	*
	EZDG75	Blade-Notched 26" x 0.313"	*
	EZDG107	Blade-Plain 26" x 0.375"	*
	EZDG87	Blade-Notched 26" x 0.375"	*
*	As Required		



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDG5293	STANDARD SCRAPER, FRONT L.H. / REAR R.H.	*
	EZDG5292	FRONT R.H. / REAR L.H. SCRAPER (Not Shown)	*
2	EZDS58	6 BLADE SCRAPER BAR, 58" (1450 mm)	*
	EZDS63	7 BLADE SCRAPER BAR, 63" (1600.2 mm) (90° Scaper)	*
	EZDS67	7 BLADE SCRAPER BAR, 67" (1701.8 mm)	*
	EZDS68	7 BLADE SCRAPER BAR, 68" (1727.2 mm) (Rear Main Frame)	*
	EZDS81	9 BLADE SCRAPER BAR, 81-1/2" (2070.1 mm) (90° Scaper)	*
	EZDS85	9 BLADE SCRAPER BAR, - 85" (2159 mm)	*
	EZDS95	10 BLADE SCRAPER BAR, 95" (2413 mm)	*
	EZDS99	11 BLADE SCRAPER BAR, 99" (2514.6 mm) (90° Scaper)	*
	EZDS108	12 BLADE SCRAPER BAR, 108" (2743 mm) (90° Scaper)	*
	EZDS113	12 BLADE SCRAPER BAR, 113" (2870.2 mm)	*
	EZDS123	13 BLADE SCRAPER BAR, 123" (3124.2 mm)	*
	3	EZDG5308	U-BOLT, 1/2" (12.7 mm) x 2" (50.8 mm)
4	EZDG5309	U-BOLT, 5/8" (15.9 mm) x 2" (50.8 mm)	*
5	EZBN050	NUT, 1/2" (12.7 mm) N.C. HEX	*
6	EZBN062	NUT, 5/8" (15.9 mm) N.C. HEX	*
7	EZBW050L	LOCK WASHER, 1/2" (12.7 mm)	*
8	EZBW062L	LOCK WASHER, 5/8" (15.9 mm)	*
9	EZDG5297	STANDARD 90° SCRAPER, FRONT L.H. & REAR R.H.	*
	EZDG5298	STANDARD 90° SCRAPER, FRONT R.H. & REAR L.H.	*
10	EZDG5296	SCRAPER BAR MOUNT PLATE	*
11	EZDGI3145	U-BOLT, 3/4" (19 mm) x 6-7/8" (174.5 mm)	*
12	EZBW075L	LOCK WASHER, 3/4" (19 mm)	*
13	EZBNO75	NUT, 3/4" (19 mm) N.C. HEX	*
14	EZDG5303	OFFSET SCRAPER MOUNT	*
15	EZDG13218	HEAVY DUTY 90° SCRAPER, FRONT R.H. & REAR L.H.	*
	EZDG13217	HEAVY DUTY 90° SCRAPER, FRONT L.H. & REAR R.H.	*
16	EZDG13216	HEAVY DUTY SCRAPER, FRONT R.H. & REAR L.H.	*
	EZDG13215	HEAVY DUTY SCRAPER, FRONT L.H. & REAR R.H.	*
17	EZDG7195	WIDE PAN 90° HEAVY DUTY SCRAPER HOLDER	*
18	EZDG7194	WIDE PAN HEAVY DUTY SCRAPER HOLDER	*
19	EZBO50012C	CARRIAGE BOLT, 1/2" x 1-1/4" (12.7 mm x 32 mm) N.C.	*
20	EZDG7190	WIDE PAN SCRAPER	*

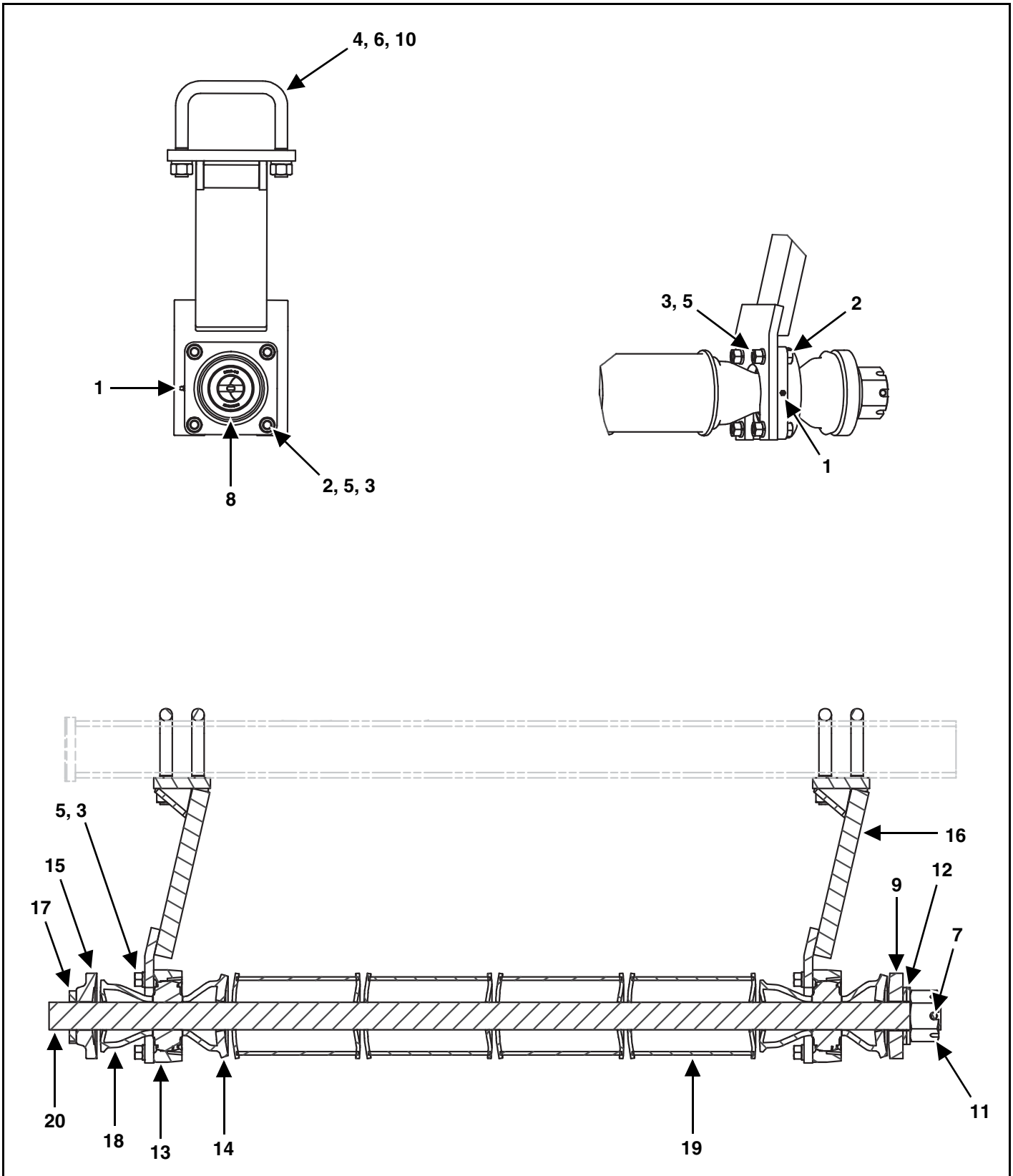
\* As Required

Scraper Assembly (10.5 In. Spacing)



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDG5293	STANDARD SCRAPER, FRONT L.H. / REAR R.H.	*
	EZDG5292	FRONT R.H. / REAR L.H. SCRAPER (Not Shown)	*
2	EZDS61	6 BLADE SCRAPER BAR, 61" (1663.7 mm) (90° Scraper)	*
	EZDS65	6 BLADE SCRAPER BAR, 65-1/2" (1663.7 mm)	*
	EZDS66	6 BLADE SCRAPER BAR, 66" (1676.4 mm) (Rear Main Frame)	*
	EZDS76	7 BLADE SCRAPER BAR, 76-1/2" (1943.1 mm)	*
	EZDS82	8 BLADE SCRAPER BAR, 82-1/2" (2095.5 mm) (90° Scraper)	*
	EZDS87	8 BLADE SCRAPER BAR, 87" (2209.8 mm)	*
	EZDS93	9 BLADE SCRAPER BAR, 93" (2362.2 mm) (90° Scraper)	*
	EZDS97	9 BLADE SCRAPER BAR, 97-1/2" (2476.5 mm)	*
	EZDS107	10 BLADE SCRAPER BAR, 107-1/2" (2730.5 mm) (90° Scraper)	*
	EZDS114	11 BLADE SCRAPER BAR, 114-1/2" (2908.3 mm) (90° Scraper)	*
	EZDS118	11 BLADE SCRAPER BAR, 118-1/2" (3009.9 mm)	*
	EZDS130	12 BLADE SCRAPER BAR, 130-1/2" (3314.7 mm)	*
3	EZDG5308	U-BOLT, 1/2" (12.7 mm) x 2" (50.8 mm)	*
4	EZDG5309	U-BOLT, 5/8" (15.9 mm) x 2" (50.8 mm)	*
5	EZBN050	NUT, 1/2" (12.7 mm) N.C. HEX	*
6	EZBN062	NUT, 5/8" (15.9 mm) N.C. HEX	*
7	EZBW050L	LOCK WASHER, 1/2" (12.7 mm)	*
8	EZBW062L	LOCK WASHER, 5/8" (15.9 mm)	*
9	EZDG5297	STANDARD 90° SCRAPER, FRONT L.H. & REAR R.H.	*
	EZDG5298	STANDARD 90° SCRAPER, FRONT R.H. & REAR L.H.	*
10	EZDG5296	SCRAPER BAR MOUNT PLATE	*
11	EZDGI3145	U-BOLT, 3/4" (19 mm) x 6-7/8" (174.5 mm)	*
12	EZBW075L	LOCK WASHER, 3/4" (19 mm)	*
13	EZBNO75	NUT, 3/4" (19 mm) N.C. HEX	*
14	EZDG5303	OFFSET SCRAPER MOUNT	*
15	EZDG13218	HEAVY DUTY 90° SCRAPER, FRONT R.H. & REAR L.H.	*
	EZDG13217	HEAVY DUTY 90° SCRAPER, FRONT L.H. & REAR R.H.	*
16	EZDG13216	HEAVY DUTY SCRAPER, FRONT R.H. & REAR L.H.	*
	EZDG13215	HEAVY DUTY SCRAPER, FRONT L.H. & REAR R.H.	*
17	EZDG7195	WIDE PAN 90° HEAVY DUTY SCRAPER HOLDER	*
18	EZDG7194	WIDE PAN HEAVY DUTY SCRAPER HOLDER	*
19	EZBO50012C	CARRIAGE BOLT, 1/2" x 1-1/4" (12.7 mm x 32 mm) N.C.	*
20	EZDG7190	WIDE PAN SCRAPER	*
* As Required			

Gang Assembly, 9 In. Spacing (W / Rigid Hangers for 410WSS Bearings)

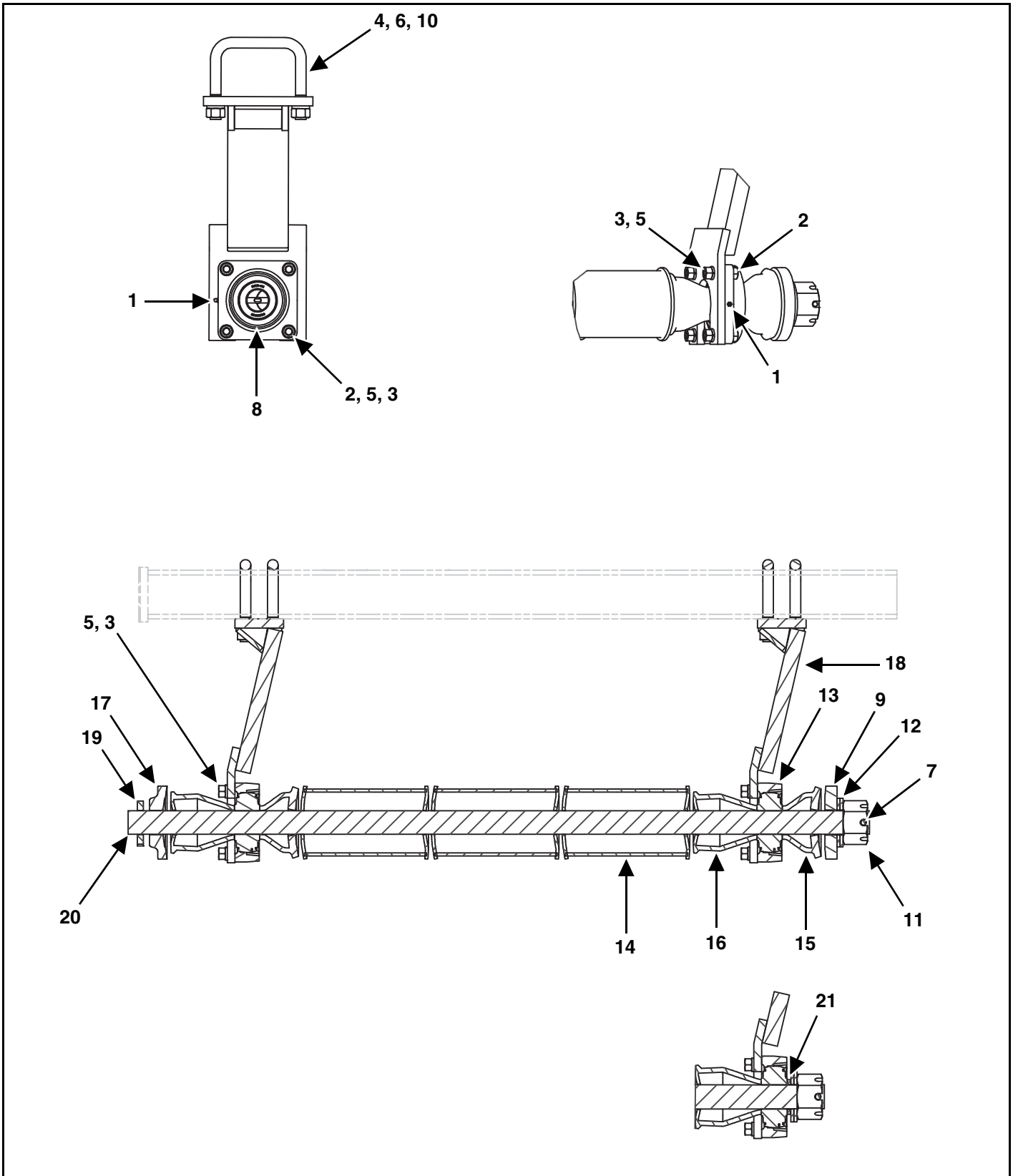




ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ10GN1	GREASE ZERK, 1/4" UNF ST	*
2	EZB062022	BOLT, 5/8" x 2-1/4" HEX NC	*
3	EZBN062	NUT, 5/8" GR 5 P	*
4	EZBN087	NUT, 7/8" HEX GR 5 ZNCR	*
5	EZBW062L	LOCK WASHER, 5/8" P	*
6	EZBW087L	LOCK WASHER, 7/8" ZNCR	*
7	EZDG10310	LOCK PIN, DISC GANG	*
8	EZDG108	BEARING, EZ410WSS - LESS HOUSING	*
9	EZDG13184	HEAD WASHER, 6" x 2" x 1" - 26" BLADE	*
	EZDG13185	HEAD WASHER, 5-1/2" OD x 3/4" - 24" BLADE	*
10	EZDG5379	U-BOLT, 7/8" x 7"	*
11	EZDG12252	NUT, 2" NC HEX SLOT GR 5 ZNCR	*
12	EZDG89	SHIM WASHER	*
13	EZDG96	214 & 410 SERIES HOUSING ONLY	*
	EZDGB109	410WSS BEARING C/W HOUSING AND GREASE FITTING	*
14	EZDGA106	SHORT HALF SPOOL, W.A.	*
15	EZDGA5370	END PLATE	*
16	EZDGA7183	STANDARD SOLID BEARING HANGER	*
	EZDGA7184	STANDARD 2" OFFSET SOLID BEARING HANGER	*
17	EZDG5371	PLATE-HOLDING LUG DISC GANG	*
18	EZDGA136	9" LONG HALF SPOOL, W.A.	*
19	EZDGA100	FULL 9" SPACING SPOOL, W.A.	*
20	88713314	BOLT, 62-3/4" - 7 BLADE GANG	*
	88713315	BOLT, 72" - 8 BLADE GANG	*
	88713293	BOLT, 81" - 9 BLADE GANG	*
	88713316	BOLT, 90-1/2" - 10 BLADE GANG	*
	88713321	BOLT, 99-3/4" - 11 BLADE GANG	*
	88713322	BOLT, 109" - 12 BLADE GANG	*
	88713323	BOLT, 118-1/2" - 13 BLADE GANG	*

\* As Required

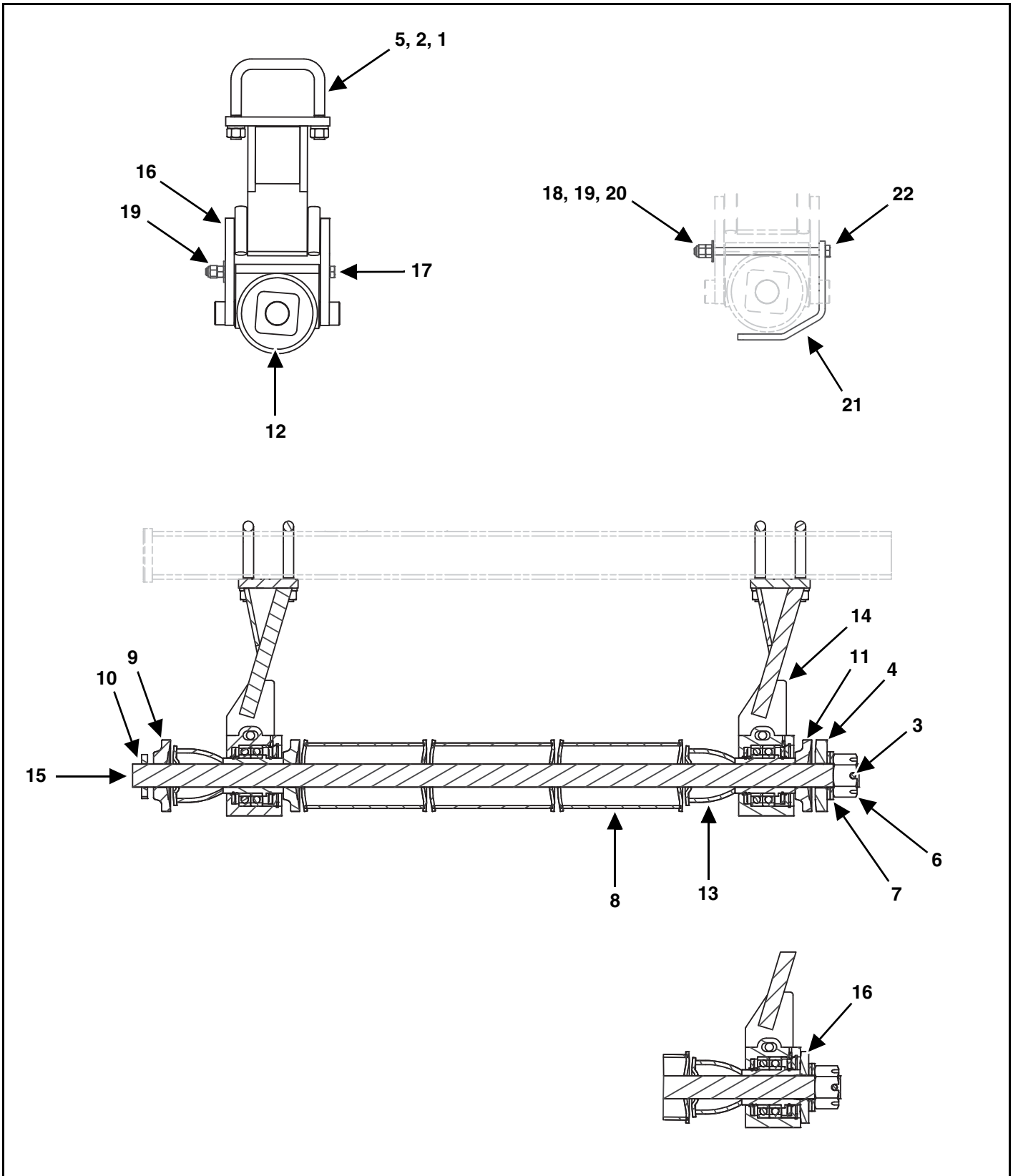
Gang Assembly, 10.5 In. Spacing (W / Rigid Hangers for 410WSS Bearings)



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ10GN1	GREASE ZERK, 1/4" UNF ST	*
2	EZB062022	BOLT, 5/8" x 2-1/4" HEX NC	*
3	EZBN062	NUT, 5/8" GR 5 P	*
4	EZBN087	NUT, 7/8" HEX GR 5 ZNCR	*
5	EZBW062L	LOCK WASHER, 5/8" P	*
6	EZBW087L	LOCK WASHER, 7/8" ZNCR	*
7	EZDG10310	LOCK PIN, DISC GANG	*
8	EZDG108	BEARING, EZ410WSS	*
9	EZDG13184	WASHER, 6" x 2" x 1" HD	*
10	EZDG5379	U-BOLT, 7/8" x 7"	*
11	EZDG12252	NUT, 2" NC HEX SLOT GR 5 ZNCR	*
12	EZDG89	SHIM WASHER	*
13	EZDG96	214 & 410 SERIES (HOUSING)	*
	EZDGB109	410WSS BEARING C/W HOUSING AND GREASE FITTING.	*
14	EZDGA101	FULL 10.5" SPACING SPOOL, W.A.	*
15	EZDGA106	SHORT SPOOL, W.A.	*
16	EZDGA131	LONG 10.5" HALF SPOOL, (410WSS)	*
17	EZDGA5370	END PLATE	*
18	EZDGA7183	STANDARD SOLID BEARING HANGER	*
19	EZDG5371	LUG HOLDING PLATE	*
20	88713328	BOLT, 82-1/4" - 8 BLADE GANG	*
	88713326	BOLT, 61" - 6 BLADE GANG	*
	88713329	BOLT, 93" - 9 BLADE GANG	*
	88713331	BOLT, 114-3/4" - 11 BLADE GANG	*
	88713330	BOLT, 104" - 10 BLADE GANG	*
	88713337	BOLT, 71-1/2" - 7 BLADE GANG	*
	88713634	BOLT, 69" - 6 BLADE GANG W/ OUTBOARD BEARING (410 BRG AND STD T2-215)	*
21	88713670	WASHER, 410 OUTBOARD	*

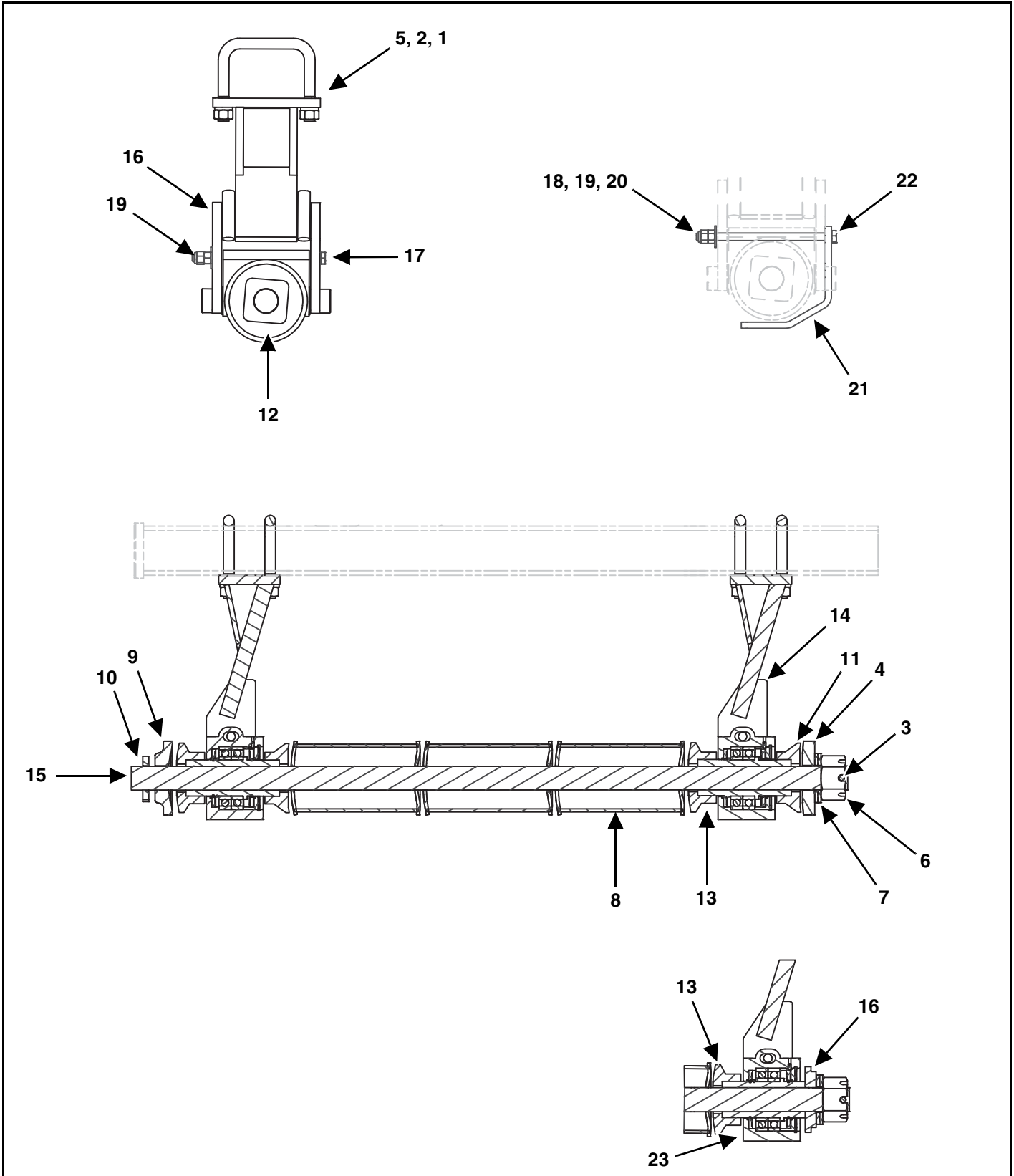
\* As Required

Gang Assembly, 10.5 In. Spacing (W / Rigid Hangers for T2 - 215 Bearings)



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZBN087	NUT, 7/8" HEX GR5 ZNCR	*
2	EZBW087L	LOCK WASHER, 7/8" ZNCR	*
3	EZDG10310	PIN-LOCK DISC GANG	*
4	EZDG13184	WASHER, HD 6 X 2 X 1	*
5	EZDG5379	U-BOLT, 7/8" x 7"	*
6	EZDG12252	NUT, 2" NC HEX SLOT GR 5 ZNCR	*
7	EZDG89	WASHER-SHIM	*
8	EZDGA101	SPOOL-W.A. FULL 10.5IN SPACING	*
9	EZDGA5370	PLATE-END DISC GANG	*
10	EZDG5371	LUG HOLDING PLATE	*
11	EZDGA10563	SHORT HALF SPOOL WASHER	*
12	EZDGB9900	BEARING ASSEMBLY, HSG	*
13	EZDGA103	HALF SPOOL, 4-1/2" x 4-3/16" W.A.	*
14	EZDGA13162	STANDARD HANGER BRACKET, W.A.	*
	EZDGA13163	2" OFFSET HANGER BRACKET, W.A.	*
15	88713326	BOLT, 61" (6 BLADE GANG) - WITH OUTBOARD BRG	*
	88713634	BOLT, 69" (6 BLADE GANG)	*
	88713327	BOLT, 71-1/2" (7 BLADE GANG)	*
	88713328	BOLT, 82-1/4" (8 BLADE GANG)	*
	88713329	BOLT, 93" (9 BLADE GANG)	*
	88713330	BOLT, 104" (10 BLADE GANG)	*
	88713331	BOLT, 114-3/4" (11 BLADE GANG)	*
	88713332	BOLT, 125-3/4" (12 BLADE GANG)	*
16	EZDG13185	END PLATE, 215 OUTBOARD - STD 215 BRG	*
17	EZB062100	BOLT, 5/8" NC x 10" HEX CAP GR5 ZNCR - LESS WEAR GUARD	*
18	EZBN062L	LOCK NUT, 5/8" NC NYLON	*
19	EZBN062	NUT, 5/8" GR 5 P	*
20	EZBW17506812F	FLAT WASHER, 11/16" ZNCR	*
21	EZDG10590	WEAR GUARD	*
22	EZB062110	BOLT, 5/8" NC x 11" HEX CAP GR 5 ZNCR (USED WITH WEAR GUARD)	*
* As Required			

Gang Assembly, 10.5 In. Spacing (W / Rigid Hangers for T2 - 215 Bearings & Interlocking Half Spools)

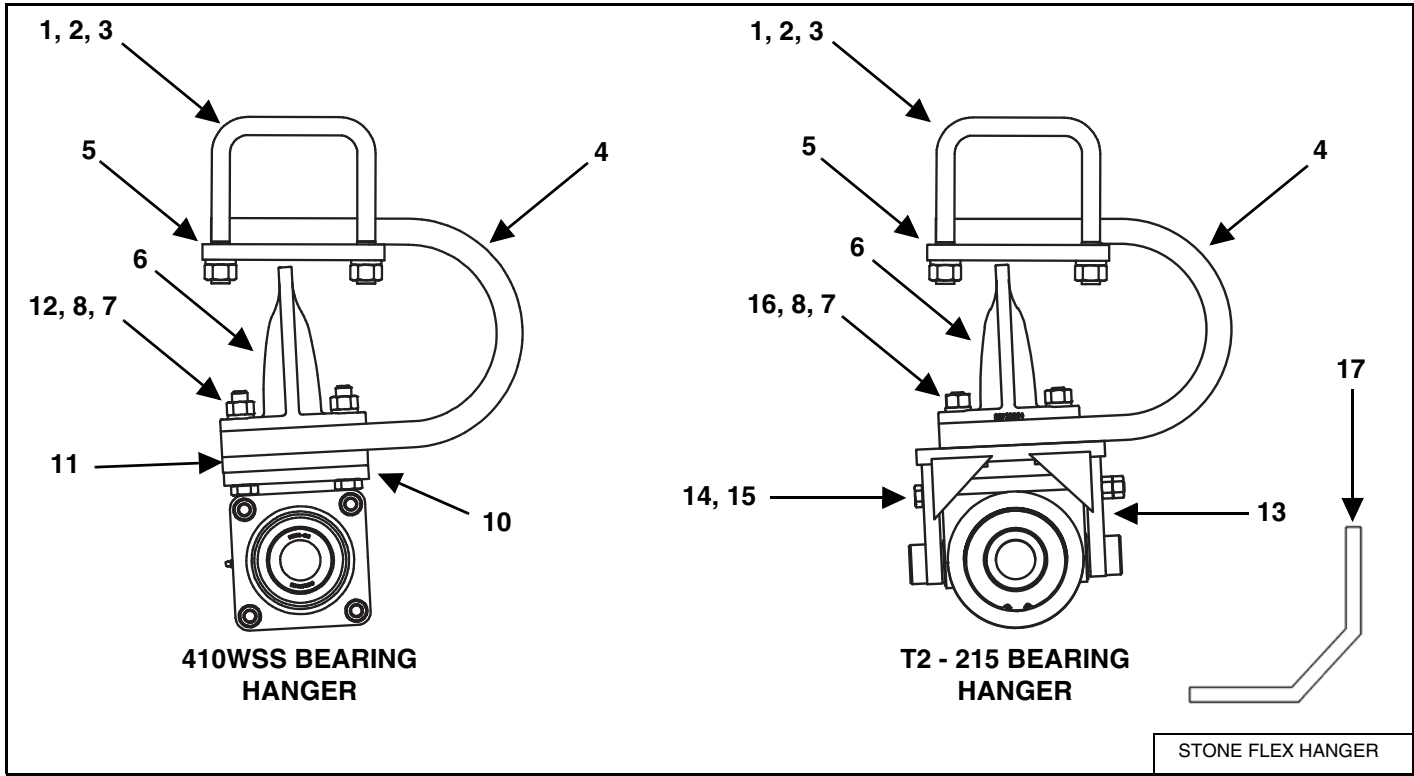


ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZBN087	NUT, 7/8" HEX GR5 ZNCR	*
2	EZBW087L	LOCK WASHER, 7/8" ZNCR	*
3	EZDG10310	PIN-LOCK DISC GANG	*
4	EZDG13184	WASHER, HD 6 X 2 X 1	*
5	EZDG5379	U-BOLT, 7/8" x 7"	*
6	EZDG12252	NUT, 2" NC HEX SLOT GR 5 ZNCR	*
7	EZDG89	WASHER-SHIM	*
8	EZDGA101	SPOOL-W.A. FULL 10.5IN SPACING	*
9	EZDGA5370	PLATE-END DISC GANG	*
10	EZDG5371	LUG HOLDING PLATE	*
11	EZDG9919	SHORT HALF SPOOL - INTERLOCKING	*
12	EZDGB9940	BEARING ASSEMBLY, 9" SLEEVE - INTERLOCKING	*
13	EZDG9917	LONG HALF SPOOL - INTERLOCKING	*
14	EZDGA13162	STANDARD HANGER BRACKET, W.A.	*
	EZDGA13163	2" OFFSET HANGER BRACKET, W.A.	*
15	88713326	BOLT, 61" (6 BLADE GANG) - WITH OUTBOARD BRG	*
	88713634	BOLT, 69" (6 BLADE GANG)	*
	88713327	BOLT, 71-1/2" (7 BLADE GANG)	*
	88713328	BOLT, 82-1/4" (8 BLADE GANG)	*
	88713329	BOLT, 93" (9 BLADE GANG)	*
	88713330	BOLT, 104" (10 BLADE GANG)	*
	88713331	BOLT, 114-3/4" (11 BLADE GANG)	*
	88713332	BOLT, 125-3/4" (12 BLADE GANG)	*
16	88716490	END PLATE, 5-1/2" OD 215 OUTBOARD - INTERLOCKING BRG	*
17	EZB062010	BOLT, 5/8" NC x 10" HEX CAP GR5 ZNCR - LESS WEAR GUARD	*
18	EZBN062L	LOCK NUT, 5/8" NC NYLON	*
19	EZBN062	NUT, 5/8" GR 5 P	*
20	EZBW17506812F	FLAT WASHER, 11/16" ZNCR	*
21	EZDG10590	WEAR GUARD	*
22	EZB062110	BOLT, 5/8" NC x 11" HEX CAP GR 5 ZNCR (USED WITH WEAR GUARD)	*
23	EZDG9937	BEARING ASSEMBLY, OUTBOARD, 7-3/16" SLEEVE - INTERLOCKING	*

\* As Required



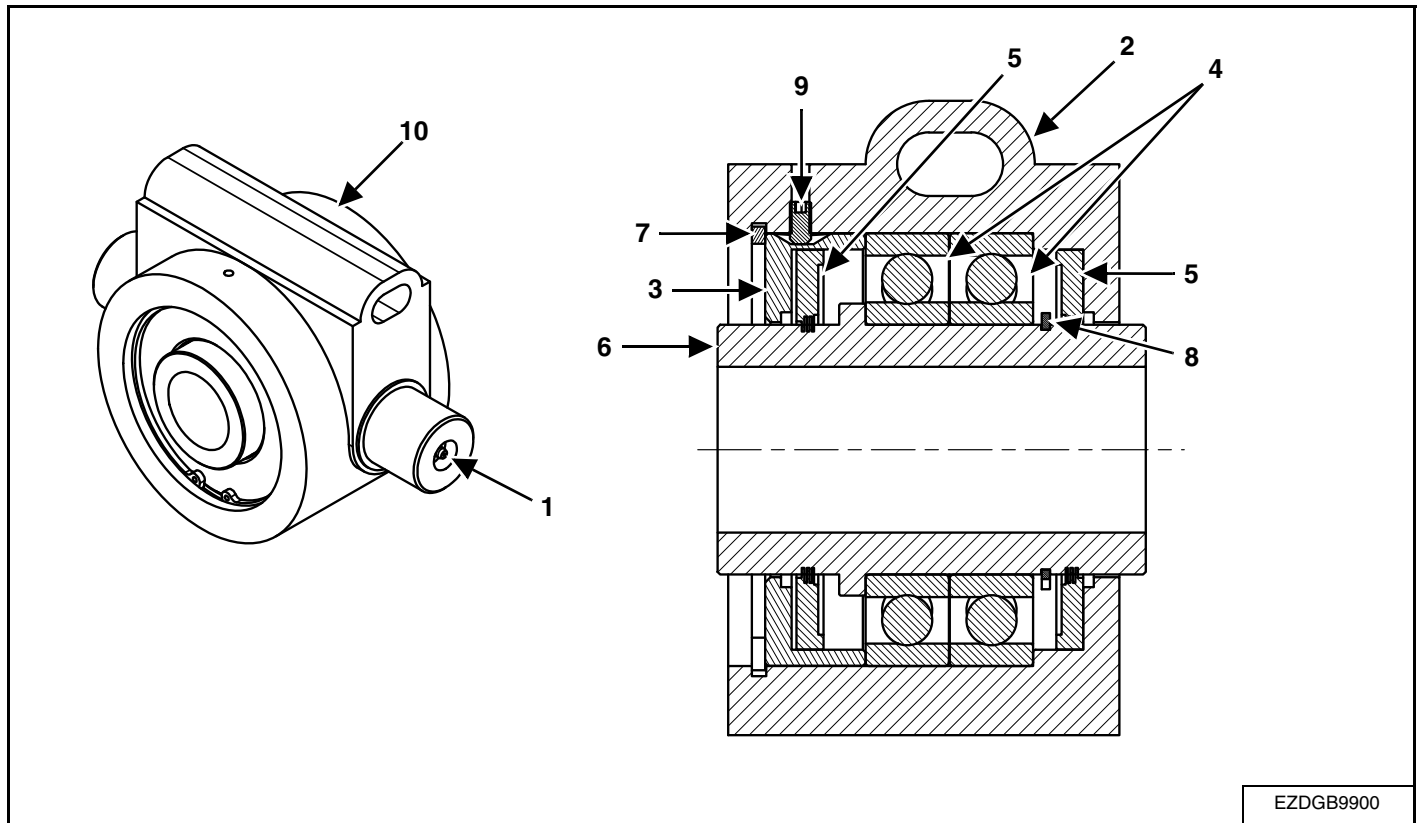
**Stone Flex Hanger Assembly**



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZDG5378	U-BOLT, 7/8" x 6" x 7-1/8"	*
2	EZBW087L	LOCK WASHER, 7/8" ZNCR	*
3	EZBN087	NUT, 7/8" HEX GR 5 ZNCR	*
4	EZDG5313	STONE FLEX HANGER	*
5	EZDGA5327	STONE FLEX HANGER MOUNT	*
6	88712866	STONE FLEX HANGER STOP	*
7	EZBW075L	LOCK WASHER, 3/4" ZNCR	*
8	EZBN075	NUT, 3/4" NC HEX GR 5 ZNCR	*
9	EZB075035	BOLT, 3/4" NC x 3-1/2" HEX	*
10	EZDG5324	STANDARD BEARING MOUNTING BRACKET - 410 BRG	*
	EZDGA5337	2" OFFSET BEARING MOUNTING BRACKET - 410 BRG	*
11	EZDG5332	STONE FLEX HANGER SHIM	*
12	EZB075045	BOLT, 3/4" NC x 4-1/2" HEX	*
13	EZDGA10570	BRACKET, W.A. STANDARD - 215 BEARING	*
	EZDGA10575	2" OFFSET BEARING MOUNTING BRACKET - 215 BRG	*
14	EZB062100	BOLT, 5/8" NC x 10" HEX CAP GR5 ZNCR - LESS WEAR GUARD	*
	EZB062011	BOLT, 5/8" NC x 11" HEX CAP GR 5 ZNCR - USED WITH WEAR GUARD	*
15	EZBN062	NUT, 5/8" G5 P 86505599	*
16	EZB075035	BOLT, 3/4" NC x 3-1/2" HEX	*
17	EZDG10590	WARE GUARD, T2 - 215 BEARING ONLY	*

\*As Required

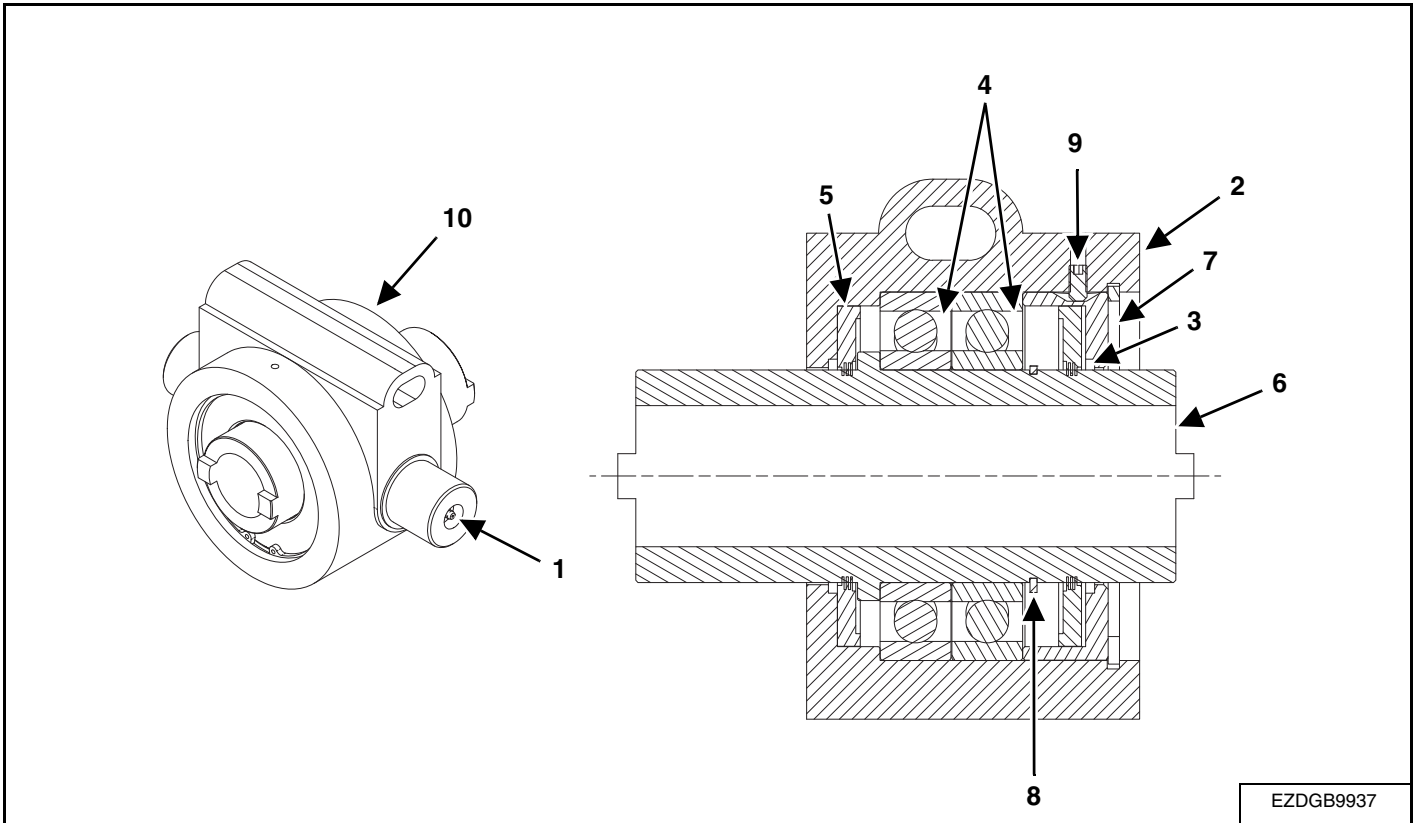
T2 - 215 Bearing Assembly



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ10GN1	GREASE ZERK, 1/4" UNF ST	2
2	EZDG9901	BEARING HOUSING, T2-215	1
3	EZDG9902	BEARING HOUSING CAP	1
4	EZDG9904	BALL BEARING, T2-215	2
5	EZDG9905	BEARING SEAL, T2-215	2
6	EZDG9906	BEARING SLEEVE	1
7	EZDG9910	INTERIOR RETAINING RING, 130 MM OD	1
8	EZDG9911	EXTERIOR RETAINING RING, 72 MM ID	1
9	EZDG9912	SCREW SET, 1/4" NF x 1/2"	1
10	EZDGB9900	COMPLETE T2 - 215 BEARING ASSEMBLY	1

\*As Required

**T2-215 Bearing Assembly, 7-3/16 In. Sleeve**

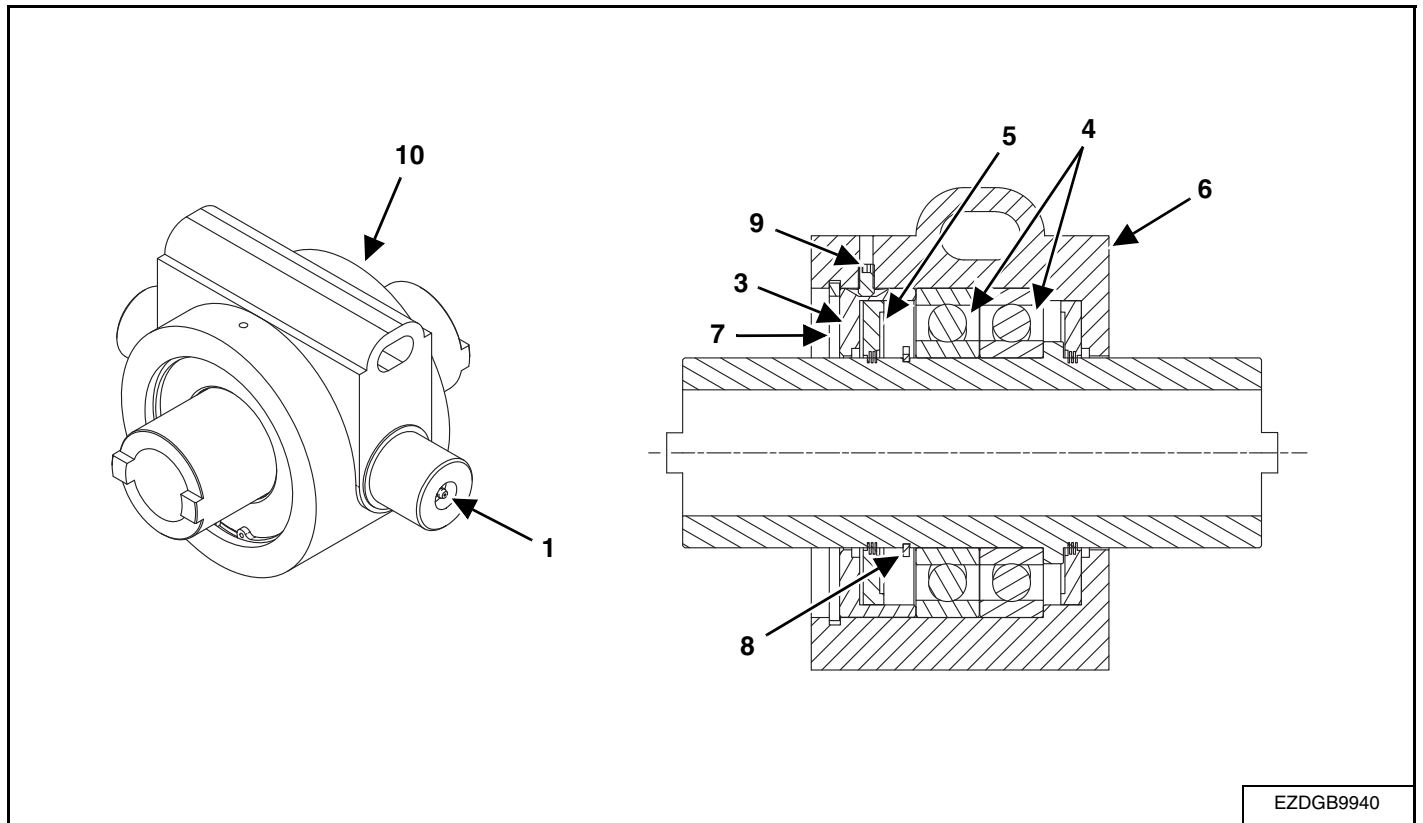


EZDGB9937

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ10GN1	GREASE ZERK, 1/4" UNF ST	2
2	EZDG9901	BEARING HOUSING, T2-215	1
3	EZDG9902	BEARING HOUSING CAP	1
4	EZDG9904	BALL BEARING, T2-215	2
5	EZDG9905	BEARING SEAL, T2-215	2
6	EZDG9924	BEARING SLEEVE - 7-3/16" LONG	1
7	EZDG9910	INTERIOR RETAINING RING, 130 MM OD	1
8	EZDG9911	EXTERIOR RETAINING RING, 72 MM ID	1
9	EZDG9912	SCREW SET, 1/4" NF x 1/2"	1
10	EZDGB9937	COMPLETE T2-215 BEARING ASSEMBLY - 7-3/16" SLEEVE	1

\*As Required

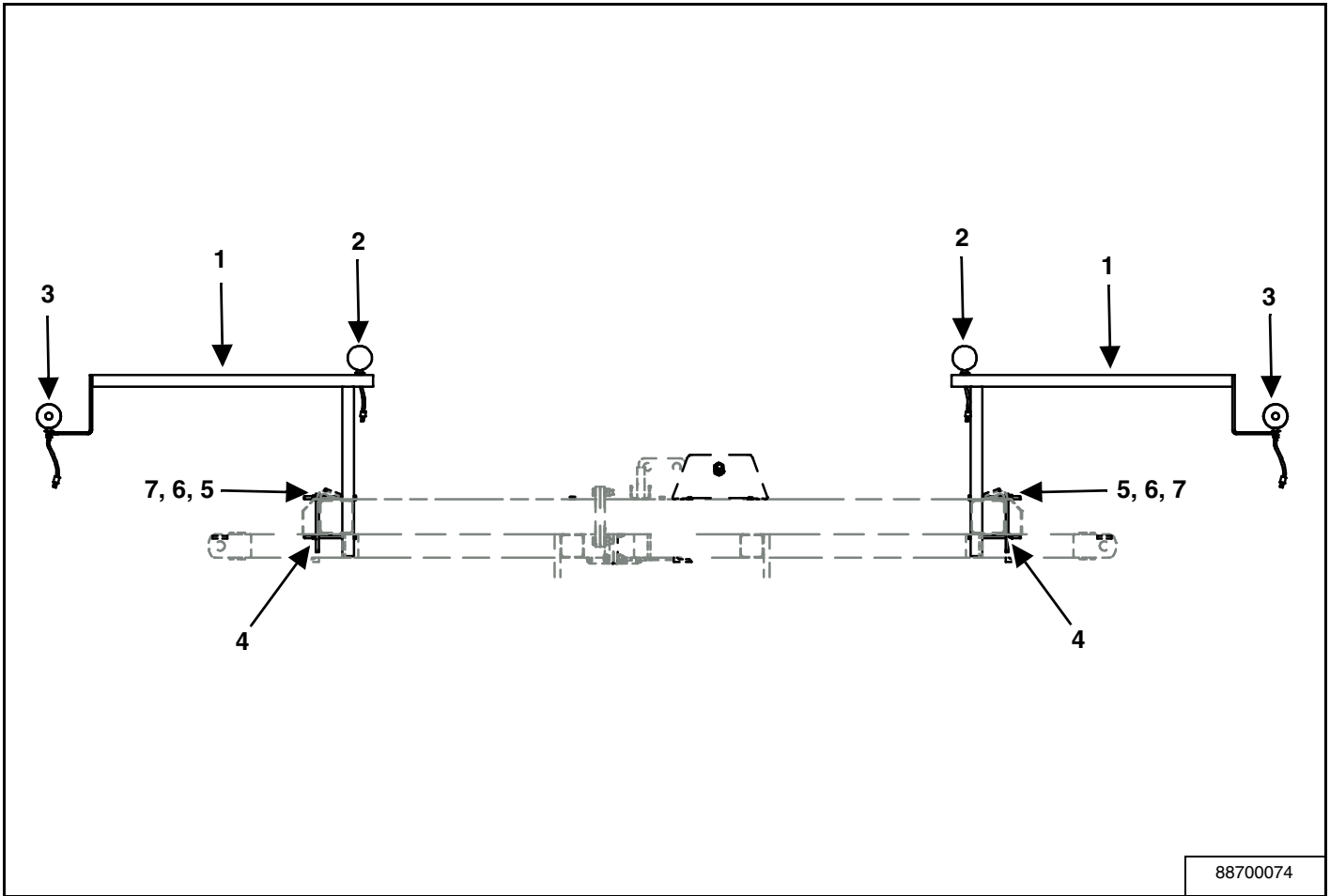
T2-215 Bearing Assembly, 9 In. Sleeve



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ10GN1	GREASE ZERK, 1/4" UNF ST	2
2	EZDG9901	BEARING HOUSING, T2-215	1
3	EZDG9902	BEARING HOUSING CAP	1
4	EZDG9904	BALL BEARING, T2-215	2
5	EZDG9905	BEARING SEAL, T2-215	2
6	EZDG9922	BEARING SLEEVE - 9" LONG	1
7	EZDG9910	INTERIOR RETAINING RING, 130 MM OD	1
8	EZDG9911	EXTERIOR RETAINING RING, 72 MM ID	1
9	EZDG9912	SCREW SET, 1/4" NF x 1/2"	1
10	EZDGB9940	COMPLETE T2-215 BEARING ASSEMBLY - 9" SLEEVE	1

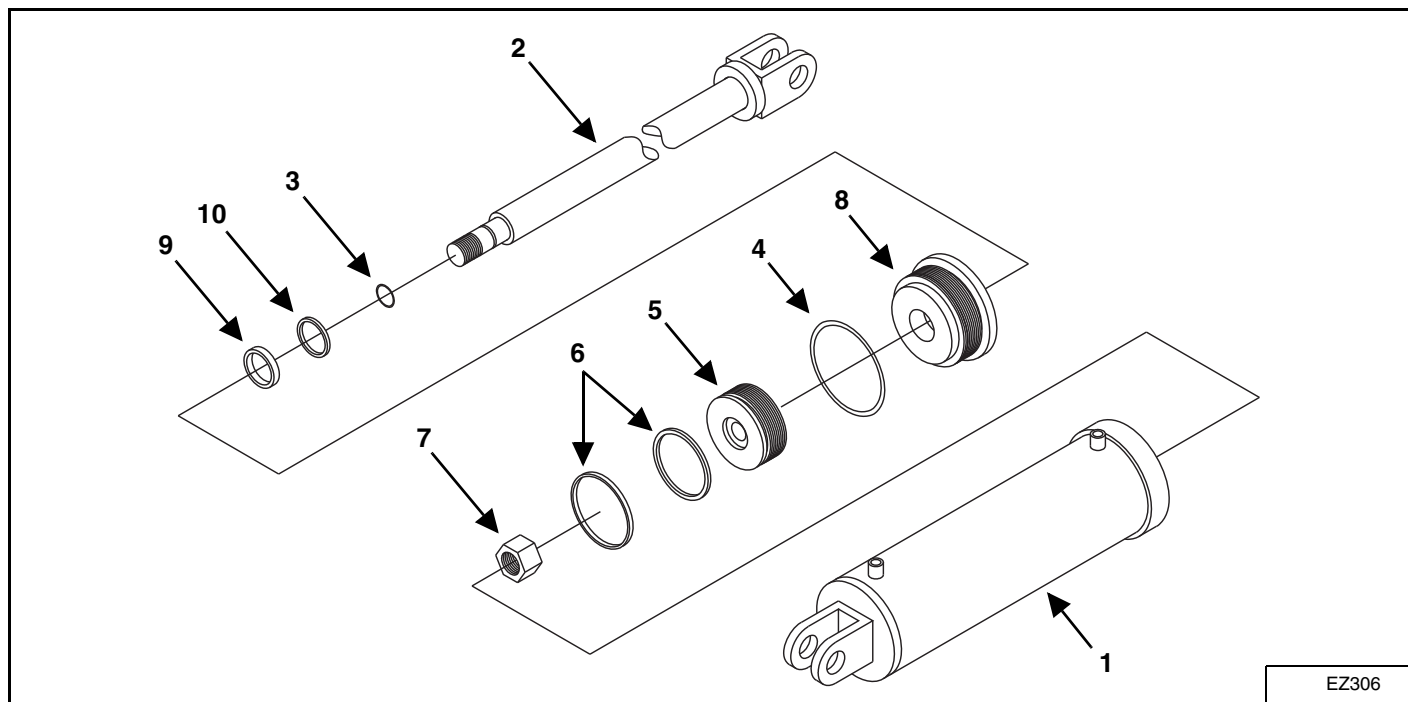
\*As Required

**Warning Light Assembly**



ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZLK6252	BRACKET-W.A. LIGHT KIT	2
2	EZLK6425	RED LAMP, W/3 PIN PLUG	2
3	EZLK6426	AMBER LAMP, W/2 PIN PLUG	2
4	EZLK6404	PLATE, BACKING, LIGHT KIT	2
5	EZB050085	BOLT, 1/2" NC x 8-1/2" HEX	4
6	EZBN050	NUT, 1/2" NC HEX ZNCR	4
7	EZBW050L	LOCK WASHER, 1/2" x 7/8" x 1/8" ZNCR	4
NS	EZLK6427	HARNESS, WARNING LIGHTS 55 FT. (Not Shown)	1

Main Rockshaft Cylinder - 4 In. x 24 In. (101.6 x 610 mm)



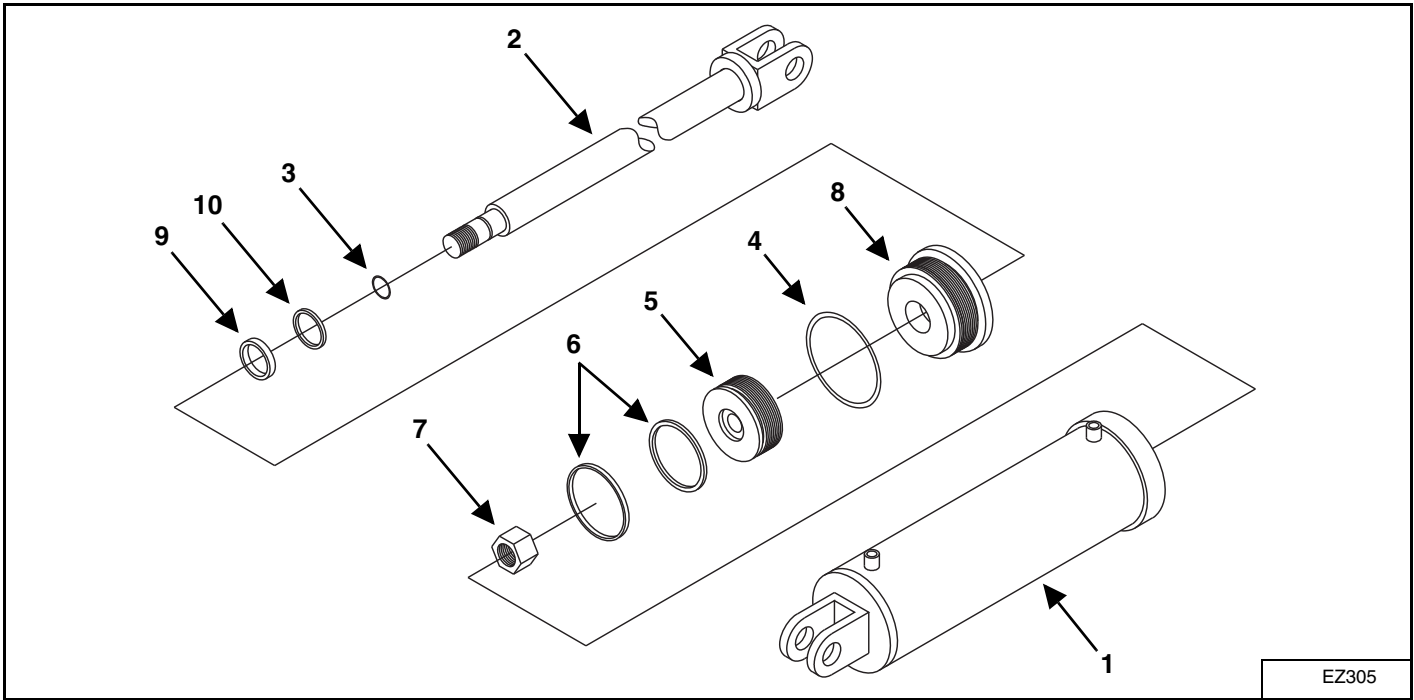
EZ306

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ40TU10	TUBE ASSEMBLY, 4" (101.6 mm) x 24" (610 mm)	1
2	EZ10SH60	SHAFT, 2" (50.8 mm) x 24" (610 mm)	1
3	EZ10OR18	O-RING, 1" (25.4 mm) O.D. x 7/8" (22.2 mm) I.D.	1
4	EZ10OR17	O-RING, 4" (101.6 mm) O.D. x 3/16" (4.76 mm)	1
5	EZ40PB8	PISTON, 4" (101.6mm) O.D. x 1" (25.4mm) I.D.	1
6	EZ40PS1	PISTON SEAL ASSEMBLY, 4" (101.6 mm) O.D.	2
7	EZ10NU4	NUT, 1" (25.4mm) - 14 N.F.	1
8	EZ40HP5	HEAD PLATE, 4" (101.6 mm) O.D. x 2" (50.8 mm) I.D.	1
9	EZ10RS2	ROD SEAL, 2-3/8" (60.2 mm) O.D. x 2" (50.8 mm) I.D. x 3/8" (9.39 mm)	1
10	EZ10WS6	WIPER SEAL, 2-1/2" (63.5 mm) O.D. x 2" (50.8 mm) I.D. x 3/8" (9.39 mm) (ALL URETHANE)	1

Main Rockshaft Cylinder Seal Kit

PART NUMBER	DESCRIPTION	QTY
EZ4020N4-0	COMPLETE SEAL KIT	1
EZ10OR18	O-RING, 1" O.D. x 7/8" I.D. (25.4 x 22.2 mm)	1
EZ10OR17	O-RING, 4" O.D. x 3/16" (101.6 x 4.76 mm)	1
EZ40PS1	PISTON SEAL ASSEMBLY, 4" (101.6 mm)	1
EZ10RS2	ROD SEAL, 2-3/8" O.D. x 2" I.D. x 3/8" (60.2 x 50.8 x 9.39 mm)	1
EZ10WS6	WIPER SEAL, 2-1/2" O.D. x 2" I.D. x 3/8" (63.5 x 50.8 x 9.39 mm) (ALL URETHANE)	1

**LH Wing Rockshaft Cylinder - 3-1/2 In. x 24 In. (88.9 x 610 mm)**



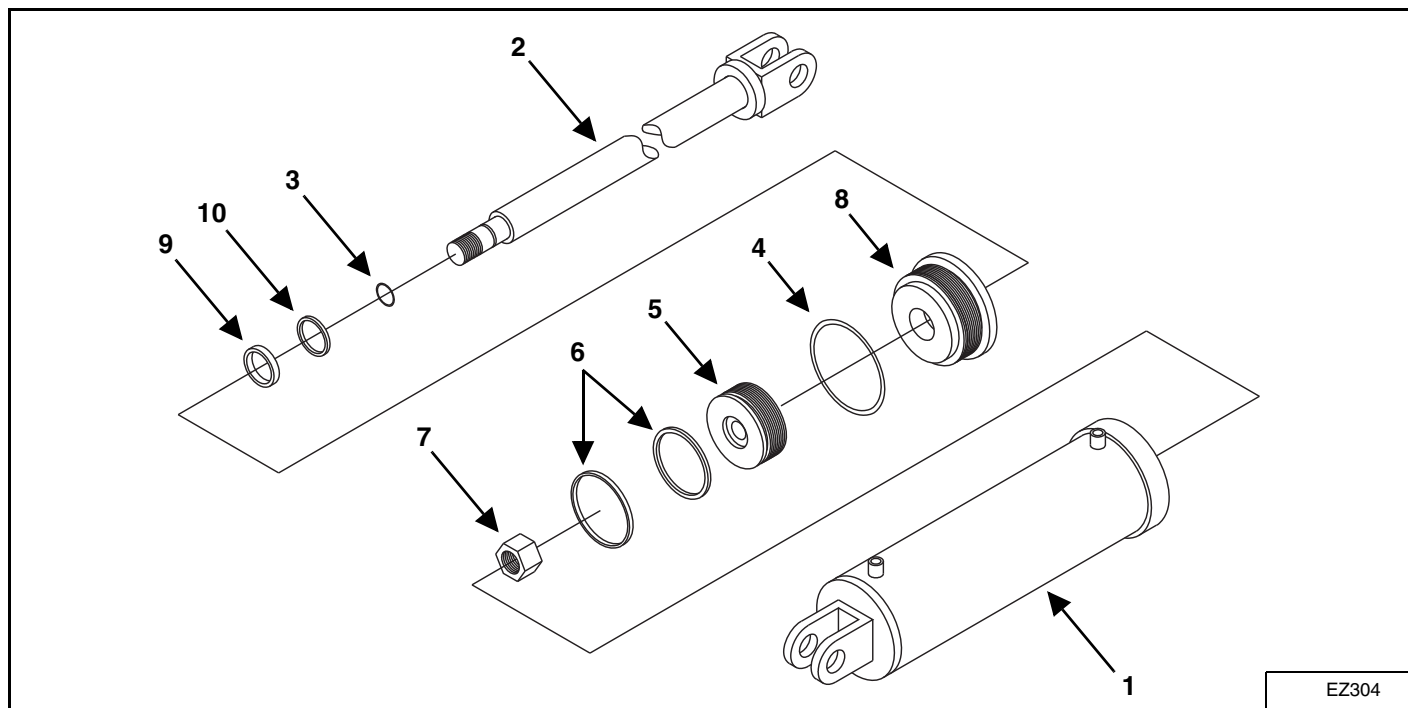
ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ35TU15	TUBE ASSEMBLY, 3-1/2" (88.9 mm) x 24" (610 mm)	1
2	EZ10SH59	SHAFT, 1-3/4" (44.4 mm) x 24" (610 mm)	1
3	EZ10OR18	O-RING, 1" (25.4 mm) O.D. x 7/8" (22.2 mm) I.D.	1
4	EZ10OR8	O-RING, 3-1/2" (88.9 mm) O.D. x 3/16" (4.76 mm)	1
5	EZ35PB8	PISTON - 3-1/2" (88.9 mm) O.D. x 1" (25.4 mm) I.D.	1
6	EZ35PS1	PISTON SEAL ASSEMBLY	2
7	EZ10NU4	NUT, 1" (25.4 mm) - 14 N.F. HEX	1
8	EZ35HP9	HEAD PLATE - 3-1/2" (88.9 mm) O.D. x 1-3/4" (44.4 mm) I.D.	1
9	EZ10RS3	ROD SEAL - 1-3/4" (44.4 mm) I.D. x 2-1/8" (54 mm) O.D. x 3/8" (9.39 mm)	1
10	EZ10WS10	WIPER SEAL, 1-3/4" (44.4 mm) O.D. x 2-1/8" (54 mm) I.D. x 1/4" (6.35 mm) (ALL URETHANE)	1

**LH Rockshaft Cylinder Seal Kit**

PART NUMBER	DESCRIPTION	QTY
EZ3517N4-0	COMPLETE SEAL KIT	1
EZ10OR18	O-RING, 1" O.D. x 7/8" I.D. (25.4 x 22.2 mm)	1
EZ10OR8	O-RING, 3-1/2" O.D. x 3/16" (88.9 x 4.76 mm)	1
EZ35PS1	PISTON SEAL ASSEMBLY, 3-1/2" (88.9 mm)	1
EZ10RS3	ROD SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54 x 9.39 mm)	1
EZ10WS10	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 1/4" (44.4 x 54 x 6.35 mm) (ALL URETHANE)	1



RH Wing Rockshaft Cylinder - 3 In. x 24 In. (76.2 x 610 mm)



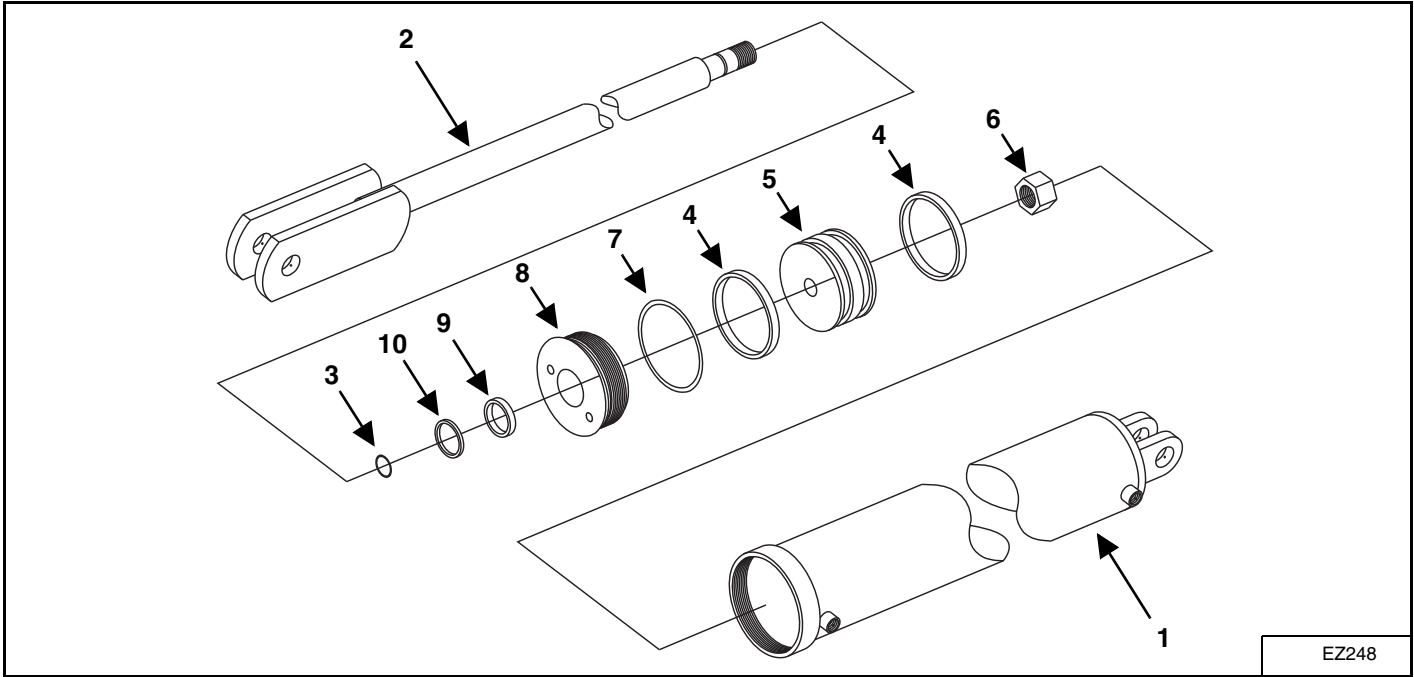
EZ304

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ35TU34	TUBE ASSEMBLY, 3" (76.2 mm) x 24" (610 mm)	1
2	EZ10SH59	SHAFT, 1-3/4" (44.4 mm) x 24" (610 mm)	1
3	EZ10OR18	O-RING, 1" (25.4 mm) O.D. x 7/8" (22.2 mm) I.D.	1
4	EZ10OR3	O-RING, 3" (76.2 mm) O.D. x 3/16" (4.76 mm)	1
5	EZ30PB4	PISTON - 3" (76.2 mm) O.D. x 1" (25.4 mm) I.D.	1
6	EZ30PS1	PISTON SEAL ASSEMBLY	2
7	EZ10NU4	NUT, 1" (25.4 mm) - 14 N.F. HEX	1
8	EZ30HP9	HEAD PLATE - 3" (76.2 mm) O.D. x 1-3/4" (44.4 mm) I.D.	1
9	EZ10RS3	ROD SEAL - 1-3/4" (44.4 mm) I.D. x 2-1/8" (54 mm) O.D. x 3/8" (9.39 mm)	1
10	EZ10WS10	WIPER SEAL, 1-3/4" (44.4 mm) O.D. x 2-1/8" (54 mm) I.D. x 1/4" (6.35 mm) (ALL URETHANE)	1

RH Rockshaft Cylinder Seal Kit

PART NUMBER	DESCRIPTION	QTY
EZ3017N4-0	COMPLETE SEAL KIT	1
EZ100R18	O-RING, 1" O.D. x 7/8" I.D. (25.4 x 22.2 mm)	1
EZ100R8	O-RING, 3-1/2" O.D. x 3/16" (88.9 x 4.76 mm)	1
EZ35PS1	PISTON SEAL ASSEMBLY, 3-1/2" (88.9 mm)	1
EZ10RS3	ROD SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54 x 9.39 mm)	1
EZ10WS10	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 1/4" (44.4 x 54 x 6.35 mm) (ALL URETHANE)	1

**Wing Lift Cylinder - 4 In. x 36 In. (102 x 914 mm)**

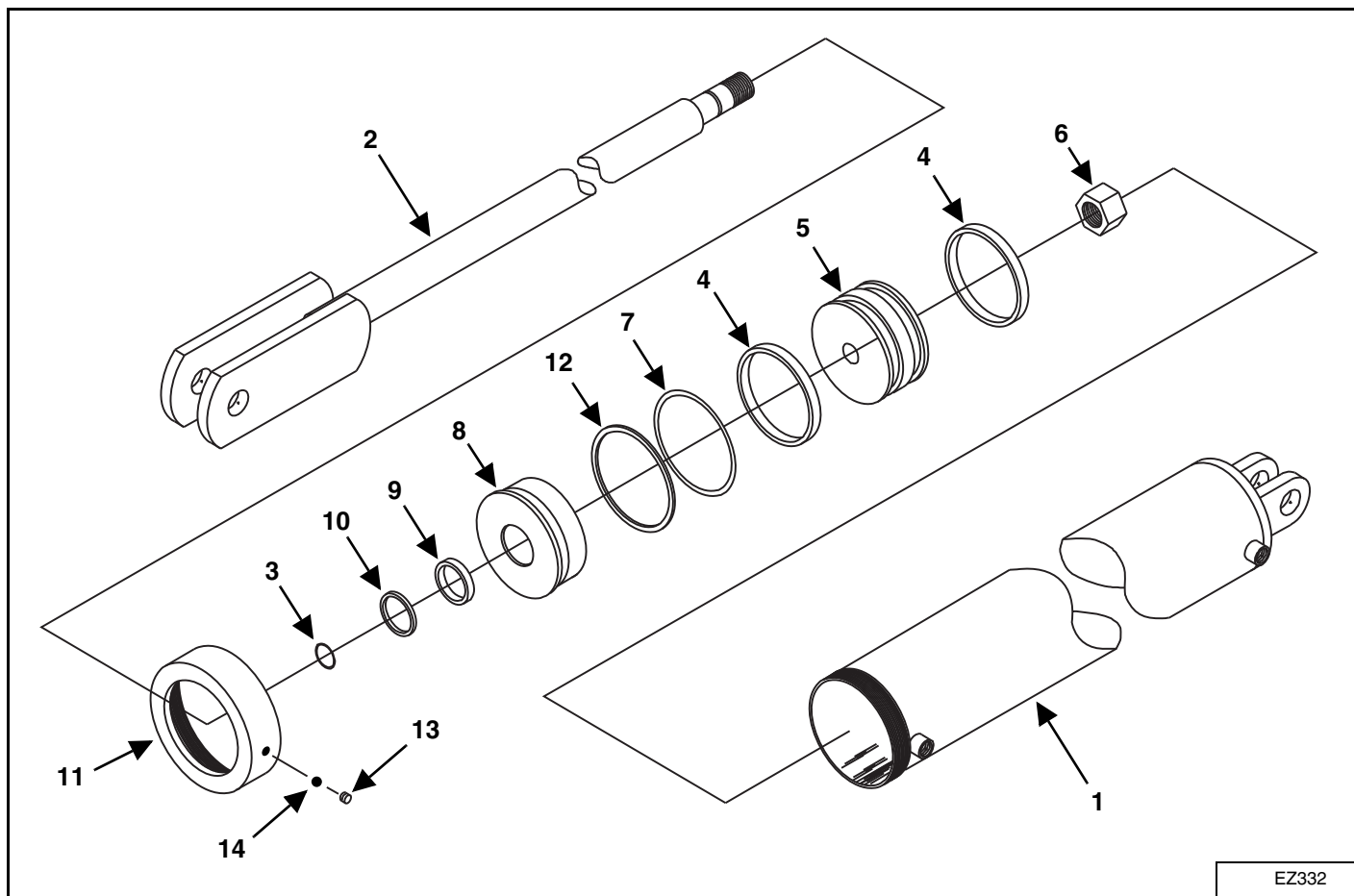


ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ40TU8	TUBE ASSEMBLY 4" x 36" (102 x 914 mm)	1
2	EZ10SH36	SHAFT 1-3/4" x 36" (44.4 x 914 mm)	1
3	EZ10OR19	O-RING, 1-1/8" I.D. x 1-1/4" O.D. (28.5 x 31.8 mm)	1
4	EZ40CU3	U-CUP, 4" (101.6 mm)	2
5	EZ40PB7	PISTON, 4" O.D. x 1-1/4" I.D. (101.6 x 31.7 mm)	1
6	EZ10NU3	LOCK NUT, 1-1/4" (31.8 mm) U.N.F. HEX	1
7	EZ10OR17	O-RING, 3-5/8" I.D. x 4" O.D. (92.1 x 101.6 mm)	1
8	EZ40HP4	HEAD PLATE, 4" O.D. x 1-3/4" I.D. (101.6 x 44.4 mm)	1
9	EZ10RS3	ROS SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54 x 9.39 mm)	1
10	EZ10WS3	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54 x 4.76 mm)	1

**Wing Lift Cylinder Seal Kit - 4 In. x 36 In. (102 x 914 mm)**

PART NUMBER	DESCRIPTION	QTY
EZ4017N4	COMPLETE SEAL KIT	1
EZ40CU3	U-CUP, 4" (101.6 mm) U-Cup	2
EZ100R17	O-RING, 3-5/8" I.D. x 4" O.D. (92.1 x 101.6 mm)	1
EZ100R19	O-RING, 1-1/8" I.D. x 1-1/4" O.D. (28.4 x 31.7 mm)	1
EZ100RS3	ROD SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54 x 9.39 mm)	1
EZ10WS3	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54 x 4.76 mm)	1
EZ100R13	O-RING, 1" O.D. x 1-1/4" O.D. (25.4 x 31.8 mm)	1

Wing Lift Cylinder - 5 In. x 36 In. (127 x 914 mm)



EZ332

ITEM	PART NUMBER	DESCRIPTION	QTY
1	EZ50TU11	N3 TUBE ASSEMBLY, 5" x 36" (127 x 914 mm)	1
2	EZ10SH36	SHAFT, 1-3/4" x 36" (44.4 x 914 mm)	1
3	EZ100R19	O-RING, 1-1/8" I.D. x 1-1/4" O.D. (28.5 x 31.8 mm)	1
4	EZ50CU1	U-CUP, 4-1/2" I.D. x 5" O.D. x 1/2" (29.9 x 127 x 12.7 mm)	2
5	EZ50PB2	PISTON, 5" O.D. x 1-1/4" I.D. (127 x 31.8 mm)	1
6	EZ10NU3	LOCK NUT, 1-1/4" (31.8 mm) U.N.F. Hex	1
7	EZ100R14	O-RING, 4-1/2" I.D. x 5" O.D. (29.9 x 127 mm)	1
8	EZ50HP5	N3 HEAD PLATE, 5" O.D. x 1-3/4" O.D. (127 x 44.4 mm)	1
9	EZ10RS3	ROD SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54 x 9.39 mm)	1
10	EZ10WS3	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54 x 4.76 mm)	1
11	EZ50HN1	N3 HEAD NUT, 5"	1
12	EZ50BR1	BACKUP RING, 5" O.D. x 4-1/2" I.D. (127 x 114 mm)	1
13	EZA70658	SET SCREW, 1/4" - 28 SOCKET HEAD	1
14	EZ10SS2	SET SCREW, 3/16" BALL LOCK	1

**Wing Lift Cylinder Seal Kit - 5 In. x 36 In. (127 x 914 mm)**

PART NUMBER	DESCRIPTION	QTY
EZ5017N3	COMPLETE SEAL KIT	1
EZ50CU1	U-CUP, 4-1/2" I.D. x 5" O.D. x 1/2" (114 x 127 x 12.7 MM)	2
EZ100R14	O-RING, 4-1/2" I.D. x 5" O.D. (114 x 127 MM)	1
EZ100R19	O-RING, 1-1/8" I.D. x 1-1/4" O.D. (28.5 x 31.8 MM)	1
EZ100RS3	ROD SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39 MM)	1
EZ10WS3	WIPER SEAL, 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54.0 x 4.76 MM)	1
EZ50BR1	BACKUP RING, 5" O.D. x 4-1/2" I.D.	1
EZ10SS2	SET SCREW, 3/16" BALL LOCK	1

**SPECIFICATIONS**

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# Farm King



**SPECIFICATIONS**

**Dimensions**

MODEL	WING WIDTH	BLADE SPACING	APPROX. CUTTING WIDTH	# OF BLADES	# OF GANG BEARINGS	GANG BEARING TYPE		APPROX. TRANSPORT WIDTH	APPROX. TRANSPORT HEIGHT
						STD	OPT		
70N	Narrow	9 in. (230 mm)	26 ft. 6 in. (8.1 m)	70	22	410 WSS	-	17 ft. 6 in. (5.3 m)	11 ft. 6 in. (3.5 m)
78N	Narrow	9 in. (230 mm)	29 ft. 6 in. (9.0 m)	78	22	410 WSS	-	17 ft. 6 in. (5.3 m)	12 ft. 11 in. (3.9 m)
86W	Wide	9 in. (230 mm)	32 ft. 6 in. (9.9 m)	86	26	410 WSS	-	17 ft. 6 in. (5.3 m)	14 ft. 5 in. (4.4 m)
94W	Wide	9 in. (230 mm)	35 ft. 6 in. (10.8 m)	94	28	410 WSS	-	17 ft. 6 in. (5.3 m)	15 ft. 9 in. (4.8 m)
58N	Narrow	10-1/2 in. (267 mm)	25 ft. (7.6 m)	58	20	410 WSS	T2 - 215	17 ft. 6 in. (5.3 m)	11 ft. (3.4 m)
66N	Narrow	10-1/2 in. (267 mm)	29 ft. (8.8 m)	66	24	410 WSS	T2 - 215	17 ft. 6 in. (5.3 m)	12 ft. 7 in. (3.7 m)
74W	Wide	10-1/2 in. (267 mm)	32 ft. (9.7 m)	74	24	410 WSS	T2 - 215	17 ft. 6 in. (5.3 m)	13 ft. 5 in. (4.1 m)
83W	Wide	10-1/2 in. (267 mm)	35 ft. 6 in. (10.8 m)	82	26	410 WSS	T2 - 215	17 ft. 6 in. (5.3 m)	15 ft. 11 in. (4.9 m)

**Performance**

DESCRIPTION	6650	
	9 IN. SPACING	10-1/2 IN. SPACING
Weight*	600 lb. / ft. Class (892 kg/m)	600 lb. / ft. Class (892 kg/m)
Horsepower Required	6.0 to 8.0 DBHP / Foot (4.5 to 6.0 kW per 305 mm)†	
Frame	Welded, 6 in. x 4 in. (152 x 102 mm) Tubular Steel Frame	
Bearings	410 WSS Series C/W Triple Lip Seal (Optional T2-215 Series)	
Gang Angle	20° Front / 17° Rear	20° Front / 17° Rear
Gang Shaft	1-15/16 in. (49 mm) High Carbon Steel, Factory Torqued to 3200 ft. - lb. (4339 N•m)	
Blades (Notched / Smooth)	22 in. x 9/32 in. (610 x 7 mm)	26 in. x 5/16 in. (660 x 8 mm)
	24 in. x 5/16 in. (610 x 8 mm)	26 in. x 3/8 in. (660 x 9 mm)
	26 in. x 5/16 in. (660 x 8 mm)	-
Depth Control	3-Cylinder Series System C/W Depth Stop Segments	3-Cylinder Series System C/W Depth Stop Segments
	Auto-Leveling, Full Floating Hitch	Auto-Leveling, Full Floating Hitch
Tires (Center Frame)	(4) 12.5L x 15 FI (Optional FS24-380/55R16.5)	(4) 12.5L x 15 FI (Optional FS24-380/55R16.5)
Tires (Wing Frame)	(4) 12.5L x 15 FI (Optional FS24-380/55R16.5)	(4) 12.5L x 15 FI (Optional FS24-380/55R16.5)
* W/24 in. Blades		
† Depends on working depth, soil type, field speed, etc.		



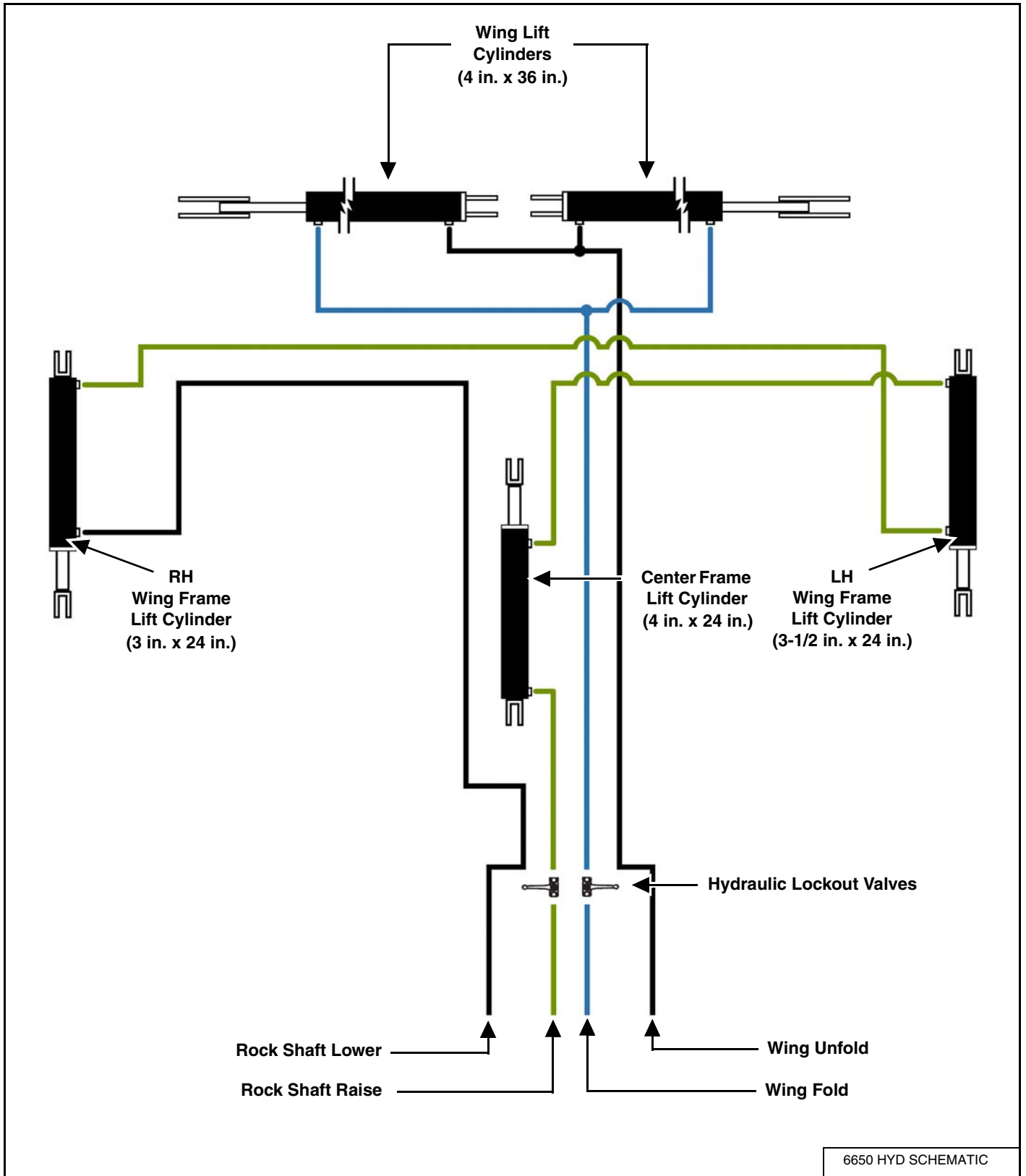
**Hydraulic Cylinders**

APPLICATION	SIZE	# REQUIRED
Center Frame Lift	4 in. x 24 in. Rephasing	1
L.H. Wing Frame Lift	3-1/2 in. x 24 in. Rephasing	1
R.H. Wing Frame Lift	3 in. x 24 in. Rephasing	1
Wing Lift (25 ft. to 29 ft.)	4 in. x 36 in.	2
Wing Lift (32 ft. to 35 ft. 6 in.)	5 in. x 36 in.	2

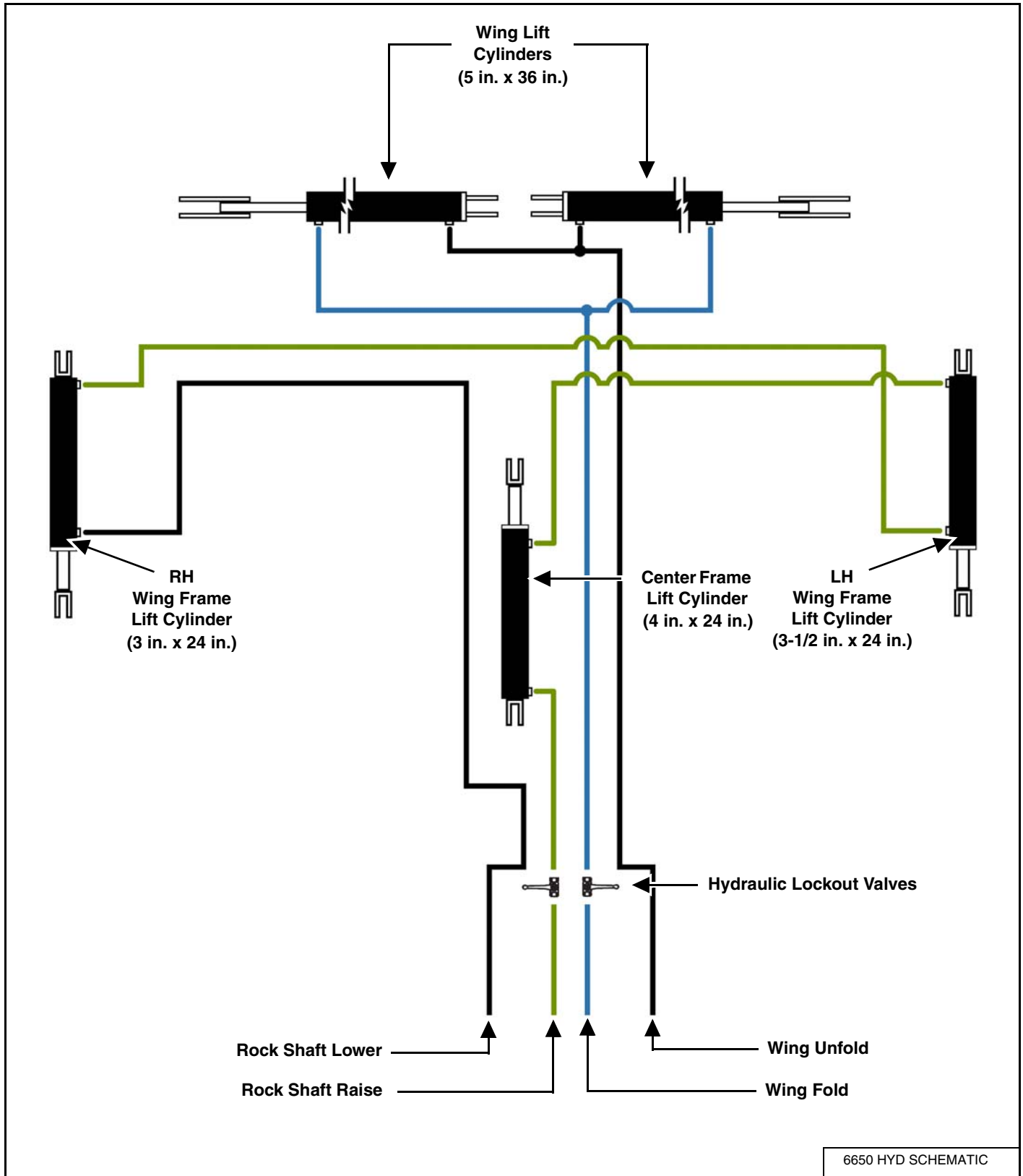
**Bolt Torques**

DESCRIPTION	TORQUE
Gang Bolts (1-15/16 in. (49 mm) diameter)	3200 ft. - lb. (4339 N•m)
Gang Beam Bolts (1-1/4 in. (31 mm) diameter)	840 ft. - lb. (1139.2 N•m)
Leveling Crank Bolts (1-1/4 in. (31 mm) diameter)	840 ft. - lb. (1139.2 N•m)
Wheel Bolts (9/16 in. (14 mm) diameter)	130 ft. - lb. (176.3 N•m)
Bearing Hanger U-bolts - 7/8 in. (15 mm) diameter)	430 ft. - lb. (583 N•m) (Solid Hangers)

HYDRAULIC SCHEMATIC (NARROW WING)



HYDRAULIC SCHEMATIC (WIDE WING)



6650 HYD SCHEMATIC

**HARDWARE TORQUE VALUES**

**Metric Chart**

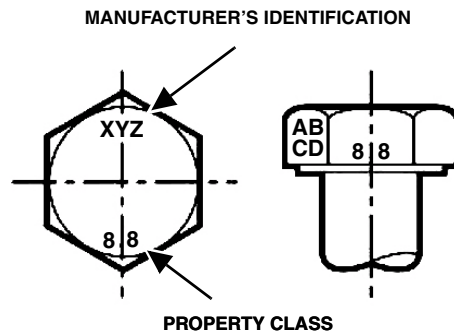
**NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.**

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch\* or foot pounds) for normal assembly applications.**

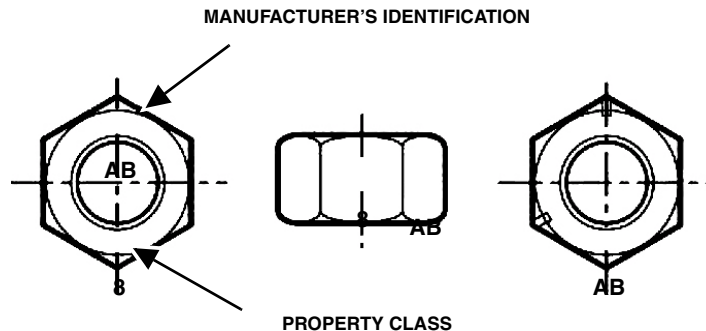
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

**NOTE: Torque values shown with \* are inch pounds.**

**Identification of Hex Cap Screws and Carriage Bolts - Classes 5 and up**



**Identification of Hex Nuts and Lock Nuts - Classes 5 and up**



**HARDWARE TORQUE VALUES (CONT'D)**

**Imperial Chart**

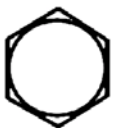
**NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.**

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch\* or foot pounds) for normal assembly applications.**

Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)

**NOTE: Torque values shown with \* are inch pounds.**

**Identification of Hex Cap Screws and Carriage Bolts**



SAE GRADE 2 BOLTS



SAE GRADE 5 BOLTS



SAE GRADE 8 BOLTS



SAE GRADE 2 NUTS

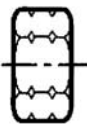


SAE GRADE 5 NUTS



SAE GRADE 8 NUTS

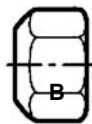
**Identification of Hex Nuts and Lock Nuts**



Grade A - No Notches

Grade B - One Circumferential Notch

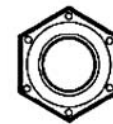
Grade C - Two Circumferential Notches



Grade A - No Mark

Grade B - Letter B

Grade C - Letter C



Grade A - No Marks

Grade B - Three Marks

Grade C - Six Marks

(Marks not always located at corners)

**HYDRAULIC CONNECTION SPECIFICATIONS**

**O-Ring Fitting (Straight Thread)**

Lubricate the O-ring before installing the fitting. Loosen the jam nut and install the fitting. Tighten the jam nut until the washer is tight against the surface.

**O-ring Face Seal Connection**

**Figure 166**

O-ring Face Seal Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	9/16" - 18	13 (18)
3/8"	11/16" - 16	22 (30)
1/2"	13/16" - 16	40 (54)
5/8"	1" - 14	60 (81)
3/4"	1-3/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-7/16" - 12	118 (160)
1-1/4"	1-11/16" - 12	154 (209)
1-1/2"	2" - 12	163 (221)

When the fitting is tightened, you can feel when the fitting is tight to eliminate leakage caused by under or over torqued fittings. Use petroleum jelly to hold the O-ring in position until the fittings are assembled.

**Flare Fitting**

**Figure 167**

Flare Fitting Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
5/16"	1/2" - 20	17 (23)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/4"	1-5/8" - 12	154 (209)
1-1/2"	1-7/8" - 12	163 (221)
2"	2-1/2" - 12	252 (342)

Tighten until the nut makes contact with the seat. Use the chart [Figure 167] to find the correct tightness needed.

**NOTE: If the fitting leaks, disconnect and inspect the seat area for damage.**

**Port Seal (O-ring Boss) Fitting**

**Figure 168**

Port Seal And O-ring Boss Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/8"	1-7/16" - 12	154 (209)
1-1/4"	1-5/8" - 12	163 (221)

**NOTE: Port seal and nut, washer and O-ring (O-ring Boss) fittings use the same tightening torque valve chart.**

If a torque wrench cannot be used, use the following method.

Tighten the nut until it just makes metal to metal contact, you can feel the resistance.

Tighten the nut with a wrench no more than one hex flat maximum.

Do not over tighten the port seal fitting.

**NOTE: If a torque wrench cannot be used, use the hex flat tightening method as an approximate guideline.**

**NOTE: Port seal fittings are not recommended in all applications. Use O-ring boss fittings in these applications.**

**Tubelines And Hoses**

Replace any tubelines that are bent or flattened. They will restrict flow, which will slow hydraulic action and cause heat.

Replace hoses which show signs of wear, damage or weather cracked rubber.

Always use two wrenches when loosening and tightening hose or tubeline fittings.

# Farm King





**WARRANTY**

WARRANTY .....187

# Farm King



**WARRANTY****Limited Warranty****BASE LIMITED WARRANTY**

Farm King provides this warranty only to original retail purchasers of its products. Farm King warrants to such purchasers that all Farm King manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of three (3) years. This limited warranty applies only to those parts and components manufactured by Farm King. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

100 % Parts and Labor are covered for the first year.

100 % Parts only, are covered for the second year.

50 % Parts only, are covered for the third year.

Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Farm King will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Farm King. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance.

Farm King warrants that the following disc gang bearing parts used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for an extended period following delivery to the original retail purchaser.

410WSS bearings are covered for three (3) years. Coverage for the 2nd and 3rd year (12-36 months) is limited to part replacement only. Labour is not included.

T2-215 bearings are covered for seven (7) years. Extended coverage (12-84 months) is limited to replacement of ball bearings and seals only. Labour and associated bearing parts are not included.

**REPAIR PARTS LIMITED WARRANTY**

Farm King warrants genuine Farm King replacement parts purchased after the expiration of the Farm King Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to the Farm King factory at the purchaser's expense.

**COMMERCIAL USE**

Warranty for commercial (other than bona fide farmers), rental, or custom use is limited to 100% parts and labor for ninety (90) days.

**WHAT IS NOT COVERED**

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Farm King; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and / or authorized by Farm King.

**AUTHORIZED DEALER AND LABOR COSTS**

Repairs eligible for labor under this limited warranty must be made by Farm King or an authorized Farm King dealer. Farm King retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Farm King determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Farm King will not approve or pay invoices sent for repairs that Farm King has not previously approved. Warranty service does not extend the original term of this limited warranty.

## Limited Warranty

### WARRANTY REQUIREMENTS

To be covered by warranty, each new product must be registered with Farm King within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Farm King will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

### EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON FARM KING'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON FARM KING'S PRODUCTS ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL FARM KING BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT. (Note that some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Farm King neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Farm King to the purchaser, and Farm King shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Farm King's ability to obtain materials or manufacturer replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

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# Farm King







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