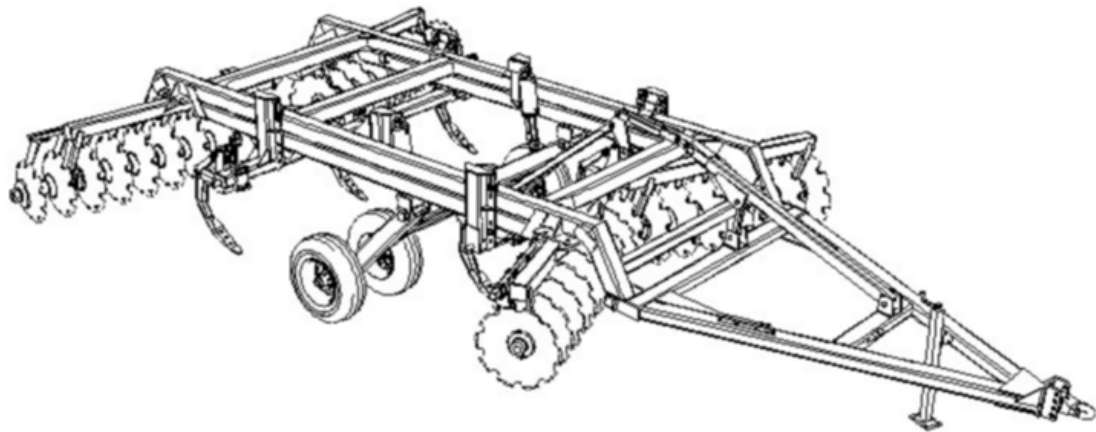


Model 275DR Disc Ripper

Owner's Manual

Model 275DR-5S

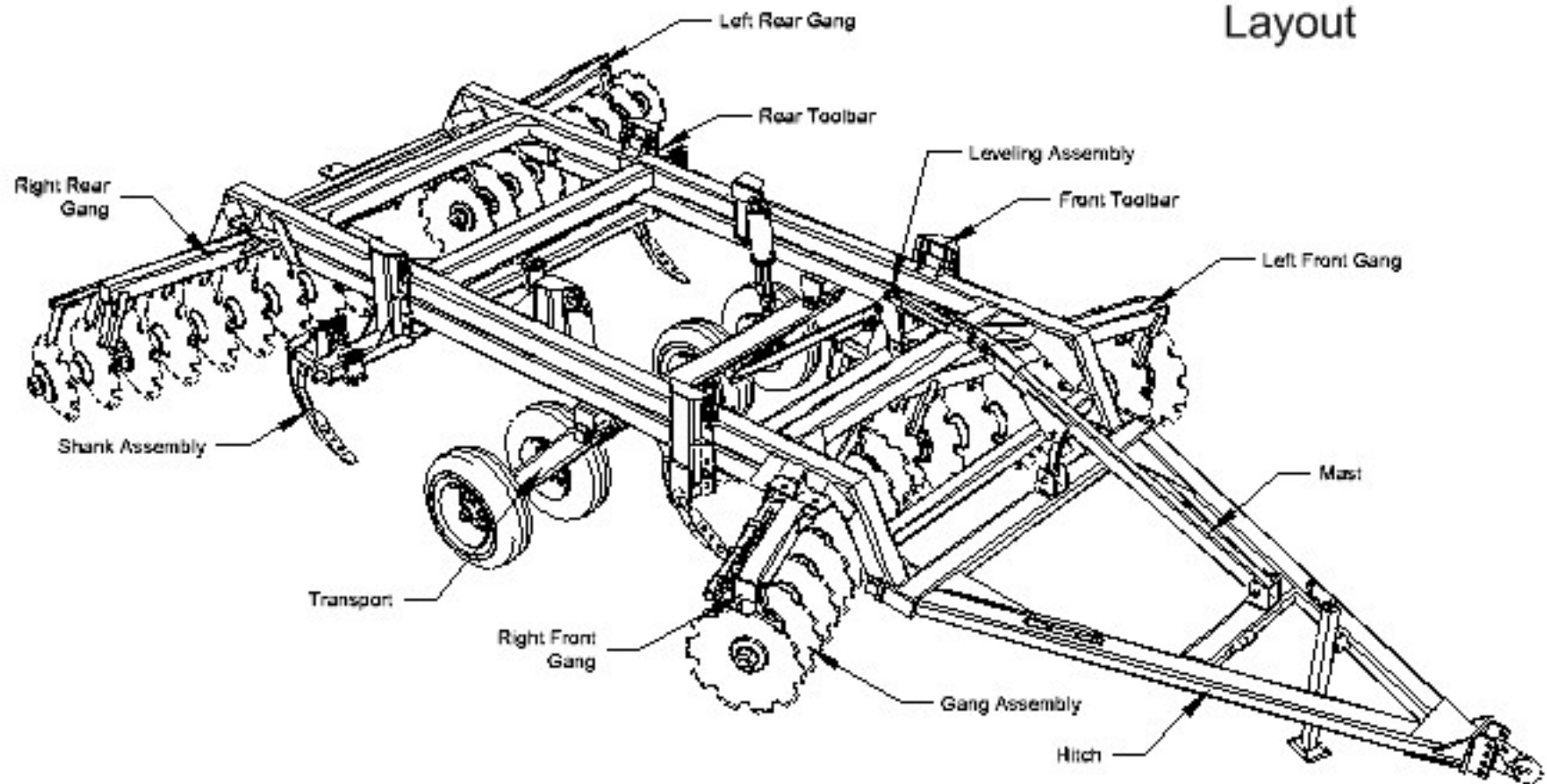


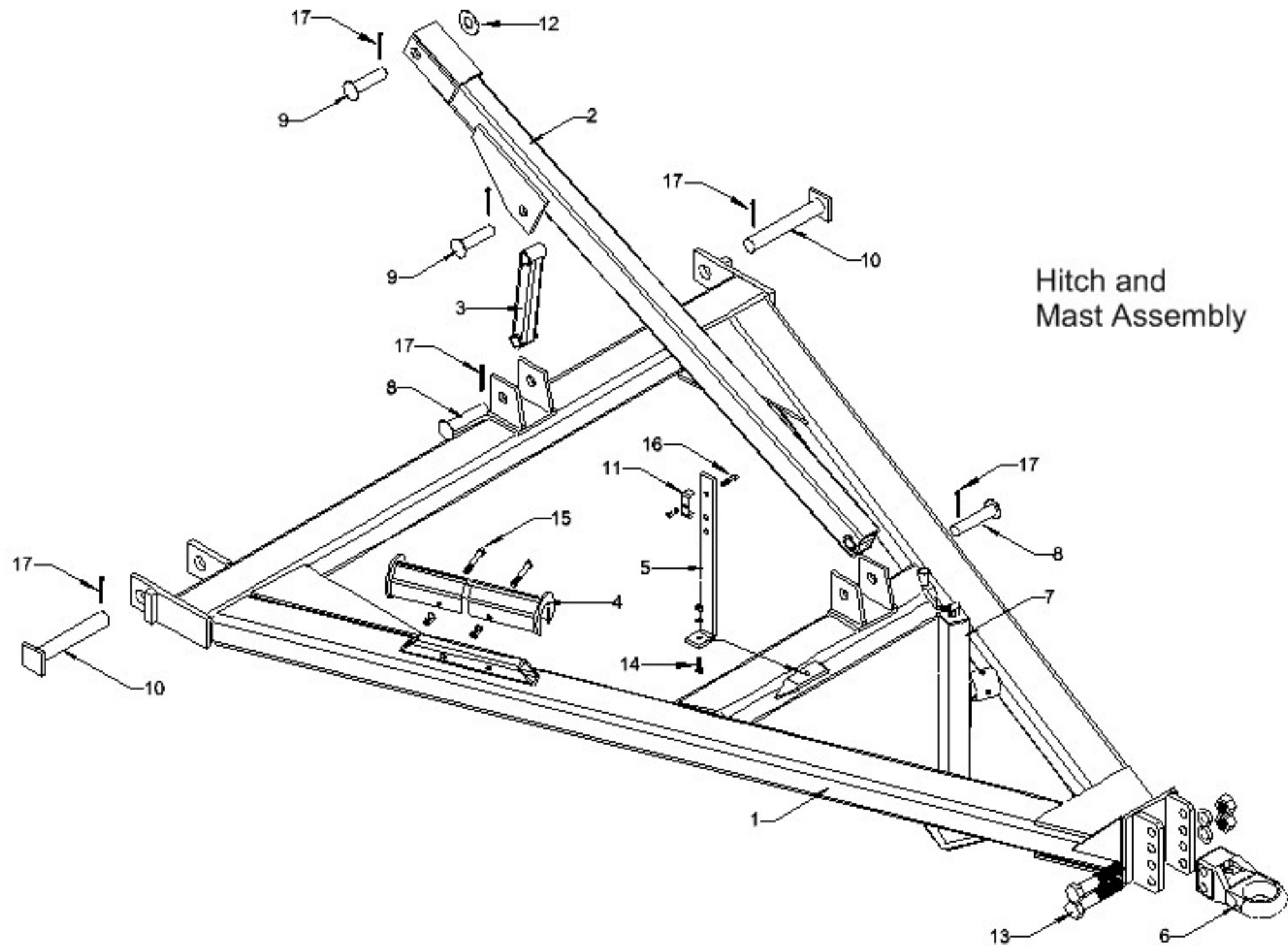
#16-37337 Burnt Lake Trail
Red Deer County, Alberta
CANADA T4S 2K5
Phone: (403)347-9500
Toll Free: (877) 613-9500

TABLE OF CONTENTS

<i>Layout</i>	<i>1</i>
<i>Hitch and Mast Assembly</i>	<i>2</i>
<i>Frame / Transport / Leveling Assembly</i>	<i>4</i>
<i>Frame / Shank Toolbars</i>	<i>6</i>
<i>Shank Assembly</i>	<i>8</i>
<i>Gang Assemblies</i>	<i>10</i>
<i>Oil-Bath Bearing</i>	<i>12</i>
<i>Scrapers</i>	<i>13</i>
<i>8-Bolt Hub</i>	<i>14</i>
<i>Hydraulic Cylinder</i>	<i>15</i>
<i>Safety Notices</i>	<i>16</i>
<i>Adjustments and Operation</i>	<i>19</i>
<i>Shank Trip Adjustment</i>	<i>20</i>
<i>Primary Adjustments</i>	<i>21</i>
<i>Transport Leveling Adjustment</i>	<i>22</i>
<i>Maintenance and Lubrication Schedule</i>	<i>23</i>
<i>Maintenance Instructions</i>	<i>24</i>
<i>Bearing Disassembly and Rebuild</i>	<i>26</i>
<i>Shank Assembly Placement</i>	<i>28</i>
<i>Warranty</i>	<i>29</i>

Layout



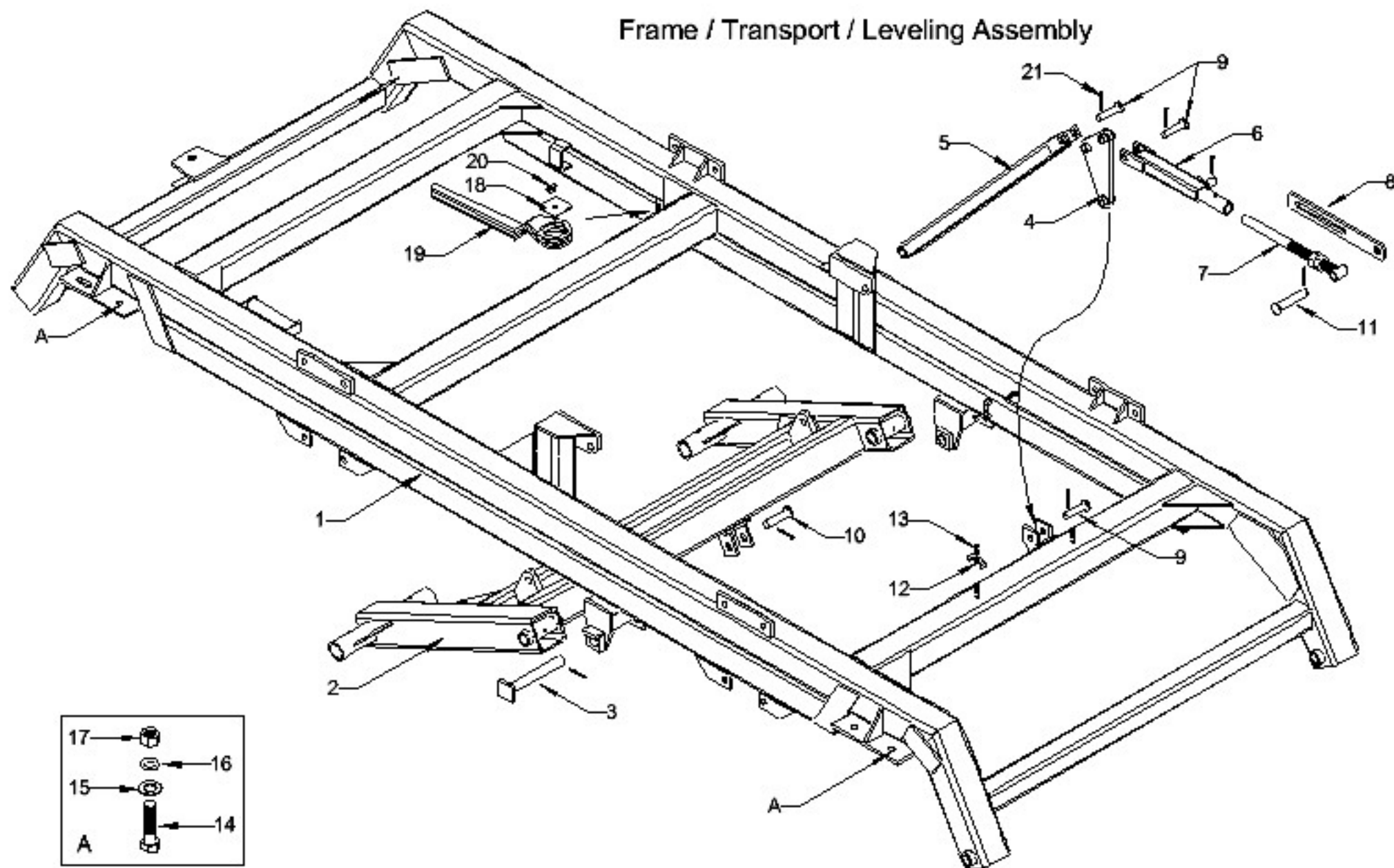


Hitch and
Mast Assembly

Hitch and Mast Assembly

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	3090060	Hitch	1
2	3090080	Mast	1
3	3090086	Mast Brace	1
4	CTS080	Transport Stay	2
5	501064054	Hose Stand	1
6	PPI-401VH	Tongue	1
7	TBX-8H	Hitch Jack	1
8	3090200	Pin	2
9	3090201	Pin	2
10	K50130	Bridle Pin	2
11	TBX-50	Hose Clamp	1
12	FW-125	1-1/4" Flat Washer	1
13	100700B8	1" Grade 8 Bolt / Lockwasher / Hex Nut	2
14	050150B5	1/2" Bolt / Lockwasher / Hex Nut	1
15	050400B5	1/2" Bolt / Lockwasher / Hex Nut	2
16	038200B5	3/8" Bolt / Lockwasher / Hex Nut	1
17	375300CP	Cotter Pin	5

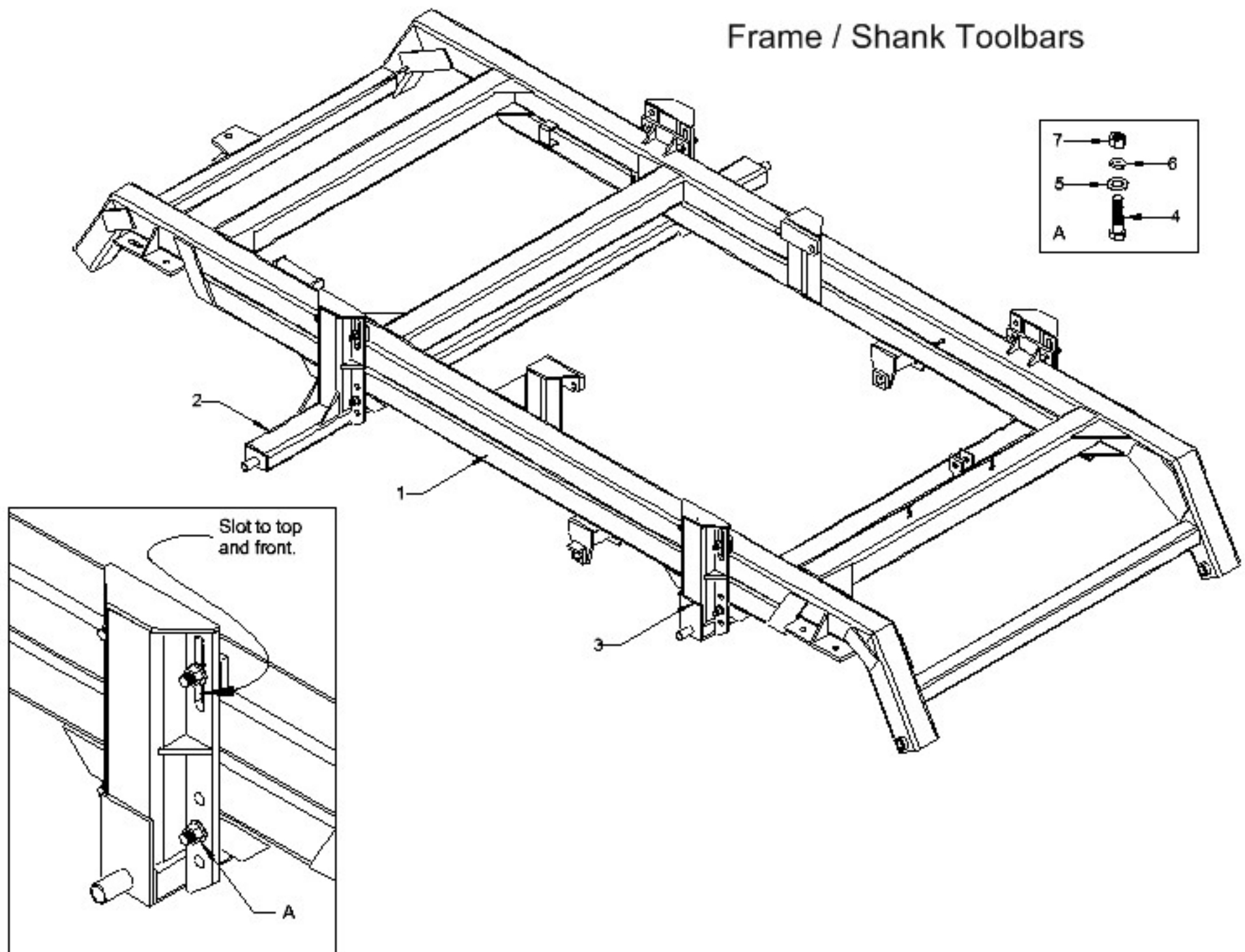
Frame / Transport / Leveling Assembly



Frame / Transport / Leveling Assembly

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	3090001	Frame	1
2	3090030	Transport	1
3	3027155	Transport Pin	2
4	3090096	Pivot	1
5	3090099	Bottom Leveling Arm	1
6	3090092	Top Leveling Arm	1
7	3090089	Eyebolt	1
8	3090102	Slider Bar	1
9	3090202	Pin	3
10	3027160	Pin	1
11	3090201	Pin	1
12	TBX-50	Hose Clamp	3
13	NC-038	3/8" Hex Nut	3
14	100350B8	1" Grade 8 Bolt	12
15	FW-100-8	1" Flat Washer	18
16	LW-100	1" Lockwasher	12
17	NC-100-8	1" Hex Nut	12
18	3043010	Wrench Hold Down Plate	1
19	2R-81	Gang Wrench	2
20	NC-050-W	1/2" Wing Nut	1
21	375300CP	Cotter Pin	8

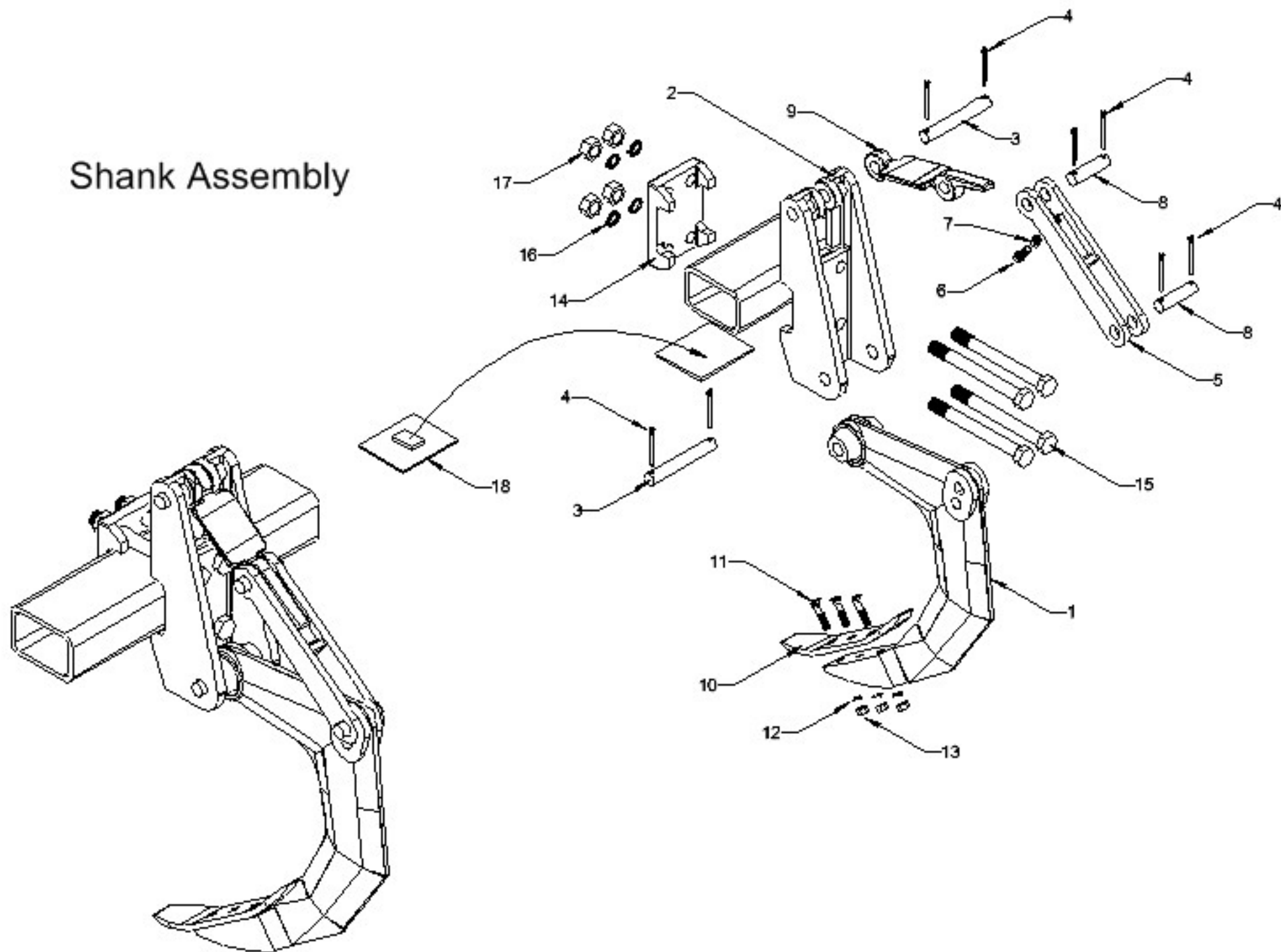
Frame / Shank Toolbars



Frame / Shank Toolbars

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	3090001	Frame	1
2	3090040	Rear Toolbar	1
3	3090041	Front Toolbar	1
4	100350B8	1" Grade 8 Bolt	16
5	FW-100-8	1" Flat Washer	8
6	LW-100	1" Lockwasher	16
7	NC-100-8	1" Hex Nut	16

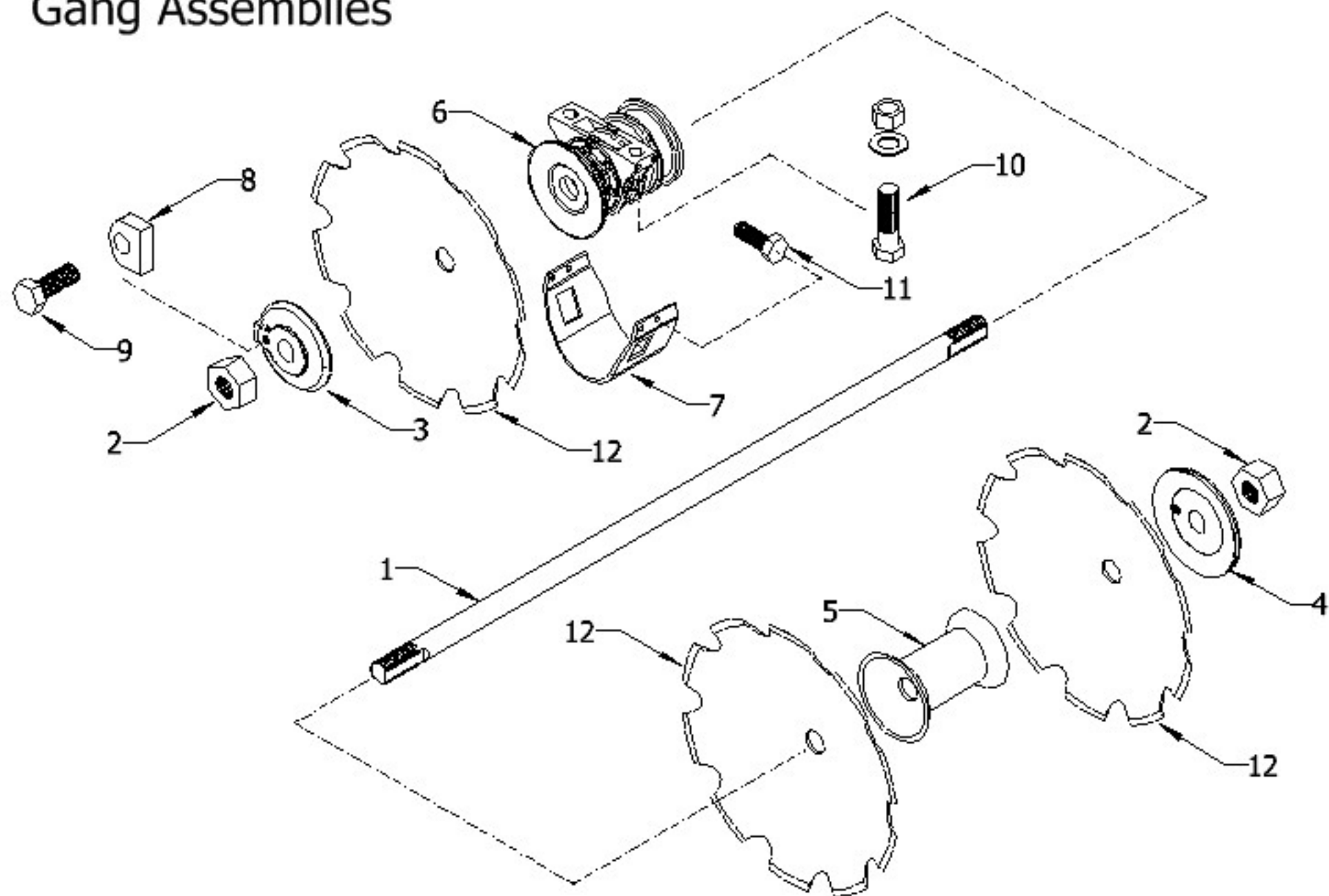
Shank Assembly



Shank Assembly

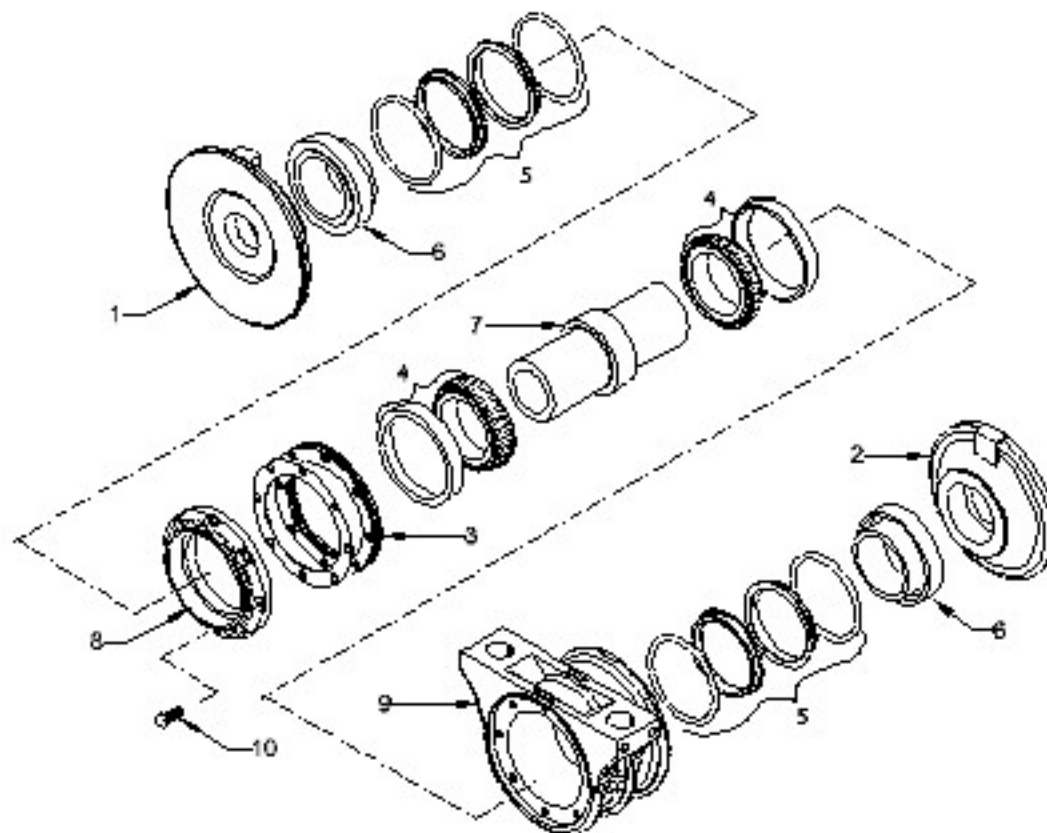
REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	0502011264	Shank	
2	0502011165	Shank Holder	
3	0511015688	Pin	
4	0503010571	Cotter Pin	
5	0502011164	Trip Arm	
6	0503011173	7/16" X 2" Hex Bolt	
7	0503010244	7/16" Hex Nut	
8	0511015689	Pin	
9	0521011631	Trip Toggle	
10	0624010005	Point (Standard)	
10	0624010005H	Point (Heavy)	
11	0503012956	1/2" X 1-1/2" Plow Bolt	
12	0503011440	1/2" Lockwasher	
13	0503010020	1/2" Heavy Hex Nut	
14	0502011166	Clamp	
15	0511019527	1" X 8" Grade 8 Bolt	
16	0503011438	1" Lockwasher	
17	0503010340	1" Hex Nut	
18	3090103	Spacer	

Gang Assemblies



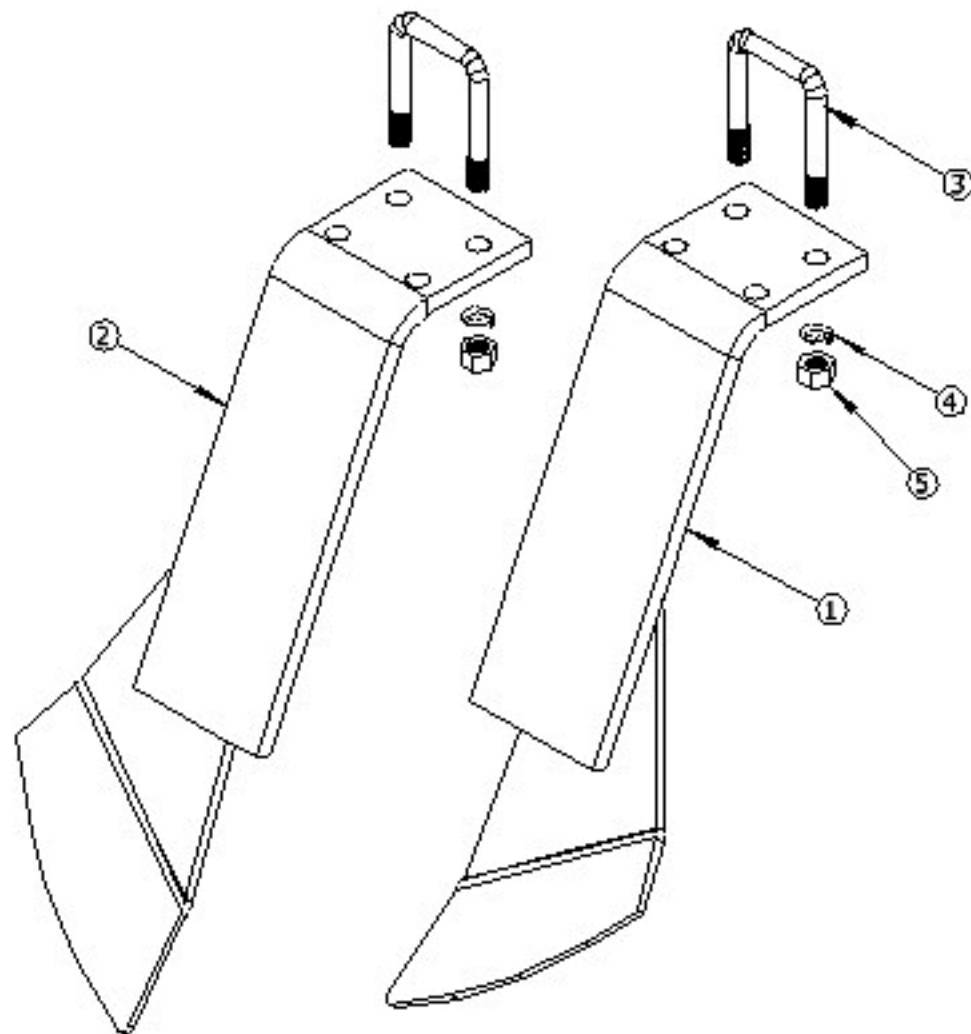
Gang Assemblies

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D						
			4 DISCS	5 DISCS	6 DISCS	7 DISCS	8 DISCS	9 DISCS	10 DISCS
1	KAH-1AX	Axle 2-1/8" Ø X 39.5"	1						
1	KAH-2AX	Axle 2-1/8" Ø X 50"		1					
1	KAH-3AX	Axle 2-1/8" Ø X 60.5"			1				
1	KAH-4AX	Axle 2-1/8" Ø X 71"				1			
1	KAH-5AX	Axle 2-1/8" Ø X 81.5"					1		
1	KAH-6AX	Axle 2-1/8" Ø X 92"						1	
1	KAH-7AX	Axle 2-1/8" Ø X 102.5"							1
2	4N-200	Axle Nut	2	2	2	2	2	2	2
3	4A-64B	Concave Axle Washer	1	1	1	1	1	1	1
4	4A-60C	Convex Axle Washer	1	1	1	1	1	1	1
5	K27880	Spacer Spool	1	2	3	4	5	6	7
6	050104387	Oil-Bath Bearing	2	2	2	2	2	2	2
7	511016371	Bearing Wear Plate	2	2	2	2	2	2	2
8	NL-225	Axle Nut Lock	2	2	2	2	2	2	2
9	075150	3/4" Bolt / Lockwasher	2	2	2	2	2	2	2
10	088450B8	7/8" Bolt / FWs / Nut / Jam Nut	4	4	4	4	4	4	4
11	050050B8	1/2" Bolt / Lockwasher	8	8	8	8	8	8	8
12	602037153	5/16" X 28" Notched Blade	4	5	6	7	8	9	10
12	3043184	5/16" X 26" Notched Blade	4	5	6	7	8	9	10
12	3043184	5/16" X 26" Taper Blade		1	1	1	1	1	1
12	3043185	5/16" X 24" Taper Blade		1	1	1	1	1	1
12	3043186	1/4" X 22" Taper Blade		1	1	1	1	1	1



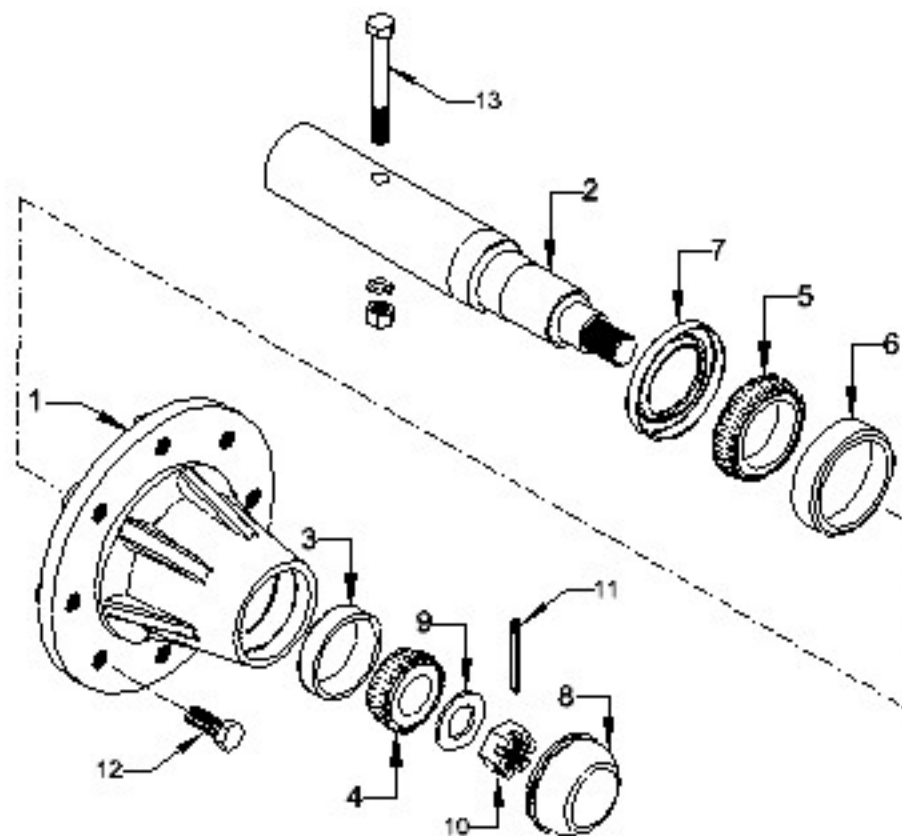
10.5" Oil-Bath Bearing - Part No 501040387

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	502040195	Inner Flange - Concave	1
2	502040196	Outer Flange - Convex	1
3	503030300	Gasket (Preload Shim)	
4	503010107	Bearing Cup & Cone	2
5	503030028	Duo-Cone Seal	2
6	502040198	Seal Retainer	2
7	502040197	Bearing Axial	1
8	502010294	End Cap	1
9	502010293	Bearing Housing	1
10	05015085	End Cap Bolt	10



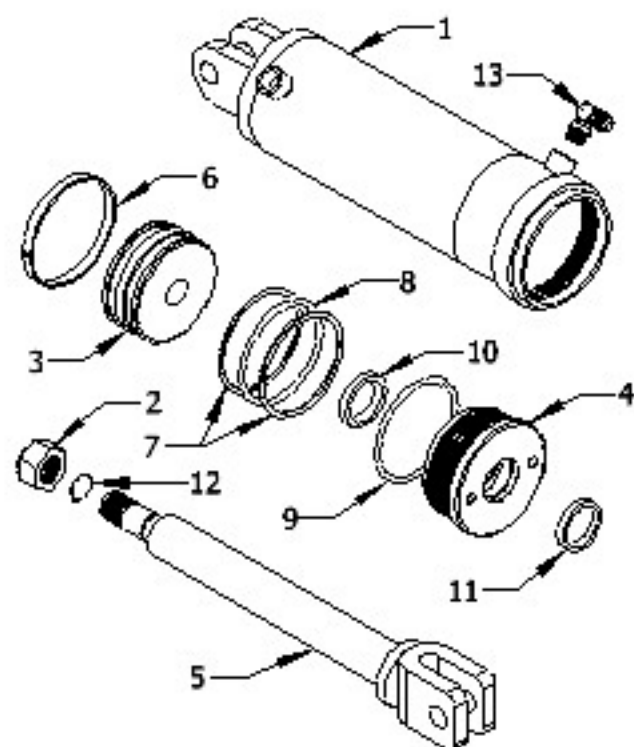
Scrapers

No.	Part Number	Description	No. Required
1	3043116	Right Hand Scraper	
2	3043097	Left Hand Scraper	
3	3027043	1/2" UBolt	2 per scraper
4	LW-050	1/2" Lock Washer	4 per scraper
5	NC-50	1/2" Hex Nut	4 per scraper



8-Bolt Hub - Part No 3027033

REF NO	PART NUMBER	DESCRIPTION	NO REQ'D
1	5004997	Hub	1
2	3027006	Spindle	1
3	5004998	Outer Cup	1
4	5004999	Outer Cone	1
5	5005002	Inner Cone	1
6	5005003	Inner Cup	1
7	5005001	Seal	1
8	5005000	Dust Cap	1
9	FW-100H	1" Hardened Flatwasher	1
10	NF-100S	1" Slotted Hex Nut	1
11	CK-19150	Cotter Key	1
12	3005217	Wheel Bolt	8
13	050400B5	Bolt / Nut / Lockwasher	1



8" Hydraulic Cylinder - No 5004971

REF NO	PART NUMBER	DESCRIPTION	NO REQ
1	5005018	Barrel	1
2	5005014	Lock Nut	1
3	5005032	Piston	1
4	5005022	Gland	1
5	5005015	Rod	1
6	5005011	Wear Ring	1
7	5005010	Back-Up Ring	2
8	5005009	O-Ring	1
9	5005005	O-Ring	1
10	5005023	Rod Seal	1
11	5005030	Rod Wiper	1
12	5005013	O-Ring	1
13	5000611	90 deg Elbow - MJIC 3/4"-16 to 3/4"-16	2
	SKC50-86A	Seal Kit (Nos 6, 7, 8, 9, 10, 11 and 12)	



TRANSPORT SAFETY



- **Use care when hitching the implement to the tractor.** Hands or fingers can be injured when caught between the hitch and the tractor.
- **Never allow riders on the tractor or implement.** Serious personal injury can result from falling in the path of the disc while in operation or transport.
- **Observe laws and regulations while transporting implement.** Never transport disc at speeds greater than 40 kph (25 mph). Reduce speed and exercise caution on turns, bridges, rough roads, steep grades and other adverse conditions.
- **Install all locking devices before transporting implement.** When transporting, raise implement to full height and place transport stays over all applicable hydraulic cylinder shafts and put wing locks in place (if required). Without these devices installed, the implement could fall during transport and cause injury to the operator or bystanders and/or damage to the implement and tractor.
- **If the tractor is equipped with a swinging drawbar, lock the drawbar in the fixed position.**
- **Use safety chains to secure the implement to the tractor during transport.**
- **Be sure warning devices are in place, clean and visible.** Be sure a SMV emblem is attached to the rear of the implement as well as any other devices, such as accessory lights, required by local regulations.
- **Use the proper size and grade of pin to attach the implement to the tractor.**
- **Check wheel bolts for tightness and ensure tires are properly inflated and free of cuts and abrasions.** The failure of either of these components could cause the implement to swing uncontrollably and make it difficult to steer the tractor.
- **Remove debris or loose soil from the implement before traveling on public roads.** Falling debris and soil can be a hazard to following and approaching traffic.
- **Do not tow other equipment behind the implement unless proper modifications have been made and it is permitted by local ordinances.**



OPERATION SAFETY



- **Become familiar with the implement and its operation before using the unit.** Read the Operator's Manual carefully and contact your dealer if you have any questions.
- **Never allow riders on the tractor or implement.** Serious injury could result from falling in the path of the disc while in operation or transport.
- **Be sure bystanders are clear of implement before raising or lowering the implement and/or folding or unfolding the wings.** Accidental movement of the controls or hydraulic failure could cause the implement and/or the wings to suddenly fall.
- **Be sure bystanders are clear before operating the implement.** Before entering the tractor, walk around the implement making sure no one is on, under or in front of the implement. Moving the implement while someone is between or in front of the gang assemblies could result in serious injury.
- **Never work under a raised implement.** Always lower the implement to the ground before inspecting or servicing. Never rely on the hydraulic system to hold the implement up.
- **Use extreme caution when working around disc blades.** The blades are sharp and could cut hands, legs, etc. Wear gloves to handle disc blades or gang assemblies.
- **Before dismounting the tractor to service or make adjustments always:**
 1. LOWER THE IMPLEMENT TO THE GROUND
 2. SHUT THE TRACTOR OFF
 3. ENGAGE THE TRACTOR'S PARKING BRAKE
 4. RELIEVE THE HYDRAULICS BY MOVING THE CONTROL
 5. REMOVE THE KEY

Inadvertent or unintentional movement of the implement while working around the disc gangs could result in serious injury.



MAINTENANCE SAFETY



- **Before servicing the implement, always:**
 1. LOWER THE IMPLEMENT TO THE GROUND
 2. SHUT THE TRACTOR OFF
 3. ENGAGE THE TRACTOR'S PARKING BRAKE
 4. RELIEVE THE HYDRAULICS BY MOVING THE CONTROL
 5. REMOVE THE KEY
- **Never work under a raised implement.**
- **Periodically, visually inspect the implement.** Look for hydraulic leaks and broken, missing or malfunctioning parts that may fail and cause personal injury. Make the necessary repairs.
- **Use caution when inflating tires.** Stand to one side away from the tire when inflating to avoid the possibility of personal injury due to blowoffs, etc. Never exceed the manufacturer's maximum PSI displayed on the sidewall of the tire.
- **Before disconnecting any hydraulic line, relieve the hydraulic pressure.** Hydraulic fluid escaping under pressure can have sufficient force to penetrate the skin causing serious personal injury. If injured by escaping fluid, obtain medical treatment immediately.
- **Handle gang assemblies and disc blades with care.** The disc blades are sharp and could cut hands, feet, etc. Wear gloves when handling the blades or gang assemblies. If the gang assemblies are removed from the implement for repair, use chock blocks to prevent the assembly from rolling.
- **Purge air from the hydraulic system before operation.** Always be sure the hydraulic lines and cylinders are free of air and do not leak. After connecting new parts, replacing old parts or servicing the hydraulic components, carefully cycle the hydraulic cylinders several times to purge air from the system and check all components for leaks.

ADJUSTMENTS AND OPERATION

HITCH THE TRACTOR TO THE DISC

- Use the proper size and quality drawbar pin.



Be careful of injuries to hands and fingers when hitching disc to tractor

- Connect the hydraulic hoses to the tractor. Make sure the fittings are clean and free of dirt and grit. Dirty fittings may allow contaminants to enter the hydraulic system and damage hydraulic components. Check that the hoses have enough slack to allow for turning.
- Lower the jackstands, unpin, swivel into storage position and pin in place. To avoid any possible damage to the jackstand, remove completely during operation.

REMOVE ALL TRANSPORT LOCK DEVICES

- Transport Locks - Lift the frame(s) slightly with the tractor hydraulics to relieve pressure on the lock device placed over the hydraulic cylinder shaft. Remove and store the lock device on the hose holder with the bolt provided.

MAKE SURE ALL ROUTINE MAINTENANCE HAS BEEN COMPLETED

- Grease all fittings.
- Check wheel bolts are present and tight.
- Check all gang nuts are present and tight.
- Check all nuts and bolts are present and tight.
- Visually check bearings for signs of oil seepage.
- Check hydraulic fittings are tight and free of leaks.
- Check all pins and their respective cotter keys are in place.
- Check tires are inflated properly and free of cuts or abrasions.

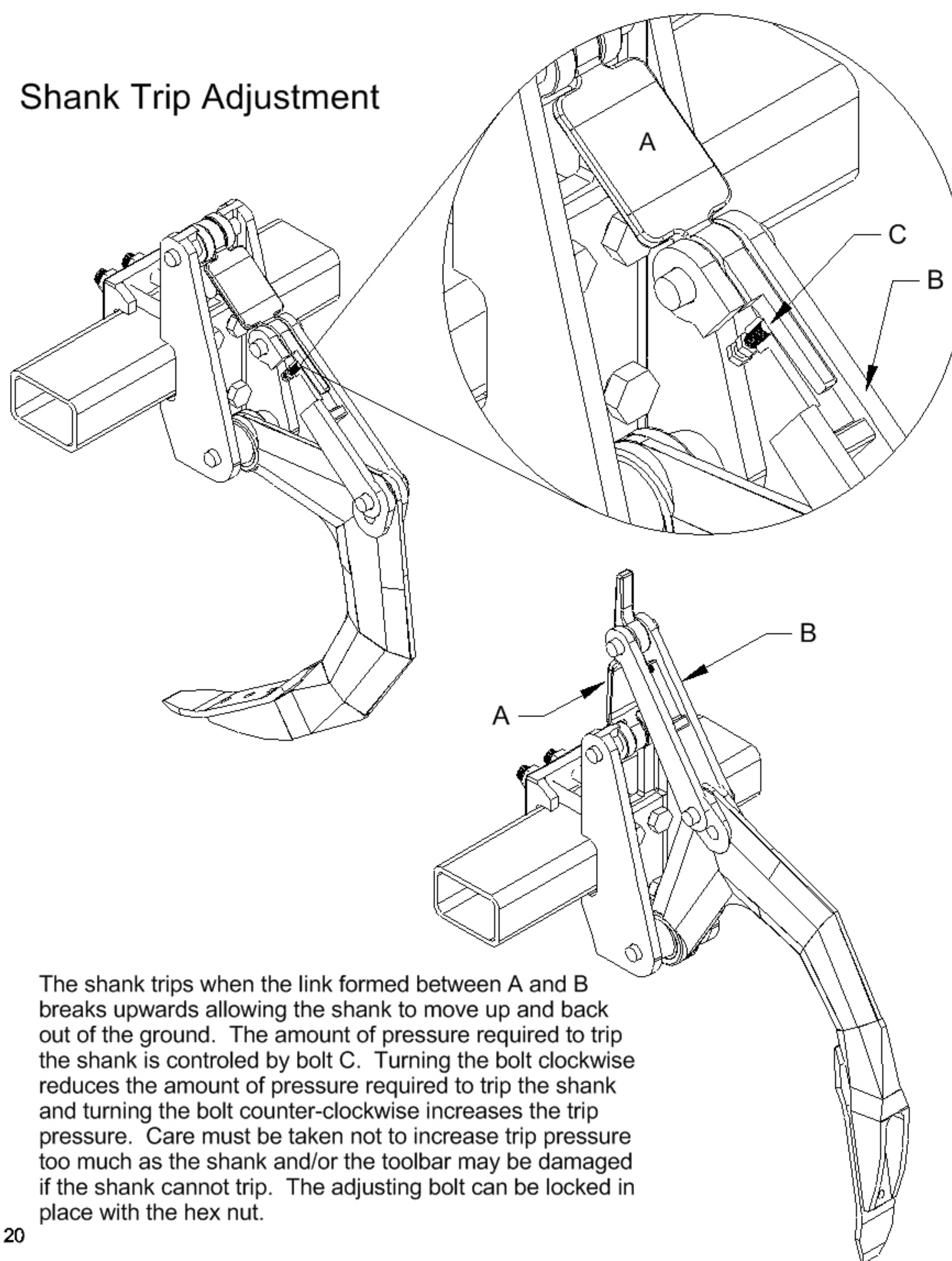
ADJUSTING GANG ANGLES

- There are three possible angle settings for the rear gang. For ordinary conditions the middle setting is used. The minimum angle is intended to give a smoother finish with less mixing and the maximum setting mixes the soil more but leaves a rougher finish.

GENERAL OPERATION

- Always raise the implement out of the ground before turning. When turning raise the implement just clear of the ground if pulling a harrow, roller or other attachment.
- In the field do not back-up with the implement in the fully raised position. This will prevent the implement from overbalancing to the rear which may damage the control arms.
- Speed, depth and soil type all contribute to the levelness of the discing operation. To minimize ridging or gouging, limit implement speed to 4-5 mph.
- On tractors equipped with a swinging drawbar, allow the drawbar to swing when working level or gently rolling fields or in severely rocky conditions. In all other conditions, lock the drawbar in the center position.
- Always lock a swinging drawbar in the center position before transporting the implement.

Shank Trip Adjustment

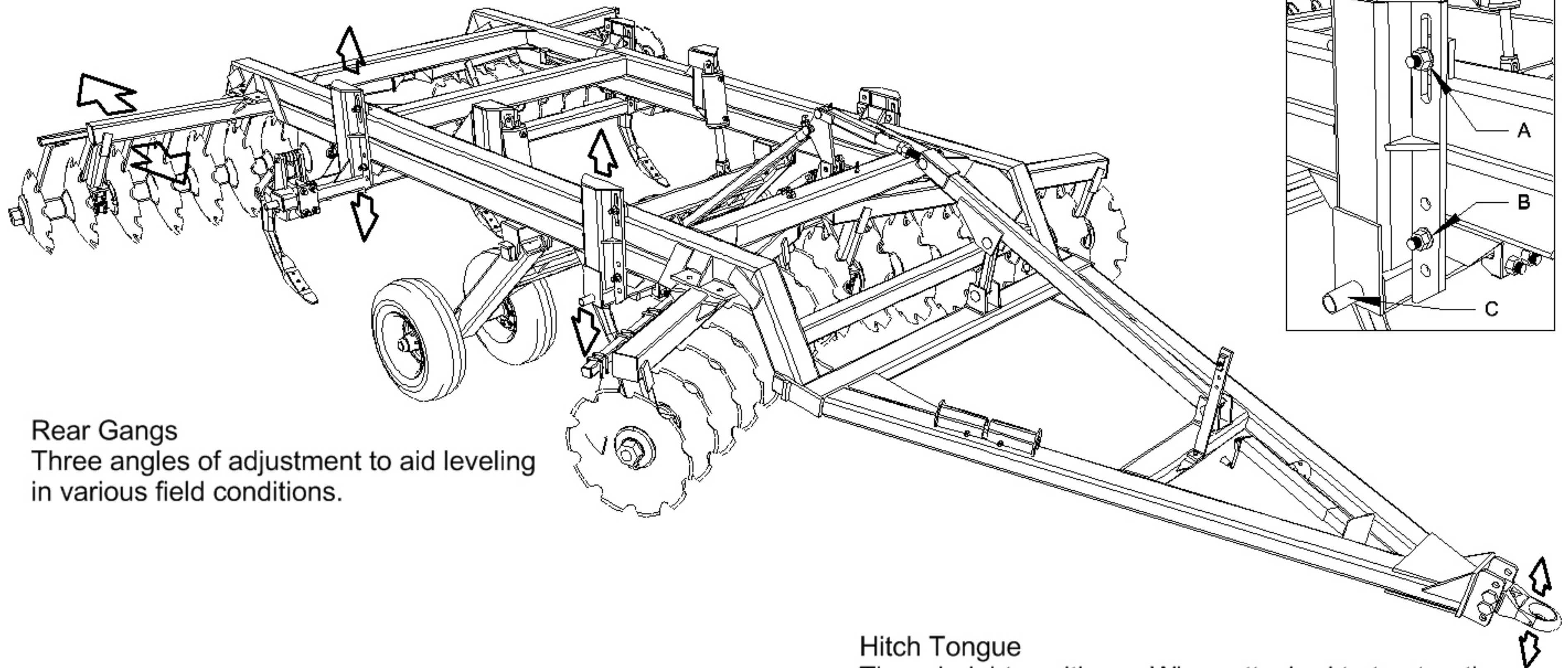
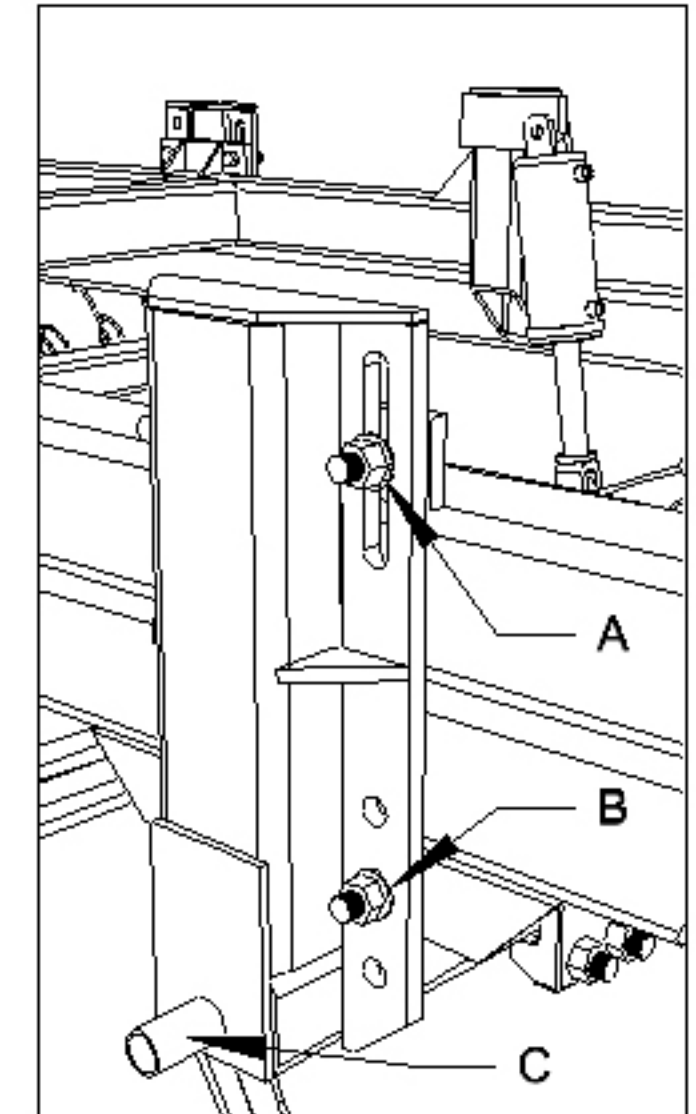


The shank trips when the link formed between A and B breaks upwards allowing the shank to move up and back out of the ground. The amount of pressure required to trip the shank is controlled by bolt C. Turning the bolt clockwise reduces the amount of pressure required to trip the shank and turning the bolt counter-clockwise increases the trip pressure. Care must be taken not to increase trip pressure too much as the shank and/or the toolbar may be damaged if the shank cannot trip. The adjusting bolt can be locked in place with the hex nut.

Primary Adjustments

Shank Toolbars

Three height positions to adjust working depth of shanks. Remove bolts from holes (B) but only loosen bolts in slotted positions (A). The tractor hydraulics may then be used to raise and lower the implement. Final adjustment is made by using a jack at positions C.



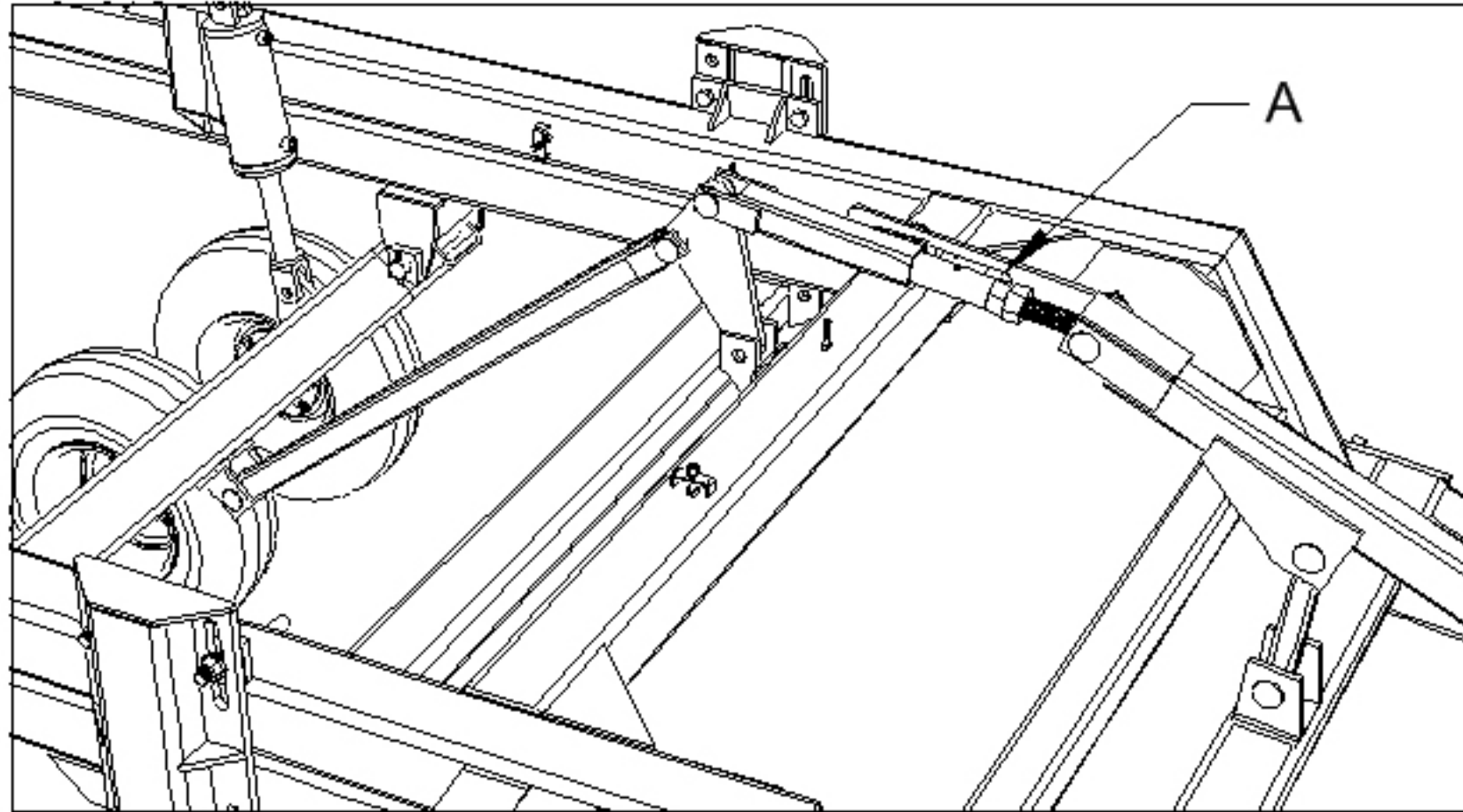
Rear Gangs

Three angles of adjustment to aid leveling in various field conditions.

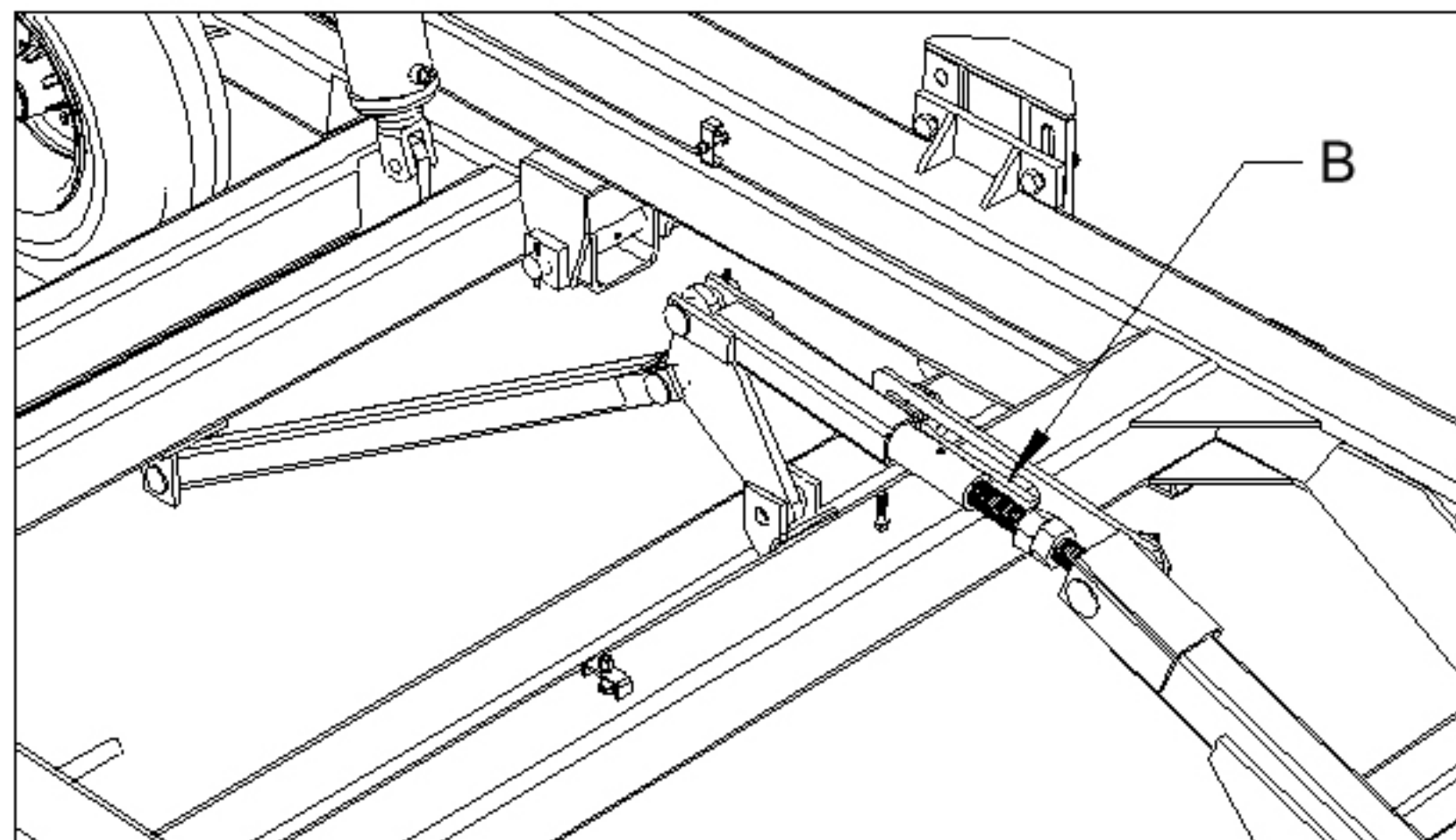
Hitch Tongue

Three height positions. When attached to tractor, the hitch should be slightly lower at the tongue than at the point where it attaches to the frame.

Transport Leveling Adjustment



The transport leveling arm is used to level the implement when it is in the transport position - out of the ground and fully raised. This adjustment is best made with the implement lowered to the operating position. In this position there is a gap between the nut and the sleeve (see B). If the nut is turned clockwise and the implement is raised, the nut will contact the sleeve (see A) sooner and the front of the implement will be higher than before the adjustment was made. Turning the nut counter-clockwise will lower the front of the implement. After adjusting the nut, lift the implement to the transport position. If the frame is not level, lower the implement and adjust the nut accordingly. Repeat, if necessary, until the implement is level in the transport position.



MAINTENANCE AND LUBRICATION SCHEDULE

AFTER FIRST 8 HOURS OR 100 ACRES OF OPERATION

- Grease all zerks.
- Check bearings for signs of oil seepage.
- Retighten bearing to bearing hanger bolts.
- Retighten wheel bolts and check tire inflation.
- Check all hydraulic fittings are tight and free of leaks.
- Check all pins and their respective cotter keys are in place.
- Remove nut locks, retighten gang nuts and reinstall nut locks.
- Retighten all frame to gang bar bolts.
- Retighten bolts clamping shank assemblies to the front and rear toolbars.

DAILY OR EVERY 10 HOURS OF OPERATION

- Grease all zerks with the exception of the wheel hubs.



Use a pressure lubrication gun and apply a sufficient amount of No. 2 multi-purpose lithium grease or equivalent to flush out the old grease . . . wipe grease fitting clean before greasing.

- Visually check for oil seepage from bearings and hydraulics, missing bolts or pins and loose or damaged running gear.
- Check shank assembly clamps for tightness. Check operation of trip mechanism.
- Check wear on shank points – if necessary reverse or replace.. Do not allow points to wear past the end of the shank.

EVERY SEASON OR EVERY 6 MONTHS

- OIL BATH BEARINGS - Remove fill plug on the side of the bearing. The oil level should reach the bottom of the fill plug hole when the unit is level. If it does not, fill with a good quality SAE 90W gear oil until it runs out of the fill plug hole. Clean and replace the fill plug.



NOTE: After a prolonged period of storage and the expansion and contraction of the seals due to extreme temperature fluctuations, oil may be seen to seep from the seal area of the bearing. This is normal and the seals should reseal themselves when they are returned to service. Please check to ensure the seepage ceases and top up the oil if necessary.

- WHEEL HUBS - Remove the wheel hubs, repack and preload the bearings.
- HYDRAULIC SYSTEM - Carefully inspect all hydraulic hoses for leaks, abrasions and cracks. Replace hoses if necessary. Tighten all fittings.

MAINTENANCE INSTRUCTIONS

OIL-BATH BEARINGS

- Remove plug on side of bearing. Check that oil level is to bottom of plug hole. If necessary, top-up with a good quality 90W gear oil.
- Rebuilding the oil bath bearing should be done by a qualified technician. Check with your dealer or Kello-Bilt Inc. for details.

KEEP GANG ASSEMBLIES TIGHT

- Loose axles may bend or break or result in damage to other components of the gang assembly.
- Tighten the axle nuts every day during the first several days of operation when the disc is new or after replacing an axle or disc blade.
- To tighten axle:
 1. Remove nut locks from axle washers on each end of axle.
 2. If the gang assembly is excessively loose, clean the mating surfaces between spools, bearings, end washers and disc blades.
 3. Loosen the bolts holding bearings to bearing standards.
 4. Place one wrench on gang nut to prevent shaft from turning.
 5. Use the other wrench and an extension (ie. pipe) or a sledge hammer to tighten the gang nut on the opposite end of the axle. Tighten until disc blades will not turn while operating. Recommended torque is 900-1100 ft/lbs with anti-seize compound applied to threads.
 6. Retighten bearing bolts and install nut locks.



It is recommended to use an anti-seize compound on the gang axle threads and the nut lock bolts.

PERIODICALLY CHECK THE TIGHTNESS OF ALL FASTENERS

- Tighten all fasteners after the first day of operation. Inspect at regular intervals thereafter.
- Torque Chart for unlubricated plated UNC bolts:

Bolt Diameter	Torque (ft-lbs)	
	Grade 5	Grade 8
3/8"	27	38
1/2"	68	94
5/8"	132	180
3/4"	233	323
7/8"	375	525
1"	555	788
1 1/4"	1080	1500
1 1/2"	1913	2625

CHECK TIRE PRESSURE REGULARLY

- Recommended MAXIMUM tire pressure is:

11L – 15 Highway Service Implement Tire - 45 PSI

CHECK WHEEL BEARINGS FOR SIDE PLAY

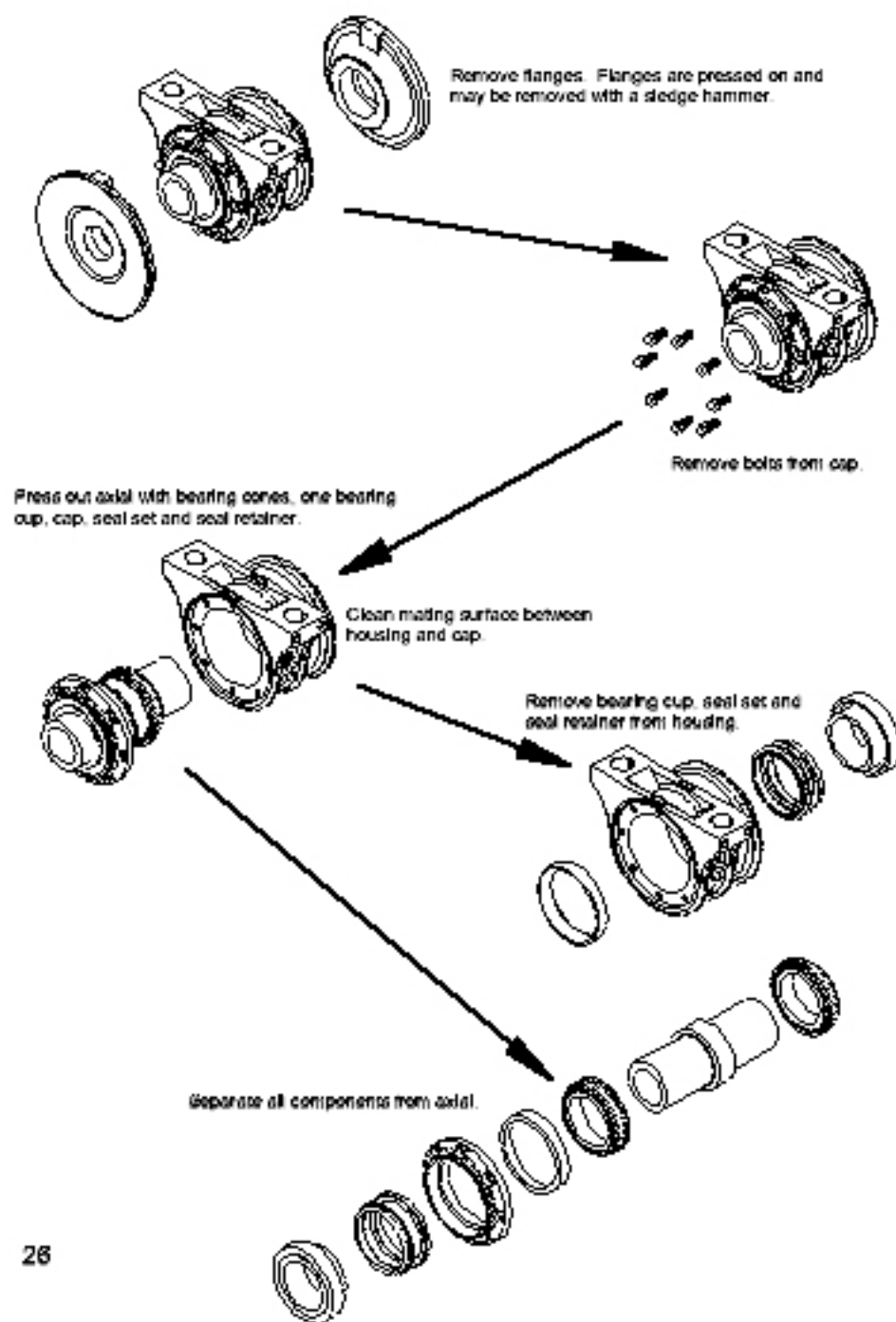
- Grease hubs weekly or every 60 hours.
- If side play is evident, remove dust cap and cotter key. Tighten slotted nut until there is a noticeable drag while turning the wheel. DO NOT BACK OFF THE NUT. Reinstall new cotter key and replace dust cap.
- In severe service or high usage conditions, clean and repack the hubs once each year. Replace bearings and seals if they are not in satisfactory condition. Clean all components with kerosene or other suitable solvent. Repack bearings with No. 2 multi-purpose lithium grease or equivalent. When placing the hub on the spindle, care must be exercised to avoid damaging the seal. To adjust bearing load, adjust the slotted nut until there is a noticeable drag while turning the wheel. Do not back the nut off. Secure the nut with a new cotter key. Reinstall dust cap making sure it is seated properly. Check for side play after first day or 10 hours of operation.

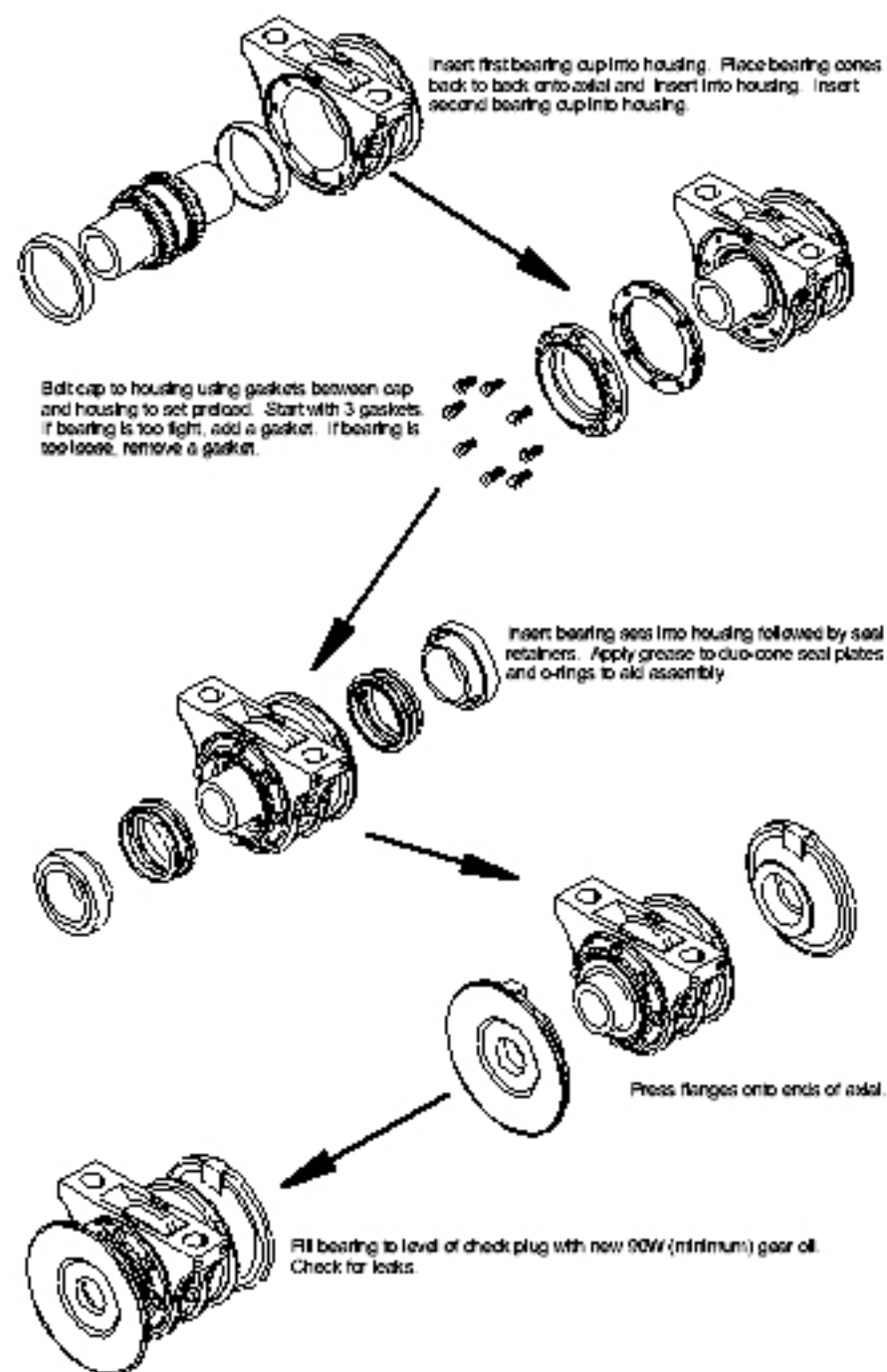
STORAGE

If the implement is to be parked for an extended period of time:

1. Wash disc paying particular attention to bearing seal, hub seal and hydraulic cylinder seal areas.
2. Lower disc to the ground to take pressure off tires and hydraulics. Put hitch jack in place and unpin from tractor.
3. Apply a light coat of grease to any exposed hydraulic cylinder shafts to prevent rusting or pitting.

Bearing Disassembly and Rebuild





Shank Assembly Placement

