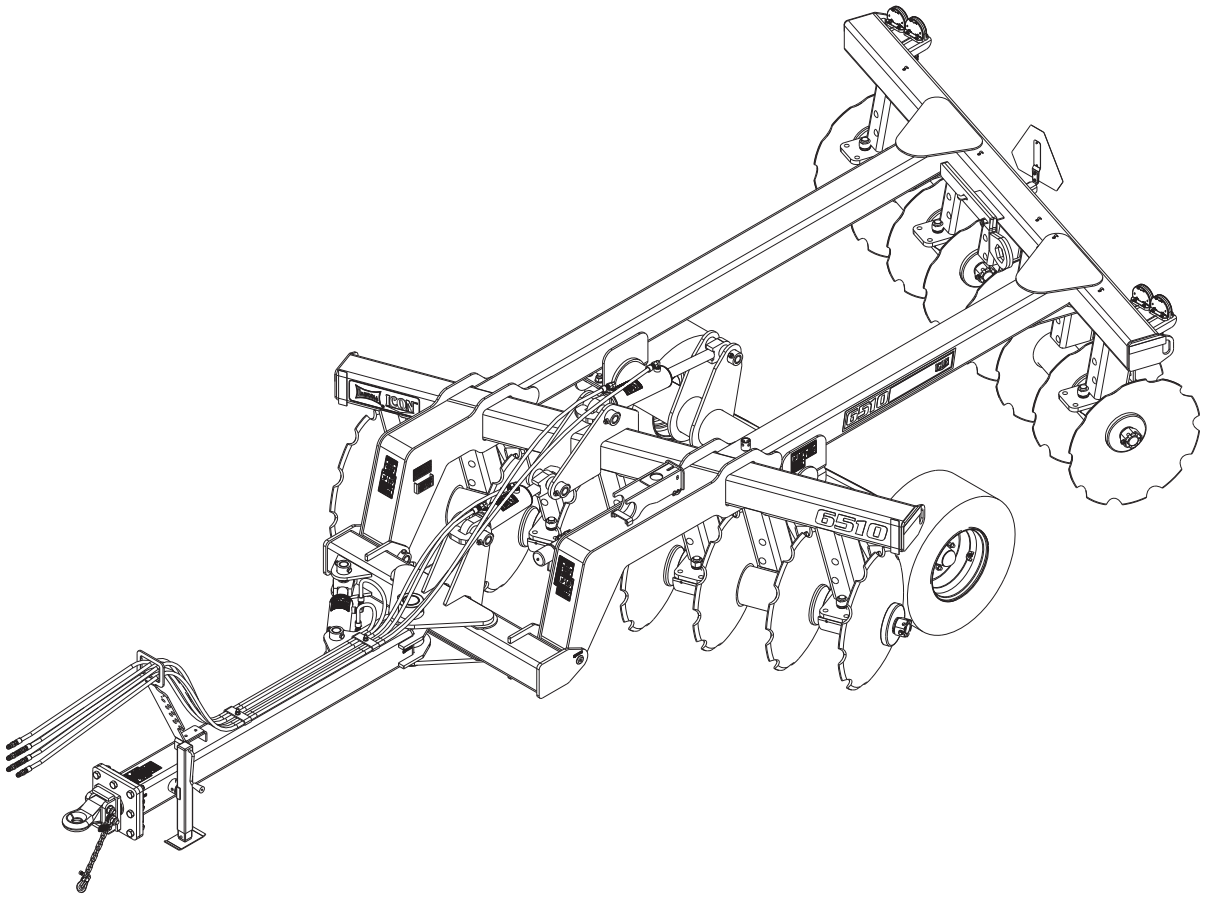
Model 6510
Construction Disc
Service and Parts Manual



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Manuals for the PRODUCT	
MANUAL NUMBER	**MANUAL NAME**
F-753	6510 Service and Parts Manual

Table of Contents

Introduction and Safety Information

Introduction

The Landoll /Icon Model 6510 Construction Disc is a quality product designed to give years of trouble free performance. By following each section of this manual, your system will perform as designed for you and your operation.

CHAPTER 1 Gives basic instructions on the use of this manual and understanding the safety statements.

CHAPTER 2 Gives product specifications for the equipment. These specifications supply lengths and measurements for your equipment. A Standard Bolt Torque Table is provided to give guidelines for bolt torques to be used when servicing this product.

CHAPTER 3 Contains assembly instructions for your Construction Disc. When these procedures are correctly followed, your equipment should provide you years of trouble-free operation and service.

CHAPTER 4 Instructs how to operate your equipment before using it, and describes adjustments needed. Gives practical advice for the care and maintenance of your Landoll equipment. Drawings in this section locate adjustment points on the equipment.

IF YOU HAVE ANY QUESTIONS CONTACT:
LANDOLL CORPORATION
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CHAPTER 5 Contains various assemblies, subassemblies, and systems. Refer to this section of manual when ordering Landoll/Icon replacement parts. Order parts from your Landoll/Icon dealer.

CHAPTER 6 Is a troubleshooting guide to aid in diagnosing and solving problems with the equipment.

WARRANTY The Warranty Registration form is included with the product documents. Fill it out and mail it within 15 days of purchase.
NOTE: IMPROPER ASSEMBLY, MODIFICATION, OR MAINTENANCE OF YOUR LANDOLL MACHINE CAN VOID YOUR WARRANTY.

COMMENTS Address comments or questions regarding this publication to:

LANDOLL CORPORATION
1900 NORTH STREET
MARYSVILLE, KANSAS 66508
ATTENTION: PUBLICATIONS - DEPT. 55

Understanding Safety Statements

You will find various types of safety information on the following pages and on the machine signs (decals) attached to the vehicle. This section explains their meaning.

The Safety Alert Symbol means ATTENTION! YOUR SAFETY IS INVOLVED!

NOTE

Means that failure to follow these instructions could cause damage to the equipment or cause it to operate improperly.

NOTICE

Special notice - read and thoroughly understand

CAUTION

Caution means serious equipment or other property damage can occur if instructions on this label are not properly followed.

WARNING

Warning means serious injury or death can occur if safety measures or instructions on this label are not properly followed.

DANGER

Danger means a life-threatening situation exists. Death can occur if safety measures or instructions on this label are not properly followed.

NOTE

Make sure you read and understand the information contained in this manual and on the machine signs (decals) before you attempt to operate or maintain this vehicle.

The safety statements contained in this manual relate to the operation of the Landoll/Icon Grader.

Decal Safety

1. Examine safety decals and be sure you have the correct safety decals for the implement.
2. Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required.
3. Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer.
4. When applying decals to the implement, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.

DANGER

- **Do not allow anyone to ride on the tractor or implement. Riders could be struck by foreign objects or thrown from the implement.**
- **Never allow children to operate equipment.**
- **Keep bystanders away from implement during operation.**

Transporting Safety

IMPORTANT

It is the responsibility of the owner/operator to comply with all state and local laws.

1. When transporting the implement on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign as required. Slow moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

2. Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.
3. Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.

4. Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.
5. Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor. Use a tractor heavier than the implement.
6. Use caution when towing behind articulated steering tractors; fast or sharp turns may cause the implement to shift sideways.
7. Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your implement.

Attaching, Detaching, and Storage

1. Do not stand between the tractor and implement when attaching or detaching implement unless both are not moving.
2. Block implement so it will not roll when unhitched from the tractor.
3. Store in an area where children normally do not play.

Maintenance Safety

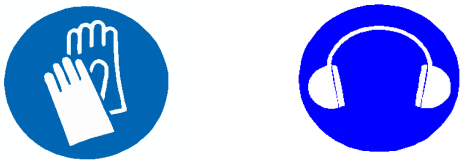
1. Understand the procedure before doing the work. Use proper tools and equipment.
2. Make sure all moving parts have stopped.
3. Do not make adjustments or lubricate implement while it is in motion.
4. Block the implement so it will not roll when working on or under it to prevent injury.

High Pressure Fluid Safety

1. Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Use a piece of cardboard, rather than hands, to search for suspected leaks.
2. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.
3. Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

Protective Equipment

1. Wear protective clothing and equipment.
2. Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.



3. Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection, such as earmuffs or earplugs.

Chemical Safety

1. Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
2. Read chemical manufacture's instructions and store or dispose of unused chemicals as specified.
3. Handle chemicals with care and avoid inhaling smoke from any type of chemical fire.
4. Store or dispose of unused chemicals as specified by the chemical manufacturer.

Prepare for Emergencies

1. Keep a First Aid Kit and Fire Extinguisher handy.
2. Keep emergency numbers for doctor, ambulance, hospital and fire department near the phone.

Tire Safety

1. Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.
2. When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side, not in front of or over the tire assembly. Use a safety cage if available.
3. When removing and installing wheels use wheel-handling equipment adequate for the weight involved.

Safety Chain

1. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, which is 10,100 pounds minimum in accordance with ASAE S338.2 specifications. If two or more implements are pulled in tandem, a larger chain may be required. Chain capacity must be greater then the TOTAL weight of all towed implements.
2. A second chain should be used between each implement.
3. Attach the chain to the tractor drawbar support or specified anchor location. Allow only enough slack in the chain to permit turning. The distance from hitch pin to attachment point or intermediate support point should not exceed 9 inches.
4. Replace the chain if any links or end fittings are broken, stretched or damaged.
5. Do not use a safety chain for towing.

Standard Specifications

Model Specification

Specification	
	Model 6510
Working Width	10’ - 9”
Transport Width	11’ - 11”
Total Length	27’
Blade Diameter	32” or 36”
Number of Blades	8/8
Number of Bearings	4/4
Spindle Size	3”
Wheel Bolt Pattern	8 Bolt
Estimated Weight - 32” x 10mm ga. Blade Option	11,280 lbs
Estimated Weight - 36” x 12mm ga. Blade Option	12,200 lbs
Specifications are subject to change without prior notification.	

Tire Inflation			
Tire Size	**Tire Manufacturer**	**Ply/Load Rating**	**Inflation Pressure (Psi) (Max.)**
32/1500 x 16.5 sl	Galaxy	Load Range G, 14 ply 8000 lbs. @ 20 mph	115 psi
VF 410/50R16.5	BKT	8050 lbs. @ 30 mph	73 psi

Recommended Bolt Torque Specification	
Bolt Size	**Torque (FT. LBS.)**
5/8-18 Lug Nuts	85- 100 ft - lbs.
Disc Gang Shafts	4,500 ft. lbs.
9/16-18 Lug Bolts and Nuts (Heavy Duty Disc)	80- 90 ft - lbs.
5/8-18 Lug Bolts and Nuts (Heavy Duty Disc)	85- 100 ft - lbs.

General Torque Specifications (rev. 4/97)

TORQUE SPECIFIED IN FOOT POUNDS - This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 331432/1432RS/1632/1432/1432RS/1632/1632RS to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

UNC SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8	UNF SIZE	SAE Grade 2	SAE Grade 5	SAE Grade 8
1/4-20	4 [5]	6 [7]	9 [11]	1/4-28	5 [6]	7 [9]	10 [12]
5/16-18	8 [10]	13 [13]	18 [22]	5/16-24	9 [11]	14 [17]	20 [25]
3/8-16	15 [19]	23 [29]	35 [42]	3/8-24	17 [21]	25 [31]	35 [44]
7/16-14	24 [30]	35 [43]	55 [62]	7/16-20	27 [34]	40 [50]	60 [75]
1/2-13	35 [43]	55 [62]	80 [100]	1/2-20	40 [50]	65 [81]	90 [112]
9/16-12	55 [62]	80 [100]	110 [137]	9/16-18	60 [75]	90 [112]	130 [162]
5/8-11	75 [94]	110 [137]	170 [212]	5/8-18	85 [106]	130 [162]	180 [225]
3/4-10	130 [162]	200 [250]	280 [350]	3/4-16	150 [188]	220 [275]	320 [400]
7/8-9	125 [156]	320 [400]	460 [575]	7/8-14	140 [175]	360 [450]	500 [625]
1-8	190 [237]	408 [506]	680 [850]	1-14	210 [263]	540 [675]	760 [950]
1-1/8-7	270 [337]	600 [750]	960 [1200]	1-1/8-12	300 [375]	660 [825]	1080 [1350]
1-1/4-7	380 [475]	840 [1050	1426 [1782]	1-1/4-12	420 [525]	920 [1150]	1500 [1875]
1-3/8-6	490 [612]	1010 [1375]	1780 [2225]	1-3/8-12	560 [700]	1260 [1575]	2010 [2512]
1-1/2-6	650 [812]	1460 [1825]	2360 [2950]	1-1/2-12	730 [912]	1640 [2050]	2660 [3325]
1-3/4-5	736 [920]	1651 [2063]	2678 [3347]	1-3/4-12	920 [1150]	2063 [2579]	3347 [4183]

METRIC:

Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell “C” 38-45. Use value in [ ] if using prevailing torque nuts.

Nominal thread diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque)	Nominal Thread Diameter (mm)	Newton Meters (Standard Torque)	Foot Pounds (Standard Torque
6	10 [14]	7 [10]	20	385 [450]	290 [335]
7	16 [22]	12 [16]	24	670 [775]	500 [625]
8	23 [32]	17 [24]	27	980 [1105]	730 [825]
10	46 [60]	34 [47]	30	1330 [1470]	990 [1090]
12	80 [125]	60 [75]	33	1790 [1950]	1340 [1450]
14	125 [155]	90 [115]	36	2325 [2515]	1730 [1870]
16	200 [240]	150 [180]	39	3010 [3210]	2240 [2380]
18	275 [330]	205 [245]	----------	----------	----------

Table 2-1: General Torque Specifications

Hydraulic Fitting Torque Specifications

TORQUE IS SPECIFIED IN FOOT POUNDS- 37° JIC, ORS, & ORB (REV. 10/97)

This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 331432/1432RS/1632/1432/1432RS/1632/1632RS to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

Parker Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-13	15-17	13-15
-5	14-16	----------	21-23
-6	20-22	34-36	25-29
-8	43-47	58-62	40-44
-10	55-65	100-110	58-62
-12	80-90	134-146	75-85
-16	115-125	202-218	109-121
-20	160-180	248-272	213-237
-24	185-215	303-327	238-262
-32	250-290	----------	310-340

Gates Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	10-11	10-12	14-16
-5	13-15	----------	----------
-6	17-19	18-20	24-26
-8	34-38	32-40	37-44
-10	50-56	46-56	50-60
-12	70-78	65-80	75-83
-14	----------	65-80	----------
-16	94-104	92-105	111-125
-20	124-138	125-140	133-152
-24	156-173	150-180	156-184
-32	219-243	----------	----------

Aeroquip Brand Fittings

Dash Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-12	10-12	14-16
-5	15-16	----------	16-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	75-80
-12	79-87	65-70	125-135
-14	----------	----------	160-180
-16	108-113	92-100	200-220
-20	127-133	125-140	210-280
-24	158-167	150-165	270-360
-32	245-258	----------	----------

Table 2-2: Hydraulic Fitting Torque Specifications

Introduction

This manual is compiled as a guide for owners and operators of the Construction Disc. Read it carefully so as to be able to follow the suggestions made. Please take time to understand the proper maintenance schedule and SAFE operation of your equipment.

In the event that a new and inexperienced operator is placed in charge of running the equipment, they should read and understand, that part of the manual for proper maintenance and SAFE operation, and to be trained in regard by an experienced operator.

Owner Assistance

If customer service or repairs are needed, contact your Icon dealer. They have trained personnel, parts and service equipment specially designed for Icon products. Your machine's parts should only be replaced with Icon parts. Have the Serial Number and complete Model Number available when ordering parts from your Icon dealer ***See Figure 2-1***.

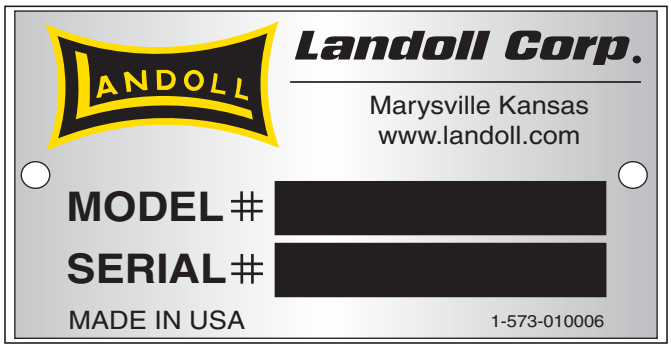


Figure 2-1: ID Plate

Warranty Registration

Be certain to register the grader, by online registration at *www.landoll.com* within 10 days of purchase or lease, in order to be on file at Landoll and eligible for Warranty.

Take time to read and understand the Warranty for this product. That Warranty is printed in the Owner's Manual ***See Figure 2-2***, and a separate copy enclosed in the packet.

ICON/Landoll reserves the right to make changes and/or add improvements to it's products at any time without obligation to previously manufactured equipment.

Please take time to complete the following information for your personal reference, should you need to contact your Dealer with questions or parts needs.

MODEL_____

SERIAL #_____

DATE OF PURCHASE_____

DEALER NAME_____

We at ICON/Landoll wish to thank you for purchasing our product. We have spent considerable time and effort to research, design, test and develop this machine and are confident it will serve you in the use for which it was designed.

LANDOLL CORPORATION
Product Warranty

LANDOLL CORPORATION 1600 W. 8th St. Beloit KS 67420
(referred to as LANDOLL in this document)

LANDOLL *shall Warrant workmanship and materials on the* **ICON Industrial Products** *for a period of 270 calendar day from the date of original purchase, lease, or rental, from the original Dealer, and in accordance with the following terms and conditions.*

Should any part or component fail within the Warranty period, and under normal use conditions, LANDOLL shall supply a new part or component for replacement through the original Dealer. Cost of normal ground freight, for that part or component to the Dealer, shall be paid by LANDOLL. Repair and replacement labor cost, from the original Dealer, shall be paid by LANDOLL at a rate negotiated by LANDOLL.

No further expense shall be paid by LANDOLL, *including but not limited to, loss of time or income.*

LANDOLL *shall not provide Warranty on any part or component that has failed due to abuse, misuse, alteration, improper maintenance, or normal wear. Failure occurring while being pulled by a tractor in excess of engine horsepower, as described in the owners manual and/or posted on the machine, is considered abuse and misuse and shall not receive Warranty. Warranty applies only to normal. intermittent agricultural use, and not commercial or industrial use.*

In regard to some components manufactured by other companies and sold by LANDOLL, *including but not limited to tires, said Warranty shall be provided solely by that manufacturing company.*

This Warranty applies to products sold in the United States and Canada, and is made expressly in place of all other warranties, expressed or implied.

Figure 2-2: Product Warranty

Table provided for general use.

NOTES:

Assembly and Lubrication

Lubrication Maintenance

1. ***Table 3-2*** specifies the number and the period of lubrication points on the 6510 Disc. Proper maintenance of your machine will, under normal operating conditions, help to keep it operating at or near its peak performance for an extended period of time. Proper maintenance is also a condition of keeping your warranty in good status ***See Figure 3-2***.
2. When lubricating the 6510, SAE multi-purpose EP grease, or EP grease with 3-5% molybdenum sulfide is recommended. Wipe soil from fittings before greasing. Replace any lost or broken fittings immediately.
3. Disc gang bearings are an oil bath bearing assembly consisting of 2 tapered rolling bearings encased in a cast housing. The lubrication inside the self-contained housing is SAE 90 mineral gear oil.The oil level should be checked on a weekly basis to ensure proper function and normal function life. ***The oil should also be replaced every 1,000 hours of service.***
4. To prepare for checking oil level, park machine on a level uniform surface and install transport lock on lift system. Do not depend solely on the implement hydraulics. Clean the area around the filler plug to keep dirt out of bearing assembly. As a precaution, place a drain pan under the plug to catch any oil that may leak out.
5. To check oil level in bearings, remove the filler plug on the center of the housing ***See Figure 3-1*** and check the level at the bottom of the filler plug opening. If oil begins to leak slowly, then the reservoir is full. Immediately replace the plug. If oil runs out freely, let it drain into the drain pan until it seeks its own level, ***which is just at the bottom of the filler plug opening.*** If the oil level is below the level of the filler plug, bend a short length of metal wire and insert into the filler plug opening. Pull the wire out and note the oil level. If the level is below ½" below filler plug opening, add SAE 90 mineral gear oil to bring it up to the recommended level. Check the plug for damage to the threads. Apply thread sealer on filler plug threads and replace the filler plug into the housing.
6. To prepare for replacing the oil if bearing is still fastened to frame, park machine on a level uniform surface and install transport lock on lift system. Do not depend solely on the implement hydraulics.Clean the area around the filler plug to keep dirt out of bearing assembly. Place a drain pan under the plug to catch any oil that may leak out.

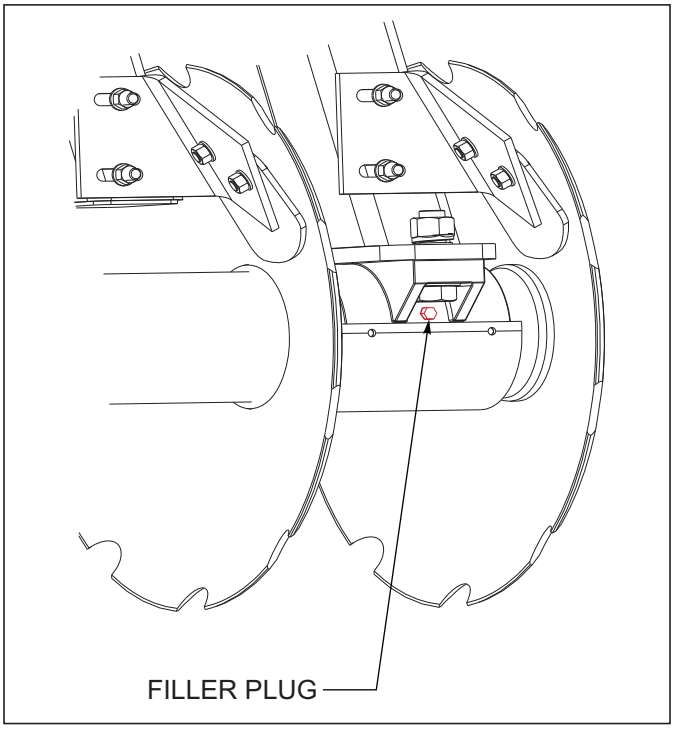


Figure 3-1: Filler Plug Location

7. To replace oil if bearing is still fastened to frame, remove the filler plug on the center of the housing ***See Figure 3-1***. Use a suction pump to draw out the oil by hand from the filler plug opening. Inspect old oil for any metal flakes or shavings that could be caused by excessive bearing wear. Using SAE 90 mineral gear oil, fill housing with oil to the recommended level. Check the plug for damage to the threads. Apply thread sealer on filler plug threads and replace the filler plug into the housing.
8. **Recommended:** To prepare for replacing the oil if bearing is free from frame, place bearing assembly on a level and stable surface. Clean the area around the filler plug to keep dirt out of bearing assembly.Place a drain pan under the plug to catch all the oil.

9. **Recommended:** To replace oil if bearing is free from frame, remove the filler plug on the center of the housing ***See Figure 3-1*****.** Rotate the bearing assembly until the filler plug opening is pointed downward and allow oil to drain into drain pan. Inspect old oil for any metal flakes or shavings that could be caused by excessive bearing wear. Using SAE 90 mineral gear oil, fill housing with oil to the recommended level. Check the plug for damage to the threads. Apply thread sealer on filler plug threads and replace the filler plug into the housing.
10. Wheel seals, when properly installed, will allow grease to pass without harm to seals. Regular lubrication will extend service life, particularly in severe operating conditions.
11. The 6510 is equipped with maintenance-free bearings in the lifts. This area requires no lubrication.

Storage

1. The service life of the 6510 will be extended by proper off-season storage practices. Prior to storing the unit, complete the following procedures:
   a. Completely clean the unit.
   b. Inspect the machine for worn or defective parts. Replace as needed.
   c. Repaint all areas where the original paint is worn off.
   d. Grease all exposed metal surfaces of shanks, points and discs.
   e. Apply a light coating of oil or grease to exposed cylinder rods to prevent them from rusting.
   f. Lubricate each point of the machine as stated in ***"Lubrication Schedule" on page 3-3***
2. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground tools and tires should rest on boards, or some other object, to keep them out of the soil.

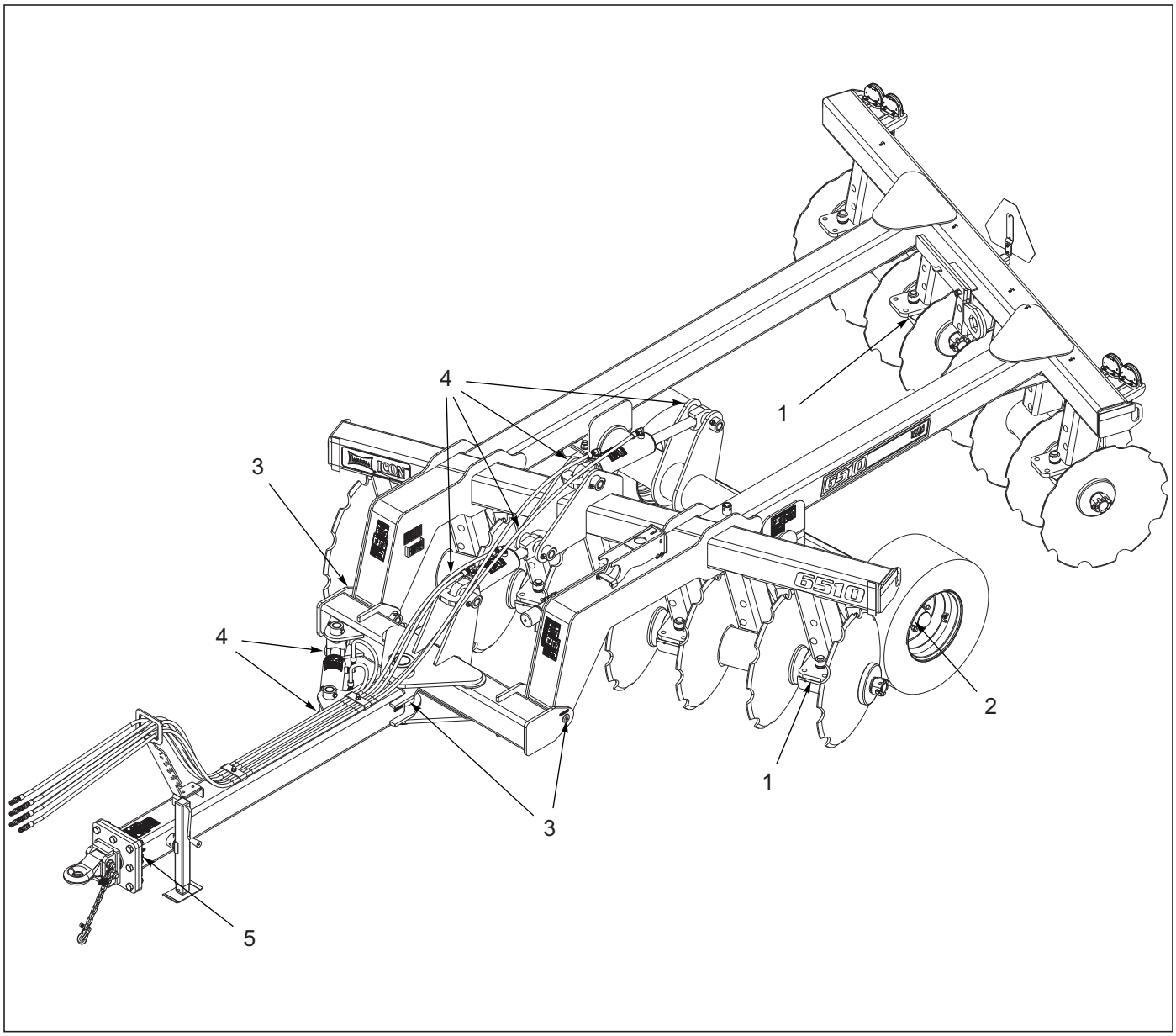


Figure 3-2: Lubrication Schedule

LUBRICATION TABLE			
ITEM	DESCRIPTION	NO. OF LUBE POINTS	INTERVAL (Hours Unless Stated)
1	Disc Gang Bearings	1 each	1,000
2	Wheel Hubs	1 each	50
3	Hinge Pins	1 each	10
4	Hydraulic Pins	1 each	10
5	Swivel Hitch	1 each	10

Table 3-1: Lubrication Table

Table provided for general use.

NOTES:

Hookup and Operation

Operation and Maintenance

DANGER

Never allow anyone to ride on the 6510 Disc at any time. Allowing a person to ride on the machine can inflict serious personal injury or death to that person.

DANGER

Disc blades are extremely sharp. Exercise extreme care when working on or near disc blades. Do not allow discs to roll over or fall onto any bodily part. Do not allow wrenches to slip when working near disc blades. Never push wrenches toward disc blades. Do not climb over machine above disc blades. Failure to stay clear of disc blade edges can cause serious personal injury or death.

WARNING

All hydraulically elevated equipment must have cylinder lockouts installed or be lowered to the ground, when servicing or when equipment is idle. Failure to take preventive measures against accidental lowering can result in serious personal injury.

DANGER

Always lock the tractor drawbar in the center position when transporting the unit. Failure to do so can result in serious injury or death and cause damage to the equipment.

DANGER

When transporting the unit, place cylinder lockouts in the transport lock position after fully extending the cylinders. Insert the lockout pins to secure the cylinder lockouts. Failure to lockout the cylinders can cause the unit to settle during transport, which can result in serious injury or death and cause damage to the equipment.

CAUTION

When transporting implements on public roads, it is the responsibility of the operator to abide by state and local laws concerning wide loads, speed, safety emblems and safety lighting equipment. Drive at safe speeds. Particularly when rounding corners, crossing rough ground or driving on hillsides, to prevent tipping the tractor.

Tractor Preparation

The Landoll/Icon 6510 Disc is designed to be pulled by tractor equipped with a double lip or clevis type hitch. If your tractor is not equipped as such, you need to purchase the hitch from your local tractor dealer. .

Before attaching the 6510, prepare the tractor as follows:

1. Inflate the rear tractor tires equally and add ballast according to the tractor operator's manual.
2. Lock the tractor drawbar in the center position.

6510 Disc Preparation

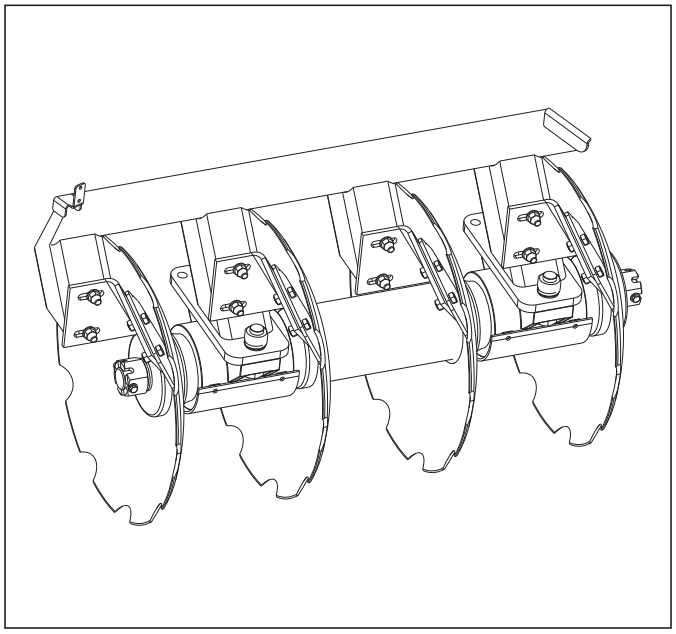


Figure 4-1: Disc Scraper to Disc Blade

1. Prior to operating the 6510 disc, inspect it thoroughly for good operating condition.
2. Replace worn or missing parts.
3. When the machine is new, check the bolt tightness after a few hours of operation. Tighten any loose nuts or bolts. Check the lift wheel lug bolts daily.
4. Check the lift wheel tire inflation. Inflate all tires equally to avoid side draft. Follow the tire manufacturer's recommended pressures listed on the sidewall of the tires.
5. Check disc scrapers for proper adjustment to the disc blade *See Figure 4-1*
6. Lubricate the machine as shown in *"Lubrication Schedule" on page 3-3* ,*See Figure 3-2*

Attaching to the Tractor

1. Align the tractor drawbar with the machine. Raise or lower the unit ring hitch, as needed, using the swivel jack. Attach the unit with proper size hitch pin.
2. Always place the swivel jack on the interior mount before setting the machine in motion.
3. Clean all hydraulic couplings and attach to the tractor.
4. Attach safety chain to tractor allowing plenty of movement for turning both directions. The safety chain should latch securely to prevent it coming loose.
5. Plug in the 7-pin connector for the lights.
   a. The tractor should have a good clean receptacle, free of dirt and corrosion.
   b. Make sure the 7-pin connector is inserted all the way in, and allows the cover to latch over the keyway to secure it in place.

NOTE

The lighting system requires a good ground connection and if the lights do not seem to work right check the installation of the 7-pin connector and the condition of the pins.

Hydraulic Lift System

The 6510 is equipped with a hydraulic lift system to raise and lower the unit in the field.

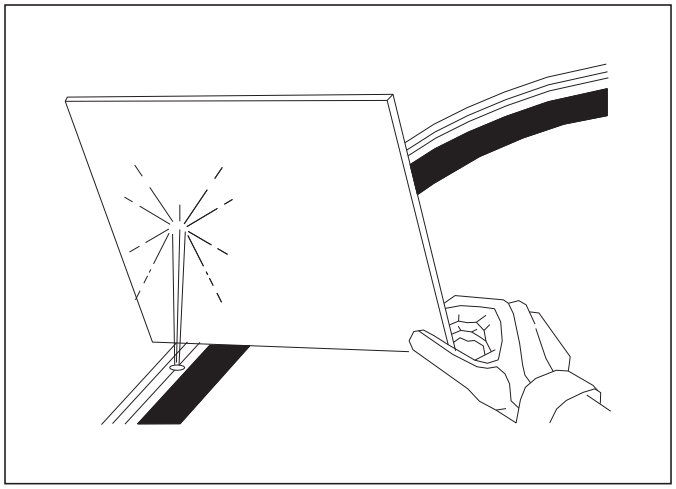


Figure 4-2: Hydraulic Leak Detection

⚠ WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (*See Figure 4-2*) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

1. The hydraulic system will be filled with oil and fully charged. Carefully hitch the 6510 to the tractor and connect the hydraulic lift hoses. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil. Lower and raise the unit to verify that the system is operating correctly. Recheck tractor reservoir to make sure it is within operating limits. With the lift cylinder fully extended, install the 3 x 16-1/2 transport lockout ***See Figures 4-3***. Storage location for lockout ***See Figures 4-4***.
2. Always fully extend lift cylinder before removing transport lockout. Unit can settle during transportation causing the transport lockout to be pinched.

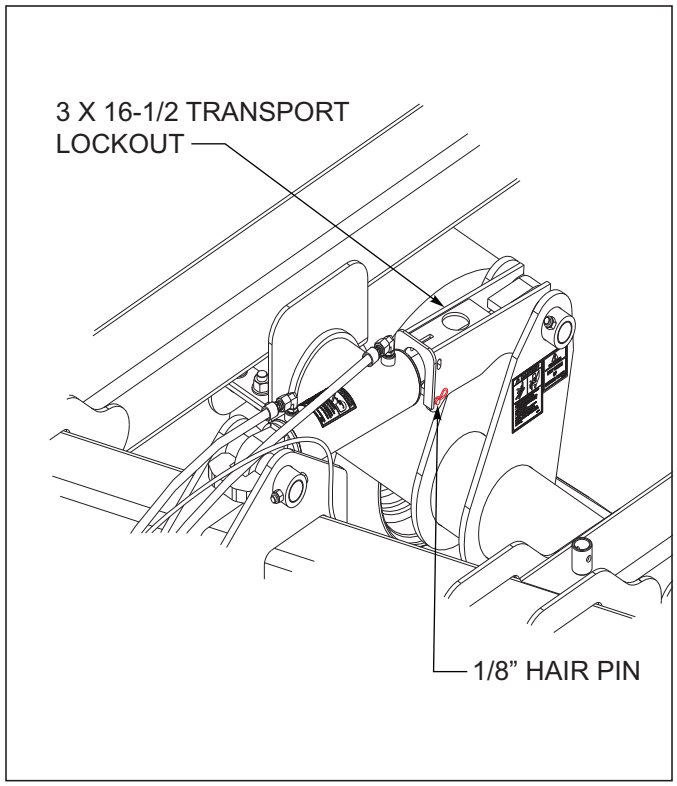


Figure 4-3: Installed Transport Locks

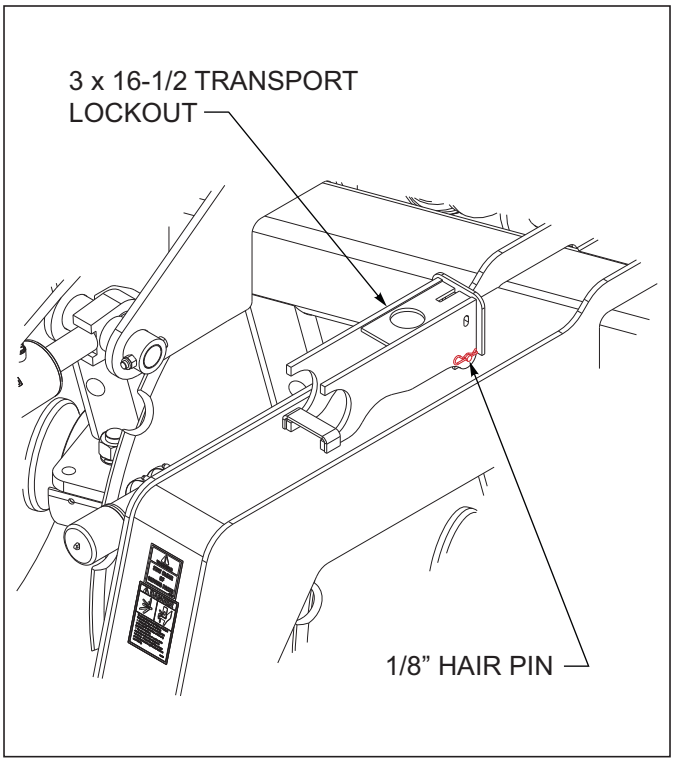


Figure 4-4: Stored Transport Locks

General Operation

1. The horsepower requirements are typically 20-30 horsepower per foot of cut. This will vary widely due to speed, depth, moisture, residue and types of soils. Local dealers can help in making recommendations for your areas.
2. Operating speed is typically 4.5 - 6 mph. Excessive speed can cause the unit to bounce, uneven depth, and create a ridge on the outside edges. Too low of speed may not allow the unit to properly fill in the center furrow.
3. Do not turn with the 6510 in the ground, this can put excessive side load on the gangs and hitch. Raise the unit slightly when making turns to prevent gouging and pushing a ridge.

Field Operation

1. Raise the unit to take the weight off of the transport locks. Remove the transport locks from the lift cylinders Store the transport locks on the retainers on the top of the frame. ***See Figure 4-4***.

Leveling (Front to Rear)

1. The leveling feature on the 6510 disc is equipped with a standard hydraulic cylinder. This feature is used to level the unit from front-to-rear to perform a level discing operation in the field.
2. The unit should be level from front to rear and the soil behind the disc should be level without furrows or ridges. If there is a presence of a ridge on the right hand side, the front gangs are in too deep. If there is a presence of a ridge on the left hand side, the rear gangs are in too deep.
3. During field operation the leveling cylinder should be initially set at a dimension of 25” from pin-to-pin ***See Figures 4-5*****..** After initial operation, adjustments can be made to make sure unit is achieving a level discing operation.
4. During transport operation the leveling cylinder should be adjusted to achieve equal ground clearance between front and rear gangs. If not adjusted, the front gangs will have much less clearance than the rear gangs.
5. For adjusting the leveling cylinder; retracting the cylinder will cause the front gangs to go in the ground deeper. While extending the cylinder will cause the rear gangs to go in the ground deeper.

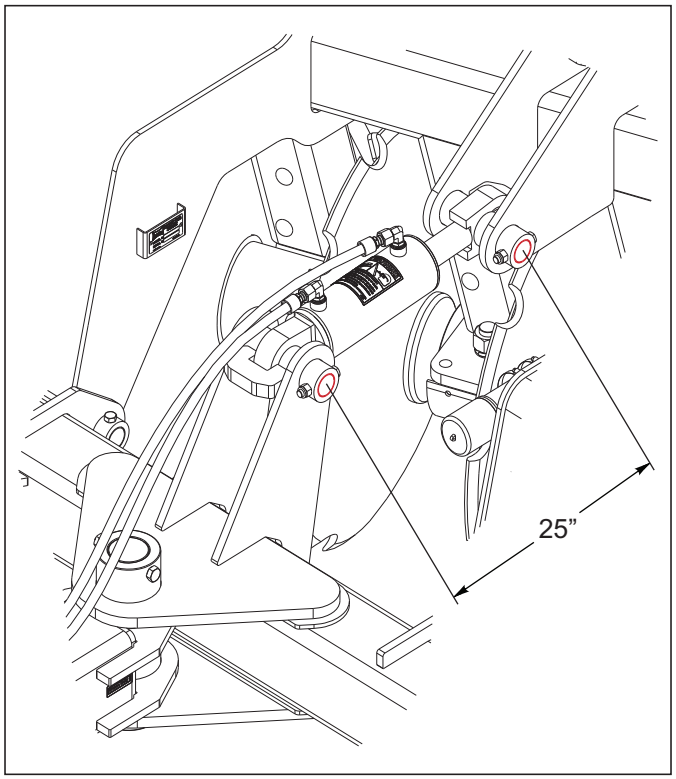


Figure 4-5: Measurement

Side Draft Adjustment

1. The side draft feature on the 6510 is equipped with either the standard manual linkage or the optional hydraulic cylinder. This feature is used to maintain a proper draft line with the tractor. This proper draft line ensures that the disc follows directly in line with the tractor.
2. During normal operation the side draft feature should be initially set at a dimension of 25” from pin-to-pin ***See Figures 4-6*****.**

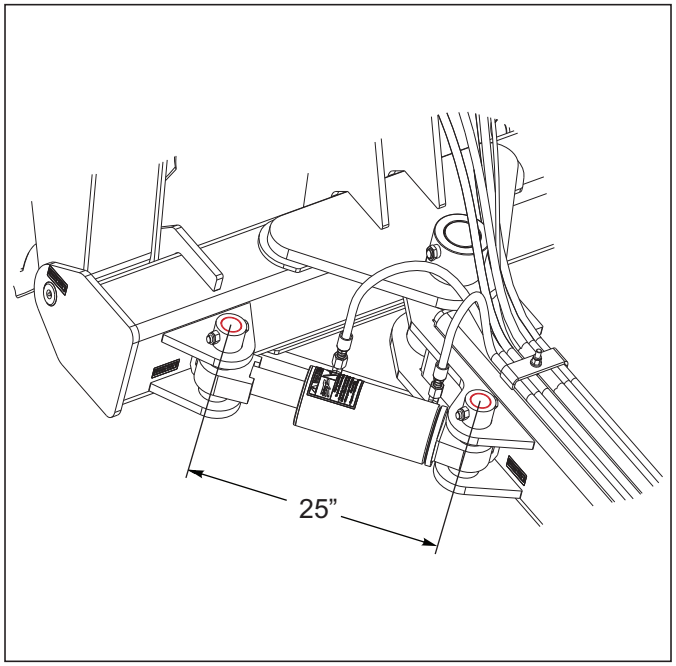


Figure 4-6: Side Draft Adjustment

3. After initial operation, adjustments can be made to make sure unit is achieving a proper draft line.
4. On machines with the manual side draft linkage, the turnbuckle will need to be adjusted with the provided wrenches.
5. On machines with the optional hydraulic cylinder, the cylinder can be adjusted on-the-go from the tractor.
6. For adjusting the side draft feature; extending either the linkage or cylinder will cause the disc gangs to shift to the left. While retracting either the linkage or cylinder will cause the disc gangs to shift to the right.

Scraper Adjustment

The 6510 Disc is equipped with rigid scrapers at regular spools and at the disc bearings.

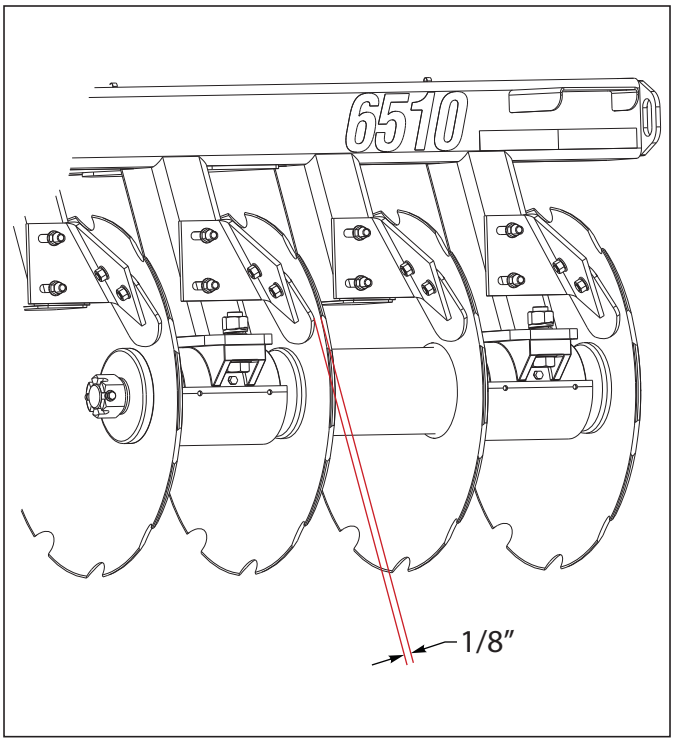


Figure 4-7: Scraper Adjustment

1. Scrapers should be set initially as close to the disc blade as possible without rubbing (approximately 1/8") *See Figures 4-7*.. A slotted hole on each scraper mount is provided for individual adjustment.
2. As blade wear occurs, scraper adjustment may be necessary to maintain proper scraping function.

Disc Blades

1. The 6510 Disc is equipped with full concavity notched disc blades on both front and rear. This is 4-15/16" for the 32" diameter blades and 5-1/8" for the 36" diameter blades. The use of other concavity blades can give unpredictable results and is not recommended.
2. The 32" diameter blades with 10mm thickness are used for normal working conditions. The 36" diameter blades with 12mm thickness offer longer life cycle and more aggressive tillage.
3. On new machines and after removing disc gangs from frame, check and tighten all disc gang mounting hardware daily for the first 2 weeks *See Figure 4-10*.
4. On new machines and after changing disc blades, check and tighten all disc gang shafts after the first **8, 30 & 120 hours of service** *See Figure 4-8*

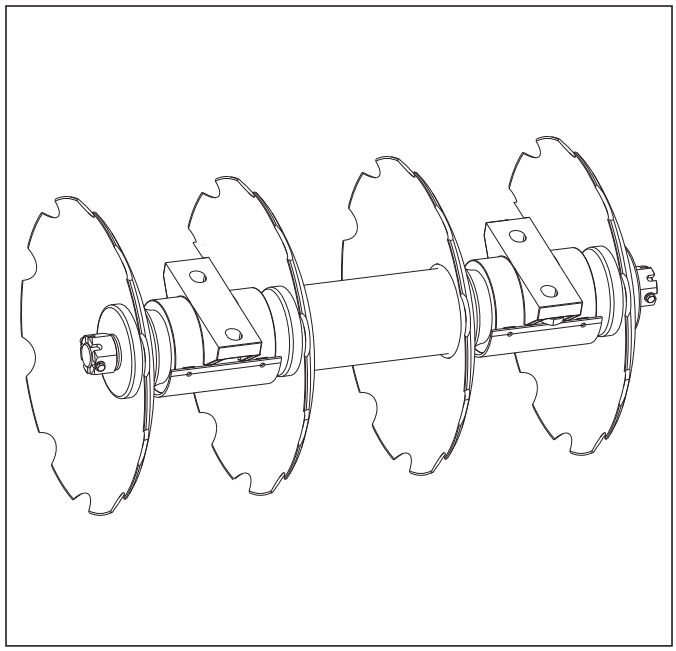


Figure 4-8: Disc Gang Shaft

DANGER

Disc blades are extremely sharp. Exercise extreme care when working on or near disc blades. Do not allow discs to roll over or fall onto any bodily part. Do not allow wrenches to slip when working near disc blades. Never push wrenches toward disc blades. Do not climb over machine above disc blades. Failure to stay clear of disc blade edges can cause serious personal injury or death.

CAUTION

Tighten all 2-1/2" nuts to 4,500 foot-pounds of torque (*See Figure 4-9*)

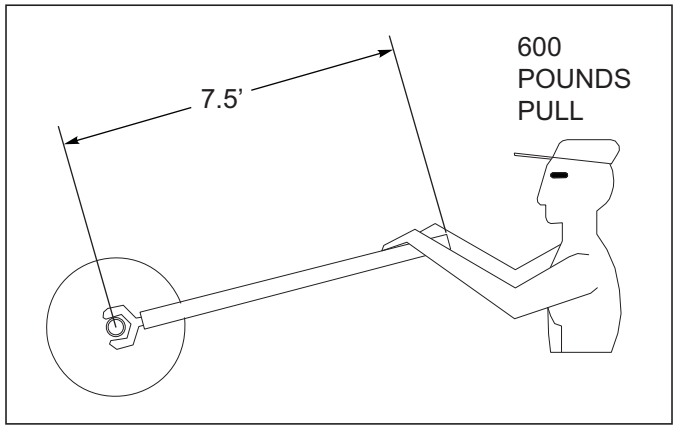


Figure 4-9: 4,500 Foot-Pounds of Torque

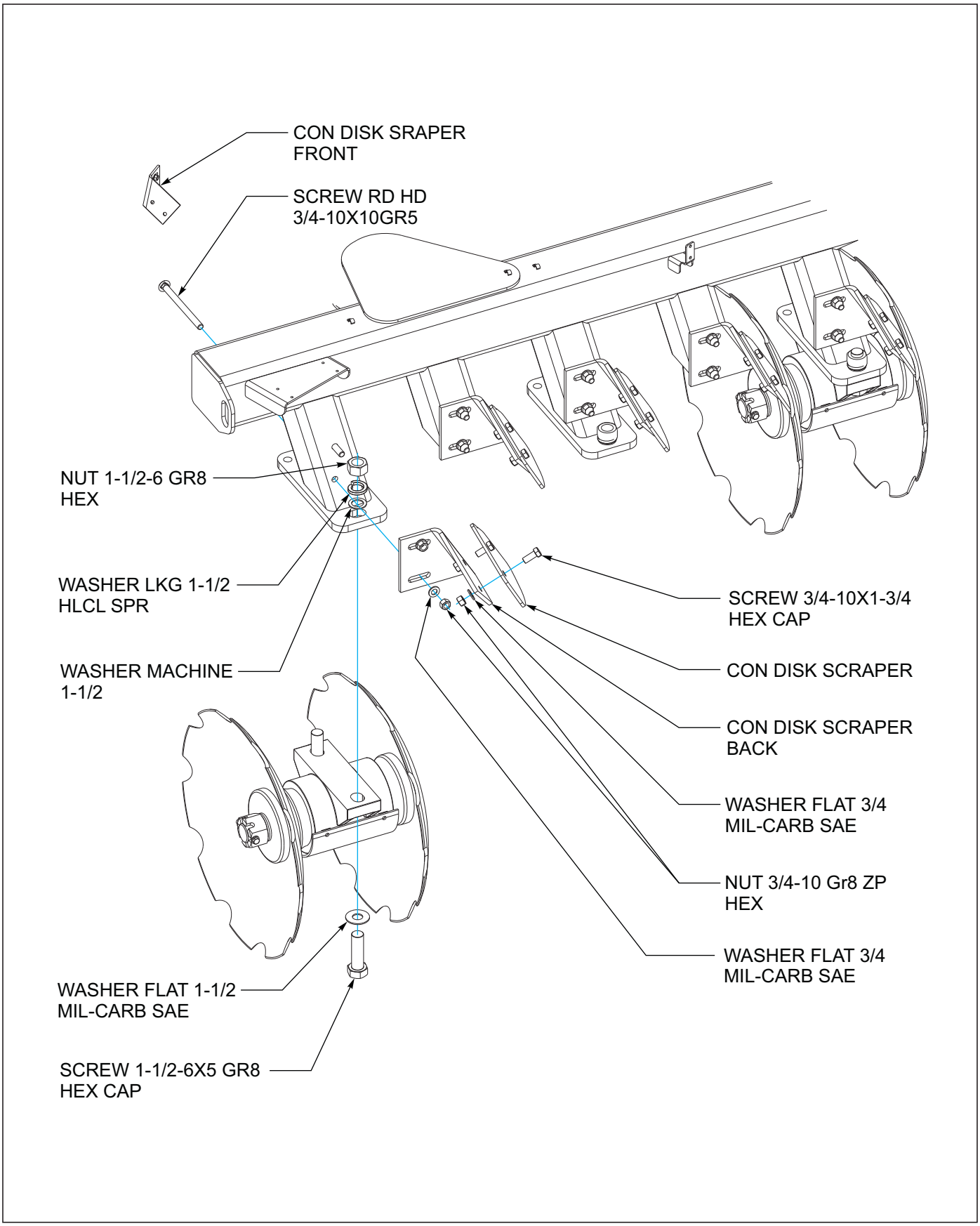


Figure 4-10: Disc Gang Mounting Hardware

Wheel Bearing Maintenance

Wheel bearing maintenance should be performed at the beginning of every season of use. Check the wheel bearings periodically for excessive end play. If needed, adjust or replace them using the following procedure:

1. Place the frame on blocks or stands sufficient to lift the tire clear of the ground.
2. Remove the tire.
3. Remove the hub cap, cotter pin, slotted nut and washer.
4. Remove the hub. Clean and inspect the bearings and hub cavity. Replace any worn or defective parts.
5. Repack the bearings using a high-quality wheel bearing grease.
6. Slide the seal onto the spindle. Do not install the seal into the hub.
7. Slide the inner bearing cone and hub onto the spindle.
8. Install the outer bearing cone, washer and slotted nut.
9. Torque spindle nut to 50 ft. lbs. Rotate hub both directions a minimum of one quarter turn to set bearings. Back off spindle nut until loose and torque to 27 ft. lbs. If necessary, back off spindle nut until the nut slot is lined up with the cotter pin hole. Do not back off more than one flat of nut. Install new cotter pin. Bend cotter pin to secure spindle nut.
10. Install a new hub cap. Coat inside of cap with grease.

NOTE

The seals should point away from the hub to keep contaminants out and allow grease to pass.

11. Position seal over seal bore. Rotate seal in an inward motion to ensure sealing surfaces are facing away from the hub. Install seal flush with seal bore casting surface.
12. When greasing hubs, fill hub until grease is purged from seal.

Hydraulic Maintenance

1. Check the tractor hydraulic fluid level per tractor owner's manual and after any leakage. Check fluid level with the cylinders in the retracted position.
2. If a cylinder or valve leaks, disassemble the parts to determine the cause of the leak. Any time a cylinder is opened up, or whenever any seal replacement is necessary, it is advisable to clean all parts and replace all seals. Seal kits are available from your Landoll dealer.
3. Check all hydraulic hoses weekly. Look for binding or cracking. Replace all worn or defective parts immediately.

IMPORTANT

Lower the unit to the ground, and relieve hydraulic pressure before attempting to service any hydraulic component.

4. Transport locks are provided to hold the implement in a raised position. Do not attempt to perform any service work under the implement without first installing the transport locks. Before servicing any hydraulic component, lower the implement to the ground and relieve all system pressure. If a hydraulic component is disconnected, repaired, or replaced, it will be necessary to purge the system of air before operation. **See** ***"Hydraulic Lift System" on page 4-2*** on how to purge the hydraulic systems.

Transport

1. Check and follow all federal, state, and local requirements before transporting the 6510.
2. The 6510 should be transported only by tractor required for field operation. The implement weight should not exceed more than 1.5 times the tractor weight. Maximum transport speed for the 6510 is 20 mph for the implement.

⚠ CAUTION

Excessive speed may result in loss of control of the tractor and implement, reduced braking ability, or failure of the implement tire or structure. Do not exceed the implement maximum specified ground speed regardless of the capability of the maximum tractor speed.

3. When towing equipment in combination, the maximum equipment ground speed shall be limited to the lowest specified ground speed of any of the towed implements.
4. Maximum transport speed shall be the lesser of travel speed specified in the operator's manual, speed identification symbol, information sign of towed equipment, or limit of road conditions.

5. Slow down when driving on rough roads. Reduce speed when turning, or on curves and slopes to avoid tipping. Equipment altered other than the place of manufacture may reduce the maximum transport speed. Additional weight, added tanks, harrowing attachments, etc. may reduce implement load carrying capabilities.
6. A safety chain is provided with the implement to insure safe transport.
   a. The safety chain should have a tensile strength equal to or greater than the gross weight of the implement. The chain is attached to the lower hitch clevis hole with two flat washers between the clamp plates to assure a tight connection. Always use a 1” diameter Grade 8 bolt for this connection.
   b. Attach the safety chain to the tractor drawbar. Provide only enough slack in the chain for turning. Do not use an intermediate chain support as the attaching point for the chain on the tractor. Do not pull the implement by the safety chain.
   c. When unhitching from the tractor attach the hook end of the chain to a free link close to the hitch clevis for storage. This will keep the hook off the ground, reducing corrosion and keep the hook functioning properly.
   d. Regularly inspect the safety chain for worn, stretched, or broken links and ends. Replace the safety chain if it is damaged or deformed in any way.
7. Check that tires are of proper size, load rating, and inflated to manufacture specifications before transporting. Check wheel lug bolts to insure tightness.
8. Know the transport heights and widths of the unit before transporting. Attachments such as leveling harrows can increase the transport dimensions of the implement. Use caution when transporting near bridges and power lines.

WARNING

Electrocution can occur without direct contact.

9. Raise the unit to full transport height.
10. Install transport locks on lift system. Do not depend solely on implement hydraulics for transport.(***See Figure 4-11***).

WARNING

Failure to use transport lock pins during transport may result in permanent equipment damage, serious injury, or death.

11. Transport during daylight hours whenever possible. Always use flashing warning lights, except where such use is prohibited by law. Make sure lights, reflectors and SMV emblem are clearly visible and operating. Remove any obstructions such as dirt, mud, stalks or residue that restricts view before transporting.

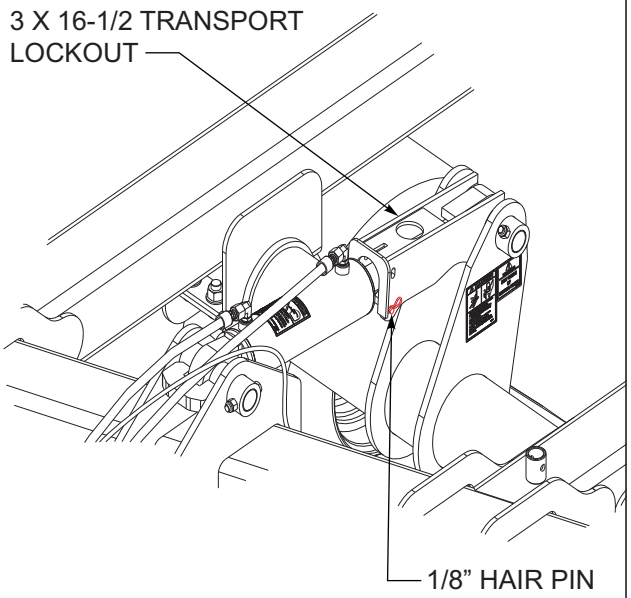


Figure 4-11: Installed Transport Locks

General Assembly

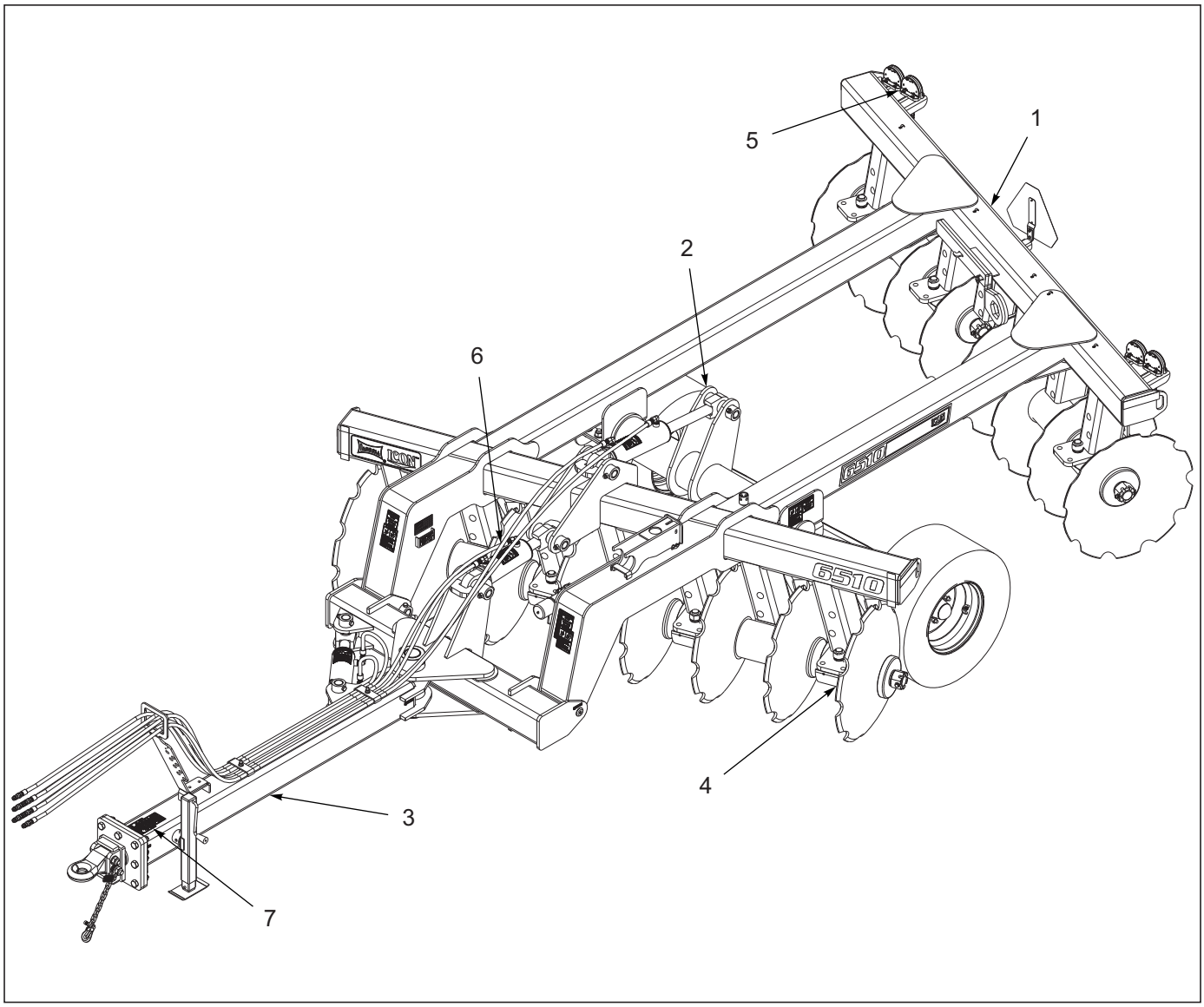


Figure 5-1: General Assembly

General Assembly

ITEM	PAGE NO.	DESCRIPTION	QTY.
1	5-2 - 5-5	Frame and Lift Assembly	
2	5-6- 5-13	Hitch And Leveling Linkage Assemblies	
3	5-14- 5-17	Disc Gang Assemblies	
4	5-18 -5-23	Hydraulic Assemblies	
5	5-25 - 5-29	Electrical Assemblies	
6	5-31- 5-33	Decal Installation	

Frame Assemblies

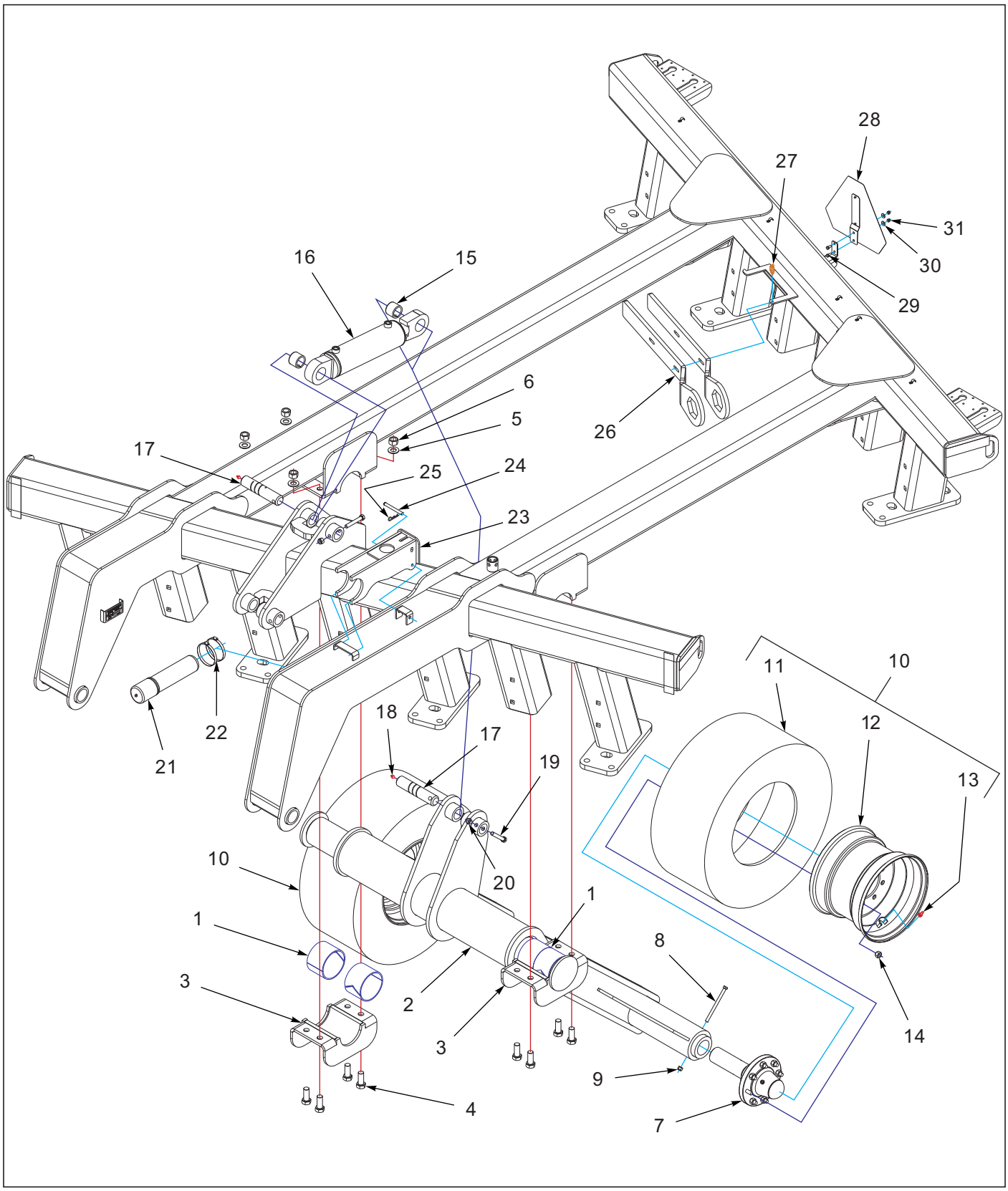


Figure 5-2: Frame and Lift Assembly

Frame and Lift Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	140519	BEARING, UHMW 4IN	4
2	ICO2244	CON DISK ROCKSHAFT WLDMT	1
3	ICO2291	CON DISK ROCKSHAFT CLAMP	2
4	172578	SCREW HEX CAP 1-8UNCX2.50 GR8	8
5	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	8
6	172839	NUT HEX 1-8 GR8 ZP	8
7	156972	HUB & SPINDLE ASSY, 8 BOLT **(SEE PAGE 5-5)**	2
8	172890	SCREW HX CP 1/2-13X7 GR8 ZP	2
9	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	2
10	4001595	TIRE & WHEEL ASM 32/1550x16.5 **(INCLUDES ITEMS 11-13) (BEFORE 12-1-2018)**	2
10	216147	TIRE & WHL ASSY, VF410/50R16.5 **(INCLUDES ITEMS 11-13) (AFTER 12-1-2018)**	2
11	157002	TIRE 32/1550 X 16.5 SL **(USED WITH 4001595)**	1
11	215352	TIRE, VF410/50R16.5 **(USED WITH 216147)**	2
12	184099	WHEEL, 16.5X12 8-BOLT	1
13	TR575	VALVE STEM TUBELESS TIRE	1
14	102600	NUT,WHEEL BOLT, 5/8	8
15	4000844	BUSHING, 250200200	2
16	4001593	HYD CYL 4-1/2X12 26" **(SEE PAGE 5-23)**	1
17	ICO2301	CON DISK PIN 2 X 9 1/2	2
18	4000067	ZERK, STRAIGHT - 1/8	2
19	172829	SCREW HX CP 5/8-11X4 GR8	2
20	103-0625	NUT ESNA 5/8-11	2
21	4000419	MANUAL HOLDER WELDING TUBE	1
22	105-0093	HOSE CLAMP 4-1/2 IDEAL #5264	2
23	ICO2306	CON DISC CYL STOP 15"	1
24	4000923	PIN, CLEVIS 1/2X4 1/2	1
25	1-557-010403	HAIRPIN 1/8	1
26	ICO2303	CON DISK GANG WRENCH	2
27	134912	PIN, LYNCH 1/4 X 1-1/4	1
28	2P151	SMV W/BRACKET	1
29	1-654-010049-03	SCREW HX CP 5/16-18UNCX3/4GR5	2
30	1-861-010032-09	WASHER, FLAT 5/16 W ZP/CD	2
31	104032	NUT,HX SLF-LKG W/MYL 5/16-18	2

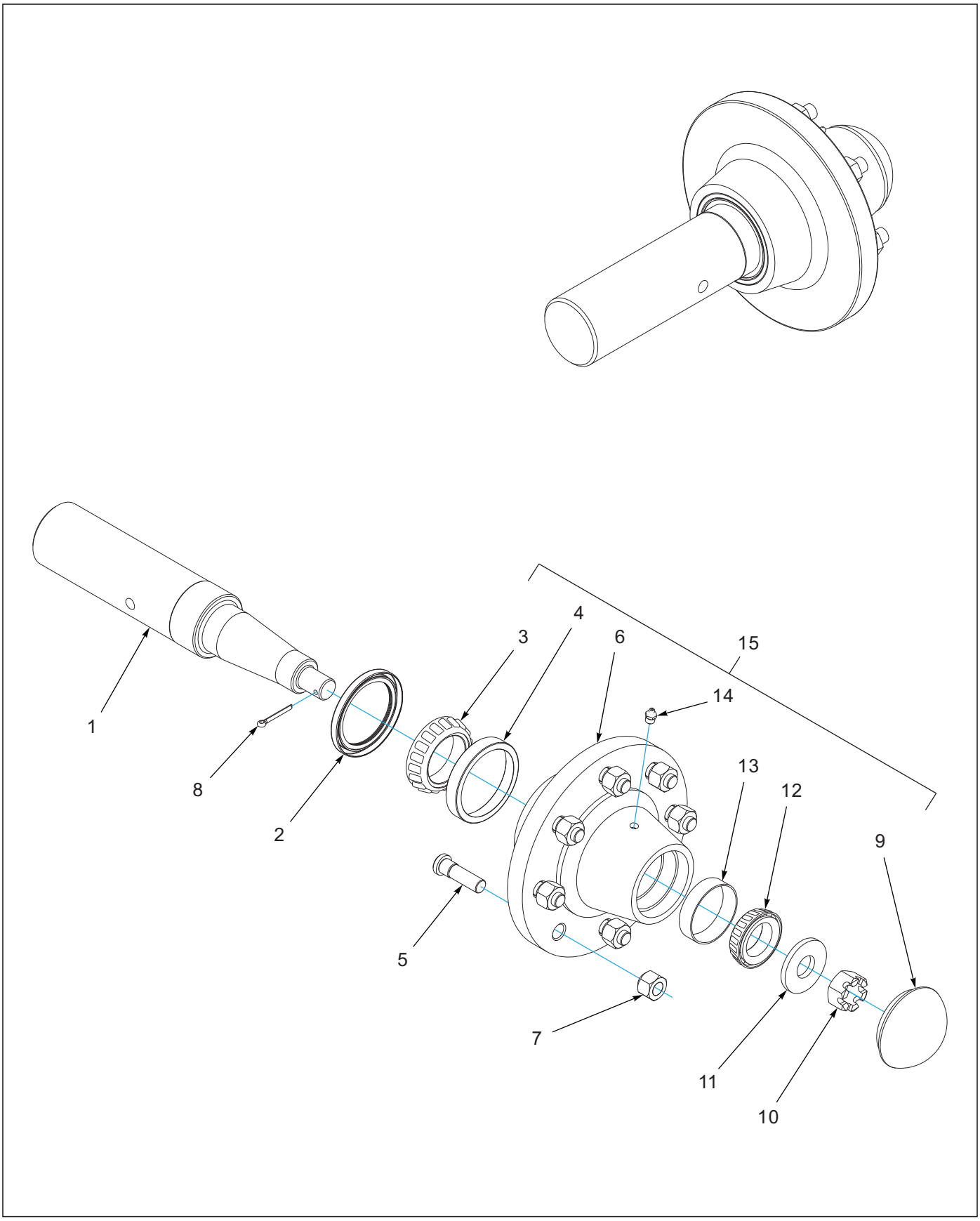


Figure 5-3: Hub and Spindle Assembly - 8 Bolt

Hub And Spindle Assembly - 8 Bolt (3”)

ITEM	PART NO.	DESCRIPTION	QTY.
--	156972	HUB AND SPINDLE ASSEMBLY, 8 BOLT	
1	156973	SPINDLE, 3 X 16-1/2	1
2	159970	SEAL, TRIPLE LIP 4OD X 3ID X 3/8	1
3	156979	CONE BEARING	1
4	111962	INNER CUP	1
5	4001060	HUB 75-8 BOLT 5/8-18 STUD	8
6	156974	HUB W/ CUPS, 8 BOLT 7500 LBS. **(INCLUDES ITEMS 4-5, 7 13 & 14)**	1
7	102600	NUT	8
8	1-557-010362-51	PIN, COTTER 3/16 X 1-1/2	1
9	102601	HUB CAP, 8 BOLT	1
10	1-516-010001-20	NUT, HEX SLOT 1-14	1
11	1-861-010005	WASHER, SPINDLE 1	1
12	102498	BEARING CONE, OUTER1.625	1
13	102604	OUTER CUP	1
14	5000	ZERK FITTING 1/8NPT	1
15	168859	HUB ASSEMBLY, 8 BOLT **(INCLUDES ITEMS 2-3, 6, 9, 12)**	

Hitch & Leveling Assemblies

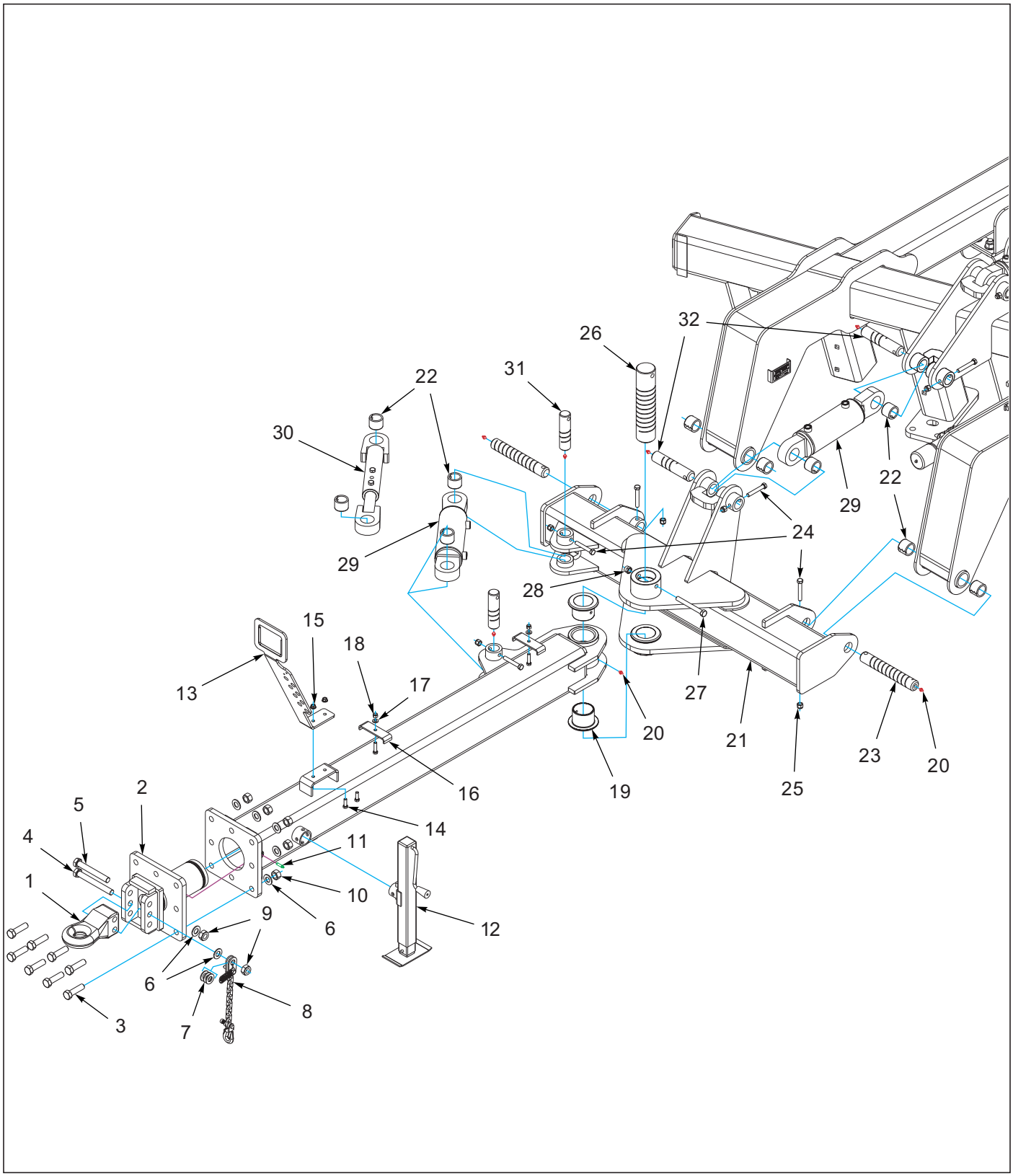


Figure 5-4: Hitch and Leveling Linkage Assembly

Hitch and Leveling Linkage Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	4001548	HITCH, PINTLE CAST, CAT IV HD	1
2	ICO2289	CON DISK STRAIGHT HITCH PIVOT	1
3	172579	SCREW HEX CAP 1-8UNCX3.5 GR8	8
4	1-654-010125-22	SCREW HX CP 1-8UNCX8-1/2G8ZP	1
5	1-654-010125-20	SCREW,1-8UNCX7-1/2 HX CP GR8	1
6	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	10
7	1-861-010032-24	WASHER FL 1IN NARROW ZP	3
8	141434	SAFETY CHAIN 21,000LB	1
9	118652	NUT HX SLFLKG W/NYL 1-8 ZP	2
10	172839	NUT HEX 1-8 GR8 ZP	8
11	4000777	ZERK,1/8 STR 1-3/4 LONG H1669	1
12	140647	JACK, SIDE WIND 7000/8000 LB **(SEE PAGE 5-8)**	1
13	9303156	ICO2256 #15	1
14	1-654-010055-03	SCREW,HEX CAP,1/2-13UNCX1-1/2	2
15	1-510-010003-09	NUT,1/2-13 FLANGE HD,SERRATED	2
16	GRA1421	CLAMP, HYDRAULIC LINE 2x7 1/2	2
17	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	2
18	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	2
19	4001271	BUSHING 4 OD-3.5 ID SM.FLANGED	2
20	4000067	ZERK, STRAIGHT - 1/8	7
21	ICO2274	CON DISK LEVELER WLDMT	1
22	4000844	BUSHING, 250200200	4
23	ICO2302	CON DISK PIN 2 X 13-1/2	2
24	172829	SCREW HX CP 5/8-11X4 GR8	6
25	103-0625	NUT ESNA 5/8-11	6
26	ICO2299	CON DISK PIN 3 1/2 X 15 3/4	1
27	120876	SCREW,HEXCAP,3/4-10X6-1/2 GR8	1
28	110-0238	3/4-10 ESNA NUT ZP 41NE-120	1
29	4001594	HYD CYL 4-1/2X8 21" **(SEE PAGE 5-21) AND (SEE PAGE 5-22)**	2
29	179266	SIDE DRAFT ASSY, MANUAL **(SEE PAGE 5-11) (BEFORE 8-31-2008)**	1
30	216151	SIDE DRAFT ASSY, MANUAL **(SEE PAGE 5-13) (AFTER 8-31-2008)**	1

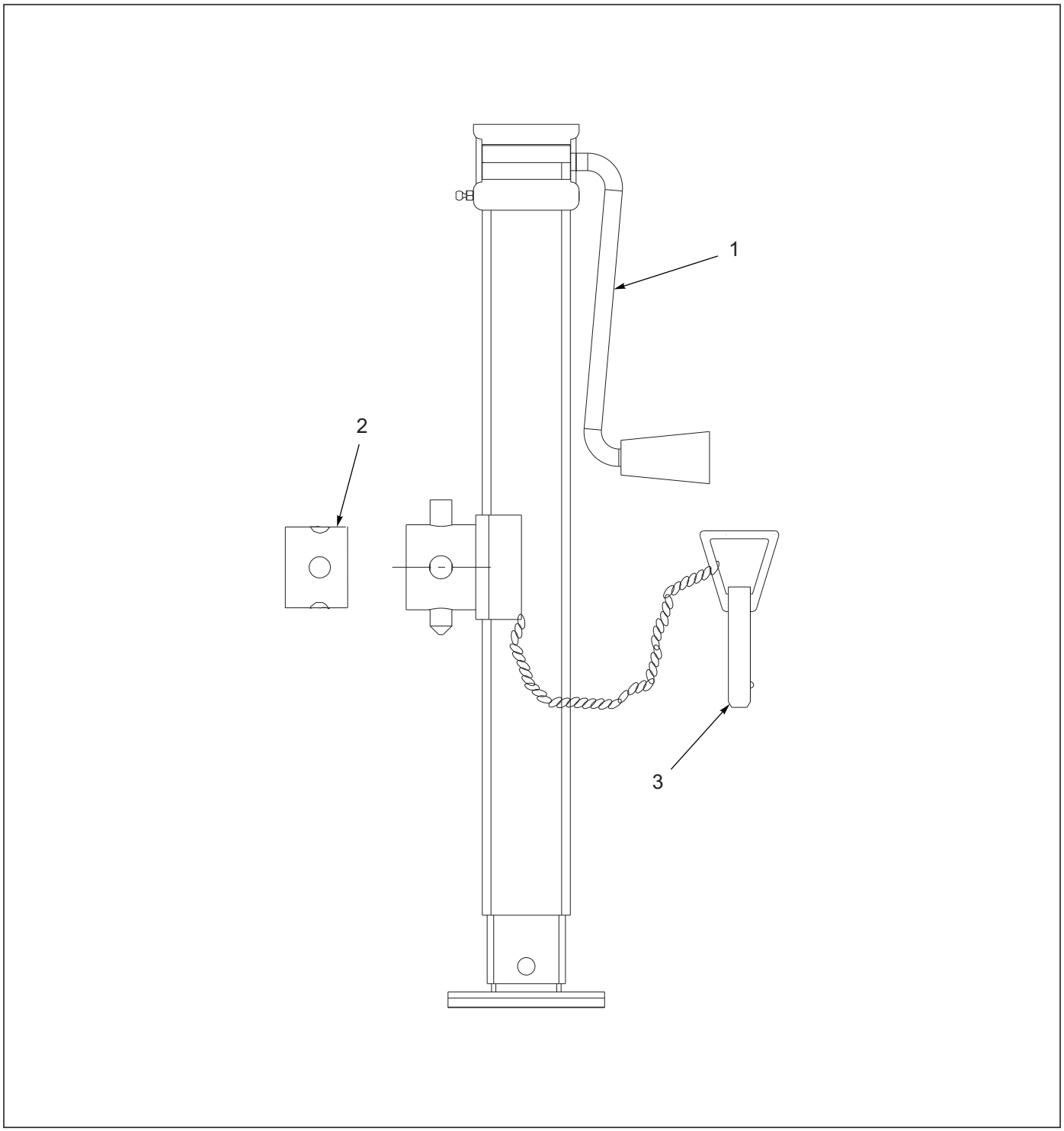


Figure 5-5: 7,000 Lb. Sidewind Jack Assembly

7,000 Lb. Sidewind Jack Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
	140647	JACK, SIDEWIND 7000LB	
1	500171	HANDLE FOR JACK	1
2	141250	TUBE, RD, JACK MOUNT **(WELD TO IMPLEMENT FRAME)**	1
3	142194	5/8" PIN	1

Table provided for general use.

NOTES:

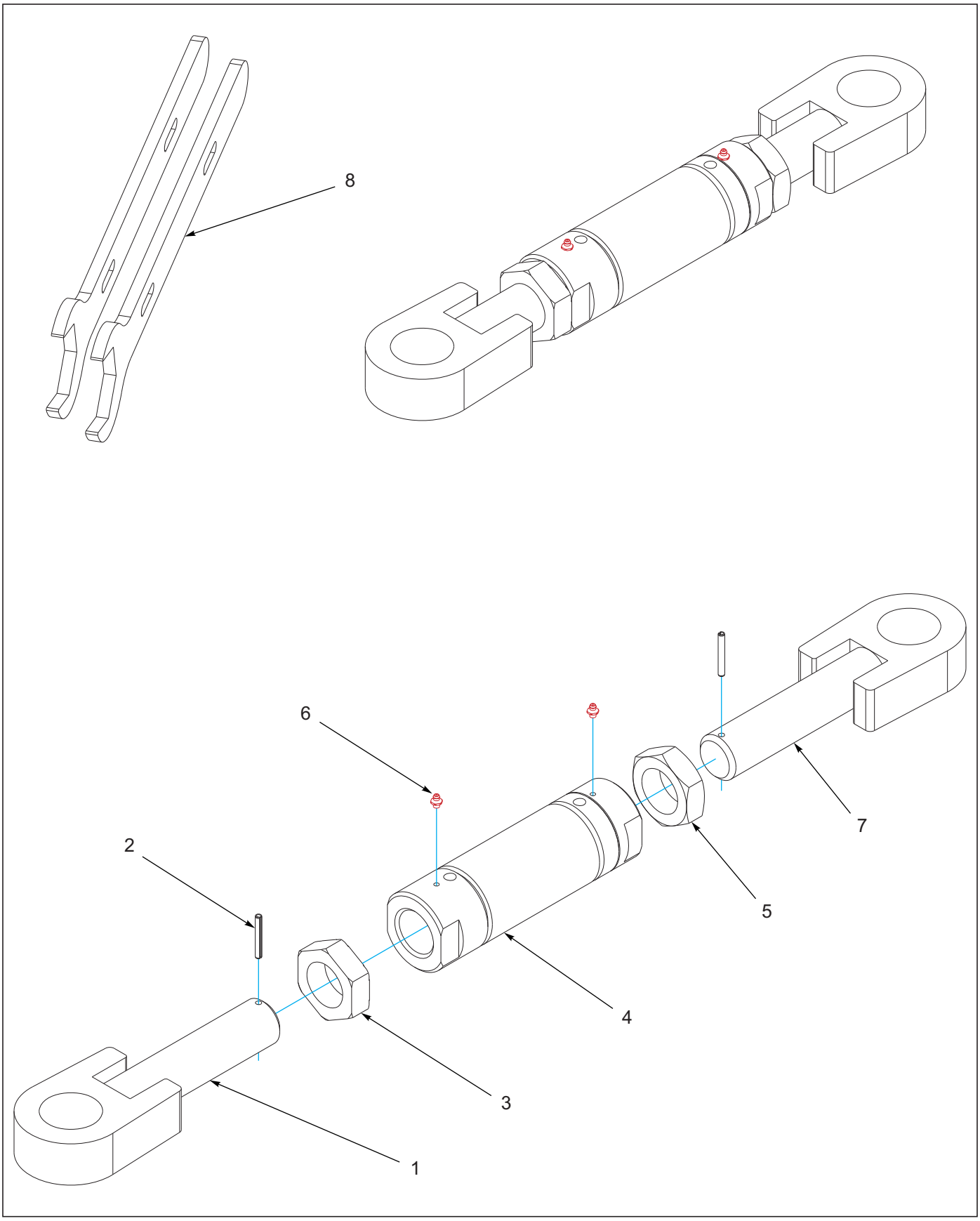


Figure 5-6: Side Draft Assembly - Manual (Before 8-31-2018)

Side Draft Assembly - Manual (Before 8-31-2018)

ITEM	PART NO.	DESCRIPTION	QTY.
	179266	SIDE DRAFT ASSY, MANUAL	--
1	179271	WLDMT, RH SCREW, RADIUS ROD 2"	1
2	1-647-010004221	PIN,SPRING 1/4X2 SLOTTED	2
3	137931	NUT 2-12, HEX JAM, UNF GR 5	1
4	179269	WLDMT, RADIUS ROD 2"	1
5	139139	NUT 2-12, HEX JAM,LH THRD GR5	1
6	1-298-010001-1	ZERK FITTING 1/4 SAE	2
7	179274	WLDMT, LH SCREW, RADIUS ROD 2"	1
8	184124	WRENCH, ADJUSTMENT	2

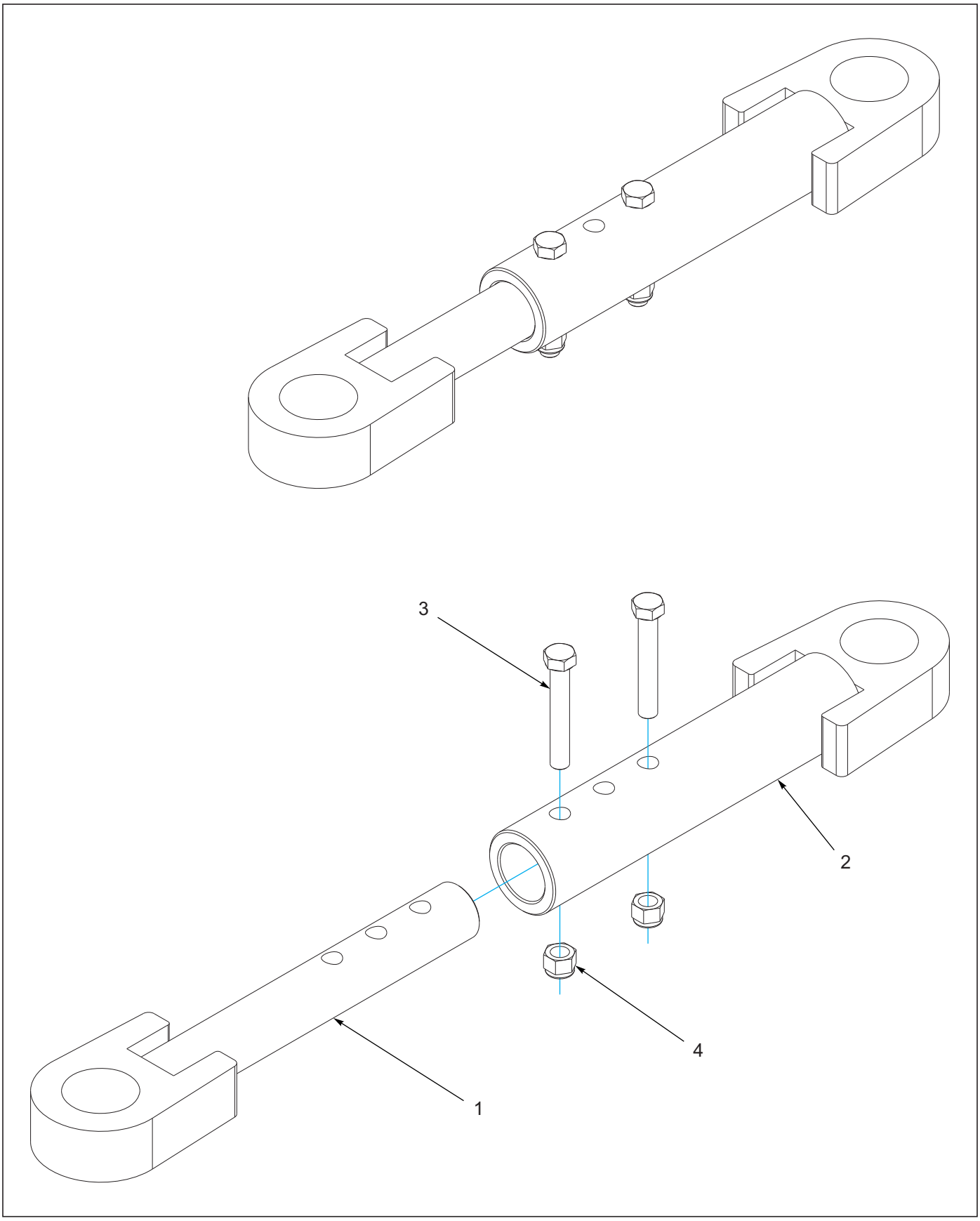


Figure 5-7: Side Draft Assembly - Manual (After 8-31-2018)

Side Draft Assembly - Manual (After 8-31-2018)

ITEM	PART NO.	DESCRIPTION	QTY.
	216151	SIDE DRAFT ASSY, MANUAL	
1	216152	WLDMT, SIDE DRAFT ROD	1
2	216153	WLDMT, SIDE DRAFT TUBE	1
3	172829	SCREW HX CP 5/8-11X4 GR8	2
4	103-0625	NUT ESNA 5/8-11	2

Gang Assemblies

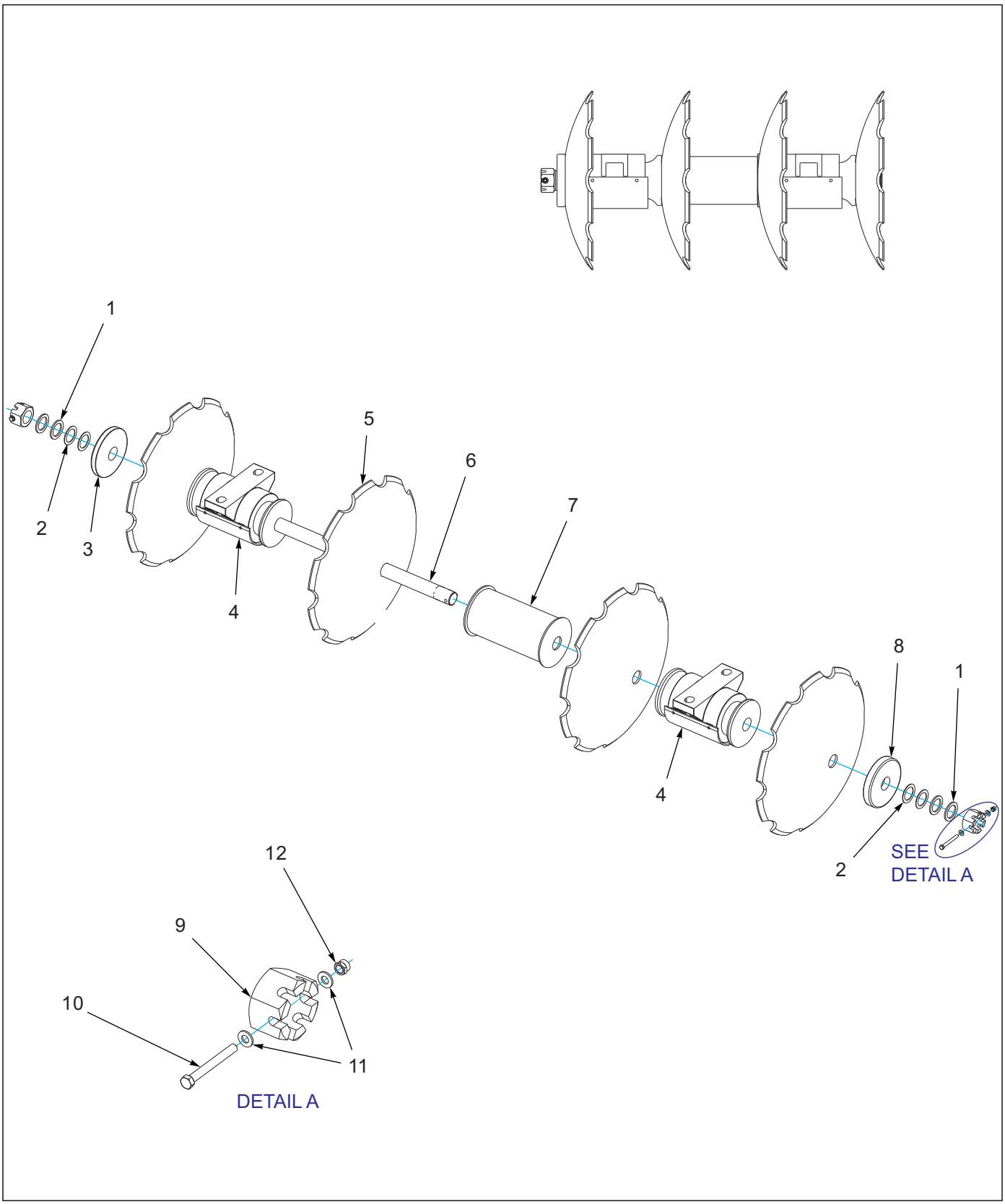


Figure 5-8: Gang Assembly

Gang Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
--	179243	GANG ASSY, 32" X 10MM NOTCHED	
--	179261	GANG ASSY, 36" X 12MM NOTCHED	
1	179258	WASHER, GANG SHAFT	4
2	184125	WASHER, GANG SHAFT	4
3	179246	WASHER, GANG CONVEX	1
4	179248	BEARING 2-1/2 OIL BATH	2
5	4001090	BLADE, DISC 32X10mm NOTCHED 2	4
5	179219	DISC BLADE, 36" X 12MM NOTCHED	4
6	179244	SHAFT, GANG 2-1/2 X 61-1/2 L	1
7	179245	GANG SPOOL WLDMT	1
8	179247	WASHER, GANG CONCAVE	1
9	172892	NUT HX SLOT 2-1/2-4 ZP	2
10	179259	SCREW,HX CAP,1/2-13X4-1/2GR8	2
11	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	4
12	1-512-010005-09	NUT,HEX,SLFLKG, 1/2-13 GRB	1

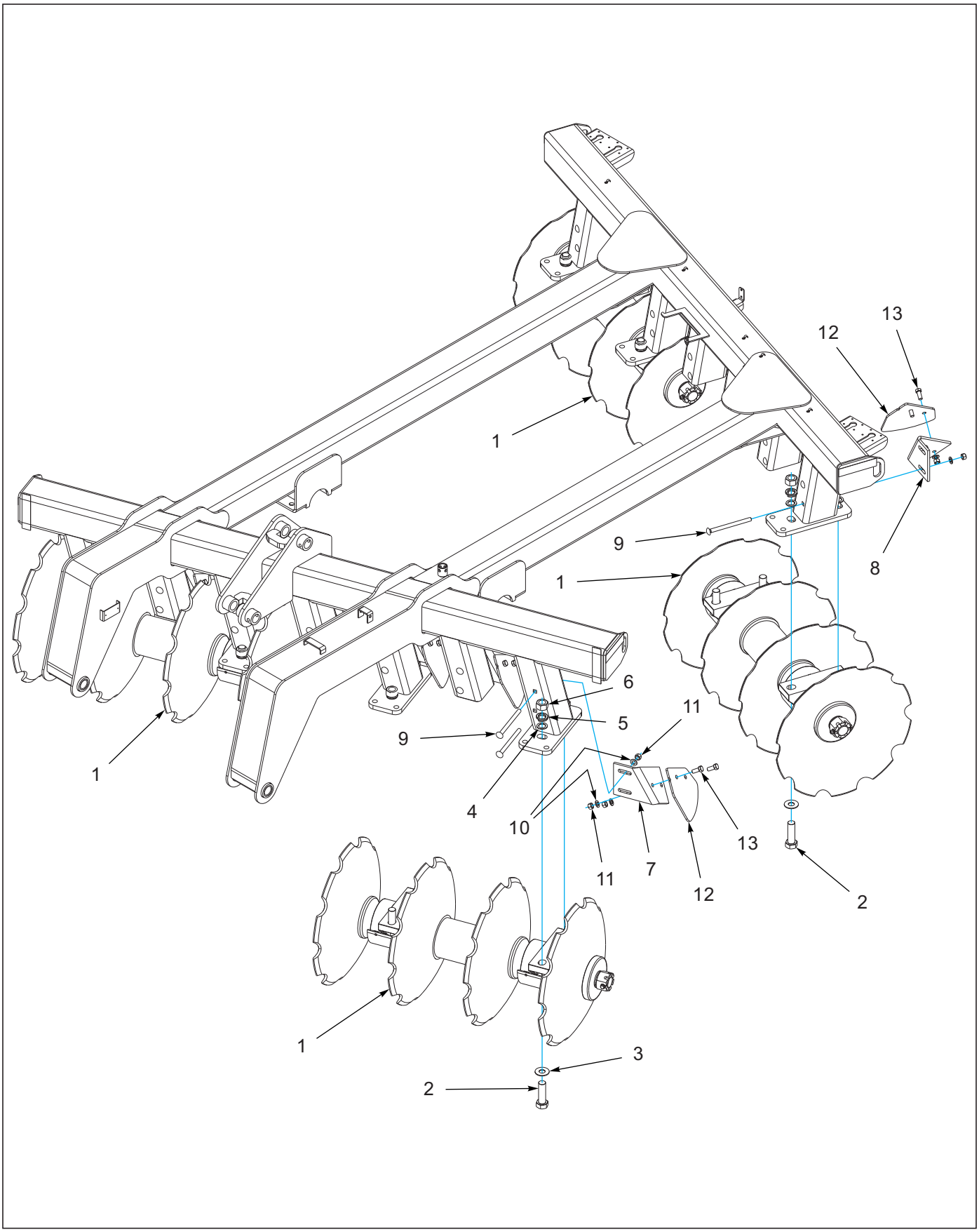


Figure 5-9: Disc Gang Assembly

Disc Gang Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	179243	GANG ASSY, 32" X 10MM NOTCHED **(SEE PAGE 5-15)**	4
1	179261	GANG ASSY, 36" X 12MM NOTCHED **(SEE PAGE 5-15)**	4
2	1-654-010076-15	SCREW HEX CAP 1-1/2-6X5 GR8	16
3	622-3511-014	WASHER FLAT 1-1/2 MIL-CARB SAE	16
4	172925	WASHER MACHINE 1-1/2	16
5	184070	WASHER, LKG, HLCL SPR 1-1/2	16
6	172846	NUT HEX 1-1/2-6 GR8 ZP	16
7	ICO2298	CON DISK SCRAPER HOLDER FRONT	7
8	ICO2296	CON DISK SCRAPER HOLDER BACK	7
9	172901	SCREW RD HD,SQ NK,3/4-10X10GR5	28
10	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	56
11	1-512-010010-12	NUT HEX 3/4-10 GR8 ZP	56
12	ICO2297	CON DISK SCRAPER	14
13	1-654-010032-4	SCREW 3/4-10X1-3/4 HX CP ZPG8	28

Hydraulic Assemblies

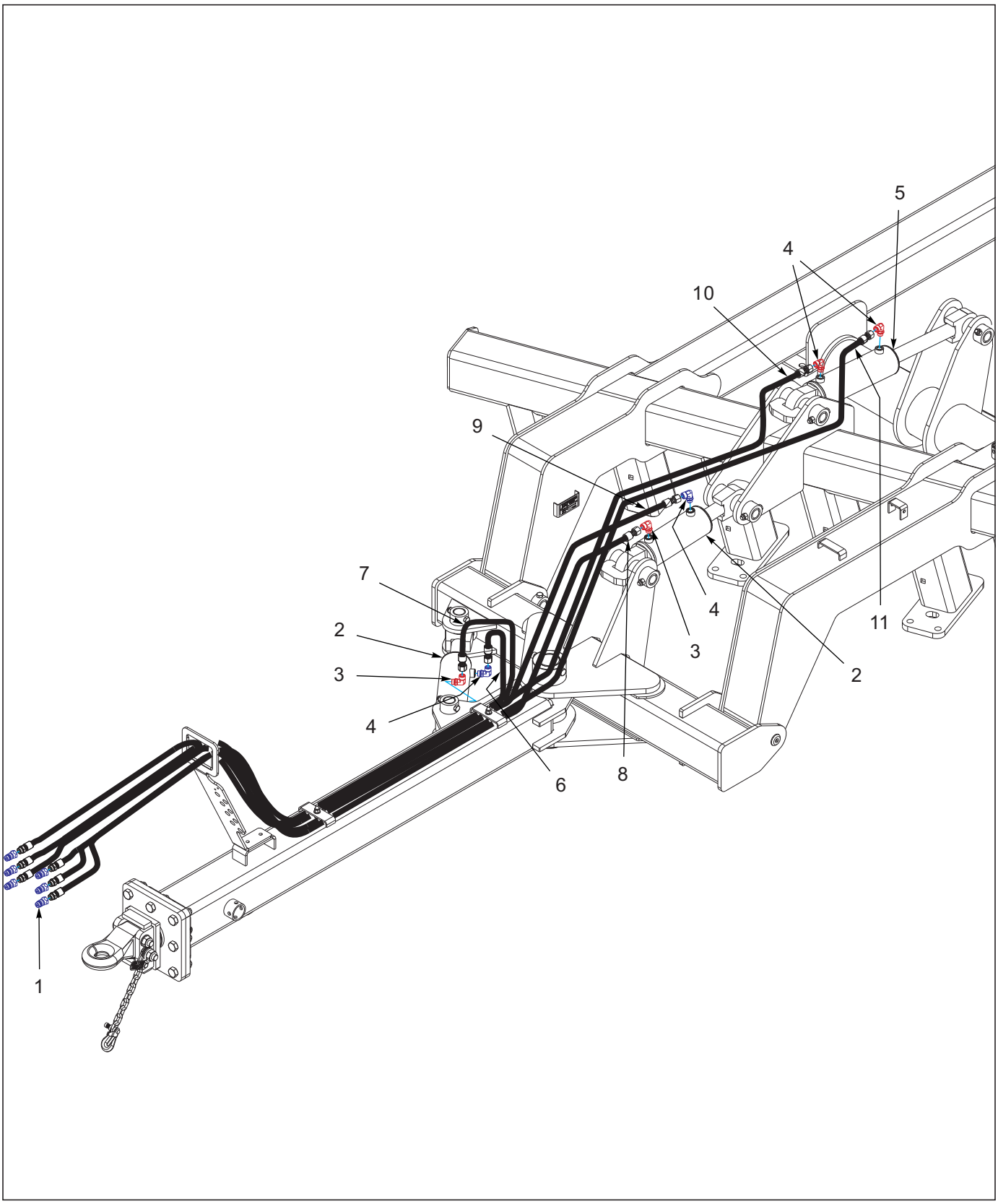


Figure 5-10: Hydraulic Assembly

Hydraulic Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
--	5001211	KIT, HYD HOSE 6510 **(INCLUDES ITEMS 8-11)**	
--	5001212	KIT, FITTING 6510 **(INCLUDES ITEMS 3-4)**	
--	179265	SIDE DRAFT ASSY, HYDRAULIC **(INCLUDES ITEMS 1-4, 6-7)**	
1	163513	COUPLER PIONEER MALE 8010-16P	6
2	4001594	HYD CYL 4-1/2X8 21"	2
3	5001213	FIT, 90 #10MOR X #10MFFOR	4
4	179214	FIT, 90 #10MOR X #10MFFOR 1/16	2
5	4001593	HYD CYL 4-1/2X12 26"	1
6	5001218	HOSE,10MB-8G2X196"OAL-10FFORX **(BASE END)**	1
7	5001216	HOSE,10MB-8G2X208"OAL-10FFFORX **(ROD END)**	1
8	5001215	HOSE,10MB-8G2X222"OAL-10FFFORX **(BASE END)**	1
9	5001217	HOSE,10MB-8G2X230"OAL-10FFORX **(ROD END)**	1
10	5001220	HOSE,10MB-8G2X266"OAL-10FFORX **(BASE END)**	1
11	5001219	HOSE,10MB-8G2X279"OAL-10FFORX **(ROD END)**	1

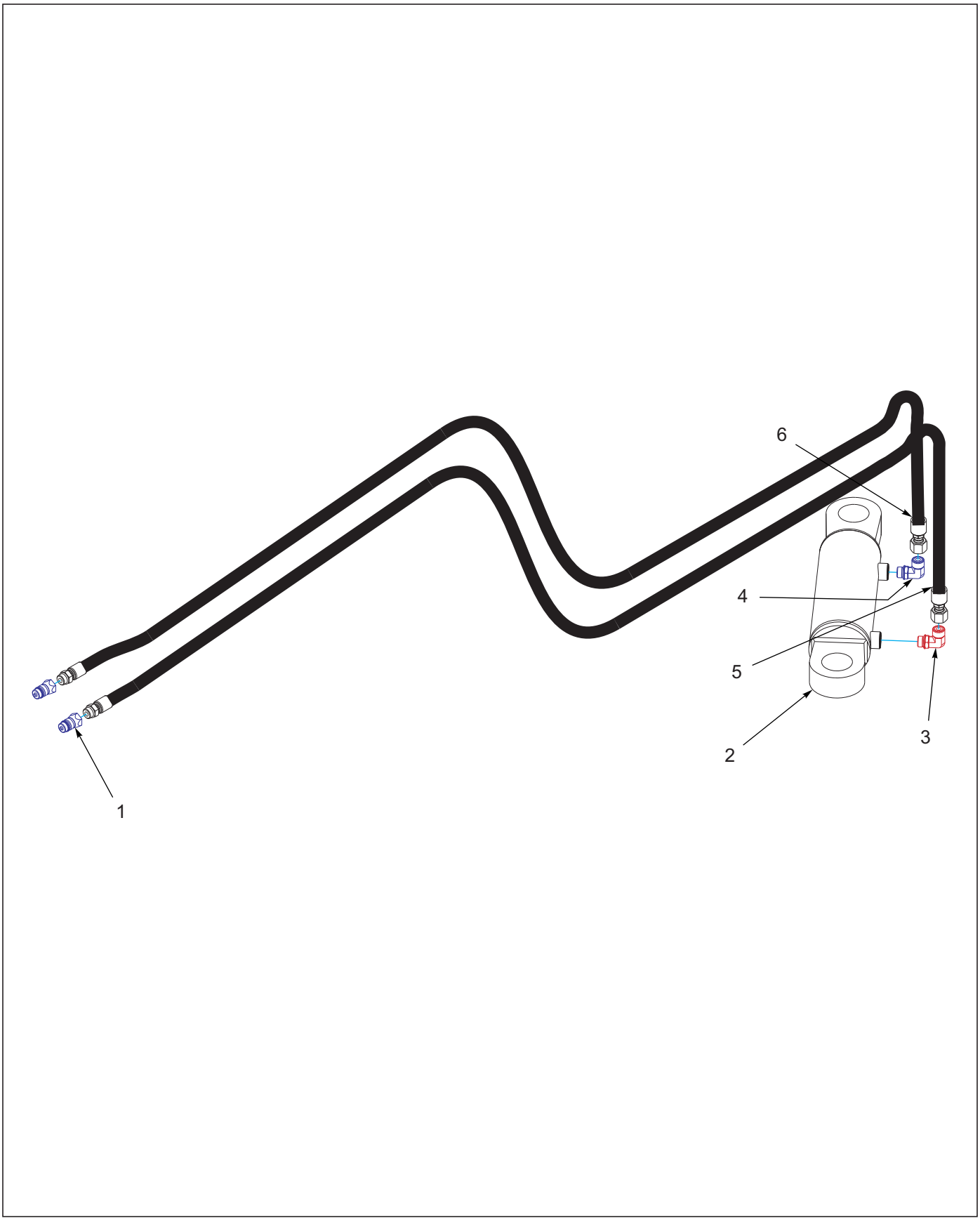


Figure 5-11: Side Draft Assembly - Hydraulic

Side Draft Assembly - Hydraulic

ITEM	PART NO.	DESCRIPTION	QTY.
--	179265	SIDE DRAFT ASSY, HYDRAULIC	
1	163513	COUPLER PIONEER MALE 8010-16P	2
2	4001594	HYD CYL 4-1/2X8 21"	1
3	5001213	FIT, 90 #10MOR X #10MFFOR	1
4	179214	FIT, 90 #10MOR X #10MFFOR 1/16	1
5	5001218	HOSE,10MB-8G2X196"OAL-10FFORX **(BASE END)**	1
6	5001216	HOSE,10MB-8G2X208"OAL-10FFFORX **(ROD END)**	1

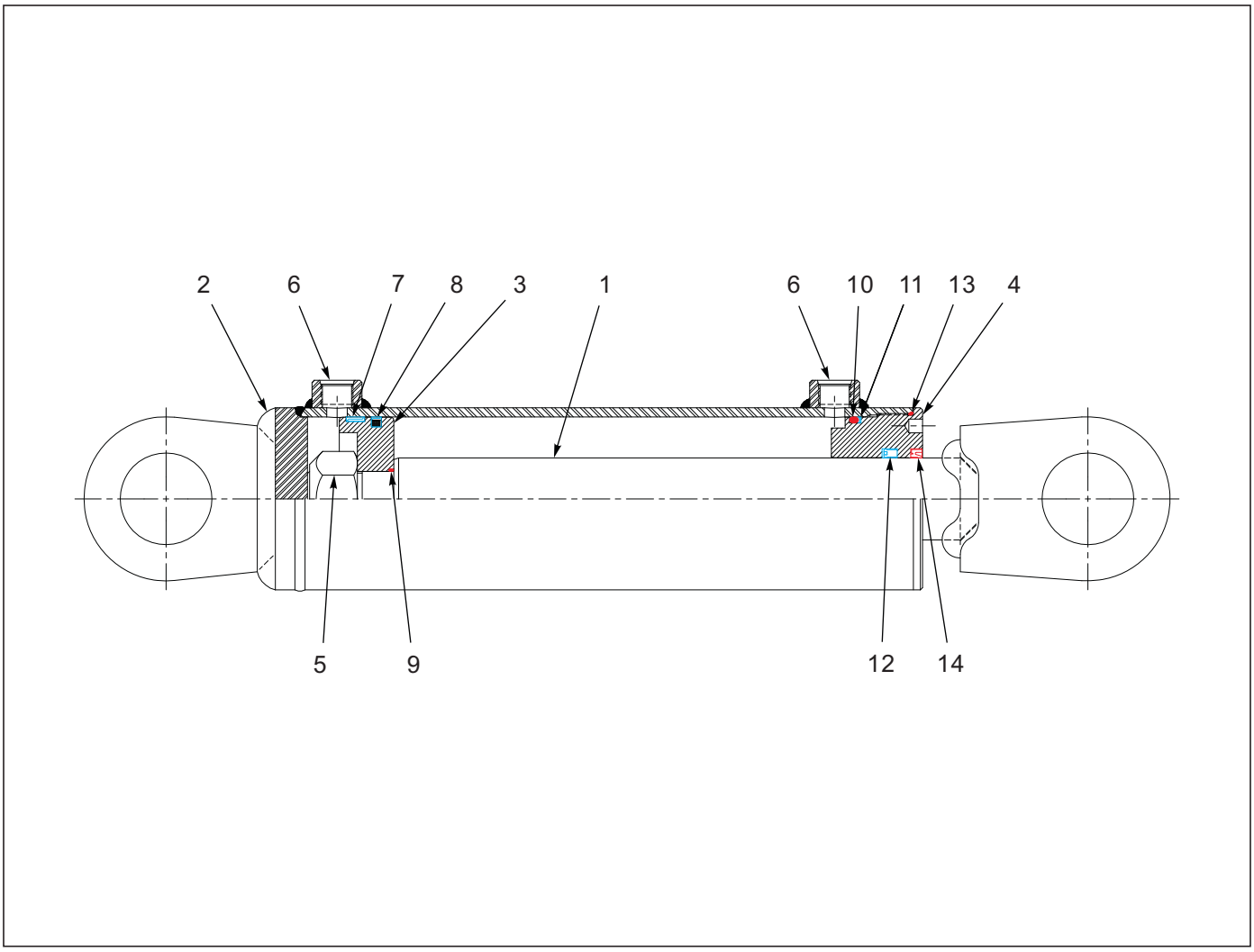


Figure 5-12: Cylinder Assembly 4-1/2 x 8

Cylinder Assembly 4-1/2 X 8

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001594	HYD CYL 4-1/2X8 21"	--
1	184135	PISTON ROD ASS'Y	1
2	-----	BUTT & TUBE ASSEMBLY	1
3	-----	PISTON	1
4	184133	GLAND	1
5	-----	LOCKOUT	1
6	-----	PORT PLUG	2
7	-----	BEARING RING	1
8	-----	TEFLON SEAL ASSEMBLY	1
9	-----	O-RING	1
10	-----	O-RING	1
11	-----	BU-WASHER	1
12	-----	U-CUP	1
13	-----	O-RING	1
14	-----	WIPER	1
15	184136	SEAL KIT **(NOT SHOWN) (INCLUDES ITEMS 7-14)**	

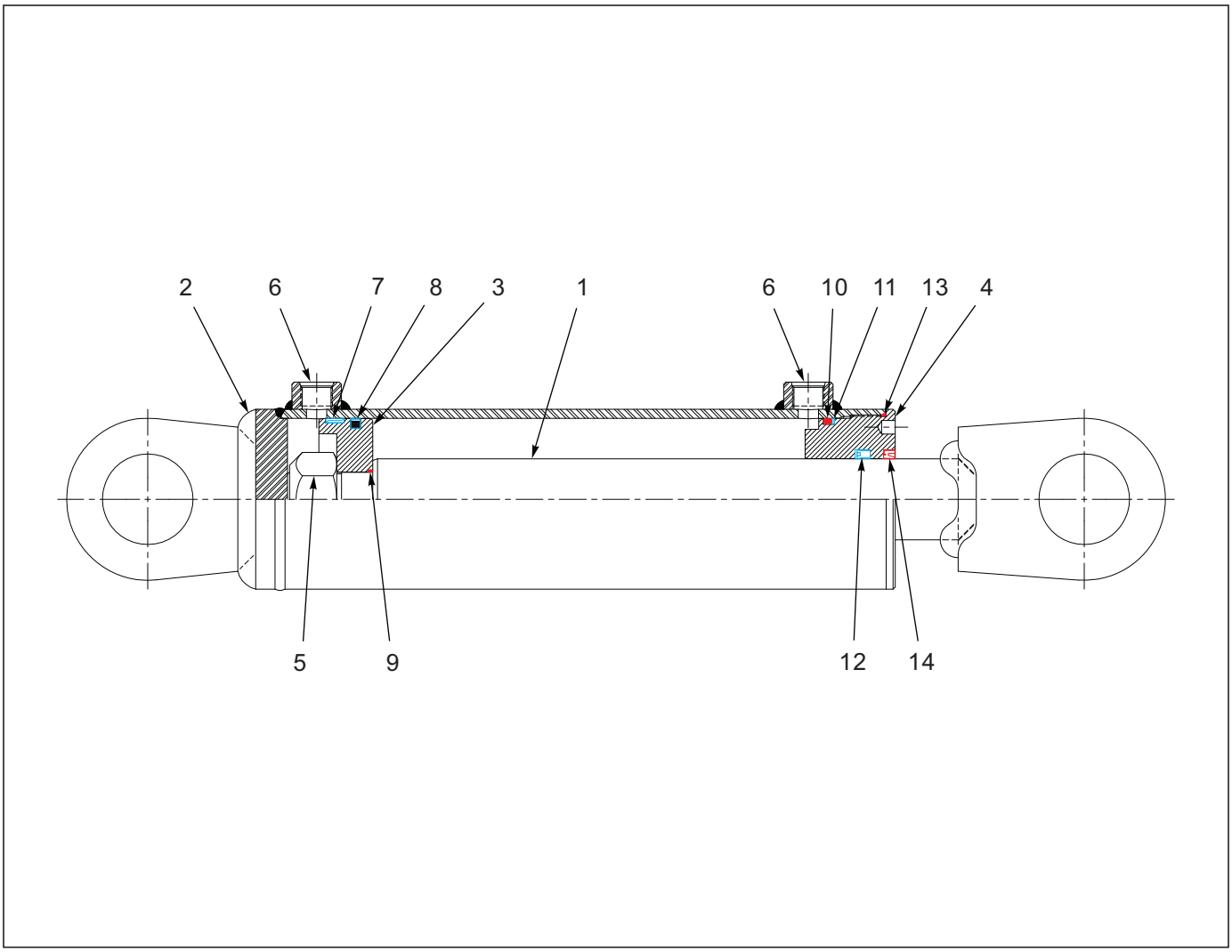


Figure 5-13: Cylinder Assembly 4-1/2 x 12

Cylinder Assembly (4-1/2 X 12”)

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001593	HYD CYL 4-1/2X12 26"	--
1	184132	PISTON ROD ASS’Y	1
2	-----	BUTT & TUBE ASSEMBLY	1
3	-----	PISTON	1
4	184133	GLAND	1
5	-----	LOCKOUT	1
6	-----	PORT PLUG	2
7	-----	BEARING RING	1
8	-----	TEFLON SEAL ASSEMBLY	1
9	-----	O-RING	1
10	-----	O-RING	1
11	-----	BU-WASHER	1
12	-----	U-CUP	1
13	-----	O-RING	1
14	-----	WIPER	1
15	184134	SEAL KIT **(NOT SHOWN) (INCLUDES ITEMS 7-14)**	

Table provided for general use.

NOTES:

Electrical

7-PIN CONNECTOR	4-PIN TOWER	2-PIN TOWER	CIRCUIT
1	D	A	GROUND
2	–	–	WORK LAMPS
3	B	–	LEFT FLASHING & TURN
4	–	–	STOP LAMPS
5	A	–	RIGHT FLASHING & TURN
6	C	–	TAIL LAMPS
7	–	B	SWITCHED POWER (12 V)

MAIN WARNING LIGHT HARNESS - WIRING CHART

	1	2	3	4	5
	2-PIN TOWER	3-PIN TOWER	6-PIN SHROUD	3-PIN TOWER	2-PIN TOWER
BLACK LEFT TURN			A	C	
WHITE GROUND	A	A	B	A	A
BROWN TAIL LIGHT		B	C	B	
YELLOW LEFT TURN			D		B
GREEN RIGHT TURN	B		E		
RED RIGHT TURN		C	F		

REAR WARNING LIGHT HARNESS - WIRING CHART

Figure 5-14: Electrical Assembly W/LED Lights Chart

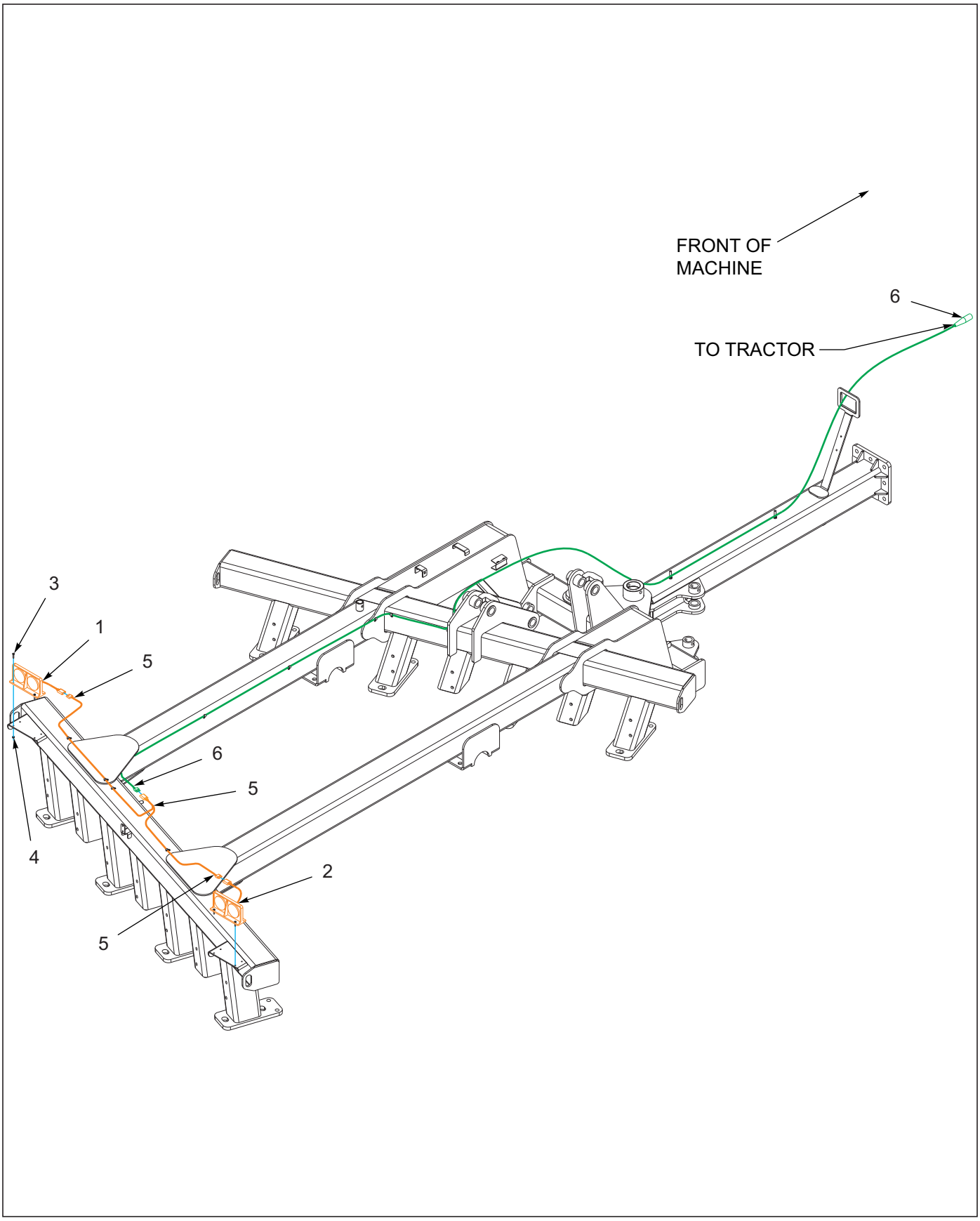


Figure 5-15: Electrical Assembly (Before 6-1-2016)

Electrical Assembly (Before 6-1-2016)

ITEM	PART NO.	DESCRIPTION	QTY.
--	2000654	KIT, 6510 LIGHTS	
1	4001300	LIGHTS, MODULAR LEFT-W/BRAKE 0	1
2	4001301	LIGHTS, MODULAR RIGHT-W/BRAKE	1
3	1-654-010047-07	SCREW,HX CP 1/4-20UNCX1-1/4G5	8
4	142779	NUT,FLANG SERRATED 1/4-20	8
5	LT0072	LIGHTS, 6510 REAR HARN 3'X6'6"	1
6	LT0071	FRONT WIRE HARNESS-31' 6510	1

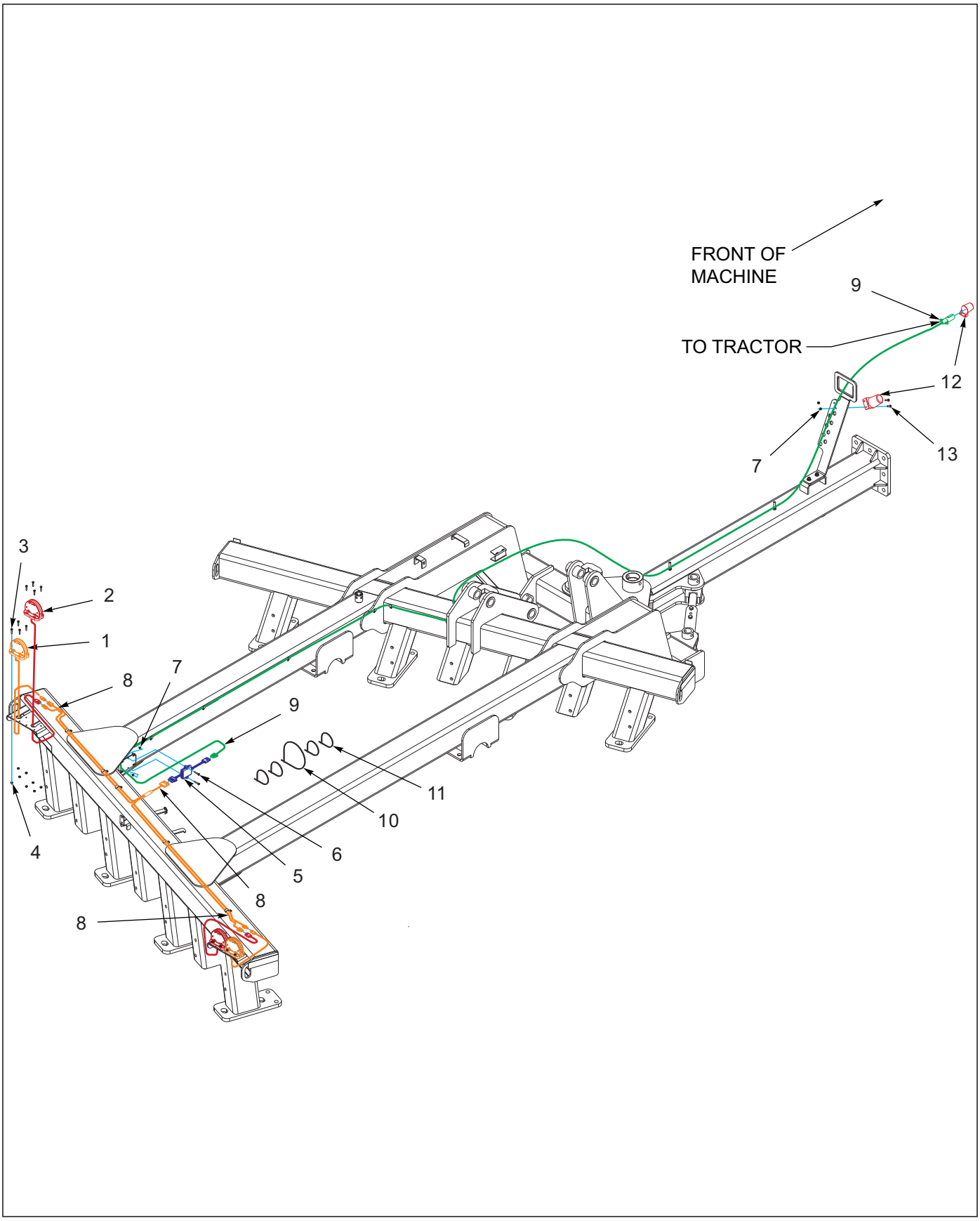


Figure 5-16: Electrical Assembly W/LED Lights (After 6-1-2016)

Electrical Assembly W/LED Lights (After 6-1-2016)

ITEM	PART NO.	DESCRIPTION	QTY.
--	200342	KIT 31' X 7 X 3.5' LED LIGHTS	
1	174436	LAMP, AG AMBER SINGLE LED	2
2	174435	LAMP, AG RED SINGLE LED	2
3	1-654-010047-07	SCREW,HX CP 1/4-20UNCX1-1/4G5	16
4	142779	NUT,FLANG SERRATED 1/4-20	16
5	174437	MODULE, AG FLASHER CONTROL	1
6	1-654-010047-08	SCREW HX CP,1/4-20UNCX1-1/2G5	2
7	1-512-010005-01	NUT,HEX,SLFLKG GRB 1/4-20	4
8	200350	REAR HARNESS, WARN LIGHT,7X3.5	1
9	200346	FRONT HARNESS,WRN LIGHTS, 31'	1
10	105874	TIE,STRAP PLSTC 21.5-24X.301	1
11	4000723	CABLE TIE, 8" BLACK HD	4
12	2-368-010287	HARNESS, STOR-A-WAY	1

Table provided for general use.

NOTES:

Decals

Figure 5-17: Decals

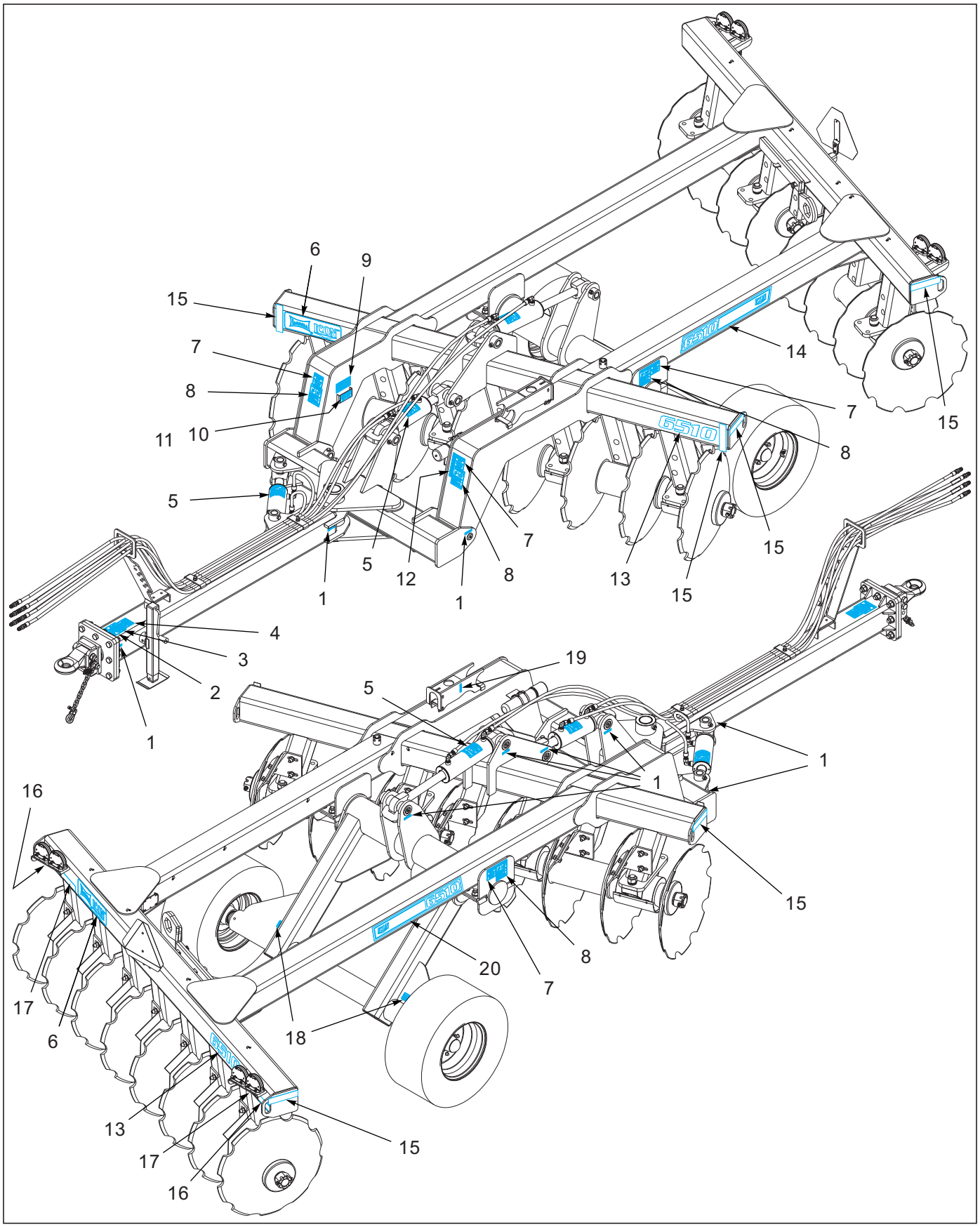


Figure 5-18: Decal Location

Decals

ITEM	PART NO.	DESCRIPTION	QTY.
--	2000657	KIT, 6510 DECAL	
1	4000938	DECAL "GREASE DAILY"	10
2	179215	DECAL, HOSE IDENTIFIC, 6510	1
3	4001516	DECAL-OFF ROAD ONLY	1
4	4001446	DECAL "WARNING-REMOVE CYL.STOP	1
5	4000931	DECAL "WARNING" HIGH PRESSURE	3
6	4001522	DECAL, LANDOLL/ICON, 5-1/2X17	2
7	4000372	DECAL WARN MOVING PARTS 3-1/2	4
8	4000940	DECAL "DANGER" PINCHING/CRUSHI	4
9	0011042	DECAL, MADE IN USA FLAG	1
10	1-573-010006	PLACARD, NAME	1
11	156010	RIVET, BLIND .156X1/2 GRIP	2
12	4000935	DECAL "SAFETY/OPERATIONS/PARTS	1
13	4001565	DECAL, "6510" CONSTR. DISC	2
14	200336	DECAL, 6510 ICON, 5 X 35 LH	1
15	528934	REFLECTOR - YELLOW	6
16	528933	REFLECTOR - RED	6
17	528938	STRIPE, ORANGE	2
18	4000937	DECAL,3 PUMPS OF GREASE WEEKLY	2
19	4001445	DECAL "SAFETY STOP" 3/4X2 3/4	1
20	200337	DECAL, 6510 ICON, 5 X 35 RH	1

Table provided for general use.

NOTES:

Chapter 6

Troubleshooting Guide

The Troubleshooting Guide, shown below, is included to help you quickly locate problems that can happen using your 6510 Construction Disc. Follow all safety precautions stated in the previous when making any adjustments to your machine.

PROBLEM	PROBABLE CAUSE	SOLUTION
TRACTOR TRYING TO SIDE DRAFT	SIDE DRAFT LINKAGE OR CYLINDER ON 6510 NOT PROPERLY SET	ADJUST SIDE DRAFT LINKAGE OR CYLINDER ON 6510 TO PROPER LENGTH
	FIXED OR PINNED DRAWBAR ON TRACTOR	USE SWINGING DRAWBAR
	SWINGING DRAWBAR ON TRACTOR AGAINST STOP ON LEFT HAND SIDE	LENGTHEN SIDE DRAFT LINKAGE OR CYLINDER ON 6510
UNIT TRAILING OFF TO THE LEFT	FRONT GANG IS RUNNING TOO DEEP	ADJUST LEVELING CYLINDER TO RAISE FRONT GANG
	SIDE DRAFT LINKAGE OR CYLINDER ON 6510 NOT PROPERLY SET	SHORTEN SIDE DRAFT LINKAGE OR CYLINDER ON 6510
UNIT TRAILING OFF TO THE RIGHT	REAR GANG IS RUNNING TOO DEEP	ADJUST LEVELING CYLINDER TO LOWER REAR GANG
	SIDE DRAFT LINKAGE OR CYLINDER ON 6510 NOT PROPERLY SET	LENGTHEN SIDE DRAFT LINKAGE OR CYLINDER ON 6510
UNIT NOT DISCING LEVEL	UNIT IS NOT LEVEL FROM FRONT TO REAR	ADJUST LEVELING CYLINDER TO ACHIEVE LEVEL UNIT
DISC GANG PLUGGING	SCRAPERS SET TOO FAR FROM DISC BLADE	ADJUST SCRAPERS TO MEET DISC BLADE CLOSER AND EVENLY
	OPERATING DEPTH TOO DEEP	RAISE UNIT
	CONDITIONS TOO WET	WAIT UNTIL CONDITIONS ARE MORE FAVORABLE
DISC GANG WILL NOT TURN OR PUSHES SOIL	SCRAPERS SET TOO TIGHT	READJUST SCRAPERS
	DEPTH SET TOO DEEP FOR LOOSE OR WET CONDITIONS	RAISE UNIT OR WAIT UNTIL CONDITIONS ARE MORE FAVORABLE
	GANG BEARING FAILURE	REPLACE BEARING
NOT FILLING FURROW ON LEFT SIDE OF UNIT	SPEED TOO SLOW FOR SOIL CONDITIONS	INCREASE SPEED
	REAR OF DISC TRACKING TOO FAR TO THE RIGHT	LENGTHEN SIDE DRAFT LINKAGE OR CYLINDER ON 6510
	TRACTOR BEING DRIVEN TOO FAR TO THE RIGHT	DRIVE TRACTOR SO THAT LEFT FRONT DISC IS IN THE EDGE OF THE FURROW

PROBLEM	PROBABLE CAUSE	SOLUTION
SCRAPER BUILD UP WITH EXCESSIVE SOIL/RESIDUE	SCRAPERS SET TOO FAR FROM DISC BLADE	READJSUT SCRAPERS
DISC BLADES LOOSE AND/OR SHEARING CROSS BOLT	GANG NOT TIGHTENED PROPERLY	RETIGHTEN GANG SHAFTS TO 4,500 FT-LBS.
		IF GANGS HAVE RAN LOOSE, GANGS MAY REQUIRE DISASSEMBLY TO REMOVE. SOIL TO PROPERLY TORQUE GANG SHAFTS. REPLACE ANY WORN COMPONENTS, SHAFTS/SPOOLS, ETC.
LIGHTS DO NOT WORK	HARNESS OR LAMP CONNECTION UNPLUGGED	CHECK ALL HARNESS/LAMP CONNECTIONS TO VERIFY THAT EVERYTHING IS PROPERLY CONNECTED.
WHEEL BEARING FAILURE	SEALS NOT INSTALLED CORRECTLY	INSTALL SEALS WITH THE LIPS POINTING OUTWARD AWAY FROM THE HUB.

Chapter 7

Index

Numerics

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Table provided for general use.

NOTES:

Document Control Revision Log:

Date	Form #	New/Updated	Improvement(s): Description and Comments
09/12/2014	F-753	New	Initial Release.
01/16/2018	F-753-0914	Updated	Added Form # and updated to newer FrameMaker format.
09/27/2019	F-753-0919	Updated	Updated complete manual.

Equipment from Landoll Corporation is built to exacting standards ensured by ISO 9001 registration at all Landoll manufacturing facilities.

Model 6510

Construction Disc
Service and Parts Manual

Re-Order Part Number F-753-0919

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