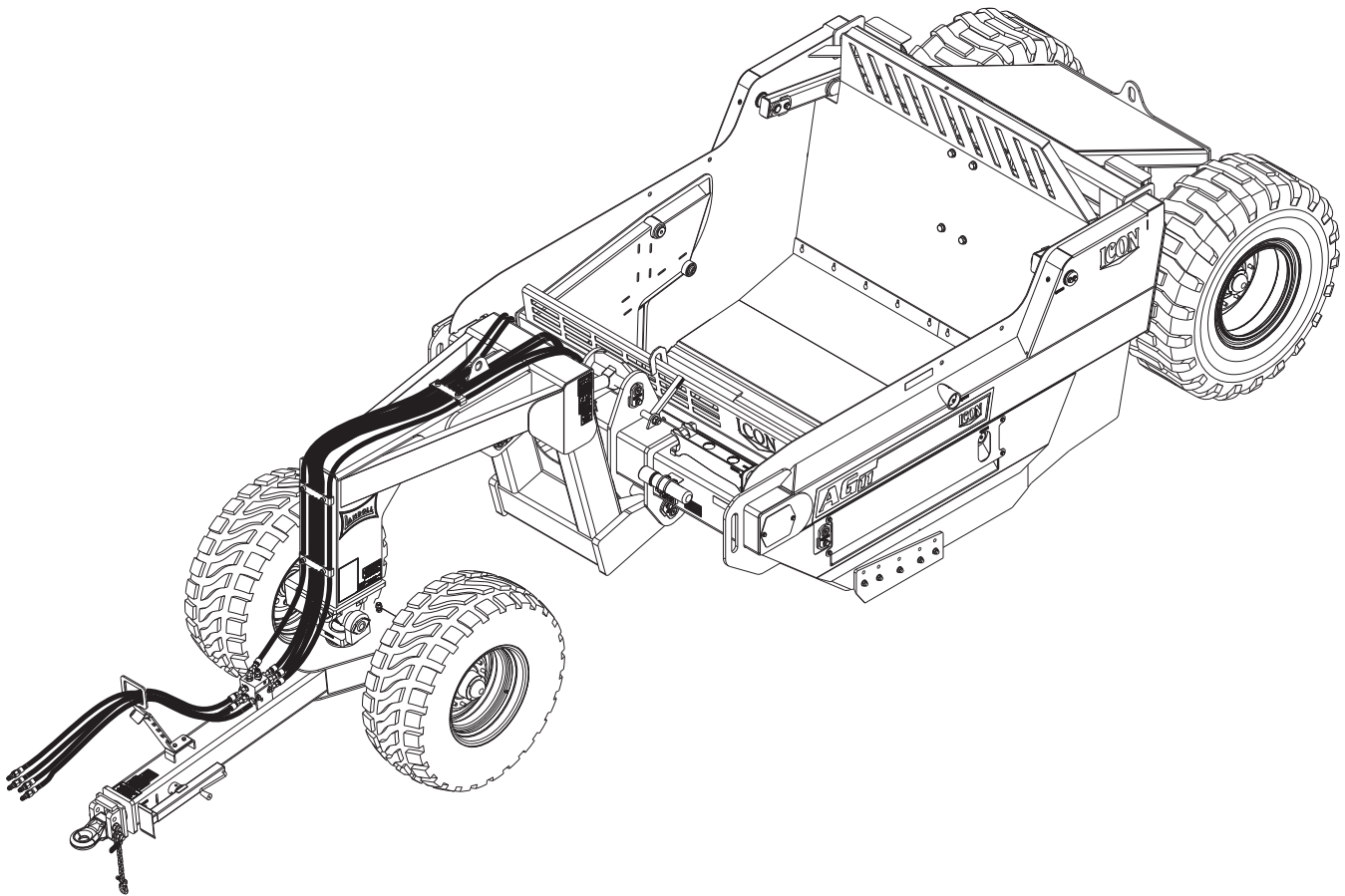




**Model AG11/AG13  
Pull Type Scraper  
Service and Parts Manual**



**LANDOLL CORPORATION**

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## Manuals for the AG11-13 Scraper

MANUAL NUMBER	MANUAL NAME
F-879	AG11-13 Service and Parts Manual

# Table of Contents

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## **1 Introduction and Safety Information**

<b>Introduction</b> .....	<b>1-1</b>
Understanding Safety Statements .....	1-2
Decal Safety .....	1-2
Transporting Safety .....	1-2
Attaching, Detaching, and Storage .....	1-3
Maintenance Safety .....	1-3
High Pressure Fluid Safety .....	1-3
Protective Equipment .....	1-3
Chemical Safety .....	1-3
Prepare for Emergencies .....	1-3
Tire Safety .....	1-3
Safety Chain .....	1-4

## **2 Standard Specifications**

<b>Model Specification</b> .....	<b>2-1</b>
General Torque Specifications (rev. 4/97) .....	2-3
Hydraulic Fitting Torque Specifications .....	2-4
Introduction .....	2-5
Owner Assistance .....	2-5
Warranty Registration .....	2-5

## **3 Assembly and Lubrication**

Assembly and Lubrication Check List .....	3-1
Lubrication Maintenance .....	3-1

## **4 Hookup and Operation**

Description of Machine .....	4-1
Hose Wrap Designations .....	4-1
Tractor Preparation .....	4-2
AG11/13 Preparation .....	4-2
Attaching to the Tractor .....	4-2
Hydraulic Lift System .....	4-2
Hydraulic Gate & Push-Off Wall System .....	4-4
General Operation .....	4-4
Field Operation .....	4-4
AG11/AG13 Sequencing Valve .....	4-5
Sequencing Manifold Adjustment .....	4-5
Cutting Edges .....	4-6
Wheel Bearing Maintenance .....	4-6
Hydraulic Maintenance .....	4-6
Transport .....	4-6

## **5 Illustrated Parts List**

<b>General Assembly</b> .....	<b>5-1</b>
General Assembly .....	5-1

---

<b>Scraper Assembly</b> .....	<b>5-2</b>
Hitch Assembly .....	5-3
Dolly Assembly .....	5-5
Push-Off Assembly .....	5-7
Main Frame Assembly .....	5-9
Hitch, Dolly and Component Assembly to Main Frame .....	5-11
Main Frame Assembly Rear .....	5-13
Hub & Spindle Assembly 178723 .....	5-15
Hub & Spindle Assembly 178721 .....	5-17
7,000 Lb. Sidewind Jack Assembly .....	5-18
<b>Hydraulics</b> .....	<b>5-20</b>
Hydraulic Assembly .....	5-21
Cylinder Assembly 6 X 22 .....	5-23
Cylinder Assembly 3-1/2 X 20 .....	5-24
Cylinder Assembly 4-1/2 X 32 .....	5-25
<b>Electrical</b> .....	<b>5-27</b>
Electrical Assembly W/ LED Lights (After 6-1-2016) .....	5-29
Electrical Assembly W/ LED Lights (Before 6-1-2016) .....	5-29
<b>Decals</b> .....	<b>5-30</b>
Decals .....	5-33

**6 Index**



# Introduction and Safety Information

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## Introduction

The Landoll /Icon Model AG11/AG13 Scraper 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 Scraper. 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 Scraper.

**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 AG11	Model AG13
Capacity Struck	9.1 yd	11.4 yd
Capacity Heaped	11.2 yd	13.1 yd
Shipping Weight	17,612lbs	18,490lbs
Width of Cut	8'	8'
Overall Width	9' - 1"	9' - 1"
Replaceable Cutting Edge Center	7/8" X 16" X 48"	7/8" X 16" X 48"
Replaceable Cutting Edge Outside	7/8" X 13" X 23.75"	7/8" X 13" X 23.75"
Ground Clearance Full Raised	20"	20"
Maximum Cut Depth	9"	9"
Length Overall	29'	29'
Cylinders Lift	6" X 22"	6" X 22"
Cylinders Gate	3.5" X 20"	3.5" X 20"
Cylinders Push Off	4.5" X 32"	4.5" X 32"
Hydraulic Hoses	3,000 psi rated	3,000 psi rated
Hydraulics use a Sequencing Valve and requires 2 Tractor Remotes	2 Valve System	2 Valve System
Hitches	pintle style	pintle style
Grease Locations	26 total	26 total
Safety Warning Lights	Standard LED	Standard LED
Hub & Spindle (Front)	10 Bolt 12,000lbs.	10 Bolt 12,000lbs.
Hub & Spindle (Rear)	10 Bolt 20,000lbs.	10 Bolt 20,000lbs.

<b>Tire Inflation</b>			
<b>Tire Size</b>	<b>Tire Manufacturer</b>	<b>Ply/Load Rating</b>	<b>Inflation Pressure (Psi) (Max.)</b>
500/70R24 (Front)	Good Year or equivalent	157AB 9,100LBS. @ 30MPH	46 psi
20.5 X 25 (Rear)	Titan or equivalent	20 Ply 20,900LBS. @ 5MPH	65 psi

<b>Recommended Torque Specification For Lug Bolts and Nuts</b>	
<b>Bolt Size</b>	<b>Torque (FT. LBS.)</b>
3/4-16	250-265 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 Scraper. 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](#).

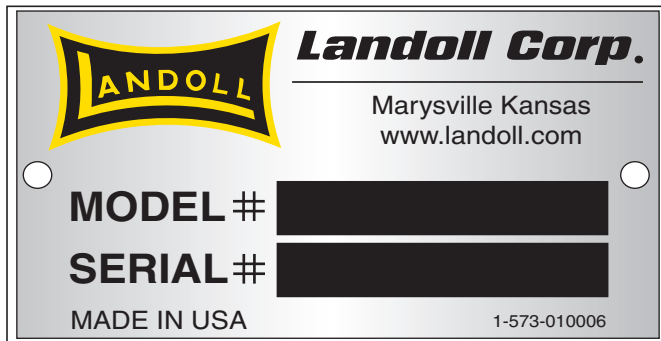


Figure 2-1: ID Plate

## Warranty Registration

Be certain to register the grader, by online registration at [www.landoll.com](http://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.

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. 8<sup>th</sup> 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

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## Assembly and Lubrication Check List

1. Install Cutting Bits, and Side Router Bits. Torque all mounting bolts.
2. Install Lift Cylinder. Torque all pin retaining bolts.
3. Position and pin Push-off Wall. Install Push-off Cylinder and Linkage. Torque all retaining bolts. Install the depth gauge components.
4. Locate and pin front gate and gate lift assembly. Install gate cylinders. Torque all retaining bolts.
5. Install front Dolly Hitch Assembly. Torque all pin retaining bolts.
6. Install axle and wheel components. Torque all retaining bolts. Inflate tires to required PSI.
7. Locate and assemble all hydraulic fittings, hoses and blocks. Properly tighten fittings, taking care not to overtighten. Install the proper markings to each hose and apply color coded hose wrap.
8. Install safety lighting components, route wiring and install plug retainer. Cycle and check lighting system with 12-volt system tester.
9. Lubricate all moving components with high temperature grease.
10. Fill hydraulic system with Mobil 424 hydraulic oil. Using hydraulic pump, activate all moving parts and bleed air from the system (if necessary). Hold 3,000 PSI hydraulic pressure against all cylinders, fittings, and hoses for a minimum of 4 minutes. Check all components for leaks.
11. Install all side covers and shields. Torque all retaining bolts.
12. Clean and touch up paint the machine. Attach the manual container.
13. Apply the serial tag, operations, lube and identification decals.
14. Check function and proper engagement of all safety stops.

## Lubrication Maintenance

1. **Table 3-1** specifies the number and the period of lubrication points on the AG11/AG13 Scraper. 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 AG11/AG13 Scraper, 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 AG11/AG13 Scraper 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.

ASSEMBLY AND LUBRICATION

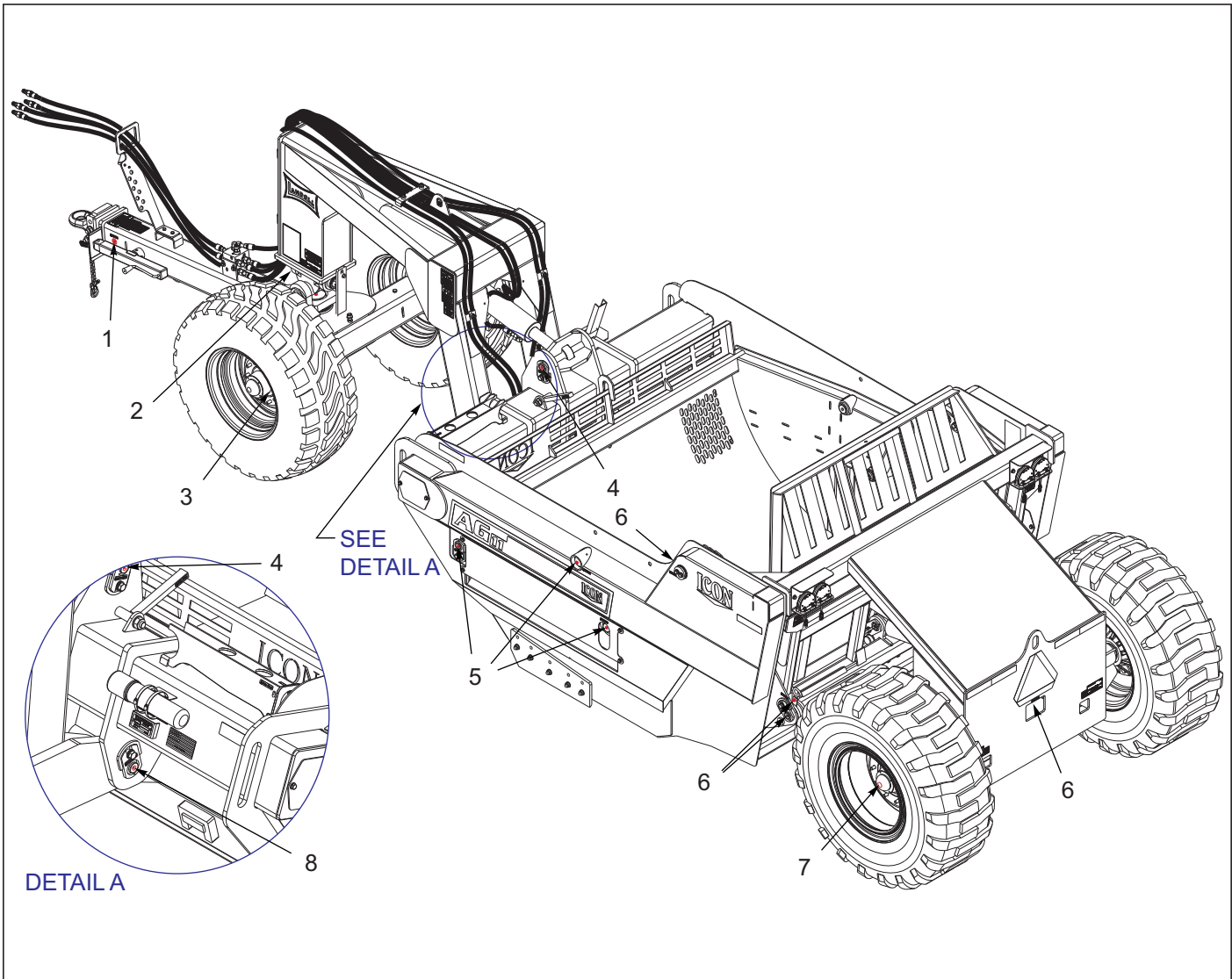


Figure 3-1: Lubrication Schedule

LUBRICATION TABLE			
ITEM	DESCRIPTION	NO. OF LUBE POINTS	INTERVAL
1	SWIVEL HITCH	1	DAILY
2	DOLLY HITCH & CROSS PIVOT	4	DAILY
3	FRONT WHEEL HUBS	2	WEEKLY
4	LIFT CYLINDER PINS	2	DAILY
5	GATE PIVOT & CYLINDER PINS	6	DAILY
6	PUSH-OFF PIVOT & CYLINDER PINS	7	DAILY
7	REAR WHEEL HUBS	2	WEEKLY
8	DOLLY HITCH PIVOT	2	DAILY

Table 3-1: Lubrication Table

# Hookup and Operation

## Description of Machine

The AG11/AG13 utilizes 2 hydraulic valves on the tractor, allowing it to function in 3 different directions.

The Scraper has the ability to:

- Raise to a clearance from bit to ground of 20 inches while lowering to a negative cut
- Raise and lower the gate
- Extend and retract the push-off wall

The gate and push-off wall functions are tied together using the sequencing manifold found on the hitch. This sequencing manifold allows 2 functions to be operated by only 1 hydraulic valve on tractor.

## Hose Wrap Designations

Color coded hose wraps are attached at the tip end of the hoses to identify the 2 pairs of hydraulic lines to the scraper.

- Blue hose wrap is used on the raise and lower hoses
- Yellow hose wrap is used on the gate/push-off wall hoses
- Long wrap is used on hydraulic out hose (Pressure)
- Short wrap is used on hydraulic in hose (Return)

### NOTE

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

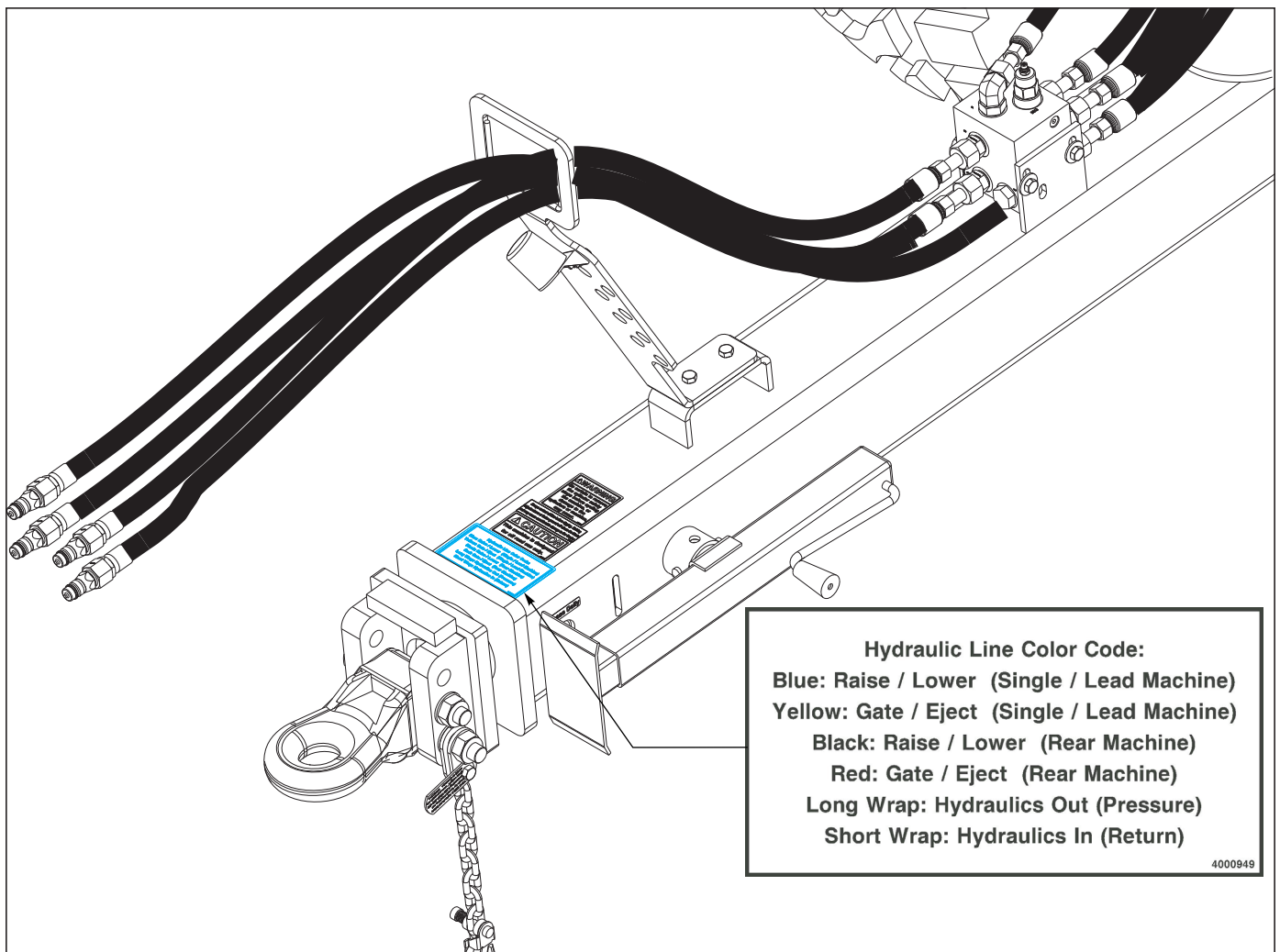


Figure 4-1: Tie Strap Designations



## Tractor Preparation

The Landoll/Icon AG11/13 is designed to be pulled by a 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 AG11/13, 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.

## AG11/13 Preparation

1. Prior to operating the AG11/13, 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 air inflation of all tires. Follow the tire manufacturer's recommended pressure listed on the sidewall of the tires.
5. Lubricate the machine as shown in **"Lubrication Schedule"** on page 3-2, **See Figure 3-1**

## Attaching to the Tractor

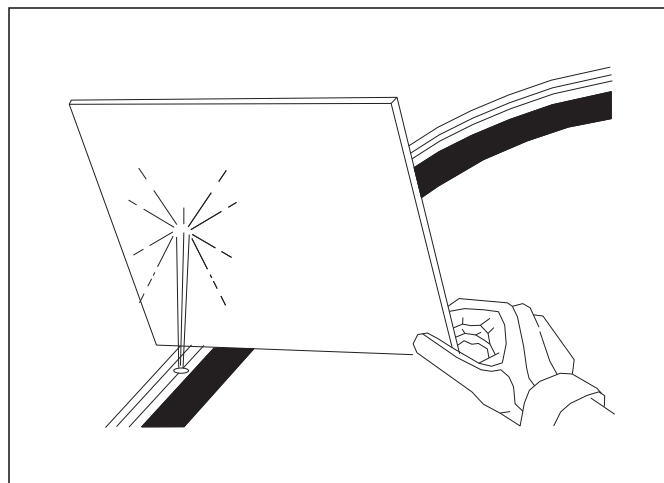
1. Align the tractor drawbar with the machine. Raise or lower the unit ring hitch, as needed, using the swivel jack. Attach the unit with proper size hitch pin.
2. Always place the swivel jack on the interior mount before setting the machine in motion.
3. Clean all hydraulic couplings and attach to the 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 AG11/13 is equipped with a hydraulic lift system to raise and lower the unit in the field.

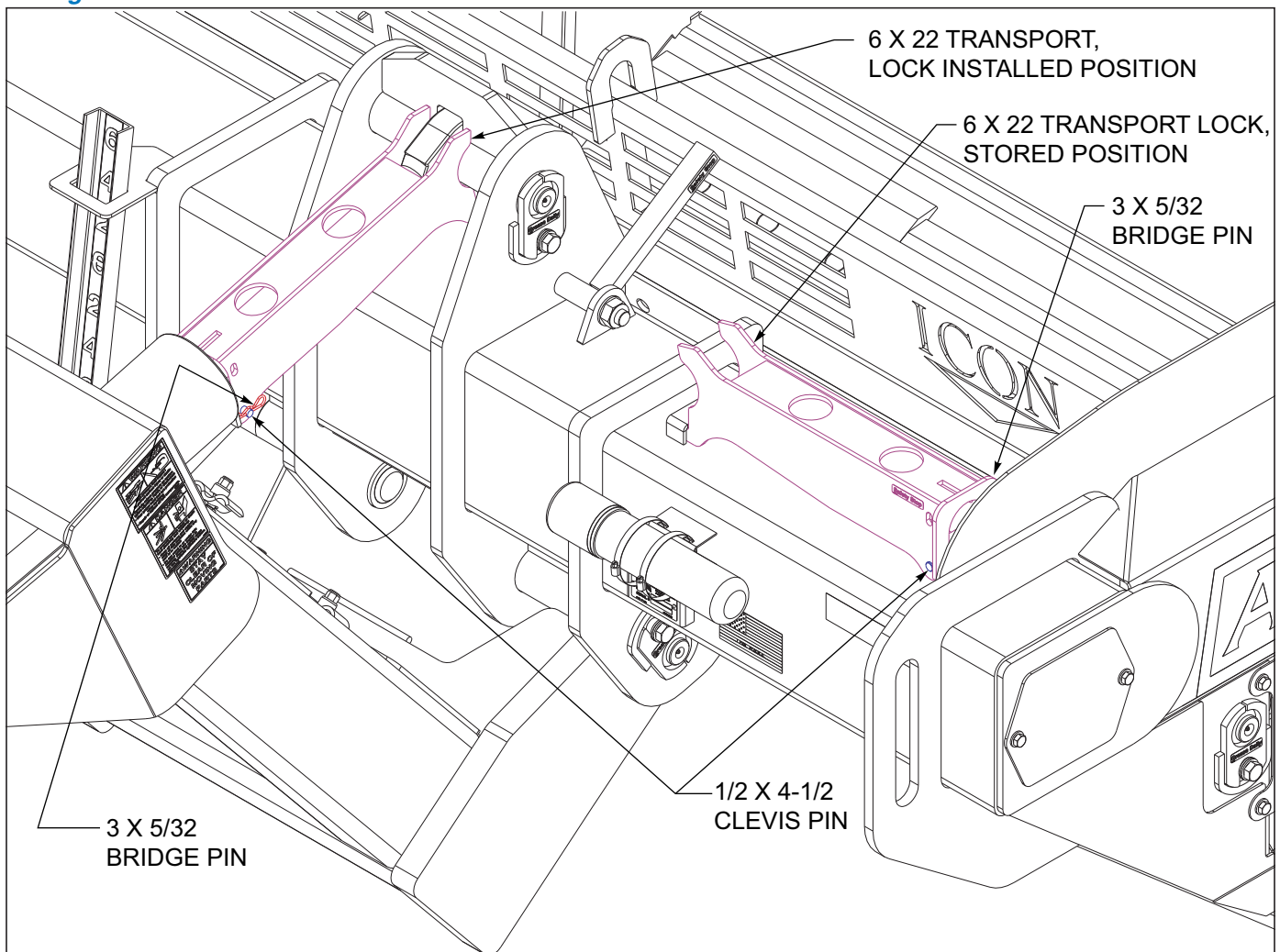


**Figure 4-2: Hydraulic Leak Detection**

**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 AG11/13 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 6 x 22 transport lockout [See Figures 4-3](#). Storage location for lockout [See Figures 4-3](#).
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: Transport Locks**

## HOOKUP AND OPERATION

## Hydraulic Gate & Push-Off Wall System

1. The hydraulic system will be filled with oil and fully charged. Carefully hitch the AG11/AG13 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. Complete a gate/push-off wall cycle to verify that the system is operating correctly. Recheck tractor reservoir to make sure it is within operating limits. With the gate cylinders fully retracted, install the gate lockout. *See Figure 4-4*

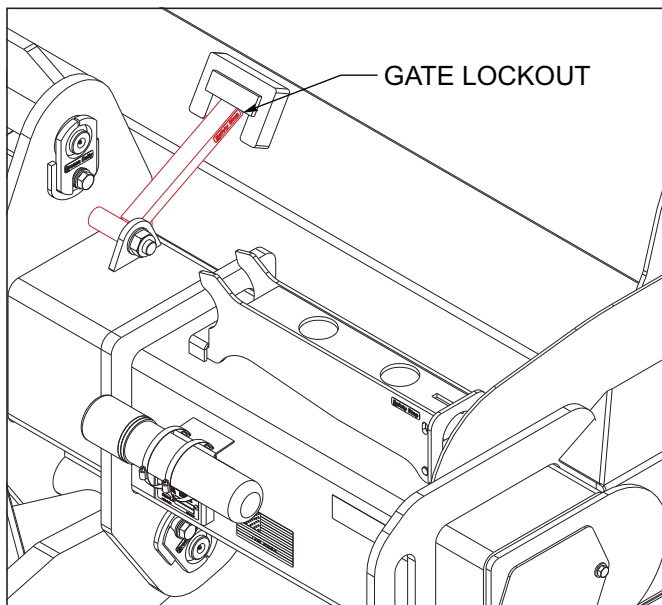


Figure 4-4: Gate Lockout

2. Before entering the bowl for any reason, ensure that the gate lockout is in place. Failure to take this preventive measure could result in serious personal injury.
3. Always fully retract gate cylinders before removing gate lockout. Unit can settle during maintenance causing the lockout to be pinched.
4. The AG11/AG13 gate and push-off system is controlled by a sequencing manifold, allowing 2 functions to be operated by only 1 hydraulic valve on tractor. See *“Sequencing Manifold Adjustment” on page 4-5.*

## General Operation

1. The horsepower requirements are typically 250-400 horsepower. This will vary widely due to speed, depth of cut, moisture and types of soils. Additional horsepower will shorten the life of the unit. Local dealers can help in making recommendations for your areas.
2. Loading speed is typically 4-8 mph depending on the type of soil/material being loaded. Excessive speed can cause the unit to bounce and create an uneven cut depth, too low of speed will not allow the bowl to be loaded effectively.
3. Do not turn sharply with the AG11/AG13 in the ground, this can put excessive side load on the entire unit. Raise the unit slightly when making sharp turns to prevent gouging and/or ridging of material.

## Field Operation

1. Raise the unit to take the weight off the transport lockout. Remove the transport lockout from the lift cylinder and reassemble it in the storage location.
2. Cycle each hydraulic function to ensure they are working properly.
3. Be patient for the first few hours of learning to operate the machine. Time and experience will produce expert results. Any type of cutting-edge machine will have the tendency to create a “washboard” effect, if too much speed and inconsistent depth is used.
4. To help prevent this “washboard” effect, slow down and take a lesser and more uniform cut per pass. This may increase the number of passes needed to achieve a certain cut depth but will increase the quality of finish.
5. Different soil types and conditions may require different operating techniques. Take your time and find what technique works best for your current job site.
6. If the machine is used to “back level” or drag, be certain that the gate is fully raised and the push off wall is completely forward. This allows the operator to carry a small amount of material to fill with (if needed.) **Important: Never use a closed gate for bulldozing or grading material.**
7. A visual depth gauge is located at the right side, front of the machine. It allows the operator to set the cutting edge to the proper depth for a uniform cut or eject depth of the load.



8. On a 2-valve system, the timing of the loaded machine is critical to its performance. It is important that the gate and push off wall work as they should. Adjustments to the timing is made at the sequence block, located on the tongue of the machine. This setting is factory set, but in time, can need re-adjusted (*which is adjustable, Refer to the Sequencing Manifold Adjustment Section*).

## AG11/AG13 Sequencing Valve

1. The manifold block containing the sequence valve cartridge and counterbalance valve cartridge is used to control two hydraulic circuits with one hydraulic remote.
2. When the tractor hydraulic remote is activated, oil flows first to the Gate cylinders until they are fully retracted (Gate is fully opened.) At this point the Gate circuits' hydraulic pressure begins to increase. Once the pressure threshold is surpassed the sequence valve diverts the oil flow to the Push-off hydraulic circuit, Refer to the "[Sequencing Manifold Adjustment](#)" on page 4-5.
3. The Push-off cylinder can now be fully extended to remove all material inside of the scraper bowl.
4. After the Push-off cylinder has been completely extended the operator then reverses the tractors hydraulic remote.
5. The counterbalance valve will hold the Gate open until the Push-off cylinder is fully retracted.
6. After the Push-off cylinder has been completely retracted the sequence valve now diverts the oil flow back to the Gate hydraulic circuit.
7. The Gate cylinders can now be extended, lowering the Gate to the desired height.

## Sequencing Manifold Adjustment

1. If the Push-off begins to extend before the Gate is fully opened, the sequence valve needs to be adjusted.
  - a. Loosen the locknut on the sequence valve cartridge. [See Figure 4-5](#)
  - b. Turn the setscrew 1/4 turn **clockwise** and check performance.
  - c. Repeat this process until the Push-off does not move until the Gate is fully opened.
  - d. Tighten locknut to maintain this setting.

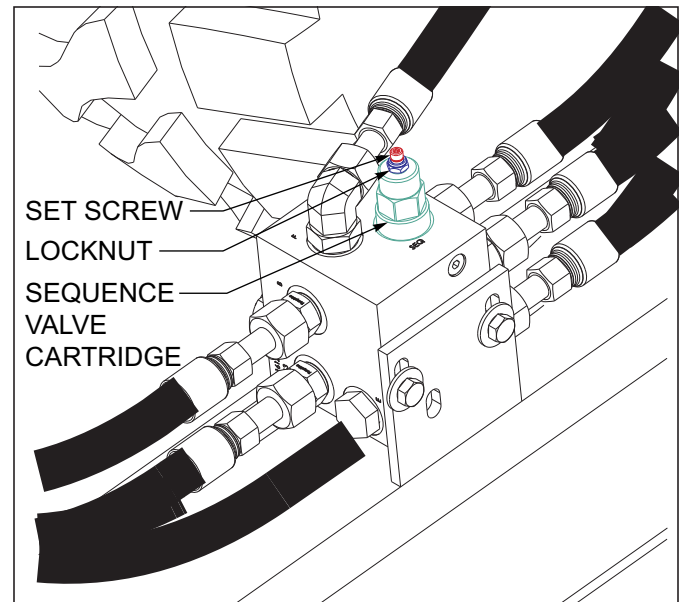


Figure 4-5: Hydraulic Push-Off Adjustment

2. If the Gate begins to lower before the Push-off is fully retracted, the counterbalance valve needs to be adjusted.
  - a. Loosen the locknut on the counterbalance valve cartridge [See Figure 4-6](#).
  - b. Turn the setscrew 1/4 turn **counterclockwise** and check performance.
  - c. Repeat this process until the Gate does not move until the Push-off is fully retracted.
  - d. Tighten locknut to maintain this setting.

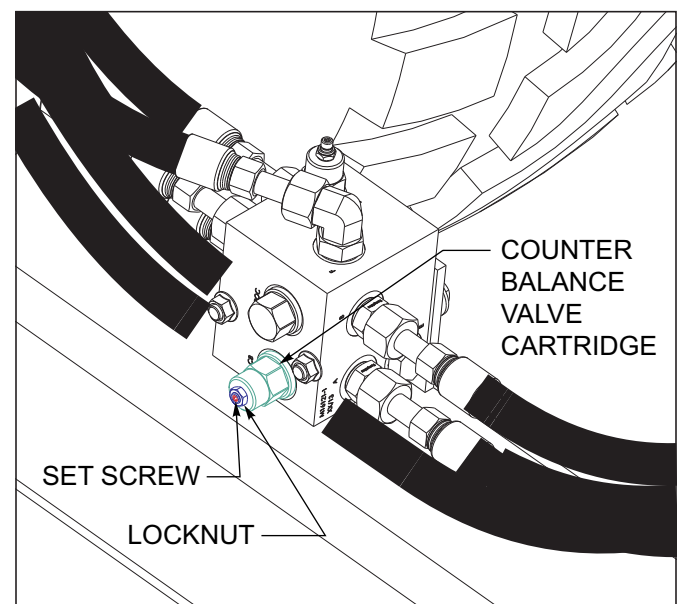


Figure 4-6: Hydraulic Gate Adjustment

## Cutting Edges

1. The AG11/AG13 is equipped with 7/8" thick Caterpillar grade cutting edges. It is also equipped with a larger center cutting edge, known as a "frost-bit." The use of other thicknesses and/or pattern arrangements of cutting edges is not recommended.
2. The AG11/AG13 is equipped with 3/4" thick Caterpillar grade side router bits. These side router bits are designed to reduce wear on the side plates of the scraper bowl. Failure to not use or maintain these side router bits will result in serious damage to the scraper.
3. To maintain a uniform and professional finish, replace any and all cutting edges when they begin to show signs of significant wear.
4. If new hardware is needed while replacing cutting edges, ensure that all pieces of hardware are Grade 8.

## 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 AG11/13.
2. The AG11/13 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 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**

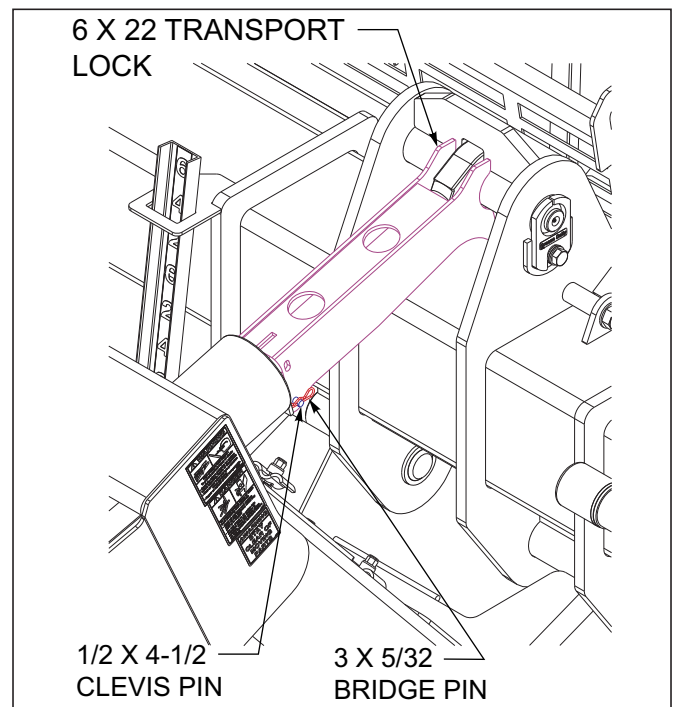
**Electrocution can occur without direct contact.**

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 4-7](#)).

**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 4-7: Installed Transport Locks**



# Illustrated Parts List

## General Assembly

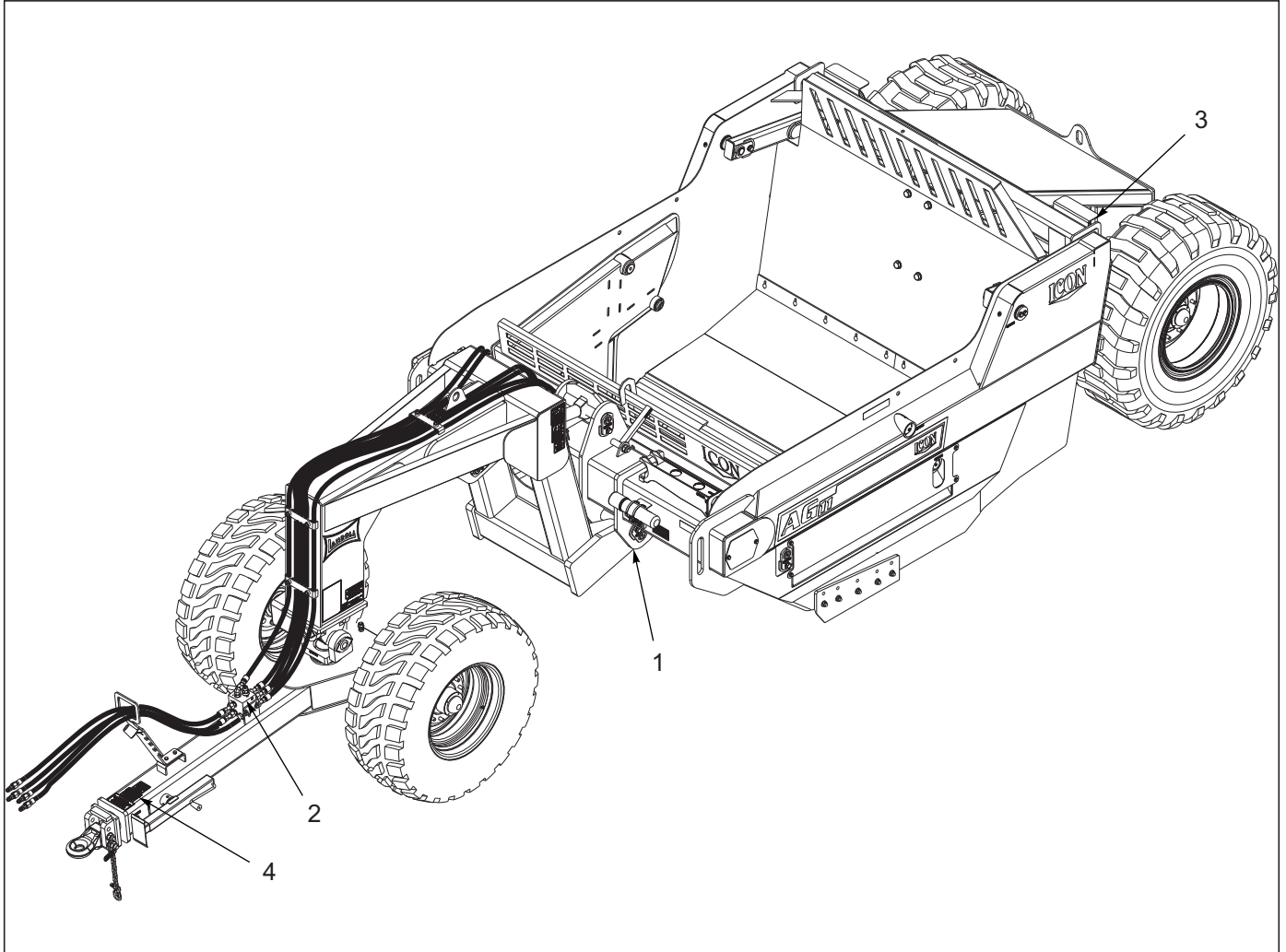


Figure 5-1: General Assembly

## General Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	5-2 - 5-18	GRADER ASSEMBLY	
2	5-20 - 5-25	HYDRAULICS	
3	5-27 - 5-29	ELECTRICAL	
4	5-30 - 5-33	DECALS	

# Scraper Assembly

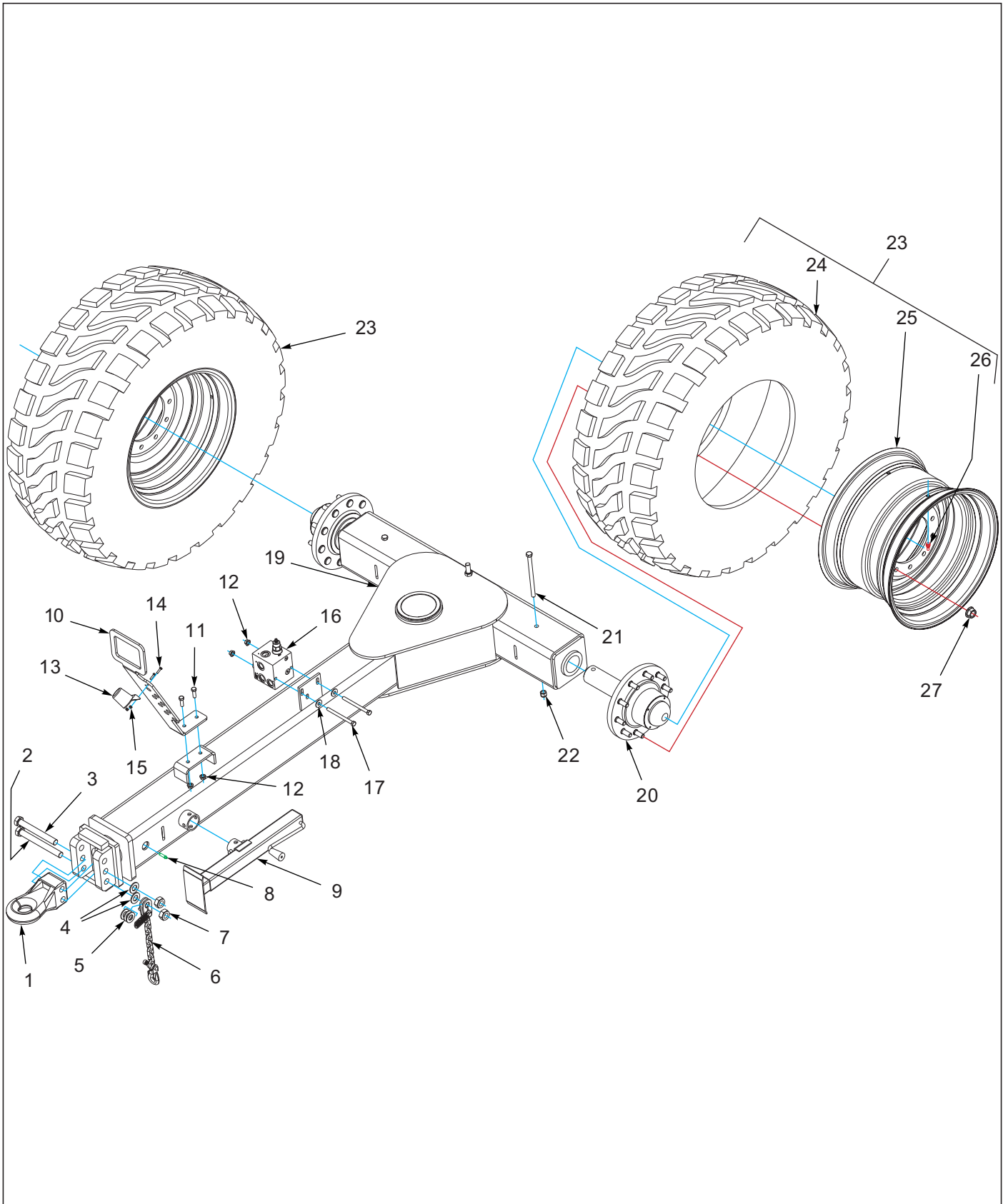


Figure 5-2: Hitch Assembly



## Hitch Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	4001548	HITCH, PINTLE CAST, CAT IV HD	1
2	172581	SCREW HEX CAP 1-8UNCX9.5 GR8	1
3	1-654-010125-22	SCREW HX CP 1-8UNCX8-1/2G8ZP	1
4	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	2
5	1-861-010032-24	WASHER FL 1IN NARROW ZP	3
6	141434	SAFETY CHAIN 21,000LB	1
7	118652	NUT HX SLFLKG W/NYL 1-8 ZP	2
8	4000777	ZERK, 1/8 STR 1-3/4 LONG H1669	1
9	140647	JACK, SIDE WIND 7000/8000 LB	1
10	9303156	ICO2256 #15	1
11	1-654-010055-03	SCREW, HEX CAP, 1/2-13UNCX1-1/2	2
12	1-510-010003-09	NUT, 1/2-13 FLANGE HD, SERRATED	2
13	2-368-010287	HARNES, STOR-A-WAY	1
14	1-654-010047-06	SCREW, HX CP 1/4-20UNCX1 GR5	2
15	1-512-010005-01	NUT, HEX, SLFLKG GRB 1/4-20	2
16	4001452	ASSY, HYD SEQUENCE VALVE BLOCK	1
17	1-654-010055-17	SCREW, HEX CAP, 1/2-13UNCX6 GR5	2
18	1-861-010032-15	WASHER, FLAT 1/2 W ZP/CD	2
19	ICO2256	DOLLY HITCH 10YD	1
20	178723	HUB AND SPINDLE ASSY 12,000 LB (SEE PAGE 5-15)	2
21	121567	SCREW HXCP 5/8-11UNCX9 GR8	2
22	103-0625	NUT ESNA 5/8-11	2
23	184067	TIRE & WHEEL ASSY, 500/70R24 (INCLUDES ITEMS 24-26)	2
24	184069	TIRE, 500/70R24 RADIAL	2
25	184068	WHEEL, 24X16 10-BOLT	2
26	TR575	VALVE STEM TUBELESS TIRE	2
27	171773	NUT, HEX FLANGE 3/4-16 GR5 ZP	20

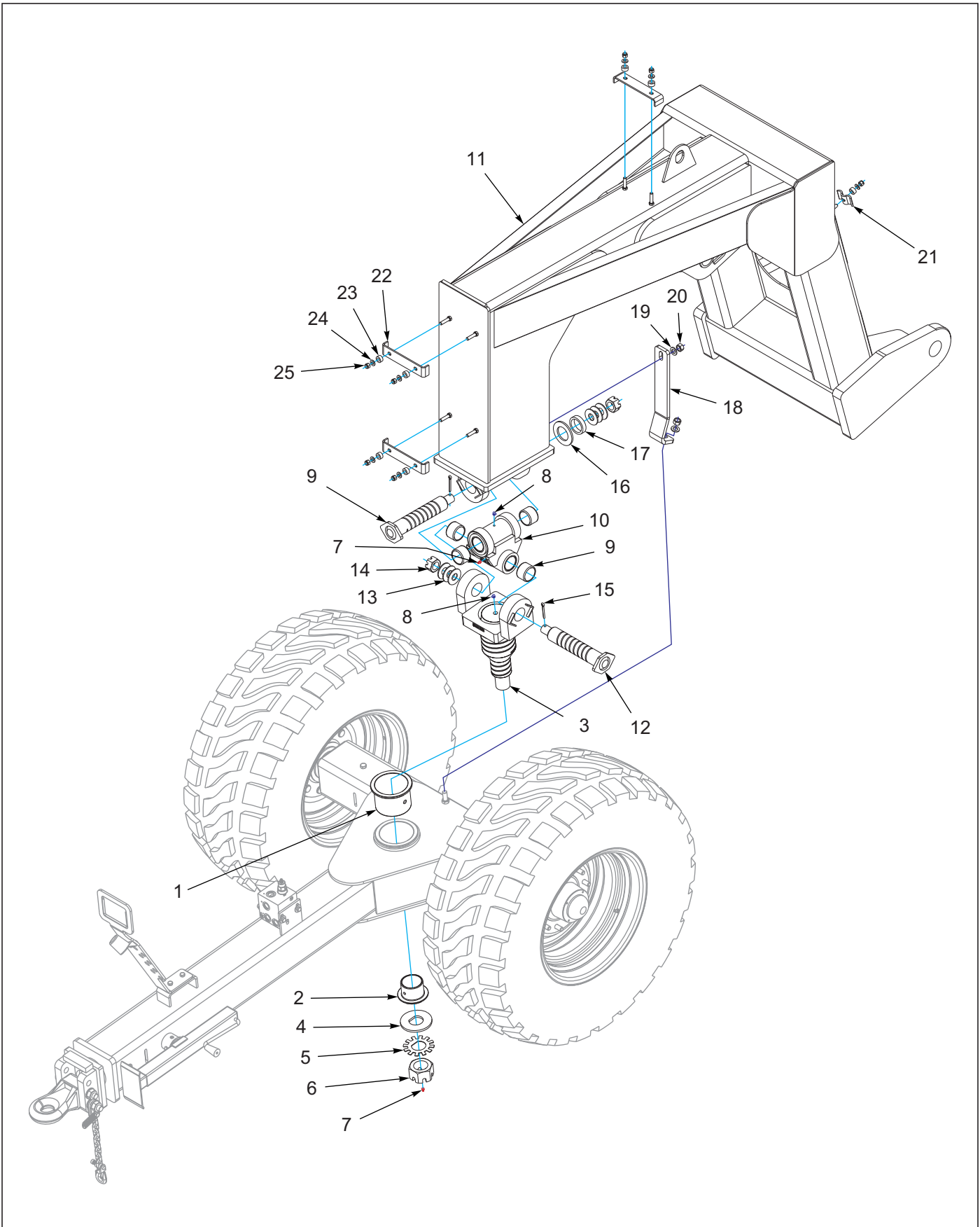


Figure 5-3: Dolly Assembly



## Dolly Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	4001455	BUSHING, LARGE FLANGED 640591	1
2	4001271	BUSHING 4 OD-3.5 ID SM.FLANGED	1
3	ICO2253	DOLLY HITCH 10YD PIVOT	1
4	ICO2254	10YD WEAR WASHER	1
5	ICO2255	10YD HITCH RETAINER	1
6	172892	NUT HX SLOT 2-1/2-4 ZP	1
7	5000	ZERK FITTING 1/8NPT	2
8	4000591	ZERK, 1/8 90 DEGREE	2
9	4000902	BUSHING, 300251200	4
10	ICO2252	DOLLY HITCH 10YD CROSS	1
11	ICO2231	10YD DOLLY HITCH	1
12	ICO1066	PIN WLDMT MDU HITCH 14-3/8"	2
13	622-3511-014	WASHER FLAT 1-1/2 MIL-CARB SAE	6
14	1-516-010001-27	NUT,HX SLOT 1-1/2-6 ZP	2
15	W932060-4	PIN 5/16 X2-1/2 COTTER	2
16	622-3511-018	WASHER FLAT 2-1/2 MIL-CARB SAE	1
17	ICO0244	19C 18D SPACER, LIFT CYLINDER-	1
18	ICO2263	10YD DOLLY TRANSPORT STRAP	1
19	1-861-010032-30	WASHER,FLAT ZP/CD 1-3/8	2
20	1-512-010010-12	NUT HEX 3/4-10 GR8 ZP	2
21	ICO0226	REAR SIDE PIPE CLAMP	4
22	ICO0229	19C 18D CLAMP, HYD LINE 2X9 3/	3
23	ICO0090	PIN SPACER, $\phi$ 5/8" X 9/16"	10
24	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	11
25	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	11

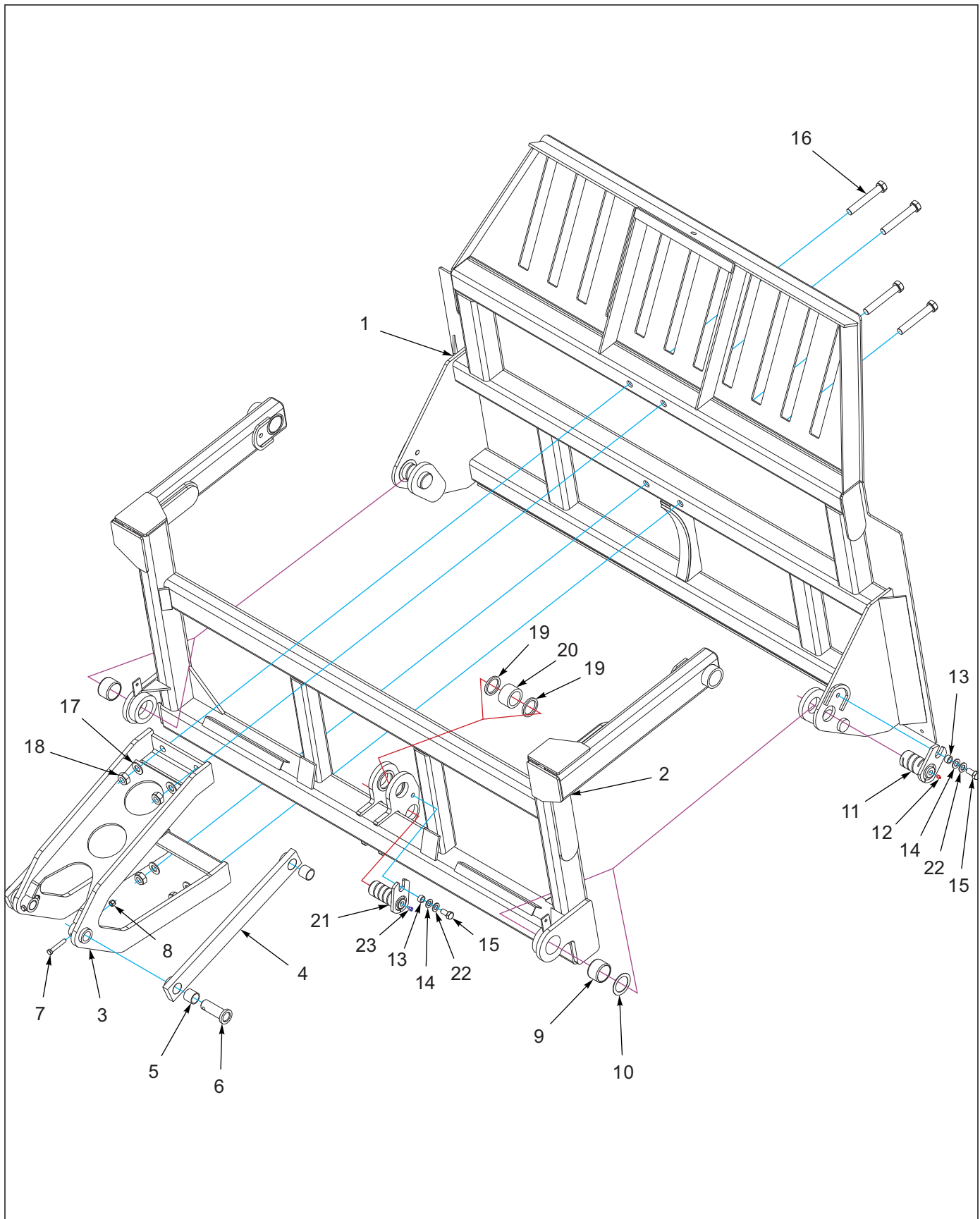


Figure 5-4: Push-Off Wall Assembly

## Push-Off Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	ICO2230	10YD PUSH-OFF WALL	1
2	ICO2229	10YD PUSH OFF FRAME	1
3	ICO2232	10YD PO SUPPORT	1
4	ICO2228	10YD PUSH OFF LINKAGE (INCLUDES ITEM 5)	2
5	4001414	BUSHING, 175150150 PLASTIC	4
6	ICO2045	821 PIN 1 1/2 x 4 1/4 CHROME	4
7	1-654-010055-09	SCREW,HX CP,1/2-13UNCX3 GR5	4
8	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	4
9	4000902	BUSHING, 300251200	2
10	172927	WASHER MACHINE 2-1/2	2
11	ICO0501	PIN 4 1/2" MODEL 821	2
12	5000	ZERK FITTING 1/8NPT	2
13	ICO1118	PIN SPACER, $\phi$ .780" X 9/16"	3
14	1-861-010032-21	WASHER, FLAT 3/4 W ZP/CD	3
15	108705	SCREW,HEXCAP,3/4-10X1-1/2 GR8	3
16	1-654-010125-18	SCREW HEX CAP,1-8UNCX6-1/2GR8	4
17	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	4
18	118652	NUT HX SLFLKG W/NYL 1-8 ZP	4
19	ICO2266	SPACER, PUSHWALL ROLLER	2
20	ICO0258	19C BEARING PUSH OFF	1
21	ICO0218	PIN WLDMT 2-1/2X5-3/4 19C 18D	1
22	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	3
23	5001151	HYF - 1/8MP-1/8FP	1



## Main Frame Assembly

ITEM	PART NO.	DESCRIPTION	QTY.	
--	----	11 YD AG SCRAPER	*	
--	----	13 YD AG SCRAPER		*
1	ICO2227	10YD MAIN FRAME	1	--
1	184072	WLDMT, 13YD MAIN FRAME (NOT SHOWN)	--	1
2	----	PUSH-OFF WALL ASSEMBLY (SEE PAGE 5-7)	1	1
3	ICO2233	10YD GATE	1	--
3	184073	WLDMT, 13YD GATE (NOT SHOWN)	--	1
4	ICO2262	10YD WEAR STRIP	1	1
5	1-654-010070-03	SCREW RDHD SQNK1/2-13X1-1/2	10	10
6	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	22	22
7	61D8ER	NUT, HEX 1/2-13UNC GR5 ZP	10	10
8	4001543	HYD CYL, 3-1/2 X 20 YELLOW (SEE PAGE 5-24)	2	2
9	4000902	BUSHING, 300251200	8	8
10	ICO2249	10YD GATE SPACER	2	2
11	40K2	PLUG, PIPE 1/8-27NPT HEX HD10	4	4
12	4001521	KEY, WOODRUF 1 X 1/4	4	4
13	ICO2251	PIN, 10YD GATE TAPERED	4	4
14	5000	ZERK FITTING 1/8NPT	6	6
15	ICO0420	PIN 2-1/2 X 5-3/4	2	2
16	ICO1118	PIN SPACER, $\phi$ .780" X 9/16"	4	4
17	1-861-010032-21	WASHER, FLAT 3/4 W ZP/CD	4	4
18	108705	SCREW,HEXCAP,3/4-10X1-1/2 GR8	4	4
19	622-3511-014	WASHER FLAT 1-1/2 MIL-CARB SAE	4	4
20	172945	NUT JAM NYLOC 1-1/2-6 GR5	4	4
21	ICO2069	HUB 49-65 CAP DUST 6&8 BOLT	2	2
22	ICO0525	1121 PIN 2 1/2X10 1/2	2	2
23	172927	WASHER MACHINE 2-1/2	8	8
24	ICO0236	19C CAP, PUSH OFF PIN	2	2
25	622-3511-007	WASHER, FLAT 5/8 MIL-CARB SAE	4	4
26	172827	SCREW HX CP 5/8-11X1-1/2 GR8	4	4
27	4000837	ZERK, 1/8 STR 2-5/8 LONG H1684	2	2
28	ICO2045	821 PIN 1 1/2 x 4 1/4 CHROME	2	2
29	1-654-010055-09	SCREW,HX CP,1/2-13UNCX3 GR5	2	2
30	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	2	2
31	ICO2248	10YD M.F. SHIELD	4	4
32	1-654-010055-01	SCR,HX CP 1/2-13UNCX1 GR5	16	16
33	ICO2250	10YD SIDE SHIELD	2	2
34	4000958	CUTTING EDGE 7/8X16X48 REV&STR	1	1
35	4001545	CUTTING EDGE,7/8X13X23.75	2	2
36	172784	BOLT PLOW 1-8X2-1/2 GR8	20	20
37	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	21	21
38	172778	NUT JAM HEX HD 1-8 GR 8	20	20
39	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	4	4

ILLUSTRATED PARTS LIST

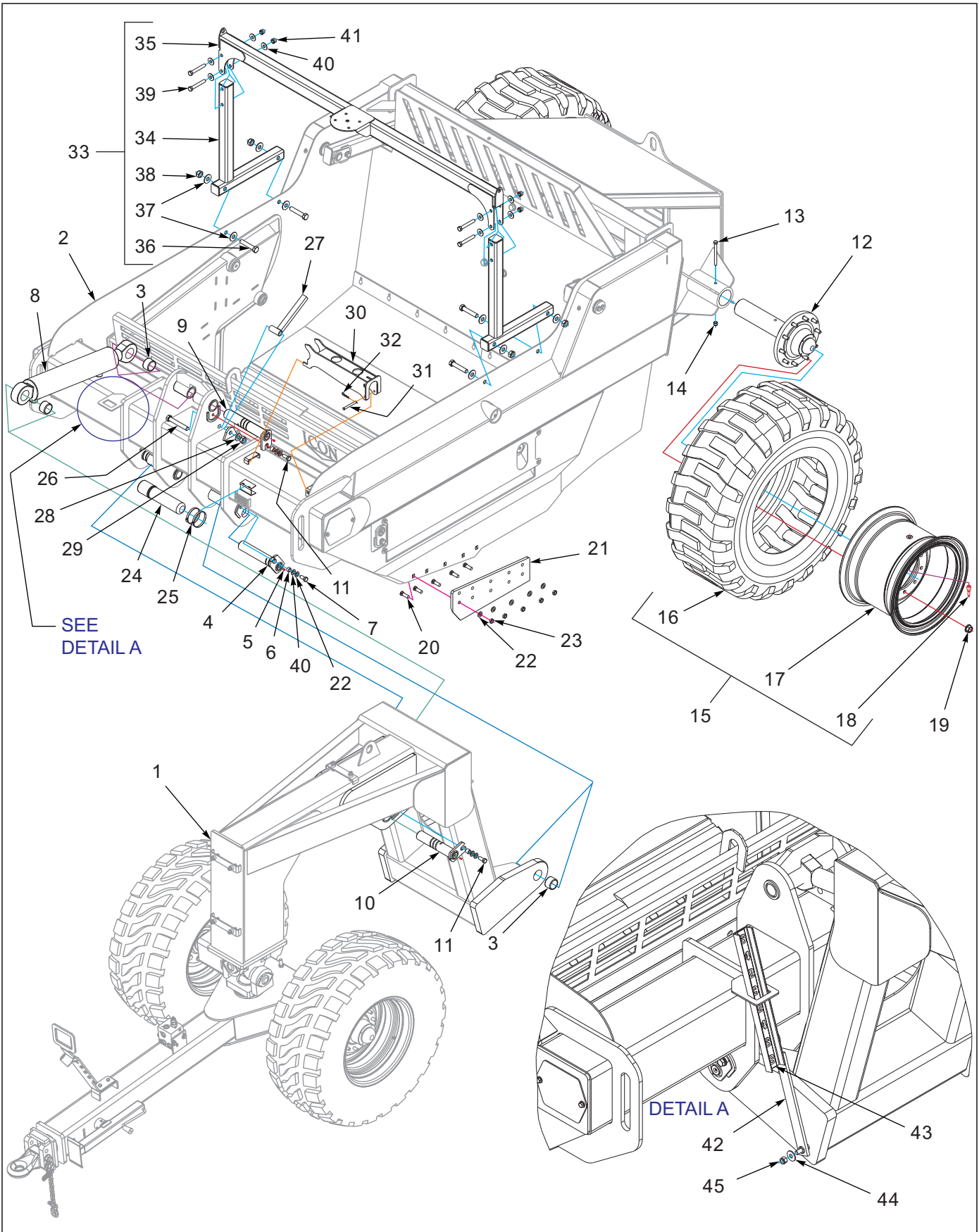


Figure 5-6: Hitch, Dolly and Component Assembly to Main Frame



## Hitch, Dolly and Component Assembly to Main Frame

ITEM	PART NO.	DESCRIPTION	QTY.
1	----	HITCH & DOLLY ASSEMBLY (SEE PAGE 5-3) AND (SEE PAGE 5-5)	1
2	----	MAIN FRAME ASSEMBLY (SEE PAGE 5-9)	1
3	4000902	BUSHING, 300251200	4
4	ICO2258	10YD PIN 13 5/8	2
5	5000	ZERK FITTING 1/8NPT	4
6	ICO1118	PIN SPACER, $\phi$ .780" X 9/16"	4
7	108705	SCREW,HEXCAP,3/4-10X1-1/2 GR8	2
8	4001236	HYDCYL - 6X22W 37 1/4" W/BUSHI (SEE PAGE 5-23)	1
9	ICO2063	PIN, MODEL 518 14 1/2	1
10	ICO2259	10YD PIN 12 3/4	1
11	1-654-010032-4	SCREW 3/4-10X1-3/4 HX CP ZPG8	2
12	178721	HUB AND SPINDLE ASSY 20,000 LB (SEE PAGE 5-17)	2
13	172832	SCREW HX CP 5/8-11X7 GR8	2
14	103-0625	NUT ESNA 5/8-11	2
15	184066	TIRE & WHEEL ASSY, 20.5X25-20 (INCLUDES ITEMS 16-18)	2
16	4001021	WHEEL, 25 X 17, 3 PIECE	2
17	400657	WHEEL, 25 X 17, 3 PIECE	2
18	J650	VALVE STEM	2
19	171773	NUT, HEX FLANGE 3/4-16 GR5 ZP	20
20	172788	BOLT PLOW 3/4-10X2-1/2 GR8	10
21	ICO2172	400 & 800 LEFT SIDE CUTTING ED	1
21	ICO2173	400 & 800 RIGHT SIDE CUTTING E	1
22	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	14
23	1404027	NUT JAM HEX HD 3/4-10 GR 8	10
24	1-116-010019	BOX, MANUAL STORAGE	1
25	105-0093	HOSE CLAMP 4-1/2 IDEAL #5264	2
26	1-654-010125-18	SCREW HEX CAP,1-8UNCX6-1/2GR8	1
27	ICO2199	826 SAFETY STOP	1
28	622-3511-010	WASHER, FLAT 1" MIL-CARB SAE	1
29	118652	NUT HX SLFLKG W/NYL 1-8 ZP	1
30	ICO2265	AG10 LIFT CYL STOP	1
31	4000923	PIN, CLEVIS 1/2X4 1/2	1
32	4001443	PIN, BRIDGE 3 X 5/32	1
33	184139	KIT, TRIMBLE GRADE CONTROL SYS (INCLUDES ITEMS 34-41)	1
34	184140	WLDMT, GUIDANCE MNT	2
35	184144	WLDMT, GUIDANCE MNT	1
36	138339	SCREW,HEX CAP, 1-8UNCX5,GR8	4
37	1-861-010032-25	WASHER FL 1IN WIDE ZP	8
38	118652	NUT HX SLFLKG W/NYL 1-8 ZP	4
39	172883	SCREW HX CP,3/4-10X5 GR8 ZP	4
40	1-861-010032-21	WASHER, FLAT 3/4 W ZP/CD	12
41	110-0238	3/4-10 ESNA NUT ZP 41NE-120	8
42	ICO2261	10YD DEPTH GAUGE	1
43	4001418	DECAL 821 & 819 R&L GAUGE	1
44	1-861-010032-19	WASHER, FLAT 5/8 W ZP/CD	1
45	103-0625	NUT ESNA 5/8-11	1

ILLUSTRATED PARTS LIST

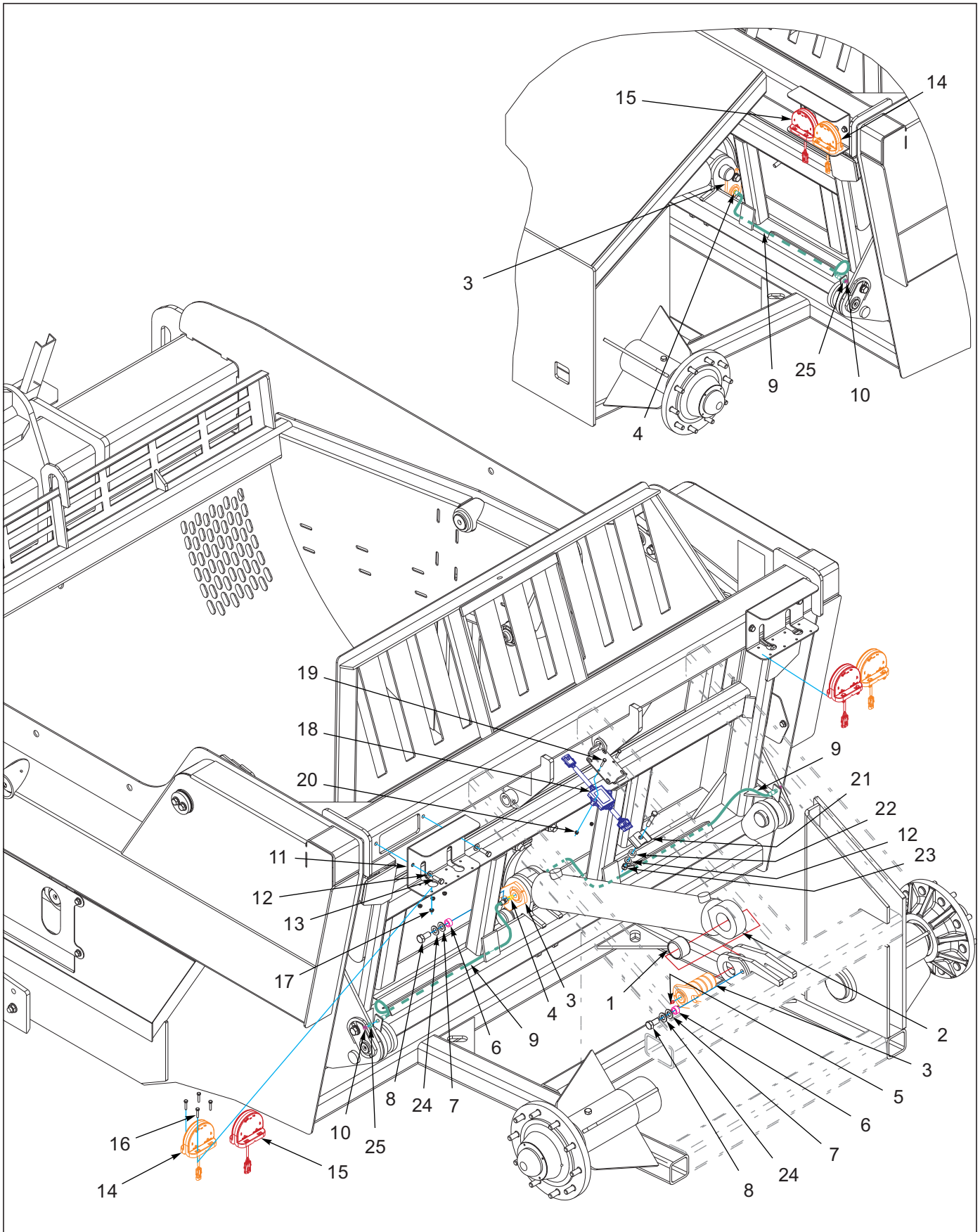


Figure 5-7: Main Frame Assembly Rear



## Main Frame Assembly Rear

ITEM	PART NO.	DESCRIPTION	QTY.
1	4000902	BUSHING, 300251200	2
2	4001542	HYD CYL, 4-1/2 X 32 YELLOW (SEE PAGE 5-25)	1
3	ICO0218	PIN WLDMT 2-1/2X5-3/4 19C 18D	2
4	5001151	HYF - 1/8MP-1/8FP	2
5	5000	ZERK FITTING 1/8NPT	2
6	ICO1118	PIN SPACER, $\phi$ .780" X 9/16"	2
7	1-861-010032-21	WASHER, FLAT 3/4 W ZP/CD	2
8	108705	SCREW,HEXCAP,3/4-10X1-1/2 GR8	2
9	5001209	HOSE ASSY, GREASE 1/4 X 51-1/2 (INCLUDES ITEM 10)	2
10	5410	FITTING GREASE 1/4-28 90 1911	2
11	202232	PLATE, LED WARNING LIGHT BRKT	2
12	622-3511-005	WASHER, FLAT 1/2 MIL-CARB SAE	5
13	1-654-010055-03	SCREW,HEX CAP,1/2-13UNCX1-1/2	4
14	174436	LAMP, AG AMBER SINGLE LED	2
15	174435	LAMP, AG RED SINGLE LED	2
16	1-654-010047-07	SCREW,HX CP 1/4-20UNCX1-1/4G5	16
17	142779	NUT,FLANG SERRATED 1/4-20	16
18	174437	MODULE, AG FLASHER CONTROL	1
19	1-654-010047-08	SCREW HX CP,1/4-20UNCX1-1/2G5	2
20	1-512-010005-01	NUT,HEX,SLFLKG GRB 1/4-20	2
21	ICO0226	REAR SIDE PIPE CLAMP	1
22	ICO0090	PIN SPACER, $\phi$ 5/8" X 9/16"	1
23	W915665-4	NUT, 1/2-13 NYLOCK GR 5 ZP	1
24	622-3511-008	WASHER, FLAT 3/4 MIL-CARB SAE	2
25	1404016	NUT JAM HEX HD .438-20 GR5	2

ILLUSTRATED PARTS LIST

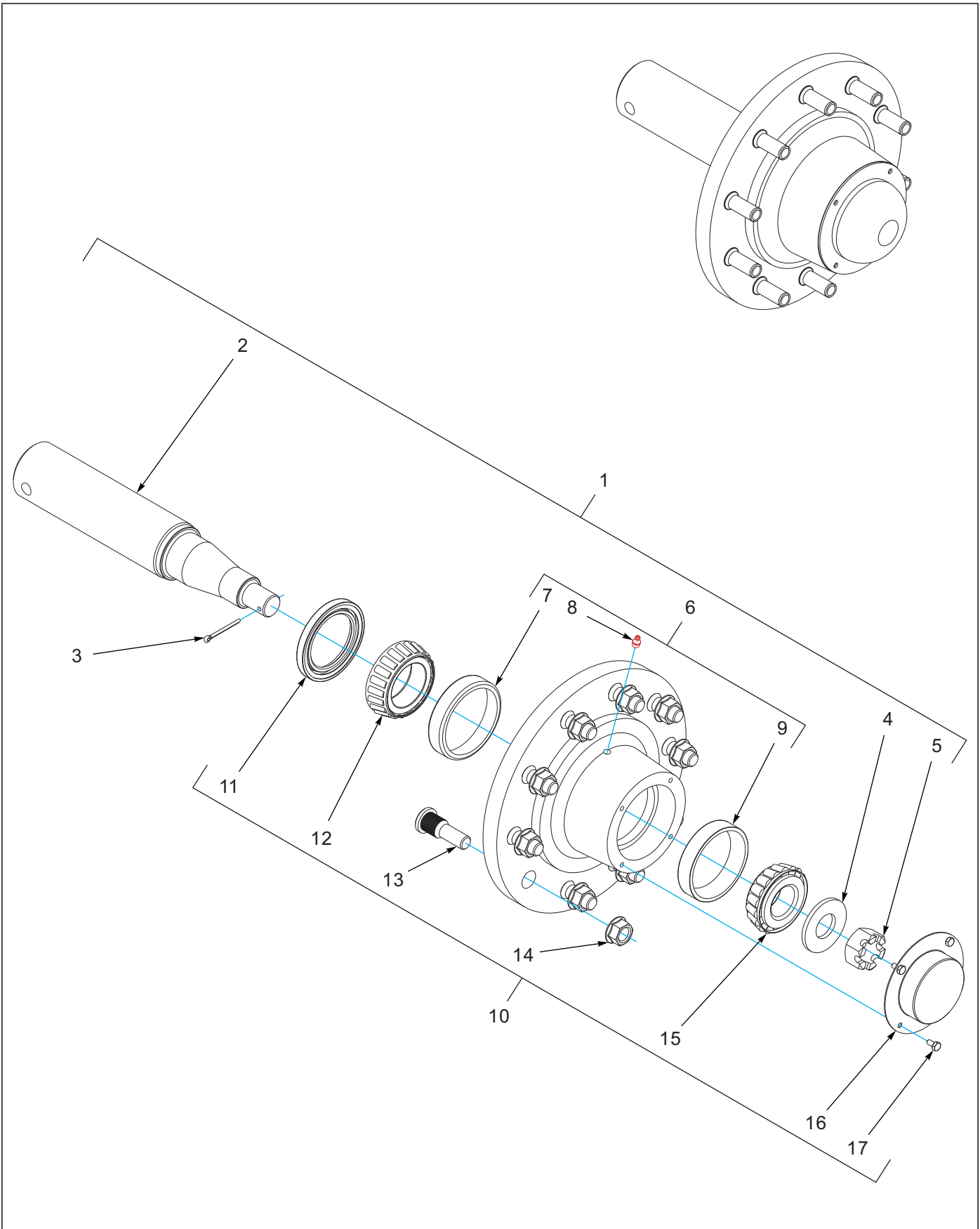


Figure 5-8: Hub & Spindle Assembly 178723

## Hub & Spindle Assembly 178723

ITEM	PART NO.	DESCRIPTION	QTY.
1	178723	HUB AND SPINDLE ASSY 12,000 LB <b>(INCLUDES ITEMS 2-5, 10)</b>	1
2	178722	SPINDLE 12,000 LB W/HOLE	1
3	110-4224	PIN,COTTER-3/16 X 2IN LG	1
4	225598	SPINDLE WASHER, 1-1/4"	1
5	225599	NUT, HEX SLOT 1-1/4-12UNF	1
6	225591	HUB W/CUPS, 10 BOLT, 12,000 LBS <b>(INCLUDES ITEMS 7-9)</b>	1
7	225592	BEARING CUP, 4.437 OD, 39520	1
8	5000	ZERK FITTING 1/8NPT	1
9	225594	BEARING CUP, 4.250 OD, 453A	1
10	4001540	HUB 12,000# SET 871 10 STUD 11 <b>(INCLUDES ITEMS 6-9, 11-17)</b>	1
11	225597	HUB SEAL, Ø3.00 SHAFT, 30087	1
12	225593	BEARING CONE, 2.50 ID, 39585	1
13	225587	BOLT STUD 3/4-16 X 2-13/16 GR8	10
14	171773	NUT, HEX FLANGE 3/4-16 GR5 ZP	10
15	225595	BEARING CONE, 1.75 ID, 460	1
16	225596	HUB CAP, 10 BOLT 12K BOLT-ON	1
17	104877	SCREW,HX CP,1/4-20UNCX1/2 GR5	4

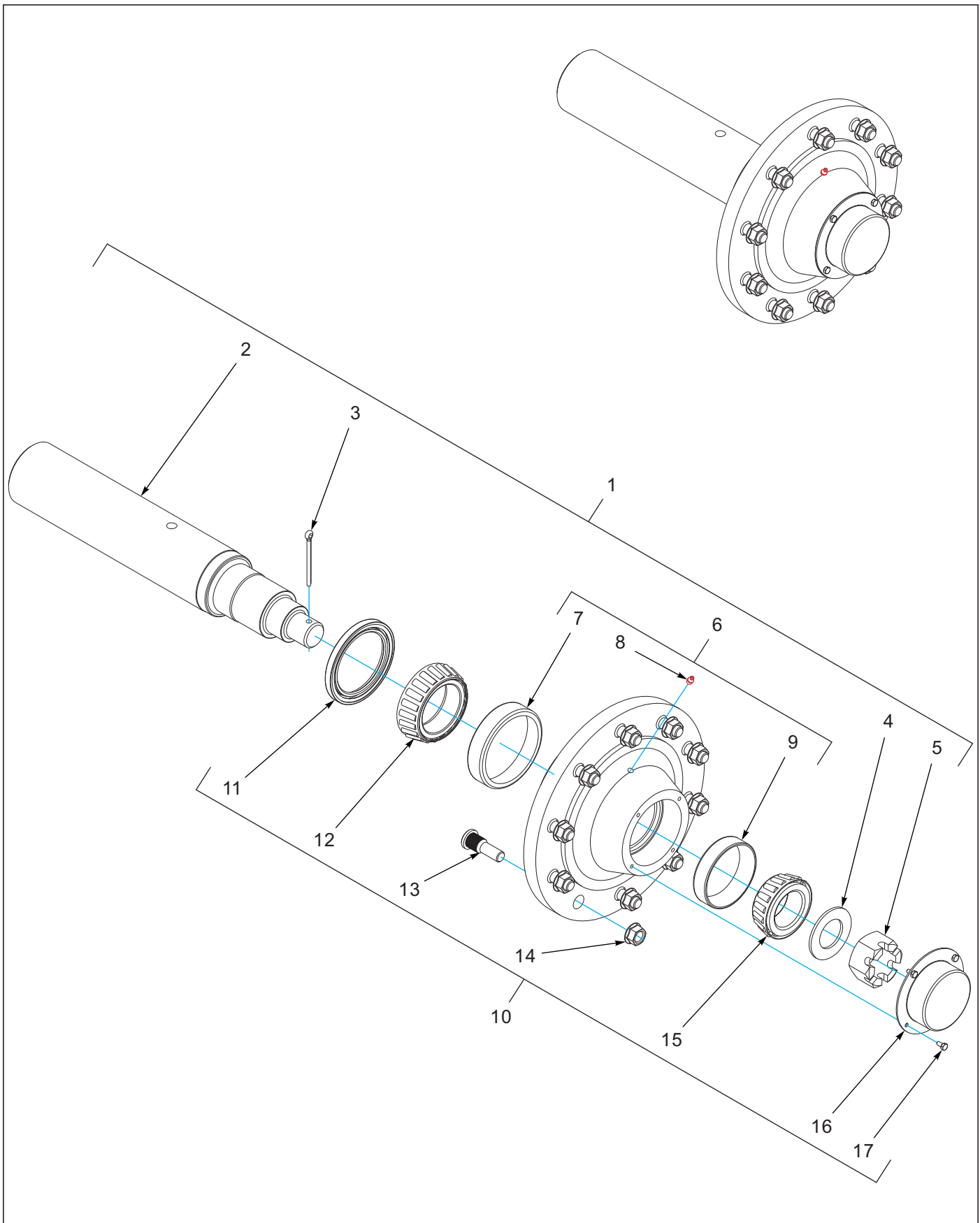


Figure 5-9: Hub & Spindle Assembly 178721

## Hub & Spindle Assembly 178721

ITEM	PART NO.	DESCRIPTION	QTY.
1	178721	HUB AND SPINDLE ASSY 20,000 LB <b>(INCLUDES ITEMS 2-5, 10)</b>	1
2	178720	SPINDLE 20,000 LB W/HOLE	1
3	172810	PIN, COTTER 5/16 X 3-1/2	1
4	225589	SPINDLE WASHER, 2"	1
5	225590	NUT, HEX SLOT 2-12UNF	1
6	225581	HUB W/ CUPS, 10 BOLT, 20,000LBS <b>(INCLUDES ITEMS 7-9)</b>	1
7	225582	BEARING CUP, 5.786 OD, HM218210	1
8	5000	ZERK FITTING 1/8NPT	1
9	225584	BEARING CUP, 4.812 OD, HM12011	1
10	4001538	HUB 20,000# SET 881 10 STUD <b>(INCLUDES ITEMS 6-9, 11-17)</b>	1
11	225588	HUB SEAL, Ø4.375 SHAFT, 43771	1
12	225583	BEARING CONE, 3.54 ID, HM218248	1
13	225587	BOLT STUD 3/4-16 X 2-13/16 GR8	10
14	171773	NUT, HEX FLANGE 3/4-16 GR5 ZP	10
15	225585	BEARING CONE, 2.62 ID, HM218249	1
16	225586	HUB CAP, 10 BOLT, 20,000LBS.	1
17	104877	SCREW,HX CP,1/4-20UNCX1/2 GR5	4

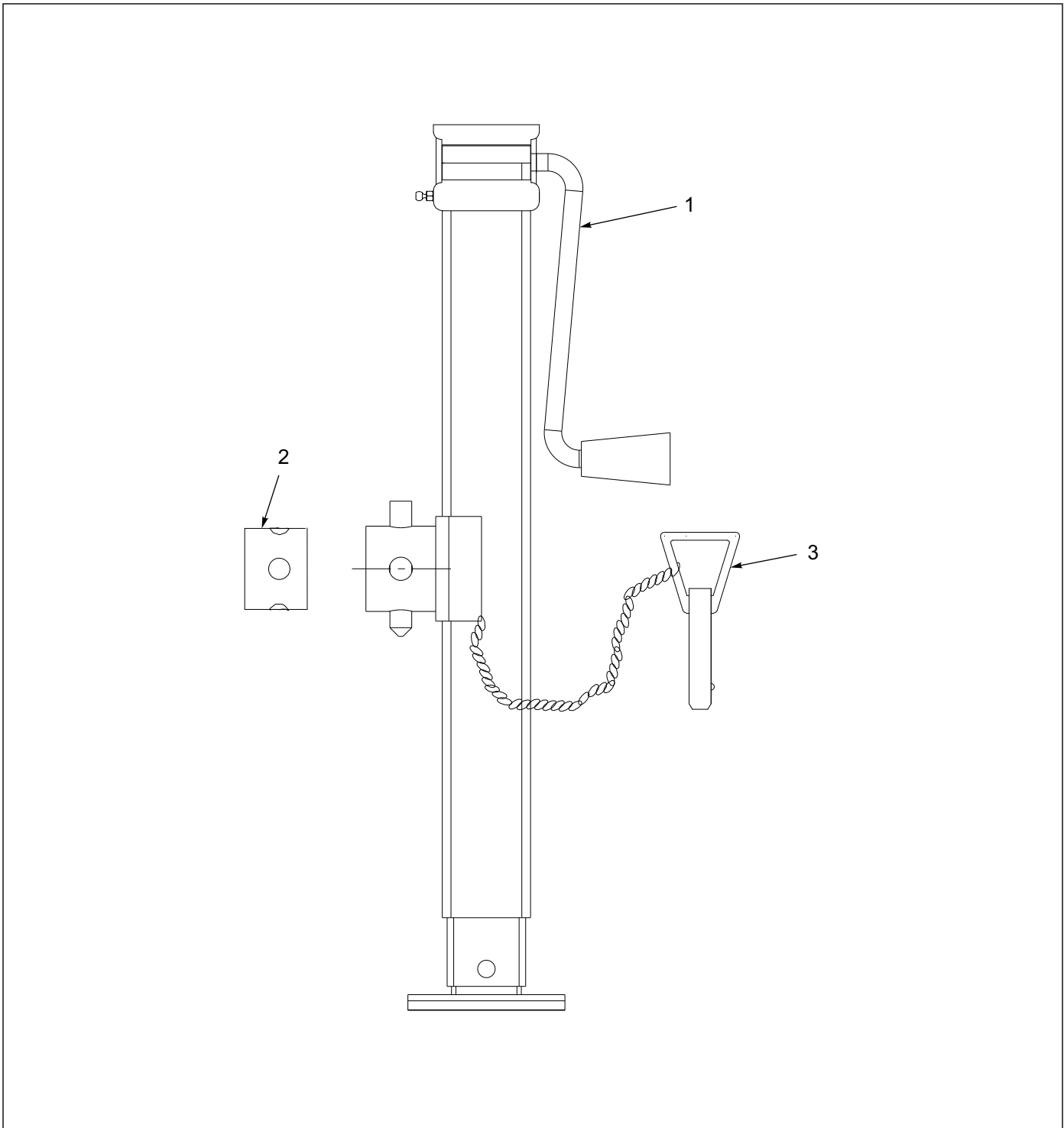


Figure 5-10: 7,000 Lb. Sidewind Jack Assembly

### 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



# Hydraulics

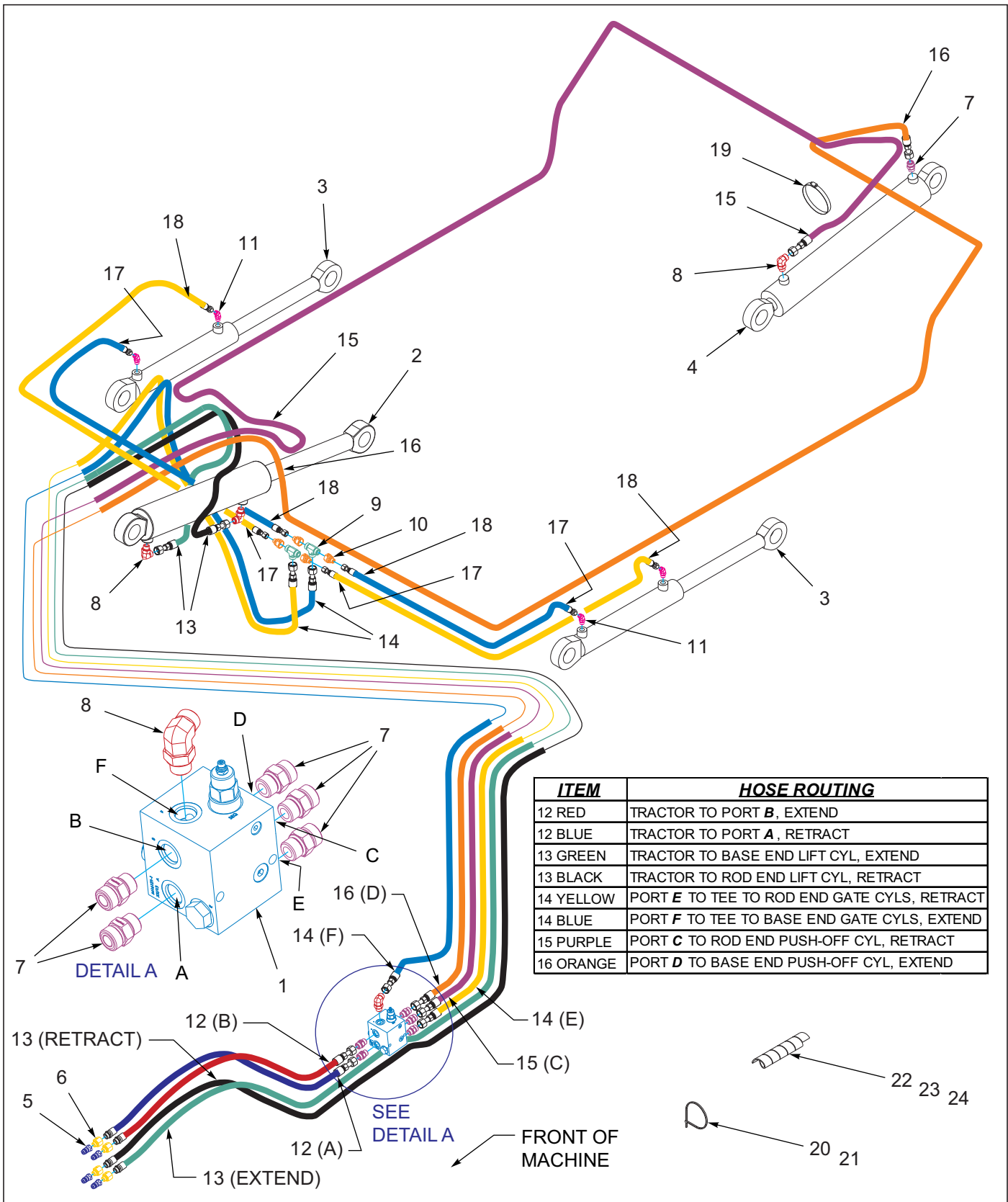


Figure 5-11: Hydraulic Assembly



## Hydraulic Assembly

ITEM	PART NO.	DESCRIPTION	QTY.
1	4001452	ASSY, HYD SEQUENCE VALVE BLOCK	1
2	4001236	HYDCYL - 6X22W 37 1/4" W/BUSHI (SEE PAGE 5-23)	1
3	4001543	HYD CYL, 3-1/2 X 20 YELLOW (SEE PAGE 5-24)	2
4	4001542	HYD CYL, 4-1/2 X 32 YELLOW (SEE PAGE 5-25)	1
5	163513	COUPLER PIONEER MALE 8010-16P	4
6	163512	ADAPTER 10MB-12FB	4
7	163511	ADAPTER 12MB-12MFFOR	6
8	110116	ADAPTER,#12ORB X #12ORS 90DEG	4
9	163510	ADAPTER 12MFFOR TEE	2
10	163509	ADAPTER 8MFFOR-12FFOR	4
11	161067	ADAPTER,#80RSX#80RB,45ELB	4
12	5001203	HOSE 12FFORX-12M3KX132-12MB	2
13	5001200	HOSE 12FFORX-12M3KX328-12MB	2
14	5001204	HOSE12FFORX-12M3KX229-12FFORX	2
15	5001202	HOSE12FFORX-12M3KX540-12FFORX	1
16	5001201	HOSE12FFORX-12M3KX522-12FFORX	1
17	5001205	HOSE 8FFORX-8M2TX72 -8FFORX	2
18	5001206	HOSE 8FFORX-8M2TX92 -8FFORX	2
19	4001554	CLAMP,HOSE 6"	1
20	4000723	CABLE TIE, 8" BLACK HD	2
21	4000750	CABLE TIE14" BLACKHD 21047	14
22	5000595	HOSE WRAP, 1-1/4" BLACK	30
23	5001006	HOSE WRAP YELLOW 3/4"	1
24	5001007	HOSE WRAP BLUE 3/4"	1

ILLUSTRATED PARTS LIST

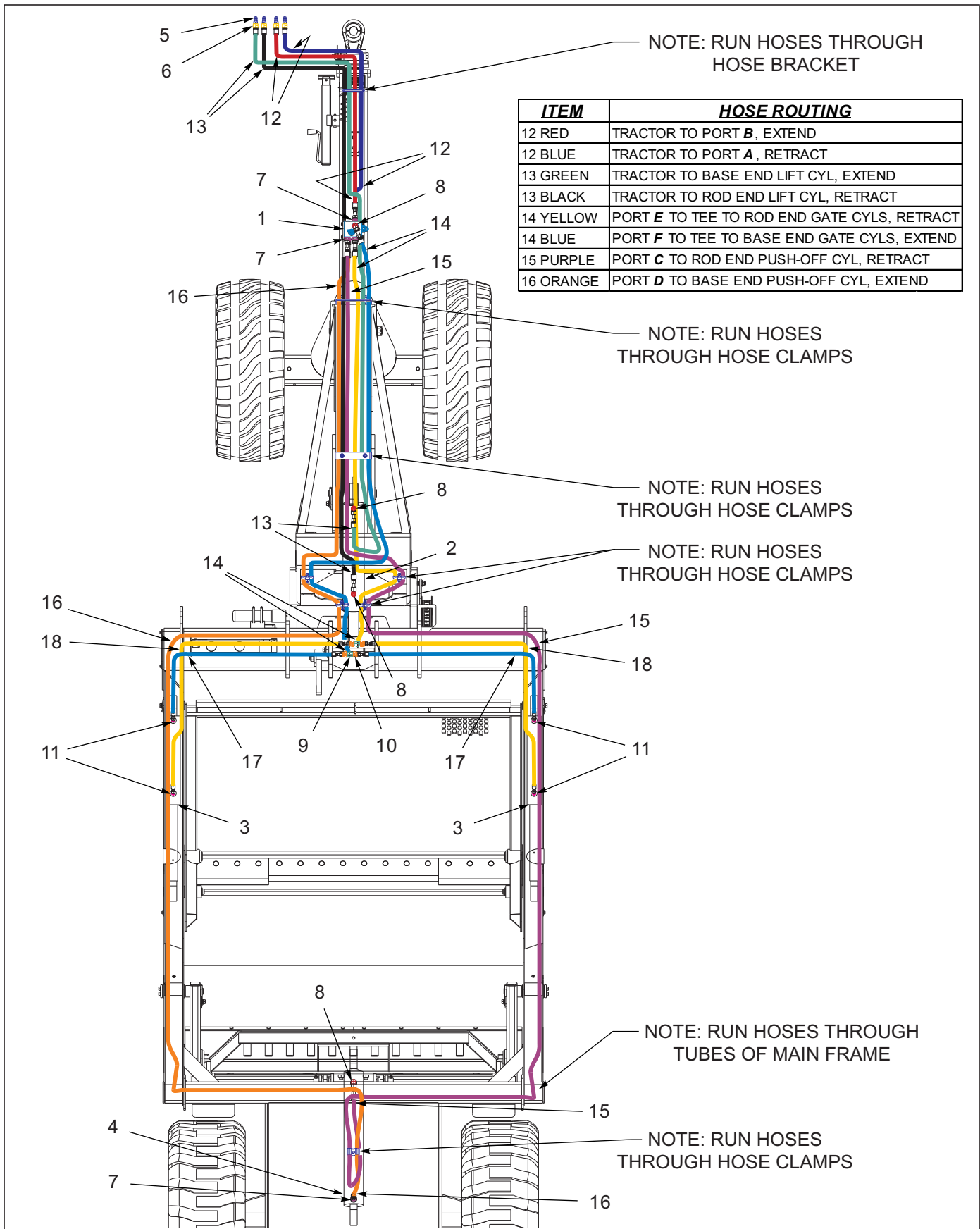


Figure 5-12: Hydraulic Layout

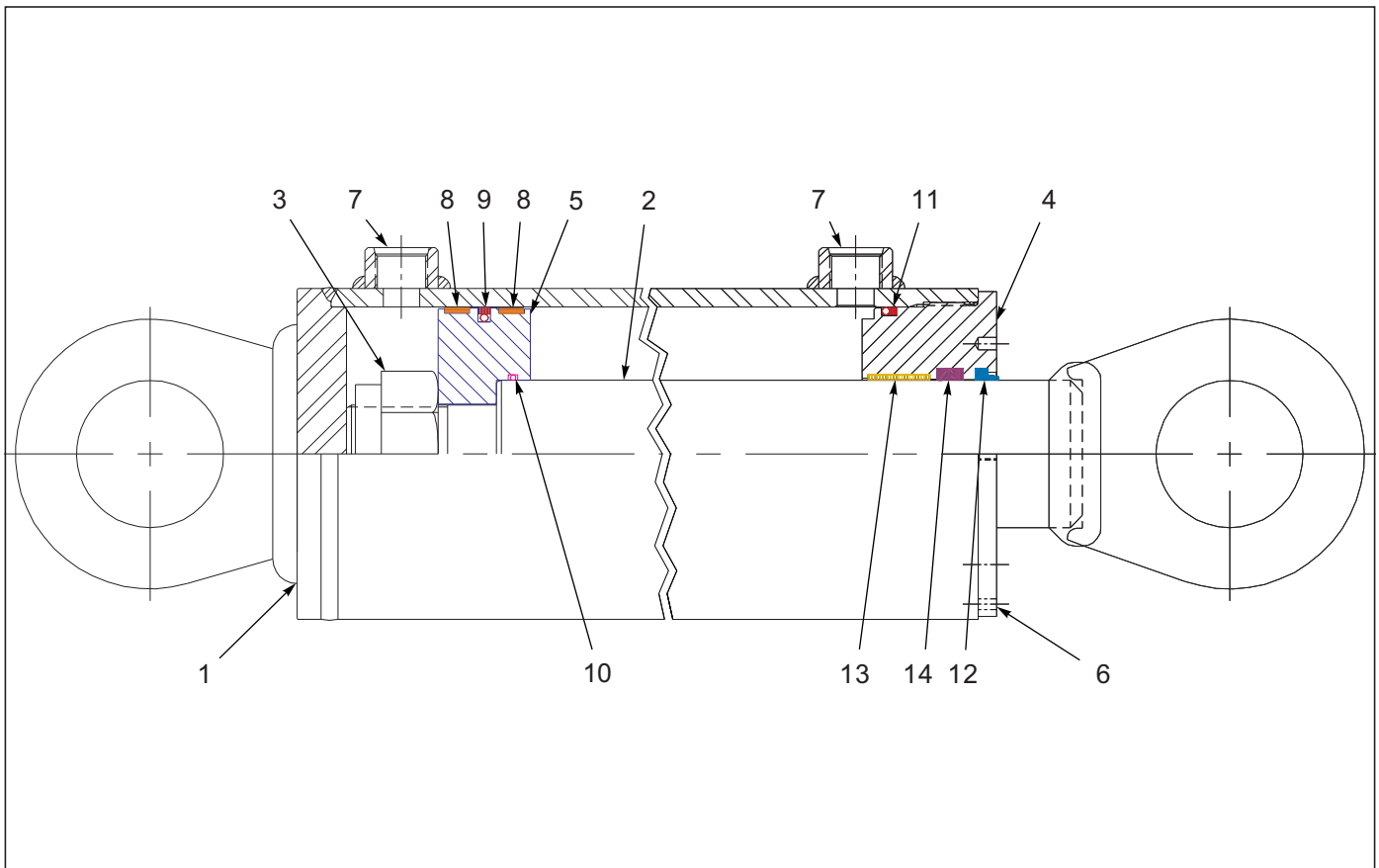


Figure 5-13: Cylinder Assembly - 6 X 22

### Cylinder Assembly 6 X 22

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001236	HYDCYL - 6X22W 37 1/4" W/BUSHI	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	NUT LOCK 2-12 FULL COLLAR	1
4	----	HEAD GLAND	1
5	----	PISTON	1
6	----	SCREW SET SKT 1/4-20UNC X 1/4	1
7	----	PLUG PLASTIC #12 SAE SHIPPING	2
8	----	PISTON BUSHING	2
9	----	O-RING	1
10	----	O-RING	1
11	----	O-RING	1
12	----	WIPER	1
13	----	DU BUSHING	1
14	----	U-CUP	1
15	4001434	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 8-14)	

ILLUSTRATED PARTS LIST

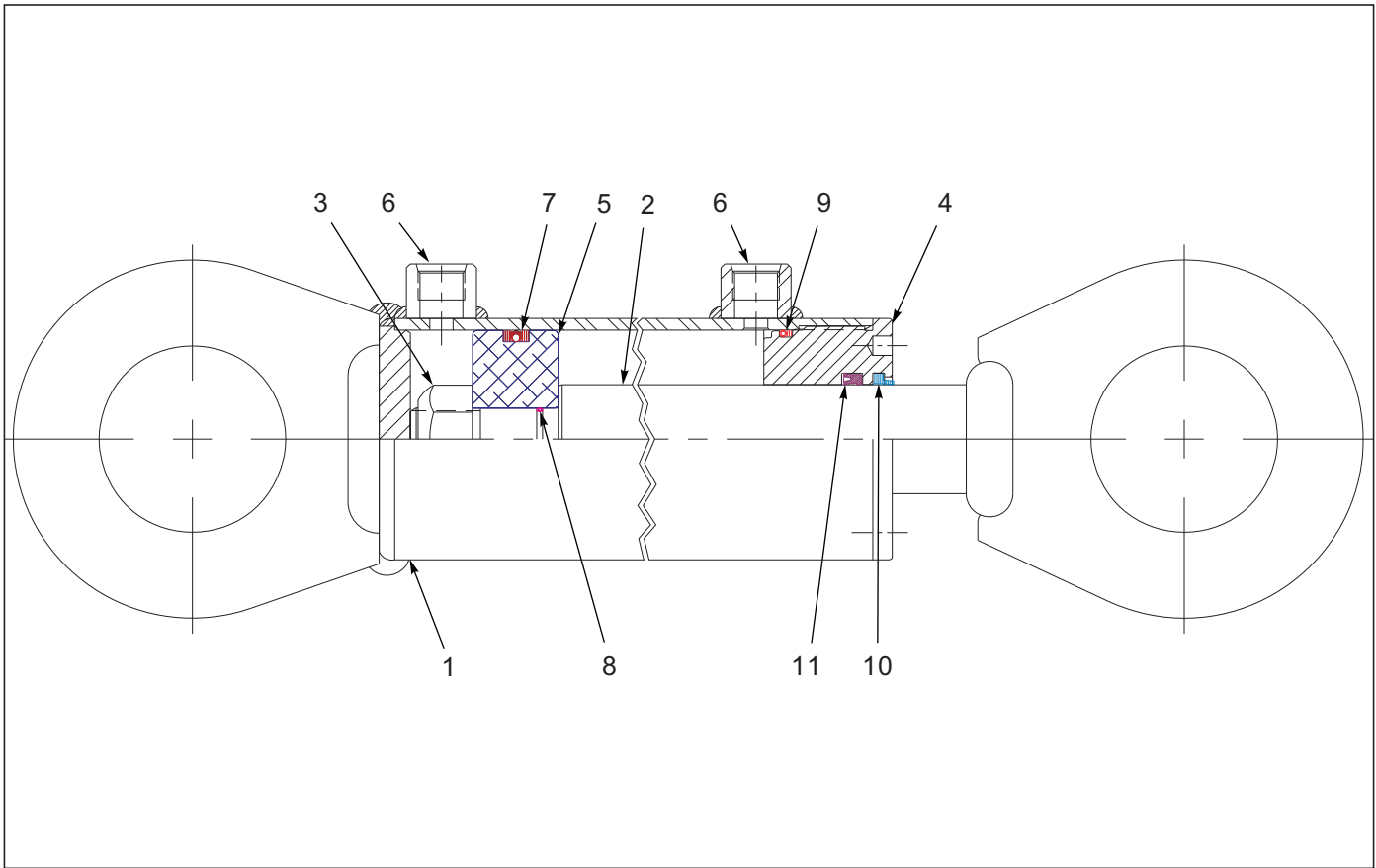


Figure 5-14: Cylinder Assembly - 3-1/2 X 20

**Cylinder Assembly 3-1/2 X 20**

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001543	HYD CYL, 3-1/2 X 20 YELLOW	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	NUT LOCK 1- 4 AUTO	1
4	----	HEAD GLAND	1
5	----	PISTON	1
6	----	PLUG PLASTIC #8 SAE SHIPPING	2
7	----	O-RING	1
8	----	O-RING	1
9	----	O-RING	1
10	----	WIPER	1
11	----	U-CUP	1
12	184131	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 7-11)	

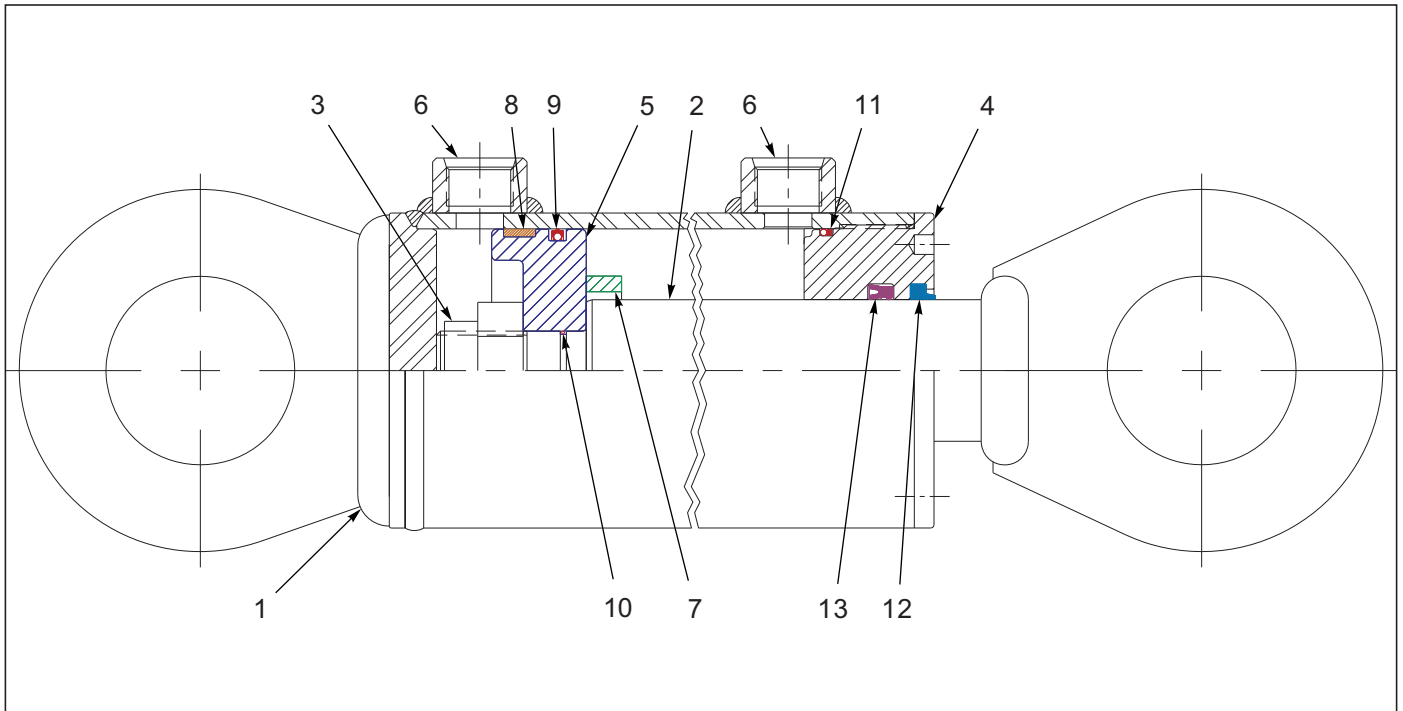


Figure 5-15: Cylinder Assembly - 4-1/2 X 32

### Cylinder Assembly 4-1/2 X 32

ITEM	PART NO.	DESCRIPTION	QTY.
--	4001542	HYD CYL, 4-1/2 X 32 YELLOW	
1	----	CASE WELDMENT	1
2	----	PISTON ROD	1
3	----	NUT LOCK 1 1/4-12UNF	1
4	----	HEAD GLAND	1
5	----	PISTON	1
6	----	PLUG PLASTIC #12 SAE SHIPPING	2
7	----	SPACER	1
8	----	PISTON BUSHING	2
9	----	O-RING	1
10	----	O-RING	1
11	----	O-RING	1
12	----	WIPER	1
13	----	U-CUP	1
14	214612	SEAL KIT (NOT SHOWN) (INCLUDES ITEMS 8-13)	



# 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 5-16: Electrical Assembly W/ LED Lights Chart

ILLUSTRATED PARTS LIST

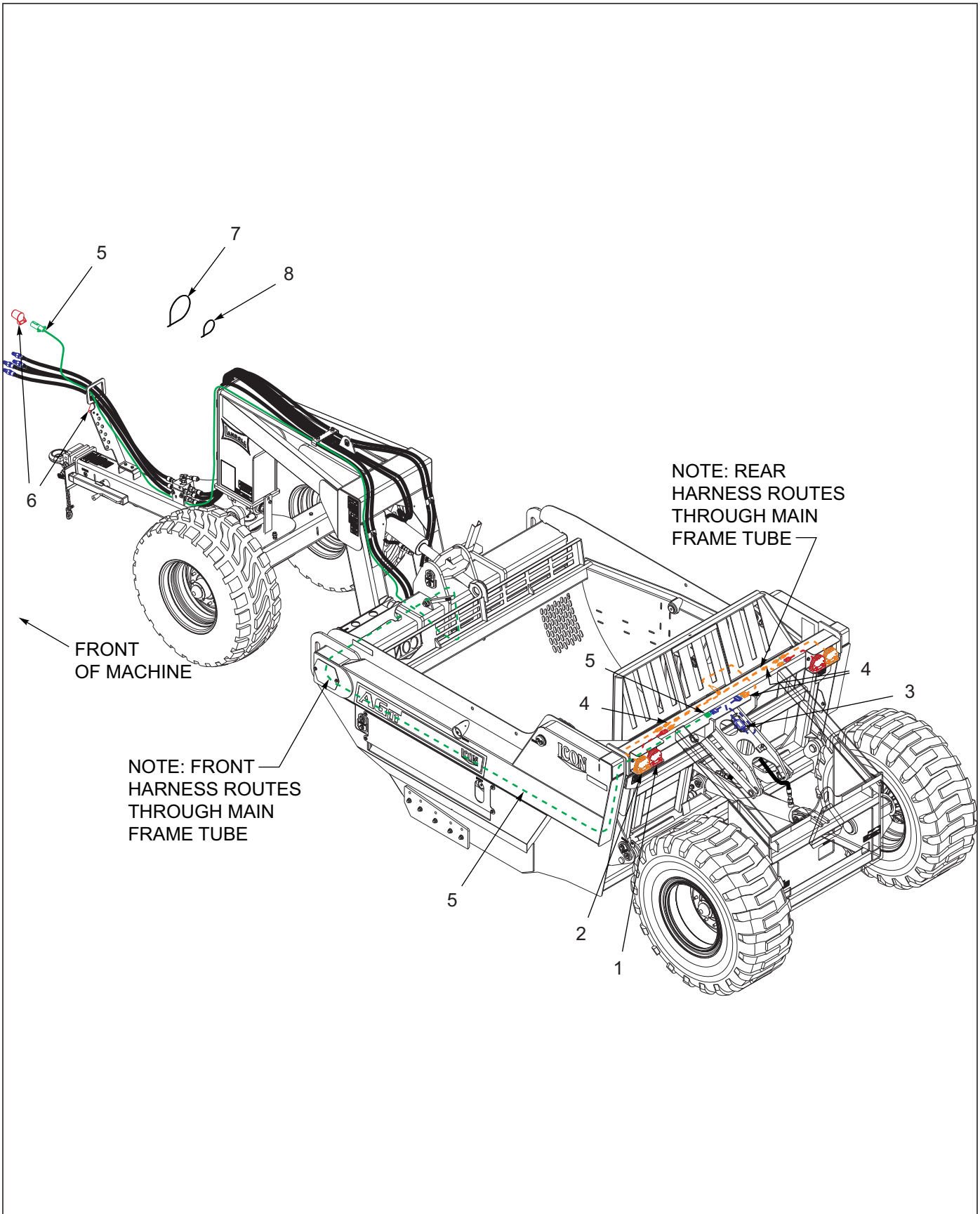


Figure 5-17: Electrical Assembly W/ LED Lights



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

ITEM	PART NO.	DESCRIPTION	QTY.
--	200340	KIT 50' X 4' LED LIGHTS	
1	174435	LAMP, AG RED SINGLE LED	2
2	174436	LAMP, AG AMBER SINGLE LED	2
3	174437	MODULE, AG FLASHER CONTROL	1
4	200348	REAR HARNESS, WARN LIGHT, 4'	1
5	200345	FRONT HARNESS,WRN LIGHTS, 50'	1
6	2-368-010287	HARNESS, STOR-A-WAY	1
7	105874	TIE,STRAP PLSTC 21.5-24X.301	1
8	4000723	CABLE TIE, 8" BLACK HD	4

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

ITEM	PART NO.	DESCRIPTION	QTY.
--	2000639	KIT, 10YD LIGHTS	
1-2	4001300	LIGHTS, MODULAR LEFT-W/BRAKE 0	1
1-2	4001301	LIGHTS, MODULAR RIGHT-W/BRAKE	1
4	LT0069	10YD REAR HARNESS	1
5	LT0070	10YD FRONT WIRE HARNESS-49'	1

Decals



Figure 5-18: Decals (1 of 2)



19



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21



22



23



24



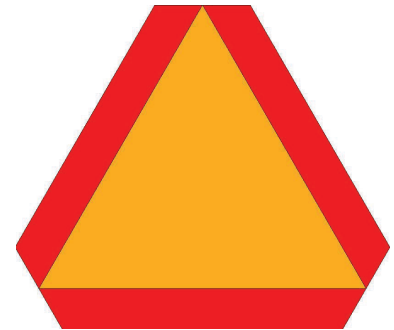
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Figure 5-19: Decals (2 of 2)

ILLUSTRATED PARTS LIST

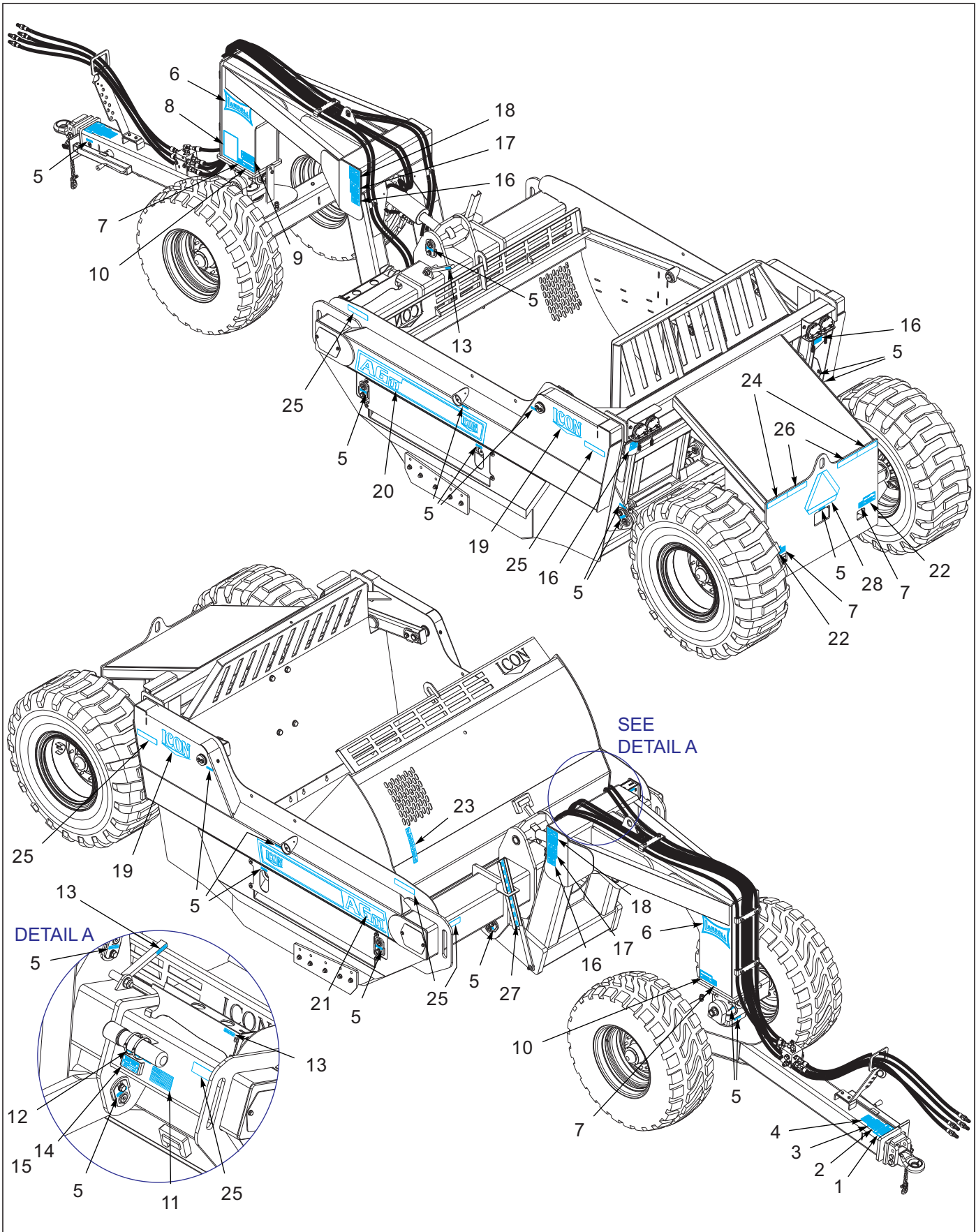


Figure 5-20: Decal Location

## Decals

ITEM	PART NO.	DESCRIPTION	QTY.	
--	2000638	KIT, AG-11 DECAL	*	
--	184087	KIT, AG-13 DECAL		*
1	4000949	DECAL HYD HOSE COLOR CODE	1	1
2	4001516	DECAL-OFF ROAD ONLY	1	1
3	4001484	DECAL "ALWAYS CONTACT UTILITIE	1	1
4	4001446	DECAL "WARNING-REMOVE CYL.STOP	1	1
5	4000938	DECAL "GREASE DAILY"	21	21
6	179220	DECAL, BLACK BOWTIE, 8 X 13	2	2
7	4000937	DECAL,3 PUMPS OF GREASE WEEKLY	4	4
8	4000941	DECAL "DANGER" TO PREVENT A HA	1	1
9	4001551	DECAL, WARNING REMOVE TRANSPOR	1	1
10	184092	DECAL 500/70R24 -46PSI	2	2
11	0011042	DECAL, MADE IN USA FLAG	1	1
12	4000935	DECAL "SAFETY/OPERATIONS/PARTS	1	1
13	4001445	DECAL "SAFETY STOP" 3/4X2 3/4	2	2
14	1-573-010006	PLACARD, NAME	1	1
15	184138	RIVET, BLIND .187 X 3/16 GRIP	2	2
16	4000372	DECAL WARN MOVING PARTS 3-1/2	4	4
17	4000940	DECAL "DANGER" PINCHING/CRUSHI	2	2
18	4000931	DECAL "WARNING" HIGH PRESSURE	2	2
19	200332	DECAL, ICON, 7-1/4 X 13	2	2
20	200357	DECAL, AG-11 ICON, 9 X 60 LH	1	--
20	200359	DECAL, AG-13 ICON, 9 X 60 LH	--	1
21	200358	DECAL, AG-11 ICON, 9 X 60 RH	1	--
21	200360	DECAL, AG-13 ICON, 9 X 60 RH	--	1
22	184093	DECAL 20.5X25 -65PSI	2	2
23	4000396	DECAL GATE GAUGE A-B-C-D-E-F	1	1
24	528933	REFLECTOR - RED	2	2
25	528934	REFLECTOR - YELLOW	6	6
26	528938	STRIPE, ORANGE	2	2
27	4001418	DECAL 821 & 819 R&L GAUGE	1	1
28	4000335	DECAL SLOW MOVING 1FP-C	1	1



**Numerics**

0011042 .....	5-33	1-654-010047-07 .....	5-13
103-0625 .....	5-3, 5-11	1-654-010047-08 .....	5-13
104877 .....	5-15, 5-17	1-654-010055-01 .....	5-9
105-0093 .....	5-11	1-654-010055-03 .....	5-3, 5-13
105874 .....	5-29	1-654-010055-09 .....	5-7, 5-9
108705 .....	5-7, 5-9, 5-11, 5-13	1-654-010055-17 .....	5-3
110-0238 .....	5-11	1-654-010070-03 .....	5-9
110116 .....	5-21	1-654-010125-18 .....	5-7, 5-11
110-4224 .....	5-15	1-654-010125-22 .....	5-3
1-116-010019 .....	5-11	171773 .....	5-3, 5-11, 5-15, 5-17
118652 .....	5-3, 5-7, 5-11	172581 .....	5-3
121567 .....	5-3	172778 .....	5-9
138339 .....	5-11	172784 .....	5-9
1404016 .....	5-13	172788 .....	5-11
1404027 .....	5-11	172810 .....	5-17
140647 .....	5-3, 5-18	172827 .....	5-9
141250 .....	5-18	172832 .....	5-11
141434 .....	5-3	172883 .....	5-11
142194 .....	5-18	172892 .....	5-5
142779 .....	5-13	172927 .....	5-7, 5-9
1-510-010003-09 .....	5-3	172945 .....	5-9
1-512-010005-01 .....	5-3, 5-13	174435 .....	5-13, 5-29
1-512-010010-12 .....	5-5	174436 .....	5-13, 5-29
1-516-010001-27 .....	5-5	174437 .....	5-13, 5-29
1-573-010006 .....	5-33	178720 .....	5-17
161067 .....	5-21	178721 .....	5-11, 5-17
163509 .....	5-21	178722 .....	5-15
163510 .....	5-21	178723 .....	5-3, 5-15
163511 .....	5-21	179220 .....	5-33
163512 .....	5-21	184066 .....	5-11
163513 .....	5-21	184067 .....	5-3
1-654-010032-4 .....	5-11	184068 .....	5-3
1-654-010047-06 .....	5-3	184069 .....	5-3
		184072 .....	5-9
		184073 .....	5-9



**INDEX**

184087	5-33	225593	5-15
184092	5-33	225594	5-15
184093	5-33	225595	5-15
184131	5-24	225596	5-15
184138	5-33	225597	5-15
184139	5-11	225598	5-15
184140	5-11	225599	5-15
184144	5-11	2-368-010287	5-3, 5-29
1-861-010032-15	5-3	4000335	5-33
1-861-010032-19	5-11	4000372	5-33
1-861-010032-21	5-7, 5-9, 5-11, 5-13	4000396	5-33
1-861-010032-24	5-3	4000591	5-5
1-861-010032-25	5-11	4000723	5-21, 5-29
1-861-010032-30	5-5	4000750	5-21
2000638	5-33	4000777	5-3
2000639	5-29	4000837	5-9
200332	5-33	4000902	5-5, 5-7, 5-9, 5-11, 5-13
200340	5-29	4000923	5-11
200345	5-29	4000931	5-33
200348	5-29	4000935	5-33
200357	5-33	4000937	5-33
200358	5-33	4000938	5-33
200359	5-33	4000940	5-33
200360	5-33	4000941	5-33
202232	5-13	4000949	5-33
214612	5-25	4000958	5-9
225581	5-17	4001021	5-11
225582	5-17	4001236	5-11, 5-21, 5-23
225583	5-17	4001271	5-5
225584	5-17	4001300	5-29
225585	5-17	4001301	5-29
225586	5-17	4001414	5-7
225587	5-15, 5-17	4001418	5-11, 5-33
225588	5-17	4001434	5-23
225589	5-17	4001443	5-11
225590	5-17	4001445	5-33
225591	5-15	4001446	5-33
225592	5-15	4001452	5-3, 5-21

---

4001455	5-5
4001484	5-33
4001516	5-33
4001521	5-9
4001538	5-17
4001540	5-15
4001542	5-13, 5-21, 5-25
4001543	5-9, 5-21, 5-24
4001545	5-9
4001548	5-3
4001551	5-33
4001554	5-21
400657	5-11
40K2	5-9
5000	5-5, 5-7, 5-9, 5-11, 5-13, 5-15, 5-17
5000595	5-21
5001006	5-21
5001007	5-21
5001151	5-7, 5-13
5001200	5-21
5001201	5-21
5001202	5-21
5001203	5-21
5001204	5-21
5001205	5-21
5001206	5-21
5001209	5-13
500171	5-18
5-2	5-1
5-20	5-1
5-27	5-1
528933	5-33
528934	5-33
528938	5-33
5-30	5-1
5410	5-13
61D8ER	5-9
622-3511-005	5-5, 5-9, 5-13

622-3511-007	5-9
622-3511-008	5-7, 5-9, 5-11, 5-13
622-3511-010	5-3, 5-7, 5-9, 5-11
622-3511-014	5-5, 5-9
622-3511-018	5-5
9303156	5-3

---

**C**

CO0218	5-7
--------	-----

---

**I**

ICO0090	5-5, 5-13
ICO0218	5-13
ICO0226	5-5, 5-13
ICO0229	5-5
ICO0236	5-9
ICO0244	5-5
ICO0258	5-7
ICO0420	5-9
ICO0501	5-7
ICO0525	5-9
ICO1066	5-5
ICO1118	5-7, 5-9, 5-11, 5-13
ICO2045	5-7, 5-9
ICO2063	5-11
ICO2069	5-9
ICO2172	5-11
ICO2173	5-11
ICO2199	5-11
ICO2227	5-9
ICO2228	5-7
ICO2229	5-7
ICO2230	5-7
ICO2231	5-5
ICO2232	5-7
ICO2233	5-9

**INDEX**

---

ICO2248 ..... 5-9  
ICO2249 ..... 5-9  
ICO2250 ..... 5-9  
ICO2251 ..... 5-9  
ICO2252 ..... 5-5  
ICO2253 ..... 5-5  
ICO2254 ..... 5-5  
ICO2255 ..... 5-5  
ICO2256 ..... 5-3  
ICO2258 ..... 5-11  
ICO2259 ..... 5-11  
ICO2261 ..... 5-11  
ICO2262 ..... 5-9  
ICO2263 ..... 5-5  
ICO2265 ..... 5-11  
ICO2266 ..... 5-7

**J**

---

J650 ..... 5-11

**L**

---

LT0069 ..... 5-29  
LT0070 ..... 5-29

**T**

---

TR575 ..... 5-3

**W**

---

W915665-4 ..... 5-5, 5-7, 5-9, 5-13  
W932060-4 ..... 5-5

## Document Control Revision Log

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01/21/2013	F-879	Initial Release
01/22/2018	F-879-0118	Updated front & rear cover, safety section
12/30/2019	F-879-1219	Updated all manual with new FrameMaker format



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# Intertek

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

## Model AG11/AG13 Pull Type Scraper Service and Parts Manual

Re-Order Part Number F-879-1219

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