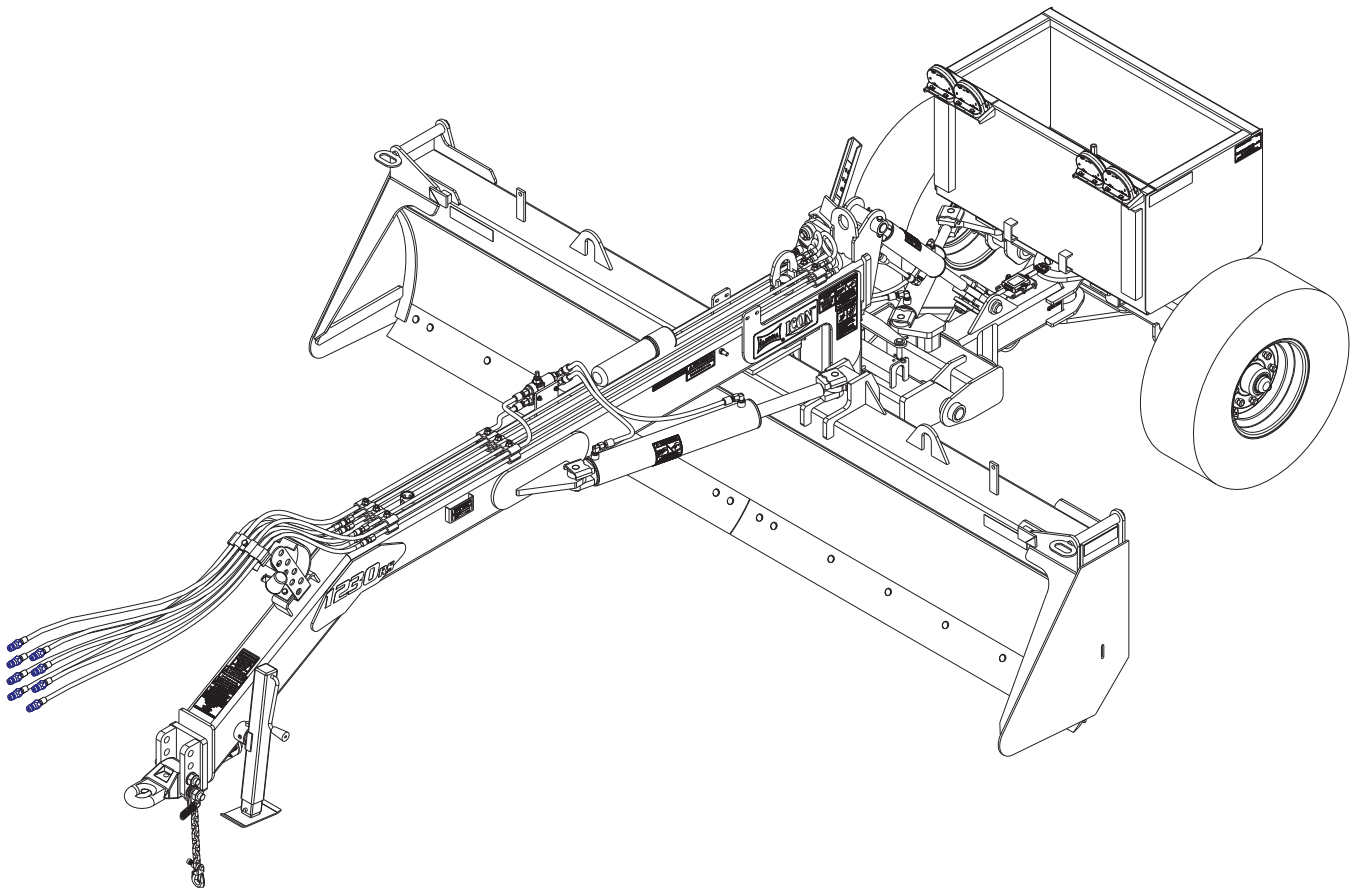




Model 1030/1030RS/1230/1230RS
Pull Type Grader
Service and Parts Manual



LANDOLL CORPORATION

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Marysville, Kansas 66508

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Manuals for the PRODUCT

MANUAL NUMBER	MANUAL NAME
F-960	1030/1030RS/1230/1230RS Service and Parts Manual

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Introduction and Safety Information

Introduction

The Landoll /Icon Model 1030/1030RS/1230/1230RS Grader 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 Pull Type Grader. 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
1900 NORTH STREET
MARYSVILLE, KANSAS 66508**

**PHONE # (785) 562-5381 or (800) 428-5655
OR
FAX # (888) 527-3909**

- 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.
- 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**

INTRODUCTION AND SAFETY INFORMATION

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 than 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 1030/1030RS	Model 1230/1230RS
Blade Size	10' W X 30" H	12' W X 30" H
Replaceable Cutting Edge	1/2" X 6" X 5'	1/2" X 6" X 6'
Blade Swing Left/ Right	46°	46°
Blade Tilt Side to Side	15°	15°
Blade Clearance at Full Raised	18"	18"
Length Overall	18' - 2"	18' - 2"
Width Overall with hydraulics attached	9' - 4"	9' - 4"
Transport Width with hydraulics Unpinned	7' - 10"	7' - 10"
Shipping Weight (With out Concrete)	3,140lbs/3,390lbs.	3,280lbs/3,530lbs.
Concrete Option Weight	1,970 bs.	1,970 bs.
Cylinders Welded Industrial -Blade Swing	4" X 24"	4" X 24"
Cylinders Welded Industrial - Tilt	3" X 8"	3" X 8"
Cylinders Welded Industrial - Raise/Lower	3" X 12"	3" X 12"
Cylinders Welded Industrial - Rear Steer	3" X 12"	3" X 12"
Hydraulic Hoses	3,000 psi rated	3,000 psi rated
Hitches	pintle style	pintle style
Grease Locations	7/8	7/8
Safety Warning Lights	Standard LED	Standard LED
Hub & Spindle	8 Bolt 4500 lbs.	8 Bolt 4500 lbs

Tire Inflation			
Tire Size	Tire Manufacturer	Ply/Load Rating	Inflation Pressure (Psi) (Max.)
320/70R15	Firestone or equivalent	Farm Implement Tread 6150 lbs. @ 40 mph	70 psi

Recommended Torque Specification For Lug Bolts and Nuts	
Bolt Size	Torque (FT. LBS.)
5/8-18	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

STANDARD 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 Pull Type Grader. 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*.

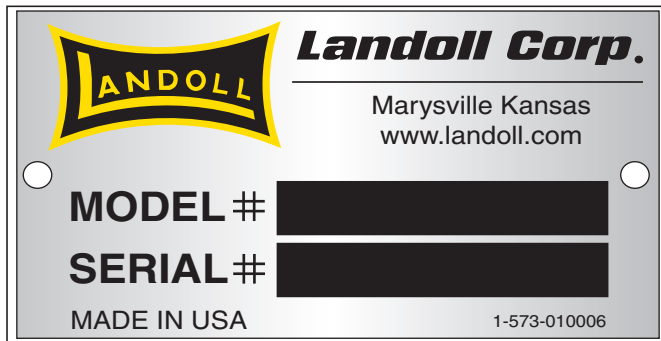


Figure 2-1: ID Plate

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 its products at any time without obligation to previously manufactured equipment.

ICON/Landoll recommends a maximum horsepower of the pulling tractor for your grader to be 200 hp. Additional power may shorten the life of your grader and will alter the Warranty.

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 Farm Products** for a period of 12 months 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

Assembly and Lubrication

Assembly and Lubrication Check List

1. Install and pin pivot frame to tongue frame.
2. Pin rear frame to center pivot frame
3. Attach grader hitch and assure proper movement.
4. Install pivot pins, and insert all retaining clips.
5. Install lift/tilt pivot cylinders. Install all cylinder pins and retaining clips.
6. Install box ends and components. Fold and check to assure they function properly.
7. Install axle and wheel components. Visually inspect tires.
8. Route hydraulic lines and tighten.
9. Install safety lighting components, route wiring, and install plug retainer. Cycle and check lighting system with 12 volt system tester.
10. Lubricate all moving components with high temp grease.
11. Fill hydraulic systems with Mobil 424 hydraulic oil using hydraulic pump, activate all moving parts and bleed air from the system. Hold 3000 psi. hydraulic pressure against all cylinders, fittings, and hoses.
12. Check hydraulic components for leaks.
13. Recheck that all retainers are installed.
14. Assure the rear steer components function properly.
15. Clean and touch up paint the machine.
16. Attach operators manual and container.
17. Apply the safety, operations, and lube identification decals. Attach plastic envelope with warranty info, and this check list, at the front of the hose holder.
18. For ease of transporting, assure that the blade is level, and in the transport position before leaving shop.

Lubrication Maintenance

1. **Table 3-1** specifies the number and the period of lubrication points on the 1030/1030RS/1230/1230RS Grader. 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 3-1.**
2. When lubricating the 1030/1030RS/1230/1230RS, SAE multi-purpose EP grease, or EP grease with 3-51432 molybdenum sulfide is recommended. Wipe soil from fittings before greasing. Replace any lost or broken fittings immediately.
3. Regular lubrication will extend service life, particularly in severe operating conditions.

Storage

1. The service life of the 1030/1030RS/1230/1230RS Grader 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 Maintenance” on page 3-1.**
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.

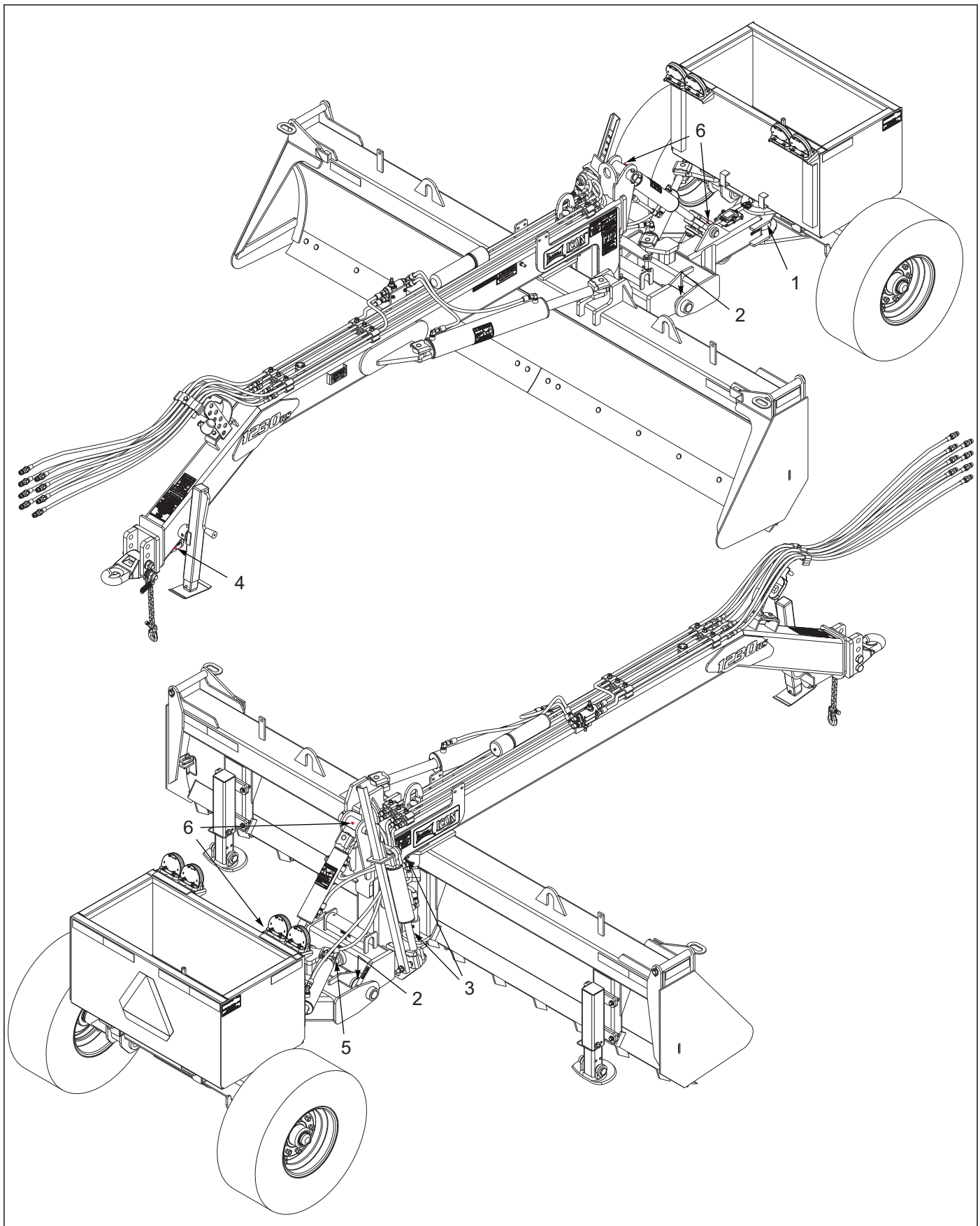


Figure 3-1: Lubrication Schedule

LUBRICATION TABLE			
ITEM	DESCRIPTION	NO. OF LUBE POINTS	INTERVAL
1	REAR AXLE PIVOT	1	DAILY
2	REAR AXLE SUPPORT PIN	2	DAILY
3	CENTER BLADE PIN	2	DAILY
4	HITCH PIVOT	1	DAILY
5	CENTER PIVOT	1	DAILY
6	LIFT CYLINDER PIN	2	DAILY

Table 3-1: Lubrication Table

Hookup and Operation

Description of Machine

The 1030/1030RS/1230/1230RS Grader utilizes 3 or 4 hydraulic valves on the tractor, allowing it to function in four different directions.

The Grader has the ability to:

- raise to a clearance from bit to ground of 30 inches while lowering to a negative cut.
- tilt from side to side approximately 15 degrees to accomplish slope cuts and ditching.
- swing of the blade approximately 45 degrees, left or right,
- control of the rear steer, 3' in either direction. All of these functions can be done on the go, or while the grader is stopped.

Tie Strap Designations

Color coded tie straps and markers are attached at the tip end of the hoses to identify the four pairs of hydraulic lines to the grader.

- Black tie is used on the hoses that raise and lower of the blade.
- Yellow tie is used on hoses that tilt of the blade.
- White tie is used on hoses that swing of the blade.
- Blue tie is used on hoses that shift the rear.

NOTE

The decal is located on the tongue of the machine (See Figure 4-1)

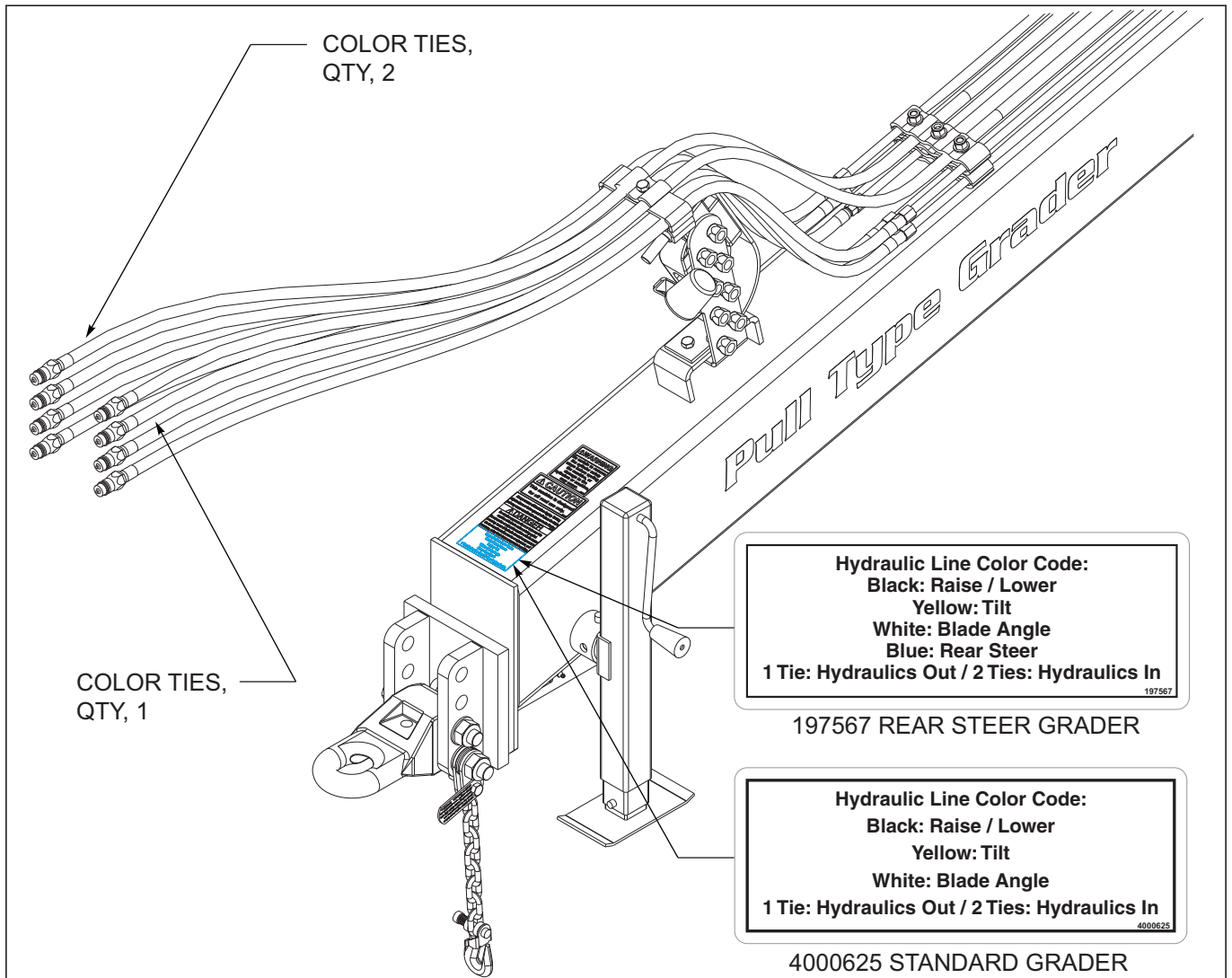


Figure 4-1: Tie Strap Designations

HOOKUP AND OPERATION

Hookup to the Remote

Hookup of the hydraulic hoses to the remote can be done in any way to suit individual needs. The following method is suggested: Raise/Lower of the blade to #1 valve. Tilt of the blade to #2, and swing of blade to #3, and #4 to control rear steer.



WARNING

Before angling the blade, make sure the grader is taken out of transport position. And be certain that the cylinder stops are removed before use.



CAUTION

When digging in a populated area, it is recommended that a call be made to area utilities to establish the local of any buried pipes, lines, or structures. When digging in open area, research and know the local of any underground structures and objects.

Striking the blade and bit against surface or buried objects can cause damage to the grader and is considered as abuse to the machine.

NOTICE

Operator abuse will not be a warranty item.

Learning to Operate the Grader

Be patient for the first few hours of learning to operate the grader. Time and experience will produce expert results. Any type of blade machine has the tendency to create a “washboard” effect if grading is done with too much speed. Slow down and do the job right. The second tendency of any blade machine is to side draft if the blade is cutting deep and enough power is applied. Practice centering the cut on the blade to balance the draft. Operating the Grader at a higher speed may not get the job done quicker, and may provide less than quality results. It is also recommended that the weight box be filled prior to use. This will also aid in preventing side draft, and bounce.

Responsible operation and proper maintenance will provide many hours of expert results and a durable machine.



CAUTION

This machine is not intended for highway use, it should be used off road only.

If public roadway travel is necessary, be certain of regulations concerning width, lighting, and safety chain requirements.

Illustrated Parts List

General Assembly

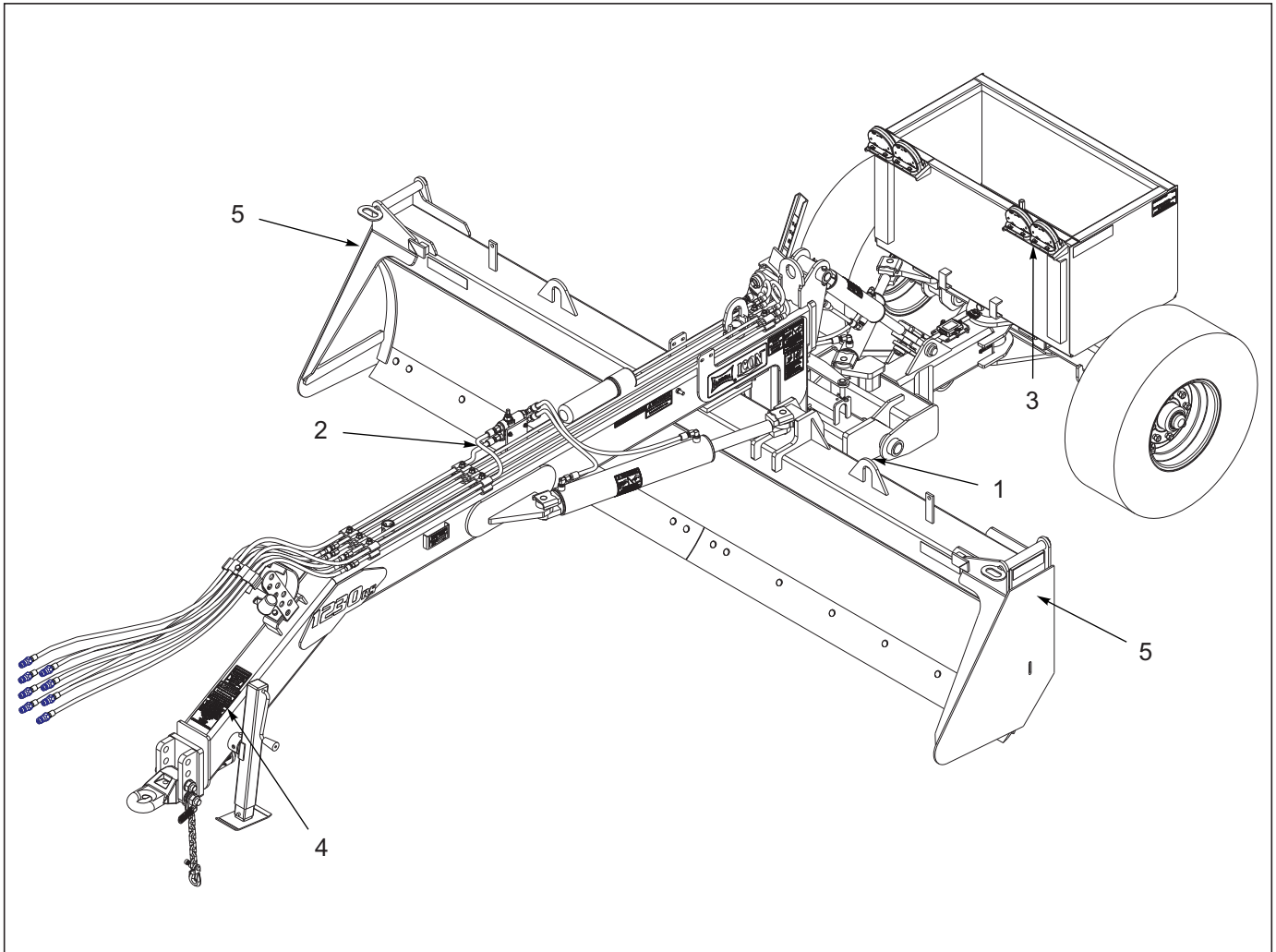


Figure 5-1: General Assembly

General Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	5-3 - 5-16	GRADER ASSEMBLY	
2	5-18 - 5-23	HYDRAULICS	
3	5-25 - 5-27	ELECTRICAL	
4	5-30 - 5-33	DECALS	
5	5-34 - 5-35	GAUGE WHEEL (NOT SHOWN) (OPTION) (SEE PAGE 5-35)	

Grader Assembly

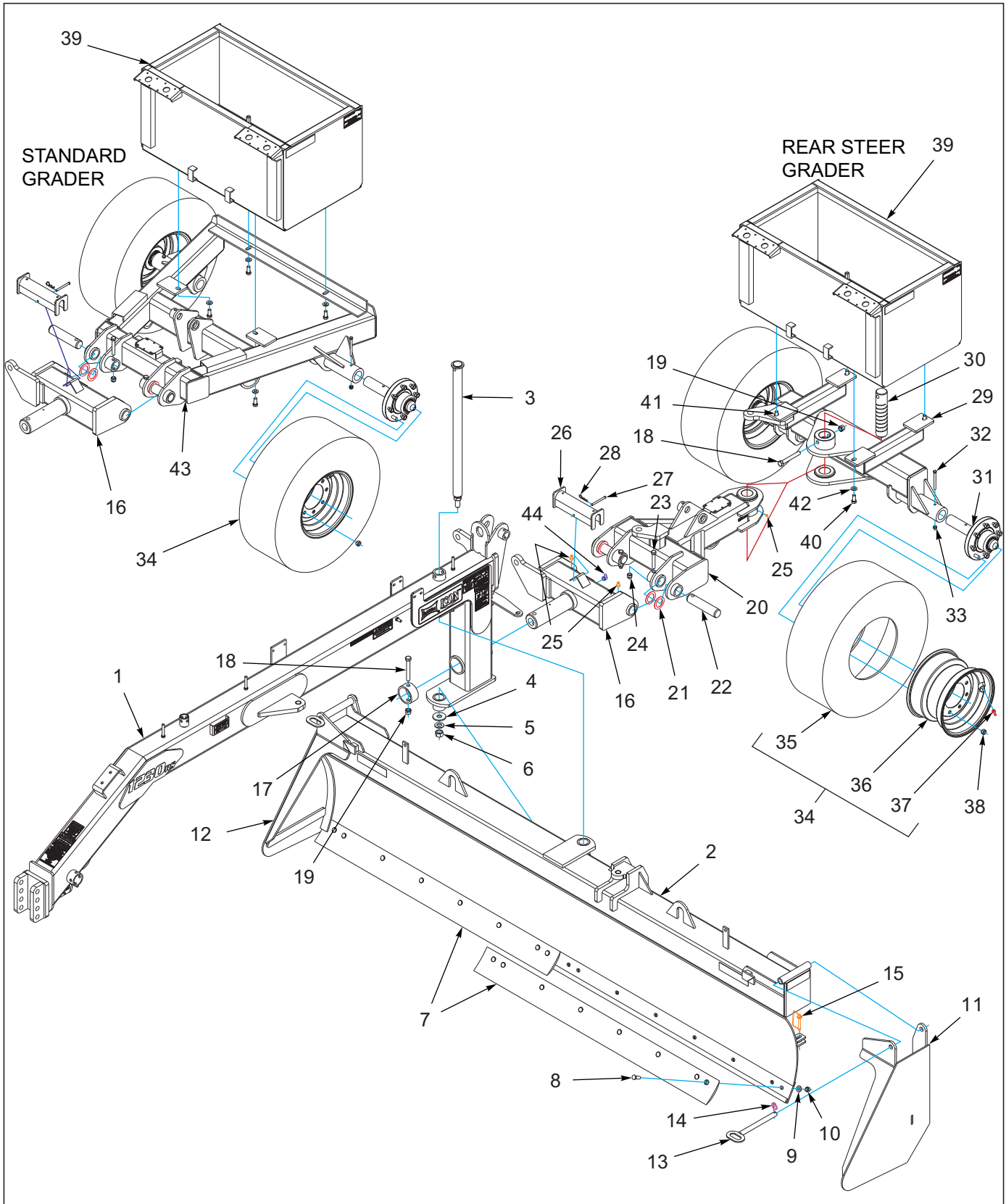


Figure 5-2: Grader Assembly Rear

Grader Assembly Rear

ITEM	PART NO.	DESCRIPTION	QTY.	
--	----	1030 GRADER	*	
--	----	1230 GRADER	*	
1	ICO2207	1230 TONGUE FRAME	1	1
2	220855	WLDMT, 1030 MOWBOARD	1	--
2	ICO2206	1230 MOWBOARD	--	1
3	ICO2216	1230 PIN CENTER BLADE	1	1
4	ICO0546	WASHER MOWBOARD PIN 12'	1	1
5	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	1	1
6	172839	NUT HEX 1-8 GR8 ZP	1	1
7	220862	CUTTING EDGE, 5' GRADER BLADE	2	2
7	4000125	CUTTING EDGE, 6' GRADER BLADE	2	2
8	172791	BOLT, PLOW 5/8-11 X 2 GR8	14	16
9	622-3511-007	WASHER, FLAT 5/8 MIL-CARB SAE	14	16
10	63D10ER	NUT HEX 5/8-11 UNC GR8	14	16
11	ICO2154	ICON 1632 BOX END LEFT	1	1
12	ICO2153	ICON 1632 BOX END RIGHT	1	1
13	ICO1096	PIN WLDMT BOX END	2	2
14	134912	PIN, LYNCH 1/4 X 1-1/4	2	2
15	155971	PIN, HARROW ADJ	2	2
16	ICO2211	1230 CTR PIVOT FRAME	1	1
17	ICO2217	1230 CENTER PIVOT RETAINER	1	1
18	139201	SCREW,HX CP 3/4-10UNCX5.50GR8	2	2
19	110-0238	3/4-10 ESNA NUT ZP 41NE-120	2	2
20	218941	WLDMT, REAR STEER FRAME	1	1
21	172926	WASHER MACHINE 2	4	4
22	ICO0372	REAR AXLE SUPPORT PIN	2	2
23	172829	SCREW HX CP 5/8-11X4 GR8	2	2
24	103-0625	NUT ESNA 5/8-11	2	2
25	5000	ZERK FITTING 1/8NPT	3	3
26	ICO2219	STOP,CYLINDER - 12	1	1
27	1408090	CLEVIS PIN .375X4 ZP	1	1
28	1-557-010403	HAIRPIN 1/8	1	1
29	218950	WLDMT, REAR STEER AXLE	1	1
30	220843	PIVOT PIN, Ø2-1/2 X 11-3/4	1	1
31	147553	8 BOLT HUB ASSY, 2-1/4" SPDL (SEE PAGE 5-15)	2	2
32	172943	SCREW HX CP 7/16-14UNCX4-1/2G8	2	2
33	1-512-010003-16	NUT,HEX,SLF-LKG 7/16-14 W/NYL	2	2
34	178585	TIRE & WHEEL ASSY 12.5L X 15 (INCLUDES PART NO. 4000086 & TR416) (BEFORE 4-1-2019)	2	2
34	220846	TIRE ASSY,320/70R15,8 BOLT WHL (INCLUDES PART NO. 204385 & TR416) (AFTER 4-1-2019)	2	2
35	4000086	TIRE,12.5X15 - 12 PLY (USED WITH 178585)	1	1
35	204385	FIRESTONE RADIAL 320/70R15 (USED WITH 220846)	1	1
36	4000005	RIM, 10X15 - 8 BOLT	1	1
37	TR416	VALVE STEM TUBELESS TIRE	1	1
38	102600	NUT,WHEEL BOLT, 5/8	8	8
39	ICO2215	WLDMT, WEIGHT BOX 1230	1	1
40	172827	SCREW HX CP 5/8-11X1-1/2 GR8	3	3
41	113299	SCREW,HHC 5/8-11UNCX2-1/2G8ZP	1	1

Grader Assembly Rear

ITEM	PART NO.	DESCRIPTION	QTY.	
42	622-3511-007	WASHER, FLAT 5/8 MIL-CARB SAE	4	4
43	ICO2212	1230 REAR AXLE SUPPORT	1	1
44	4000591	ZERK, 1/8 90 DEGREE	1	1

ILLUSTRATED PARTS LIST

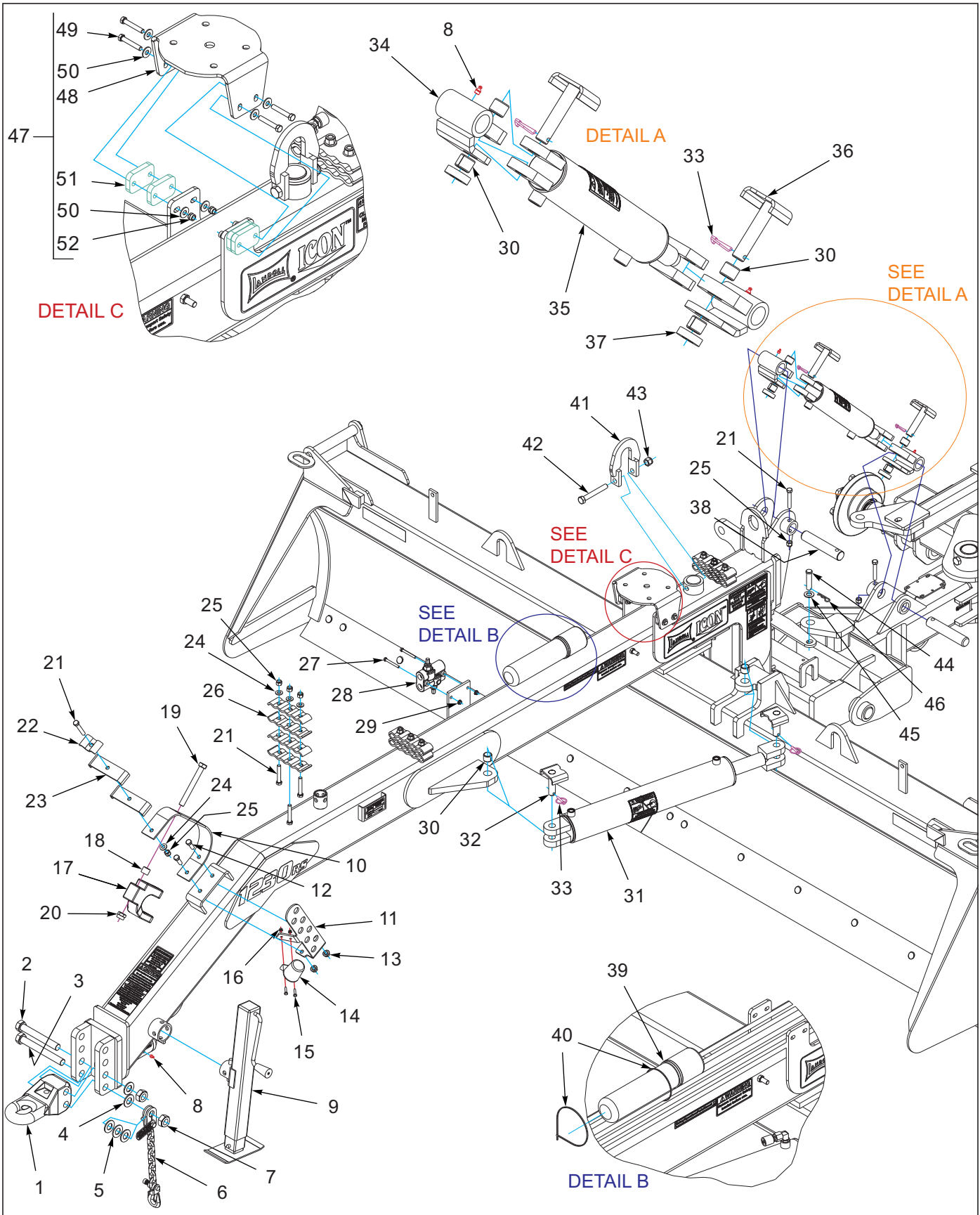


Figure 5-3: Grader Assembly Front

Grader Assembly Front

ITEM	PART NO.	DESCRIPTION	QTY.	
--	----	1030 GRADER	*	
--	----	1230 GRADER	*	
1	4001501	HITCH, PINTLE CAST, CAT III HD	1	1
2	1-654-010125-20	SCREW,1-8UNCX7-1/2 HX CP GR8	1	1
3	1-654-010125-22	SCREW HX CP 1-8UNCX8-1/2G8ZP	1	1
4	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	2	2
5	1-861-010032-24	WASHER FL 1IN NARROW ZP	3	3
6	141434	SAFETY CHAIN 21,000LB	1	1
7	118652	NUT HX SLFLKG W/NYL 1-8 ZP	2	2
8	5000	ZERK FITTING 1/8NPT	3	3
9	140647	JACK, SIDE WIND 7000/8000 LB (SEE PAGE 5-16)	1	1
10	ICO0004	HOSE STAND 1/4x2.5x24	1	1
11	202230	PLATE, HYD HOSE HOLDER	1	1
12	1-654-010055-03	SCREW,HEX CAP,1/2-13UNCX1-1/2	2	2
13	1-510-010003-09	NUT,1/2-13 FLANGE HD,SERRATED	2	2
14	2-368-010287	HARNES, STOR-A-WAY	1	1
15	1-654-010047-06	SCREW,HX CP 1/4-20UNCX1 GR5	2	2
16	1-512-010005-01	NUT,HEX,SLFLKG GRB 1/4-20	2	2
17	4001503	HITCH TONGUE CAST U CLEVIS	1	1
18	9602016	RD TUBE,1-1/8 OD X .78 ID X7/8	1	1
19	120876	SCREW,HEXCAP,3/4-10X6-1/2 GR8	1	1
20	110-0238	3/4-10 ESNA NUT ZP 41NE-120	1	1
21	1-654-010055-09	SCREW,HX CP,1/2-13UNCX3 GR5	7	7
22	ICO0226	REAR SIDE PIPE CLAMP	1	1
23	ICO0544	CLAMP, HYD LINE 2X5-1/4	2	2
24	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	10	10
25	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	10	10
26	ICO0223	SIDE PIPE CLAMP	12	12
27	1-654-010049-12	SCREW,HX CAP,5/16-18UNCX2-3/4	2	2
28	5000855	HYD VALVE CUSHION DRV1HH-25-25	1	1
29	126561	NUT,FLG HD,SERRATED,5/16-18ZP	2	2
30	2-150-010008	BUSHING 1-1/4ODX1IDX1 STEEL	6	6
31	4001530	HYDCYL - 4X24W CLEVIS 34 1/4	1	1
32	GRA1600	PIN,CYLINDER - 1"	2	2
33	134912	PIN, LYNCH 1/4 X 1-1/4	4	4
34	ICO1075	PIVOT WLDMT CYLINDER	2	2
35	4001531	HYDCYL - 3X12W CLEVIS 22 1/4	1	1
36	ICO0477	PIN,CYLINDER - 1" WLDMT	2	2
37	ICO2237	PIN, 1230 CYLINDER SPACER	2	2
38	ICO1078	CYLINDER PIVOT PIN	2	2
39	1-116-010019	BOX, MANUAL STORAGE	1	1
40	4000750	CABLE TIE,14" BLACKHD 21047	2	2
41	ICO2238	1230 LIFTING HOOK	1	1
42	122962	SCREW, HEX CP 5/8-11X4-1/2GR8	1	1
43	103-0625	NUT ESNA 5/8-11	1	1
44	4001442	PIN, 821 SAFETY 3/4X3 GR8	1	1
45	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	1	1
46	4001443	PIN, BRIDGE 3 X 5/32	1	1

Grader Assembly Front

ITEM	PART NO.	DESCRIPTION	QTY.	
47	218930	KIT, SINGLE GPS MOUNT, 1230 (INCLUDES ITEMS 48-52) (OPTIONAL)	1	1
48	218915	BRACKET, GPS MOUNT	1	1
49	1-654-010051-10	SCREW, HX CP3/8-16X2-1/4 GR5	4	4
50	1-861-010032-11	WASHER, FLAT 3/8 W ZP/CD	8	8
51	218914	SPACER, GPS MOUNT	4	4
52	1-512-010005-05	NUT, HEX, SLFLKG GRB 3/8-16	4	4

ILLUSTRATED PARTS LIST

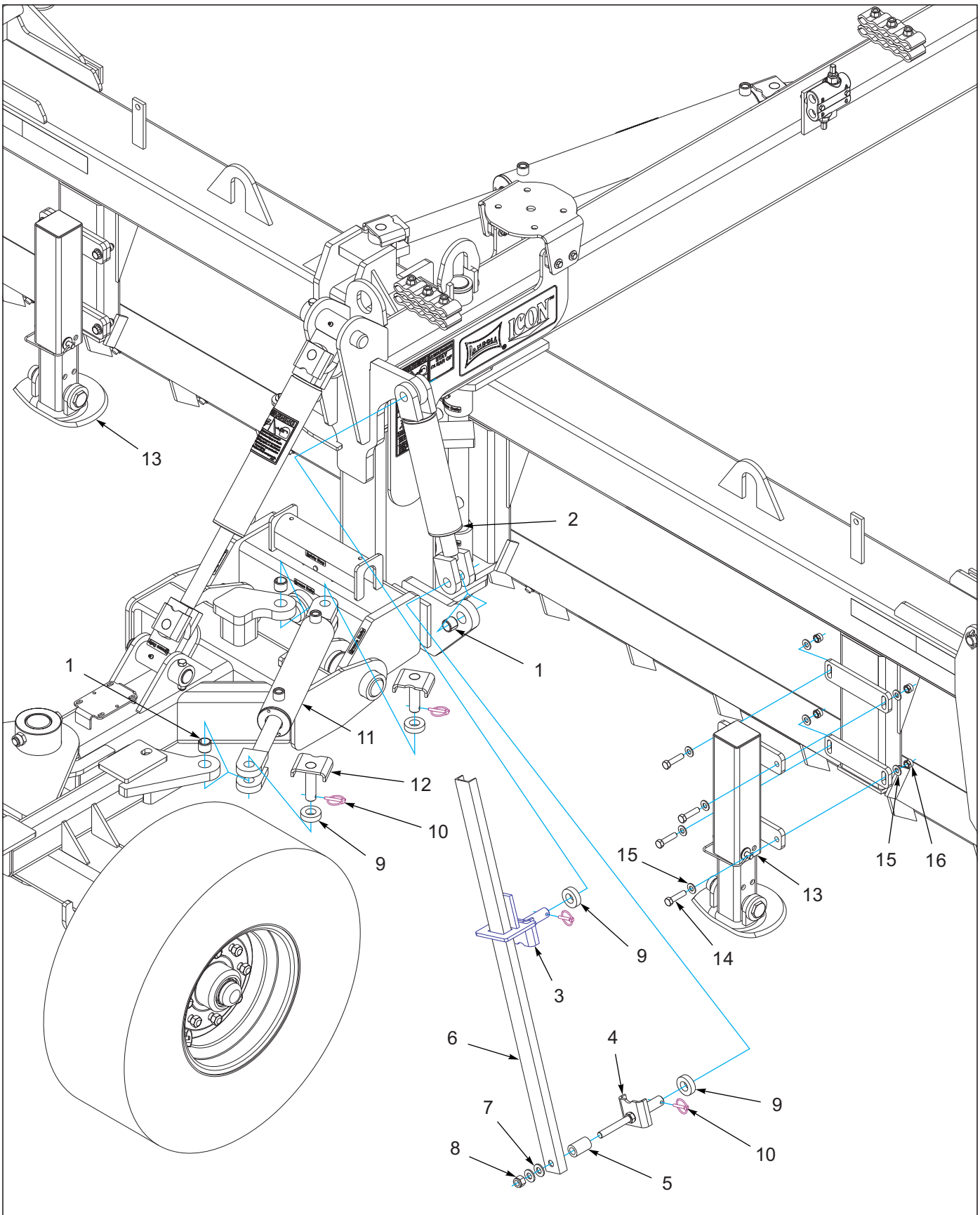


Figure 5-4: Grader Assembly Rear Cylinders and Skid

Grader Assembly Rear Cylinders and Skid

ITEM	PART NO.	DESCRIPTION	QTY.	
--	----	1030/1230 STANDARD GRADER	*	
--	----	1030/1230 REAR STEER GRADER		*
1	2-150-010008	BUSHING 1-1/4ODX1IDX1 STEEL	2	4
2	4001532	HYDCYL - 3X8W CLEVIS 20 1/4 (SEE PAGE 5-21)	1	1
3	ICO1076	UG16 CYL PIN W/DEPTH GAUGE SLI	1	1
4	ICO1077	UG16 CYL PIN W/ DEPTH GAUGE MO	1	1
5	ICO1082	AG16C DEPTH GAUGE SPACER	1	1
6	ICO1079	1632 DEPTH GAUGE	1	1
7	622-3511-007	WASHER, FLAT 5/8 MIL-CARB SAE	2	2
8	103-0625	NUT ESNA 5/8-11	1	1
9	ICO2237	PIN, 1230 CYLINDER SPACER	2	4
10	134912	PIN, LYNCH 1/4 X 1-1/4	2	4
11	4001531	HYDCYL - 3X12W CLEVIS 22 1/4 (SEE PAGE 5-22)	--	1
12	GRA1600	PIN,CYLINDER - 1"	2	2
13	222108	ASSY, GRADER SNOW/DIRT SKID (SEE PAGE 5-12)	2	2
14	1-654-010055-05	SCREW,HEX CAP,1/2-13UNCX2 GR5	4	4
15	1-861-010032-14	WASHER, FLAT 1/2" N ZP/CD	8	8
16	1-512-010005-09	NUT,HEX,SLFLKG, 1/2-13 GRB	4	4

ILLUSTRATED PARTS LIST

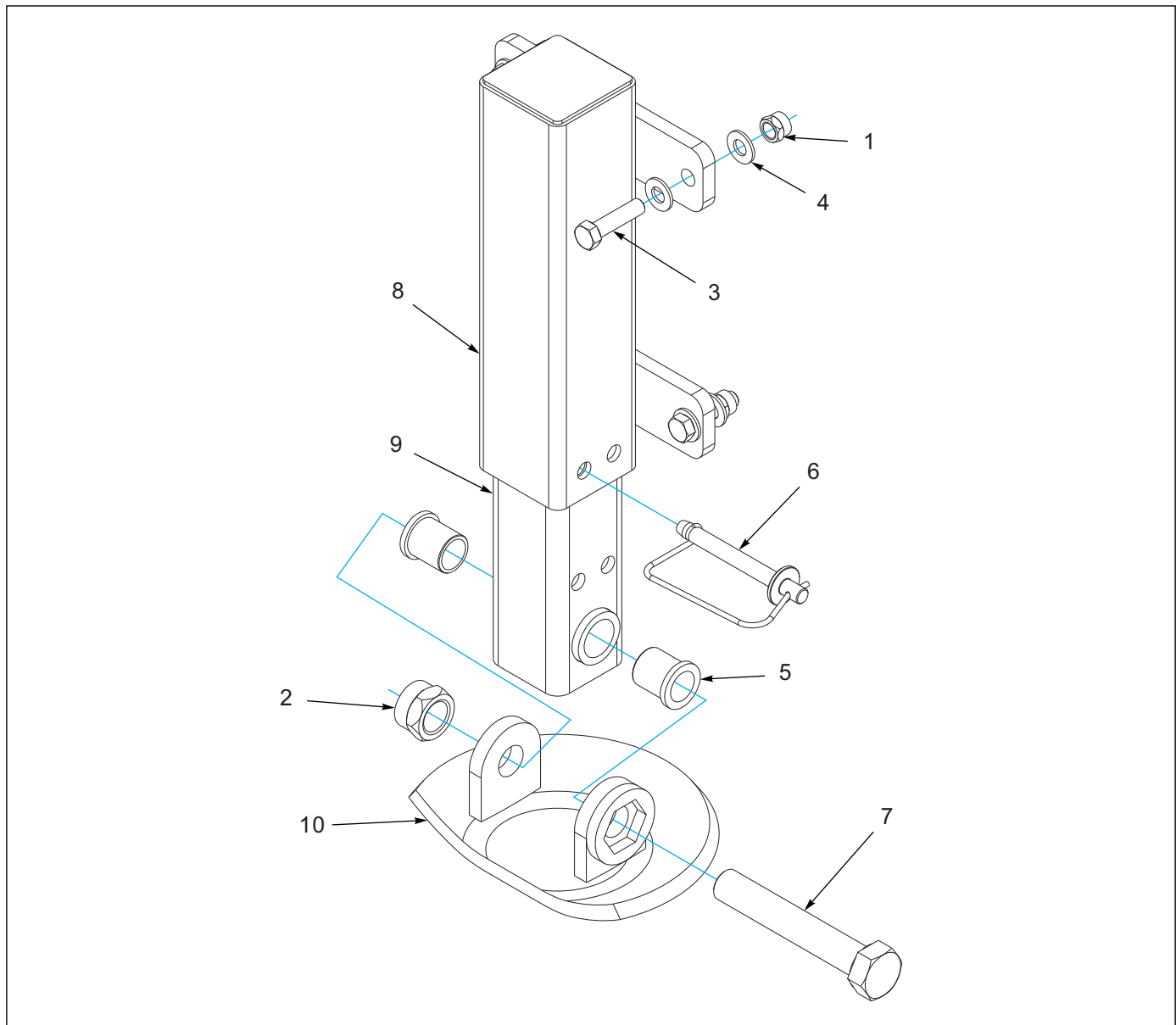


Figure 5-5: Snow/Dirt Skid Assembly

Snow/Dirt Skid Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
--	222108	ASSY, GRADER SNOW/DIRT SKID	
1	1-512-010005-09	NUT,HEX,SLFLKG, 1/2-13 GRB	2
2	1-512-010005-19	NUT 1-8 HEX SLF-LOCKING GRB	1
3	1-654-010055-05	SCREW,HEX CAP,1/2-13UNCX2 GR5	2
4	1-861-010032-14	WASHER, FLAT 1/2" N ZP/CD	4
5	144264	BEARING FLANGE	2
6	155971	PIN, HARROW ADJ	1
7	172580	SCREW HEX CAP 1-8UNCX6 GR8 ZP	1
8	179184	WLDMT, GRADER SNOW/DIRT SKID	1
9	179187	WLDMT, GRADER SNOW/DIRT SKID	1
10	222109	WLDMT, GRADER SNOW/DIRT SKID	1

ILLUSTRATED PARTS LIST

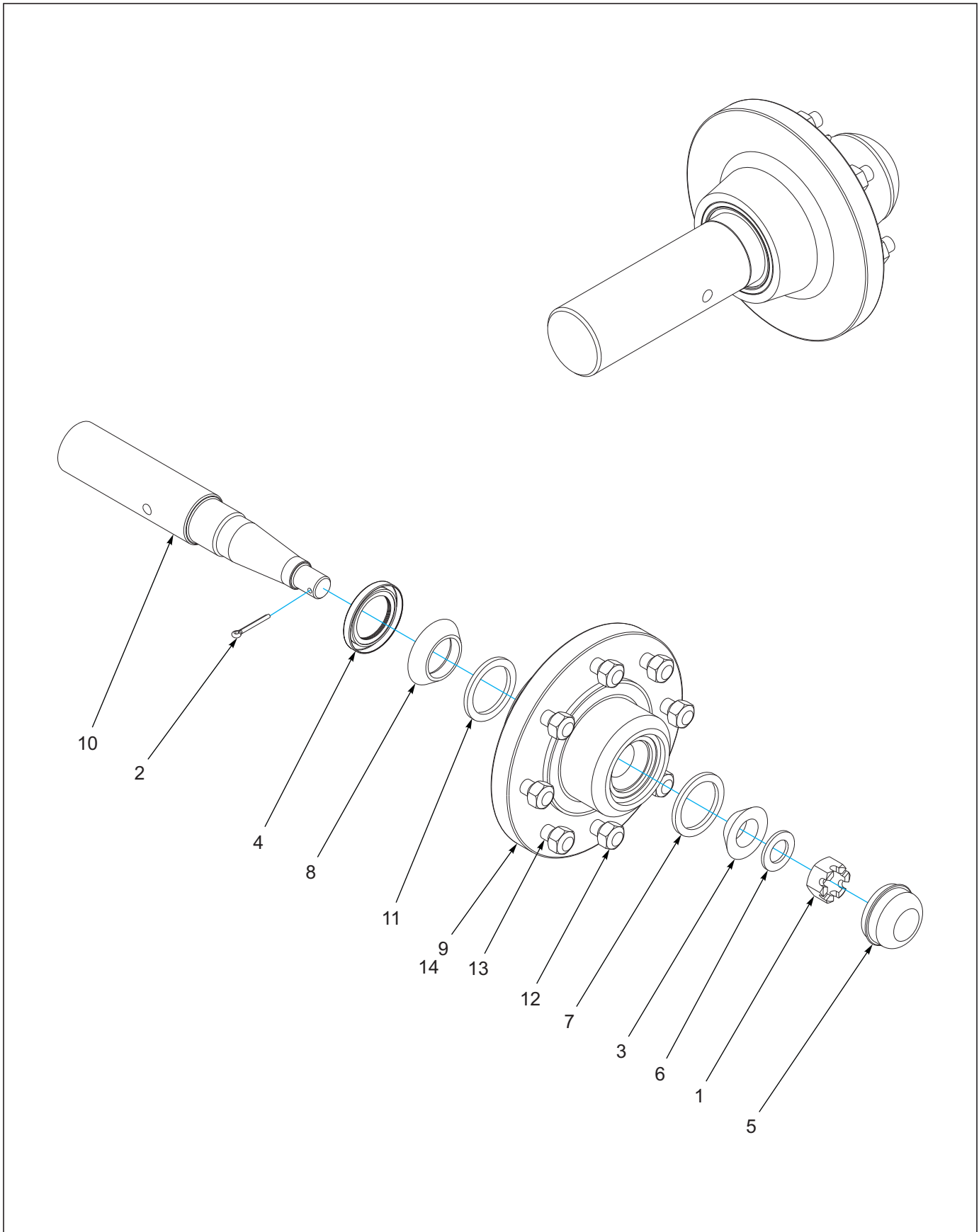


Figure 5-6: Hub and Spindle Assembly - 8 Bolt (2-1/4")

Hub And Spindle Assembly - 8 Bolt (2-1/4")

ITEM	PART NO.	DESCRIPTION	QTY.
--	147553	8 BOLT HUB ASSY, 2-1/4" SPDL	
1	1-516-010001-20	NUT, HX SLOT 1-14	1
2	1-557-010362-51	PIN, COTTER 3/16X1-1/2	1
3	1-076-010007	CONE INNER	1
4	140554	SEAL GREASE	1
5	141236	DUST CAP, WHEEL HUB	1
6	141238	WASHER, SPINDLE	1
7	1-076-010010	CUP INNER	1
8	140595	CONE BEARING	1
9	140646	HUB W/CUPS, EIGHT BOLT (INCL ITEMS 7 & 11)	1
10	141198	SPINDLE 2-1/4 IN	1
11	140594	CUP BEARING	1
12	102600	NUT,WHEEL BOLT, 5/8 (8 BOLT)	8
13	143067	STUD BOLT 5/8-18 (8 BOLT)	8
14	141867	HUB ASSY EIGHT BOLT (INCL. ITEMS 3-5, 8-9)	

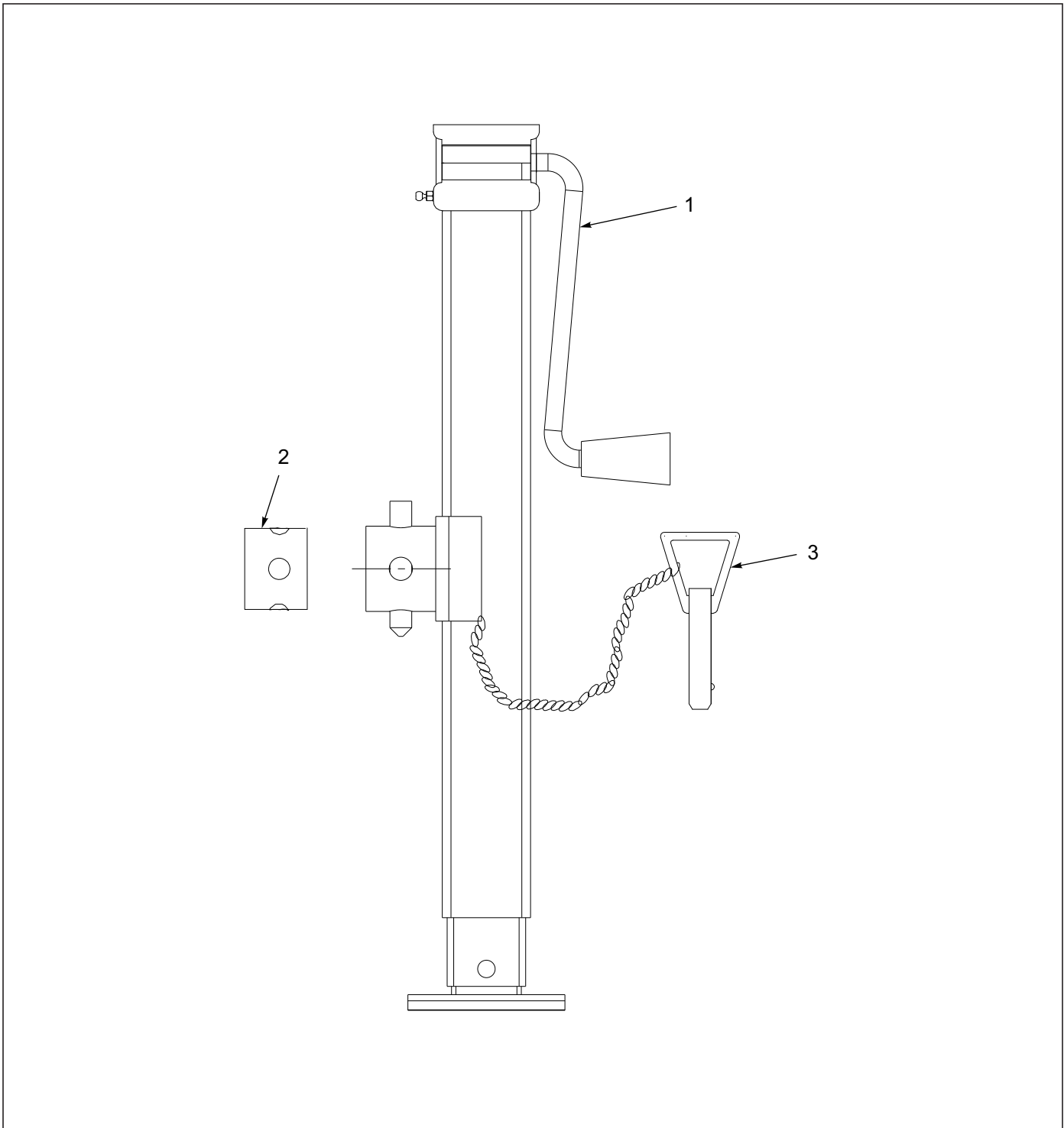


Figure 5-7: 7,000 Lb. Sidewind Jack Assembly

7,000 Lb. Sidewind Jack Assembly

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

Hydraulics

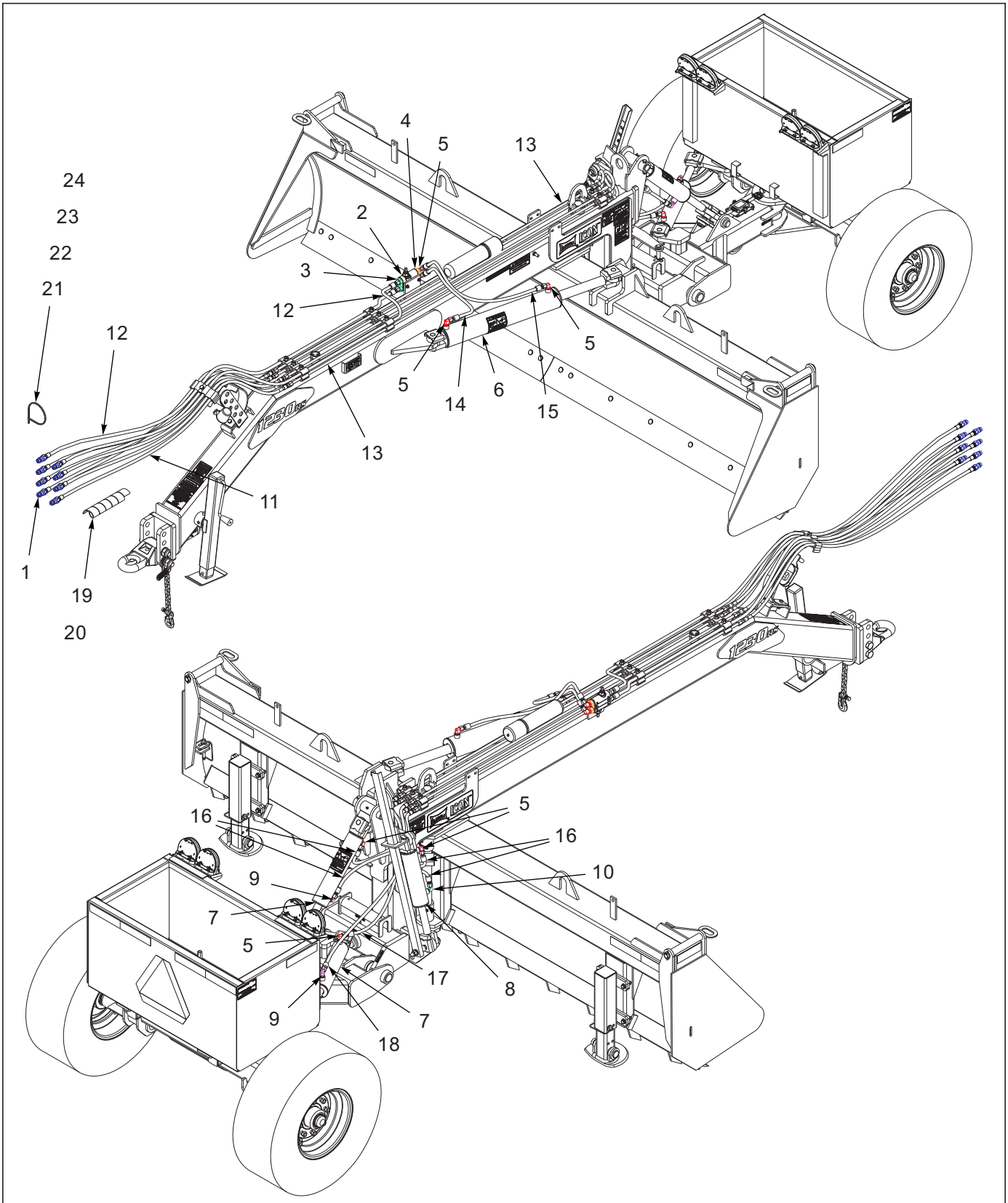


Figure 5-8: Hydraulic Assembly

Hydraulic Assembly

ITEM	PART NO.	DESCRIPTION	QTY.	
--	----	1030/1230 GRADER STANDARD	*	
--	----	1030RS/1230RS GRADER REAR STEER		*
1	141828	COUPLER,MALE 3/4-16 O-RING	6	8
2	5000855	HYD VALVE CUSHION DRV1HH-25-25	1	1
3	202702-12-8S	ADAPTER, #12 O-RING #8 TUBE	2	2
4	1408674	REDUCER, "0" RING FITTING	2	2
5	2062-8-8S	ADAPTER, 90, #8 O-RING-TUBE	6	7
6	4001530	HYDCYL - 4X24W CLEVIS 34 1/4 (ANGLE) (SEE PAGE 5-21)	1	1
7	4001531	HYDCYL - 3X12W CLEVIS 22 1/4 (LIFT & REER STEER) (SEE PAGE 5-22)	1	2
8	4001532	HYDCYL - 3X8W CLEVIS 20 1/4 (TILT) (SEE PAGE 5-23)	1	1
9	141826	ELBOW 90 1/16 RES	1	2
10	141827	ELBOW 90 3/4ORB3/4JIC 1/32REST	1	1
11	5000979	HOSE ASSY 3/8X93 #8JIC X #8ORB	4	6
12	5001183	HOSE 3/8X133 #8JIC X #8 ORING	2	2
13	5001179	HYD, TUBE 8FJ-94.75"-8FJ .049W	4	6
14	5001193	HOSE ASSY 3/8X15"	1	1
15	5000859	HOSE ASSY 3/8X30 #8JIC SWIVL	1	1
16	5001183	HOSE 3/8X133 #8JIC X #8 ORING	4	4
17	5000889	HOSE ASSY 3/8X45 #8JIC X #8JIC (BASE END)	--	1
18	220845	HOSE ASSY, 3/8X58 #8JIC X#8JIC (ROD END)	--	1
19	5000595	HOSE WRAP, 1-1/4" BLACK	--	AR
20	5000934	HOSE WRAP 1/4 HOSE	AR	AR
21	4000722	CABLE TIE 7-1/4 CLEAR 21724	3	3
22	4000723	CABLE TIE, 8" BLACK HD	3	3
23	4000724	CABLE TIE, 7 1/2" YELLOW 21524	3	3
24	179208	CABLE TIE, 7-1/2" BLUE, 21526	--	3

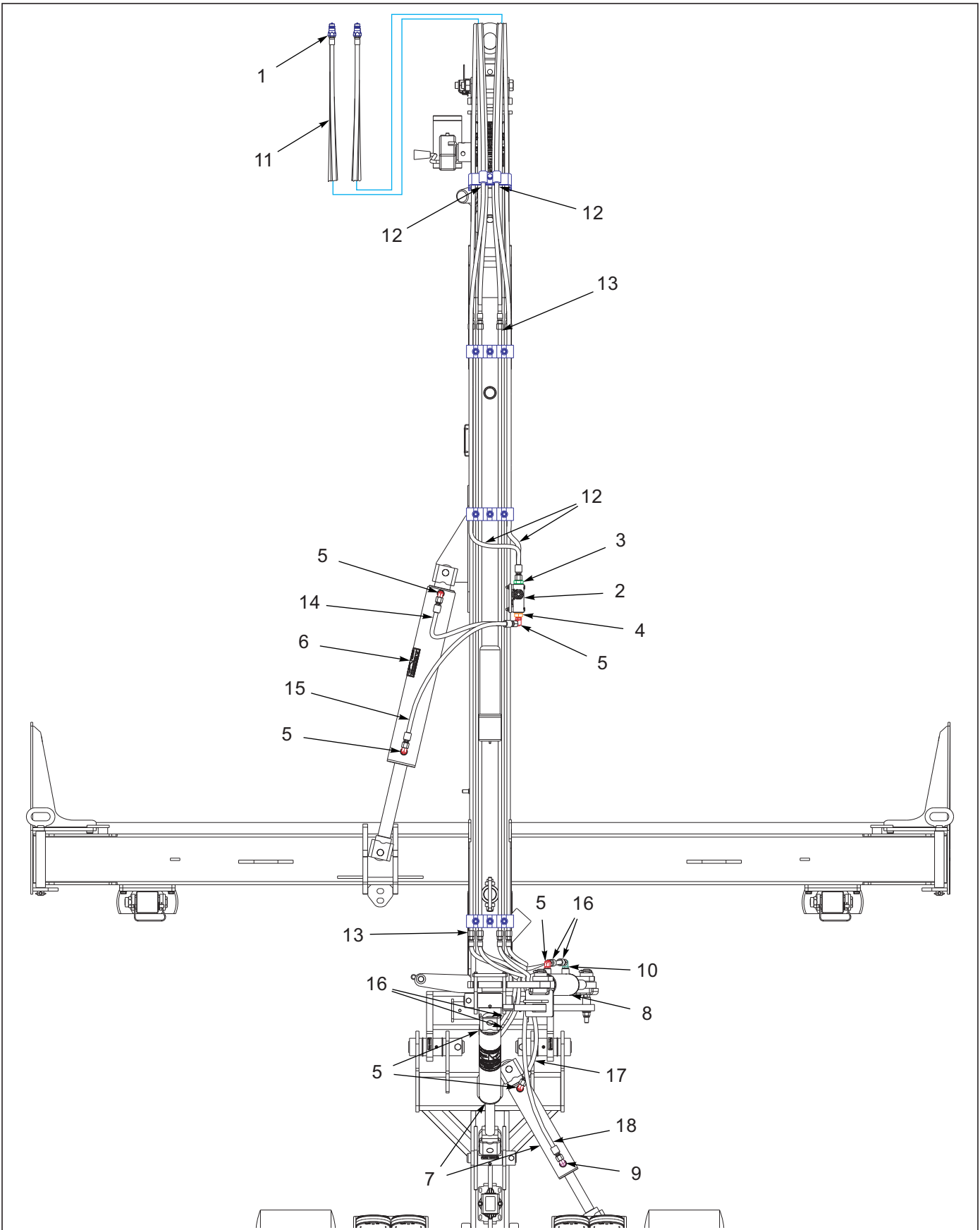


Figure 5-9: Hydraulic Layout

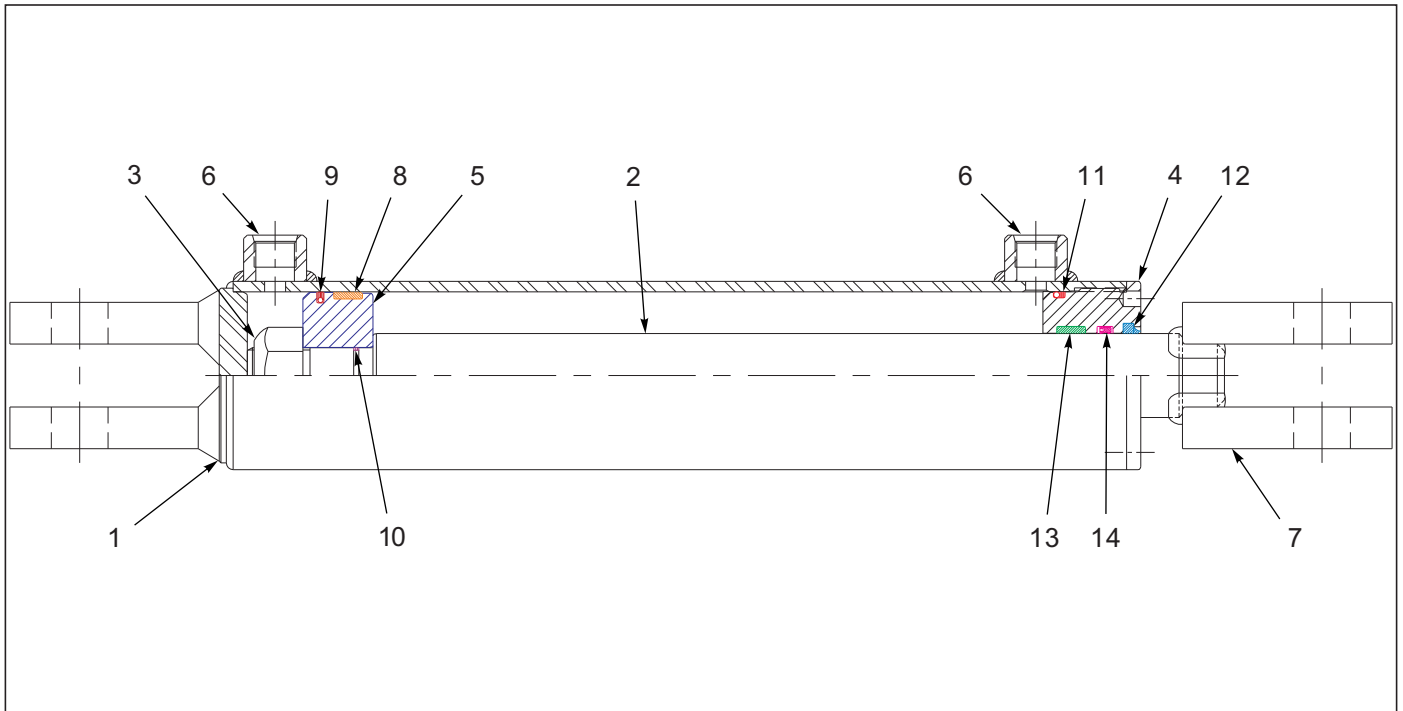


Figure 5-10: Cylinder Assembly - 3 X 12

Cylinder Assembly 3 X 12

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001531	HYDCYL - 3X12W CLEVIS 22 1/4	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	NUT PISTON	1
4	----	HEAD	1
5	----	PISTON	1
6	----	PLUG PLASTIC #8 SAE SHIPPING	2
7	----	CLEVIS CAST Ø1 X 1-3/8 THD	1
8	----	PISTON BUSHING	1
9	----	O-RING	1
10	----	O-RING	1
11	----	O-RING	1
12	----	WIPER	1
13	----	DU BUSHING	1
14	----	U-CUP	1
15	222090	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 8-14)	

ILLUSTRATED PARTS LIST

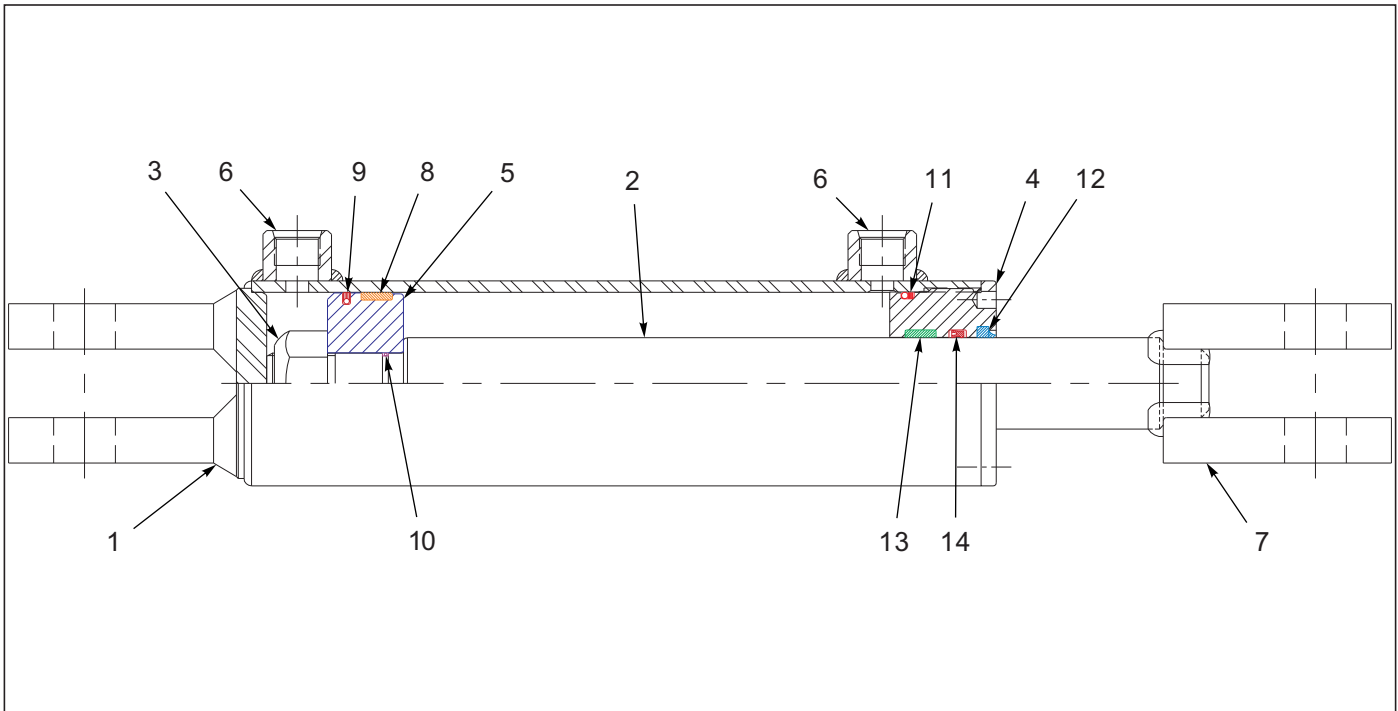


Figure 5-11: Cylinder Assembly - 3 X 8

Cylinder Assembly 3 X 8

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001532	HYDCYL - 3X8W CLEVIS 20 1/4	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	NUT PISTON	1
4	----	HEAD	1
5	----	PISTON	1
6	----	PLUG PLASTIC #8 SAE SHIPPING	2
7	----	CLEVIS CAST Ø1 X 1-3/8 THD	1
8	----	PISTON BUSHING	1
9	----	O-RING	1
10	----	O-RING	1
11	----	O-RING	1
12	----	WIPER	1
13	----	DU BUSHING	1
14	----	U-CUP	1
15	222090	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 8-14)	

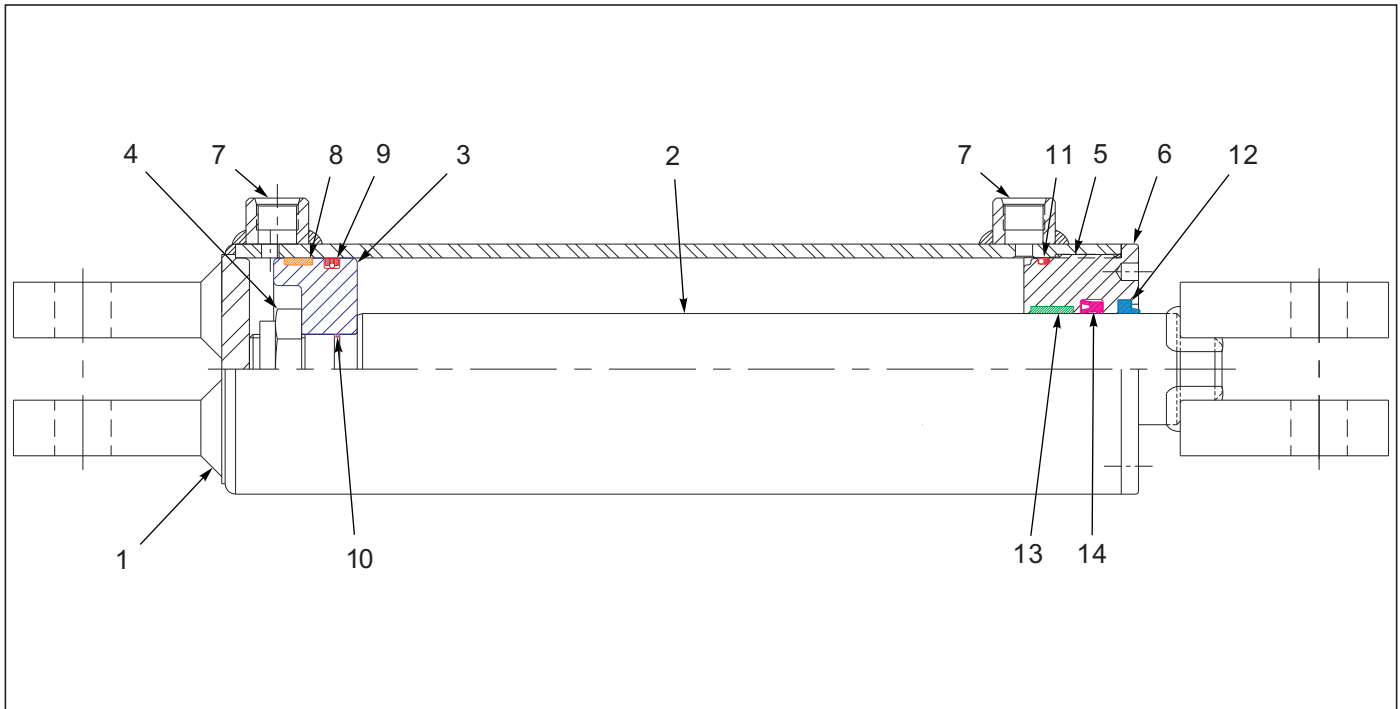


Figure 5-12: Cylinder Assembly - 4 X 24

Cylinder Assembly 4 X 24

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001530	HYDCYL - 4X24W CLEVIS 34 1/4	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	PISTON	1
4	----	NUT LOCK THN CLR 1-1/4-12UNF	1
5	----	HEAD	1
6	----	RING THREADED	1
7	----	PLUG PLASTIC #8 SAE SHIPPING	2
8	----	PISTON BUSHING	1
9	----	O-RING	1
10	----	O-RING	1
11	----	O-RING	1
12	----	WIPER	1
13	----	DU BUSHING	1
14	----	U-CUP	1
15	4000642	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 8-14)	

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 5-13: Electrical Assembly W/ LED Lights (1 of 2)

ILLUSTRATED PARTS LIST

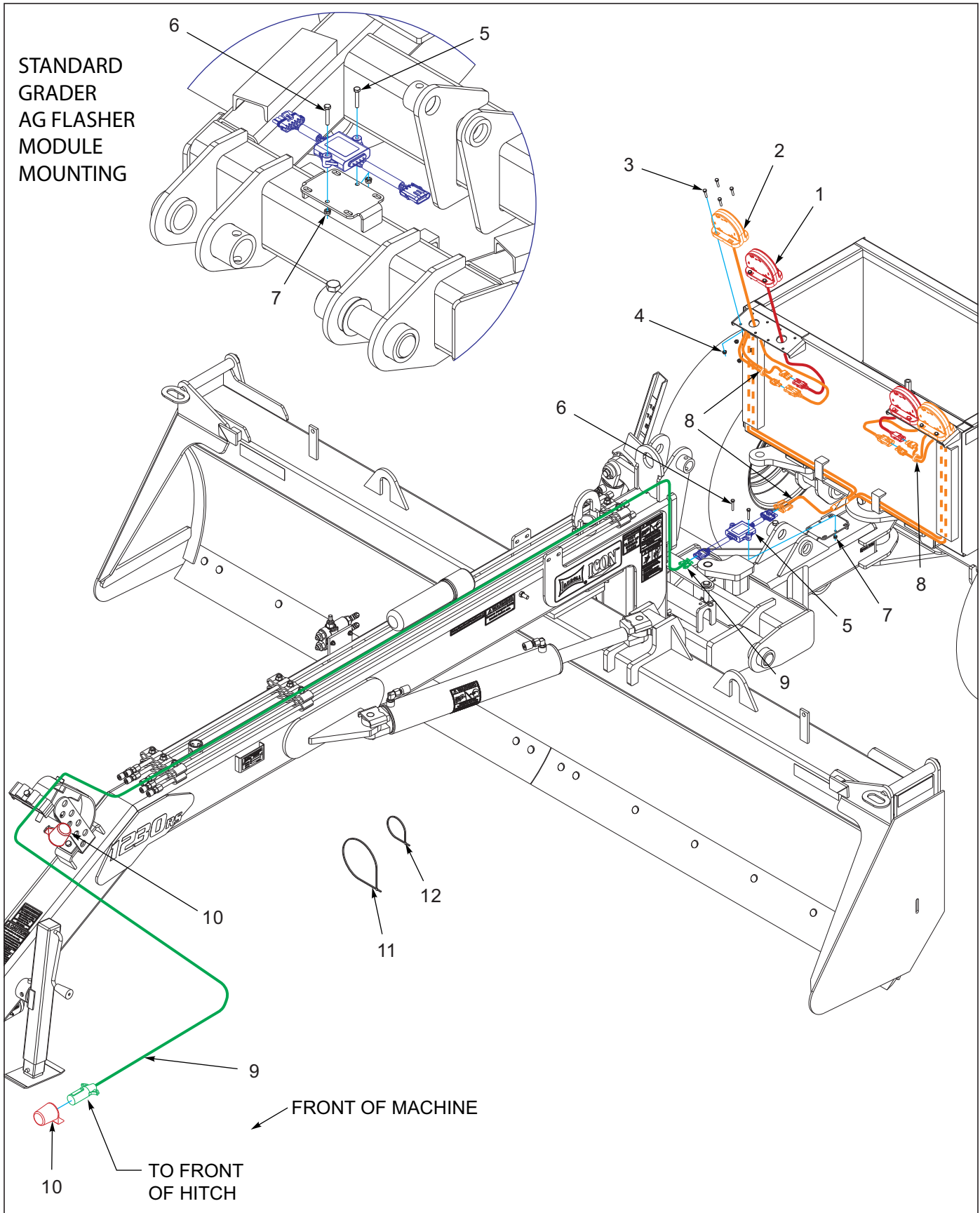


Figure 5-14: Electrical Assembly W/ LED Lights (2 of 2)

Electrical Assembly W/ LED Lights

ITEM	PART NO.	DESCRIPTION	QTY.
--	200338	KIT 20' X 6' LED LIGHTS	
1	174435	LAMP, AG RED SINGLE LED	2
2	174436	LAMP, AG AMBER SINGLE LED	2
3	1-654-010047-07	SCREW,HX CP 1/4-20UNCX1-1/4G5	8
4	142779	NUT,FLANG SERRATED 1/4-20	8
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	2
8	200347	REAR HARNESS, WARN LIGHT, 6'	1
9	200343	FRONT HARNESS,WRN LIGHTS, 20'	1
10	2-368-010287	HARNESS, STOR-A-WAY	1
11	105874	TIE,STRAP PLSTC 21.5-24X.301	1
12	4000723	CABLE TIE, 8" BLACK HD	4

ILLUSTRATED PARTS LIST

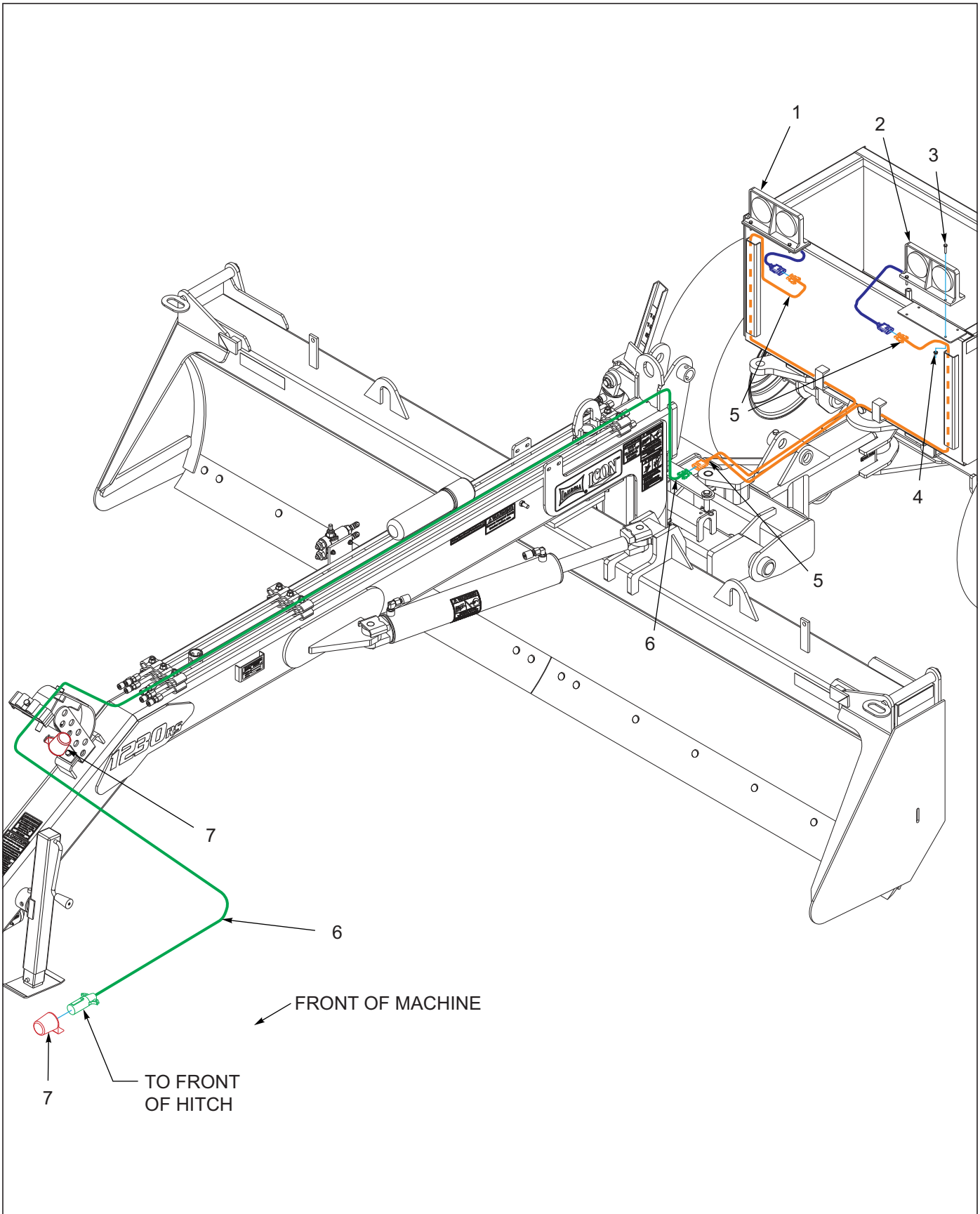


Figure 5-15: Electrical Assembly (Before 6-1-2016)

Electrical Assembly (Before 6-1-2016)

ITEM	PART NO.	DESCRIPTION	QTY.
--	2000626	OPTION, 1230 LIGHT KIT	
1	4001301	LIGHTS, MODULAR RIGHT-W/BRAKE	1
2	4001300	LIGHTS, MODULAR LEFT-W/BRAKE 0	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	LT0056	LIGHTS, REAR HARNESS5'X5'	1
6	LT0066	LIGHTS, FRONT LIGHT HARNES 21	1
7	2-368-010287	HARNESS, STOR-A-WAY	1

Decals

<p>Hydraulic Line Color Code: Black: Raise / Lower Yellow: Tilt White: Blade Angle 1 Tie: Hydraulics Out / 2 Ties: Hydraulics In <small>4000623</small></p>	<p>Safety/Operations/Parts/Manual ↑</p>	<p>WARNING</p> <p>STAY CLEAR OF MOVING PARTS <small>4000372</small></p>
<p>Hydraulic Line Color Code: Black: Raise / Lower Yellow: Tilt White: Blade Angle Blue: Rear Steer 1 Tie: Hydraulics Out / 2 Ties: Hydraulics In <small>197927</small></p>	<p>7</p> <p>1030</p> <p>1030_{RS}</p> <p>1230</p> <p>1230_{RS}</p>	<p>13</p>
<p>1</p> <p>DANGER</p> <p>Do not allow anyone to ride on or to be near this machine while it is in motion or being cycled. Do not service or adjust this machine while the tractor is running. Lower all hydraulic elevated components to the down position before service or adjustment, or if necessary, safely block those components in position. <small>4001523</small></p>	<p>8</p>	<p>DANGER</p>  <p>To prevent serious injury or death from pinching and crushing:</p> <ul style="list-style-type: none"> - Keep all persons and objects clear of this machine while any part is in motion - Do not crawl in or under this machine while the tractor is running. Place the safety stops on the hydraulic cylinders before servicing. <small>4000940</small>
<p>2</p> <p>Always contact utilities before digging. Striking objects above or below ground will abuse the blade and may cause considerable damage to the Grader. <small>4001484</small></p>	<p>Landoll Corp. Marysville Kansas www.landoll.com</p> <p>MODEL # [REDACTED] SERIAL # [REDACTED] MADE IN USA <small>1-573-010006</small></p>	<p>14</p>
<p>3</p> <p>CAUTION</p> <p>This machine is designed for off road use only. <small>4001516</small></p>	<p>9</p>	<p>CAUTION</p> <p>Unpin mowerboard transport pin, swing mowerboard away from tires, before using hydraulics to lower machine. Failure to do so, could result in tire or mowerboard damage. <small>4001377</small></p>
<p>4</p> <p>WARNING</p> <p>Be certain to remove the cylinder safety stops before cycling the machine, or damage to the cylinders or machine, may occur. <small>4001446</small></p>	<p>10</p> <p>WARNING</p>  <p>High pressure fluid hazard ! To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Carefully relieve pressure on system before adjusting, repair, or disconnect • Wear proper hand and eye protection when servicing. • Repair or replace all bad components. <small>4000931</small>	<p>15</p>
<p>5</p> <p>WARNING</p> <p>Remove transport Safety bracket before use. <small>4001511</small></p>	<p>11</p> <p>Landoll ICON™</p>	<p>Safety Stop <small>4001445</small></p> <p>16</p>
<p>6</p>	<p>12</p>	<p>Tire Pressure: 320/70R15 - 70 PSI</p> <p>Wheel Bolt Torque - 150 ft. Lbs. <small>(Check after 20 mi.)</small></p> <p>WARNING</p> <p>Tire repair should be done by qualified personnel. Mount or dismount of heavy ply tires can be dangerous!</p>
		<p>17</p> <p>Grease Daily <small>4000938</small></p> <p>18</p>

Figure 5-16: Decals (1 of 2)

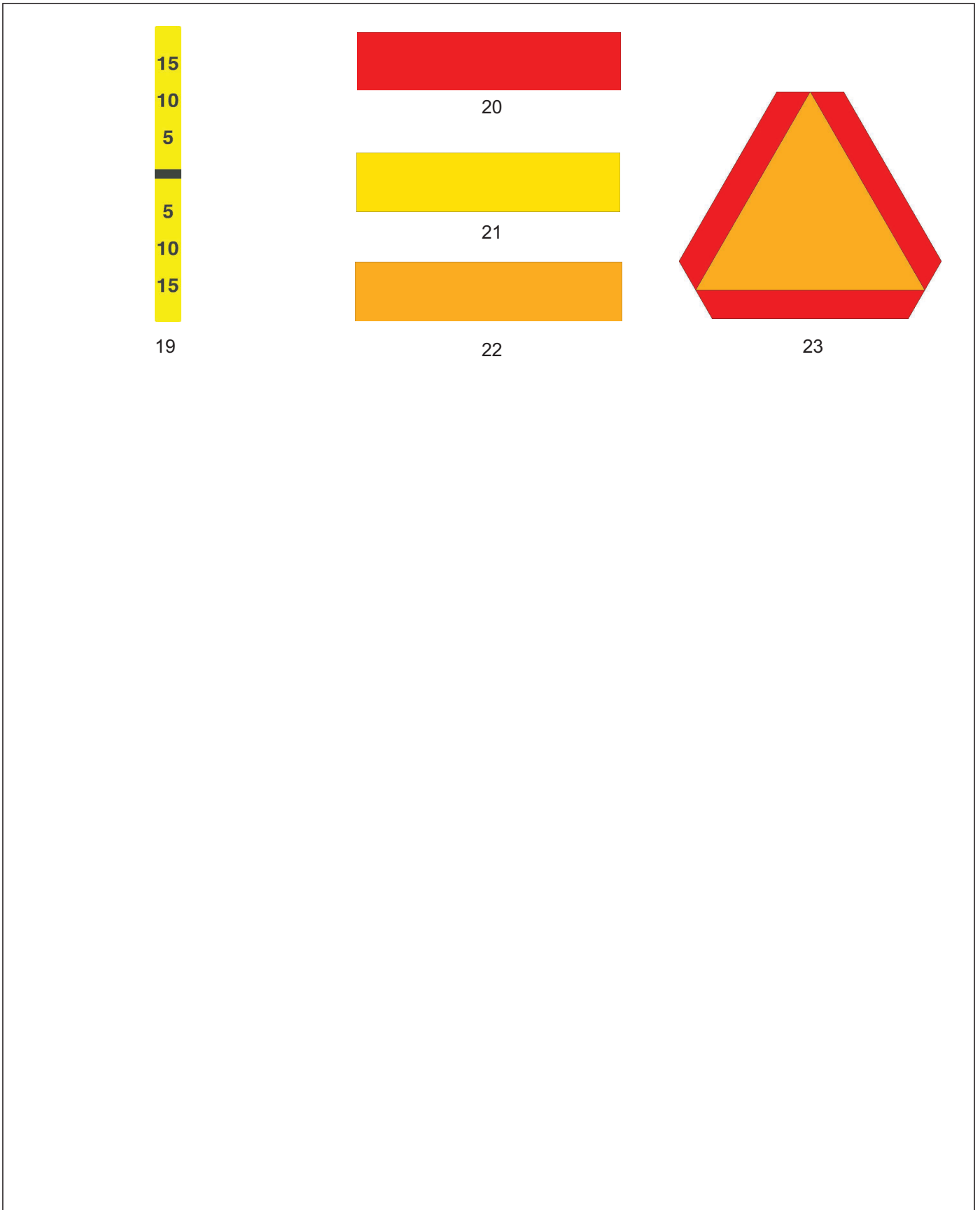


Figure 5-17: Decals (2 of 2)

ILLUSTRATED PARTS LIST

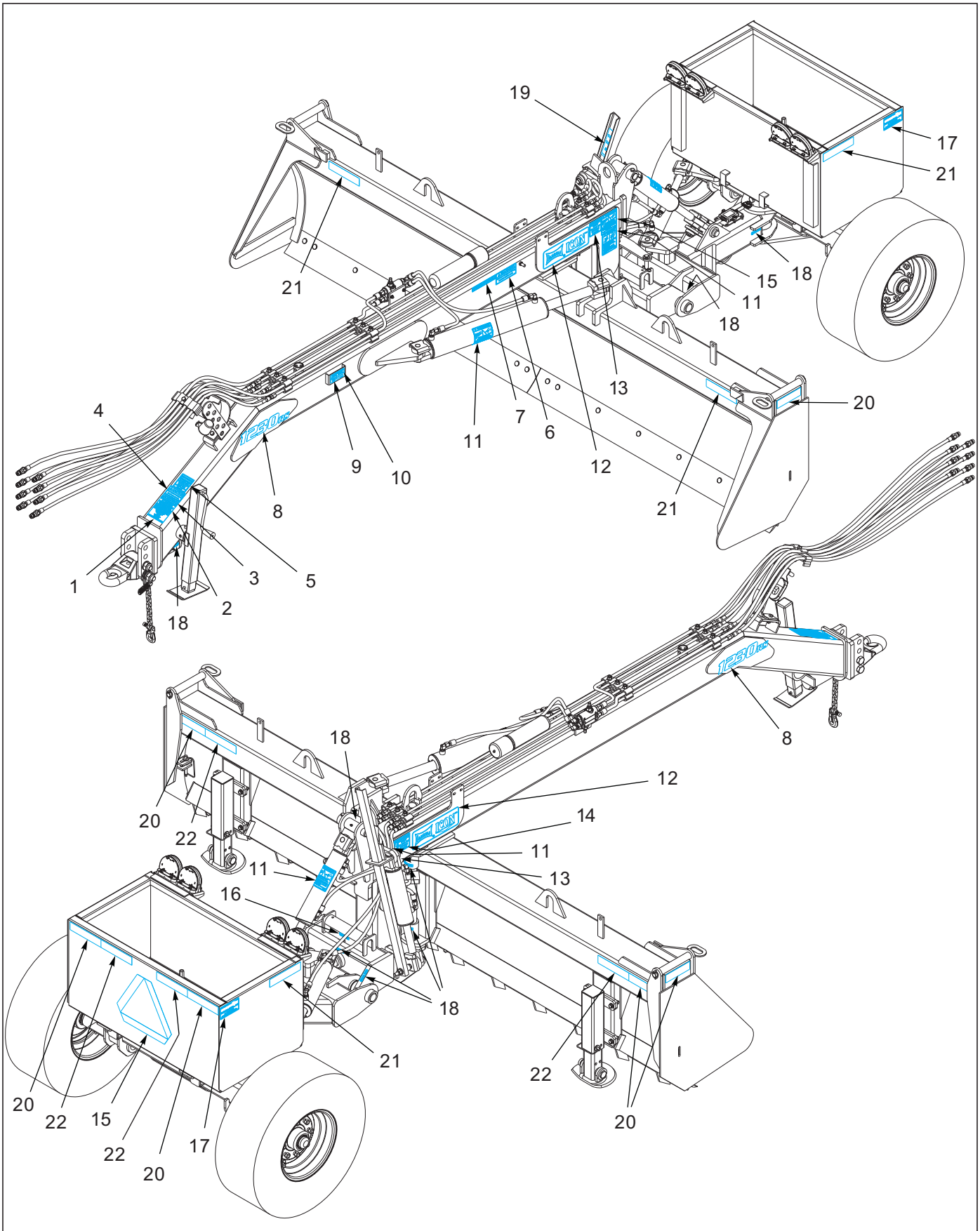


Figure 5-18: Decal Location

Decals

ITEM	PART NO.	DESCRIPTION	QTY.			
--	220849	KIT, 1030 DECAL	*			
--	220852	KIT, 1030RS DECAL		*		
--	2000627	KIT, 1230 DECAL			*	
--	218937	KIT, 1230RS DECAL				*
1	4000625	DECAL, HYD LINE COLOR CODE	1	--	1	--
1	197567	DECAL, HYD COLOR CODE, RS	--	1	--	1
2	4001550	DECAL, DANGER NO RIDING	1	1	1	1
3	4001484	DECAL "ALWAYS CONTACT UTILITIE	1	1	1	1
4	4001516	DECAL-OFF ROAD ONLY	1	1	1	1
5	4001446	DECAL "WARNING-REMOVE CYL.STOP	1	1	1	1
6	4001551	DECAL, WARNING REMOVE TRANSPOR	1	1	1	1
7	4000935	DECAL "SAFETY/OPERATIONS/PARTS	1	1	1	1
8	220851	DECAL, 1030 MODEL	2	--	--	--
8	220854	DECAL, 1030RS MODEL	--	2	--	--
8	4001529	DECAL, 1230 MODEL	--	--	2	--
8	220844	DECAL, 1230RS MODEL	--	--	--	2
9	1-573-010006	PLACARD, NAME	1	1	1	1
10	156010	RIVET, BLIND .156X1/2 GRIP	2	2	2	2
11	4000931	DECAL "WARNING" HIGH PRESSURE	5	5	5	5
12	192251	DECAL, LANDOLL/ICON 4X13	2	2	2	2
13	4000372	DECAL WARN MOVING PARTS 3-1/2	2	2	2	2
14	4000940	DECAL "DANGER" PINCHING/CRUSHI	2	2	2	2
15	4000335	DECAL SLOW MOVING 1FP-C	1	1	1	1
16	4001445	DECAL "SAFETY STOP" 3/4X2 3/4	1	1	1	1
17	220865	DECAL, 320/70R15 TIRE	2	2	2	2
18	4000938	DECAL "GREASE DAILY"	7	8	7	8
19	4001426	DECAL 16C GRADER DEPTH GAUGE	1	1	1	1
20	528933	REFLECTOR - RED	4	4	4	4
21	528934	REFLECTOR - YELLOW	4	4	4	4
22	528938	STRIPE, ORANGE	4	4	4	4

Gauge Wheel (Option)

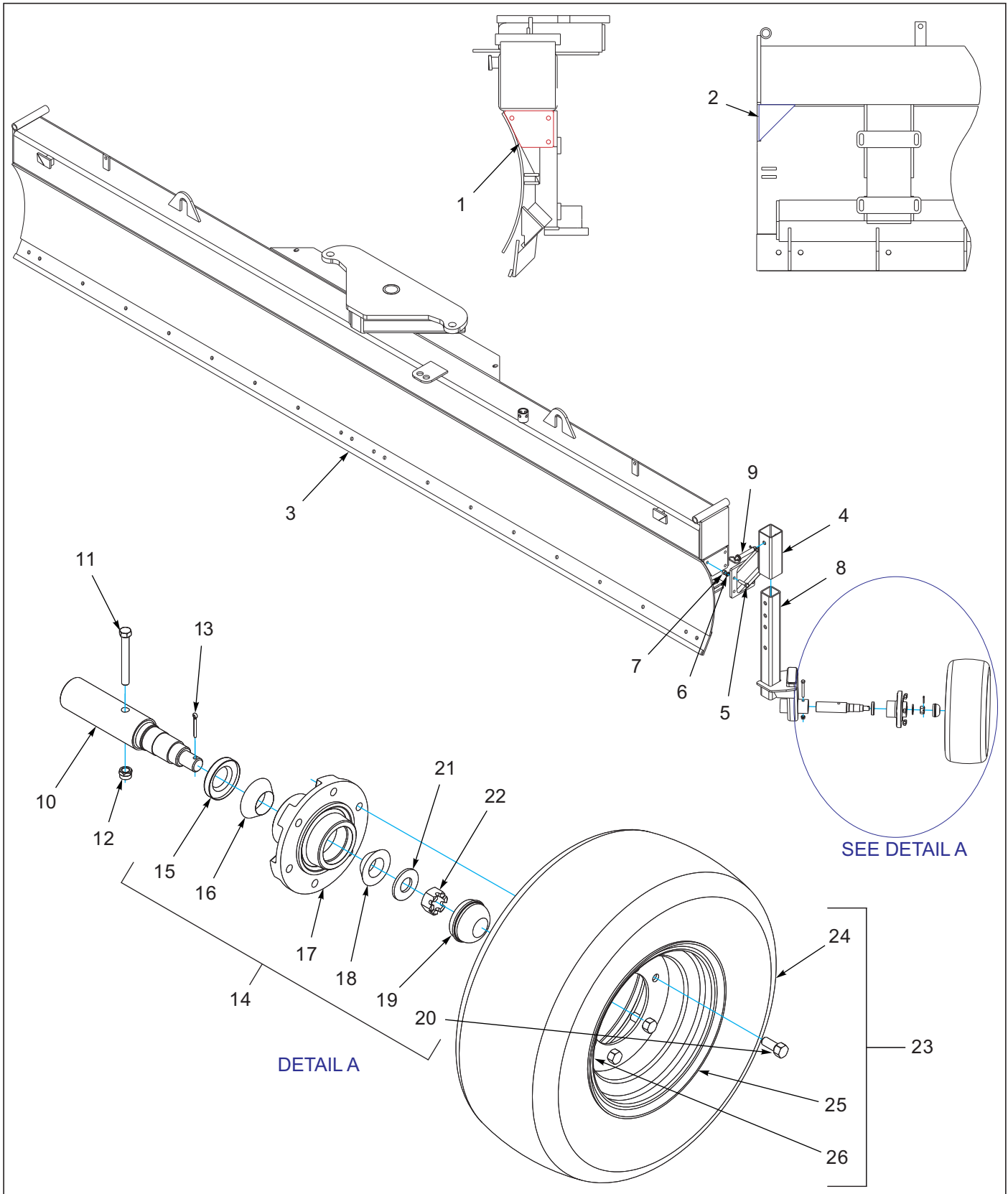


Figure 5-19: Gauge Wheel Kit (Option)

Gauge Wheel Kit (Option)

ITEM	PART NO.	DESCRIPTION	QTY.	
--	2000631	KIT GAUGE WHL OPT LH W/WELD ON (SHOWN)	*	
--	2000636	KIT GAUGE WHL OPT RH W/WELD ON		*
1	9303018	2000631 PLATE 1/2"	1	1
2	9303022	2000631 PLATE 1/2"	1	1
3	ICO2182	1632 MOWBOARD WLDMT	REF	REF
4	ICO2225	GAUGE WHEEL SUPPORT	1	1
5	1-654-010055-05	SCREW,HEX CAP,1/2-13UNCX2 GR5	3	3
6	1-861-010034-13	WASHER, LKG HLCL SPR, 1/2	3	3
7	61D8ER	NUT, HEX 1/2-13UNC GR5 ZP	3	3
8	ICO2234	GAUGE WHEEL STAND LH SIDE	1	--
8	ICO2226	GAUGE WHEEL STAND RH SIDE	--	1
9	4001311	3/4 x 4 HITCH PIN	1	1
10	141245	SPINDLE, GAUGE WHEEL	1	1
11	141808	SCREW HX CP7/16-14UNCX3-1/2G5	1	1
12	101988	NUT,HEXSLF-LKG 7/16-14 GRB	1	1
13	1-557-010362-40	PIN, COTTER 5/32X1-1/4	1	1
14	1-406-010010	HUB ASSY 6 BOLT (INCLUDES ITEMS 15-20)	1	1
15	1-659-010004	1-5/8 ID GREASE SEAL	1	1
16	1-076-010009	CONE INNER	1	1
17	1-406-010012	HUB 6 BOLT W/CUPS	1	1
18	1-076-010007	CONE INNER	1	1
19	1-161-010003	CAP 6BOLT HUB	1	1
20	1-104-010002	WHEEL BOLT1/2X1-3/8 S	6	6
21	1-861-010004	WASHER SPINDLE 7/8	1	1
22	100966	NUT, HEX SLOTTED 7/8-14	1	1
23	141271	TIRE AND WHEEL ASSY,FRT YELLOW (INCLUDES ITEMS 24-26)	1	1
24	160151	TIRE 20.5X8 10/8 PLY	1	1
25	160155	WHEEL 10X6 6 BOLT	1	1
26	TR416	VALVE STEM TUBELESS TIRE	1	1

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Date	Form #	New/Updated	Improvement(s): Description and Comments
06/22/2012	F-960	New	Initial Release
01/18/2018	F-960-0118	Update	Added Form # and updated to newer FrameMaker format.
09/12/2012	F-960-0919	Update	Updated complete manual.



Intertek

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Model 1030/1030RS/1230/1230RS Pull Type Grader Service and Parts Manual

Re-Order Part Number F-960-0919

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