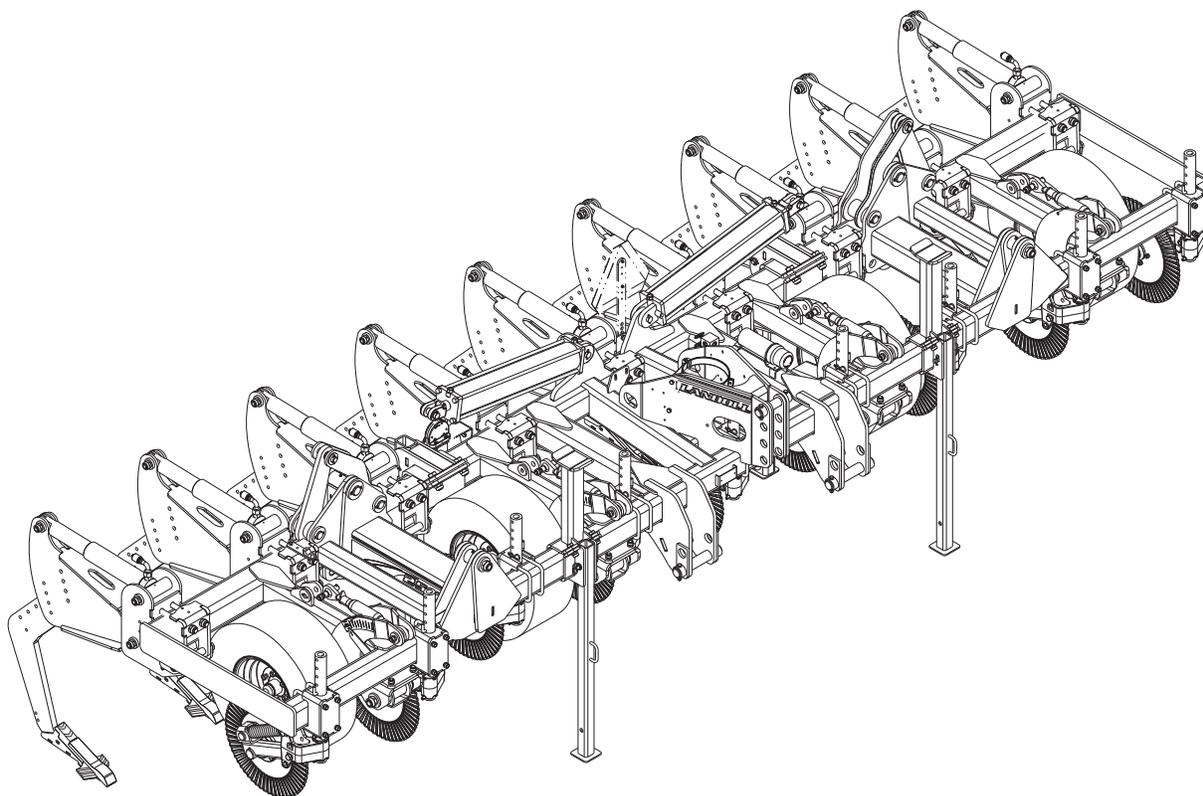




2512 Zone Commander

FOR UNITS SHIPPED AFTER DECEMBER 1, 2020
(SN: 25M201237 AND ABOVE)
PREVIOUS UNITS SHOULD REFERENCE F-1040-0320

Operators Manual



LANDOLL COMPANY, LLC

1900 North Street

Marysville, Kansas 66508

(785) 562-5381

800-428-5655 ~ WWW.LANDOLL.COM

Instructions for Ordering Parts

**** Repair parts must be ordered through an Authorized Dealer ****

DEALER INSTRUCTIONS FOR ORDERING PARTS FROM LANDOLL PARTS DISTRIBUTION CENTER

Phone #: 800-423-4320 or 785-562-5381

Fax #: 888-527-3909

Order online: dealer.landoll.com

DATA PLATE

The Data Plate, which lists the model number and serial number, is located on the front of the frame.

SERIAL NUMBER

The following information will help decode the serial number.

25C2400100 = xxmysssss

xx	= model series (i.e. "25" for all Zone Commanders)
m	= month of manufacture (ex. "C" means March. The letter I is not used.)
yy	= year manufactured (ex. "24" means 2024)
sssss	= sequential number used to track warranty and service information.

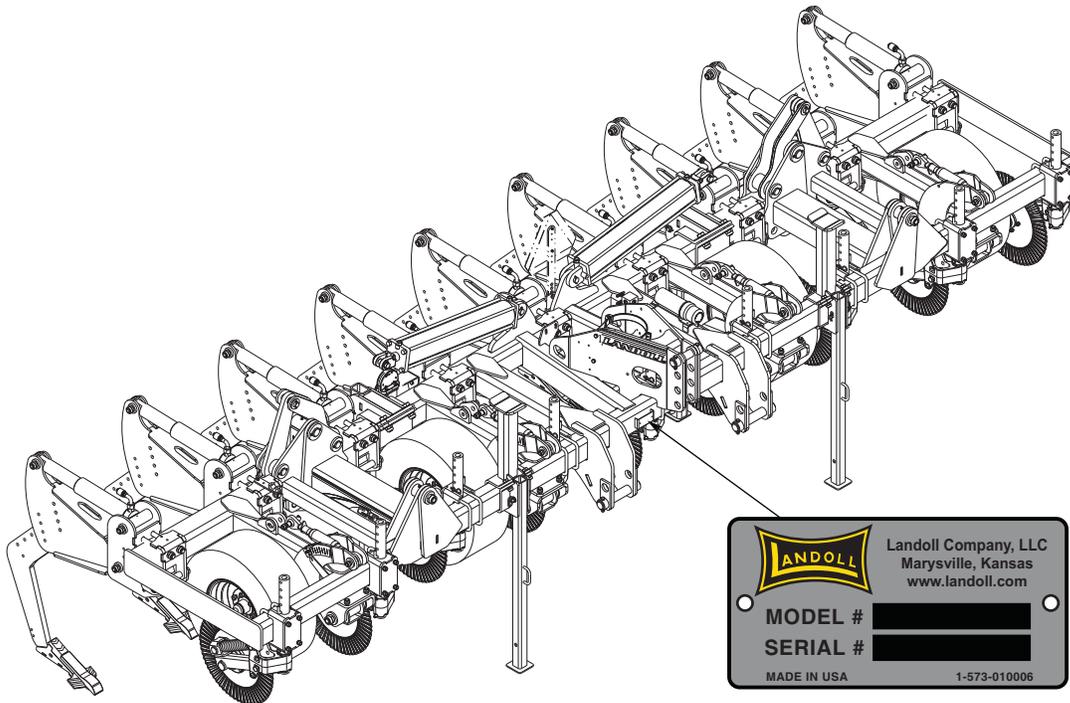


Figure: Data Plate

Manuals for 2512 Zone Commander and Caddy

FOR UNITS SHIPPED AFTER DECEMBER 1, 2020 (SN: 25M201237 AND ABOVE)
PREVIOUS UNITS SHOULD REFERENCE F-1039-0320

Manual Number	Manual Type
F-1049	Operator's Manual
F-1048	Parts Manual (2512 Zone Commander ONLY)
F-1075	Caddy Parts Manual (ONLY)



DANGER

DO NOT operate or perform any maintenance tasks on this equipment until you have completed the following:

- 1. Receive proper training to operate this equipment safely.**
- 2. Read and understand the operator's manual.**
- 3. Be thoroughly trained on inspection and repair procedures.**

Failure to comply with this warning may result in serious injury or possibly death.

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Introduction and Safety Information

The Landoll Model 2512 Rigid & Folding Zone Commander are quality products 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 measures 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 2512 Rigid & Folding Zone Commander. 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 COMPANY, LLC
1900 NORTH STREET
MARYSVILLE, KANSAS 66508

PHONE # (785) 562-5381 or (800) 428-5655

OR

FAX # (888) 527-3909

CHAPTER 5	Is a troubleshooting guide to aid in diagnosing and solving problems with the Zone Commander.
PARTS MANUAL	Is a separate manual showing the various assemblies, subassemblies, and systems. Refer to that manual when ordering Landoll replacement parts. Order parts from your Landoll dealer.
WARRANTY	The Warranty Registration form is included with product documents. Fill it out and mail it within 10 days of purchase or register online at www.landoll.com . NOTE: IMPROPER ASSEMBLY, MODIFICATION, OR MAINTENANCE OF YOUR LANDOLL MACHINE CAN VOID YOUR WARRANTY.
COMMENTS	Address comments or questions regarding this publication to:

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

Understanding Safety Statements

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



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

NOTE

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

NOTICE

Special notice - read and thoroughly understand.



CAUTION

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



WARNING

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



DANGER

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

NOTE

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

The safety statements contained in this manual relate to the operation of the Model 2512 Rigid & Folding Zone Commander.

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

NOTE

The implement Jack Stand Weldments must be stored “off machine” for all **folding machines** during transport and field operation. This is true for both Front and Rear Jack Stands.

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.

Protective Equipment

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

High Pressure Fluid Safety

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.

1. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.
2. Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

NOTE

To relieve hydraulic pressure: Depending on tractor hydraulic system, some can be relieved by actuating control lever after engine is stopped. If tractor has electric over hydraulic controls, it may be necessary to move the control lever to the float position with engine running.

Refer to Tractor Operator's Manual.

Wear protective gloves and safety glasses or goggles when working with hydraulic systems.

Safety Chain

1. Use the Safety Chain to help control drawn machinery should it separate from the tractor drawbar.
2. 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.
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. **Refer to Tractor Operator's Manual.**
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 Specifications

2511N Rigid Zone Commander					
Model	Number of Shanks	Frame Type	Frame Configuration	Transport Width	Estimated Weight
2511N-3-30	3	RIGID	107 (IN) RIGID	110" (9' - 2")	3,357 W/2 GAUGE WHEEL
2511N-4-30	4	RIGID	107 (IN) RIGID	110" (9' - 2")	3,849 W/2 GAUGE WHEEL
2511N-5-30	5	RIGID	107 (IN) RIGID CT, (2) 13 (IN) EXT	140" (11' - 8")	4,725 W/2 GAUGE WHEEL

2512 Rigid and Folding Zone Commander (Caddy Optional)					
Model	Number of Shanks	Frame Type	Frame Configuration	Transport Width	Estimated Weight
2512-4-30	4	RIGID	135 (IN) RIGID	149" (12' - 5")	5,636 W/2 GAUGE WHEEL
2512-5-30	5	RIGID	135 (IN) RIGID	136" (11' - 4")	6,398 W/2 GAUGE WHEEL
2512-6-30	6	RIGID - 1-4-1	135 (IN) RIGID CT, (2) 13 (IN) EXT	161" (13' - 5")	8,209 W/2 GAUGE WHEEL
2512-7-30	7	RIGID - 1-5-1	135 (IN) RIGID CT, (2) 28 (IN) EXT	190" (15' - 10")	9,406 W/2 GAUGE WHEEL
2512-8-30	8	RIGID - 2-4-2	135 (IN) RIGID CT, (2) 44 (IN) WING	223" (18' - 6")	10,473 W/2 GAUGE WHEEL
2512F-7-30	7	FOLDING - 1-5-1	150 (IN) RIGID CT, (2) 24 (IN) WING	167" (13' - 11")	10,422 W/2 GAUGE WHEEL
2512F-8-30	8	FOLDING - 1-6-1	180 (IN) RIGID CT, (2) 24 (IN) WING	197" (16' - 5")	11,559 W/2 GAUGE WHEEL
2512F-9-30	9	FOLDING - 2-5-2	150 (IN) RIGID CT, (2) 52 (IN) WING	167" (13' - 11")	12,721 W/2 GAUGE WHEEL ON WINGS

2512 Folding Zone Commander (Caddy ONLY)					
Model	Number of Shanks	Frame Type	Frame Configuration	Transport Width	Estimated Weight
2512F-10-30	10	FOLDING - 2-6-2	180 (IN) CENTER CT, (2) 52 (IN) WING	197" (16' - 5")	13,872 W/2 GAUGE WHEEL ON WINGS
2512F-11-30	11	FOLDING - 2-7-2	210 (IN) CENTER CT, (2) 52 (IN) WING	227" (18' - 11")	14,924 W/2 GAUGE WHEEL ON WINGS
2512F-12-30	12	FOLDING - 3-6-3	150 (IN) CENTER CT, (2) 82 (IN) WING	197" (16' - 5")	16,045 W/2 GAUGE WHEEL ON WINGS
2512F-13-30	13	FOLDING - 3-7-3	210 (IN) CENTER CT, (2) 82 (IN) WING	227" (18' - 11")	17,097 W/2 GAUGE WHEEL ON WINGS
2512F-14-30	14	FOLDING - 3-8-3	240 (IN) CENTER CT, (2) 82 (IN) WING	257" (21' - 5")	18,430 W/2 GAUGE WHEEL ON WINGS
2512F-15-30	15	FOLDING - 4-7-4	210 (IN) CENTER CT, (2) 112 (IN) WING	227" (18' - 11")	19,299 W/2 GAUGE WHEEL ON WINGS
2512F-16-30	16	FOLDING - 4-8-4	240 (IN) CENTER CT, (2) 112 (IN) WING	257" (21' - 5")	20,731 W/2 GAUGE WHEEL ON WINGS

Tire Specification					
Model	Tire Size	Ply/Load Rating	Inflation Pressure (psi) (Max.)	Wheel Nut Size	Recommended Torque (Ft-Lbs)
Caddy STD	IF 320/70R15	144	70 psi	5/8-18	130-140
Caddy HD	VF 385/65R22.5	163	70 psi	3/4-16	300-400
Ripper Gauge Wheels	IF280/70R15	134	64 psi	9/16-18	120-130

General Torque Specifications

LANDOLL
FASTENER TORQUE SPECIFICATIONS
(Rev. 23/04)

This chart provides general torque specifications for Standard Nuts and Caps Screws (as received condition) that are not called out on processes or drawings.

This **DOES NOT** apply if special lubrication such as graphite moly-disulfide or other extreme pressure lubricants are used.

Add 33% to the listed torque specification if the fastener is dry (solvent cleaned).

Cap screw grades are indicated by markings on the head, these vary among manufacturers.

Thick Nuts must be used on grade 8 cap screws.

SAE TORQUE SPECIFICATIONS (FOOT-POUNDS)
[] Indicates specifications for Prevailing Torque Nuts.

UNC Size	 Grade 2	 Grade 5	 Grade 8
1/4 - 20	4 [5]	6 [7]	9 [11]
5/16 - 18	8 [10]	13 [16]	18 [22]
3/8 - 16	15 [19]	23 [29]	35 [43]
7/16 - 14	24 [30]	35 [43]	55 [62]
1/2 - 13	35 [43]	55 [62]	80 [100]
9/16 - 12	55 [62]	80 [100]	110 [137]
5/8 - 11	75 [94]	110 [137]	170 [212]
3/4 - 10	130 [162]	200 [250]	280 [350]
7/8 - 9	125 [156]	320 [400]	460 [575]
1 - 8	190 [237]	408 [506]	680 [850]
1-1/8 - 7	270 [337]	600 [750]	960 [1200]
1-1/4 - 7	380 [475]	840 [1050]	1426 [1782]
1-3/8 - 6	490 [612]	1100 [1375]	1780 [2225]
1-1/2 - 6	650 [812]	1460 [1825]	2360 [2950]

See back side for SAE UNF and Metric torques.

Form No. F-257-0322

SAE TORQUE SPECIFICATIONS (FOOT POUNDS)
[] Indicates specifications for Prevailing Torque Nuts.

UNF Size	 Grade 2	 Grade 5	 Grade 8
1/4 - 28	5 [6]	7 [9]	10 [12]
5/16 - 24	9 [11]	14 [17]	20 [25]
3/8 - 24	17 [21]	25 [31]	35 [44]
7/16 - 20	27 [34]	40 [50]	60 [75]
1/2 - 20	40 [50]	65 [81]	90 [122]
9/16 - 18	60 [75]	90 [112]	130 [162]
5/8 - 18	85 [106]	130 [162]	180 [225]
3/4 - 16	150 [188]	220 [275]	320 [400]
7/8 - 14	140 [175]	360 [450]	500 [625]
1 - 14	210 [263]	540 [675]	760 [950]
1-1/8 - 12	300 [375]	660 [825]	1080 [1350]
1-1/4 - 12	420 [525]	920 [1150]	1500 [1875]
1-3/8 - 12	560 [700]	1260 [1575]	2010 [2512]
1-1/2 - 12	730 [912]	1640 [2050]	2660 [3325]

METRIC TORQUE SPECIFICATIONS
This chart provides torque specification for phosphate coated, Rockwell "C" 38-45 Metric Coarse Thread Class 10.9 Fasteners, Class 10.0 Nuts and Harden Flat Washers.

[] Indicates specifications for Prevailing Torque Nuts.

MM Size	Newton - Meters	Foot-Pounds
6	10 [14]	7 [10]
7	16 [22]	12 [16]
8	23 [32]	17 [24]
10	46 [60]	34 [47]
12	80 [101]	60 [75]
14	125 [155]	90 [115]
16	200 [240]	150 [180]
18	275 [330]	205 [245]
20	385 [450]	290 [335]
24	670 [775]	500 [625]
27	980 [1105]	730 [825]
30	1330 [1470]	990 [1090]
33	1790 [1950]	1730 [1870]
36	2325 [2515]	1730 [1870]
39	3010 [3210]	2240 [2380]

See front side for SAE UNC and notes.

Figure 2-1: General Torque Specifications

Hydraulic Fitting Torque Specifications

LANDOLL HYDRAULIC FITTING TORQUE SPECIFICATIONS (REV. 23/04) AEROQUIP BRAND FITTINGS 37° JIC; ORS & ORB			
This chart provides torque specifications for Plated Carbon Steel and Stainless Steel Fittings (as received condition) that are not called out on processes or drawings. This DOES NOT apply if special lubrication such as graphite moly-disulfide or other extreme pressure lubricants are used. Minus 65% from the listed torque specification for Brass Fittings.			
TORQUE SPECIFICATIONS (FOOT-POUNDS) [] Indicates specifications for Prevailing Torque Nuts.			
DASH Size	37 Degree JIC	O-Ring (ORS)	O-Ring Boss (ORB)
-4	11-12	10-12	14-16
-5	15-16	-----	18-20
-6	18-20	18-20	24-26
-8	38-42	32-35	50-60
-10	57-62	46-50	72-80
-12	79-87	65-70	125-135
-14	-----	-----	160-180
-16	108-113	92-100	200-220
-20	127-133	125-140	240-280
-24	158-167	150-165	270-360
-32	245-258	-----	-----
FORM NO. F-263-2304 (1 of 3)			

LANDOLL HYDRAULIC FITTING TORQUE SPECIFICATIONS (REV. 23/04) GATES BRAND FITTINGS 37° JIC; ORS & ORB			
This chart provides torque specifications for Plated Carbon Steel and Stainless Steel Fittings (as received condition) that are not called out on processes or drawings. This DOES NOT apply if special lubrication such as graphite moly-disulfide or other extreme pressure lubricants are used. Minus 65% from the listed torque specification for Brass Fittings.			
TORQUE SPECIFICATIONS (FOOT-POUNDS) [] Indicates specifications for Prevailing Torque Nuts.			
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	-----	-----
FORM NO. F-263-2304 (2 of 3)			

LANDOLL HYDRAULIC FITTING TORQUE SPECIFICATIONS (REV. 23/04) PARKER BRAND FITTINGS 37° JIC; ORS & ORB			
This chart provides torque specifications for Plated Carbon Steel and Stainless Steel Fittings (as received condition) that are not called out on processes or drawings. This DOES NOT apply if special lubrication such as graphite moly-disulfide or other extreme pressure lubricants are used. Minus 65% from the listed torque specification for Brass Fittings.			
TORQUE SPECIFICATIONS (FOOT-POUNDS) [] Indicates specifications for Prevailing Torque Nuts.			
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
-14	-----	-----	-----
-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
FORM NO. F-263-2304 (3 of 3)			

Figure 2-2: Hydraulic Fitting Torque Specifications

Shank Mounting Dimensions - Rigid

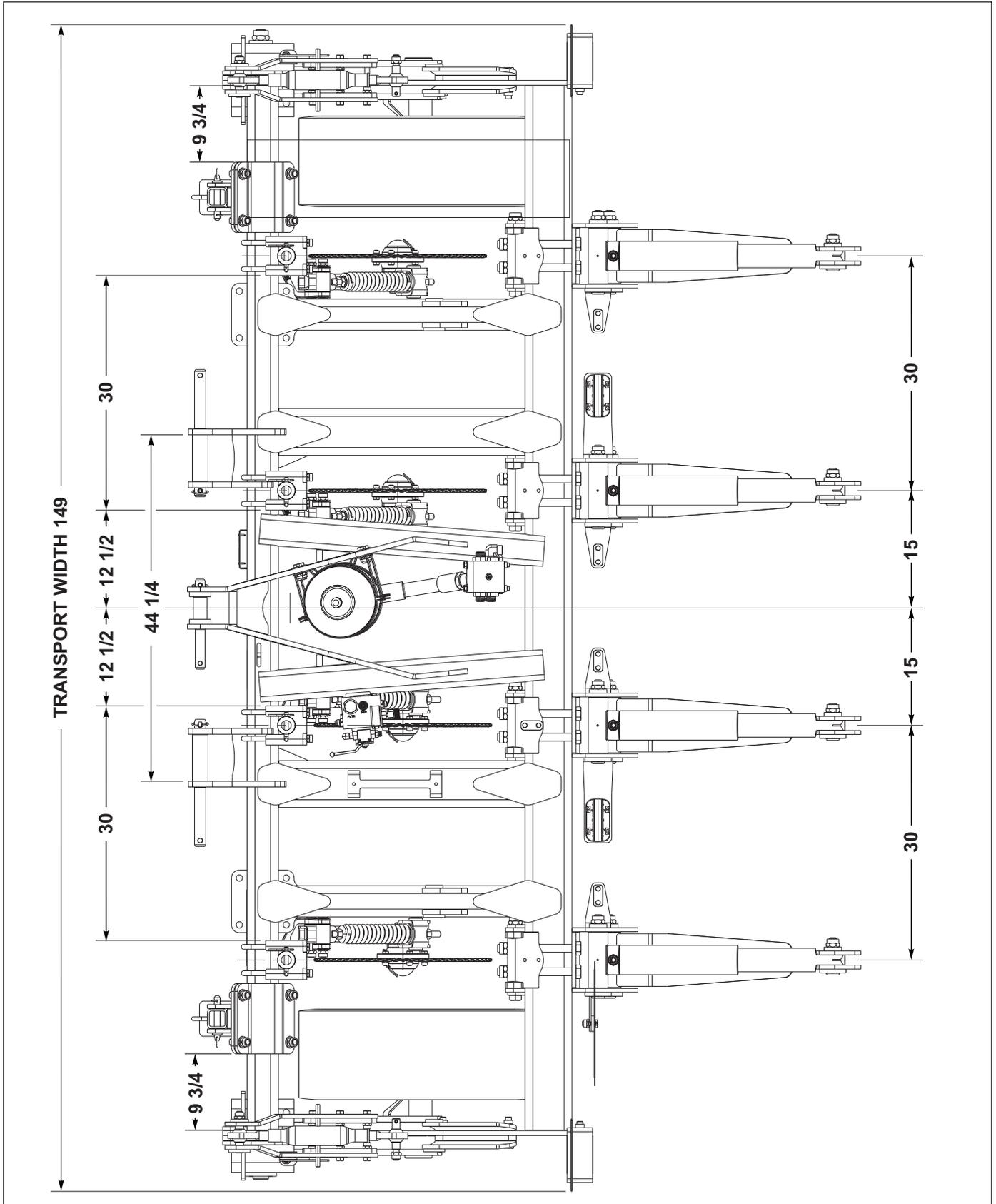


Figure 2-1: 4-Shank Spacing

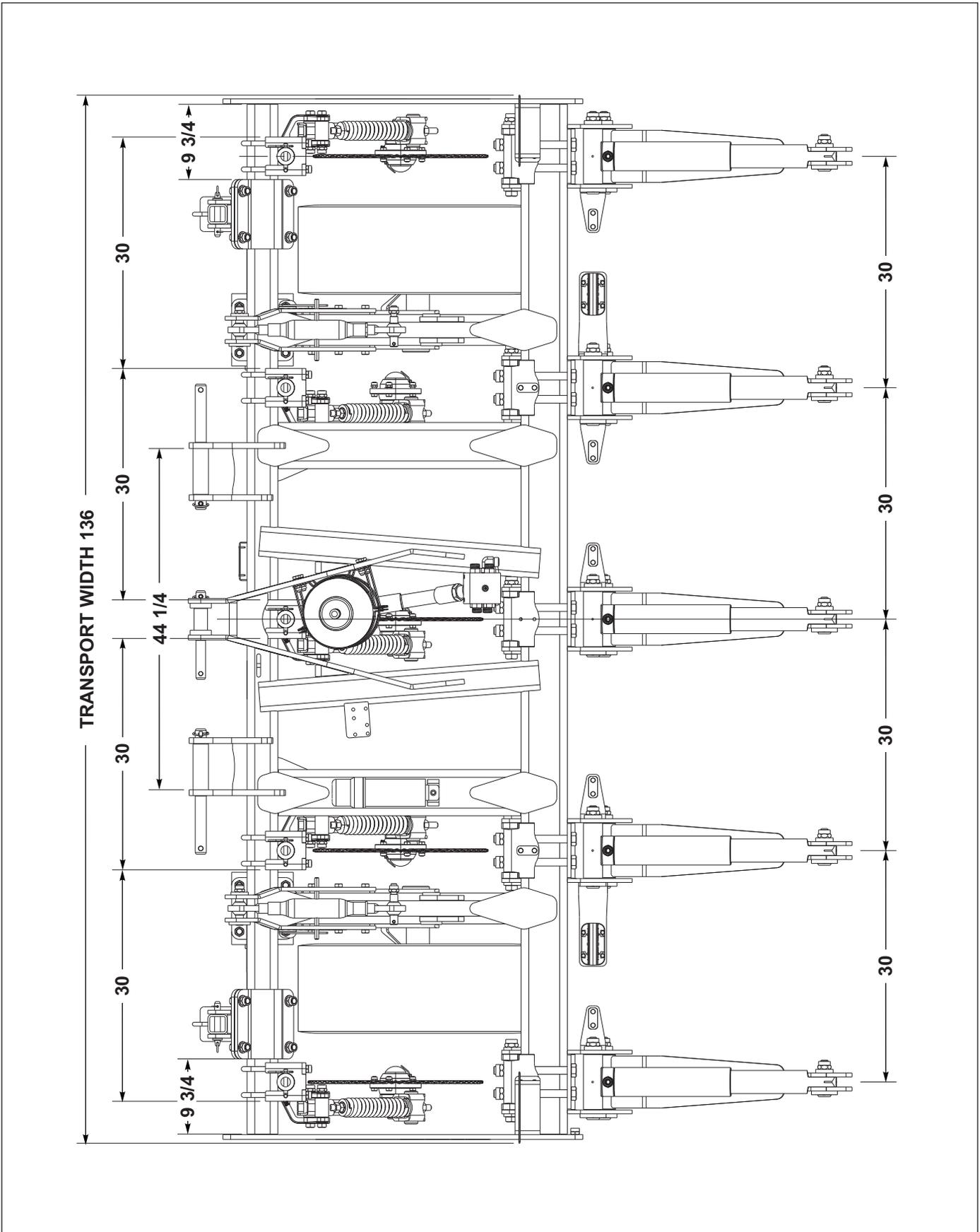


Figure 2-2: 5-Shank Spacing

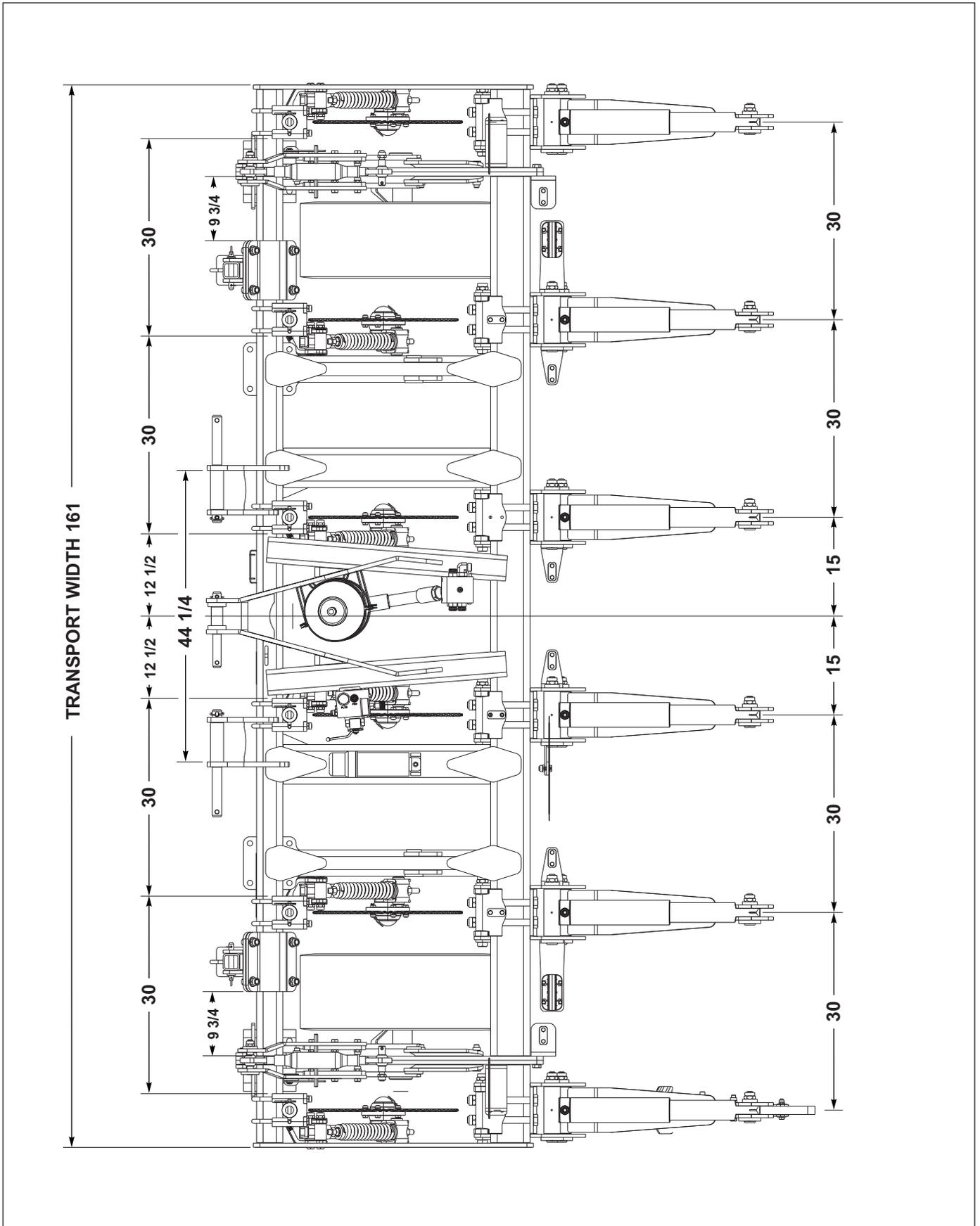


Figure 2-3: 6-Shank Spacing

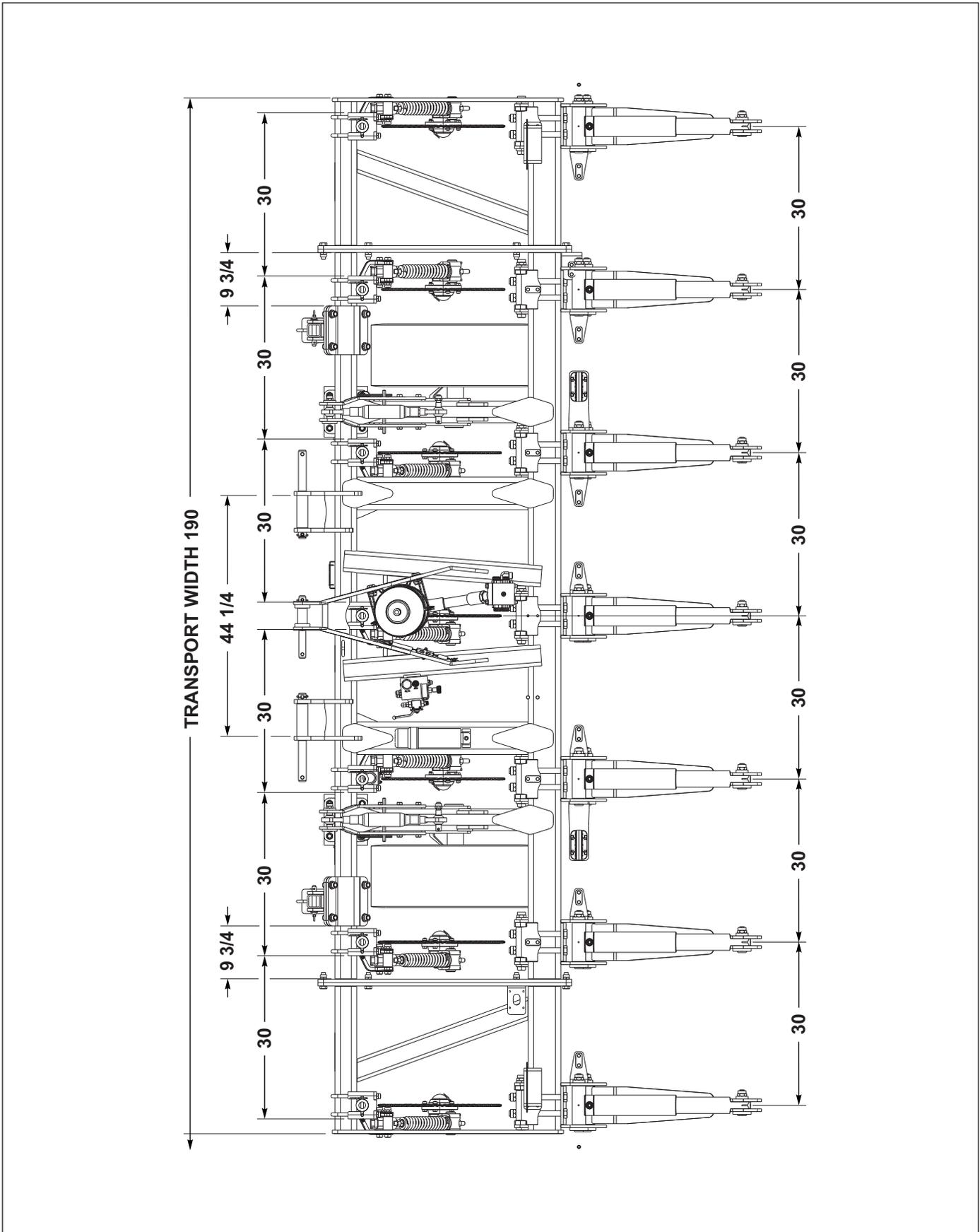


Figure 2-4: 7-Shank Spacing

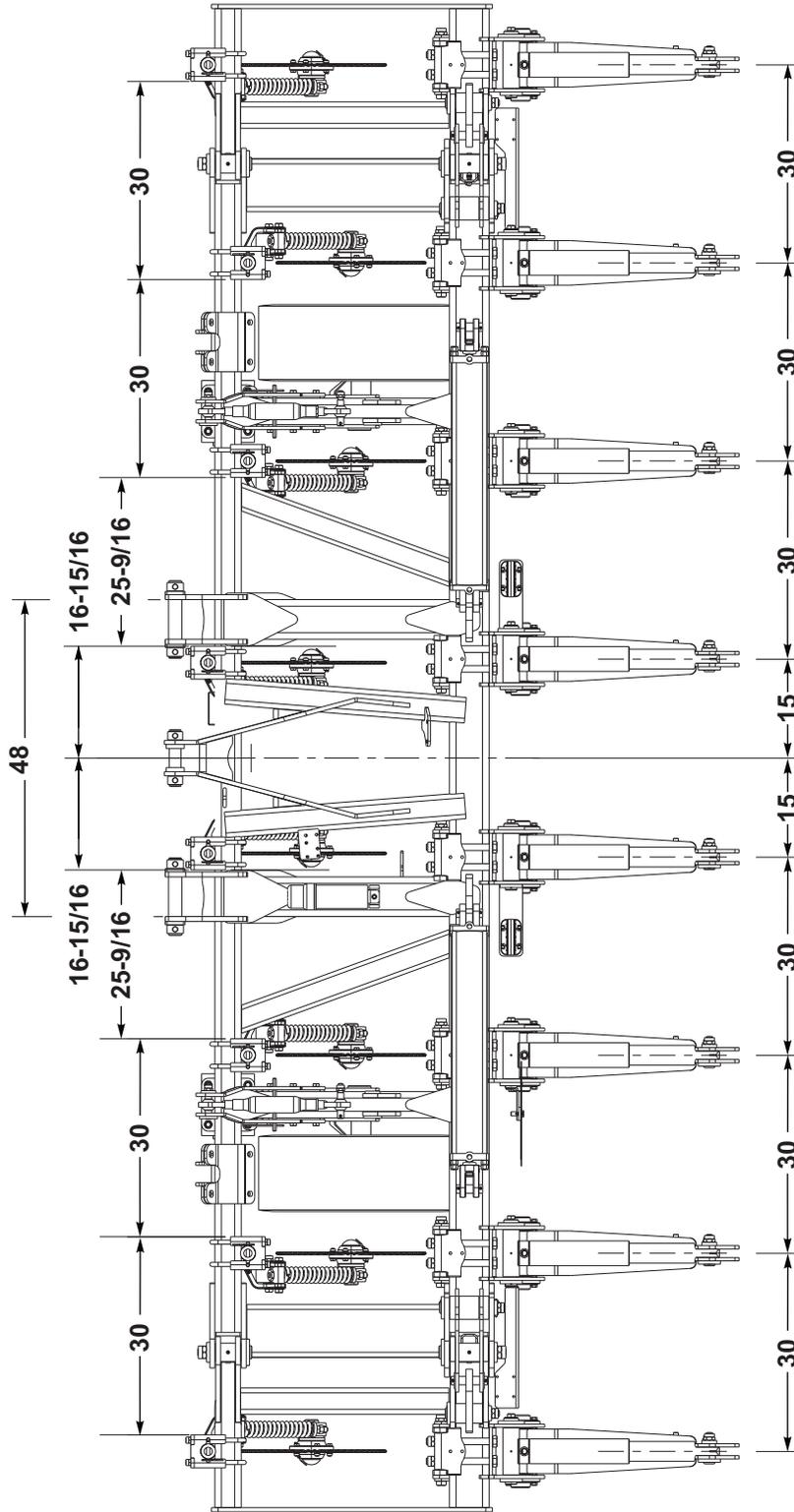


Figure 2-7: Folding - 8 Shank Spacing

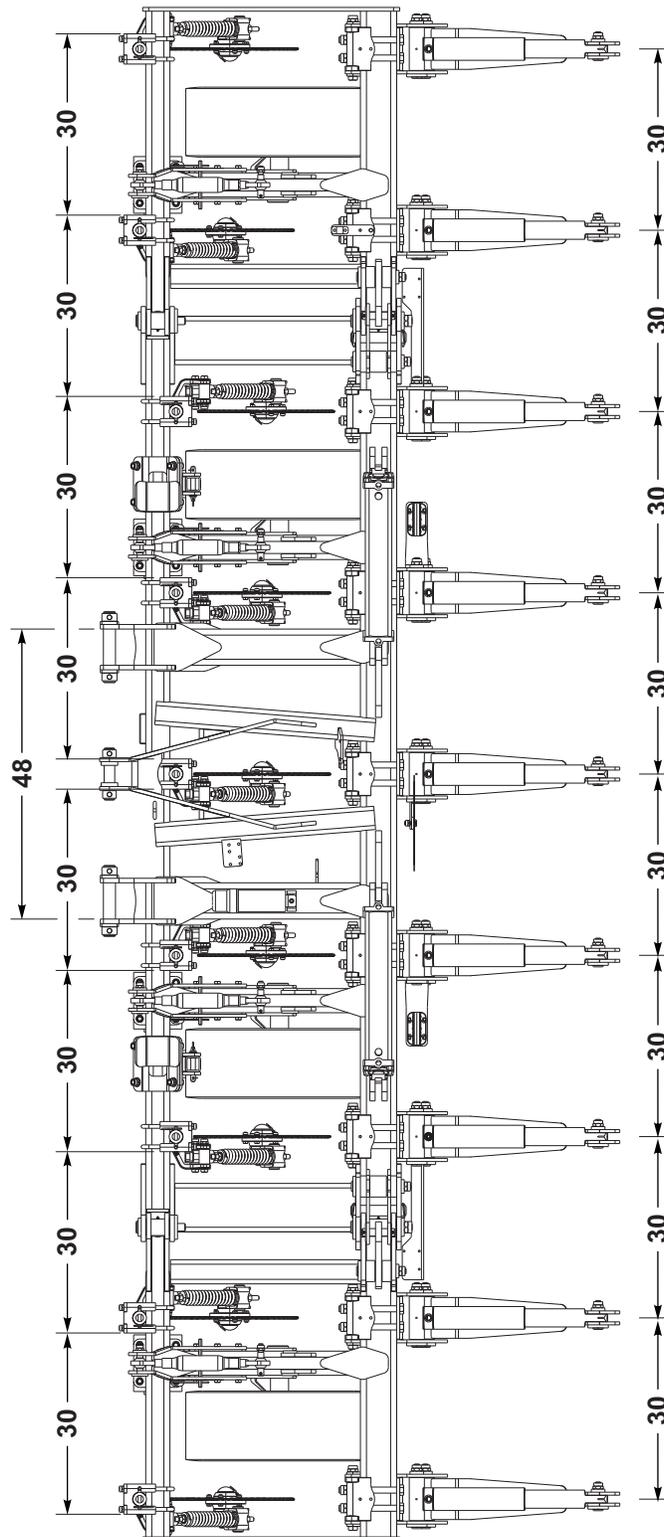


Figure 2-8: Folding - 9 Shank Spacing

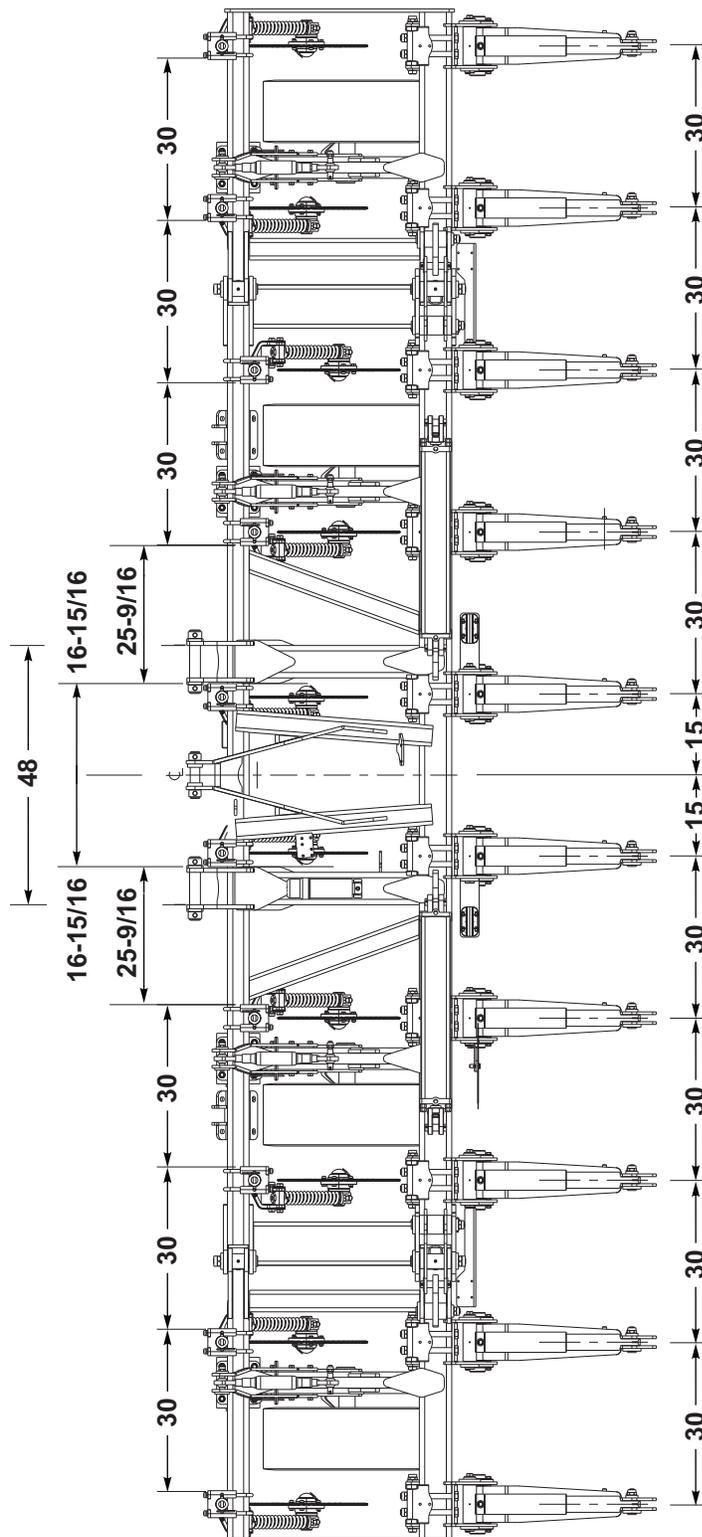


Figure 2-9: Folding - 10 Shank Spacing

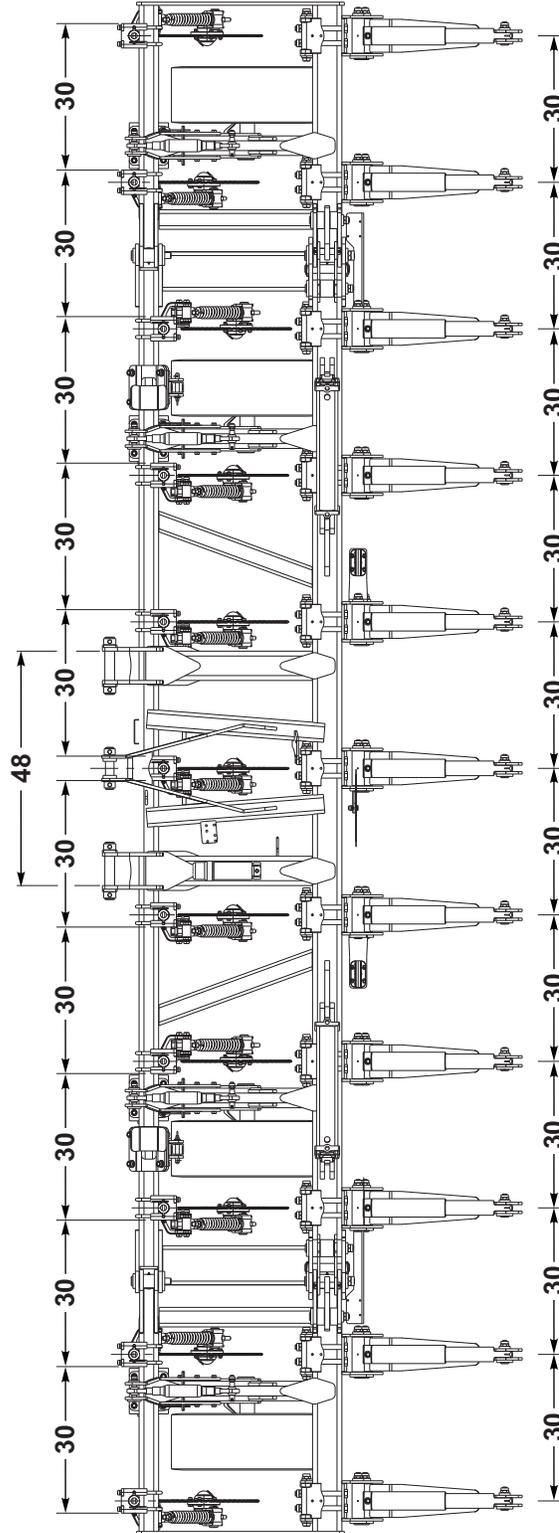


Figure 2-10: Folding - 11 Shank Spacing

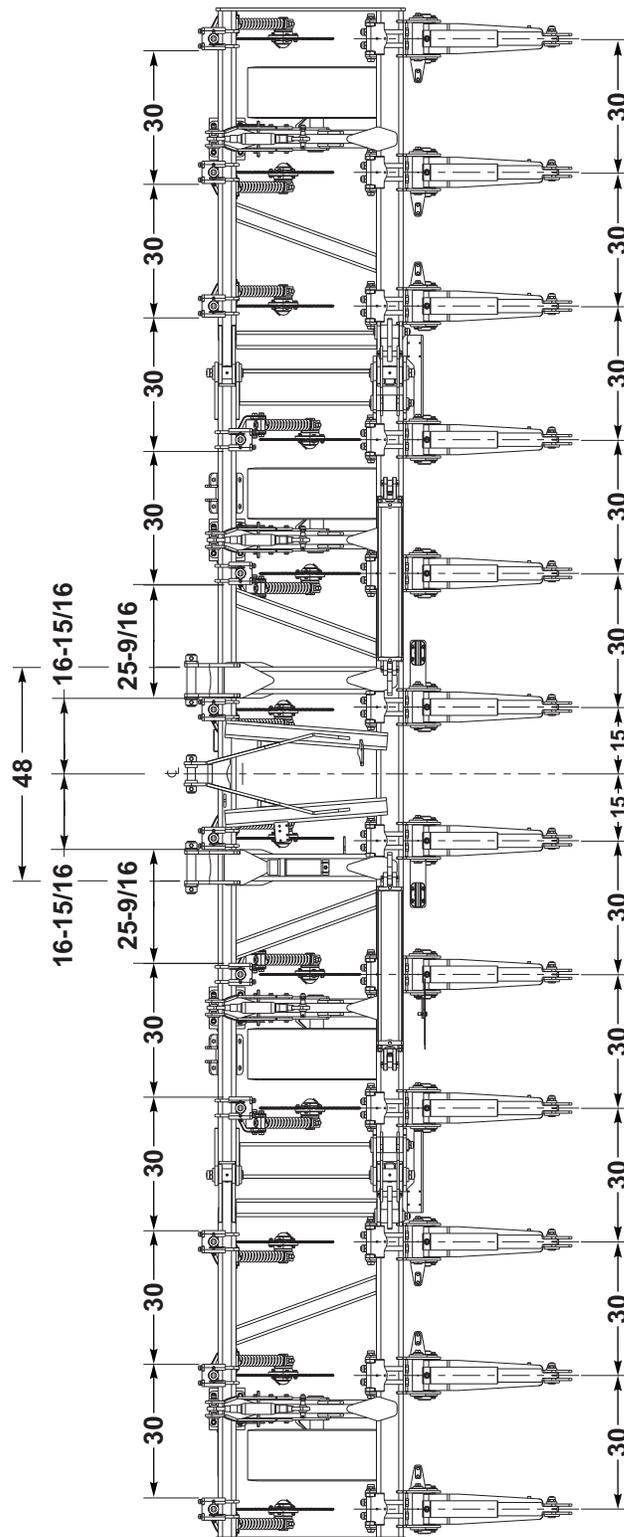


Figure 2-11: Folding - 12 Shank Spacing

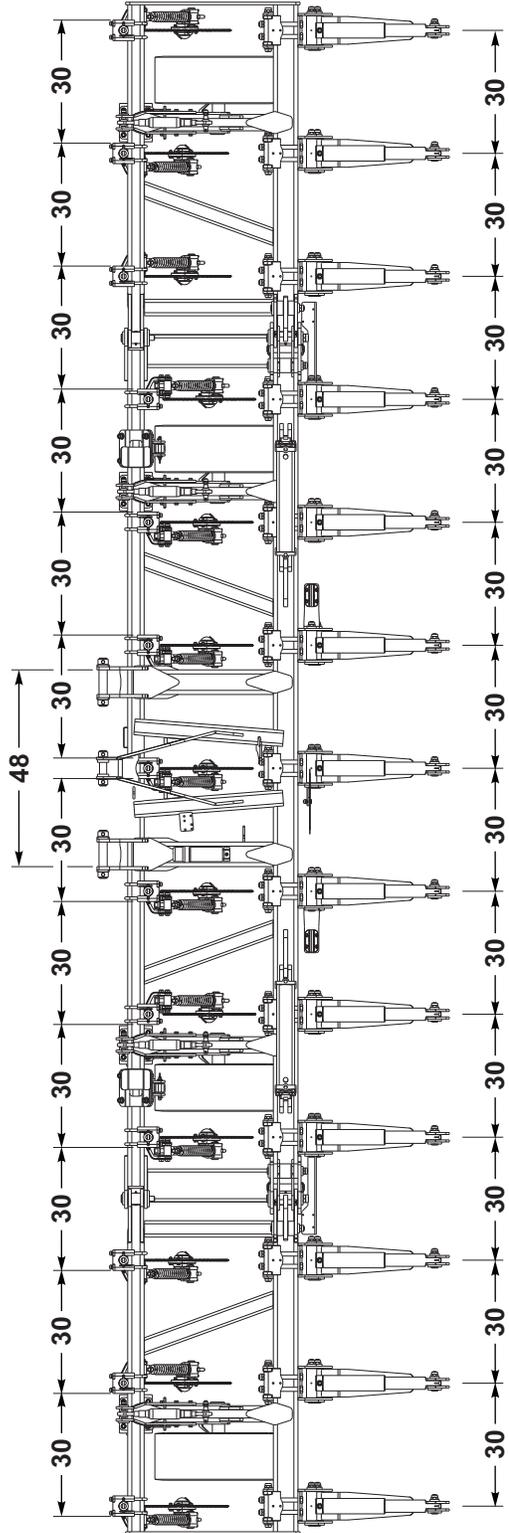


Figure 2-12: Folding - 13 Shank Spacing

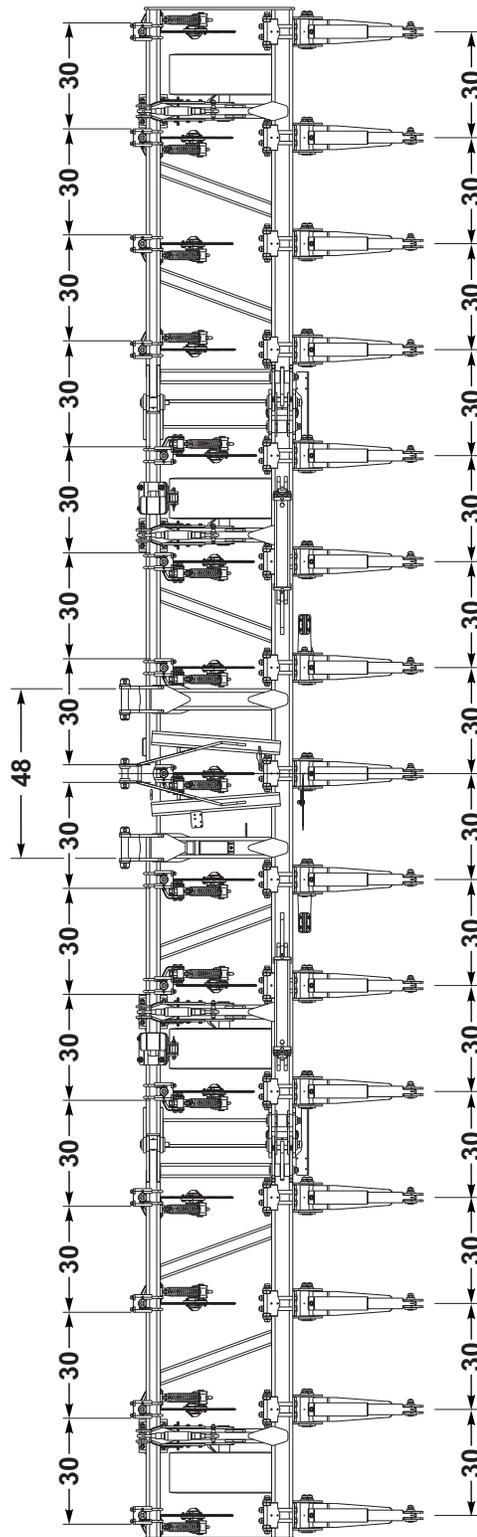


Figure 2-14: Folding - 15 Shank Spacing

Assembly Instructions

It is very important that your new 2512 Series Rigid or Folding Zone Commander be properly assembled, adjusted, and lubricated before use. Illustrations are provided in this section to show proper assembly procedures. Remove paint from grease fittings and replace any that are damaged or missing. Be sure to return bolts, clips, etc. to their original locations.

To ensure assemblies are aligned, **insert all bolts and leave the nuts loose until completion of final assembly.** Use lock washers or flat washers where called for. Spread all cotter pins.

After completion of final assembly, tighten all nuts **evenly** to prevent misalignment, distortion, or binding. Tighten all bolts and nuts to the recommended torques shown on **Page 2-3 and Page 2-4.** Tighten all U-Bolt legs evenly.

IMPORTANT

Check all bolt lengths, nut sizes, etc., from the parts book before assembly. Different models of the 2512 Series Rigid & Folding Zone Commander use different size bolts.

Specific Dangers and Warnings

DANGER

In the event a shank trips and does not release, do not attempt to release the shank. Contact your Landoll dealer for further instructions. A tripped shank can release suddenly and cause serious injury or death.

DANGER

Coulter blades are extremely sharp. use extreme care when working on or near coulter blades. Do not allow coulters to roll over or fall on any part of body. Do not allow wrenches to slip when working near coulter blades. Never push wrenches towards coulter blades. Do not climb over machine above coulter blades. Failure to stay clear of coulter blade edges may result in serious personal injury or death.

DANGER

To prevent accidental lowering:

1. All hydraulically elevated equipment must be locked out using the cylinder lockouts.
2. Lower equipment to the ground while servicing or when it is idle.

Failure to take measures to prevent accidental lowering may result in serious personal injury or death.

WARNING

Be sure to bleed the hydraulic system of all air in lines after installation. Failure to bleed the system of all air may cause the machine to operate improperly.

Assembly Preparation

1. Hook up the Zone Commander to a tractor using the 3-PT Hitch.
2. Raise the unit about 36" and place stands under the main frame to prevent accidental lowering.



WARNING

Do not attempt to lift heavy parts (such as the frame), manually. Use a hoist or a forklift to move these parts into position.

Jack Stand Installation

NOTE

The implement Jack Stand Weldments must be stored "off the machine" for all **folding machines** during transport and field operation. This is true for both Front and Rear Jack Stands.

Front Jack Stands - W/ Mount Bracket

1. With the Jack Stand Weldment Bracket positioned on the bottom side of the front Frame, (clamp facing out), attach the Jack Mount Bracket to the top using 3/4-10 x 2-1/4 Bolts, 3/4 Flat Washer and 3/4-10 Locknut.
2. Insert the Jack Stand Weldment into the Jack Stand Weldment Bracket with the handle facing out and pin at desired level (top five holes), with 3/4 x 4 Hitch Pin and Hair Pin. **See Figure 3-1.**
3. **For Rigid Frame transport**, remove the Jack Stand Hitch Pin, and raise the Jack Stand Weldment up and re-pin through bottom hole. **For Folding Frame transport**, remove the Jack Stand Weldment and store "off the machine."

Front Jack Stands - W/ Wing-Rest Weldment

1. With the Jack Stand Weldment Bracket positioned on the bottom side of the front Frame, (clamp facing out), attach the appropriate Wing-Rest Weldment using 3/4-10 x 2-1/4 Bolts, 3/4 Flat Washer and 3/4-10 Locknut. (The Wing-Rest Weldments have right hand and left hand designations. The left hand Wing-Rest Plate Stops slope down toward the left and the right hand Wing-Rest Plate Stops slope down toward the right. See Parts Manual for Wing-Rest Weldments according to model number.) **See Figure 3-1.**
2. Insert the Jack Stand Weldment through the bottom of the Jack Stand Weldment Bracket with the handle facing out and pin at desired level (top five holes), with 3/4 x 4 Hitch Pin and Hair Pin.

3. For transport, remove the Jack Stand Hitch Pin, and store the Jack Stand Weldment "off the machine."

Rear Jack Stands (Rigid and Folding)

1. With the Jack Stand Mount Bracket positioned on the bottom side of the rear Frame, attach the Jack Stand Weldment Bracket (with the clamp facing out rear-ward), using 1-8 x 3 Bolts, 1" Flat Washers and 1-8 Locknuts. **See Figure 3-2.**
2. Insert the Jack Stand Weldment into the Jack Stand Weldment Bracket and secure with the 1 x 6 Pin and 1/4 x 1-1/4 Lynch Pin.
3. For transport, remove the Jack Stand Lynch Pin and store the Jack Stand Weldment "off the machine."

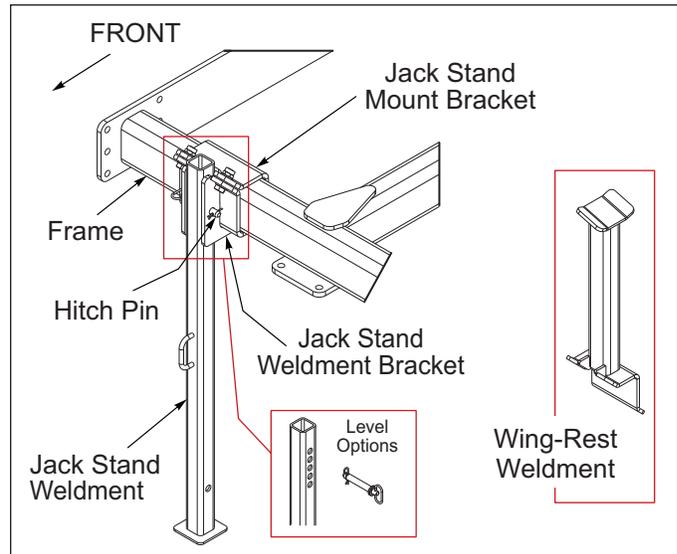


Figure 3-1: Front Jack Stand

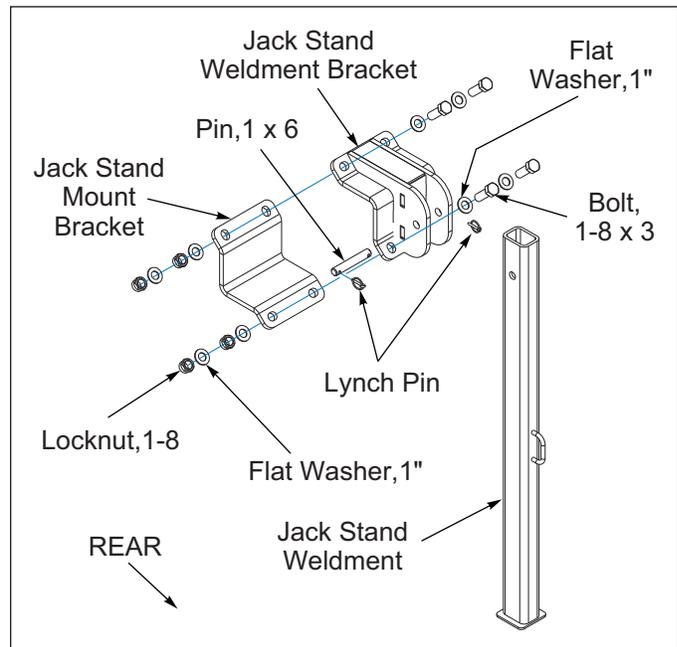


Figure 3-2: Rear Jack Stand

SMV Bracket Installation

1. Attach the SMV Mounting Bracket at a point where emblem is visible from rear of machine, using U-Bolt and 5/8-11 flange head serrated nuts **See Figure 3-3.**
2. Attach SMV emblem to top of SMV Mounting Bracket using 1/4-20 x 1 hex head Capscrews, Flat Washers, and Hex Locknuts **See Figure 3-11.**

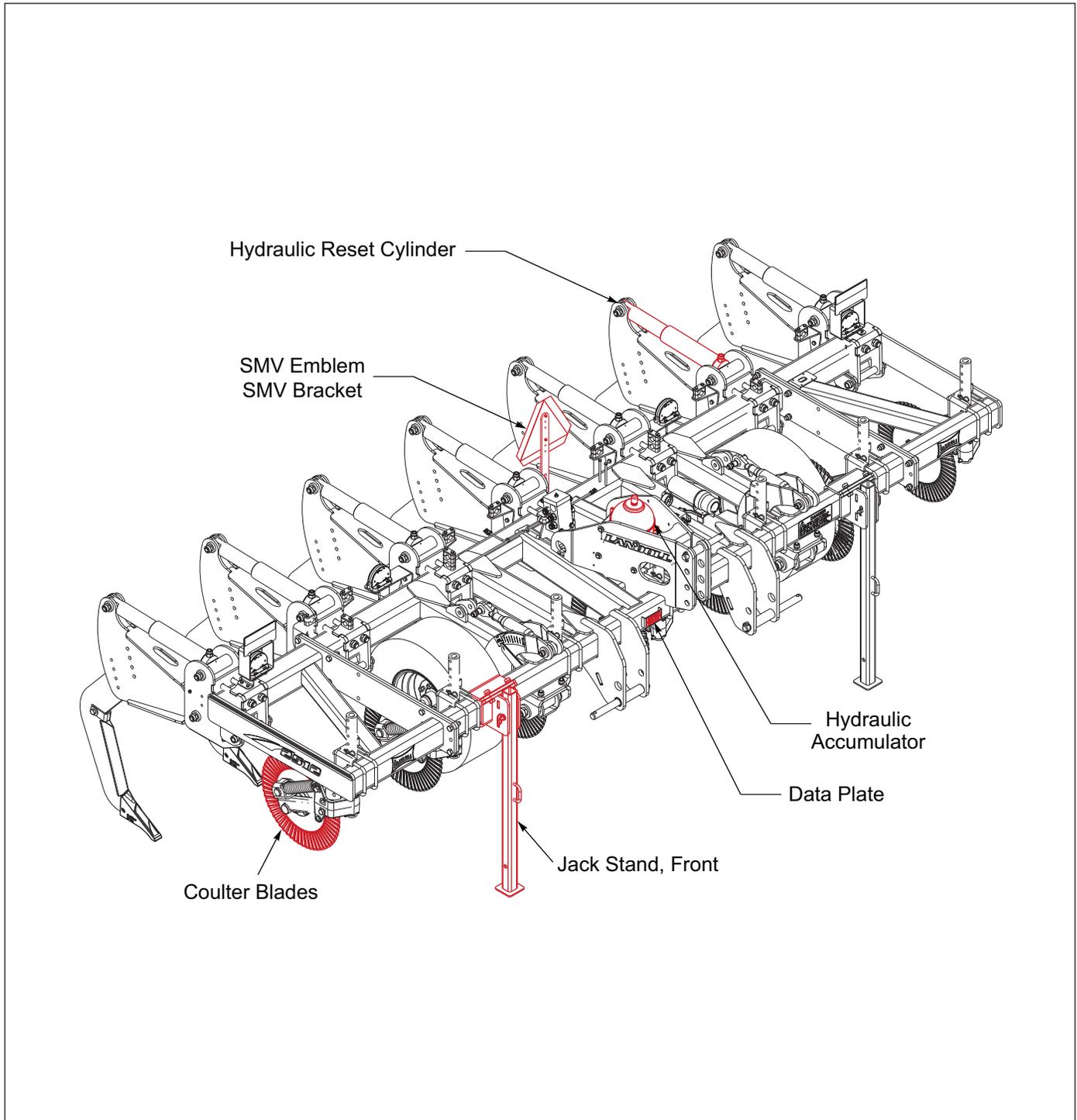


Figure 3-3: 2512 Series Parts Identification

Right Hand & Left Hand Couler Assemblies

1. Assemble Couler Adjustment Tube to Couler Assembly using Roll Pins 1/2 x 4 and 5/16 x 4. Assemble the Couler Stop to the Couler Adjustment Tube using 1/2 x 4 Bolt and Locknut. **See Figure 3-4.**
2. Install the Couler Adjustment Tube and Couler Assembly to the Frame using the Couler Clamp

Tube, 4 U-Bolts, Clamp Plate and 5/8-11 Locknuts. Do not tighten nuts until the depth adjustment is completed.

3. Use Adjustment Pin and 3/16 Hairpin to set desired depth. Tighten 5/8 Locknuts on the U-Bolts.
4. Attach Couler Blade to Couler Assembly using 1/2 x 1-1/2 Bolts and Locknuts.

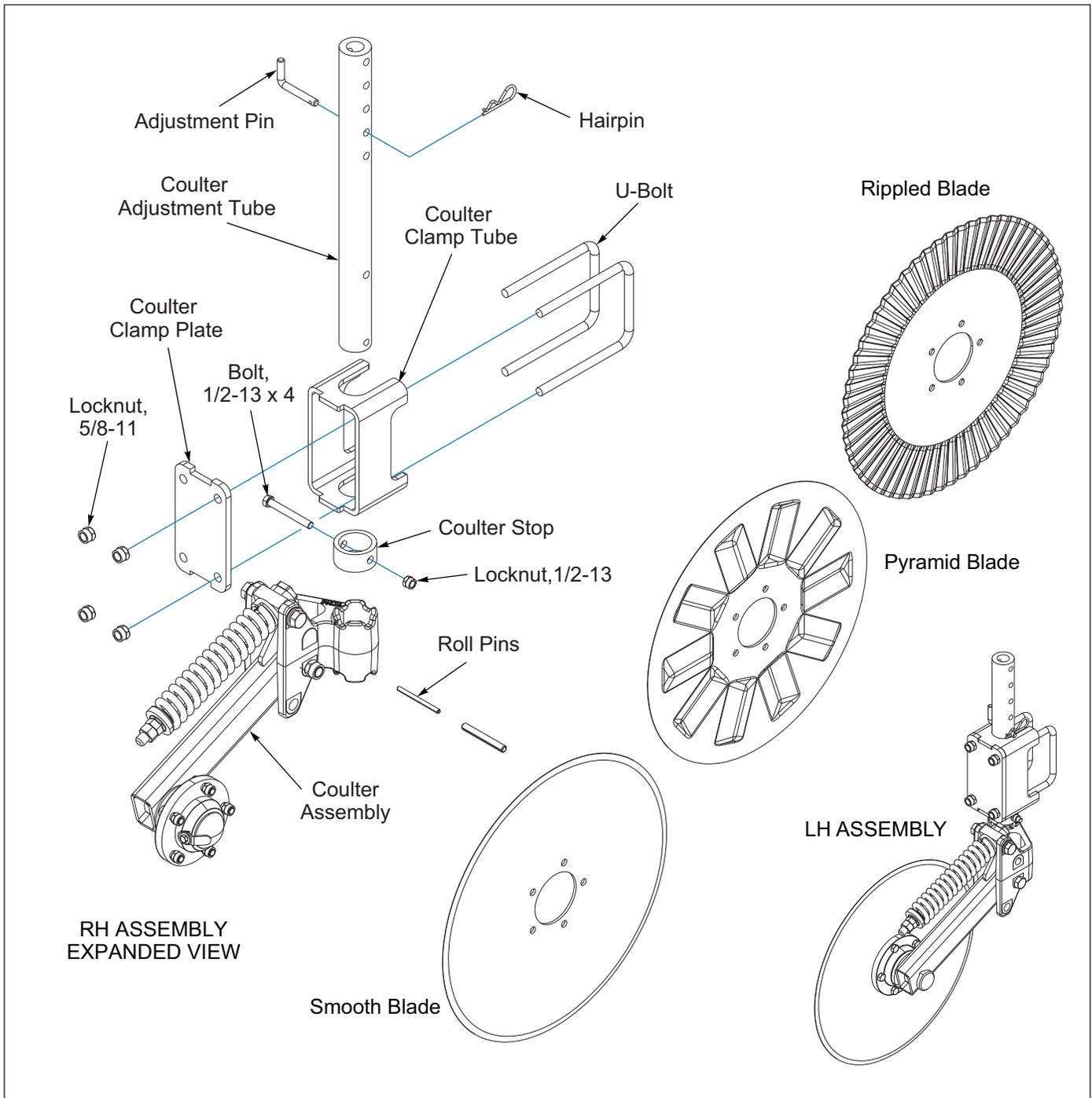


Figure 3-4: Couler Assembly

Shank Assembly

The following instructions are for attaching the shanks to the Auto-Reset Shank Clamp (Spring) and the Auto-Reset Shank Clamp (Hydraulic), or the RSB Shank Clamp. (See Figures 3-5 through 3-7.)

There are three shank options to choose from: Parabolic Shank 1-1/4, Straight Leg Shank 1-1/4, and Straight Leg Shank 3/4 (also known as "Low Disturbance Shank").

1. The Clamp weldments are already located on the frame at the proper spacing.
2. Insert a Connex Bushing (P/N 150244) into the second hole from the upper end of the shank. Attach the shank to the front set of mounting holes in the clamp assembly using a 3/4-10 x 4 Bolt and 3/4-10 Locknut. **(A)**. Attach lower hole of shank to rear set of mounting holes in the clamp assembly using 5/8-11 x 3-3/4 Bolt, and 5/8-11 Locknut. **(B)**.

Adjustment holes are provided in the clamp weldment to compensate for varying ground conditions and depths of operation.

NOTE

Select the relative depth the shank will operate at. The Auto-Reset Shank Clamps have four shank mounting holes. There is approximately a 2" differential between holes. The two lower holes will allow for deeper working depths (16" to 20"). The upper two holes will allow for higher shank point loads. That is to say the upper holes are conducive to keeping the shanks properly engaged in the ground.

The RSB Clamp has three holes: the top hole has a maximum operating depth up to 14", the lower two holes have operating depths ranging from 16" to 20".

Landoll recommends using the top upper holes for optimal machine efficiency.

3. Attach shank point to each shank using 1/2 x 2 and 5/16 x 2 Spring Slotted Pins. Place pins with open ends oriented opposite of each other.

For Parabolic Shank 1-1/4, manufactured before 08/30/2020 use 3/8 x 2 Slotted Roll Pin.

4. Place Wearstrip on shank leg with the lower Wearstrip tab in the pocket the shank point provides.

NOTE

Assembling the shank point first will provide a provision for securing the lower tab of the Wearstrip when it is assembled.

5. Secure Wearstrip to shank leg using Wearstrip Bracket, with appropriate 1/2-13 x 2-3/4 Bolts, 1/2 Flat Washers and 1/2-13 Locknuts. **(C)**.



WARNING

Shank Clamp Mounting Bolts **MUST BE TIGHTENED** to 200FT LB (3/4-10 X 4), and 170 FT LB (5/8-11 X 3-3/4) respectively. Failure to do so may cause Shank Clamp damage. (SEE STEP 2, (A) AND (B).



DANGER

Auto-Reset Spring Clamp is **NOT** to be operated at depths greater than 14".

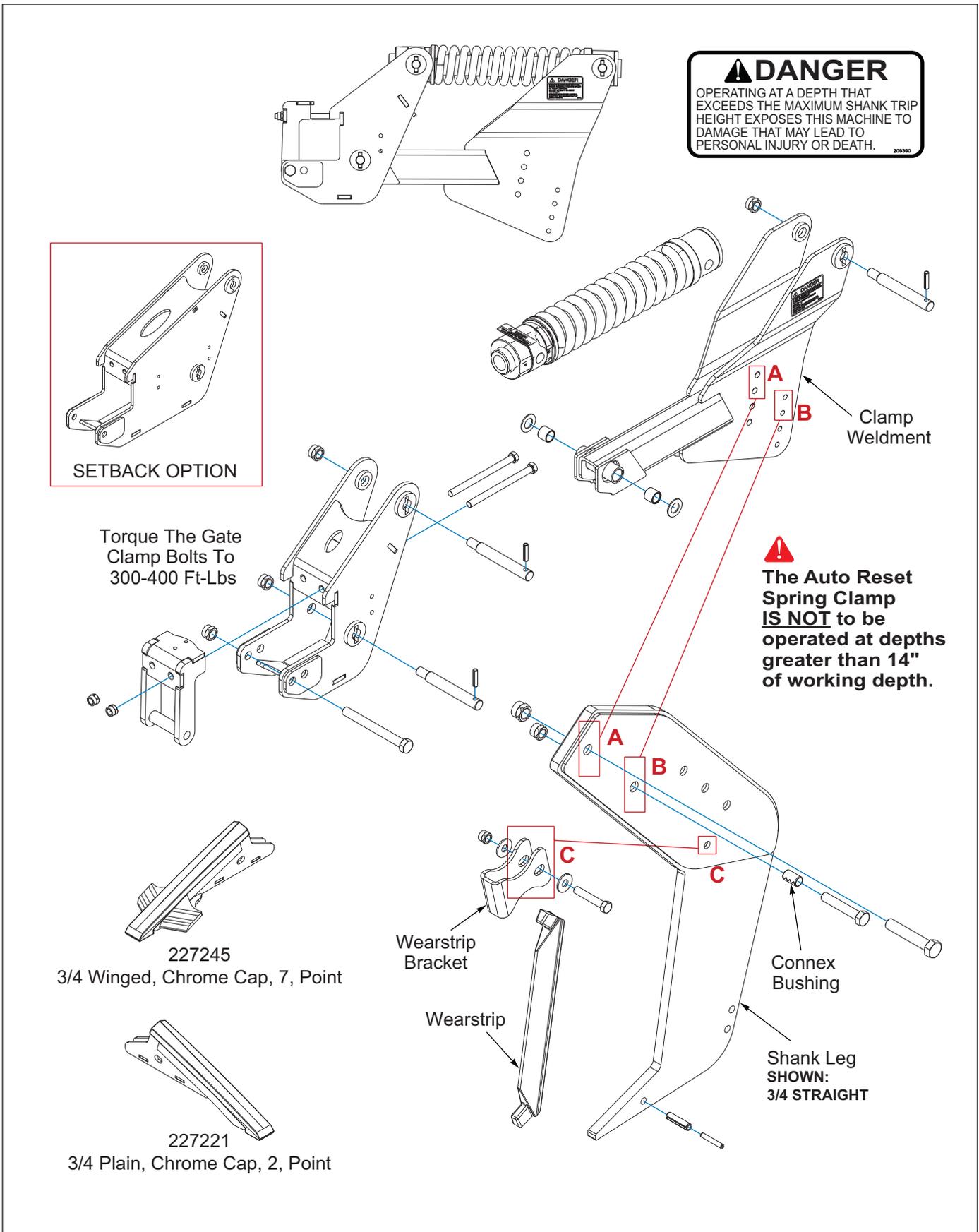


Figure 3-5: Auto-Reset Shank Clamp (Spring)

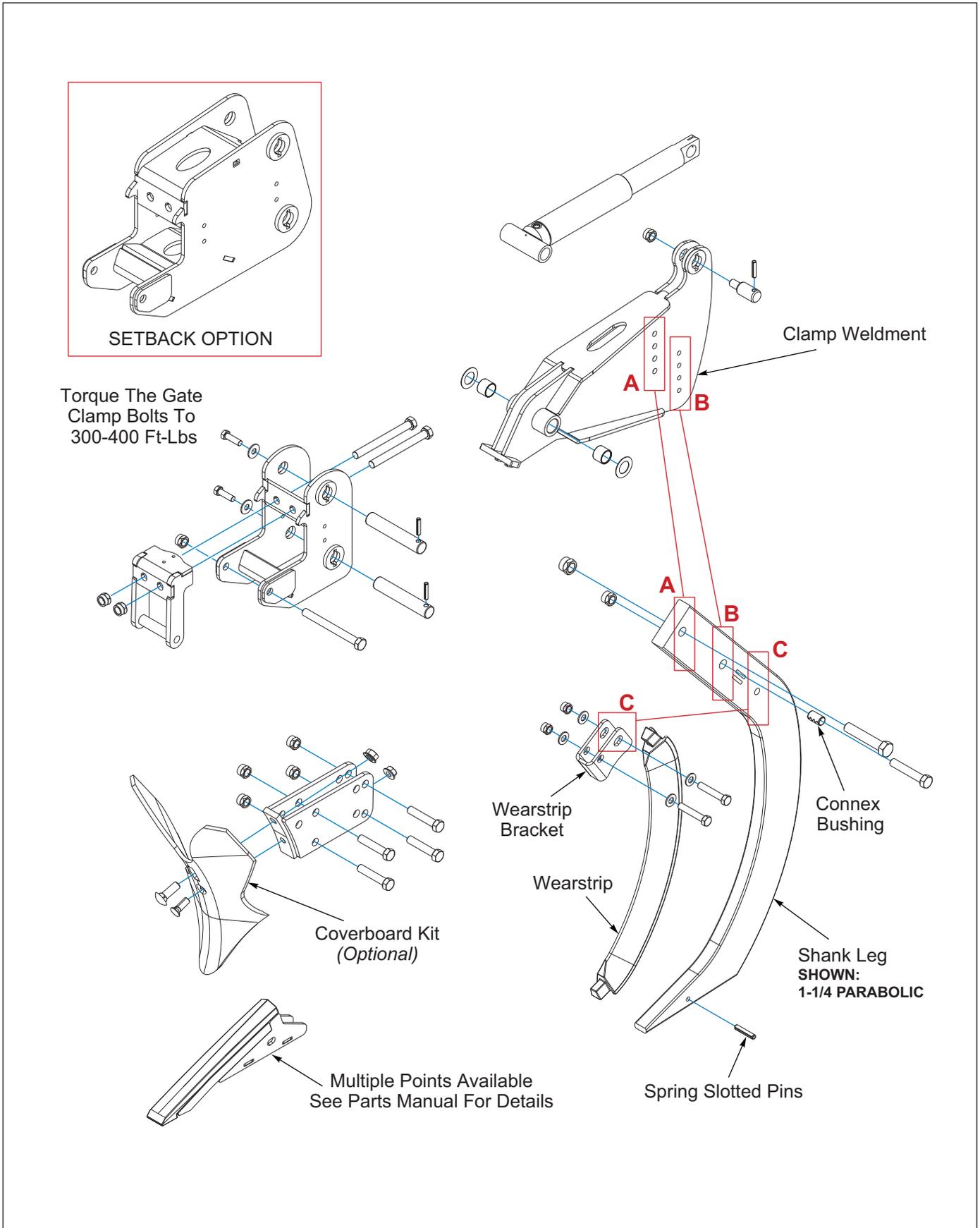


Figure 3-6: Auto-Reset Shank Clamp (Hydraulic)

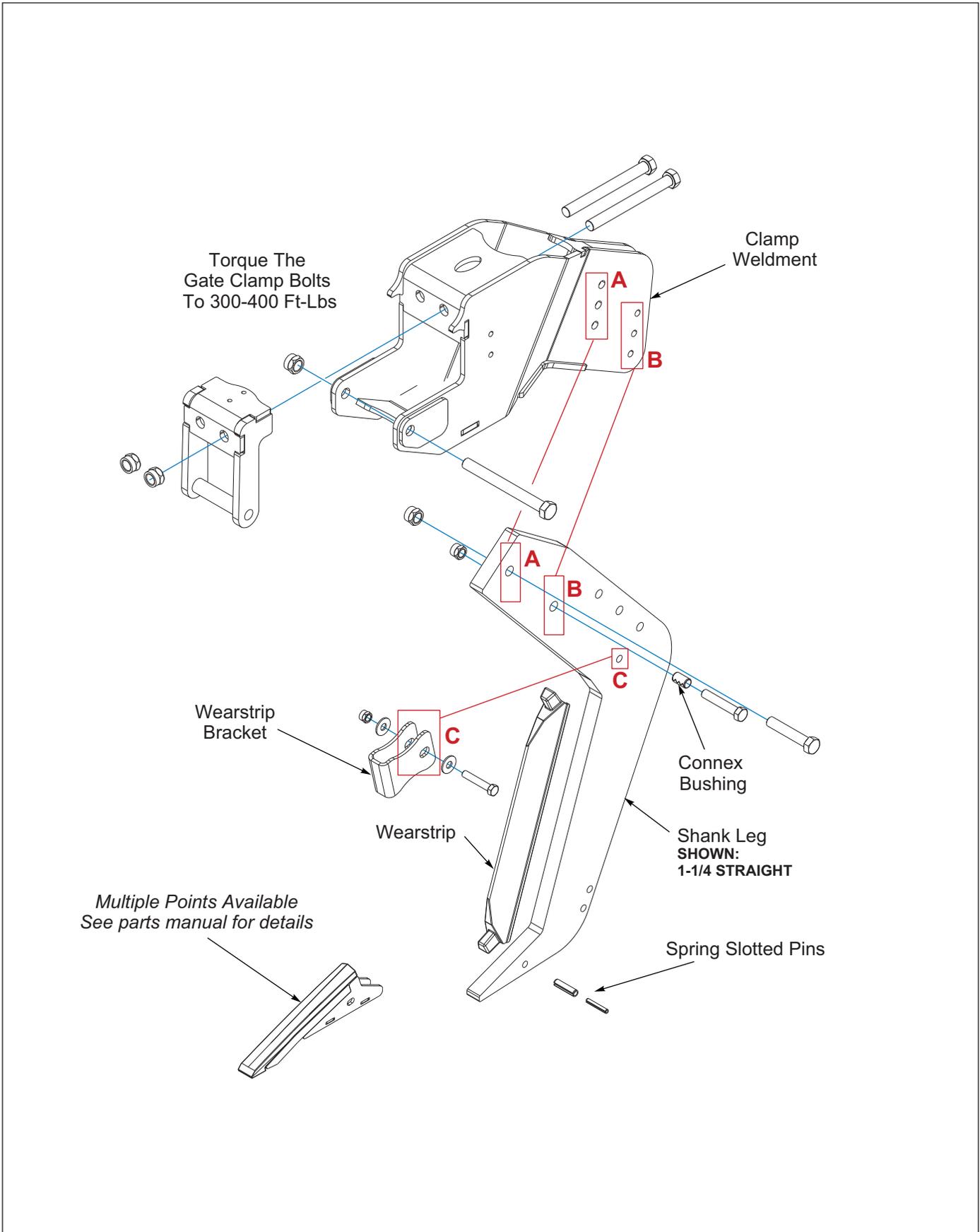


Figure 3-7: RSB Shank Clamp

Coverboard Installation

1. Insert four 1/2-13 x 2-1/2 Bolts into the Coverboard Bracket before attaching the Coverboard Furrower.
See Figure 3-6. Secure with 1/2-13 Locknuts and tighten only so that locking portion of nut engages the thread. The customer will tighten these nuts after mounting to shank.
2. Tighten the 7/16-14 Flange Nut to the 7/16-14 x 1-1/4 Plow Bolt before tightening the 1/2-13 Locknut to the 1/2-13 x 1-1/2 Roundhead Bolt. This is to ensure that the point of the Coverboard Furrower is pulled tightly against the Bracket. Make sure that the Plow Bolt Head is flush with the surface of the Coverboard Furrower. **See Figure 3-8.** This hardware should be tightened now.

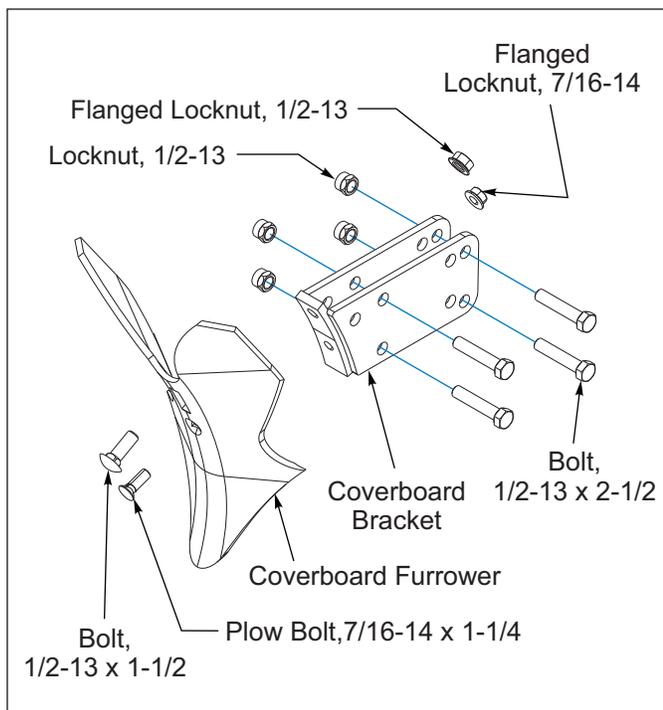


Figure 3-8: Coverboard Installation

Gauge Wheel

1. The Gauge Wheel Assembly comes fully assembled from the factory. (Horizontal Mount and Vertical Mount Options)
2. Attach the Tire and Wheel Assembly to the Hub and tighten the lug nuts to the proper torque as specified on **Page 2-2**.

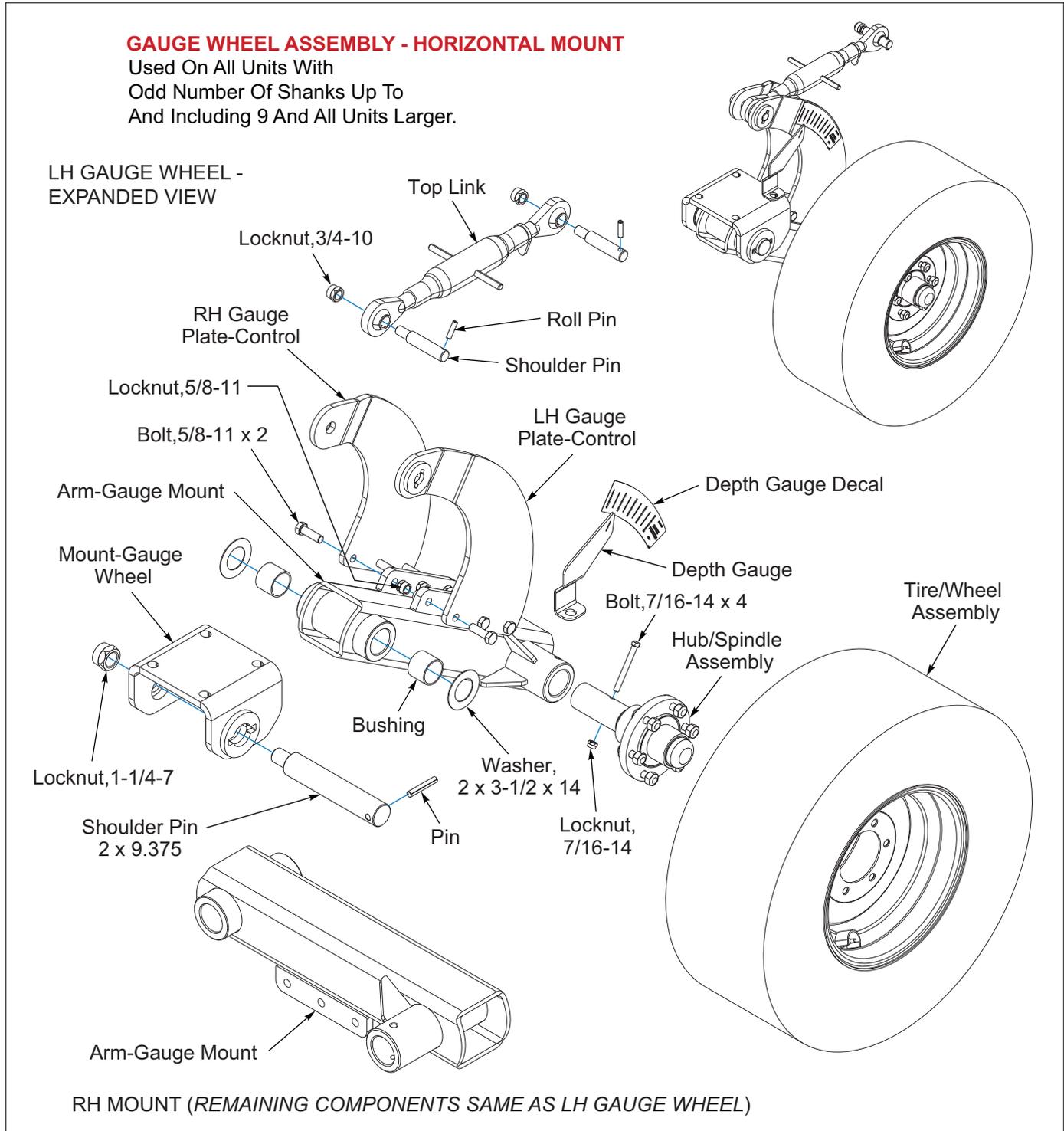


Figure 3-9: Gauge Wheel Assembly - Horizontal Mount

GAUGE WHEEL ASSEMBLY - VERTICAL MOUNT

Used On All Units With
Even Number Of Shanks 4 Through 8.

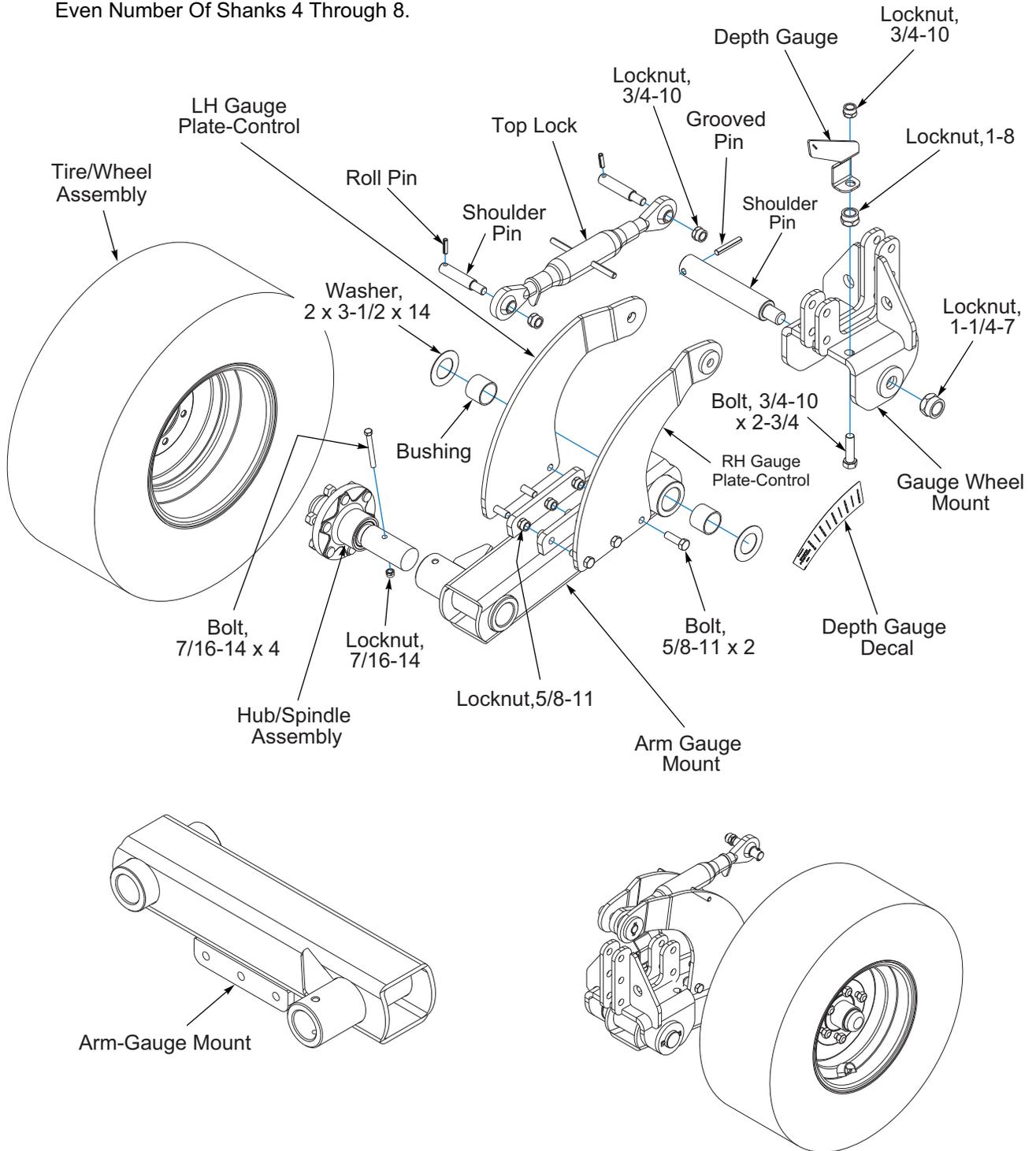


Figure 3-10: Gauge Wheel Assembly - Vertical Mount

Electrical Installation

1. Attach left and right (Amber) Light Mount Brackets to frame. **(See Figures 3-11 thru 3-12.)**
4 Shank: using 3-4-10 x 2 bolts and 3/4-10 locknuts.
Rigid 5,6,7,8 Shank: using 3/8-16 x 1-1/4 bolts and 3/8-16 locknuts.
Folding: using 1/2-13 x 1-1/2 bolts and 1/2-13 locknuts
2. Attach Light Mount Reflector Bracket and Ag Amber Lamps (LED) to light brackets using 1/4-20 x 1-1/2 bolts and 1/4-20 locknuts.
3. Attach Bracket Holder and Light Mount Reflector Bracket to the front of the frame.
4. Attach (Red) Warning Lamp Brackets to frame using 1/2-13 x 1-1/2 bolt and 1/2-13 lock nuts. Install Ag Red Lamps (LED) to brackets using 1/4-20 x 1-1/2 bolts and 1/4-20 locknuts.
5. Attach Ag Flasher Control Module to frame using 1/4-20 x 2 bolts, 1/4W flat washers and 1/4-20 locknuts. Be sure that the control module is set so that the 4-Pin Connector faces the right side of the machine.

IMPORTANT

Make sure lights are positioned for maximum visibility from the rear.

1. Install the LED Warning Light Harness to the frame. Connect 2-Pin and 3-Pin ends to each of the warning lights. Connect 6-Pin to the Ag Flasher Control Module.
2. Attach 7-Pin/4-Pin 120" Harness to frame. Connect 4-Pin end to the Ag Flasher Control Module.
3. Ensure that the harnesses are clear of any moving parts and secure the harnesses with tie wraps provided.
4. Install the Stor-away holder bracket on bolt in coultler clamp plate and assemble harness Stor-away to bracket with 1/4-20 x 3/4 hex head cap screws and hex locknuts.

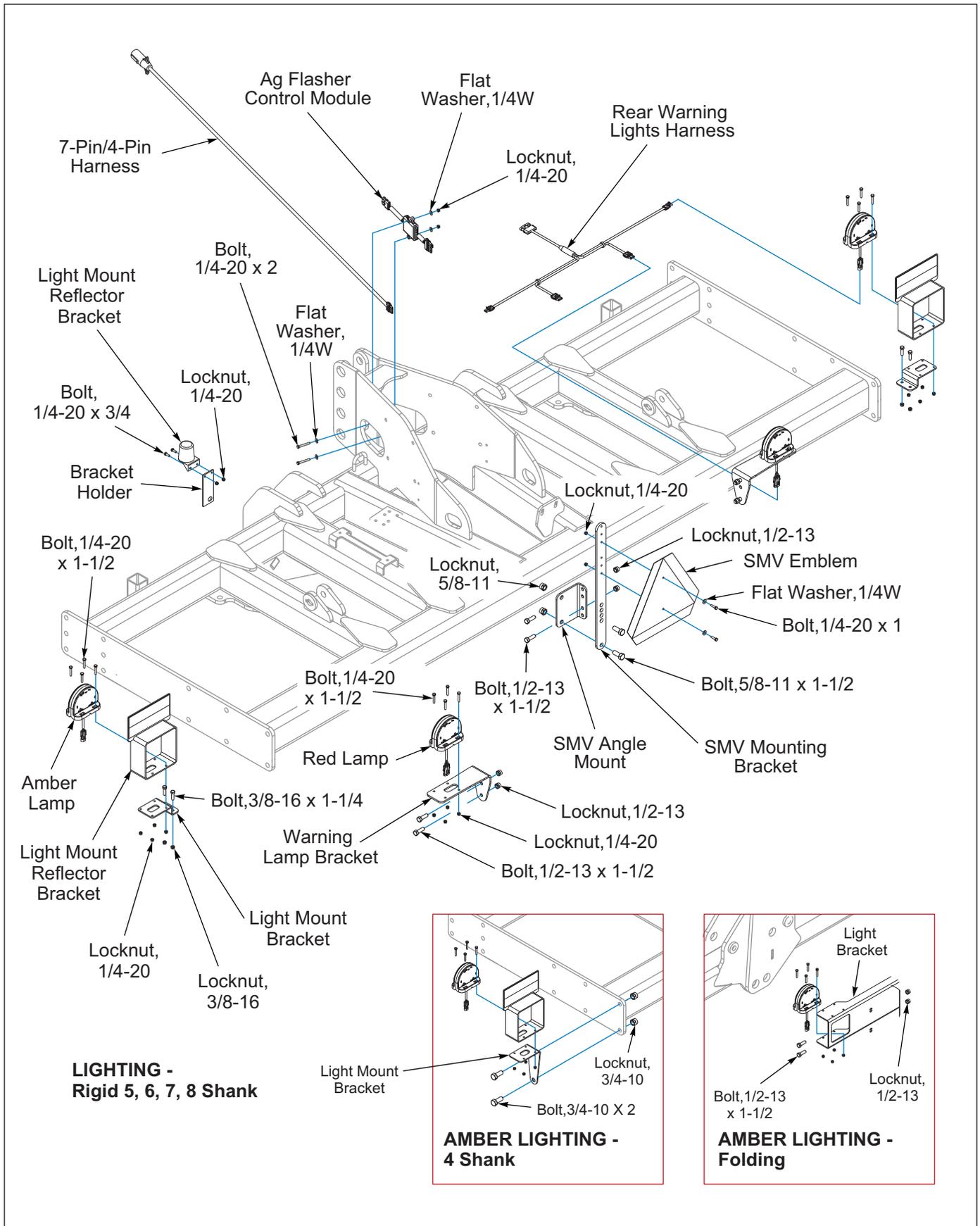


Figure 3-11: LED Light and SMV Bracket Installation

7-PIN CONN.	4-PIN TOWER	CIRCUIT	WIRE COLOR
1	D	GROUND	GROUND
2	–	WORK LAMPS	BLACK ●
3	B	LEFT FLASHING & TURN	YELLOW ●
4	–	STOP LAMPS	RED ●
5	A	RIGHT FLASHING & TURN	GREEN ●
6	C	TAIL LAMPS	BROWN ●
7	–	SWITCHED POWER (12 V)	BLUE ●

LED 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		

7-PIN/4-PIN LIGHT HARNESS - WIRING CHART

Figure 3-12: LED Light and SMV Harness Wire Designations

General Hydraulic Components - Hydraulic Reset Option

Figure 3-13 is provided as a general guideline for the components provided with the Hydraulic Reset Option. It is meant to assist with identifying components on the machine. Each machine size will use a specific quantity of each component during assembly. Please refer to Parts Manual for proper quantity per tool.

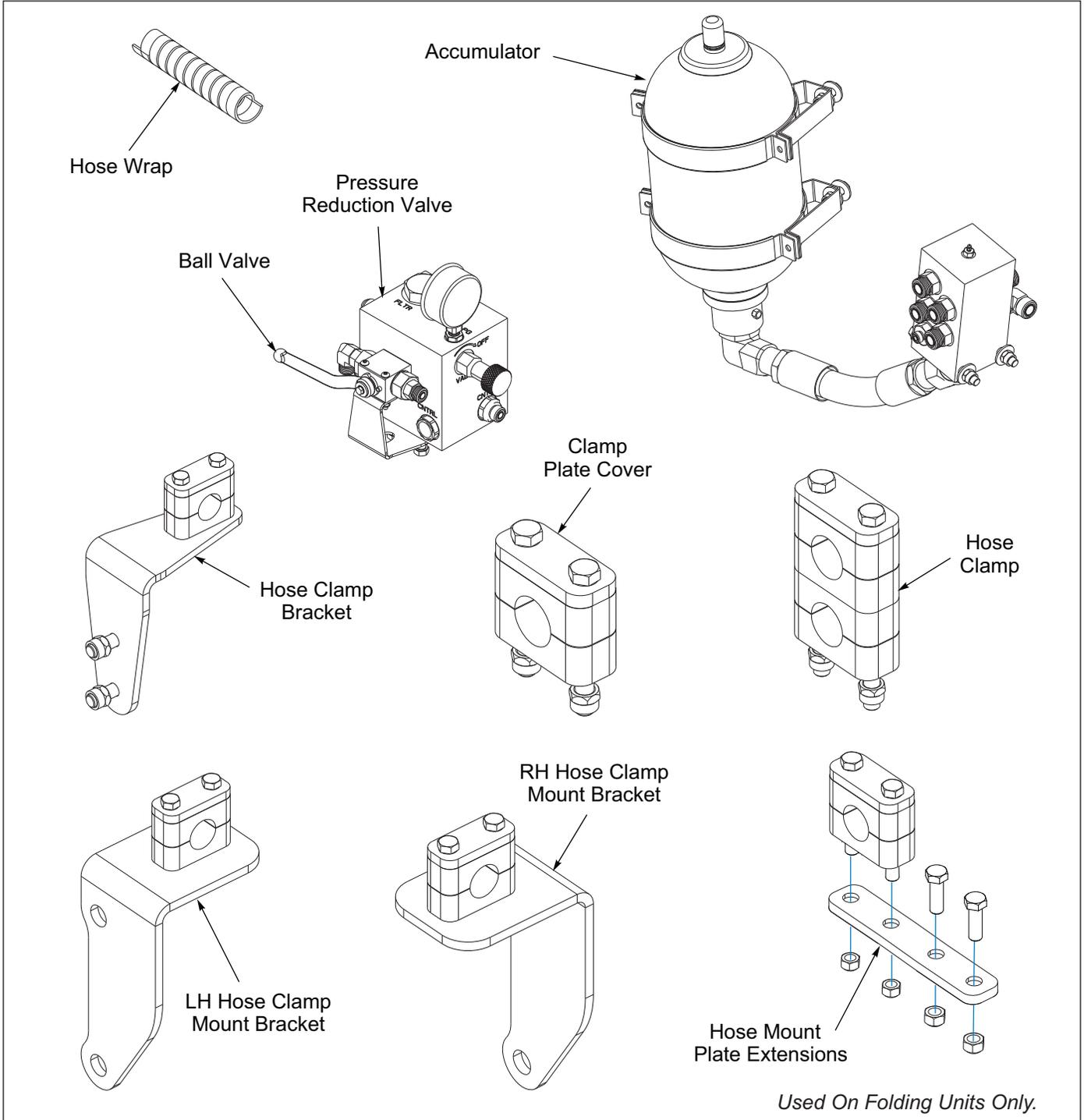


Figure 3-13: Hydraulic Reset Option - General Components

Finishing Features - Optional

The Closer Platform offers 6 different mounting features: Closer Wheel, Flat Bar Basket 20", Closer Disc, Crumbler Wheel, Packer Reel or Treader. See Figure 3-14.

IMPORTANT

ALWAYS REPLACE PARTS WITH UPDATED CLOSER PLATFORM. See Figure 3-15.

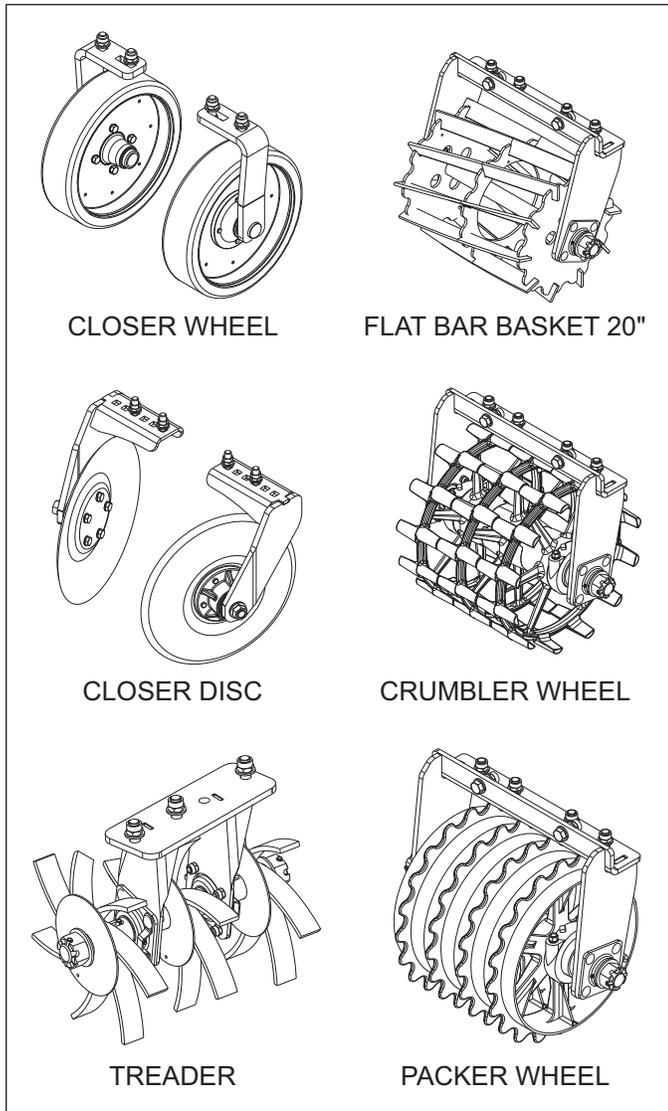


Figure 3-14: Closing Platform Finishing Features

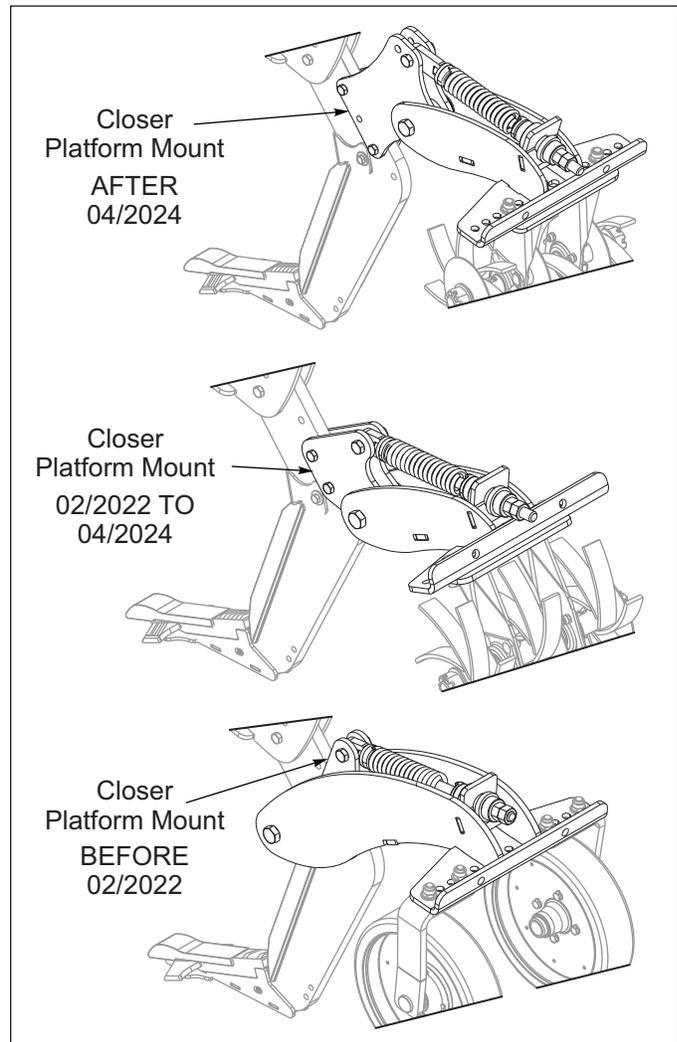


Figure 3-15: Closer Platform Assemblies

Closing Platform Spring Set Up Instructions (After 04/2024)

NOTE

When setting up the Ripper to operate at 12" or less depth, position the Closer Pivot Mount in the lowest position on the (4-Hole) Shank. (Using the top two holes on the Closer Pivot Mount and the bottom two holes of Shank)

When setting up the Ripper to operate at 12" to 16" depth, position the Closer Pivot Mount in the center position on the (4-Hole) Shank.

When setting up the Ripper to operate at 16" or greater depth, position the Closer Pivot Mount in the upper position on the (4-Hole) Shank.

1. Install Closer Pivot Mount to desired depth position on Shank.
2. Refine the depth position using the Spring Rod Adjustment Holes.

3. Use the Spacers/Bushings on either side of the Slide Bushing to fine tune the down pressure.
 - **To increase the down pressure**, place both spacers between the Rear Spring Keeper and the Slide Bushing.
 - **To decrease the down pressure**, place both spacers between the Retaining Washer and the Locknuts.

NOTE

The Large Retaining Washer must always be on the back side of the Slide Bushing.

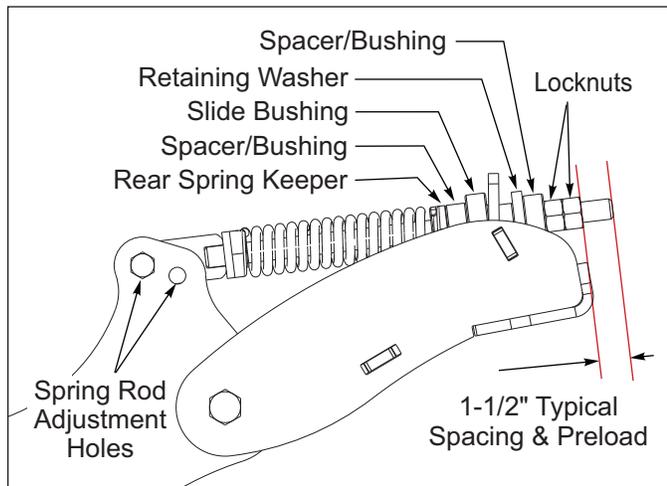


Figure 3-16: Closer Platform Spring Setup (After 04/2024)

Closing Platform Spring Set Up Instructions (02/2022 to 04/2024)

NOTE

When setting up the Ripper to operate at 14" or less depth, position the Closer Pivot Mount in the lower two holes of the shank.

When setting up the Ripper to operate at 14" or greater depth, position the Closer Pivot Mount in the upper two holes of the shank.

Use the Spacers/Bushings on either side of the Slide Bushing to fine tune the down pressure.

- **To increase the down pressure**, place both spacers between the Rear Spring Keeper and the Slide Bushing.
- **To decrease the down pressure**, place both spacers between the Retaining Washer and the Locknuts.

NOTE

The Large Retaining Washer must always be on the back side of the Slide Bushing.

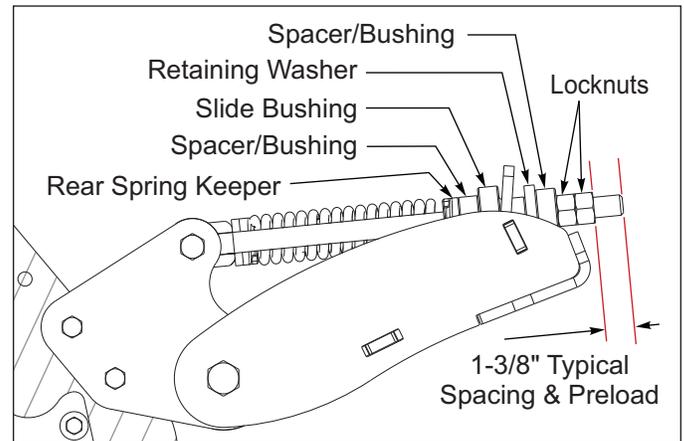


Figure 3-17: Closer Platform Spring Setup (02/2022 TO 04/2024)

Closing Platform Spring Set Up Instructions (Before 02/2022)

NOTE

When setting up the Ripper to operate at 14" or less depth, position the Closer Pivot Mount in the lower two holes of the shank.

When setting up the Ripper to operate at 14" or greater depth, position the Closer Pivot Mount in the upper two holes of the shank.

- **For operating depths of 14" or less**, place both spacers between the Rear Spring Keeper and the Rod Glide.
- **For operating depths of 14" to 17"**, place one of the spacers between the Rear Spring Keeper and the Rod Glide. Place the other spacer between the washer and the locknuts.
- **For operating depths of 17" or greater**, place both spacers between the washer and the locknuts.

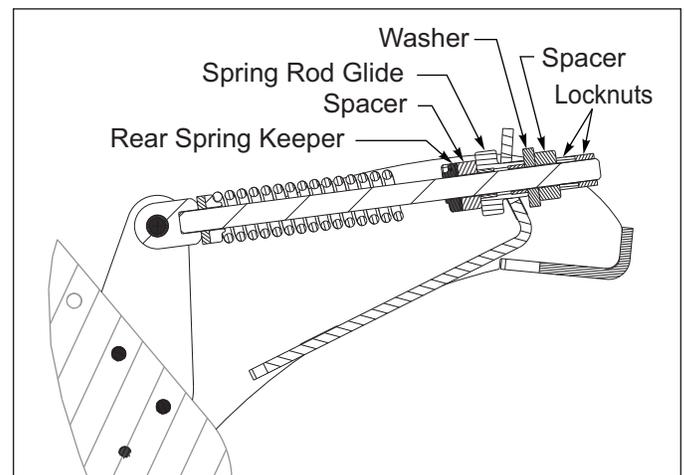


Figure 3-18: Closer Platform Spring Setup (Before 02/2022)

Operation and Maintenance

**DANGER**

Coulter blades are sharp. Do not allow coulters to roll over or fall on any part of the body. Do not allow wrenches to slip when working near coulters blades. Do not climb over machine above coulters blades. Failure to stay clear of coulters blade edges may result in serious personal injury or death.

**DANGER**

Do not attempt to disassemble spring assemblies. The spring assembly contains significant stored energy and is capable of releasing enough force to cause serious injury or death.

**DANGER**

Do not attempt to manually reset a shank assembly or straighten a bent shank mount. Contact a Landoll dealer or Landoll Company, LLC immediately for assistance.

**DANGER**

Never allow anyone to ride on the Zone Commander at any time. Allowing a person to ride on the Zone Commander may result in serious personal injury or death of that person.

**WARNING**

All hydraulically elevated equipment must be locked out or lowered to the ground when servicing or when equipment is idle, to prevent accidental lowering. Failure to take measures to prevent accidental lowering may result in serious personal injury.

**CAUTION**

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

Tractor Preparation

The 2512 Rigid and Folding Zone Commanders up to and thru the 2512F-9 can be used on tractors with CAT IVN hitches. For Zone Commanders larger than the 2512F-9 it is recommended to be mounted on a Caddy. All 2512 and 2512F Zone Commanders can be mounted onto a Caddy. Before attaching the Zone Commander, prepare the tractor as follows:

- a. The rear tractor tires should be inflated equally and ballast added according to the tractor operator's manual.
- b. For mounted type models, install front end weights as needed on tractor to maintain stability.

- b. Attach Top Link after connecting Lower Lift Arms. Raise Parking Stands into Clamps or remove them on rigid models. For all folding models the Jack Stands must be removed from the machine during transport. When disconnecting, place Stand so that the Zone Commander is stable.

5. Reinstall the Stabilizer Bars or Sway Blocks before transporting.



CAUTION

Do not move tractor without making sure top hitch is connected to tractor.

Zone Commander Operation

1. Before operating the Zone Commander, inspect it to be sure it is in good operating condition.
2. Replace badly worn or missing parts.
3. While the machine is new, bolt tightness should be checked after a few hours of operation. Tighten any loose nuts or cap screws. Check the Gauge Wheel Lug Bolts daily.
4. Check the Gauge Wheel Tire inflation. All tires should be equally inflated to avoid side draft.

Attaching to Caddy

If you will be attaching the Zone Commander to a Caddy:

1. Carefully back the Caddy up to the Zone Commander.
2. Attach the Lower Links of the Caddy to the Zone Commander first.

IMPORTANT

ALWAYS attach the Lower Draft Links of the Caddy to the LOWEST holes in the Zone Commander Frame Hitch, using CAT IV Pins (2" Dia.)

3. When the Lower Links have been secured, extend or retract the Upper Link of the Caddy using the Hydraulic Upper Link. Attach the Upper Link of the Caddy to the Zone Commander.

Attaching to 3-PT Hitch

1. Carefully back the tractor into place.
2. Attach the Zone Commander to the tractor.

NOTE

Always keep the Vertical Distance between the Mast Pin and the Lower Hitch Pins as far apart as practical. It is beneficial in maintaining good control of the Zone Commander.

3. For tractors equipped with Quick Hitches:
 - a. Attach Quick Hitch to the Zone Commander.
 - b. Raise and ensure Lower Pin Locks are secured.
 - c. **For Rigid Frame:** Raise the Parking Stand and pin in fully up position.

For Folding Frame: Remove Parking Stand and store off machine.

- d. When disconnecting the Zone Commander, adjust stands to leave the tool bar tilted slightly forward. This will permit easier disconnecting and reattaching.
4. For tractors not equipped with Quick Hitch:
 - a. Attach Lower Lift Arms of the tractor to the Zone Commander utilizing appropriate Pins. 2512 Rigid Model come with either Category IIIN, CAT III, and CAT IVN. 2512 Folding Models come with CAT IVN ONLY. **See Figure 4-2.**

IMPORTANT

ALWAYS use the Upper Most Holes in the Zone Commander Frame Mast when attaching the Caddy Upper Link.

4. It is recommended to use various Rod Cylinder Stops (Kit P/N 209432), to fill the space between the Cylinder Body and Rod Clevis, on the Caddy Upper Link Control Cylinder Rod once the machine is properly set. This will ensure the setting is maintained. **See Figure 4-1.**

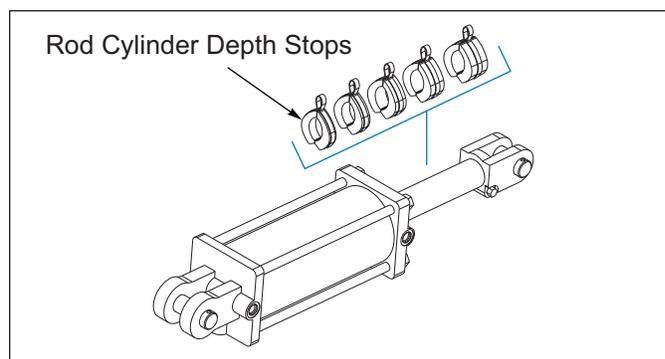


Figure 4-1: Rod Cylinder Stops - P/N 209432

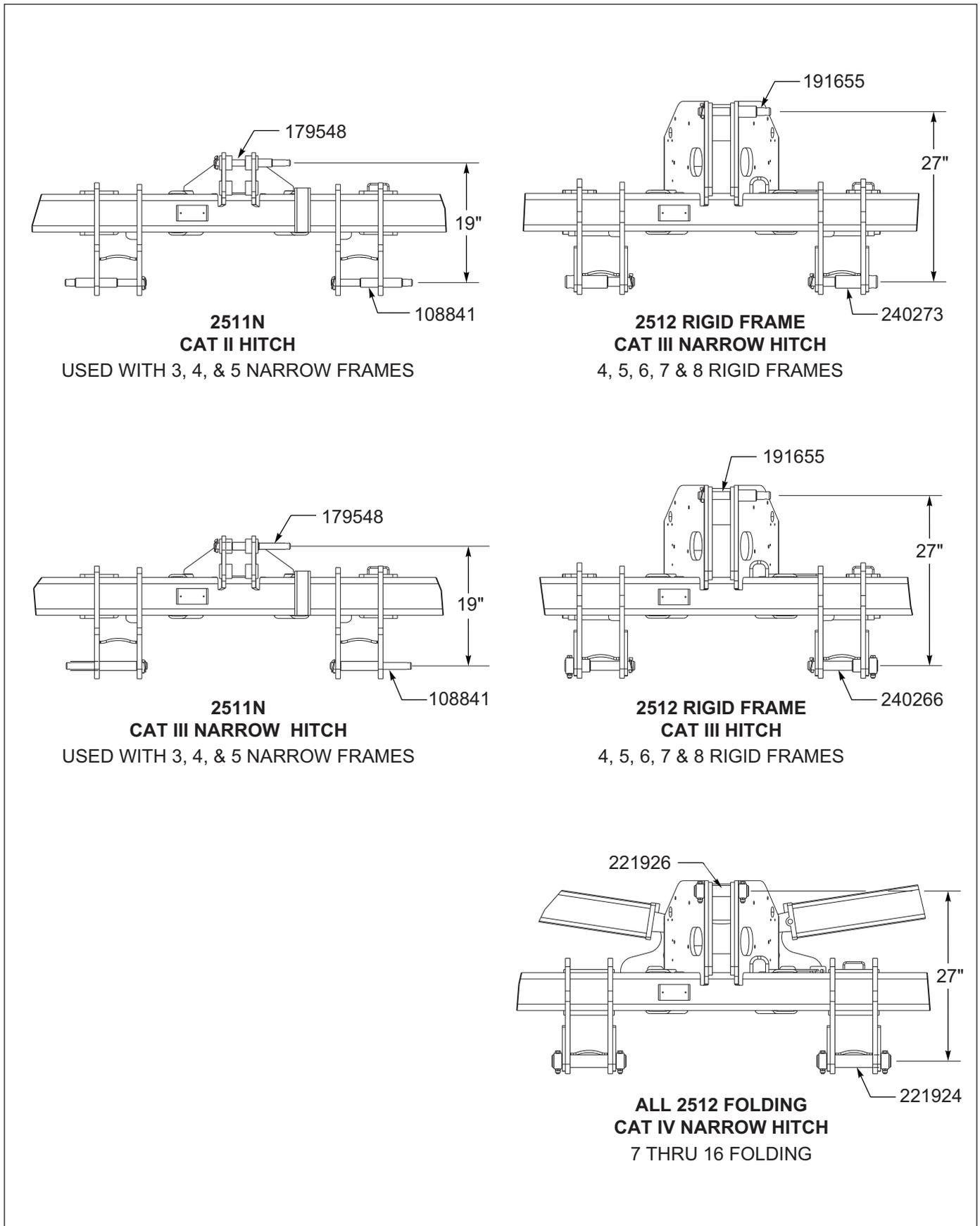


Figure 4-2: 3-PT Hitch Setup

Hydraulic Accumulator / Shanks Operation



WARNING

Escaping hydraulic fluid can cause serious personal 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 4-3. Keep all components (cylinders, hoses, fittings etc.) in good repair.

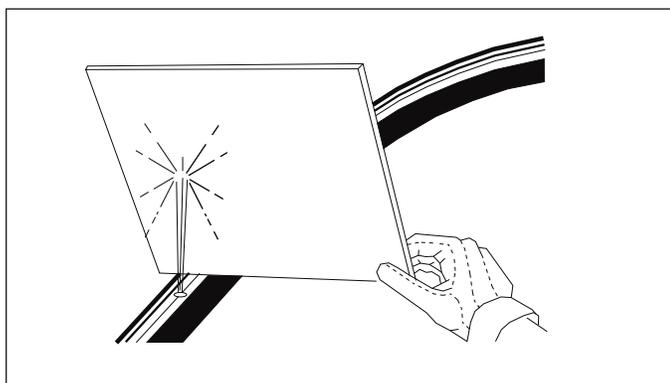


Figure 4-3: Hydraulic Leak Detection

The 2512 Rigid and Folding In-Row Ripper may be equipped with the Hydraulic Reset Option. The Hydraulic Reset Option utilizes a factory-charged gas Accumulator. The Accumulator needs to carry an additional hydraulic charge to do field work. See Figure 4-4.

The hydraulic charge needs to be greater in magnitude than the nitrogen pre-charge to create an oil reserve within the Accumulator to maintain working pressure in the event of a small loss of oil from the system or a change in ambient temperature.

The ripper does not need to be connected to the tractor during field operation but connecting the lines to the tractor will keep them out of harms way.

The Ball Valve between the Pressure Reduction Valve Manifold and the machine system needs to be turned "OFF" during field operation (handle upright). The Ball Valve should only be opened to 1.) check the system operating pressure present, and 2.) adjust the system pressure if it is too high or too low (below 2,000 psi). See Figure 4-5.

The Pressure Reduction Valve is pre-set at the factory to have a hydraulic output of 2,000 psi. The Pressure Reduction Valve will increase the hydraulic pressure of the system to 2,000 psi if it is less than 2,000 psi and will allow oil to pass back to the tractor if the system pressure is higher than 2,000 psi thereby reducing the system pressure to 2,000 psi when the circuit is running and the Ball Valve is open.

The pressure gauge will not monitor the system pressure unless the Ball Valve is opened, but the valve should remain in the "OFF" position unless the operating pressure is being checked or adjusted.

NOTE

If the system continuously loses pressure, contact Landoll Company, LLC and request to speak with a technician.

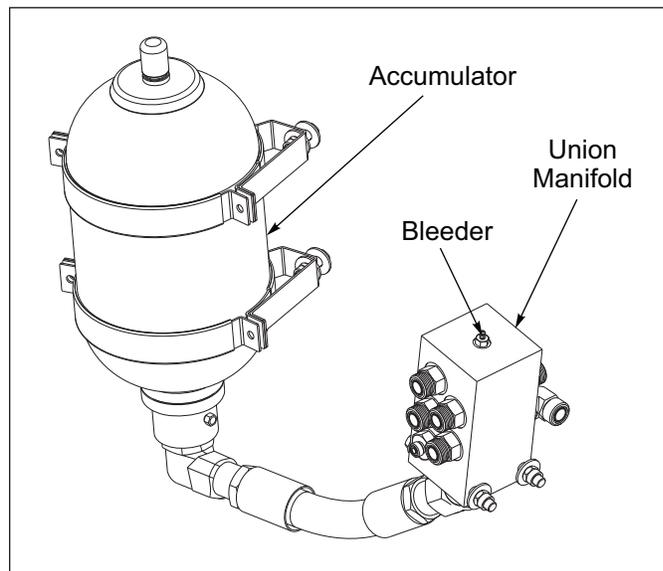


Figure 4-4: Accumulator

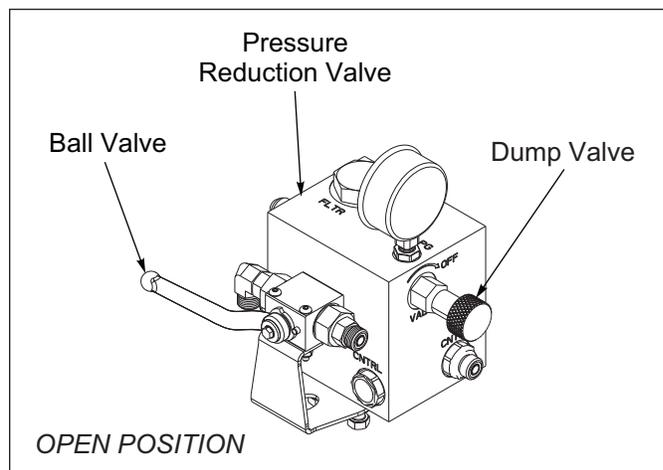


Figure 4-5: Pressure Reduction Valve Manifold

To Hydraulically Charge The System:

1. Connect the pressure and return hydraulic lines connected to the Pressure Reduction Valve Manifold, to the tractor. **See Figure 4-5.**
2. Make sure the Dump Valve (knurled knob) is "OFF".
3. Make sure the **RED** handled Ball Valve is closed. **DO NOT** open it at this time.
4. Activate the appropriate tractor circuit connected to the Pressure Reduction Valve Manifold in the first step. The Pressure Reduction Valve Manifold is designed to not allow reverse flow. If the pressure gauge immediately reaches 3000 psi, the hydraulic connections need to be reversed.
5. With the circuit running, and the pressure gauge holding at 2000 psi, open the **RED** handled Ball Valve (align the handle with the hydraulic lines entering and leaving the valve).
6. Monitor the pressure gauge. It should read approximately 2000 psi after a brief period.
7. With the pressure holding steady at approximately 2000 psi **CLOSE** the **RED** handled Ball Valve.
8. Turn the circuit OFF at the tractor. There should be no need to adjust the system pressure unless the system develops a leak or there is a significant change in the ambient temperature.

IMPORTANT

Should it become necessary to work on the system, the hoses, or the shank cylinders it will be necessary to dis-charge the system before opening the hydraulic system.

**DANGER**

The Accumulator and the Hydraulic System supporting the Hydraulic Shanks contains high amounts of stored, energy. Do not attempt to charge / dis-charge the pressurized gas from the Accumulator. Do not attempt to open the Hydraulic System without following the prescribed procedure below. Failure to heed or comply with this warning can result in serious injury or death.

To Dis-Charge The Hydraulic System:

1. Connect the Pressure Reduction Manifold to the tractor.
2. Activate the circuit with the flow rate turned down (10 < 20% Flow) (if the gauge reads 3000 psi and holds, reverse the flow). The pressure should stabilize at approximately 2000 psi.
3. Open the Dump Valve by turning the knurled knob 1/4 turn counter-clockwise.
4. The pressure indicated on the gauge should drop.
5. If the pressure does not completely zero out, idle the tractor and reduce the circuit flow.
6. When the pressure is zero, turn the hydraulic circuit off and shut the tractor down.
7. **DO NOT ATTEMPT TO OPEN THE CIRCUIT UNLESS THE PRESSURE IS ZERO!**
8. Place a small diameter tube onto the Bleeder Nipple on the top of the Union Manifold. Open the Bleeder and allow the residual pressure to be relieved through the tube. Once the pressure is confirmed to be alleviated, it should be safe to open the hydraulic system as needed to complete the work to be done.

Hydraulic Fold System



WARNING

Escaping hydraulic fluid can cause serious personal 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 4-3. Keep all components (cylinders, hoses, fittings etc.) in good repair.

1. The In-Line Folding Ripper is equipped with a hydraulic fold system to raise and lower the wing frames for narrow transport.
2. Be sure the system is fully charged with hydraulic oil before attempting to fold/unfold the unit. Air in the system can allow uncontrolled dropping of the wing frames causing serious personal injury or machine damage. The system needs to be charged with oil initially and any time the system has been opened for repair such as cylinder, hose or fitting replacement/repair.
3. To charge the system, carefully hitch the Ripper to the tractor. Check the tractor hydraulic fluid level to make sure it is full of the manufacturer's recommended hydraulic fluid. Connect the cylinder hoses to the tractor and fully extend and retract the cylinders several times with the rod end of the cylinder un-pinned and free. Re-pin when charged.

NOTE

The Rigid Shear Bolt (RSB) Shank Clamp and the Auto-Reset Hydraulic Shank Clamp fold 180 degrees. The Auto-Rest Spring Shank Clamp does not fold to 180 degrees.

The cylinder rod travel should be smooth and positive when all air has been purged from the system. Due to large amounts of hydraulic oil required, recheck the tractor fluid level to make sure it is within proper operating limits.

4. The hydraulic fold system is equipped with restrictors in the rod end of cylinders to prevent uncontrolled falling of wing frames when unfolding. Removal or improper assembly of these restrictors can cause the machine to fold improperly and result in serious machine damage.
5. To fold/unfold the wing frames, find a level area large enough to accommodate the Ripper when it is fully unfolded. The tractor should be stopped and not moving with the unit fully raised.
6. The removable, Lower Pin (P/N 179470) in the rear hinge assembly can be located in 3 different positions in the lower rear hinge assembly. Each position has a different function. See Figure 4-6.

7. The wings are designed to rotate to a maximum of 6 degrees below horizontal. To allow the wing to rotate 6 degrees below horizontal, the Lower Pin must be in the Storage Position. The Storage Position hole is the innermost hole of the hinge assembly. It is located in the lower center section main frame.
8. Placing the Lower Pin in the Bumper/Stop Position allows for the wings to be folded and unfolded without moving the Lower Pin. When the Wing Frame rests against the Lower Pin placed in the Bumper/Stop Position the wing will be in-line with the Center Frame section. Most operators choose to operate with the removable Lower Pin in the Bumper/Stop Position.
9. The third possibility is to position the Lower Pin into the Locked Position. In this position the wing can not be raised into the transport position without removing the Lower Pin. The wing remains locked in-line with the Center Frame until the Lower Pin is repositioned.

See the 2512 Parts Manual for the model-dependent hydraulically operated Wing Lock Kit part numbers.



WARNING

During field operation, the wing fold hydraulic system MUST be operated in Float Position (tractor setting) once the wings are unfolded OR the wings MUST be locked down (Wing Locked Position). Failure to do so may result in wing fold cylinder damage. See Figure 4-6.

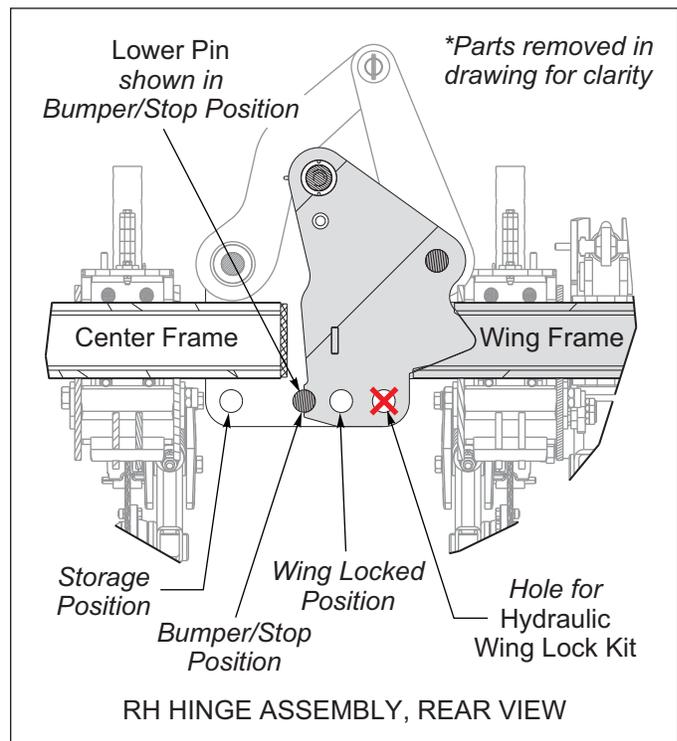


Figure 4-6: Folding Frame Wing Lock

Field Operation - 3-PT Hitch Type

1. Lower the Zone Commander to the ground and pull it a few feet at the approximate desired depth.
2. Check for front-to-rear levelness. Level the frame by adjusting the three-point hitch top arm until the frame is level relative to the ground.
3. Set the depth by adjusting the gauge wheels. For stability, it is important that the gauge wheels are always in contact with the soil. Adjust the gauge wheels as follows:
 - a. Loosen the keeper nut on the adjustable top link.
 - b. Shorten the top link to shallow up the Zone Commander, lengthen the link to allow the Zone Commander to run deeper.
 - c. Snug up the top link keeper nut.
4. Always lift the Zone Commander completely out of the ground before turning or backing to prevent shank or coulter damage or damage to their respective mounting brackets.
5. Reduce speed at field ends, raise the Zone Commander out of the ground, and assist turning by using the wheel brakes, if necessary.
6. After a few hours of initial operation, check all cap screws for tightness. Tighten any loose cap screws.
7. Coulters should be adjusted to operate only deep enough to be in firm soil and cut the residue. Generally, the harder the soil, the less pressure should be used on the coulters. Adjust the single coulters by loosening the coulter mount U-bolts, sliding the coulter up or down as needed. Re-tighten the coulter mount making sure the coulter standard tube is square with the Zone Commander frame.

Wheel Bearing Maintenance

Maintenance should be performed at the beginning of every season of use. Check the wheel bearings and coulter bearings occasionally 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 hub cap, cotter pin, slotted nut, and washer.
3. Remove the hub. Clean and inspect the bearings and hub cavity. Replace any worn or defective parts.
4. Repack the bearings using a high-quality wheel bearing grease.
5. Replace the hub with a new seal and inner bearing in place.
6. Install the outer bearing cone, washer, and slotted nut.
7. Tighten the slotted nut while rotating the hub until there is a slight resistance to wheel rotation. Back the slotted nut off one notch until the wheel rotates freely without end play.
8. Install a new cotter pin and the hub cap.

Coulter Spring Adjustment

No spring adjustment is necessary on the coulters. All adjustments were made before shipping at the factory. Initial operating force to move coulter upwards is 540 pounds. The preload has proved to be more than adequate for most conditions.

IMPORTANT

The coulters should NOT be run more than 2-3" deep.



CAUTION

Any attempt to make coulter force greater than factory setting may contribute to premature failure of parts and warranty shall be null and void.

Lubrication

When lubricating the machine, SAE multi-purpose EP grease, or EP grease with 3-5% molybdenum sulfide is recommended. Wipe soil from fittings before greasing. Replace any lost or broken fittings immediately.

- Grease Coultter Hub and Swivel Mount Casting after 20 hours of use.
- Grease Wheel Hubs after 50 hours of use.
- Grease Wing Frame Fold (2 ea.) after 10 hours of use.
- Grease Finishing Options (ie. Closer Wheel, Flat Bar Basket, Closer Disc, Crumbler Reel, Packer Reel, Treader) after 10 hours of use.

Storage

The service life of the Zone Commander will be extended by proper off-season storage practices. Before storing, complete the following procedures:

1. Completely clean the unit.
2. Inspect the machine for worn or defective parts. Replace parts as needed to avoid delays the following season.
3. Repaint all areas where the original paint film is worn off.
4. Grease all exposed metal surfaces of shanks, points, and coulters.
5. Lubricate as suggested in **“Lubrication” on page 4-8.**
6. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground tools and tires should rest on a board or other device to keep them out of the soil.

Troubleshooting Guide

The Troubleshooting Guide, shown below, is included to help you quickly locate problems that can happen using your 2512 Series Rigid & Folding Zone Commander. Follow all safety precautions stated in the previous sections when making any adjustments to your machine.

PROBLEM	PROBABLE CAUSE	SOLUTION
SPIKES DO NOT PENETRATE TO DESIRED DEPTH	Coulters set too deep	Adjust coulters up, to just run in firm soil, to cut residue.
	Spikes worn back	Replaces spikes
	Lower hitch arms in lower holes of pull bracket	Move hitch arms to upper hole in pull brackets.
	Implement not level	Adjust top 3-point link.
UNIT BOUNCES OR NOT WORKING AT UNIFORM DEPTH	Gauge wheels not set at correct depth	Adjust gauge wheels to correct depth. Gauge wheels, not the 3-point hitch, should carry the load.
	Gauge wheels not set at correct depth	Adjust all gauge wheels to same depth.
	Tire pressure not equal	Inflate all tires to the same pressure.
	Lower hitch arms not set to same height	Measure lower hitch arms and adjust to uniform length.
RESIDUE HANGS ON SHANKS	Coulter not set deep enough	Adjust coulter down to run in firm soil, to cut residue.
	Gauge wheel too close to shank	Position gauge wheel on frame for maximum clearance to shanks.
	Coulter not aligned	Check coulter alignment on front bar.
	Soil too wet causing hairpinning of residue	Let soil dry.

Quick Start Guides

2512 Hydraulic Auto Re-Set Shank Clamp Quick Start Instruction

1. DO NOT hook the hydraulics up to the tractor at this point!!!
2. With the hydraulics **unhooked**, pull the **RED** Lever on the Ball Valve forward. This will expose the Pressure Gauge to the system pressure w/o any chance of the pressure bleeding down into the tractor. If the pressure reads approximately 2000 psi (1900 on the low side to 2200 on the high side is acceptable) you are ready to go. It can change some with ambient temperature changes.
3. If the pressure is in the acceptable range, move the **RED** Ball Valve Lever back into the upright, or "off" position. Secure the hydraulic hose by plugging them into the tractor to keep them out of harm's way, or secure them to the ripper in an alternative fashion.
4. If the pressure is not in the 1900 to 2200 range, it will need to be adjusted:
 - a. With the Ball Valve "OFF" (handle upright) plug the hydraulic tips into the tractor.
 - b. Engage the tractor hydraulic circuit, reduced flow is recommended, (20% of max flow).
 - c. If the Pressure Gauge goes to 3000 psi (or there about) with the circuit running continuously and holds, reverse the circuit flow.
 - d. The pressure should hover in the 2000 to 2200 psi range.
 - e. If necessary, adjust the Pressure Reduction and Relieving Valve. Clockwise (in) increases the pressure. Counter-clockwise (out) decreases the pressure.
 - f. When the Pressure Gauge hovers in the 2000 to 2200 range **with the circuit running continuously**, pull the **RED** Ball Valve Lever forward. The Pressure Gauge will momentarily reflect the system pressure and then equalize at 2000 to 2200 psi.
 - g. Shut the Ball Valve "OFF" by returning the **RED** Lever to the upright position.
 - h. Shut the tractor hydraulic circuit "OFF".
 - i. Once the system pressure is set up to the 1900 to 2200 psi range the tractor circuit should remain "OFF" and the Ball Valve Lever in the "OFF" position.
 - j. When operating the ripper, the Ball Valve Red Lever must be in the **upright** position, or "OFF".
5. Adjust the Gauge Wheels:
 - a. If the top of the Gauge Wheel is even with the top of the frame the Shanks are set to be approximate 20" deep (when the Shanks are in the lowest clamp holes).
 - b. For shallower depths lay a straight edge across the top of the frame and measure to the top of the Gauge Wheel Tire. For example, if the top of the tire is four (4) inches below the top of the frame, then the points would be set for (20" minus 4") 16" deep etc.
 - c. Keep the Gauge Wheels set evenly from side to side.
6. Run the ripper frame level for the most part (front to back).
7. Check the system pressure by opening the Ball Valve Red Lever every couple of days when operating daily or after significant temperature changes.

Instructions for Ordering Parts

**** Repair parts must be ordered through an Authorized Dealer ****

DEALER INSTRUCTIONS FOR ORDERING PARTS FROM LANDOLL PARTS DISTRIBUTION CENTER

Phone #: 800-423-4320 or 785-562-5381

Fax #: 888-527-3909

Order online: dealer.landoll.com

DATA PLATE

The Data Plate, which lists the model number and serial number, is located on the front of the frame.

SERIAL NUMBER

The following information will help decode the serial number.

25C2400100 = xxmysssss

xx	= model series (i.e. "25" for all Zone Commanders)
m	= month of manufacture (ex. "C" means March. The letter I is not used.)
yy	= year manufactured (ex. "24" means 2024)
sssss	= sequential number used to track warranty and service information.

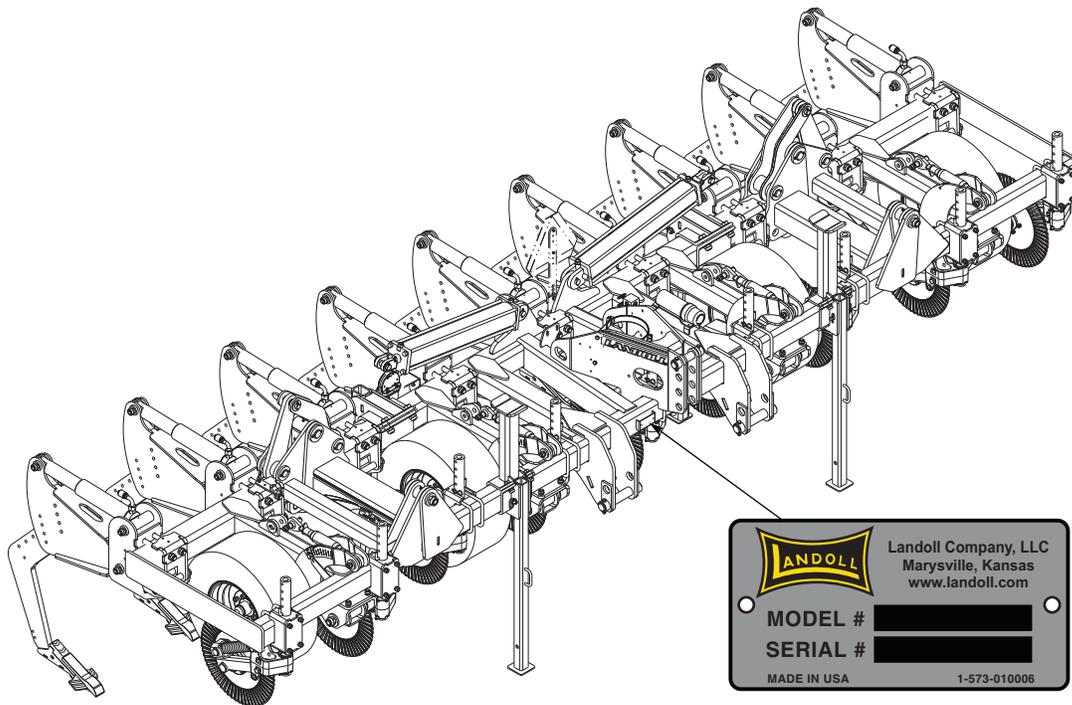


Figure: Data Plate

Manuals for 2512 Zone Commander and Caddy

FOR UNITS SHIPPED AFTER DECEMBER 1, 2020 (SN: 25M201237 AND ABOVE)
PREVIOUS UNITS SHOULD REFERENCE F-1039-0320

Manual Number	Manual Type
F-1049	Operator's Manual
F-1048	Parts Manual (2512 Zone Commander ONLY)
F-1075	Caddy Parts Manual (ONLY)

Document Control Revision Log:

Date	Form #	Improvement(s): Description and Comments
05/2020	F-1049	Initial Release
12/2020	F-1049-1220	Added: Folding Shank Mounting Dimensions ECN 46468 - Added Depth Gauge and Decal, Added Hose Mount Plate Extension ECN 46650 - Updated Warning Light Bracket, Gusset-Frame Braces Added: Closer Platform and Features
01/2021	F-1049-0121	ECN 46837 - Added Rear Jack Option and Decals
04/2021	F-1049-0421	ECN 46857 - Add Treader Option, Update 3/4 Straight Leg Shank
12/2021	F-1049-1221	ECN 47144 - Changes to Front Jack Mount ECN 47623 - Revisions to Parabolic Shank 1-1/4 ECN 47679 - Changes to Parabolic Wear Guard Keeper and Parabolic Shank Hardware
01/2022	F-1049-0122	ECN 47822 - Add Shank Hardware Kit ECN 47824 - Revised Parabolic Keeper-Wear Guard, Clamp Designs/Torque Values
05/2022	F-1049-0522	ECN 47953 - Updated Closing Platform Design, Updated Coulter Asm ECN 48076 - Updated Closing Platform Design Add "Quick Start" Chapter
01/2023	F-1049-0123	Update "Attaching to 3-PT Hitch" and Figure "3-PT Hitch Setup" ECN 48550 - Doubler Plates Added to Rigid Frame, Hitch Pin Changes *07/24/2023 - Revised Figure "3-PT Hitch Setup" (added recommended dimensions to top link)
09/2023	F-1049-2309	ECN 49278 - Updated "Attaching to Caddy" Updated "Hydraulic Accumulator / Shanks Operation" Revised Format "Year/Month" Updated ISO logos to ISO 9001:2015 (Revised 04/2024)
06/2024	F-1049-2406	ECN 49957 - Revised Closing Platform
09/2024	F-1049-2409	Coulter Disc Spacing Dimension Drawings
11/2024	F-1049-2411	"Hydraulic Fold System" Section and Drawing



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Equipment from Landoll Company, LLC is built to exacting standards ensured by ISO 9001:2015 registration at all Landoll manufacturing facilities.

2512 Zone Commander Operators Manual

Re-Order Part Number F-1049

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