Seedbed Tillage

Folding Perfecta® 30’ - 40’
Models 10 / 12 / 14

Serial Number A63510100 & Higher

Part No. 76596

Foreword

This symbol identifies important safety messages. When you see it, read the message that follows and be alert to the possibility of personal injury.

Remember, safety instructions stated in this manual are for your protection. Read them carefully and follow them closely when working around or using this machine.

Read and study this manual completely before attempting to operate this implement. Take this manual to the field for handy reference when operating, adjusting, or servicing your machine.

When referenced, “Right-Hand” (RH) and “Left-Hand” (LH) side of the machine are determined by standing behind the machine and facing in the direction of travel.

Product Information

When ordering parts or when requesting further information or assistance, always give the following information:

- Model
- Serial Number

All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

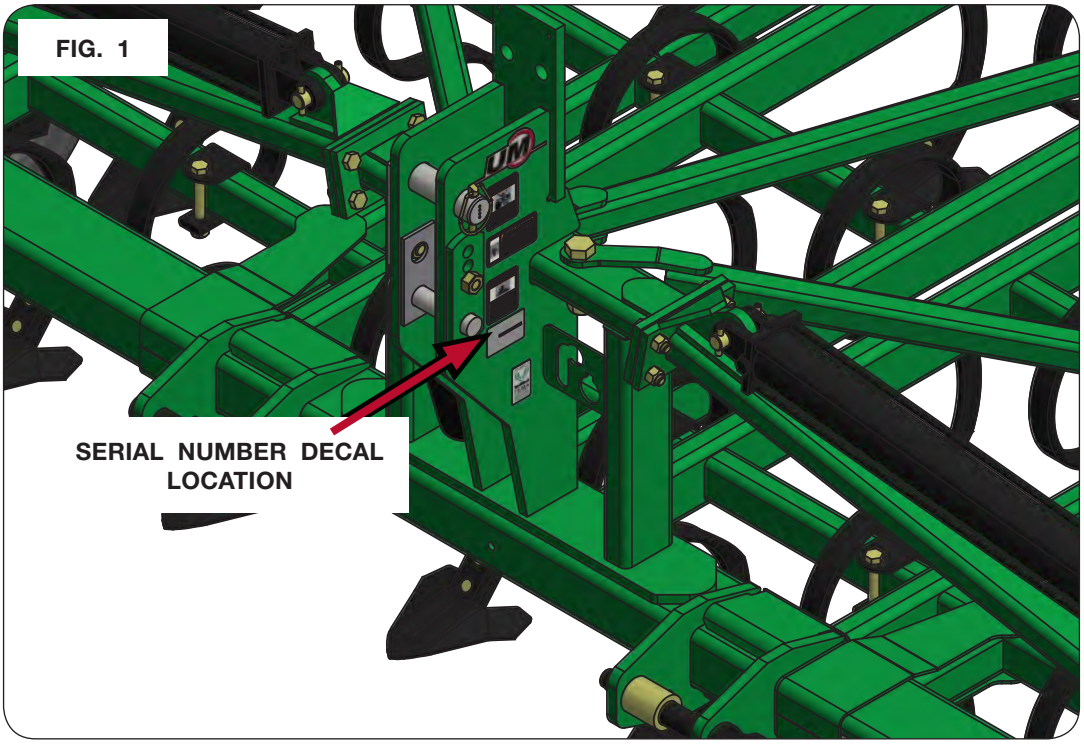
Please fill out and retain this portion for your records. The serial number plate is located on the left-hand side of the center mast of the machine (Fig. 1).

Purchase Date _____ Model _____Serial Number_____

Dealer _____ City _____

Dealer Contact _____ Phone _____

FIG. 1



IMPORTANT

The information, specifications, and illustrations in the manual are on the basis of information available at the time it was written. Due to continuing improvements in the design and manufacture of Unverferth products, all specifications and information contained herein are subject to change without notice.

Table of Contents

SECTION I
Safety

Table of Contents

SECTION II
Set Up

Table of Contents

SECTION III
Operation

Table of Contents

SECTION IV
Maintenance

Table of Contents

SECTION V
Parts

SECTION I
Safety

General Hazard Information

No accident-prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

A large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the field, or in the industrial plant, can be safer than the person who is at the controls. If accidents are to be prevented--and they can be prevented--it will be done by the operators who accept the full measure of their responsibility.

It is true that the designer, the manufacturer, and the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that, “the best kind of a safety device is a careful operator.” We, at Unverferth Mfg. Co., Inc. ask that you be that kind of operator.

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

DANGER

INDICATES AN EXTREMELY HAZARDOUS SITUATION OR ACTION THAT WILL RESULT IN SERIOUS INJURY OR DEATH.

WARNING

INDICATES A HAZARDOUS SITUATION OR ACTION THAT COULD RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

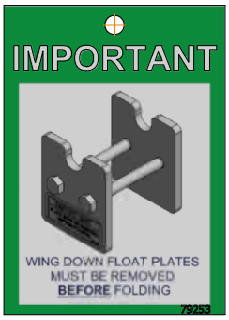
INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.

IMPORTANT

Is used for instruction on operating, adjusting, or servicing a machine.

Safety Decals

PART NO. 95136



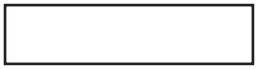
PART NO. 75259

PART NO. 95445

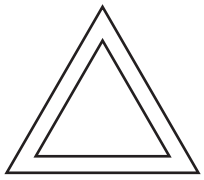
PART NO. 97961

PART NO. 900751

PART NO. 97972

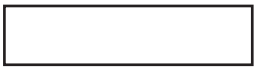


PART #9003127
AMBER REFLECTOR

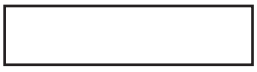


PART NO. 9829
SMV EMBLEM

PART NO. 99507



PART #9003125
FLUORESCENT REFLECTOR



PART #9003126
RED REFLECTOR

Following Safety Instructions

- Read and understand this operator's manual before operating.

- All machinery should be operated only by trained and authorized personnel.
- To prevent machine damage, use only attachments and service parts approved by the manufacturer.
- Always shut tractor engine off and remove key before servicing.

- Avoid personal attire such as loose fitting clothing, shoestrings, drawstrings, pants cuffs, long hair, etc., that may become entangled in moving parts.
- Do not allow anyone to ride on the implement. Make sure everyone is clear before operating machine or towing vehicle.

- Never attempt to operate implement unless you are in driver's seat.

Before Servicing

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked.

- Ensure that all applicable safety decals are installed and legible.
- When working around the implement, be careful not to be cut by sharp edges.
- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.
- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity.

Before Operating

- Do not stand between towing vehicle and implement during hitching.
- Always make certain everyone and everything is clear of the machine before beginning operation.
- Verify that all safety shields are in place and properly secured.
- Ensure that all applicable safety decals are installed and legible.
- When working around the implement, be careful not to be cut by sharp edges.
- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity.

During Operation

- Regulate speed to field conditions. Maintain complete control at all times.
- Never service or lubricate equipment when in operation.
- Keep away from overhead power lines. Electrical shock can cause serious injury or death.
- Use extreme care when operating close to ditches, fences, or on hillsides.
- Do not leave towing vehicle unattended with engine running.

Before Transporting

- Install transport locks before transporting.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on the machine. Make sure that the SMV emblem is visible to approaching traffic.

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- Use good judgment when transporting equipment on highways. Regulate speed to road conditions and maintain complete control.
- Maximum transport speed of this implement should never exceed 20 mph as indicated on the machine. Maximum transport speed of any combination of implements must not exceed the lowest specified speed of the implements in combination. Do not exceed 10 mph during off-highway travel.
- Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.
- It is probable that this implement is taller, wider and longer than the towing vehicle. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Pressurized Oil

- Relieve the hydraulic system of all pressure before adjusting or servicing. See hydraulic power unit manual for procedure to relieve pressure.
- High-pressure fluids can penetrate the skin and cause serious injury or death. Use cardboard or wood to detect leaks in the hydraulic system. Seek medical treatment immediately if injured by high-pressure fluids.
- Hydraulic system must be purged of air before operating to prevent serious injury or death.
- Do not bend or strike high-pressure lines. Do not install bent or damaged tubes or hoses.
- Repair all oil leaks. Leaks can cause fires, personal injury, and environmental damage.
- Route hoses and lines carefully to prevent premature failure due to kinking and rubbing against other parts. Make sure that all clamps, guards and shields are installed correctly.
- Check hydraulic hoses and tubes carefully. Replace components as necessary if any of the following conditions are found:
  - End fittings damaged, displaced, or leaking.
  - Outer covering chafed/cut or wire reinforcing exposed.
  - Outer covering ballooning locally.
  - Evidence of kinking or crushing of the flexible part of a hose.

Preparing for Emergencies

- Keep a first aid kit and properly rated fire extinguisher nearby.

- Keep emergency numbers for fire, rescue, and poison control personnel near the phone.

Wearing Protective Equipment

- Wear clothing and personal protective equipment appropriate for the job.

- Wear steel-toed shoes when operating.

- Wear hearing protection when exposed to loud noises.

- Do not wear additional hearing impairing devices such as radio headphones, etc

Notes

SECTION II
Set Up

Set Up Checklist

- ¨ Wheel bolts tightened (recheck after initial use)
- ¨ Tire pressures checked
- ¨ Hardware tightened
- ¨ Machine lubricated
- ¨ Safety and operating procedures reviewed
- ¨ Field adjustment information reviewed
- ¨ Lubrication procedures reviewed
- ¨ Warranty information reviewed
- ¨ Hydraulic hoses properly routed/fittings tight

General Set Up Information

This section contains all of the instructions required for the complete assembly of the entire field cultivator.

For your safety, and the safety of others, use proper tools and equipment and always use safe working procedures. Refer to these instructions before starting any work on your machine.

IMPORTANT

- *The procedures for assembling this unit are intended for two or more people.*

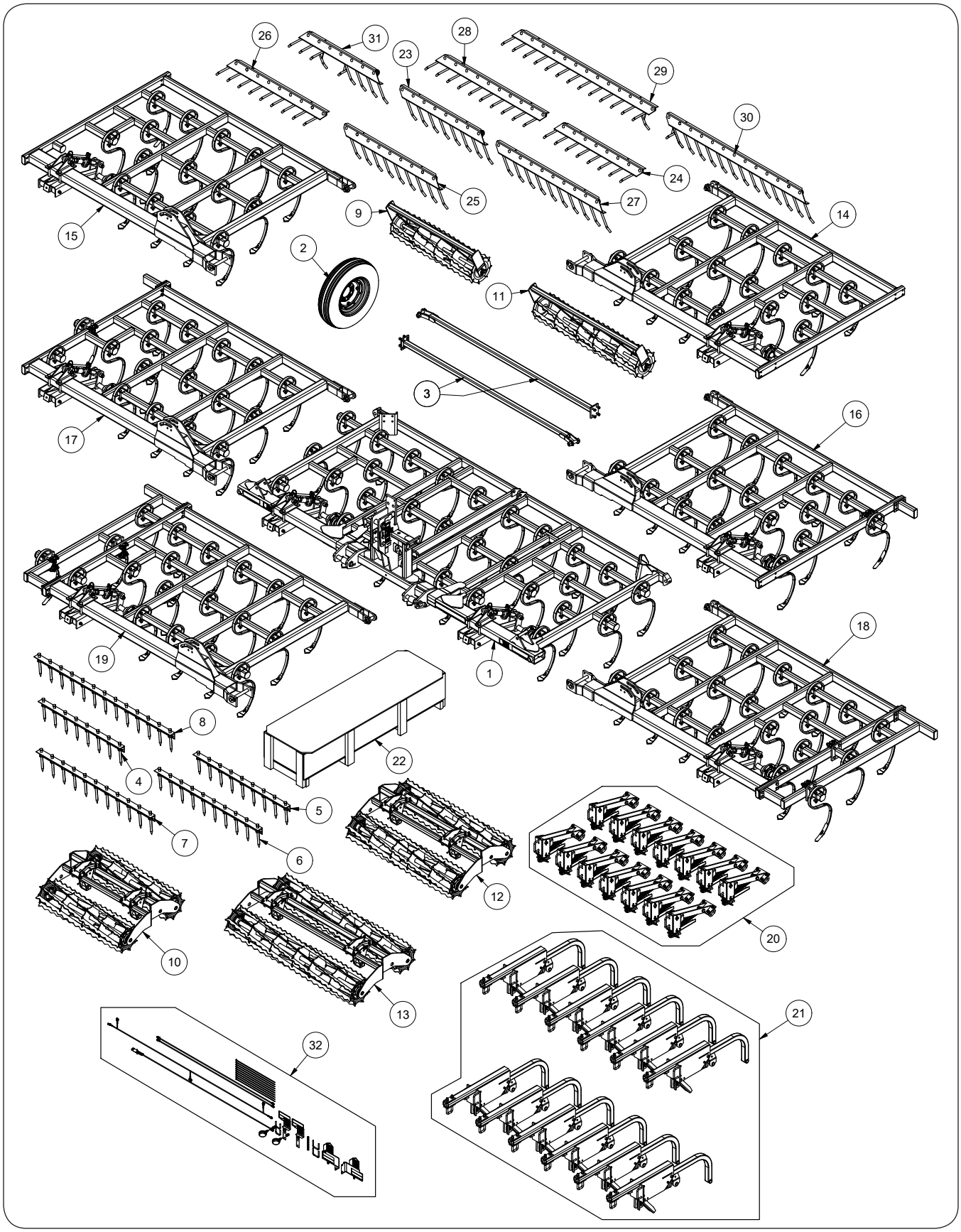
For ease of assembly, install all hardware loosely until assembly is complete and then tighten according to Torque Chart in the Maintenance section unless otherwise specified.

⚠ WARNING

- **READ AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN THIS MANUAL IF NECESSARY.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **MOVING PARTS CAN CRUSH AND CUT. KEEP AWAY FROM MOVING PARTS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 3,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

Depending on the model you ordered, you should have received the following bundles:

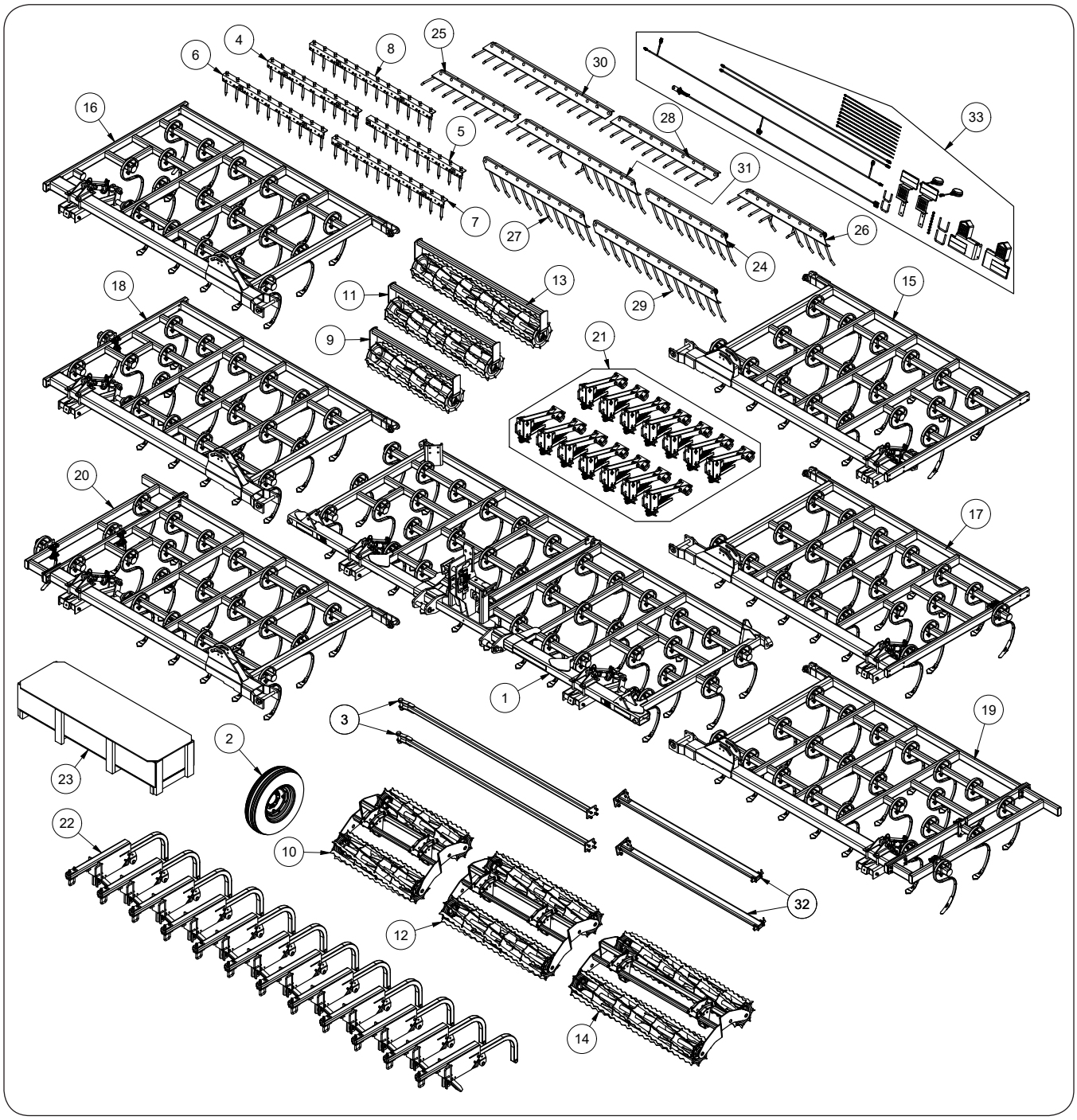
30’ through 34’ Perfecta — Shipping Bundles



30' through 34' Perfecta — Shipping Bundles

ITEM	PART NUMBER	DESCRIPTION	QTY PER PERFECTA SIZE						NOTES
			30'	32'	34'	30'	32'	34'	
			SINGLE BASKETS			DOUBLE BASKETS			
1	-	Main Frame 15' Base Assembly	1	1	1	1	1	1	Shown With Standard S-Tines - Model 10
2	81145	Wheel & Tire	4	4	4	4	4	4	
3	76563B	Brace Tube with Hardware	2	2	2	2	2	2	
4	71182	Spike One Bar 4' Assembly	5	3	1	2	-	-	For Units With Spike One-Bars ONLY
5	106919	Spike One Bar 4 1/2' Assembly	-	-	-	1	2	-	
6	71183	Spike One Bar 5' Assembly	2	4	6	1	1	1	
7	72966B	Spike One Bar 5 1/2' Assembly	-	-	-	2	1	3	
8	72968B	Spike One Bar 6 1/2' Assembly	-	-	-	2	2	2	
9	81324	Basket & Frame 4' Assembly	5	3	1	-	-	-	
10	76486B	Basket & Frame 4' Assembly	-	-	-	2	2	-	
11	81325	Basket & Frame 5' Assembly	2	4	6	-	-	-	
12	76477B	Basket & Frame 5' Assembly	-	-	-	2	-	2	
13	76471B	Basket & Frame 6' Assembly	-	-	-	2	4	4	
14	-	Wing Assembly 7 1/2' LH	1	-	-	1	-	-	Shown With Standard S-Tines - Model 10
15	-	Wing Assembly 7 1/2' RH	1	-	-	1	-	-	
16	-	Wing Assembly 8 1/2' LH	-	1	-	-	1	-	
17	-	Wing Assembly 8 1/2' RH	-	1	-	-	1	-	
18	-	Wing Assembly 9 1/2' LH	-	-	1	-	-	1	
19	-	Wing Assembly 9 1/2' RH	-	-	1	-	-	1	
20	-	Mounting Arm Assembly Bundle	1	1	1	-	-	-	
21	-	Mounting Arm Assembly Bundle	-	-	-	1	1	1	
22	76656B	Parts Box	1	1	1	1	1	1	
23	74681B	Diagonal One Bar 4' LH Assembly	2	1	-	-	-	-	For Units With Diagonal One-Bars ONLY
24	74682B	Diagonal One Bar 4' RH Assembly	2	1	-	-	-	-	
25	76831B	Diagonal One Bar 4 1/2' LH Assembly	-	-	-	1	1	-	
26	76830B	Diagonal One Bar 4 1/2' RH Assembly	-	-	-	1	1	-	
27	74683B	Diagonal One Bar 5' LH Assembly	1	2	3	-	1	2	
28	74684B	Diagonal One Bar 5' RH Assembly	1	2	3	-	1	2	
29	76827B	Diagonal One Bar 6 1/2' RH-Y Asy	-	-	-	1	1	1	
30	76828B	Diagonal One Bar 6 1/2' LH-Y Asy	-	-	-	1	1	1	
31	74687B	Diagonal One Bar 4' Center Asy	1	1	1	-	-	-	
32	76557B	Lights/Transport Marking	1	1	1	1	1	1	

36’ through 40’ Perfecta — Shipping Bundles



36’ through 40’ Perfecta — Shipping Bundles

ITEM	PART NUMBER	DESCRIPTION	QTY PER PERFECTA SIZE						NOTES
			36’	38’	40’	36’	38’	40’	
			SINGLE BASKETS			DOUBLE BASKETS			
1	-	Main Frame 18’ Base Assembly	1	1	1	1	1	1	Shown With Standard S-Tines - Model 10
2	81145	Wheel & Tire	4	4	4	4	4	4	
3	76566B	Brace Tube with Hardware	2	2	2	-	-	-	
4	106919	Spike One Bar 4 1/4’ Assembly	1	-	-	1	1	1	For Units With Spike One-Bars ONLY
5	72964B	Spike One Bar 4 1/2’ LH Assembly	1	-	-	-	-	-	
6	71183	Spike One Bar 5’ Assembly	2	2	-	2	2	-	
7	72966B	Spike One Bar 5 1/2’ Assembly	-	2	2	2	-	-	
8	71579B	Spike One Bar 6’ Assembly	3	3	5	2	4	6	
9	81324	Basket & Frame 4’ Assembly	2	-	-	-	-	-	
10	76486B	Basket & Frame 4’ Assembly	-	-	-	1	1	1	
11	81325	Basket & Frame 5’ Assembly	2	4	2	-	-	-	
12	76477B	Basket & Frame 5’ Assembly	-	-	-	4	2		
13	86388B	Basket & Frame 6’ Assembly	3	3	5	-	-	-	
14	76471B	Basket & Frame 6’ Assembly	-	-	-	2	4	6	
15	-	Wing Assembly 9’ LH	1	-	-	1	-	-	Shown With Standard S-Tines - Model 10
16	-	Wing Assembly 9’ RH	1	-	-	1	-	-	
17	-	Wing Assembly 10’ LH	-	1	-	-	1	-	
18	-	Wing Assembly 10’ RH	-	1	-	-	1	-	
19	-	Wing Assembly 11’ LH	-	-	1	-	-	1	
20	-	Wing Assembly 11’ RH	-	-	1	-	-	1	
21	-	Mounting Arm Assembly Bundle	1	1	1	-	-	-	
22	-	Mounting Arm Assembly Bundle	-	-	-	1	1	1	
23	76639B	Parts Box	1	1	1	1	1	1	
24	74681B	Diagonal One Bar 4’ LH Assembly	1	-	-	-	-	-	For Units With Diagonal One-Bars ONLY
25	74682B	Diagonal One Bar 4’ RH Assembly	1	-	-	-	-	-	
26	76465B	Diagonal One Bar 4 1/2’ Center Asy	-	-	-	1	1	1	
27	74683B	Diagonal One Bar 5’ LH Assembly	1	2	1	2	1	-	
28	74684B	Diagonal One Bar 5’ RH Assembly	1	2	1	2	1	-	
29	74685B	Diagonal One Bar 6’ LH Assembly	1	1	2	1	2	3	
30	74686B	Diagonal One Bar 6’ RH Assembly	1	1	2	1	2	3	
31	76692B	Diagonal One Bar 6’ Center Assembly	1	1	1	-	-	-	
32	76637B	Front Strut 18’ Assembly	2	2	2	2	2	2	
33	76557B	Lights/Transport Marking	2	2	2	2	2	2	

Basic Set Up

Models 12 and 14, outer S-tines on each end of the machine are equipped with 2” wide point shovel. Units are shipped as shown to prevent damage to shovel in shipment. Point must be reversed before beginning operation.

Shown In Shipping Position

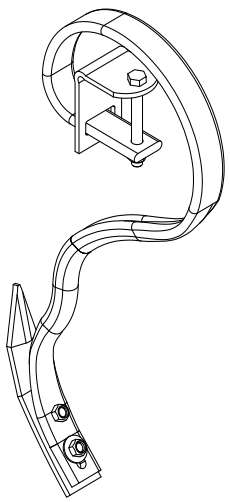


FIG. 2-1

Shown In Working Position

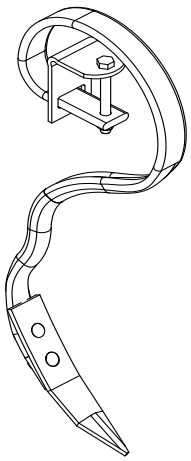


FIG. 2-2

Assemble Braces and Struts on Main Frame

1. Place main frame on a level surface and support with stands rated at 3000 lbs. minimum.

2. Use a safe device rated at 100 lbs. minimum, install the front struts with hardware included as shown in FIG. 2-3.

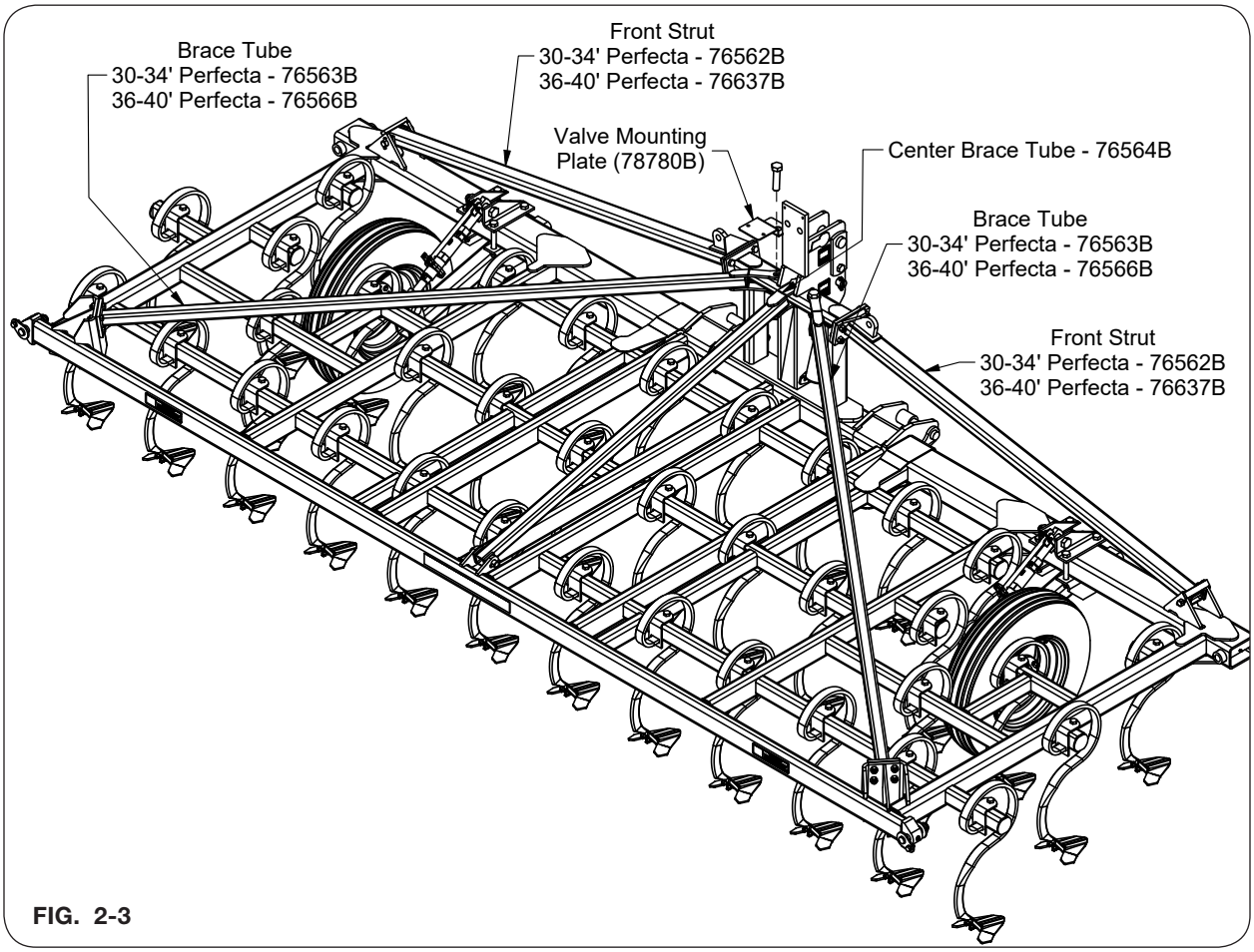


FIG. 2-3

3. Use a safe device rated at 50 lbs. minimum, install the right-hand brace tube with hardware included as shown in FIG. 2-3.

4. Use a safe device rated at 50 lbs. minimum, install the left-hand brace tube and valve mounting plate (78780B) with hardware included as shown in FIG. 2-3.

5. Attach center rear truss tube first using 1” diameter pin first, then attach opposite end of truss with 1” diameter capscrew pin provided.

6. Attach rear corner truss tubes. Insert 1” diameter capscrews first, then attach opposite end of truss with four 1/2” diameter capscrews.

7. Attach side trusses using 1” diameter pins on one end, then attach opposite end with 4 hole plate using 5/8” capscrews.

SMV Emblem

1. Obtain SMV bracket (86620B) from base frame parts bundle, along with 1/4”-20UNC x 3/4” capscrews (9390-003) and 1/4”-20UNC locknuts (9936). Attach the SMV emblem (9829) to the SMV bracket (86620B) with the 1/4”-20UNC hardware as shown in FIG. 2-4.

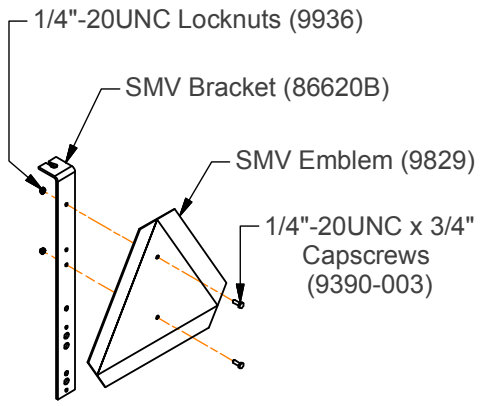


FIG. 2-4

See “Overhead Layouts” (on Positioning Components) in SET UP Section for SMV emblem mounting location near the rear of the machine.

2. Attach the SMV bracket with SMV emblem near the rear of the machine with 1/2”-13UNC U-bolt (96566) and two 1/2”-13UNC locknuts (9800) as shown in FIG. 2-5.

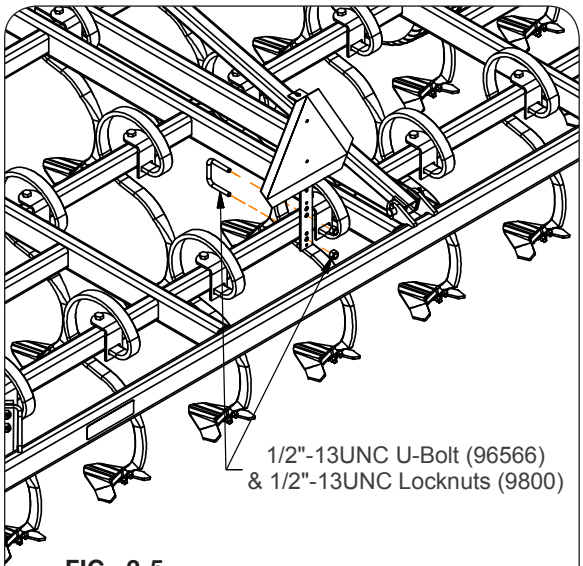


FIG. 2-5

Transport Marking & Light Kit

With the main frame still supported, use these instructions for installing your light package to comply with ASABE standards.

Compliance with all lighting and marking laws is the responsibility of the operator at the time of travel.

See federal regulation 49 CFR 562; available at www.govinfo.gov for US federal law requirements.

See your Unverferth dealer for additional brackets, reflectors, or lights to meet your requirements.

Front, rear, left, and right are determined from the tractor operator's seat, facing forward.

Lights

1. Assemble the amber light brackets to the rear, outside of the main frame as shown in FIG. 2-6 and FIG. 2-7. Secure using the 1/2"-13UNC U-bolts (901897) and 1/2"-13UNC locknuts (9800).

NOTE: Reflectors MUST face the rear of the machine.

FIG. 2-6

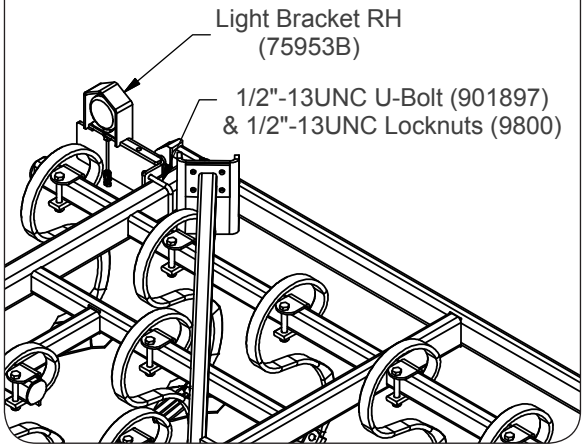
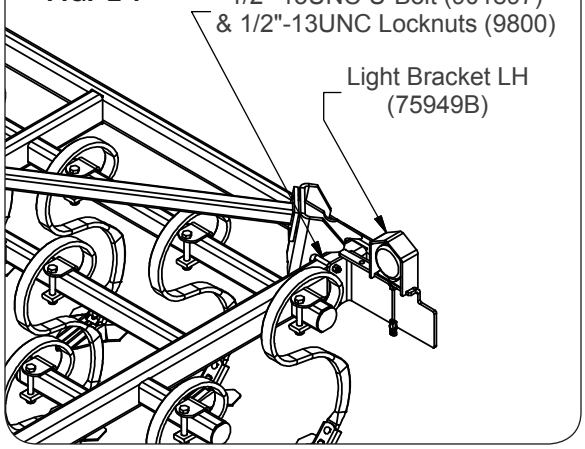


FIG. 2-7



Transport Marking & Light Kit (continued)

2. Assemble the red light brackets to the rear, of the main frame as shown in FIG. 2-8. Secure using the 1/2”-13UNC U-bolts (96566) and 1/2”-13UNC locknuts (9800).

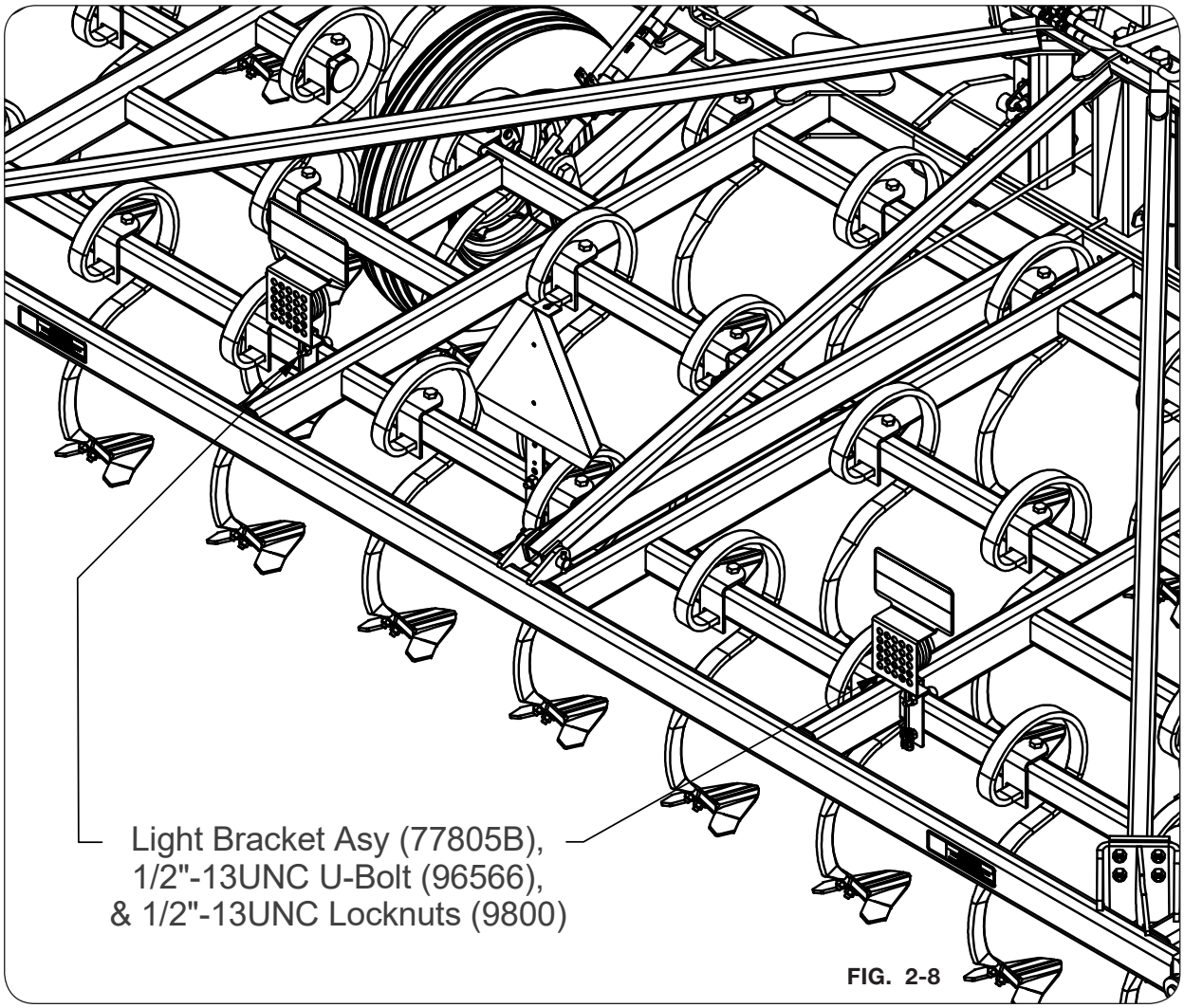


FIG. 2-8

NOTE: Reflectors MUST face the rear of the machine.

NOTE: Make certain lights are clearly visible and no components obstruct the view of lights from either the front or rear of implement.

NOTE: Reflectors are as important as light locations in order to comply with current ASABE standards. These reflectors measure 2”x9”. Other reflectors will NOT comply with these standards.

3. Inspect your PERFECTA for 2”x9” amber (9003127), red (9003126), and flourescent orange (9003125) transport markings. If your implement does not meet these specifications, please contact your UNVERFERTH dealer to order appropriate reflectors.

NOTE: Locate Red Reflectors as close as possible to the end of frame. There must be no more than a 72” gap between rear facing reflectors of same color.

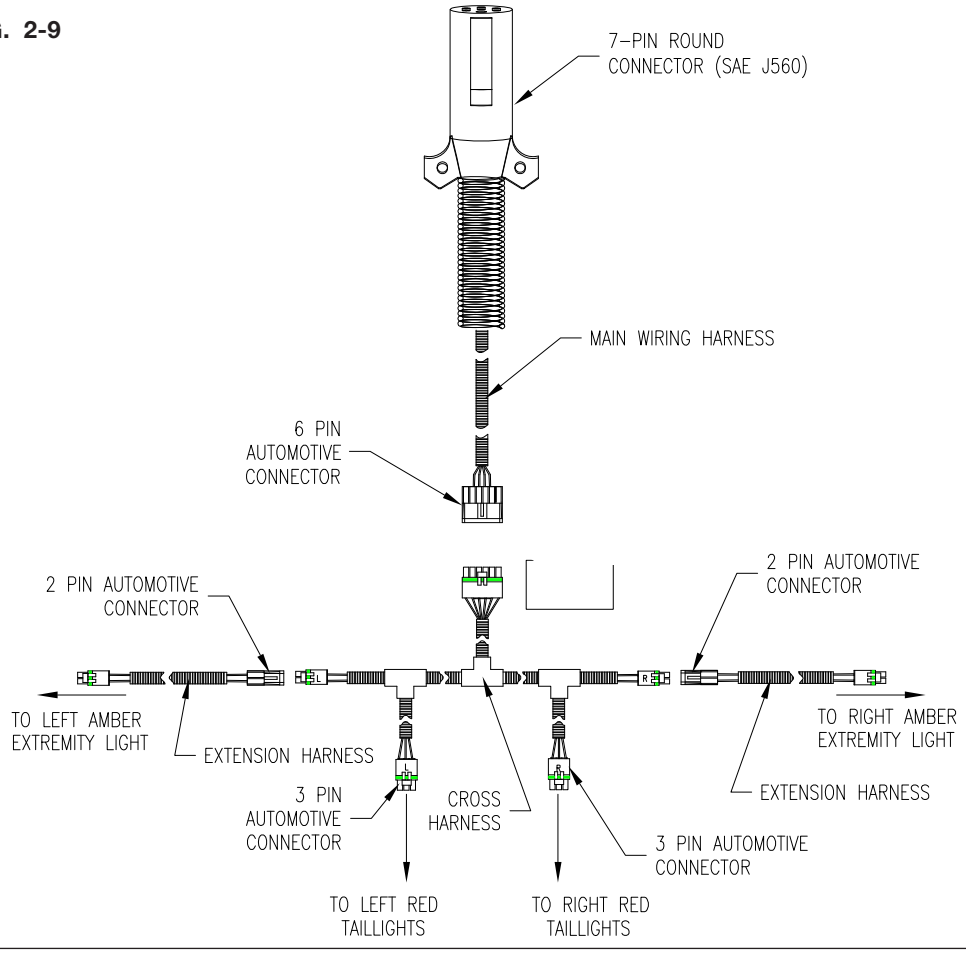
Transport Marking & Light Kit (continued)

When installing the harnesses, do not cut or break the wire coverings. Tie harnesses away from moving parts, such as cylinders and folding links. The wiring harnesses consist of four pieces; the main harness, the cross harness, and two extension harnesses.

The main harness has a 7-pin (round) plug conforming to SAE J560 that connects to tractor or other towing vehicle. If your tractor or other towing vehicle does not have the mating socket connector, contact respective dealer.

1. Route the main harness along the support tubes near the center of the main frame. The cross harness connects to the 6 pin automotive connector of the main harness, both red taillights, and the extension harnesses.
2. Route the legs labeled “R” to the right side of machine, and the legs labeled “L” to the left side.
3. Connect the three pin connectors on the cross harness to the 3 pin connectors on the red taillights.
4. Coil up any excess wire and secure harness to frame with cable ties.
5. The extension harnesses connect the two pin connector of the cross harness to the two pin connectors on the amber extremity lights. Route extension harnesses along the main frame and connect to the amber extremity lights.
6. Tie the extension harnesses to the extremity light mounting bracket through the extra hole in the light bracket.
7. Coil up any excess and tie the remainder to the main frame with cable ties. Be sure to avoid contact with the fold cylinders, fold linkage, or any other moving parts.

FIG. 2-9



Transport Marking & Light Kit (continued)

Checking Function

To check for proper functioning of the Unverferth Transport Marking Kit, perform the following:

1. Turn on the tractor's flashing lights. The amber extremity lights on the Perfecta should flash in unison with the tractor lights.

2. Activate the tractor's turn signal. The amber extremity light on the turn side should flash in unison with the tractor's turn signal. The non-turn side (amber light) should burn solid. Check the opposite turn direction also.

3. Turn on the tractor's headlights. The red taillights should burn solid.

If the lights do not burn, check that all connections are properly made. If the lights do not function properly, check that the 7-pin connector on towing vehicle is wired per ASABE standards.

Maintenance

Always check function of lights before traveling on public roads.

All connectors are watertight and require no normal maintenance.

With each use, check condition of the wire harnesses, looking for kinked, frayed, or loose wires. If lights or harnesses are damaged, replace as necessary.

Over time, the reflective striping may become faded or torn from normal use. Replace as necessary.

A light coating of electrical grease on the 7-pin connector will make it easier to connect and inhibit corrosion. If machine is stored outside, the 7-pin connector should be positioned so rain, snow, and ice cannot collect in it.

Wing Assembly

1. Place main frame on a level surface and support with stands rated at 3000 lbs. minimum.

2. Use a safe device and support stands rated at 1500 lbs. minimum, install the left-hand wing with hardware included as shown in FIG. 2-10.

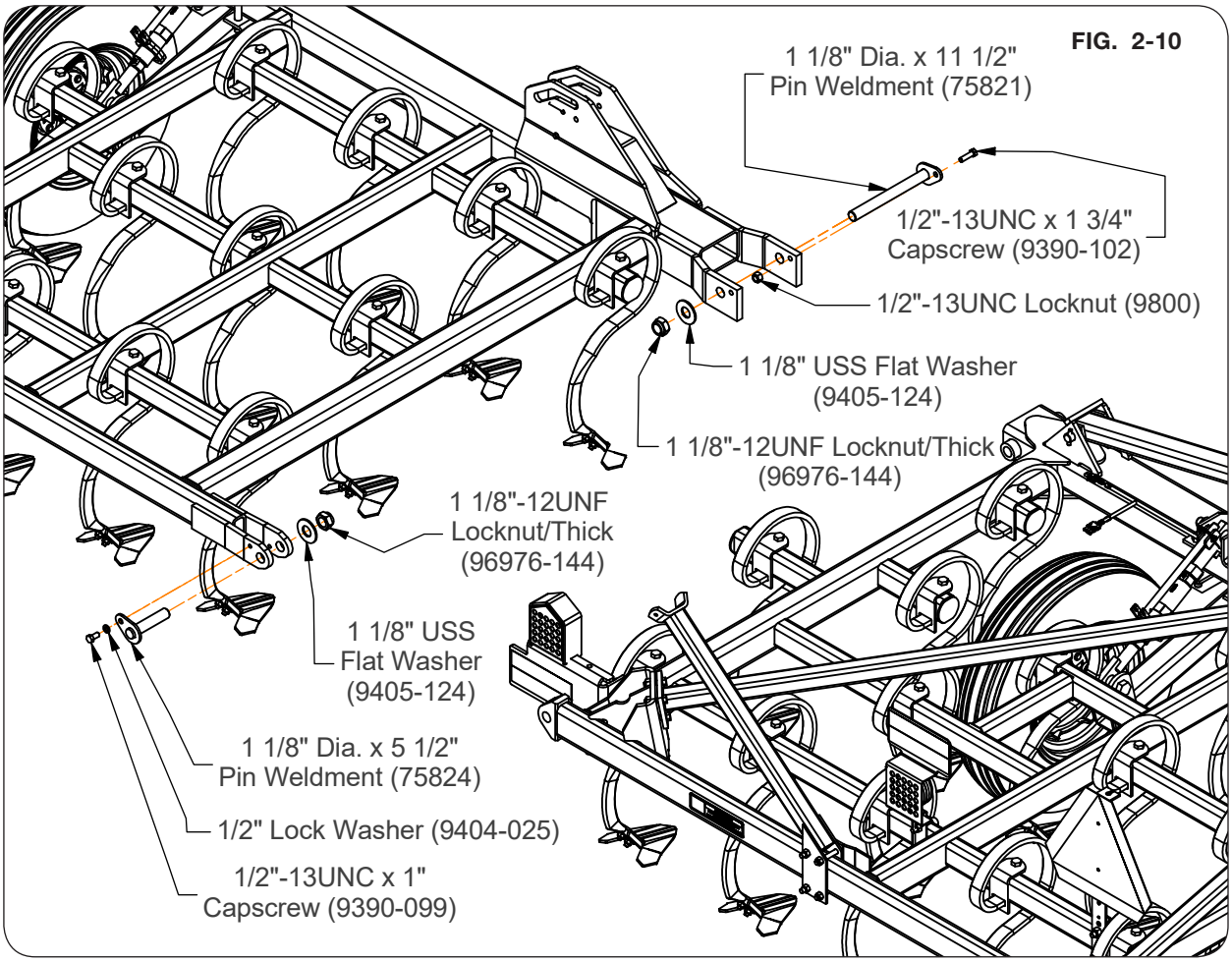


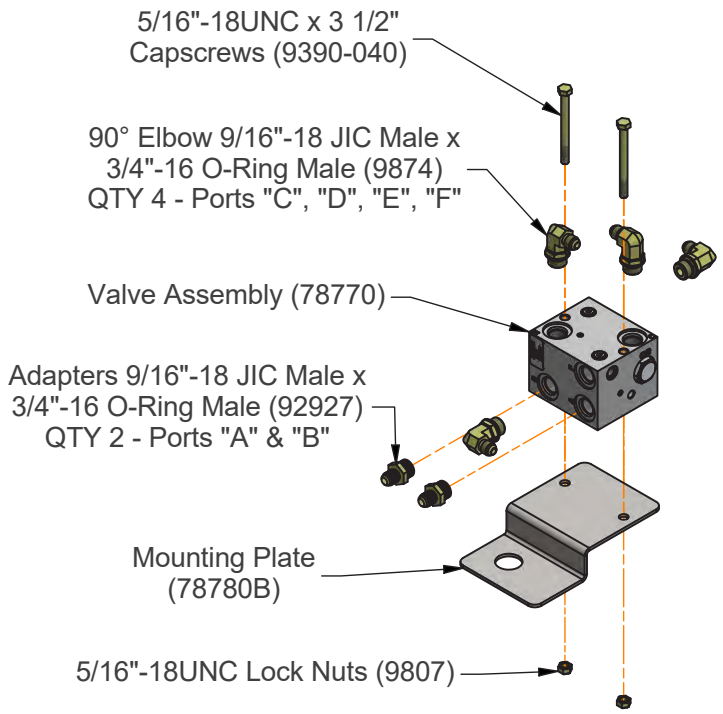
FIG. 2-10

3. Use a safe device and support stands rated at 1500 lbs. minimum, install the righ-hand wing with hardware provided. (Reference FIG. 2-10)

Hydraulic Assembly

1. Install two adapters 9/16-18 JIC male x 3/4-16 O-ring male (92927) into valve assembly (78770) ports “A” and “B” (FIG. 2-11).

FIG. 2-11



2. Install four 90° elbows (9874) into valve assembly (78770) ports “C”, “D”, “E”, and “F” as shown in FIG. 2-11.

3. Attach the valve assembly (78770) with fittings to the mounting plate (78780B) with two 5/16”-18UNC x 3 1/2” capscrews (9390-040) and 5/16”-18UNC lock nuts (9807) (FIG. 2-11).

Hydraulic Assembly (continued)

IMPORTANT

- *All cylinders have been factory preset. Measure the dimensions (adjust if necessary) before installing (Fig. 2-5).*

NOTE: Hydraulic cylinder should be installed with hydraulic ports facing up.

1. **30-34' PERFECTA UNITS (15' BASE)**
   Install base end of hydraulic cylinder to the main frame cylinder mount using a 1" Dia. x4" pin (85631) and two 1/4" Dia. x 1 7/8" spiral pins (91144-165) (FIG. 2-12).

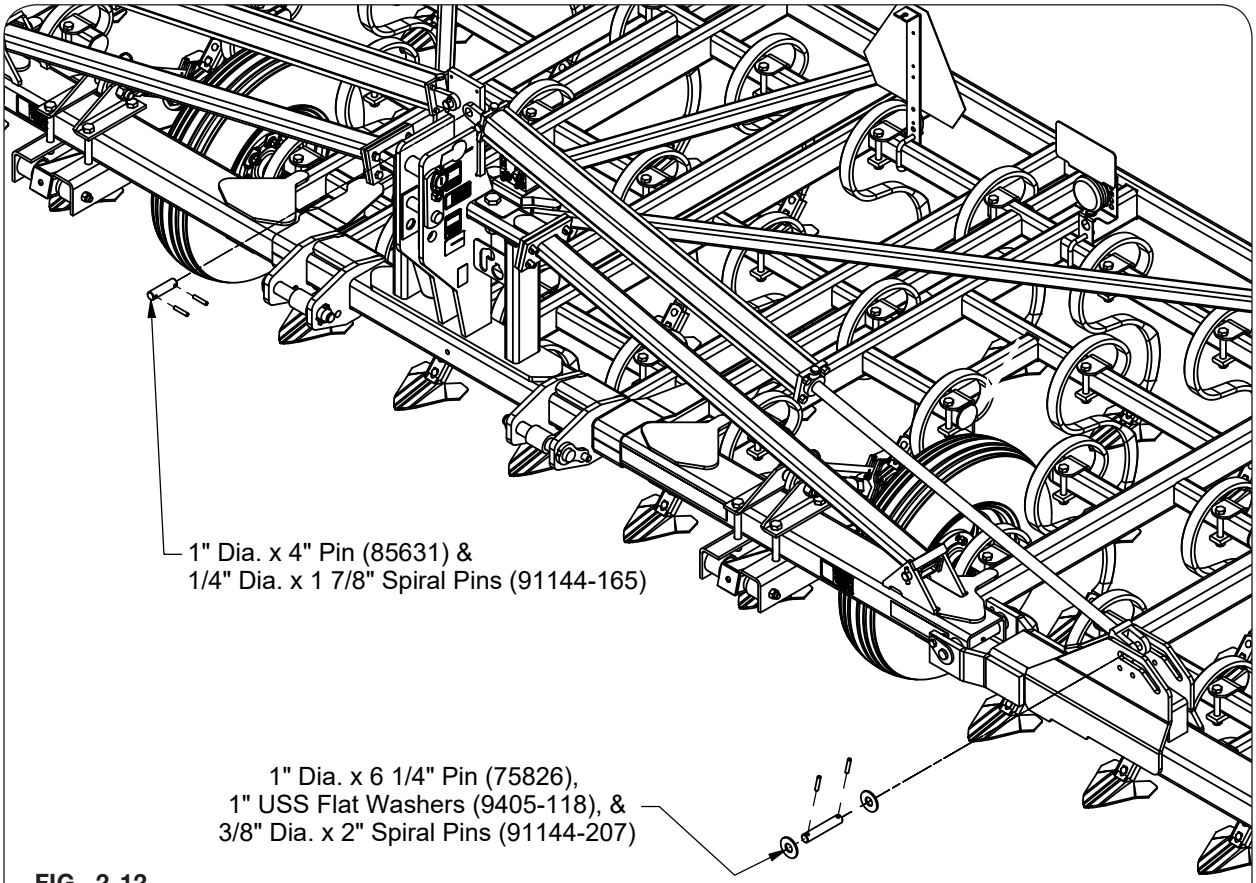


FIG. 2-12

Hydraulic Assembly (continued)

1. **36-40' PERFECTA UNITS (18' BASE)**
   Install base end of hydraulic cylinder to the front strut weldments using a 1" Dia. x 4" pin (85631) and two 1/4" Dia. x 1 7/8" spiral pins (91144-165) (FIG. 2-13).

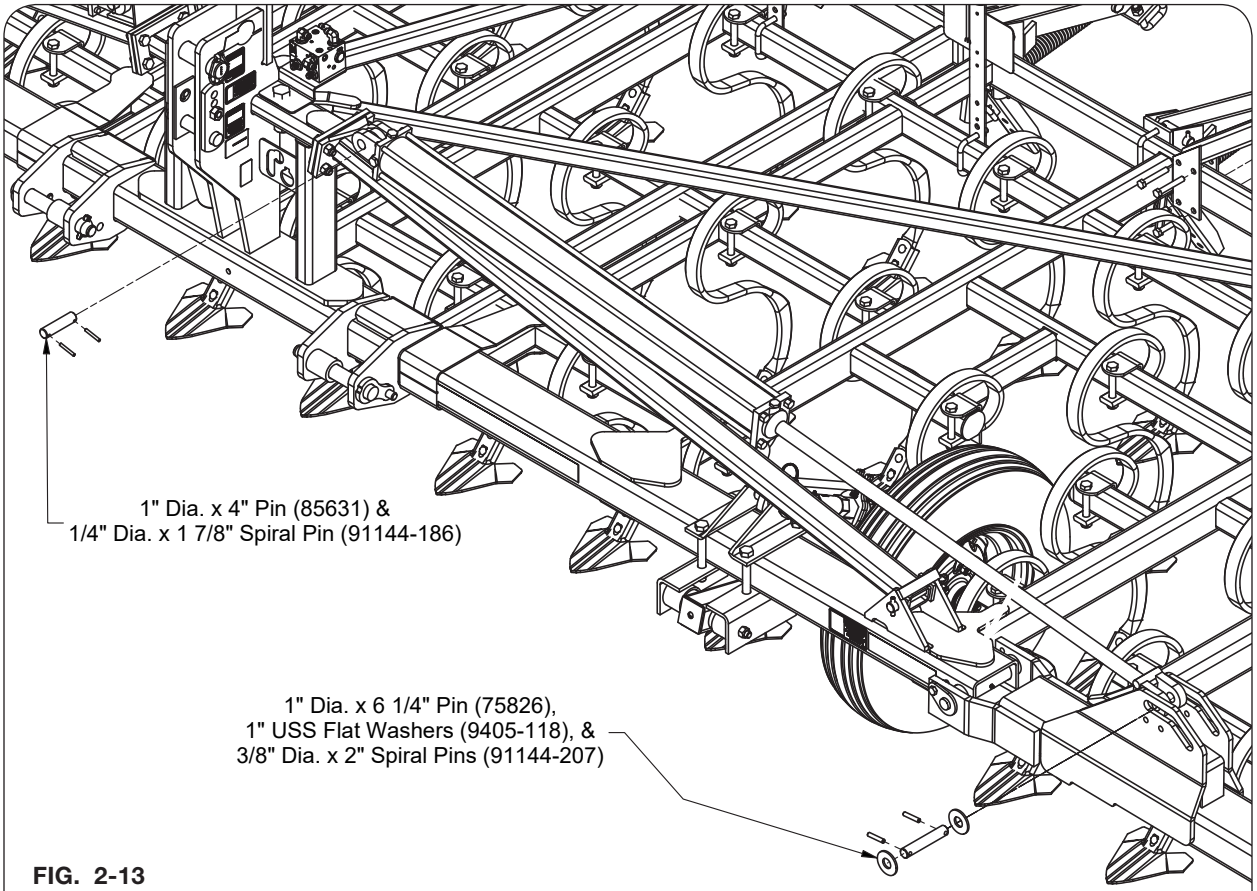


FIG. 2-13

2. Fasten the rod end of the cylinder and the cylinder stop bracket (75737B) to the wing linkage using a 1" Dia. x 6 1/4" pin (75826), two 1" USS flat washers (9405-118), and two 3/8" Dia. x 2" spiral pins (91144-207) (FIG. 2-13 & FIG. 2-14).

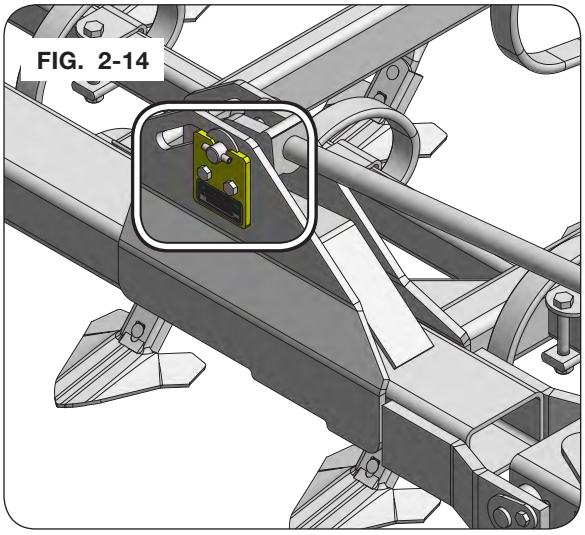


FIG. 2-14

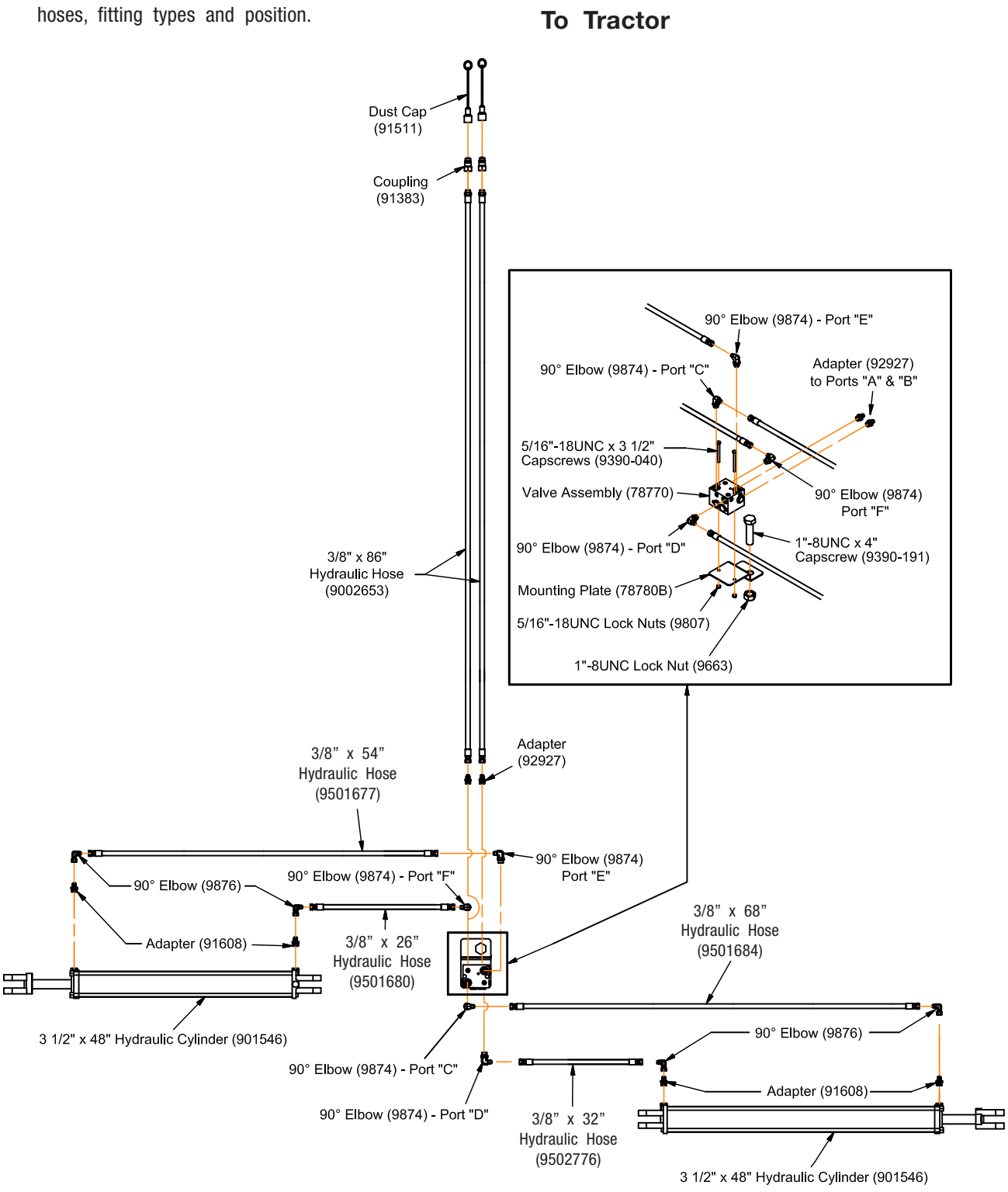
IMPORTANT

- *MUST remove yellow loading brackets before any field operation.*

Hydraulic Assembly (continued)

HOSE ROUTING DIAGRAM — 30-34' PERFECTA UNITS (15' BASE)

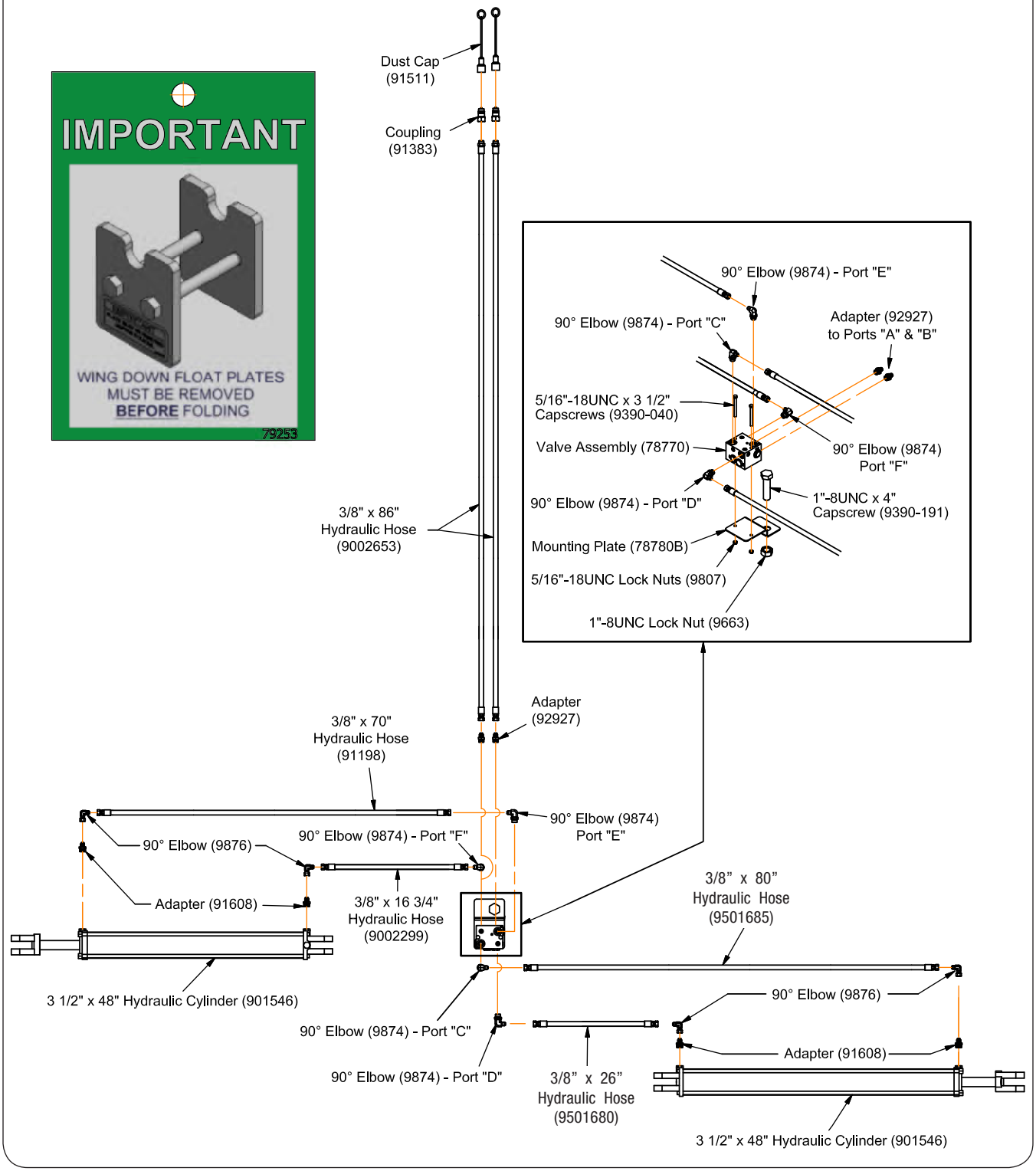
For Main Frame Plumbing, Refer to PARTS Section for hoses, fitting types and position.



Hydraulic Assembly (continued)

HOSE ROUTING DIAGRAM — 36-40' PERFECTA UNITS (18' BASE)

For Main Frame Plumbing, Refer to PARTS Section for hoses, fitting types and position.



Hydraulic Assembly (continued)

3. Install hydraulic components to the machine.

IMPORTANT

- *Do not use any tape or thread sealant as all fittings have mechanical or O-ring seals. This prevents contamination from tape or thread sealants from entering the tractor's hydraulic system.*

NOTE: Refer to the "Hose Routing Diagram" for routing and positioning of the hydraulic components onto the frame.

⚠ WARNING

- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**

4. Attach unit to a tractor and then purge air from the hydraulic system.

IMPORTANT

- *Be sure the wing components DO NOT catch or snag on the floor (on rough spots, or uneven grade) when unit is first raised for transport.*

Purging Hydraulic System

Purge the air from both the main hydraulic system and the transport hydraulic system.

A. Disconnect the rod end of all cylinders in a circuit and block up cylinders so the rod can completely extend and retract without contacting any other component.
B. Pressurize the system and maintain system at full pressure for at least 5 seconds after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
C. Check oil reservoir in hydraulic power source and re-fill as needed.
D. Pressurize system again to reverse the motion of step B. Maintain pressure on system for at least 5 seconds after cylinder rods stop moving. Check that cylinders have fully extended or retracted.
E. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in Torque Specifications in "MAINTENANCE" Section.
F. Repeat steps B, C, D, and E 3-4 times.
G. De-pressurize hydraulic system and connect cylinder rod clevises to their mating lug.

⚠ WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

When the unit is folded, check to make sure the wings are resting on the wing rest stands.

Hydraulic Assembly (continued)

Hydraulic System Checks

ON ALL UNITS - CHECK THE FOLLOWING:

ROUTING OF ALL HOSES:
Hoses should not be kinked, twisted, or rubbing against sharp edges.

FITTINGS AND CONNECTIONS:
Check for leaks. Refer to "Torque Chart" in "MAINTENANCE" Section.

HOSES
Be sure hoses have room to "FLEX". Hoses must be secured with tie straps.

⚠ WARNING

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

Be sure to relieve all hydraulic pressure before disconnecting any lines between implement and tractor hydraulic system. Keep all guards and shields in place.

Hydraulic Storage

Hoses are to be stored on the mast as shown in FIG. 2-15 when unit is in storage.

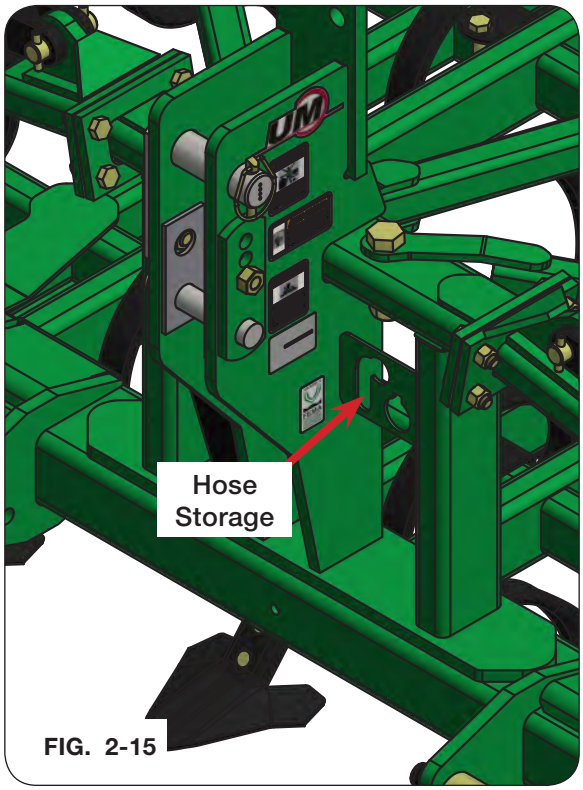


FIG. 2-15

Mounting Arm Assembly - Single Basket

Assembly of the one-bar/Rolling Harrow baskets to the machine is best accomplished with the unit setting on the ground.

See "Overhead Layouts" (on Positioning Components) in "ASSEMBLY" Section for dimensions showing mounting arm locations depending on style of leveler bar and harrow sizes and location on rear of the machine.

NOTE: For ease of assembly, install all hardware loosely until assembly is complete, then tighten.

1. Install mounting arms onto the rear of the main frame tube with one 1/2”-13UNC U-bolt (91434) and two locknuts (9800) per arm (Fig. 2-17).

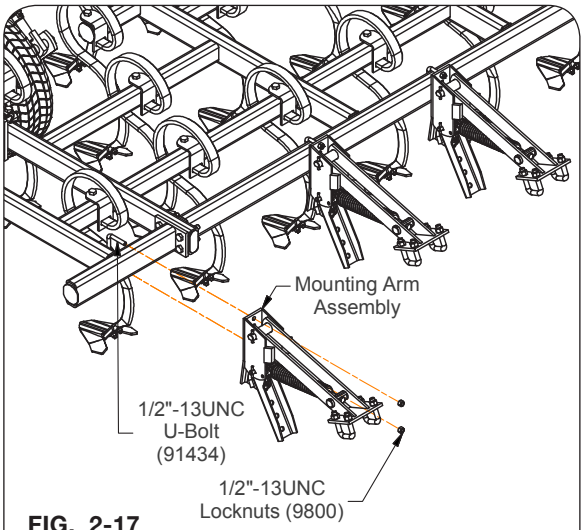


FIG. 2-17

NOTE: Refer to the "PARTS" Section for individual components of the "Rolling Harrow" and "One Bar".

Mounting Arm Assembly - Double Basket

Assembly of the one-bar/Rolling Harrow baskets to the machine is best accomplished with the unit setting on the ground.

See "Overhead Layouts" (on Positioning Components) in "ASSEMBLY" Section for dimensions showing mounting arm locations depending on style of leveler bar and harrow sizes and location on rear of the machine.

NOTE: For ease of assembly, install all hardware loosely until assembly is complete, then tighten.

1. Install mounting arms onto the rear of the main frame tube with two 5/8”-11UNC x 7 1/4” U-bolt (9501753) and four 5/8”-11UNC lock nuts (9801) per arm (FIG. 2-17A). Attach the front of the mounting arm to the frame with one 1/2”-13UNC U-bolt (95161) and two lock nuts (9800) per arm (FIG. 2-17A).

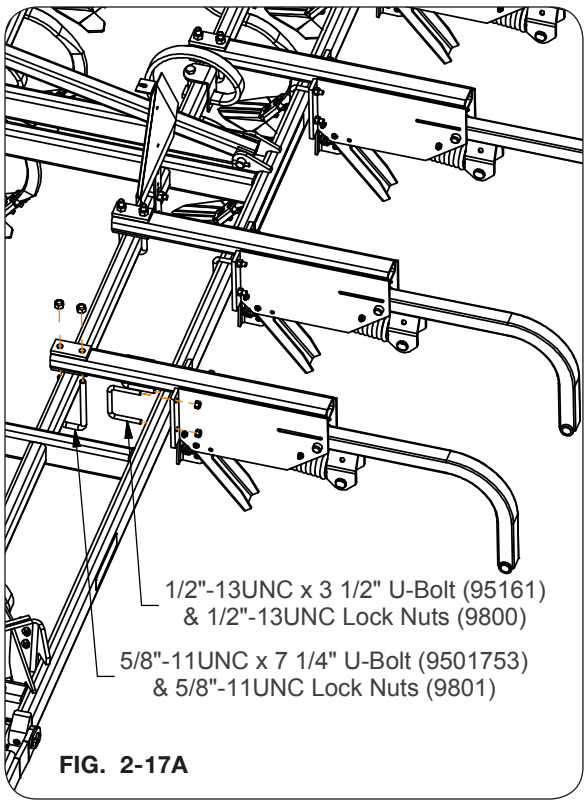


FIG. 2-17A

NOTE: Due to some mounting location interference, use mounting kit (77059) (FIG. 2-17B).

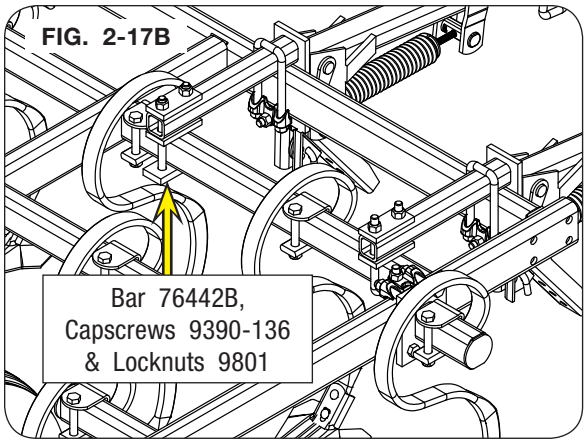


FIG. 2-17B

NOTE: Refer to the "PARTS" Section for individual components of the "Rolling Harrow" and "One Bar".

Wing Stand Assembly — 30-34’ Perfecta (15’ Base)

NOTE: For ease of assembly, install all hardware loosely until assembly is complete, then tighten.

1. Position the wing stand assemblies onto the rear of the main frame tube with the wing stand plates (75666B) placed on the inside of the rear main frame as shown in FIG. 2-18. Secure with the 1/2”-13UNC hardware provided.

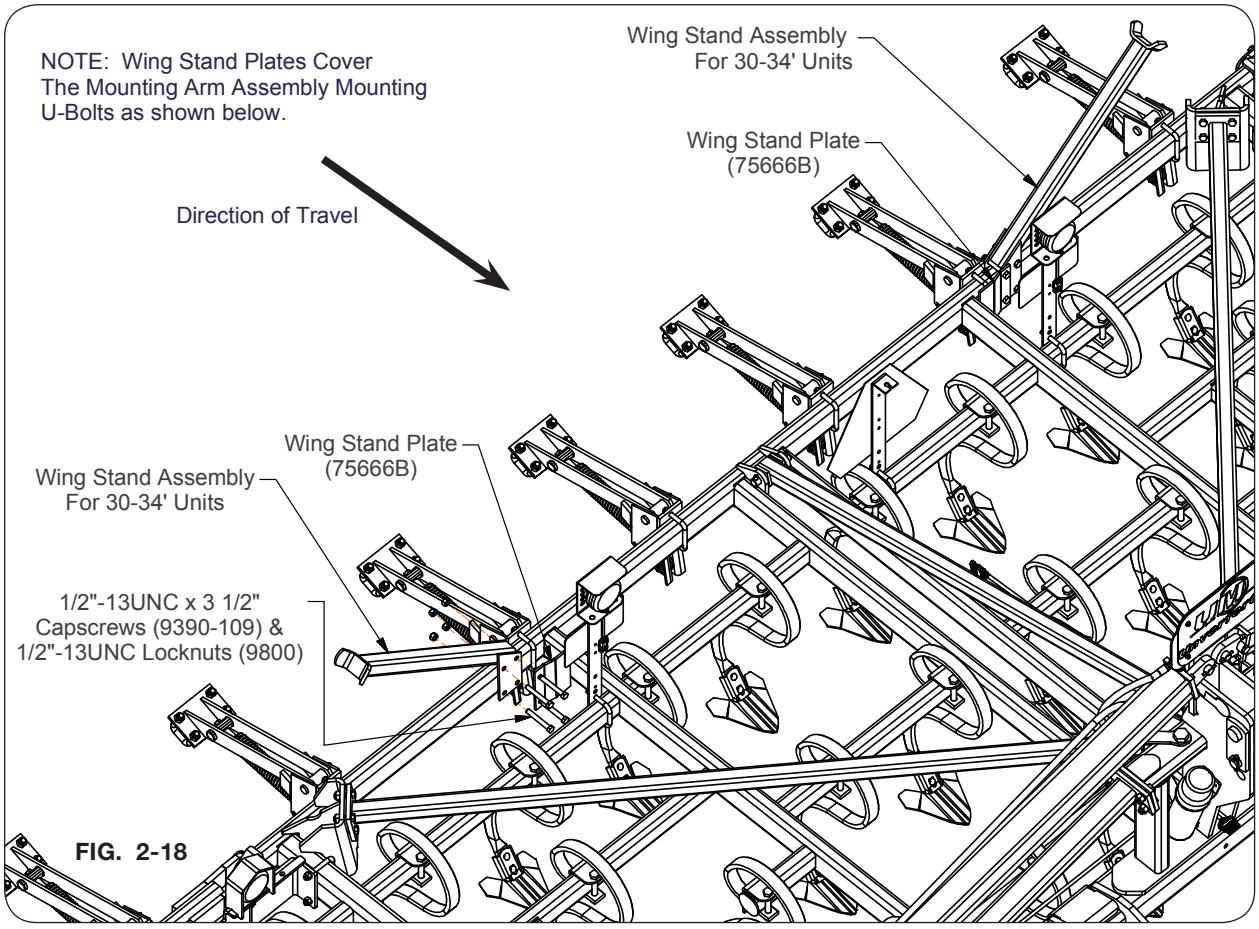


FIG. 2-18

Wing Stand Assembly — 36-40’ Perfecta (18’ Base)

NOTE: For ease of assembly, install all hardware loosely until assembly is complete, then tighten.

1. Attach the wing stand assemblies onto the rear of the main frame tube with the 1/2”-13UNC hardware provided as shown in FIG. 2-19.

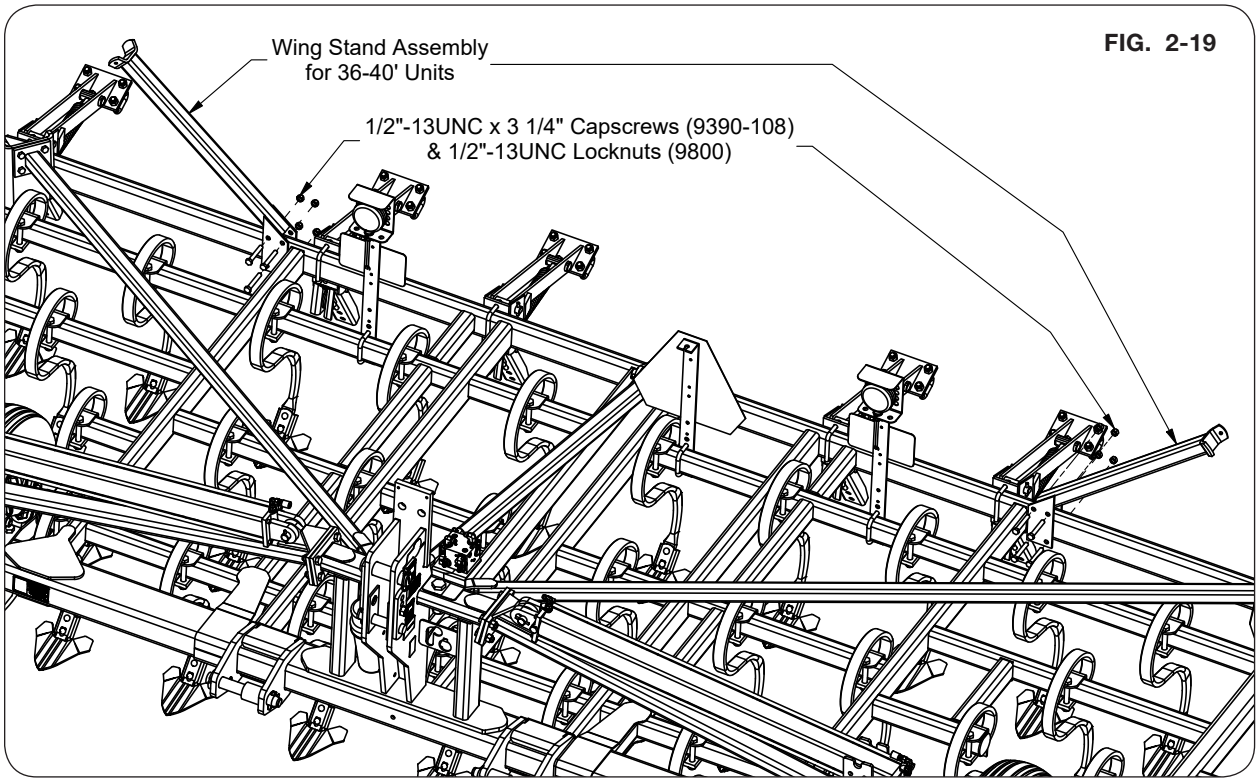


FIG. 2-19

Leveler Bar Assembly

WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

1. Raise machine to allow sufficient clearance for leveling bars. Block the machine to prevent the machine from accidentally lowering.
2. See OPERATION section for procedure to adjust leveling bar tension.
3. Determine the style of leveler bar to be installed and follow instructions for that style. Unverferth Manufacturing does not recommend mixing leveler bar styles on a machine. See torque chart for proper tightening of all leveler bar hardware.

Spike Tooth Leveler Bar

1. Refer to “Overhead Layouts” in SET UP section for determining which leveler bars are required for each machine section.
2. Remove the 5/8”-11UNC x 1 1/4” capscrews (9390-121), square washers (83284), and 5/8-11UNC locknuts (9801) from the angle of the leveler bar assembly (Fig. 2-20).
3. Center the leveler bar assembly between the mounting arms and align with the proper set of mounting holes. Mount the spike leveler bars in the lowest holes on the mounting arms unless directed otherwise. Place the flats of the angles against the mounting arms and insert the capscrews. Place the square washers inside the mounting arms and secure with the locknuts as shown in Fig 2-21.

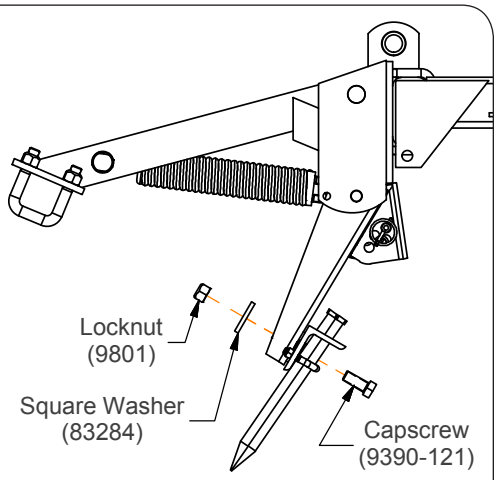


FIG. 2-20

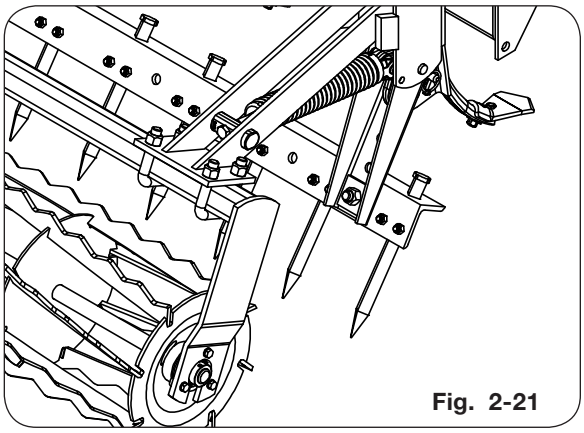


Fig. 2-21

Leveler Bar Assembly (continued)

Diagonal Tooth Leveler Bar

Diagonal tooth leveler bars come in right-hand and left-hand assemblies. The teeth will point diagonally to the outside of the machine on each assembly.

1. Refer to "Overhead Layouts" in SET UP section for determining which leveler bars are required for each machine section.

2. The dimensions on the "Overhead Layouts" identify which holes must be used for mounting. The diagonal bars attach to the machine's mounting arms using the 1/2"-13UNC x 3" carriage bolts (9388-110), two square washers (3788B), 1/4" thick flat washers (91069B), 1/2" washers (9405-088), and 1/2"-13UNC locknuts (9800) (Fig. 2-22). Often, this mounting hardware will not be assembled to the diagonal bar at the correct location shown by the layouts. Switch mounting hardware to the position shown on "Overhead Layouts" in this section.

3. Mount the diagonal bar to the MIDDLE hole on the machine's mounting arms (Fig 2-22).

IMPORTANT

- *Machine damage will result if the diagonal leveler bars are installed in any hole in the machine's mounting arms other than the middle.*

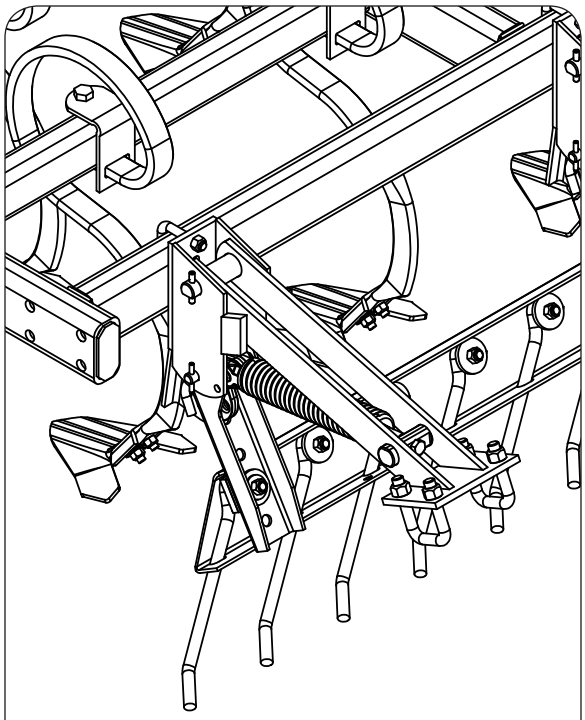


FIG. 2-22

Rolling Harrow Assembly - Single Basket

⚠ WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 500 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

1. Refer to table (below) for determining Rolling Harrow width required, on each section.

ROLLING HARROW WIDTH	ROLLING HARROW FRAME-WIDTH
4'	47"
5'	59"
6'	71"

NOTE: The roller can be set for normal (aggressive) or firming action, refer to "Field Adjustments" in "OPERATIONS" Section.

2. Position "Rolling Harrow" assembly to mounting arms, align holes and install 5/8”-11 U-bolt (85620) and secure with locknuts (9801) (Fig. 2-23). Torque according to Torque Chart in "MAINTENANCE" Section, tightening evenly to have the same number of threads exposed on each side.

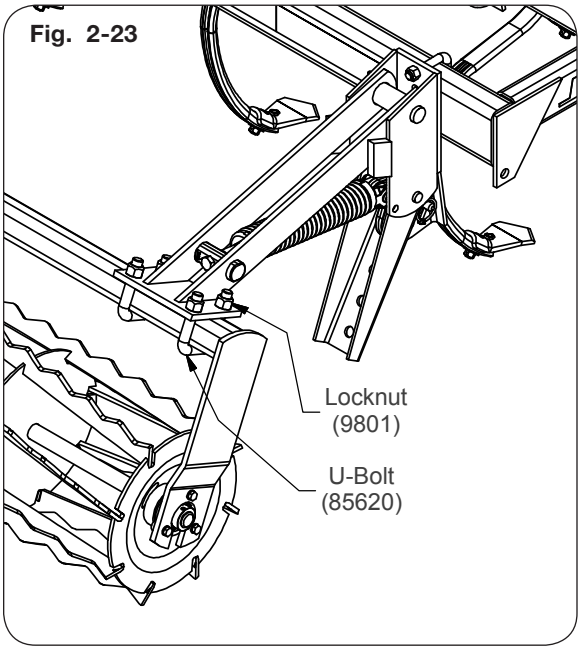


Fig. 2-23

Rolling Harrow Assembly - Double Basket

⚠ WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 500 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

1. Refer to table (below) for determining Rolling Harrow width required, on each section.

ROLLING HARROW WIDTH	ROLLING HARROW FRAME-WIDTH
4'	47"
5'	59"
6'	71"

NOTE: The roller can be set for normal (aggressive) or firming action, refer to "Field Adjustments" in "OPERATIONS" Section.

2. Position "Rolling Harrow" assembly to mounting arms, align holes and install 1” Dia. x 5 1/8” pins (9500423) and 5/16” Dia. x 2” spiral pins (91144-186) (Fig. 2-23A). Torque according to Torque Chart in "MAINTENANCE" Section, tightening evenly to have the same number of threads exposed on each side.

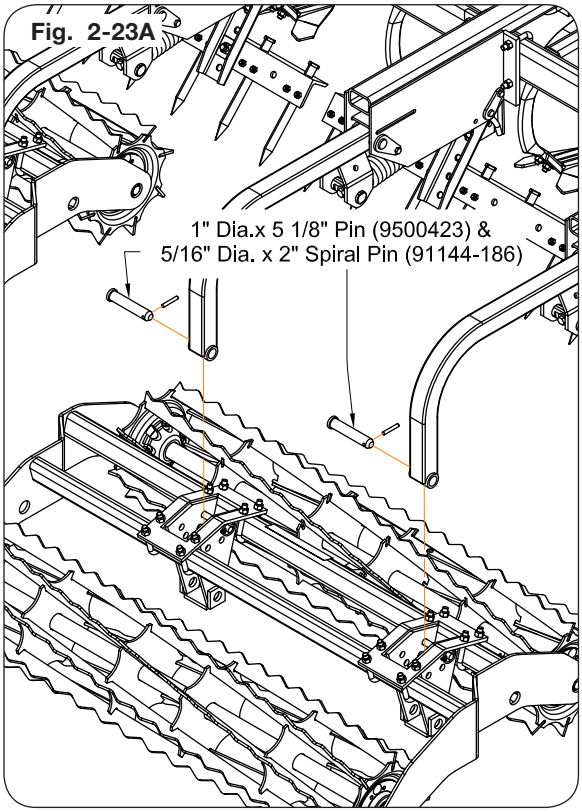


Fig. 2-23A

Drum Scraper Assembly

⚠ WARNING

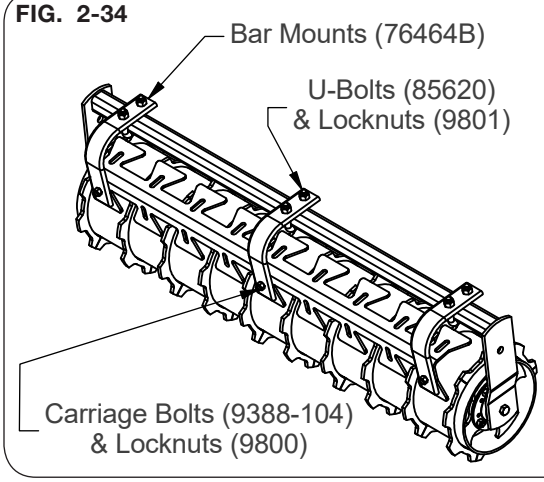
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**

1. Locate scrapers, bar mounts and hardware bags.
2. Install arm (76015B) to scraper using 1/2"-13UNC x 1 1/2" carriage bolts (9388-104) passing bolt through arm first. (FIG. 2-34)

NOTE: 3' baskets require 2 bar mounts.
4' baskets require 2 bar mounts.
5' Baskets require 3 bar mounts.
6' baskets require 4 bar mounts.

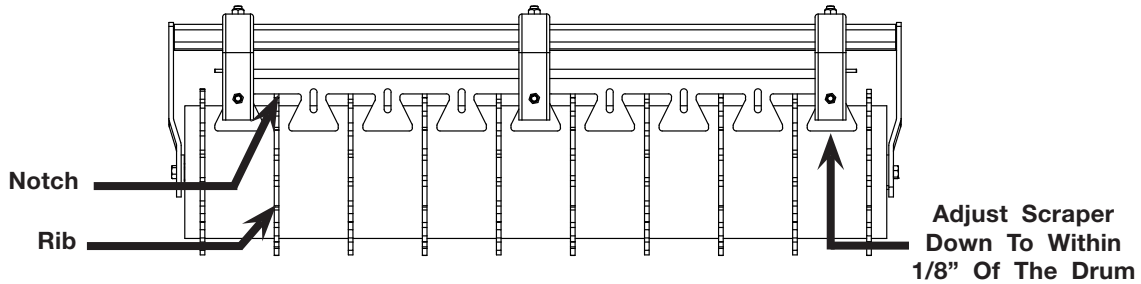
3. Install 1/2" flat washers (9405-088) and 1/2"-13UNC locknuts (9800) on scraper. (FIG. 2-34)
4. Slide arm all the way to the bottom of the scraper slot.
5. Lay bar mounts/scraper assembly on top of basket frame near working position. (FIG. 2-34)
6. Install U-bolts (901837) from bottom of basket frame through arm. (FIG. 2-34)

FIG. 2-34



7. Center notch in scraper over ribs on drums and secure scraper assembly with four 1/2"-13UNC locknuts per bar mount. (FIG. 2-35)
8. Adjust scraper down to within 1/8" of the drum by loosening the locknuts on the carriage bolts, re-position scraper and secure with locknuts. (Some conditions may require the scraper to touch the drum to effectively scrape. Keep contact pressure to a minimum to prevent excessive wear to the scraper or drum.) Torque locknuts, refer to Torque Chart in MAINTENANCE section.

FIG. 2-35 **Center Notch In Scraper Over Ribs On Drum Roller**



Drum Roller Assembly

WARNING

- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 750 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

1. Refer to table (below) for determining Rolling Harrow width required, on each section.

ROLLING HARROW WIDTH	ROLLING HARROW FRAME-WIDTH
4'	47"
5'	59"
6'	71"

2. Position “Drum Roller” assembly to mounting arms, align holes and install 5/8”-11 U-bolts (85620) and secure with locknuts (9801) (Fig. 2-23). Torque according to Torque Chart in “MAINTENANCE” Section, tightening evenly to have the same number of threads exposed on each side.

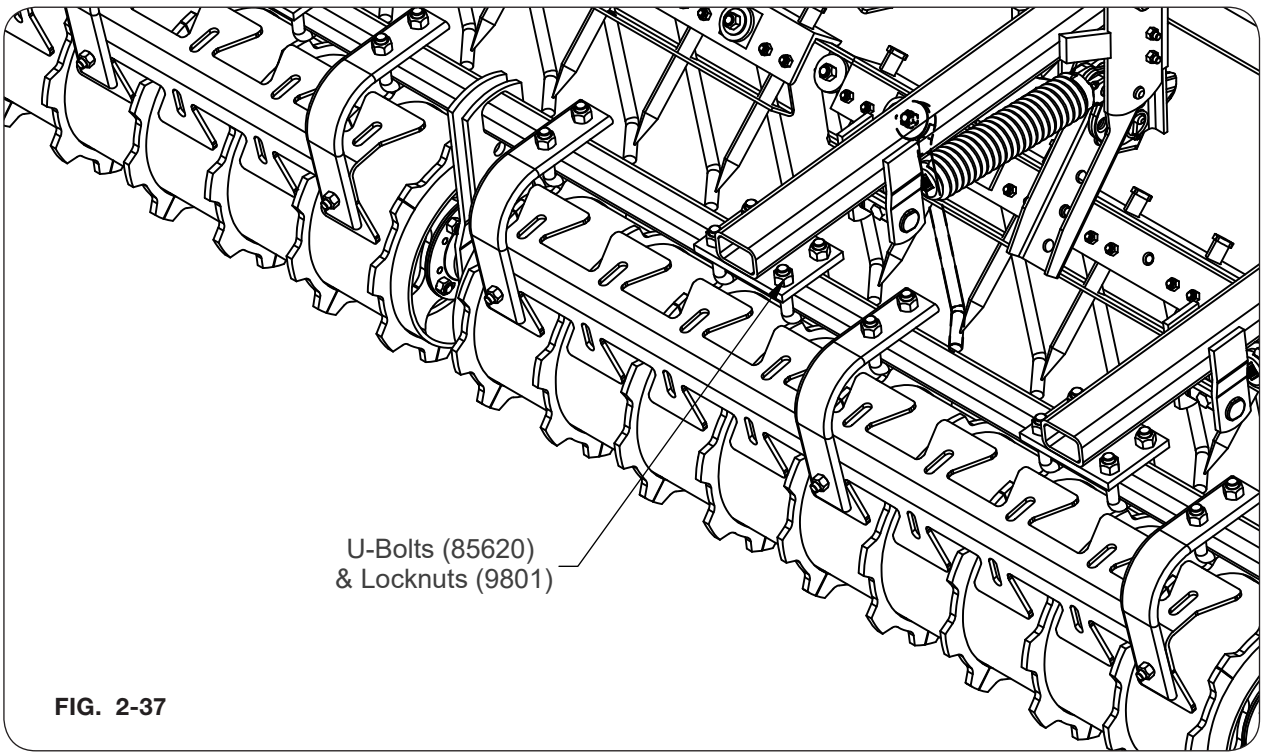


FIG. 2-37

Stabilizer Wheels

IMPORTANT

- *For ease of assembly install hardware loosely until assembly is complete, then tighten all hardware.*

1. Use the "Overhead Layouts" (on Positioning Components) in the SET UP section to determine the wheel location on the cultivator frame.

2. Attach the wheel and tire (81145) to the stabilizer wheels with the hub 1/2”-20UNF beveled nuts. (FIG. 2-24)

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE “MAINTENANCE” SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

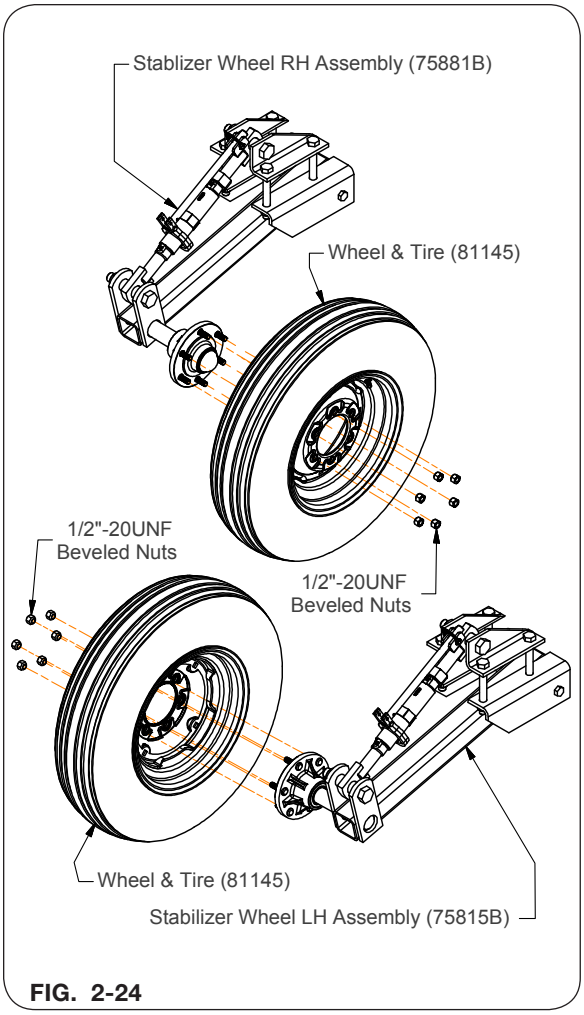
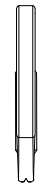


FIG. 2-24

Overhead Layout

Use these "Overhead Layout" drawings (on the following pages) as an assembly guide for the positioning of components onto the cultivator frame.

NOTE: All dimensions are in inches - unless otherwise specified.

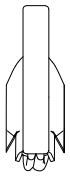


Standard
S-Tine (9952)
with Point (9974)

Model 10

Standard
S-Tine (9952)
with Sweep (91381)

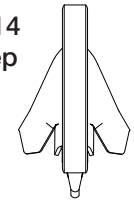
Model 12
4” Sweep



Heavy-Duty
S-Tine (94138)
with Sweep (9500465)

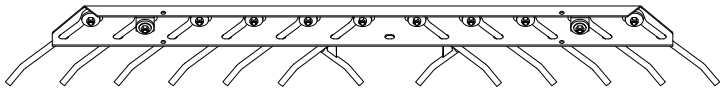
Heavy-Duty
S-Tine (94138)
with Point (95848)

Model 14
7” Sweep

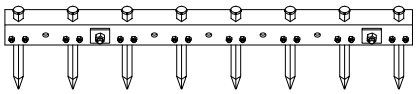


Heavy-Duty Edge
Bent S-Tine (91495)
with Sweep (93687)

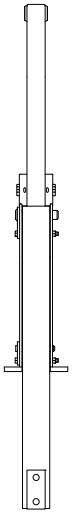
Heavy-Duty Edge
Bent S-Tine (91495)
with Point (95848)



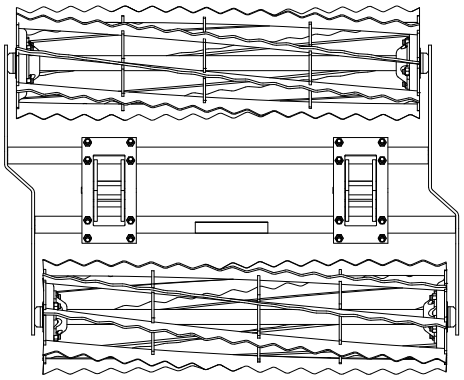
Diagonal One-Bar



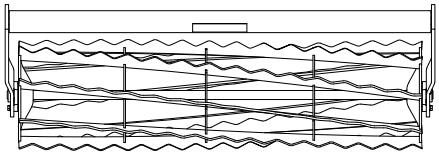
Spike Tooth One-Bar



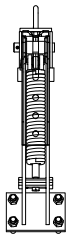
Double Rolling Harrow
Mounting Arm



Double Rolling Harrow Basket

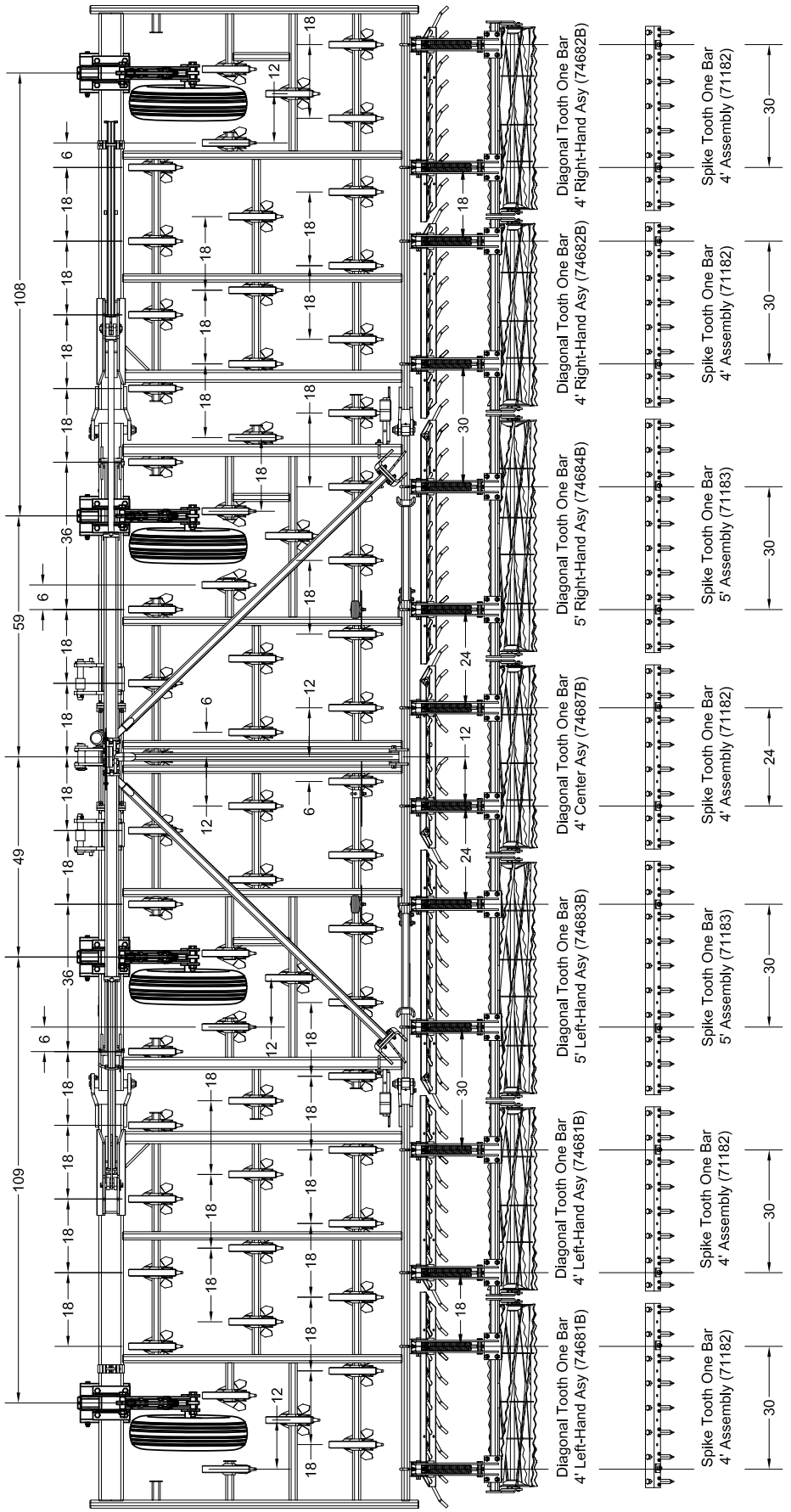


Single Rolling Harrow Basket

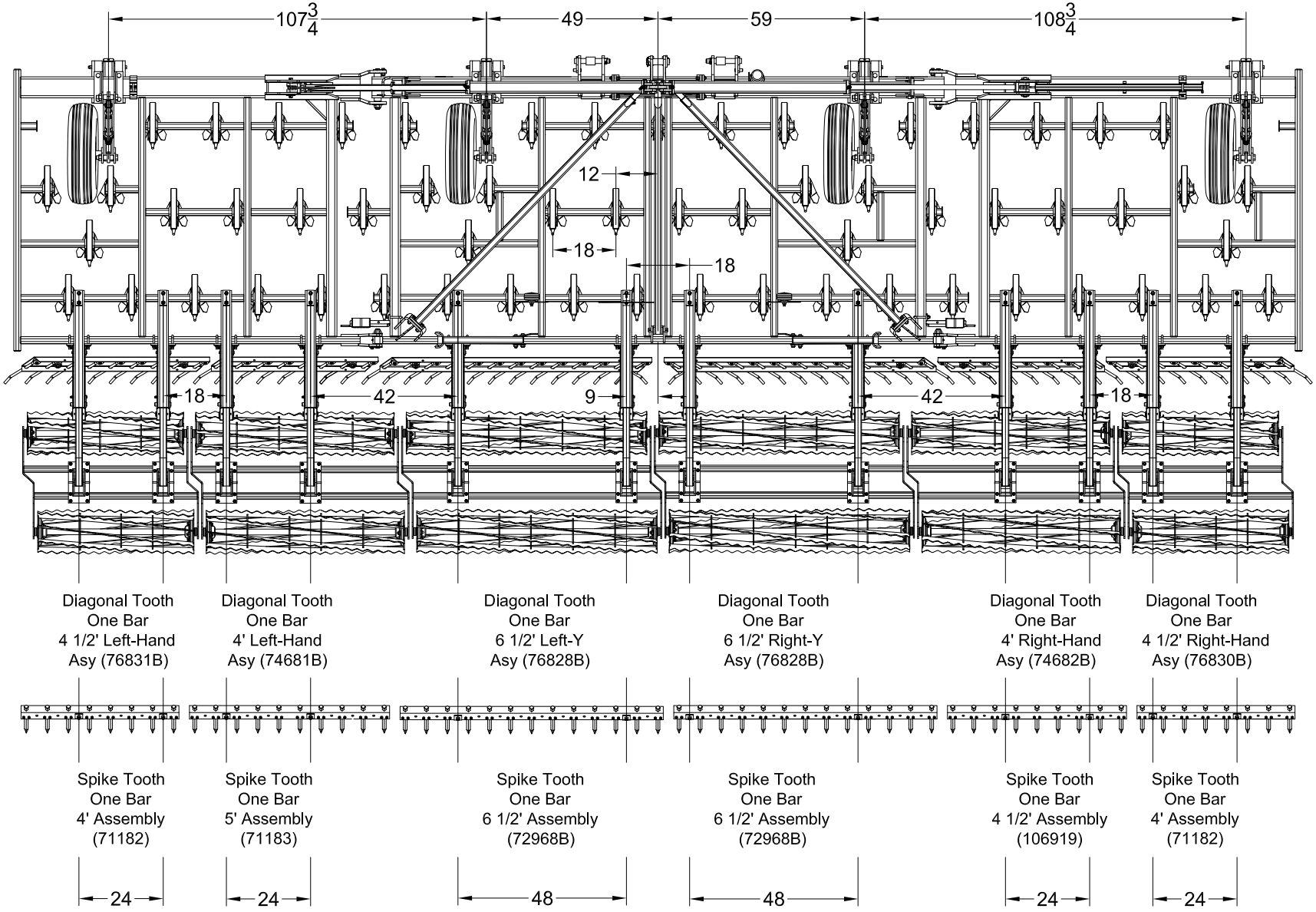


Single Rolling Harrow
Mounting Arm

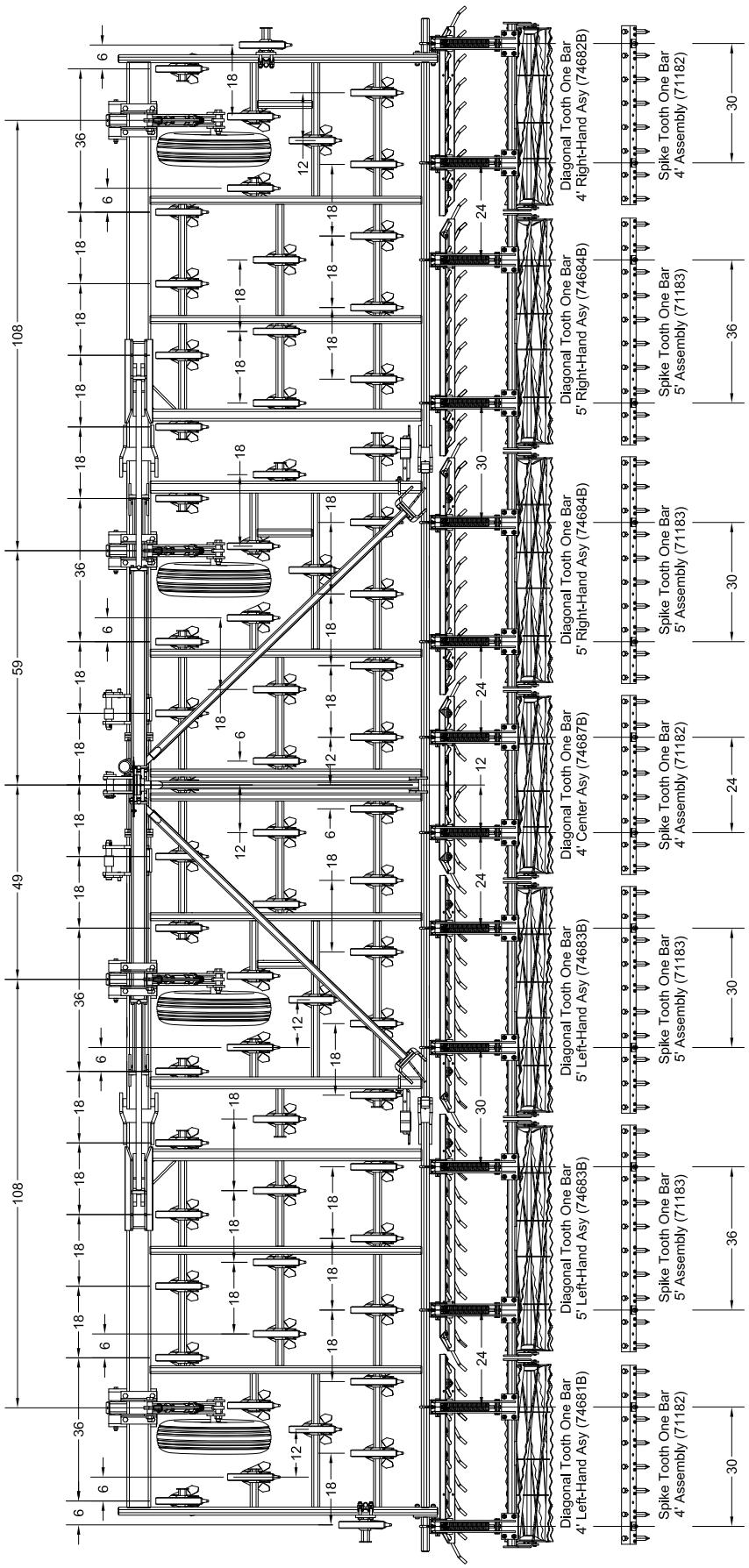
Overhead Layout — Folding Perfecta Model - 30 Ft (15 Ft. Base with 7 1/2 Ft. Wings)



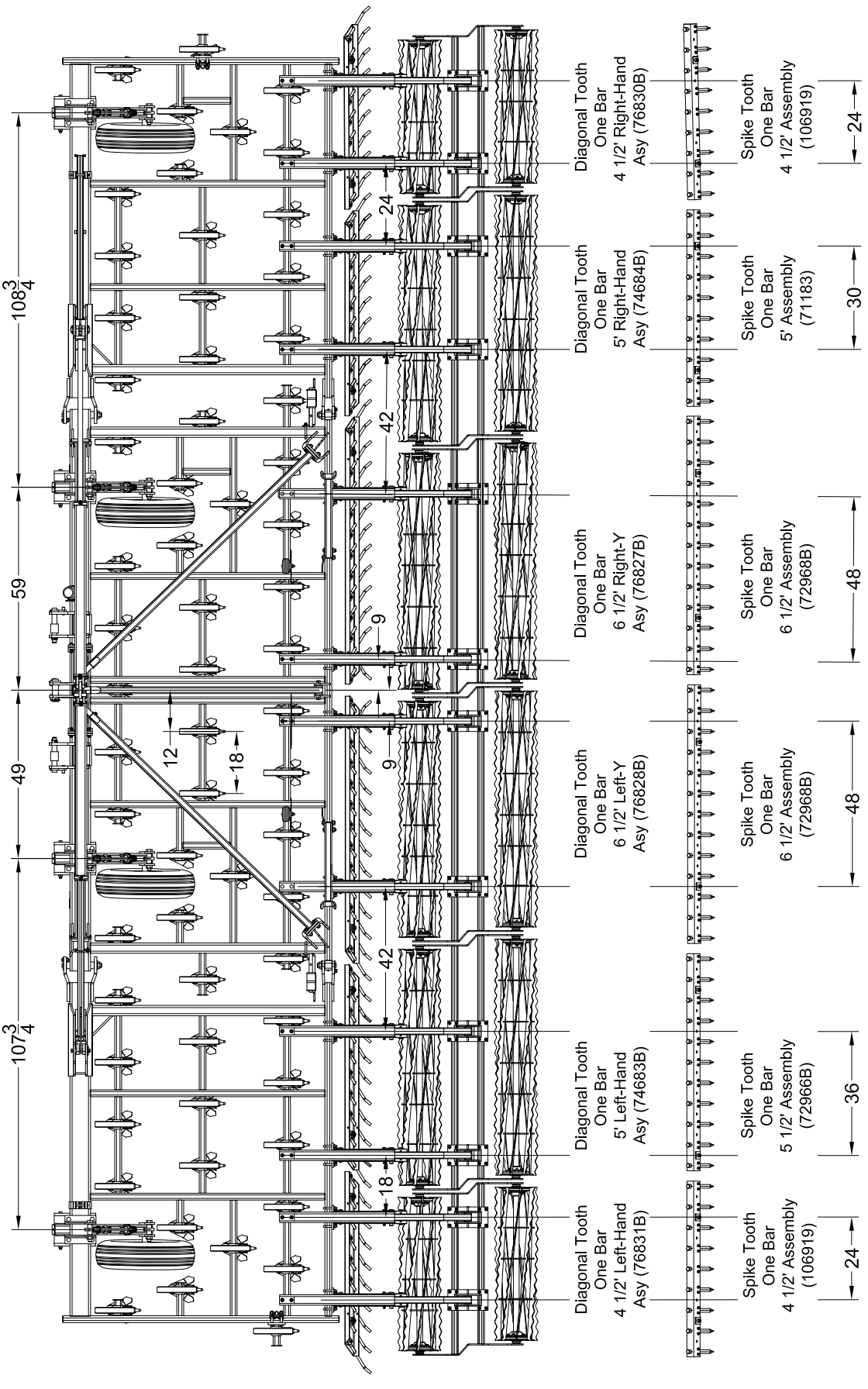
Overhead Layout — Folding Perfecta Model - 30 Ft (15 Ft. Base with 7 1/2 Ft. Wings)



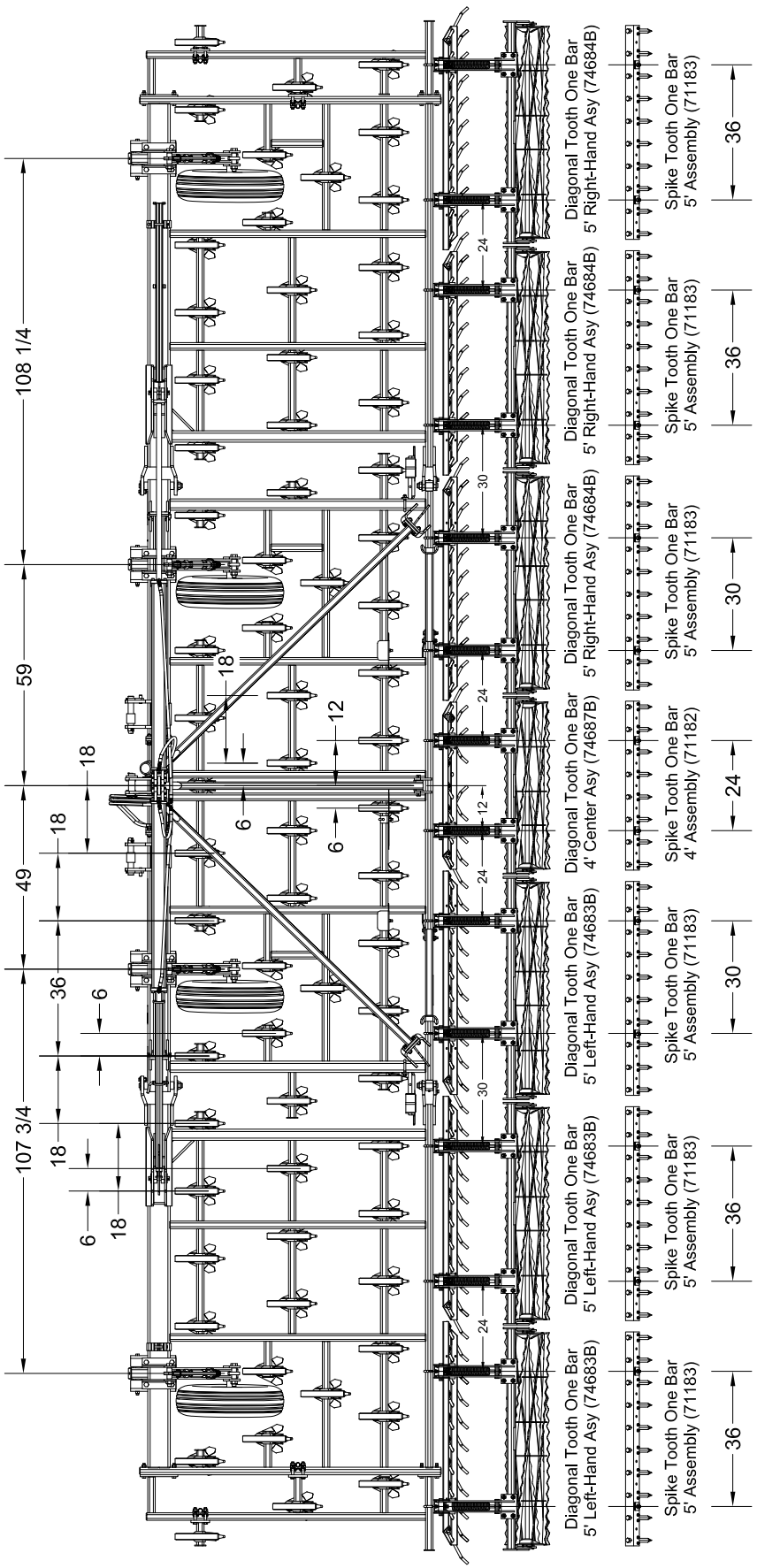
Overhead Layout — Folding Perfecta Model - 32 Ft (15 Ft. Base with 8 1/2 Ft. Wings)



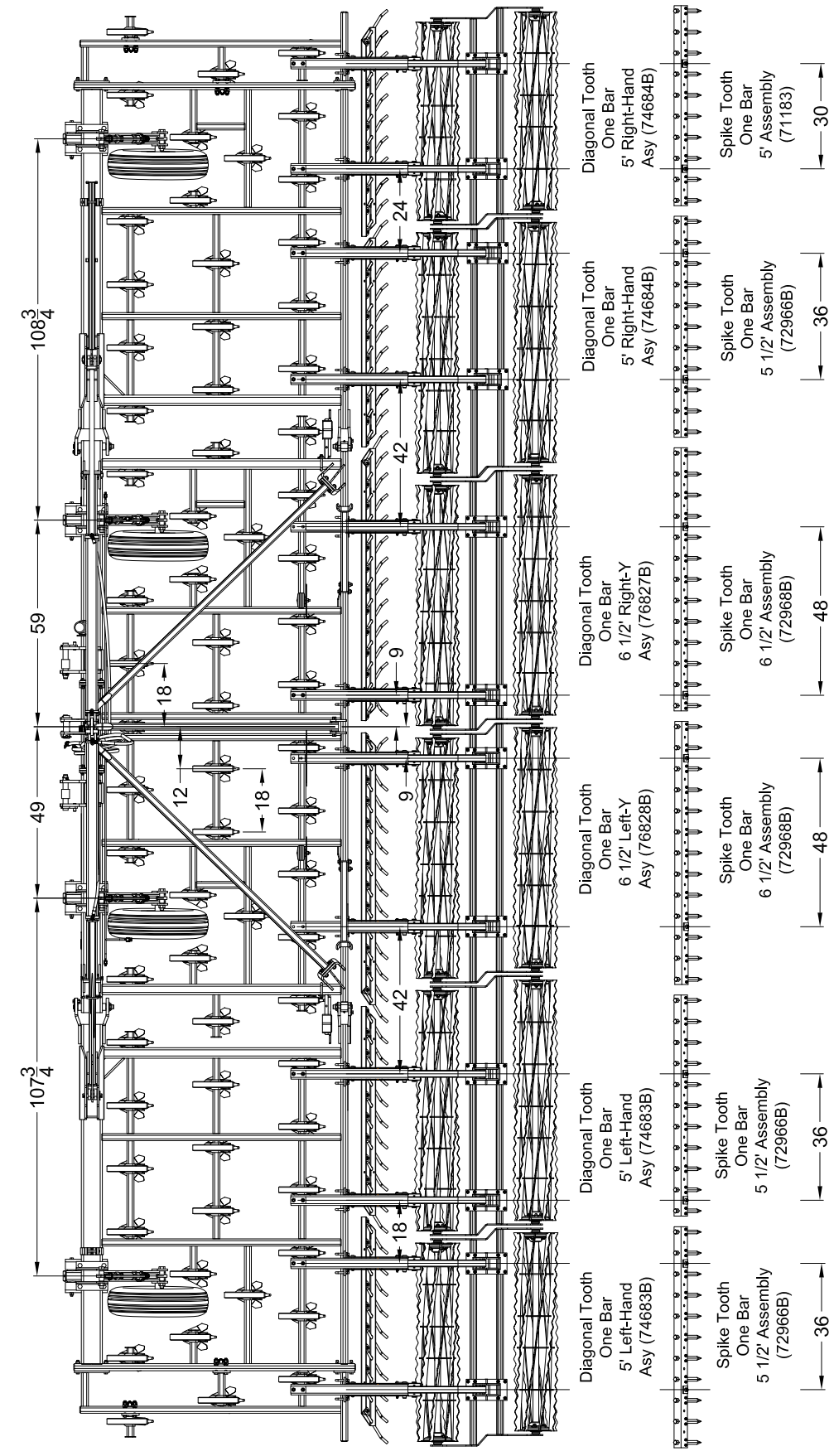
Overhead Layout — Folding Perfecta Model - 32 Ft (15 Ft. Base with 8 1/2 Ft. Wings)



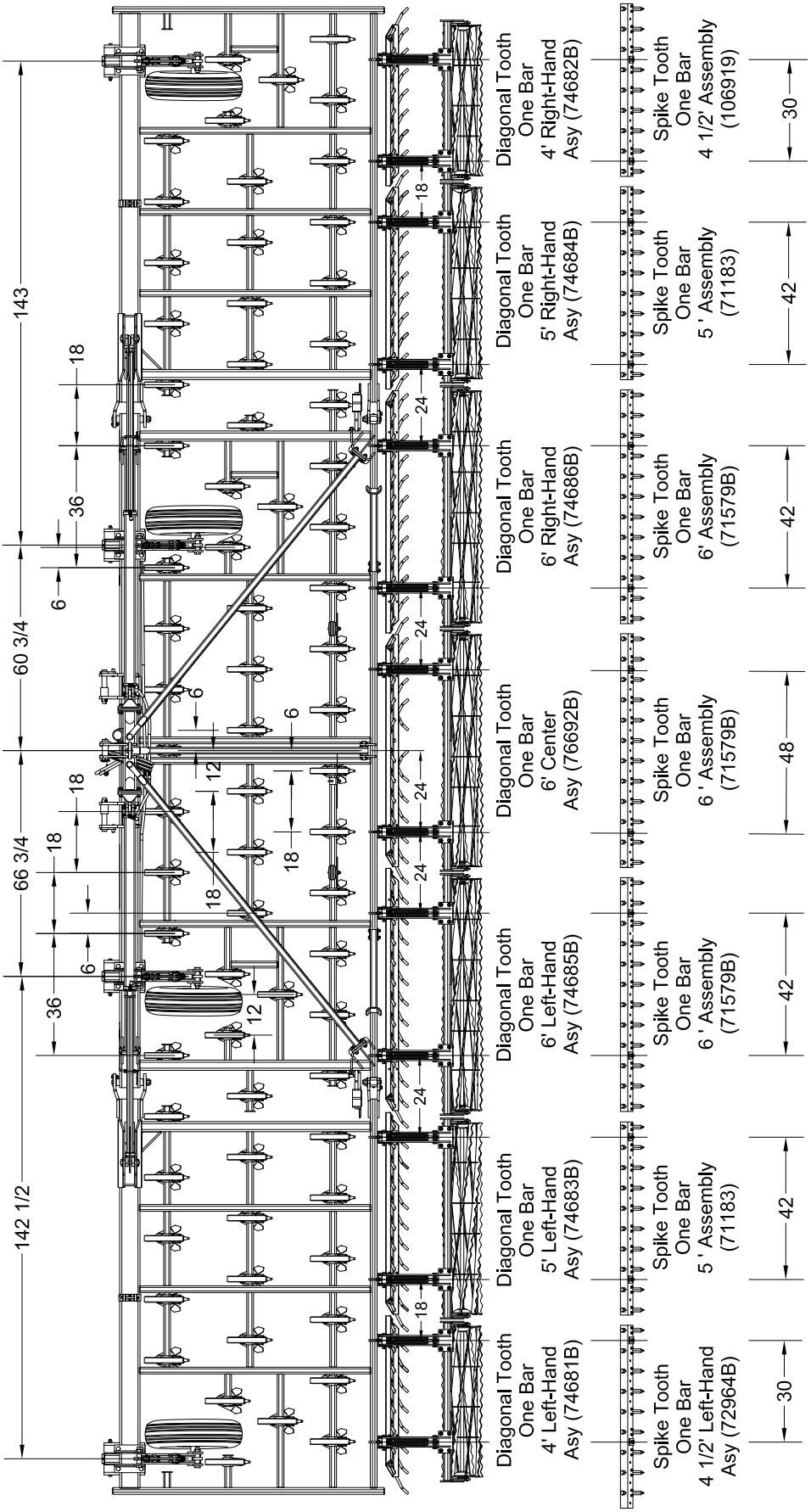
Overhead Layout — Folding Perfecta Model - 34 Ft (15 Ft. Base with 9 1/2 Ft. Wings)



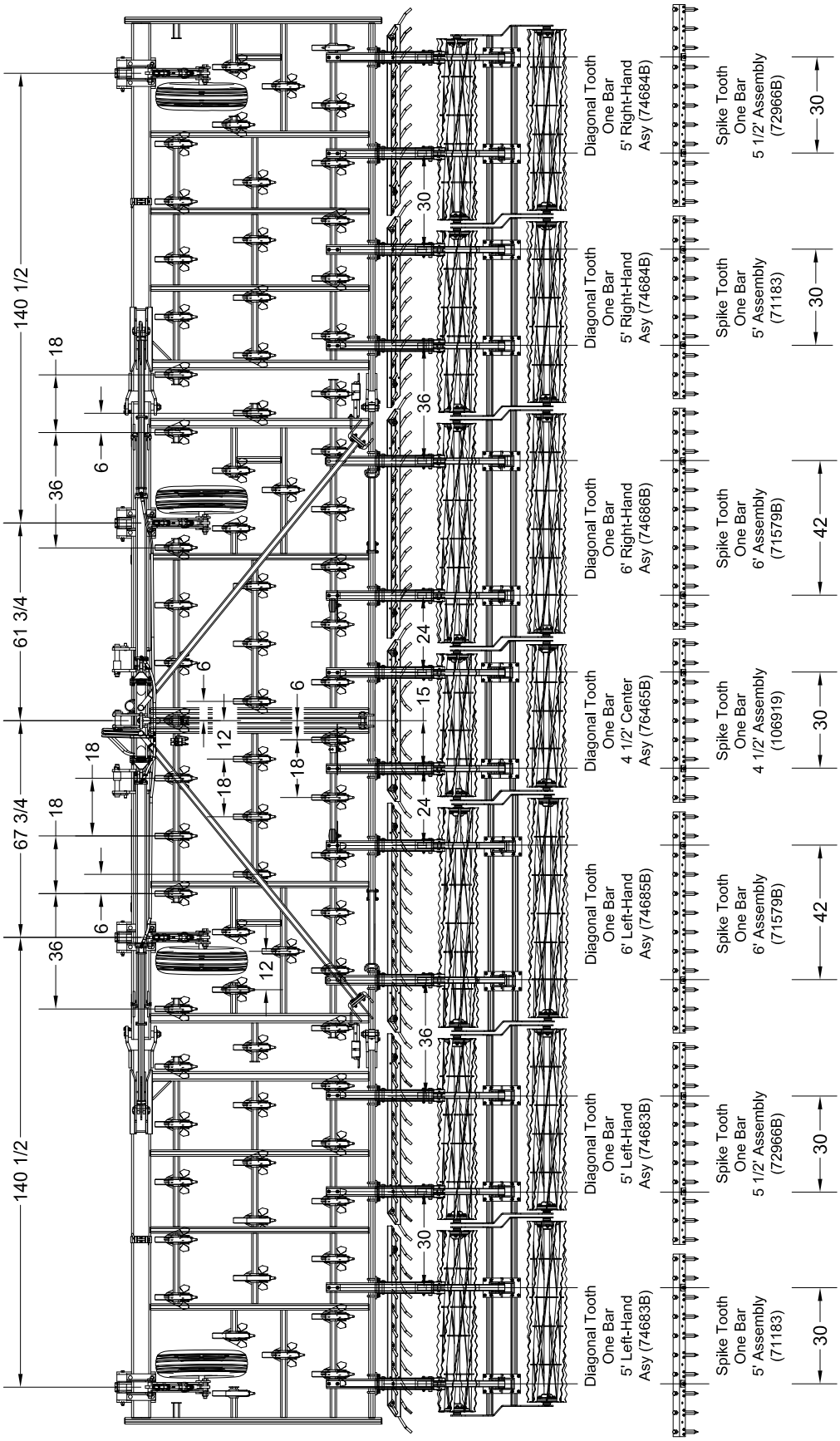
Overhead Layout — Folding Perfecta Model - 34 Ft (15 Ft. Base with 9 1/2 Ft. Wings)



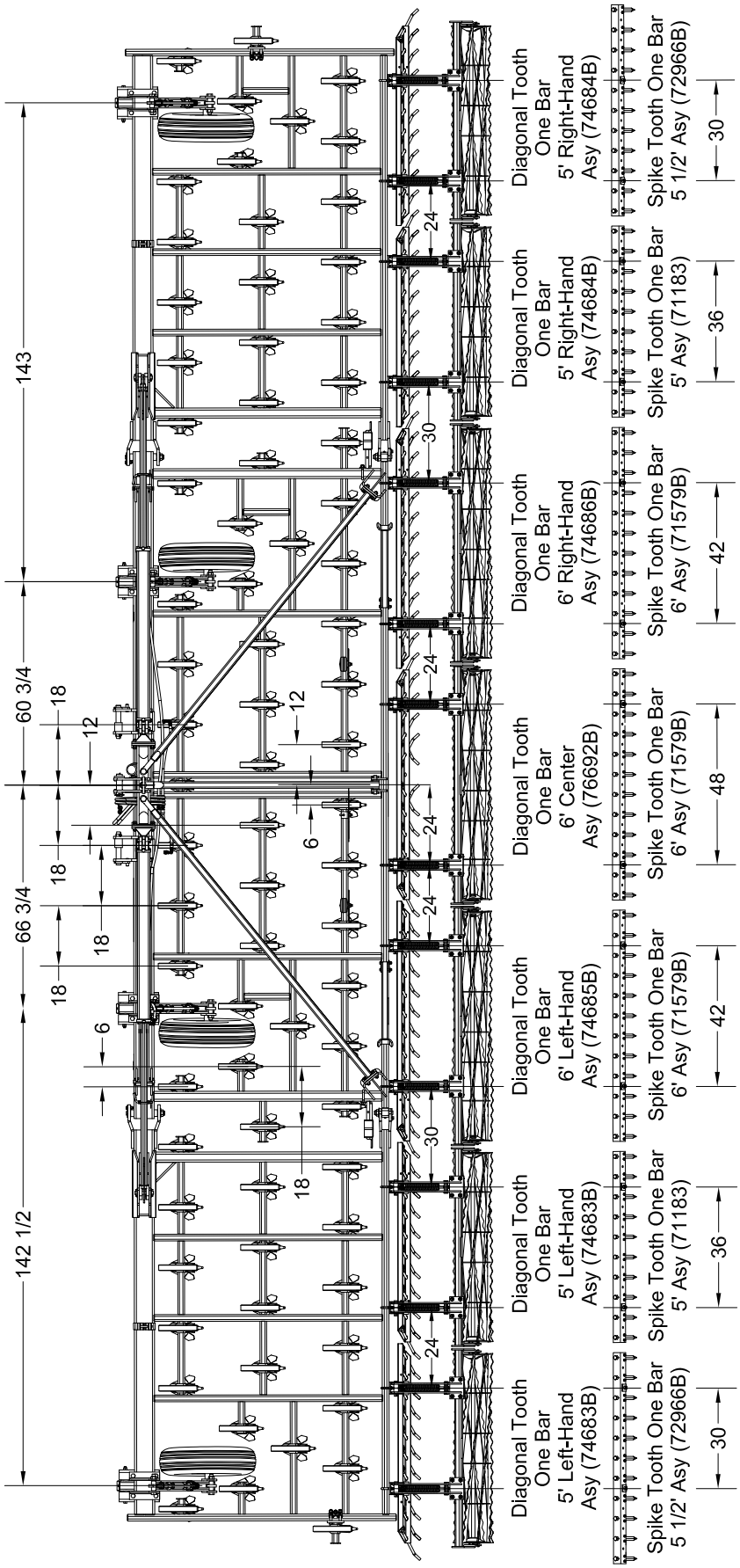
Overhead Layout — Folding Perfecta Model - 36 Ft (18 Ft. Base with 9 Ft. Wings)



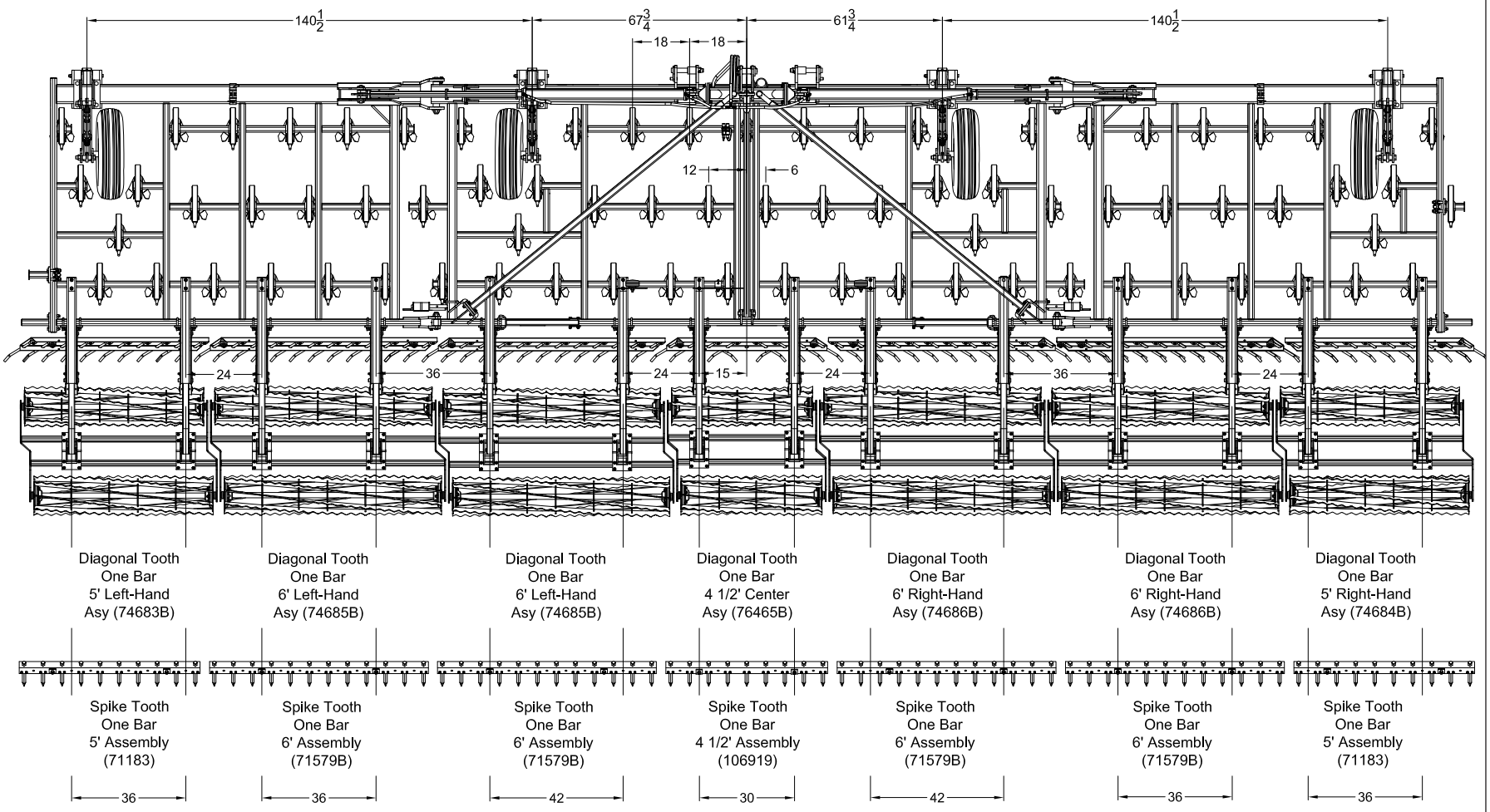
Overhead Layout — Folding Perfecta Model - 36 Ft (18 Ft. Base with 9 Ft. Wings)



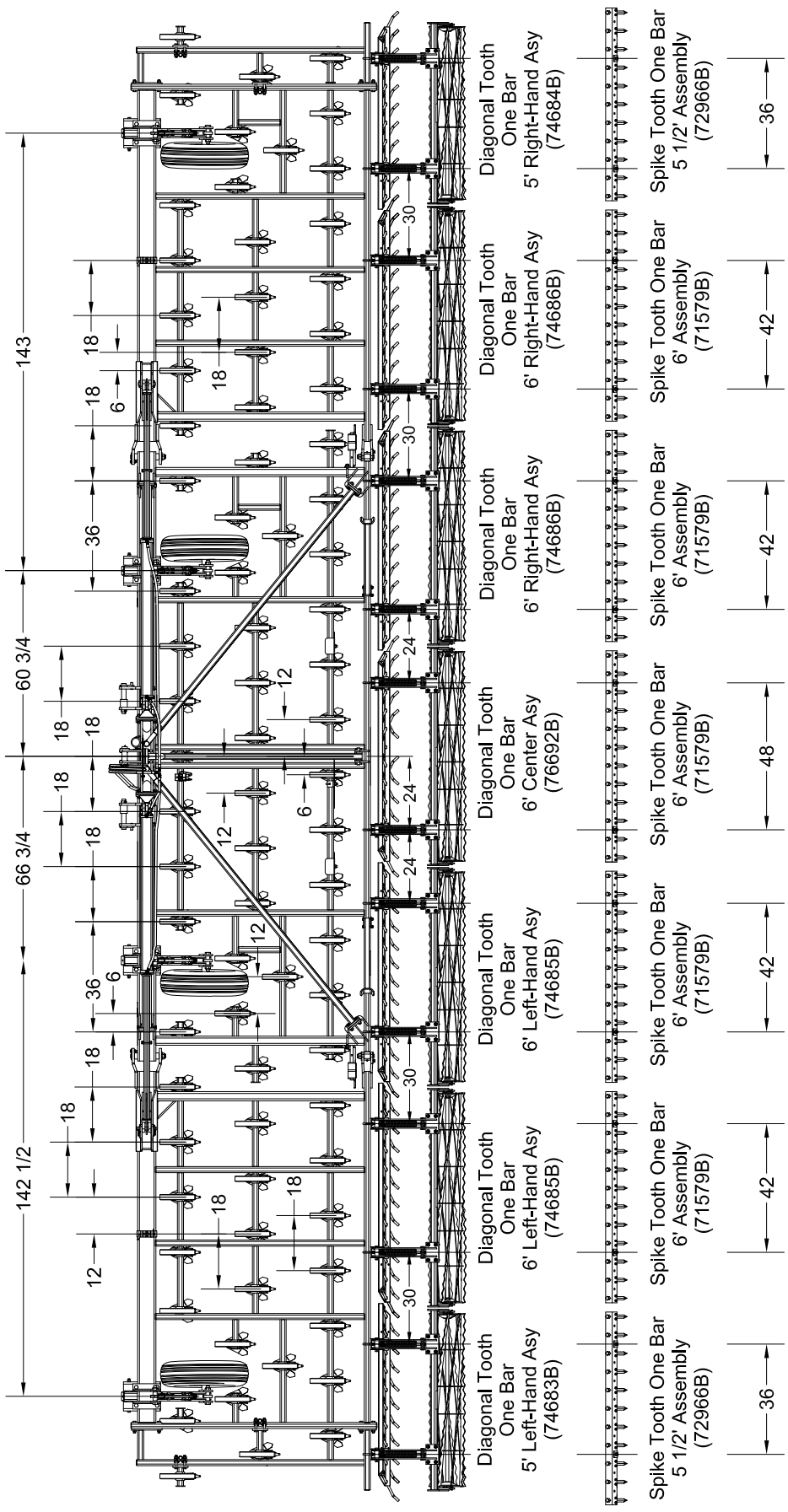
Overhead Layout — Folding Perfecta Model - 38 Ft (18 Ft. Base with 10 Ft. Wings)



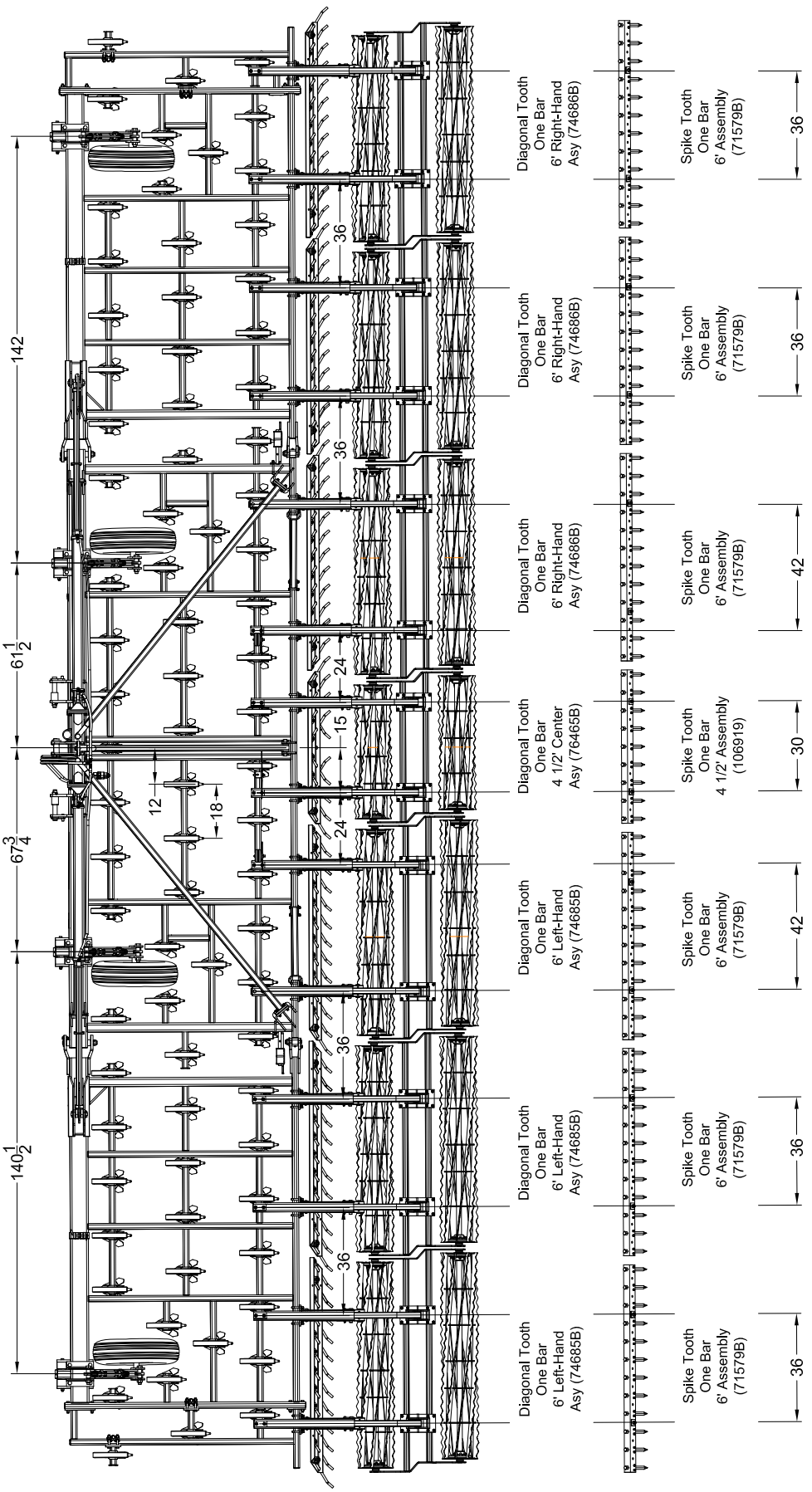
Overhead Layout — Folding Perfecta Model - 38 Ft (18 Ft. Base with 10 Ft. Wings)



Overhead Layout — Folding Perfecta Model - 40 Ft (18 Ft. Base with 11 Ft. Wings)



Overhead Layout — Folding Perfecta Model - 40 Ft (18 Ft. Base with 11 Ft. Wings)



SECTION III
Operation

General Operation Information

WARNING

- **READ AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN THIS MANUAL IF NECESSARY.**

Read this operation section thoroughly. Acquaint yourself with the adjustments required to obtain efficient and trouble-free operations.

Preparing Tractor

Before operating implement refer to tractor operator's manual for information concerning safe methods of operation, hydraulics, hitch adjustment, tire inflation, wheel adjustments, and tractor weights.

Check tractor brakes and transport lights. Make sure they are in proper working order.

Check tractor hydraulic oil reservoir and add oil if needed.

WARNING

- **TRANSPORTING THE IMPLEMENT SIGNIFICANTLY CHANGES THE WEIGHT AND BALANCE OF YOUR TRACTOR. MAKE SURE THE TRACTOR IS PROPERLY BALLASTED.**

Front-End Weights

Use front-end weights as needed to provide effective steering control and front-end stability. See your tractor operator's manual for recommendations on ballasting procedures.

NOTE: In adverse field conditions which necessitate using lower gears, use the maximum front-end weights permissible to avoid possible front-end tip-up.

Sway Blocks

Sway blocks should be used and adjusted to provide movement in operating position. Cultivator should be permitted to sway while operating and should be held rigid while transporting. See your tractor operator's manual.

Wheel Spacing

The dimension from the center of the tractor to the center of each tire should be the same. If using the PERFECTA to cultivate in fields of row crops, set the tractor wheels so they are centered between the rows.

See your tractor operator's manual for correct tire inflation pressure and instructions for wheel ballast where required.

NOTE: Do not exceed the tractor's lift capacity or ballast recommendations.

Preparing Tractor (continued)

Tractor Quick Hitch

Recommended for convenient connection to tractor, also increases clearance between tractor and Perfecta in transport.

Tractor 3-Point Top Link Arm

Connect to the top hole on the tractor to allow the Perfecta to raise vertically. Using the bottom hole on the tractor causes the Perfecta to tip in toward the tractor as it raises, reducing clearance during transport. Attaching the tractor top link to the bottom hole on the Perfecta mast also increases tractor/Perfecta clearance.

Drawbar Position

Place the drawbar in the short, center position to provide maximum clearance between the drawbar and cultivator.

Lift Links And Center Links

Adjust the length of the lift links and center link to assure adequate clearance between the tractor tires and cultivator components. See your tractor operator's manual.

Lift Link Lateral Float

If the frame gauge wheels are used, adjust the lift link pins to allow the lateral float. If the frame gauge wheels are not used, adjust the lift link pins to prevent lateral float. See your tractor operator's manual.

Load And Depth Control

IMPORTANT

- *Do not use gauge wheels to determine the operating depth for heavy draft loads.*

Adjust gauge wheels for only light contact with the ground and position the tractor load control lever midway between the maximum depth control and maximum load control position. If working depth cannot be maintained, move the control closer toward the depth control position.

NOTE: In hard soil conditions, successive passes may be necessary to obtain the desired final tillage depth.

Preparing Field Cultivator

Mast And Hitch

NOTE: When using Category 3 and Category 4-N, two 2” OD lower hitch bushings (65284) mast bushings are required. These bushings come with your implement.

Hydraulics

Check routing of all hydraulic hoses. Hoses should not be kinked, twisted, or rubbing against sharp edges. Hoses should be secure with tie straps.

Check hoses and fittings for hydraulic leaks. Tighten or replace as required.

⚠ WARNING

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE TRACTOR OPERATOR’S MANUAL FOR PROPER PROCEDURES.**

Tire Pressure

Check tire pressure, see “MAINTENANCE” section for recommended air pressure. Be sure tire pressure is equal in all tires.

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty. Tire manufacturers’ phone numbers and web sites are listed in the “MAINTENANCE” Section of this manual for your convenience.

Pins

Before going to the field, check that all pins are in place and are in good condition. Replace any worn, damaged, or missing pins.

Check that locking hardware for pins are in place and tight.

Preparing Field Cultivator (continued)

Lubrication

Lubricate unit as outlined in MAINTENANCE section.

Attaching Field Cultivator To Tractor

⚠ WARNING

- **CRUSHING CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT STAND BETWEEN THE TOWING VEHICLE AND IMPLEMENT WHEN HITCHING. ALWAYS ENGAGE THE PARKING BRAKE AND STOP THE ENGINE BEFORE INSERTING THE HITCH PINS OR SECURING LATCHES.**

Attach the unit to the tractor as specified in the tractor operator's manual. Use the appropriate size hitch pins and lock in place.

Tractor Without Quick Hitch

Back the tractor to the front of the cultivator and position the draft links in front of, and in line with, the lower hitch pins. Shut-off the engine and set the brakes on the tractor.

Connect the draft links to the front of the cultivator and adjust the length of the top link to enable installation of hitch pins. Install pins, and/or bushing, secure with lock pins.

Tractor With Quick Hitch

Lower the coupler to allow jaws to pass under the cultivator mast and hitch pins. Back the tractor to the front of the cultivator until the jaws are under their respective hitch pins, then raise the coupler to firmly seat jaws. Lock the jaw latches into place.

Hydraulic Hook-Up

When connecting the hydraulic lines to a hydraulic source, the lines may be connected into a separate two-way hydraulic control circuit (on back of the tractor).

⚠ WARNING

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**

NOTE: Refer to SETUP section for purging process.

NOTE: Refer to MAINTENANCE section when checking hydraulic circuit operation.

Wing Adjustment
For Units Beginning with Serial Number A65030100

DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. PERFORM UNFOLDING AND FOLDING OPERATIONS ONLY IN AREAS WITH ADEQUATE HEIGHT, WIDTH AND LENGTH CLEARANCE. IN PARTICULAR, BE MINDFUL OF LOCATION OF OVERHEAD POWER LINES.**

WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

When turning on the ends, raise the unit with the 3 point, and simultaneously raise the Perfecta wings unit they wings are level. It is recommended to set a timer to allow the wings to stop close to level while turning.

Wing Adjustment For Units Prior to Serial Number A65030100

DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. PERFORM UNFOLDING AND FOLDING OPERATIONS ONLY IN AREAS WITH ADEQUATE HEIGHT, WIDTH AND LENGTH CLEARANCE. IN PARTICULAR, BE MINDFUL OF LOCATION OF OVERHEAD POWER LINES.**

WARNING

- **MOVING WINGS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING WINGS.**

To follow field contours, the Perfecta implement can be operated with wings in full float (5 degrees down/15 degrees up from level.

FIG. 3-1

For a rigid field operating position, lower the wings and remove the left-hand and right-hand bent pins (900801) holding the cylinder stop weldments (75737B). Flip-over the cylinder stop weldments (75737B). Use the bent pins (900801) to retain the cylinder stop weldments on the hydraulic cylinders.

When turning on field ends, raise the Perfecta implement with the tractor 3-point, and simultaneously raise the Perfecta wings until they stop against the restrictor brackets, (approximately 1 degree below level). After turning around, lower the Perfecta with the tractor 3-point and simultaneously lower the wings for full float.

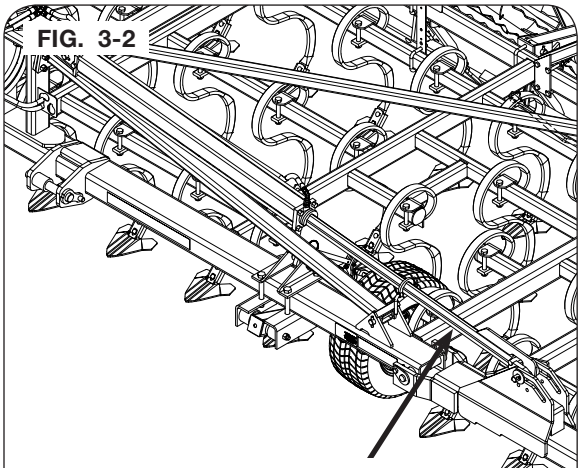


FIG. 3-2

Rigid Field Operating Position

Alternately, it can be operated with the wings constantly raised against the cylinder stop brackets (1 degree below center). This will keep the implement relatively level when raising the 3-point only on field ends, eliminates the need to raise the wings. In this position, the wings can float 15 degrees above level, but will not float below level.

Leveling Cultivator Frame

For best results when leveling, position the tractor with the cultivator on a level floor. Check the tractor tire pressure and inflate equally from side-to-side. See your tractor operator's manual for correct tire inflation pressure.

Side-To-Side Leveling

With the PERFECTA implement attached to the tractor, raise the cultivator a couple of inches off the floor. Shut-off engine and lock the brakes on the tractor. Stand at the rear of the cultivator and sight across the top of the cultivator frame and tractor axle. Level the cultivator frame from side-to-side by adjusting the lift links on the tractor 3-point hitch.

For initial adjustment, with the unit still raised off the ground a couple of inches (being sure the bottom of the rollers clear floor), stand at the side of the cultivator and sight across the top of the cultivator frame and floor.

If the cultivator frame is not level from the front-to-back with the ground line, turn the center link on the tractor either in or out until the cultivator frame is parallel (or level) to the ground line.

Further front-to-back adjustment may be required once the machine is operated in the field. When properly leveled, all cultivator tools will enter the ground to a uniform depth.

Transporting

⚠ WARNING

- **INADVERTENT LOWERING OF WINGS CAN CAUSE SERIOUS INJURY OR DEATH. INSTALL WING TRANSPORT LOCKS BEFORE TRANSPORTING (FIG. 3-1 ON PAGE 3-7).**

Comply with all laws governing highway safety and regulations when moving machinery on public roads.

Compliance with all lighting and marking laws is the responsibility of the operator at the time of travel.

See federal regulation 49 CFR 562; available at www.govinfo.gov for US federal law requirements.

See your Unverferth dealer for additional brackets, reflectors, or lights to meet your requirements.

Be sure SMV Emblem is in place and clearly visible on the rear of the implement. See SMV Emblem in SETUP section.

⚠ WARNING

- **ALWAYS TRAVEL AT A SPEED WHICH PERMITS COMPLETE CONTROL OF TRACTOR AND IMPLEMENT.**

⚠ CAUTION

- **USE APPROVED ACCESSORY LIGHTS AND REFLECTORS WHEN TRANSPORTING AT NIGHT, DURING PERIODS OF POOR VISIBILITY, AND AS REQUIRED BY LOCAL LAW.**

Check transport route clearance for transport dimensions of your cultivator.

Unhitching

WARNING

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**

Lower the PERFECTA cultivator on a flat surface clear of any debris or obstruction. Unhitch the unit, disconnect the hydraulic hoses and install dust covers over the hose plugs and outlets.

Field Adjustments

To properly prepare the seedbed, the PERFECTA cultivator must run level from side-to-side and from front-to-back. See "Leveling Cultivator Frame" in "OPERATIONS" Section.

The following adjustments may be made to obtain maximum performance from your PERFECTA cultivator.

Rolling Harrow - Single Basket

A maximum amount of leveling and conditioning of the soil is obtained when the roller is operated in the aggressive position (Fig. 3-3). This position also helps provide mixing of chemicals into the top two inches of the soil when used for incorporation.

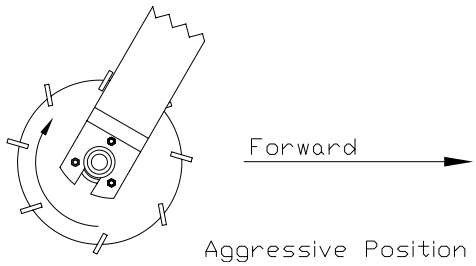


FIG. 3-3

In some light soil conditions, the "Rolling Harrow" frame can be reversed (Fig. 3-4). When operated in this position, the aggressive wheel runs backwards and acts as a soil firmer.

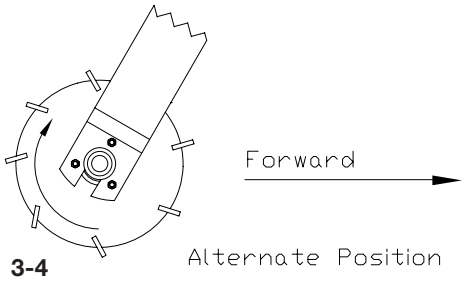


FIG. 3-4

Field Adjustments (continued)

NOTE: To reverse the "Rolling Harrow Baskets", remove the U-bolts connecting the lower frame to the spring arm, rotate the roller frame, and re-install U-bolts.

NOTE: Be sure to center "Rolling Harrow" frame with the arms on each section. Maintain approximately a 3/4" clearance between the roller frames before tightening U-bolts. Torque U-bolts to 110 ft. lbs.

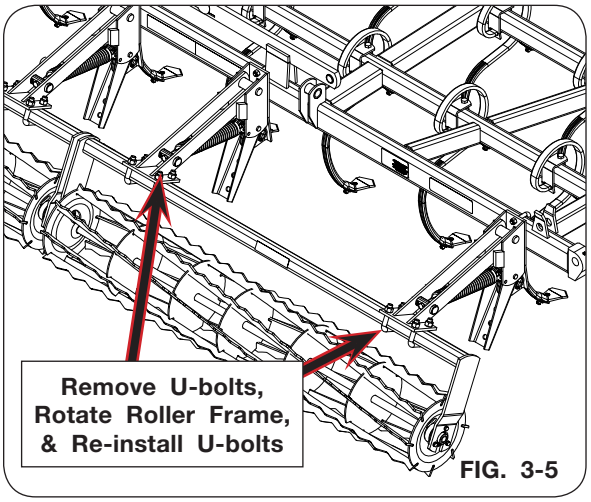


FIG. 3-5

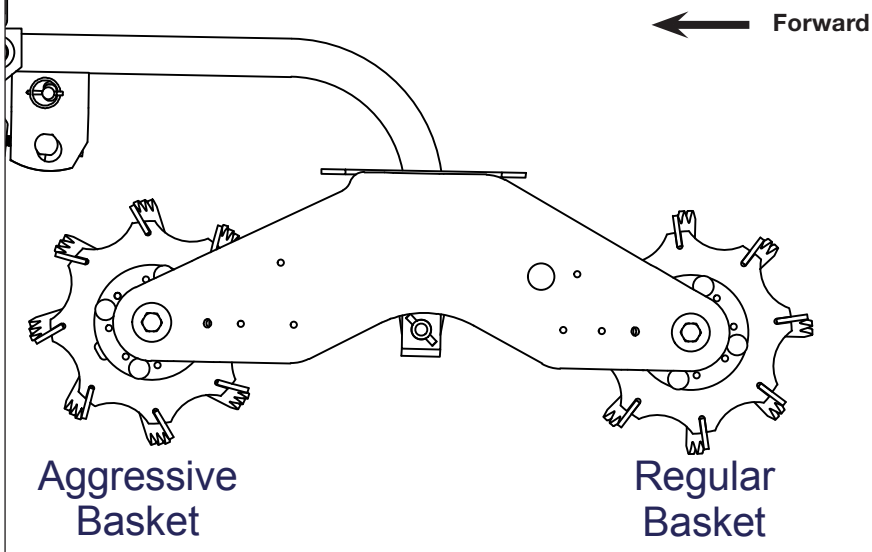
Rolling Harrow - Double Basket

Normal Position

In most cases, the unit runs with the aggressive basket positioned to the front (FIG. 3-5A) for maximum penetration in normal soil conditions.

A maximum amount of leveling and conditioning of the soil is obtained when the aggressive basket is positioned to the front (as shown in FIG. 3-5A). This position also helps provide thorough mixing of chemicals into the top two to three inches of the soil, when used for incorporation.

FIG. 3-5A



View Looking From LH Side

Field Adjustments (continued)

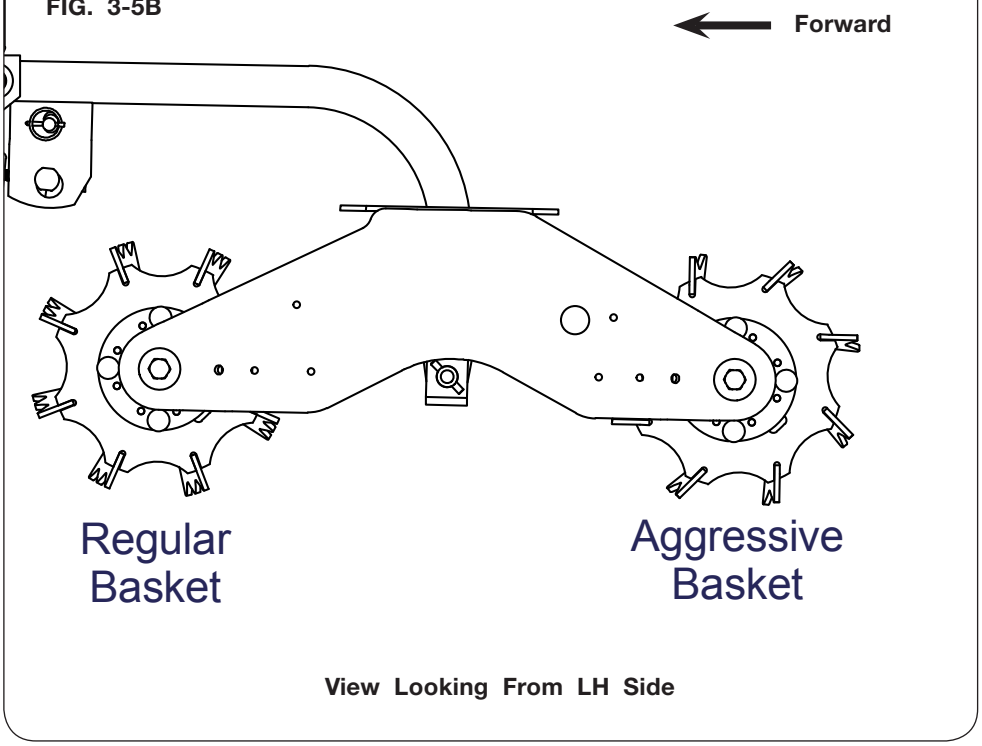
Alternate Position

The unit runs with aggressive basket positioned to the rear (FIG. 3-5B) for maximum firming action in light sandy soils.

A maximum amount of firming and conditioning of the soil is obtained when the aggressive basket is positioned at the rear (as shown in FIG. 3-5B).

To reverse Rolling Harrow baskets, remove mounting pin (9500423) and spiral pin (91144-186) (FIG. 3-5B) connecting basket frame to spring arm, rotate basket frame and reinstall mounting pins and spiral pins.

FIG. 3-5B



View Looking From LH Side

Field Adjustments (continued)

Working Depth

Position “X” - setting for normal S-tine working depth of 2-4 inches.

Position “Y” - setting for deeper S-tine working depth of 4-6 inches.

Additional adjustment is provided (Position “Y” Fig. 3-6) to allow the Rolling Harrow baskets working height to be raised in the field. This position allows more working depth from the S-tines, yet still maintaining the normal working action from the baskets.

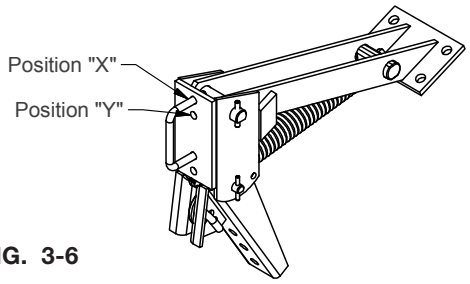


FIG. 3-6

Leveler Bar

The one-bar is designed to improve the soil leveling capabilities of your PERFECTA implement. The one-bar spring pressure can be increased, to improve ground leveling (by tightening the adjusting screw) or decreased, to improve trash flow (by loosening the adjusting screw). This adjustment is especially important in heavy soils or trashy conditions, by improving soil leveling and/or trash flow.

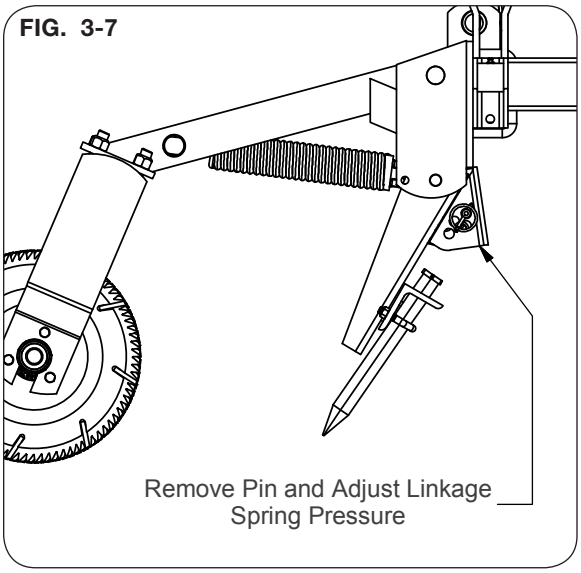
Tool Free Style — Spring Tension Adjustment

Spring pressure is adjusted by aligning different holes between the adjustment casting and the leveler bar arm as shown in Fig. 3-7.

To adjust spring pressure:

1. Remove bent pin from arm.
2. To INCREASE spring pressure, align the arm to be in the most vertical position.
3. To DECREASE spring pressure, adjust the arm to be more horizontal.
4. Always adjust both leveler bar arms for the same leveler bar to the same setting.

FIG. 3-7



Field Adjustments (continued)

Spike Bar Adjustment

The spike tooth leveler bar can be mounted in any of the 3 holes of the hanger. Set the spike bar lower for more leveling action. The bar should be set to the same height on both hangers of each leveler bar section of the machine.

Tooth depth adjustment is provided, but should only be adjusted to compensate for tooth wear.

To adjust individual tooth depth:
1. Loosen the U-bolt on each tooth
2. Drive the tooth up or down, as desired
3. Re-tighten the U-bolts
4. Always set each tooth to the same height on each leveler bar

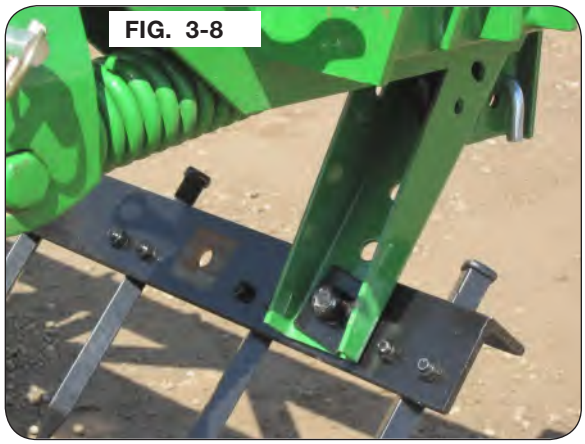


FIG. 3-8

Diagonal Bar Adjustment

Diagonal tooth leveler bars can mount ONLY in the center hole on each hanger arm. Mounting in any other location will damage the machine. Control the aggressiveness of the diagonal bars by adjusting the spring pressure (see previous section).

Basket Weld-In Reinforcement Disc Part #74964 (Optional)

This option is for reinforcing both the regular and aggressive basket in rocky soils. This accessory will provide additional stiffness to your basket.

⚠ WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**

IMPORTANT

- *Disconnect harrow completely from tractor before welding on equipment. Damage may occur to the electrical system.*

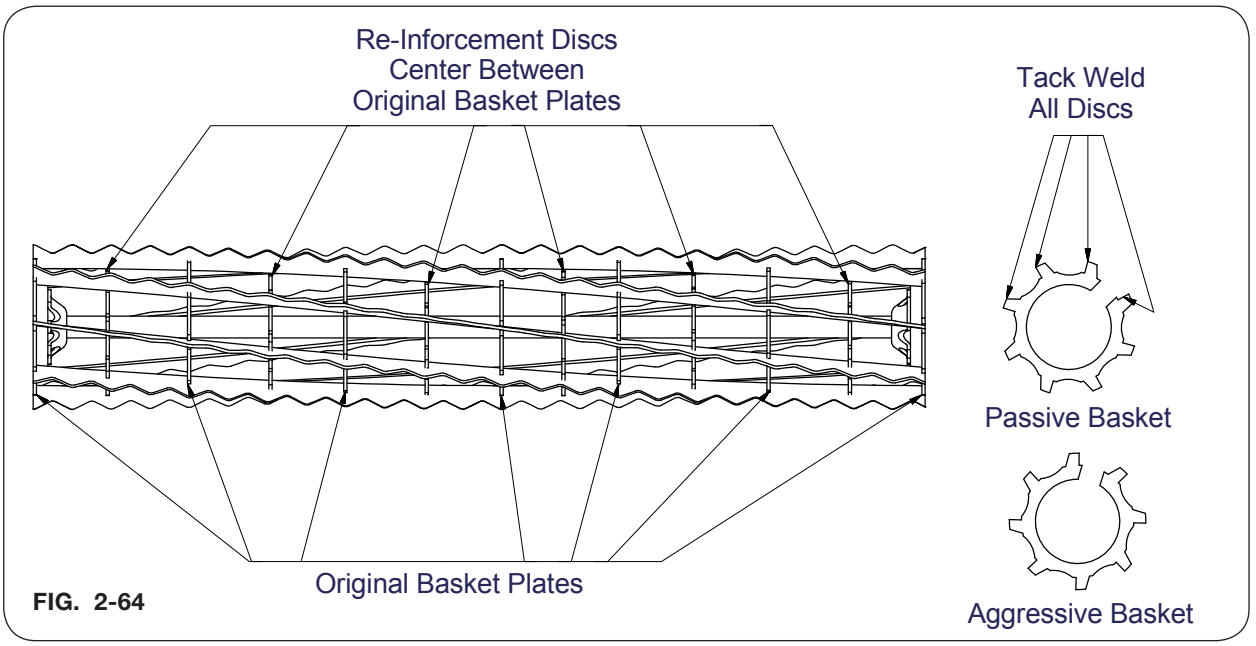


FIG. 2-64

1. Position discs inside of the basket by inserting horizontally between blades, and then rotating vertically.
2. Center reinforcement discs between original basket plates and hold into position using locking pliers or clamps (FIG. 2-65).

FIG. 2-65

IMPORTANT

- *Be sure that all welding is done by qualified personnel. Failure to do so could result in damage to your ROLLING HARROW basket.*

Basket Weld-In Reinforcement Disc Part #74964 (Optional)

3. Remove powder coating before welding. Secure discs into place by tack welding. Weld where discs and basket blades are in contact (FIG. 2-66 & 2-67).

Aggressive Basket

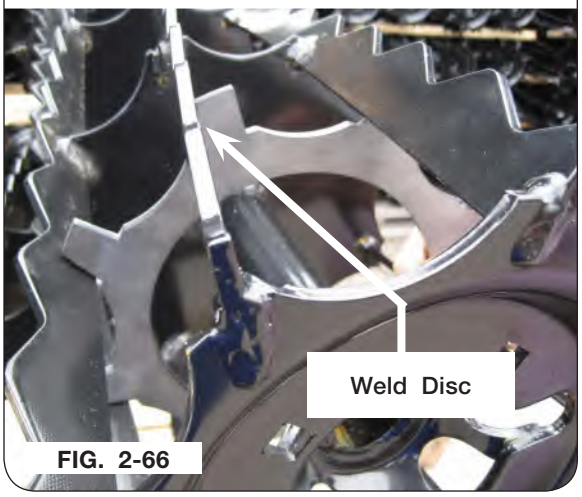


FIG. 2-66

Passive Basket

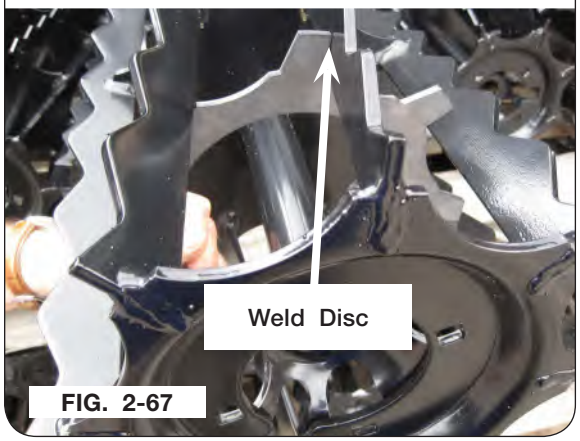


FIG. 2-67

4. Paint plates and repaint areas where welds have been made for rust protection.

SECTION IV
Maintenance

Storage

Your implement is an important investment. Spend a little time to protect it from destructive rust and corrosion. You will be repaid in longer service life and better performance.

Do the following before placing the implement in storage:

1. Remove dirt and trash which could cause rusting.
2. Repaint any chipped or scraped areas.
3. Coat all earth moving surfaces with grease or suitable rust preventative.
4. Inspect for damage or worn parts, replace before next season.
5. Store implement inside, away from livestock.
6. Block up implement to keep tires and ground tools off ground.
7. Replace all worn, torn or faded decals and reflectors.

DO NOT store the machine with the wings folded and the base frame lowered to the ground. This can damage the base frame basket springs.

Lubrication

IMPORTANT

- *Do not use a high pressure grease gun to lubricate these bearings. Damage to bearing seals could occur.*

Wheel Bearings

Lubricate with an SAE multi-purpose grease. All fittings must be free from dirt and paint to insure entry of lubrication inside bearing.

The gauge wheel bearing should be cleaned, repacked and adjusted once per season. Use a number 2 wheel bearing grease to repack the bearings and adjust per the Hub Assembly instructions in this section.

Wing Assembly

Lubricate the 4 Wing Assembly points using a grease gun at the beginning of each season.

Hub Assembly

1. Use grease to lubricate the seal lip.
2. Place the hub onto the spindle. Rotate the hub while doing this so that the seal lip does not fold under as the lip goes on the seal lip of the spindle.
3. Be sure the outer cone slides on the spindle and into the cup.
4. Assemble the washer and the nut onto the spindle and tighten the nut to 20-25 Ft-lbs. Rotate the hub while tightening the nut.
5. Back off the nut until it becomes loose.
6. While rotating the hub, retighten the nut to remove all clearance.
7. Line up the next slot in the nut with the hole in the spindle, insert the cotter pin and bend the cotter pin.
8. Install the hub cap.

Replacing Rolling Harrow Single Basket Bearings

⚠ WARNING

- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

1. Lower the basket to the ground.
2. Remove the 5/8" locknuts and the 5/8"-11UNC U-bolts that attach the basket frame to the attachment arms.
3. Slide the basket and the frame away from the others so it can be worked on.
4. Remove the three 5/16"-18UNC carriage bolts and the capscrews which hold the bearing on.
5. Pry the end of the basket from out of the basket frame slot.
6. Loosen the set screw in the lock collar. Loosen lock collar by turning with a punch.
7. Place a punch through the hole in the end plate on the basket and use a hammer to remove the bearing. If the bearing is on too tight, use a bearing puller to remove the bearing.
8. File off any burrs left on the shaft. Finish with a strip of emery cloth. Make sure bearing will slide on the shaft.
9. Slide a new bearing (87181) on the shaft so the lock collar will be on the outside.
10. Install the end of the basket into the slot of the frame.
11. Assemble the new 5/16"-18UNC capscrews through the holes in the frame and onto the bearing housing.

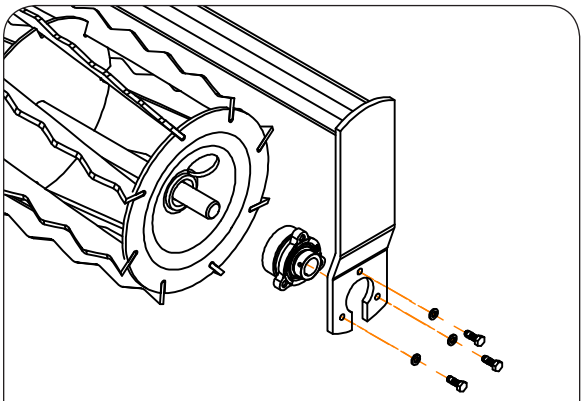


FIG. 4-1

NOTE: Use the other side of the basket as a sample of how the capscrews should be assembled.

IMPORTANT

- *Tighten 5/16"-18UNC capscrews before you tighten the setscrew in the lock collar. Turn lock collar in the direction of travel. Tighten capscrews according to "Torque Chart".*

All ROLLING HARROW® basket bearings are manufactured with triple-lip seals. It is important to use Unverferth bearings (87181) for maximum life.

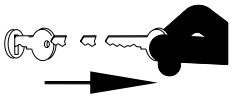
Replacing Rolling Harrow Double Basket Bearings

⚠ WARNING

- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THIS IMPLEMENT.**

1. Bearing replacement kit (74006) is available for the ROLLING HARROW baskets that includes bearing, nuts and bolts.

2. Park unit on a firm level surface. Unfold wings, lower the implement to the ground, set the tractor parking brake, depressurize the hydraulic system, shut off the engine, and remove the ignition key.



3. Remove pin (9500423) from the basket assembly with the worn bearing. Using the tractor hydraulic system, raise the unit to transport height. Install transport stops on lift cylinders. Set tractor parking brake, depressurize the hydraulic system, shut off the engine and remove the ignition key.

4. Roll the basket assembly from under the machine.

5. Remove the 5/8”-11UNC x 1 1/4” capscrew (900872) from the bearing bolt (74280) on the worn bearing. Place pry bar between the head of the stub shaft and the basket weldment to prevent the head of the stub shaft from turning.

6. Push the stub shaft into the basket weldment so the shaft disengages the basket frame side plate.

7. It should be possible to move the basket so the worn bearing is clear of the side frame. If this is not possible, repeat steps 4 & 5 for the capscrew and stub shaft on the other end of the basket and roll the basket away from the frame.

8. Remove the 1/2”-13UNC x 1 1/4” carriage bolts (9322-103) from the bearing and basket. Remove bearing from the basket and remove stub shaft from bearing.

9. Inspect the square recess for the stub shaft in the frame side plate. Remove dirt and debris from this area and make certain edges are not worn or rounded. Repair or replace frame as needed.

10. Discard worn bearing and used mounting hardware. Examine inner race of replacement bearing. If the inner race protrudes beyond the housing more on one side than the other, install the bearing in the basket such that this side is facing the frame side plate. Insert the stub shaft into the bearing and mount the bearing to the basket with the new carriage bolts. Torque locknuts on carriage bolts to 70-75 ft.-lbs.

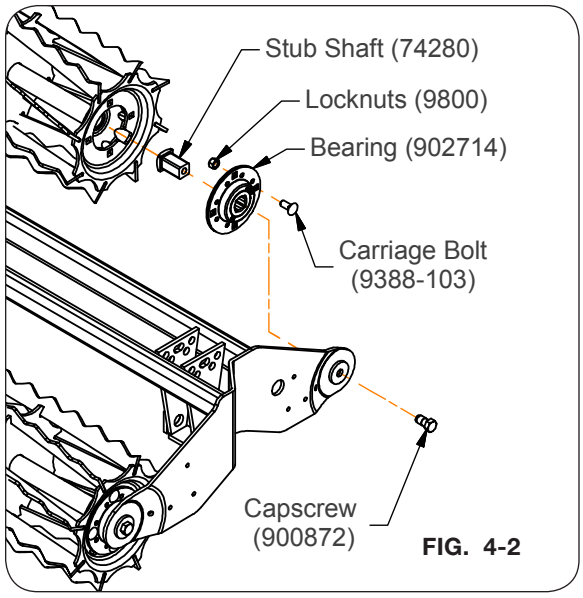


FIG. 4-2

Replacing Rolling Harrow Basket Bearings (continued)

11. Push the basket back into the frame. Align the hole in the bearing bolt with the hole in the frame side plate. Thread the new 5/8”-11UNC x 1 1/4” capscrew (900872) into the bearing bolt (74280) until the epoxy begins to engage.

12. Use a pry bar to force the head of the bearing bolt (74280) against the inner race of the bearing. This may flex the side plate of the frame away from the basket; this is acceptable. While maintaining pressure on the head of the bearing bolt (74280), use the 5/8”-11UNC x 1 1/4” capscrew (900872) to rotate the stub shaft until the end of it engages in the square recess of the frame side plate. Often there will be an audible click when the shaft engages and the side plate move toward the basket. Use the pry bar to prevent the bearing bolt from turning and torque the 5/8”-11UNC x 1 1/4” capscrew (900872) to 150-160 ft.-lbs.

IMPORTANT

- *The bearing bolt MUST fully engage the square recess in the frame side plate to prevent machine damage. Make certain the bearing bolt is fully engaged before tightening the 5/8”-11UNC x 1 1/4” capscrew (900872).*

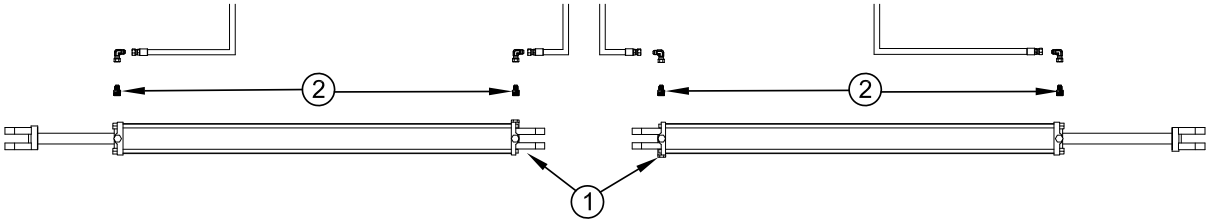
13. Reinstall basket assembly on machine with pins (9500423) and spiral pins (91144-186).

Hydraulic System

MODELS WITH WINGS ONLY

NOTE: For plumbing diagram - refer to "Hydraulic Diagram". Refer to PARTS Section for hydraulic components detailed listing.

HYDRAULIC DIAGRAM



ITEM	DESCRIPTION	QTY	COMMENTS
1	Wind Fold Cylinder	2	Standard on ALL units
2	Adapter with .060 Restrictor	4	Standard on ALL units

Troubleshooting

PROBABLE CAUSE	CORRECTION
Hydraulics Not Functioning Properly	
Incorrect hose hook-up to tractor control levers	Refer to Tractor Operator's Manual for valve and control lever arrangement
Insufficient tractor hydraulic pressure	A. Check hydraulic reservoir oil level
	B. Refer to tractor "Operator's Manual" or hydraulic system recommendations
Hydraulic components leaking oil	Find cause and correct, see MAINTENANCE section hydraulic systems
Hydraulic hoses kinked or twisted	Find cause and correct
Malfunction of hydraulic cylinders	
A. Cylinder leakage	A. Repair or replace cylinders. See PARTS section for cylinder or seal kit part numbers
B. Orifice in wing-fold cylinders plugged	B. Remove contamination from system (flush system, change oil and filter)
Over-center fold wings not folding properly (hydraulic malfunction)	Refer to MAINTENANCE section for checking system function. (Refer to SETUP section for hydraulic assembly procedures)
Poor Penetration	
Frame not level	See OPERATION section for leveling instructions
Ground too hard for hitch control setting	Adjust hitch control position. See OPERATION section "Load and Depth Control"
Worn or dull tool points	Replace with new tool points
Tractor Wheels Slipping	
Poor field conditions	Wait until the field is dry enough to cultivate properly or add duals or triples to tractor
Tractor not weighted properly to utilize full horsepower	Add weight to tractor as recommended by manufacturer. See OPERATION section "Preparing Tractor"
Plugging	
Tines not spaced correctly	See "Overhead Layouts" in the proper SETUP section for correct spacing of tines
Poor field conditions	Wait until the field is dry enough to cultivate properly
One-bar working depth set too deep	Raise working depth. See field adjustments "One-Bar Harrow" in OPERATION section
One-bar spring pressure set too high	Decrease spring pressure. See field adjustments "One-Bar Harrow" in OPERATION section
Implement Running Crooked In The Field	
Tines not spaced correctly	See "Overhead Layouts" for correct spacing of S-tines
Tires not equally inflated	Find the cause and correct. See OPERATION section "Gauge Wheel Adjustment"
Gauge wheels not adjusted equally from side-to-side	Check side-to-side adjustments and correct
Tractor tires not properly spaced or equally inflated	Find the cause and correct. See OPERATION section "Wheel Spacing"
Tractor 3-Pt lift linkage not adjusted for level operation	Re-level the cultivator frame
Tractor 3-Pt link linkage lateral float pins not set properly	Check position of lateral float pins.
Minimal clearance between tractor and implement when raised.	See Operation, Use of tractor quick hitch, and tractor 3-point top link arm adjustment

Complete Torque Chart – Capscrews - Grade 5

NOTE: Grade 5 capscrews can be identified by three radial dashes on head.

NOTE: For wheel torque requirements, refer to **Wheels and Tires**.

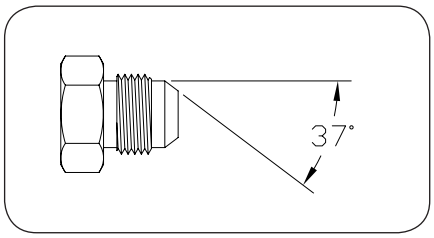
NOTE: Tighten U-bolts to have the same number of threads exposed on each end.

SIZE	FOOT POUNDS	NEWTON METERS	SIZE	FOOT POUNDS	NEWTON METERS
1/4-20 1/4-28	8-10 9-11	11-13 12-15	3/4-10 3/4-16	200-220 210-230	270-300 285-310
5/16-18 5/16-24	15-17 17-19	20-23 23-26	7/8-9 7/8-14	330-350 360-380	425-475 460-515
3/8-16 3/8-24	25-28 28-31	34-38 38-42	1-8 1-14	500-525 540-560	675-710 730-760
7/16-14 7/16-20	40-45 45-50	54-61 61-68	1 1/8-7 1 1/8-12	600-635 665-700	815-860 920-950
1/2-13 1/2-20	62-68 68-75	84-92 92-102	1 1/4-7 1 1/4-12	850-895 940-990	1150-1215 1275-1340
9/16-12 9/16-18	90-98 100-110	22-133 134-148	1 3/8-6 1 3/8-12	1125-1175 1280-1335	1525-1590 1735-1810
5/8-11 5/8-18	120-135 124-137	162-183 168-186	1 1/2-6 1 1/2-12	1500-1560 1685-1755	2035-2115 2285-2380

Hydraulic Fittings – Torque and Installation

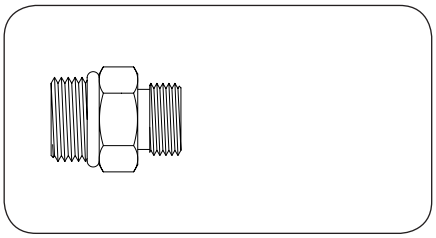
SAE FLARE CONNECTION (J. I. C.)

1. Tighten nut with finger until it bottoms the seat.
2. Using a wrench, rotate nut to tighten. Turn nut 1/3 turn to apply proper torque.



SAE STRAIGHT THREAD O-RING SEAL

1. Insure jam nut and washer are backed up to the back side of smooth portion of elbow adapter.
2. Lubricate o-ring -- VERY IMPORTANT!
3. Thread into port until washer bottoms onto spot face.
4. Position elbows by backing up adapter.
5. Tighten jam nut.



Wheels and Tires

Wheel Nut Torque

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. TORQUE WHEEL NUTS/BOLTS TO VALUES IN TABLE. CHECK TORQUE BEFORE INITIAL USE, AFTER ONE HOUR OF USE, AND EACH HOUR UNTIL WHEEL NUTS/BOLTS MAINTAIN TORQUE VALUE. CHECK TORQUE EVERY 10 HOURS OF USE THEREAFTER. AFTER EACH WHEEL REMOVAL START TORQUE PROCESS FROM BEGINNING. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

Failure to check torque before first use may damage wheel nut/bolt seats. Once seats are damaged, it will become impossible to keep nuts/bolts tight. Tighten nuts/bolts to the applicable torque value shown below. Start all nuts/bolts by hand to prevent cross threading. Torque nuts/ bolts in the recommended sequence as shown in Diagram 1.

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
1/2-20 (UNF)	75 Ft.-Lbs.

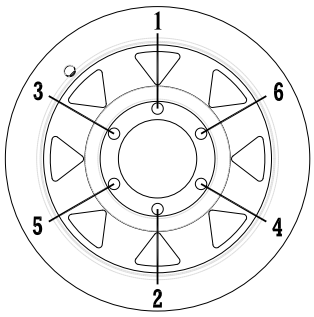


Diagram 1 - 6 bolt

Tire Pressure

- The following is to be used as a general guide for tire inflation and figures can vary depending on specific brand of tire used. **It is important that tires are inspected after unit is loaded.** Start with minimum pressure indicated. The tire should stand up with no side-wall buckling or distress as tire rolls. Record the pressure needed to support the full load and maintain this pressure to achieve proper tire life. **Do not exceed maximum recommended tire pressure.**

Recommended tire....100 PSI maximum

Wheels and Tires

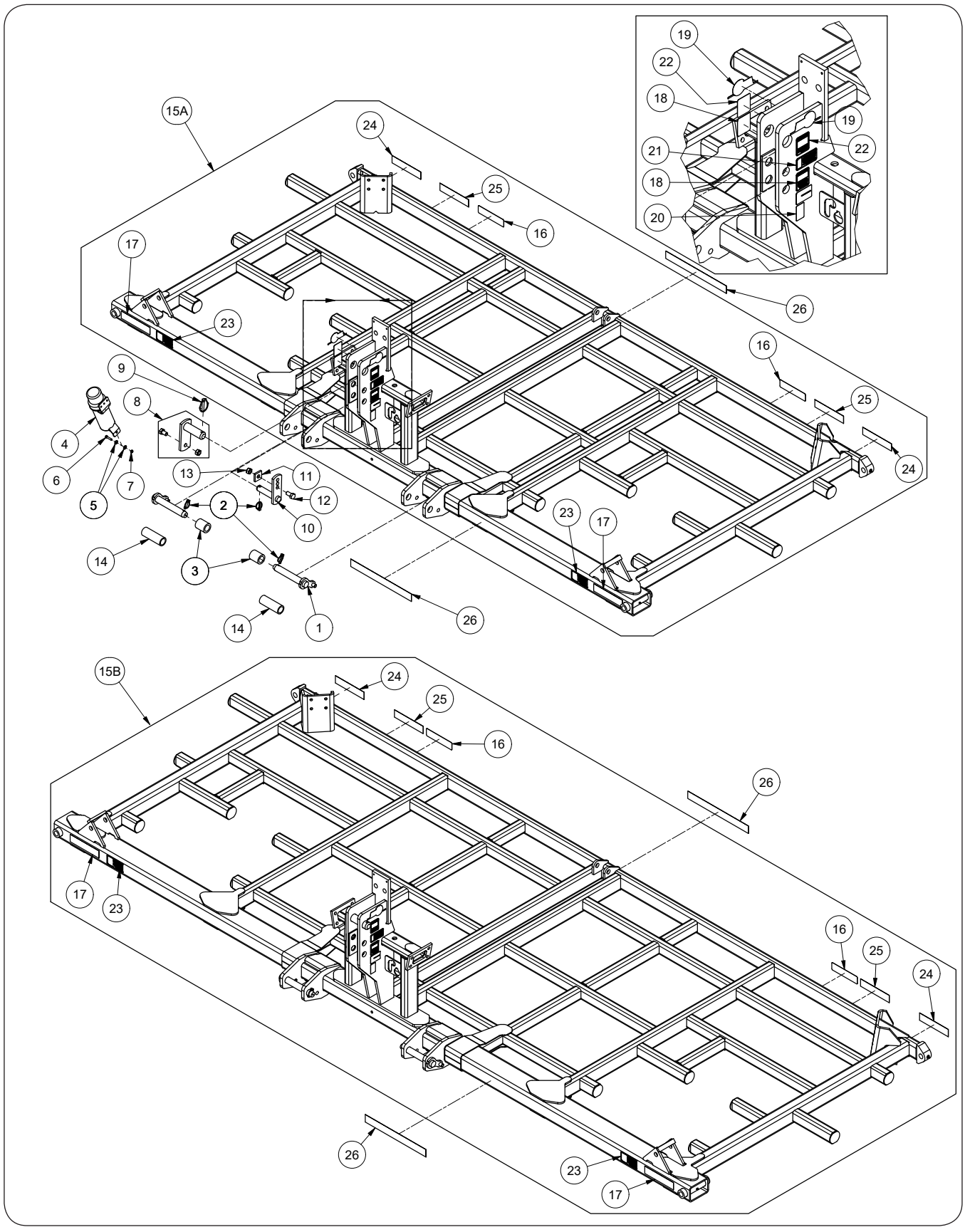
Tire Warranty

For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty. Following are phone numbers and Websites for your convenience:

Carlisle	www.carlisletire.com Phone 800-260-7959 Fax 800-352-0075
Kenda	www.kendatire.com Phone 800-225-4714

SECTION V
Parts

Main Frame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15B
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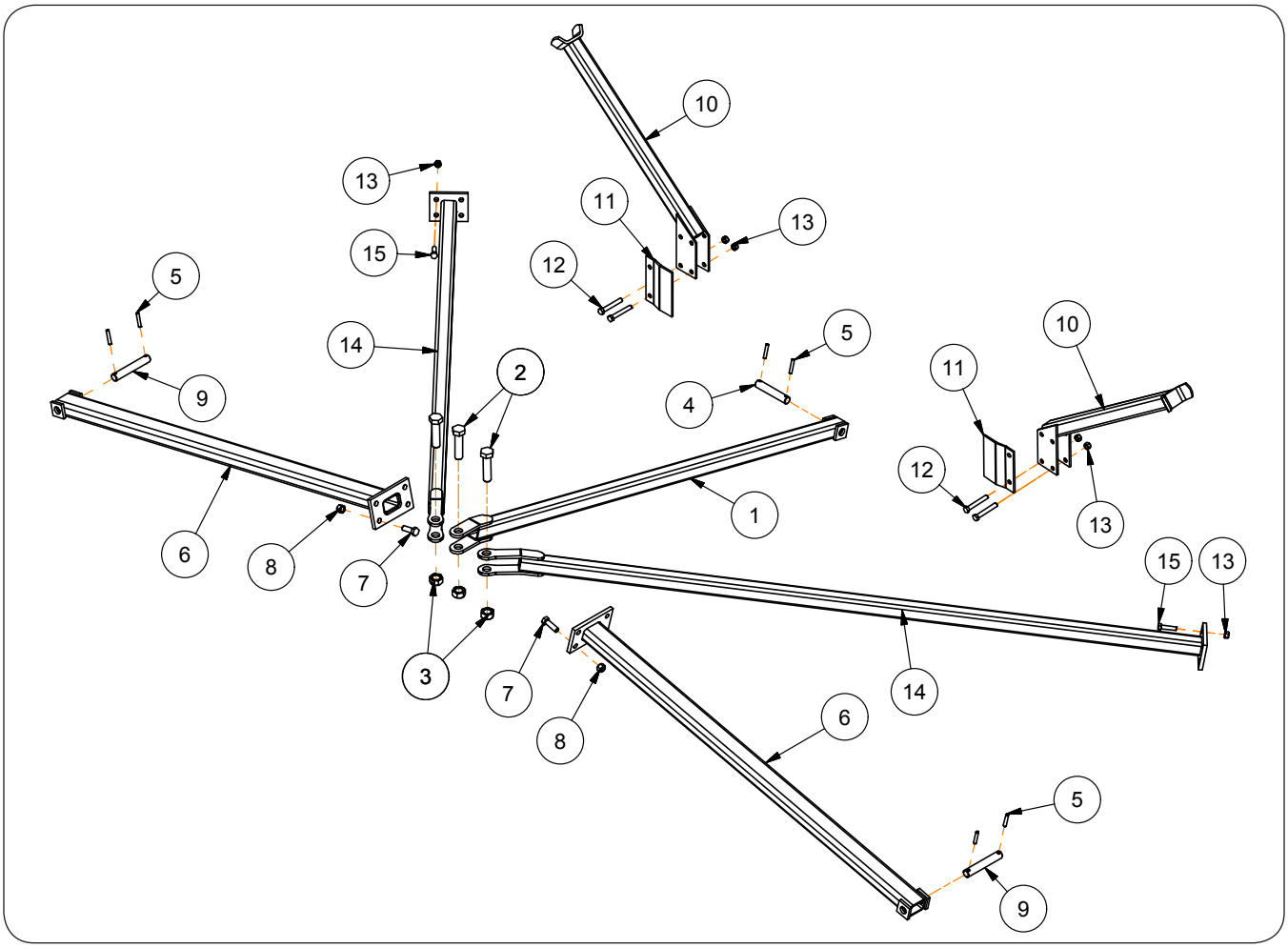
26
23
17

Main Frame

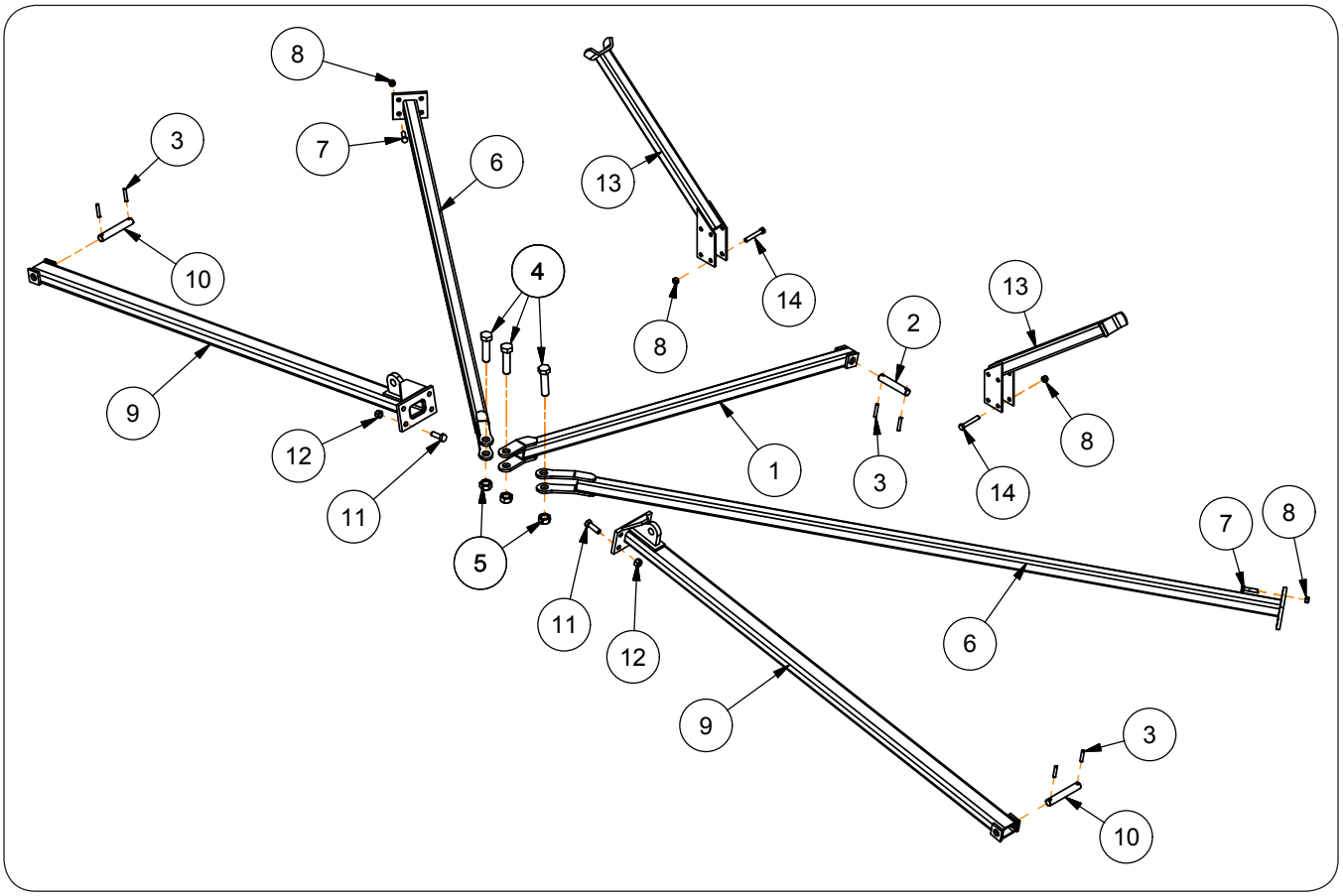
ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	69695	Pin Weldment 1 7/16" Dia. x 9 7/8"	2	
2	95031	Klik Pin	3	
3	61315	Tube/Bushing	2	
4	900552	Manual Holder	1	
5	9405-070	Flat Washer 5/16" USS	4	
6	9390-032	Capscrew 5/16"-18UNC x 1 1/2" Gr5	2	
7	9807	Locknut Top 5/16"-18UNC	2	
8	67187B	Pin Weldment 1 3/4" Dia. With Lynch Pin	1	Includes Item #9
9	9501028	Lynch Pin	1	
10	67188B	Pin Weldment 1 1/4" Dia.	1	
11	65073B	Spacer	1	
12	9390-143	Capscrew 3/4"-10UNC x 1 1/2" Gr5	1	
13	96732	Locknut/Ctr 3/4"-10UNC	1	
14	65284	Bushing	2	
15A	76720G	Service Main Frame 15' w/Decals =GREEN=	1	Includes Items 16 Through 25
	76720R	Service Main Frame 15' w/Decals =RED=		
15B	76721G	Service Main Frame 18' w/Decals =GREEN=	1	Includes Items 16 Through 25
	76721R	Service Main Frame 18' w/Decals =RED=		
16	95136	Decal	2	
17	9003127	Reflector-2X9 =Amber=	2	
18	900751	Decal	2	
19	901765	Um Swoosh Decal	2	
20	91605	Decal Fema/Member Farm	1	
21	97961	Decal Warning "Oper Man"	1	
22	97972	Decal Warning/Crush	2	
23	95445	Decal Warning/High Pressure	2	
24	9003126	Red Reflector Decal	2	
25	9003125	Fluorescent Orange Decal	2	
26	9500655	Model Decal Perfecta 10	2	
	9500656	Model Decal Perfecta 12		
	9500657	Model Decal Perfecta 14		

Truss & Wing Stand Components for 30'-34'



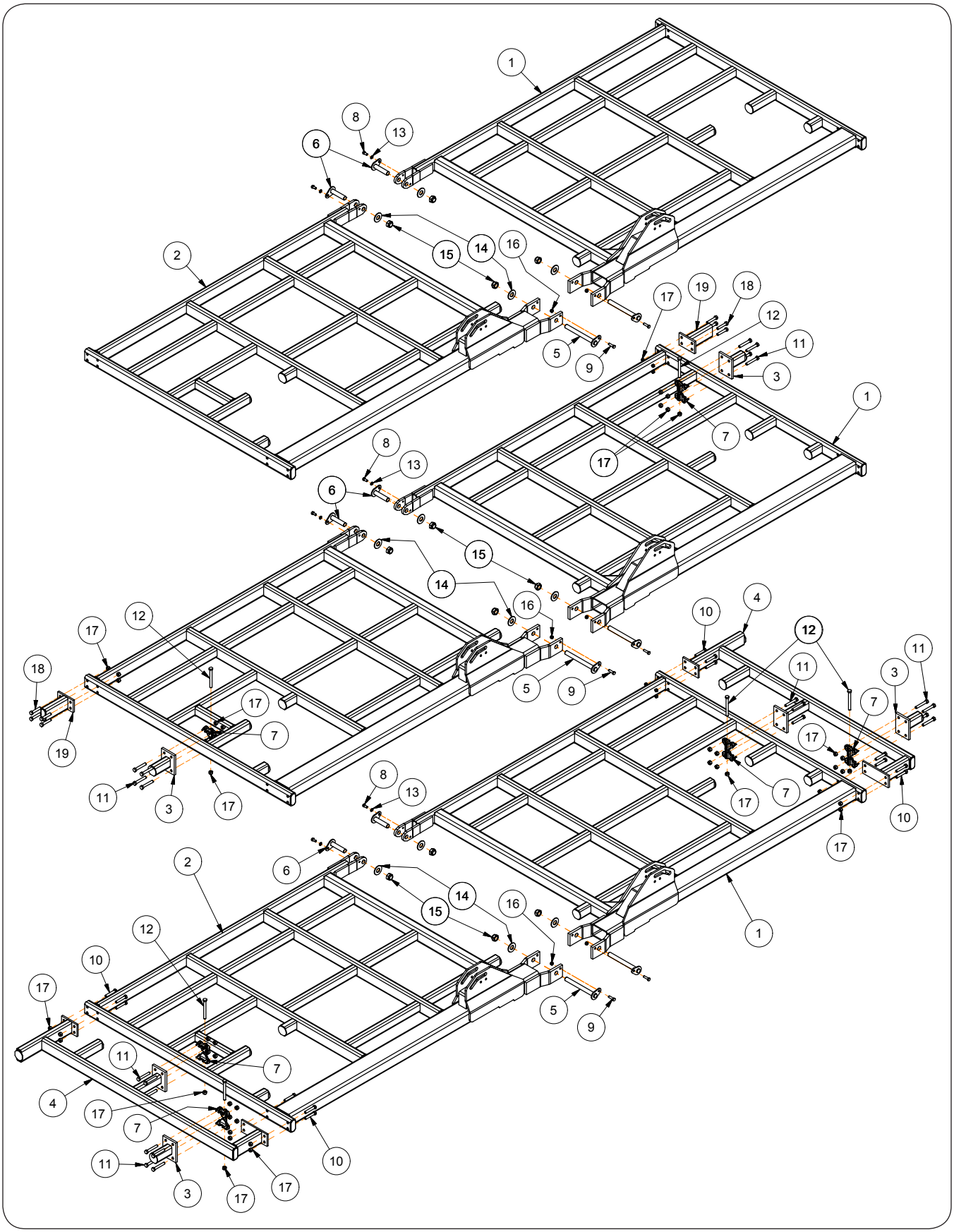
ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	75588B	Center Brace Tube Weldment =Black=	1	
2	9390-191	Capscrew 1"-8UNC x 4" Gr5	3	
3	9663	Locknut/Top 1"-8UNC	3	
4	75827	Pin 1" Dia. x 5 1/2"	1	
5	91144-207	Spiral Pin 3/8" Dia. x 2"	6	
6	75651B	Front Strut Weldment =Black=	2	
7	9390-124	Capscrew 5/8"-11UNC x 2" Gr5	8	
8	9801	Locknut/Top 5/8"-11UNC	8	
9	75826	Pin 1" Dia. x 6 1/4"	2	
10	75626B	Stand Weldment =Black=	2	
11	75666B	Plate =Black=	2	
12	9390-109	Capscrew 1/2"-13UNC x 3 1/2" Gr5	8	
13	9800	Locknut/Top 1/2"-13UNC	16	
14	75653B	Brace Tube Weldment =Black=	2	
15	9390-103	Capscrew 1/2"-13UNC x 2" Gr5	8	

Truss & Wing Stand Components for 36'-40'



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	75588B	Center Brace Tube Weldment =Black=	1	
2	75827	Pin 1" Dia. x 5 1/2"	1	
3	91144-207	Spiral Pin 3/8" Dia. x 2"	6	
4	9390-191	Capscrew 1"-8UNC x 4" Gr5	3	
5	9663	Locknut/Top 1"-8UNC	3	
6	75584B	Brace Tube Weldment =Black=	2	
7	9390-103	Capscrew 1/2"-13UNC x 2" Gr5	8	
8	9800	Locknut/Top 1/2"-13UNC	16	
9	75575B	Front Strut Weldment =Black=	2	
10	75826	Pin 1" Dia. x 6 1/4"	2	
11	9390-124	Capscrew 5/8"-11UNC x 2" Gr5	8	
12	9801	Locknut/Top 5/8"-11UNC	8	
13	75626B	Stand Weldment =Black=	2	
14	9390-108	Capscrew 1/2"-13UNC x 3 1/4" Gr5	8	

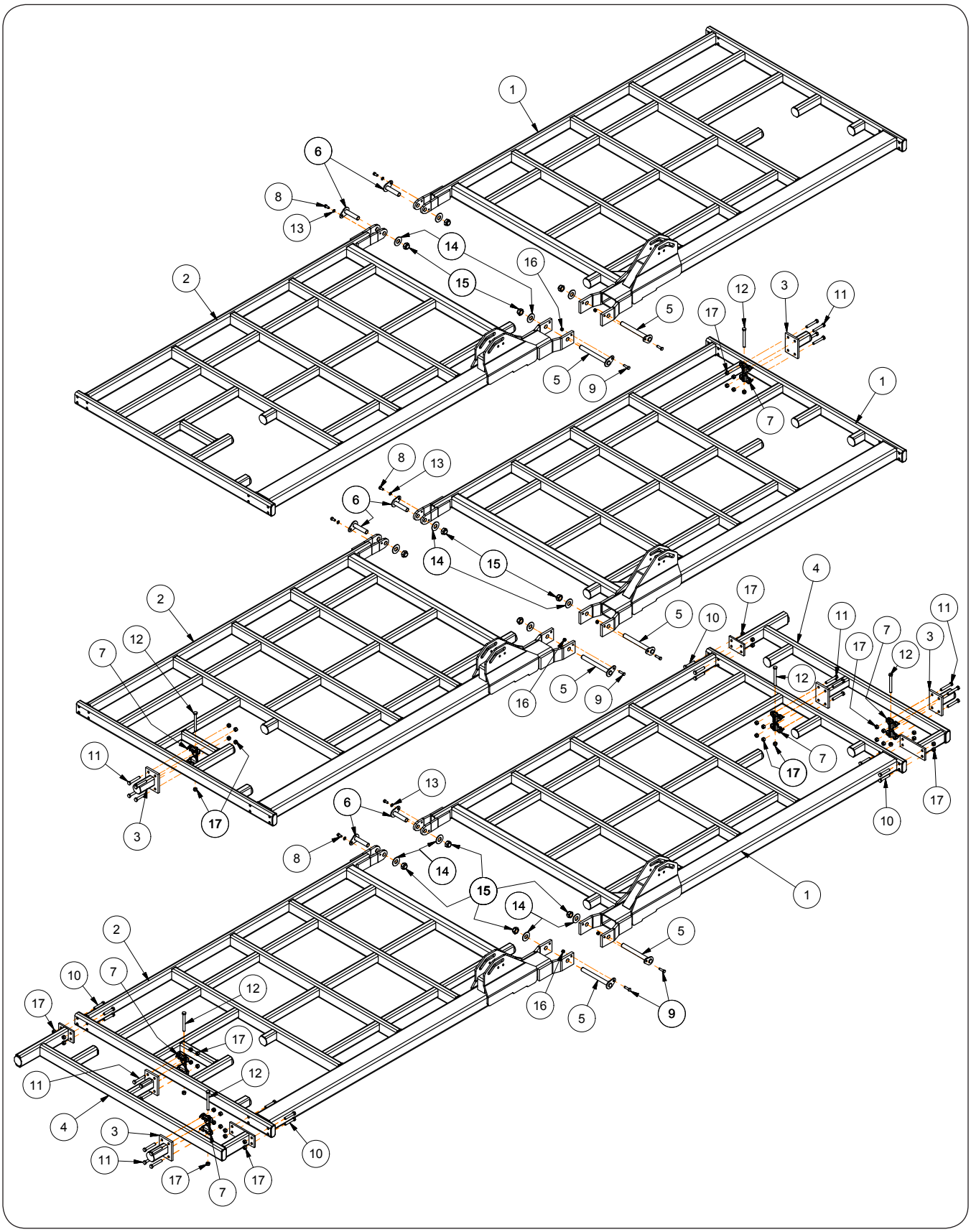
Wing Components — 30’-34’



Wing Components — 30'-34'

ITEM	PART NUMBER	DESCRIPTION	QTY		
			30' PERFECTA	32' PERFECTA	34' PERFECTA
1	75656G	Wing Weldment LH 8 1/2 Ft. =GREEN=	1	1	1
	75656R	Wing Weldment LH 8 1/2 Ft. =RED=			
2	75660G	Wing Weldment RH 8 1/2 Ft. =GREEN=	1	1	1
	75660R	Wing Weldment RH 8 1/2 Ft. =RED=			
3	75682G	Wing Weldment 6" =GREEN=	-	2	2
	75682R	Wing Weldment 6" =RED=			
4	75803G	Wing Extension Weldment =GREEN=	-	-	2
	75803R	Wing Extension Weldment =RED=			
5	75821	Pin Weldment 1 1/8" Dia. x 11 1/2"	2	2	2
6	75824	Pin Weldment 1 1/8" Dia. x 5 1/2"	2	2	2
7	67922B	Extension Clamp Casting =BLACK=	-	4	8
8	9390-099	Capscrew 1/2"-13UNC x 1" Gr5	2	2	2
9	9390-102	Capscrew 1/2"-13UNC x 1 3/4" Gr5	2	2	2
10	9390-130	Capscrew 5/8"-11UNC x 3 1/2" Gr5	-	-	16
11	9390-132	Capscrew 5/8"-11UNC x 4" Gr5	-	8	16
12	9390-136	Capscrew 5/8"-11UNC x 6" Gr5	-	2	4
13	9404-025	Lock Washer 1/2"	2	2	2
14	9405-124	Flat Washer 1 1/8" USS	4	4	4
15	96976-144	Locknut 1 1/8"-12UNF	4	4	4
16	9800	Locknut/Top 1/2"-13UNC	2	2	2
17	9801	Locknut/Top 5/8"-11UNC	-	18	36
18	9390-129	Capscrew 5/8"-11UNC x 3 1/4" Gr5	-	8	-
19	75923G	Tube Weldment =GREEN=	-	2	-
	75923R	Tube Weldment =RED=			

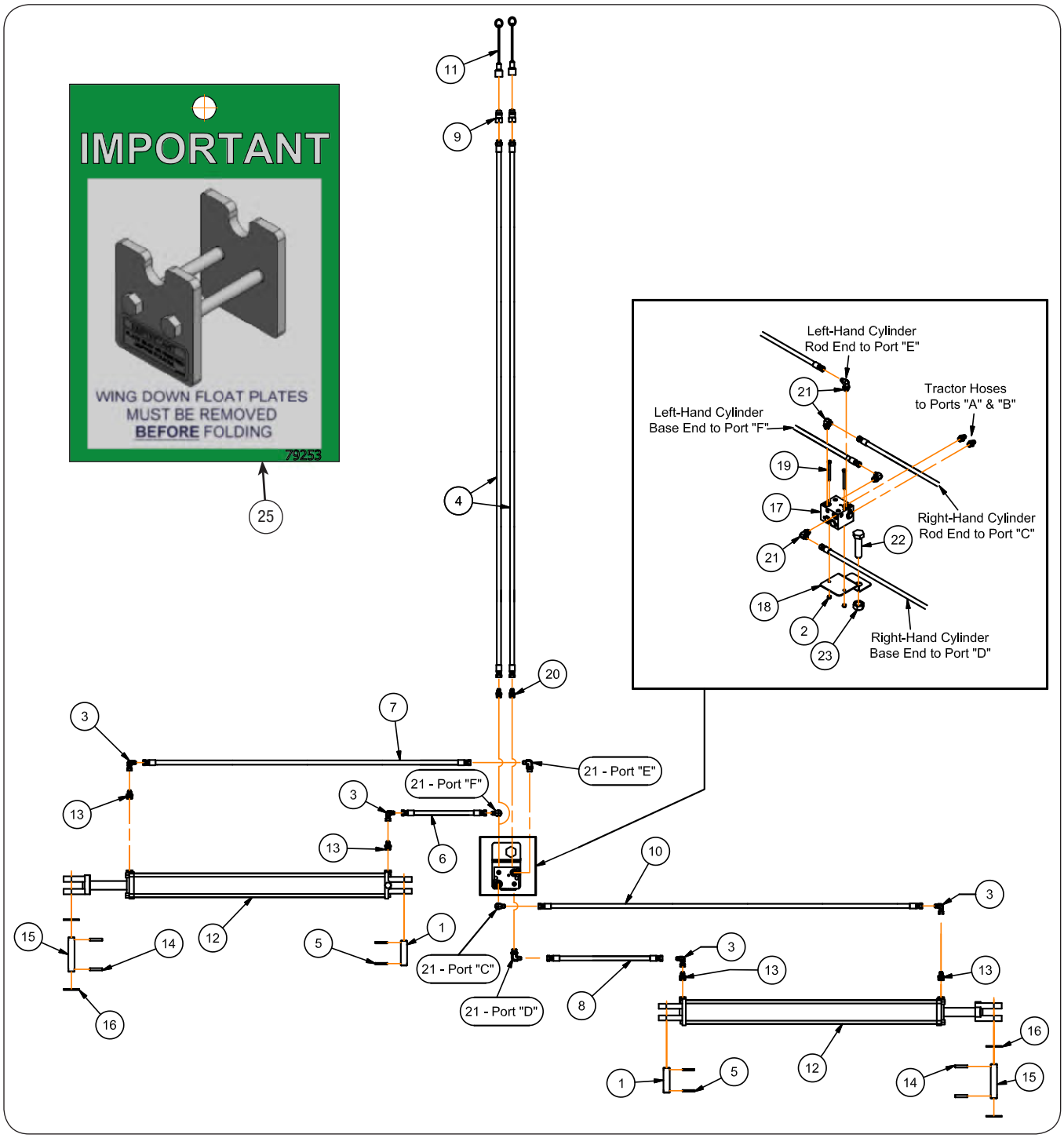
Wing Components — 36’-40’



Wing Components — 36'-40'

ITEM	PART NUMBER	DESCRIPTION	QTY		
			36' PERFECTA	38' PERFECTA	40' PERFECTA
1	75548G	Wing Weldment LH 10 Ft. =GREEN=	1	1	1
	75548R	Wing Weldment LH 10 Ft. =RED=			
2	75756G	Wing Weldment RH 10 Ft. =GREEN=	1	1	1
	75756R	Wing Weldment RH 10 Ft. =RED=			
3	75682G	Wing Weldment 6" =GREEN=	-	2	2
	75682R	Wing Weldment 6" =RED=			
4	75803G	Wing Extension Weldment =GREEN=	-	-	2
	75803R	Wing Extension Weldment =RED=			
5	75821	Pin Weldment 1 1/8" Dia. x 11 1/2"	2	2	2
6	75824	Pin Weldment 1 1/8" Dia. x 5 1/2"	2	2	2
7	67922B	Extension Clamp Casting =BLACK=	-	4	8
8	9390-099	Capscrew 1/2"-13UNC x 1" Gr5	2	2	2
9	9390-102	Capscrew 1/2"-13UNC x 1 3/4" Gr5	2	2	2
10	9390-130	Capscrew 5/8"-11UNC x 3 1/2" Gr5	-	-	16
11	9390-132	Capscrew 5/8"-11UNC x 4" Gr5	-	8	16
12	9390-136	Capscrew 5/8"-11UNC x 6" Gr5	-	2	4
13	9404-025	Lock Washer 1/2"	2	2	2
14	9405-124	Flat Washer 1 1/8" USS	4	4	4
15	96976-144	Locknut 1 1/8"-12UNF	4	4	4
16	9800	Locknut/Top 1/2"-13UNC	2	2	2
17	9801	Locknut/Top 5/8"-11UNC	-	10	36

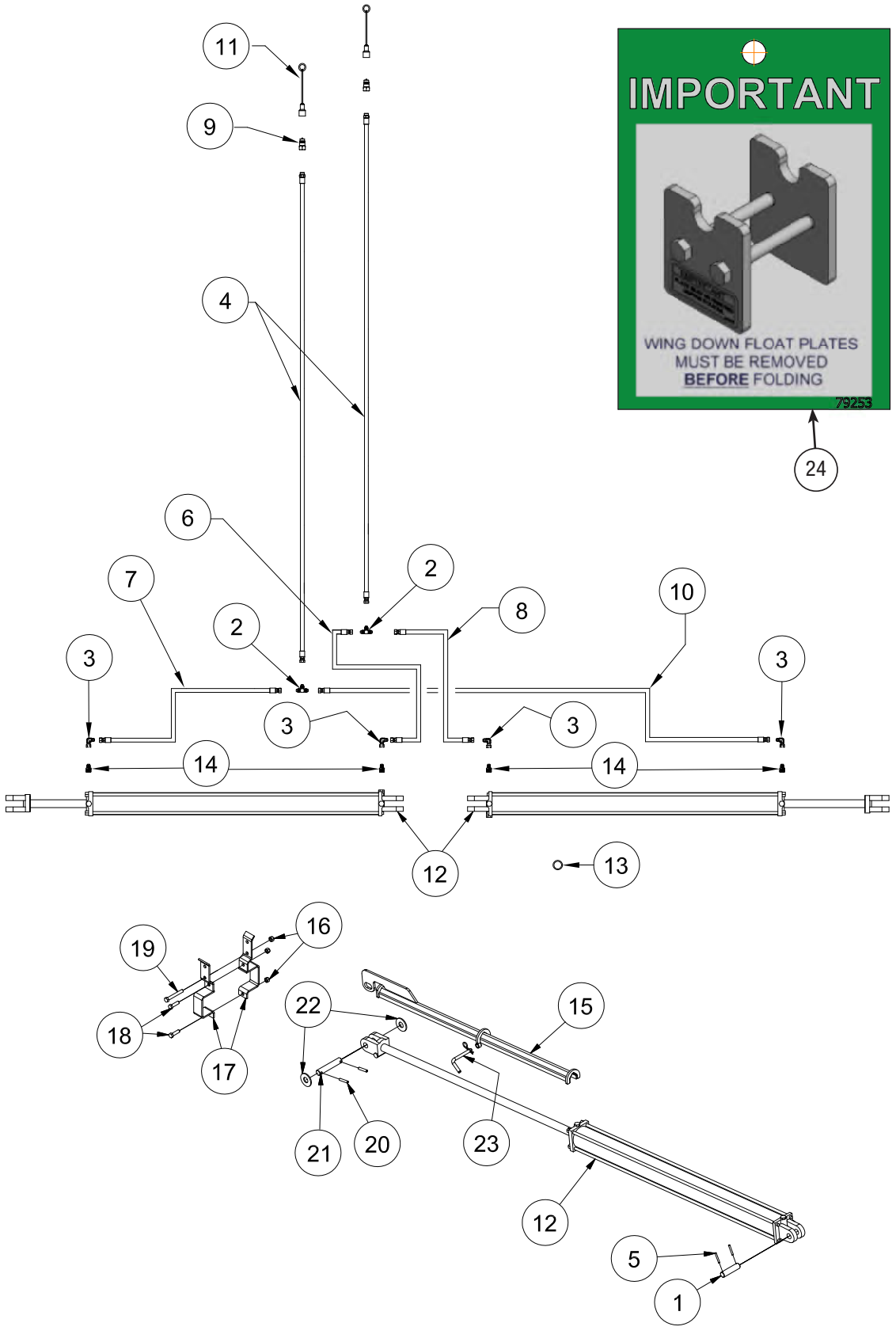
Hydraulics — Folding Perfecta — 30'-40'
Beginning with Serial Number A65030100



Hydraulics — Folding Perfecta — 30'-40' Beginning with Serial Number A65030100

ITEM	PART NO.	DESCRIPTION	30-34' PERFECTA 15' BASE	36-40' PERFECTA 18' BASE	NOTES
1	85631	Pin 1" Dia. x 4"	2	2	
2	9807	Lock Nut/Top, 5/16"-18UNC	2	2	
3	9876	90° Elbow 9/16-18 JIC Male x 9/16-18 JIC Female	4	4	
4	9002653	Hydraulic Hose 3/8" x 86"	2	2	
5	91144-165	Spiral Pin 1/4" Dia. x 1 7/8"	4	4	
6	9501680	Hydraulic Hose 3/8" x 26"	1	-	
	9002299	Hydraulic Hose 3/8" x 16 3/4"	-	1	
7	9501677	Hydraulic Hose 3/8" x 54"	1	-	
	91198	Hydraulic Hose 3/8" x 70"	-	1	
8	9502776	Hydraulic Hose 3/8" x 32"	1	-	
	9501680	Hydraulic Hose 3/8" x 26"	-	1	
9	91383	Male Coupling	2	2	
10	9501684	Hydraulic Hose 3/8" x 68"	1	-	
	9501685	Hydraulic Hose 3/8" x 80"	-	1	
11	91511	Dust Cap	2	2	
12	901546	Hydraulic Cylinder 3 1/2 x 48	2	2	
13	91608	Orifice	4	4	
14	91144-207	Spiral Pin 3/8" Dia. x 2"	4	4	
15	75827	Pin 1" Dia. x 5 1/2"	2	2	
16	9405-118	Flat Washer 1" USS	4	4	
17	78770	Divider/Pilot Check Valve Assembly	1	1	
18	78780B	Mounting Plate	1	1	
19	9390-040	Capscrew, 5/16"-18UNC x 3 1/2" G5	2	2	
20	92927	Adapter 9/16-18 JIC Male x 3/4-10 O-Ring Male	2	2	
21	9874	90° Elbow 9/16-18 JIC Male x 3/4-16 O-Ring Male	4	4	
22	9390-191	Capscrew, 1"-8UNC x 4" G5	2	2	
23	9663	Lock Nut/Top, 1"-8UNC	2	2	
24	9840	O-Ring (For Repairs Only)	-	-	NOT SHOWN
25	79253	Decal, IMPORTANT "Wing Down Float Plates"	1	1	

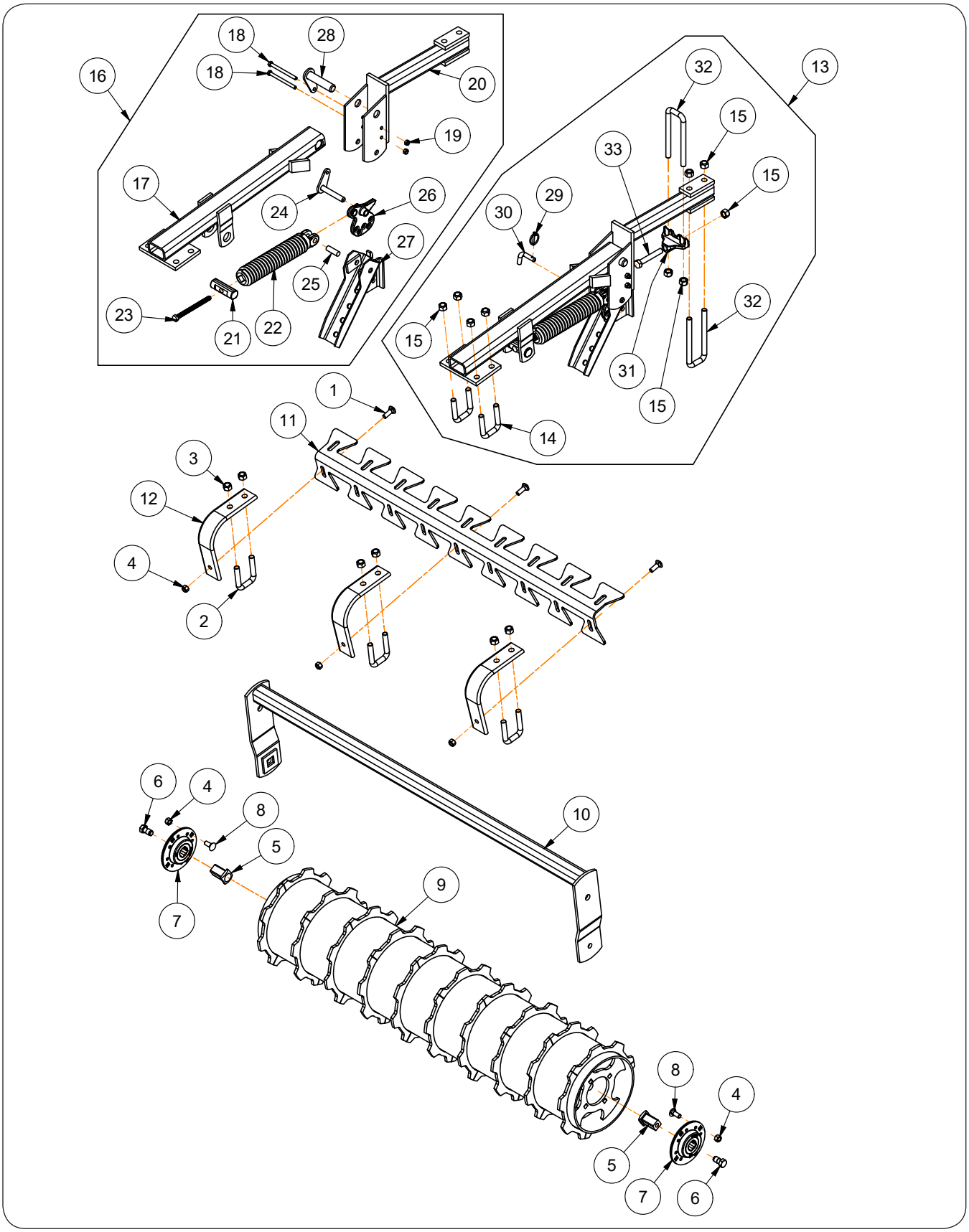
Hydraulics — Folding Perfecta — 30'-40'
Prior to Serial Number A65030100



Hydraulics — Folding Perfecta — 30'-40' Prior to Serial Number A65030100

ITEM	PART NO.	DESCRIPTION	30-34' PERFECTA 15' BASE	36-40' PERFECTA 18' BASE	NOTES
1	85631	Pin 1" Dia. x 4"	2	2	
2	9875	Tee 9/16-18	2	2	
3	9876	90° Elbow - 9/16-18	4	4	
4	9002653	Hydraulic Hose 3/8" x 86"	2	2	
5	91144-165	Spiral Pin 1/4" Dia. x 1 7/8"	4	4	
6	9501680	Hydraulic Hose 3/8" x 26"	1	-	
	9002299	Hydraulic Hose 3/8" x 16 3/4"	-	1	
7	9501677	Hydraulic Hose 3/8" x 54"	1	-	
	91198	Hydraulic Hose 3/8" x 70"	-	1	
8	9502776	Hydraulic Hose 3/8" x 32"	1	-	
	9501680	Hydraulic Hose 3/8" x 26"	-	1	
9	91383	Male Coupling	2	2	
10	9501684	Hydraulic Hose 3/8" x 68"	1	-	
	9501685	Hydraulic Hose 3/8" x 80"	-	1	
11	91511	Dust Cap	2	2	
12	901546	Hydraulic Cylinder 3 1/2 x 48	2	2	
13	9840	O-Ring (For Repairs Only)	-	-	
14	91608	Orifice	4	4	
15	75737B	Cylinder Stop Weldment =Black=	2	2	
16	9800	Locknut/Top 1/2"-13UNC	6	6	
17	76359B	Cylinder Stop Storage Bracket Weldment =Black=	4	4	
18	9390-102	Capscrew 1/2"-13UNC x 1 3/4" Gr5	4	4	
19	9390-110	Capscrew 1/2"-13UNC x 3 3/4" Gr5	2	2	
20	91144-207	Spiral Pin 3/8" Dia. x 2"	4	4	
21	75827	Pin 1" Dia. x 5 1/2"	2	2	
22	9405-118	Flat Washer 1" USS	4	4	
23	900801	Bent Pin 1/2" Dia. with Hairpin	2	2	
24	79253	Decal, IMPORTANT "Wing Down Float Plates"	1	1	

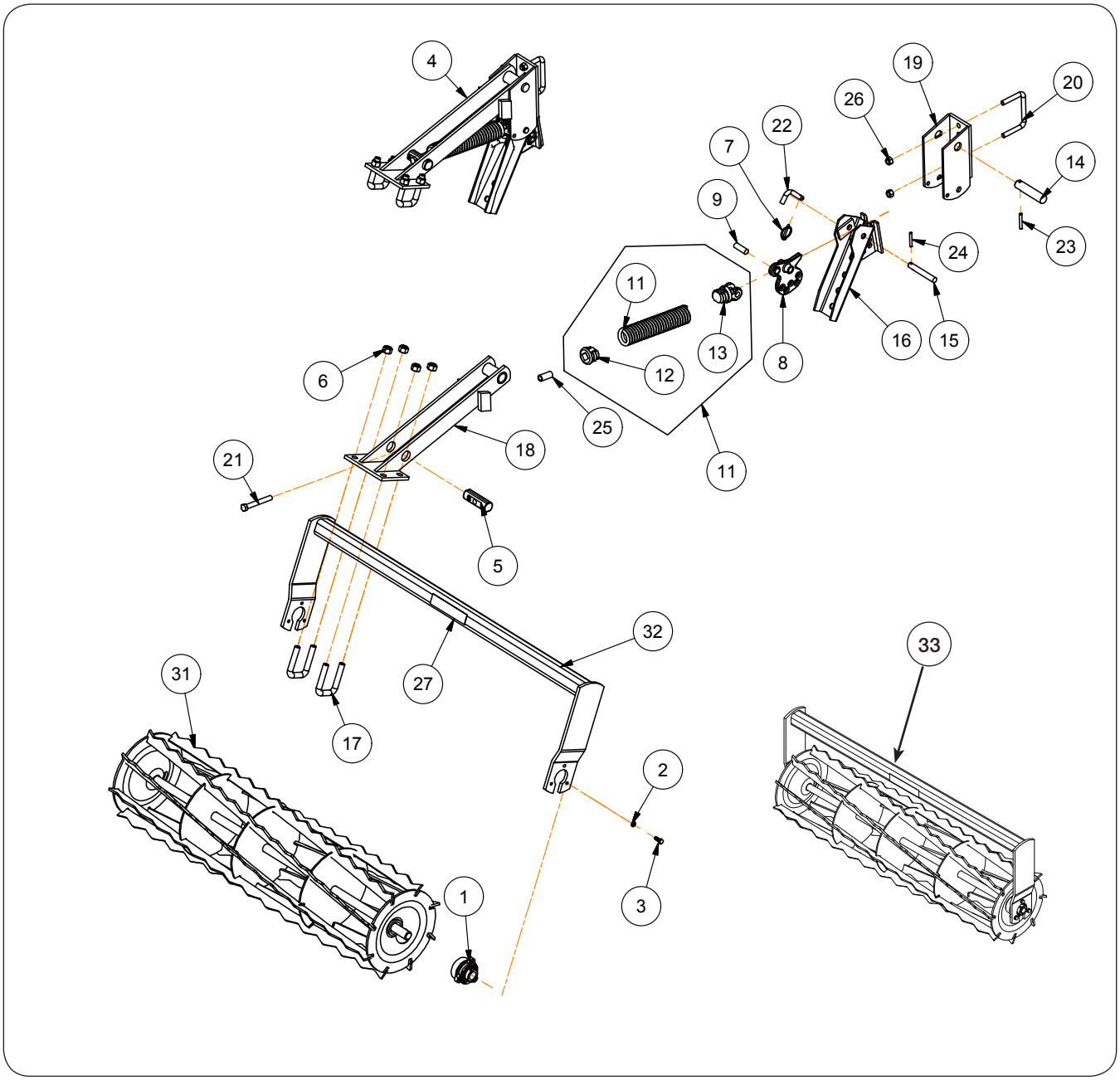
Drum Roller Components



Drum Roller Components

ITEM	PART NUMBER	DESCRIPTION	QTY			
			DRUM ROLLER ASSEMBLY			
			4 FT.	5 FT.	6 FT. LH	6 FT. RH
	76513B	Drum Roller 4 Ft. Assembly	1	-	-	-
	76512B	Drum Roller 5 Ft. Assembly (SHOWN)	-	1	-	-
	76514B	Drum Roller 6 Ft. LH Assembly	-	-	1	-
	76515B	Drum Roller 6 Ft. RH Assembly	-	-	-	1
1	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" G5	2	3	4	4
2	85620	U-Bolt 5/8"-11UNC	2	3	4	4
3	9801	Locknut 5/8"-11UNC	4	6	8	8
4	9800	Locknut 1/2"-13UNC	10	11	12	12
5	74280	Bearing Bolt 1.125" Sq.	2	2	2	2
6	900872	Capscrew 5/8"-11UNC 1 1/4" G5	2	2	2	2
7	902714	Flange Bearing 1 1/8" Sq. Bore	2	2	2	2
8	9388-103	Carriage Bolt 1/2"-13UNC x 1 1/4" G5	8	8	8	8
	76025B	Drum Roller 4 Ft. Weldment	1	-	-	-
9	76009B	Drum Roller 5 Ft. Weldment (SHOWN)	-	1	-	-
	76026B	Drum Roller 6 Ft. Weldment	-	-	1	1
	76447B	Frame 4 Ft. Weldment	1	-	-	-
10	76480B	Frame 5 Ft. Weldment (SHOWN)	-	1	-	-
	76443B	Frame 6 Ft. Weldment	-	-	1	1
	76969B	Drum Scraper 4 Ft. Plate (Gen 2)	1	-	1	1
11	76970B	Drum Scraper 5 Ft. Plate (Gen 2) (SHOWN)	-	1	-	-
	76971B	Drum Scraper 2 Ft. Plate (Gen 2)	-	-	1	1
12	76464	Scraper Mounting Arm	2	3	4	4
13	76425B	Mounting Arm Drum Roller	2	2	2	2
14	85620	U-Bolt 5/8"-11UNC	2	2	2	2
15	9801	Locknut 5/8"-11UNC	9	9	9	9
16	76427B	Mounting Arm Assembly	1	1	1	1
17	76430	Straight Arm Weldment	1	1	1	1
18	9390-068	Capscrew 3/8"-16UNC x 4 1/2"	2	2	2	2
19	9928	Locknut 3/8"-16UNC	2	2	2	2
20	76428	Mounting Bracket	1	1	1	1
21	67173	Trunnion	1	1	1	1
22	82250B	Spring Assembly	1	1	1	1
23	97171	Capscrew 1/2"-13UNC x 6"	1	1	1	1
24	86251B	Pin Weldment	1	1	1	1
25	81321	Pin	1	1	1	1
26	89256	Link	1	1	1	1
27	74848	Saddle Weldment	1	1	1	1
28	76331PL	Pin Weldment	1	1	1	1
29	9093	Klik Pin 3/16" Dia.	1	1	1	1
30	902450	Bent Pin 1/2" Dia. x 1 7/32"	1	1	1	1
31	67922B	Clamp	1	1	1	1
32	9501753	U-Bolt 5/8"-11UNC	2	2	2	2
33	9390-132	Capscrew 5/8"-11UNC x 4"	1	1	1	1

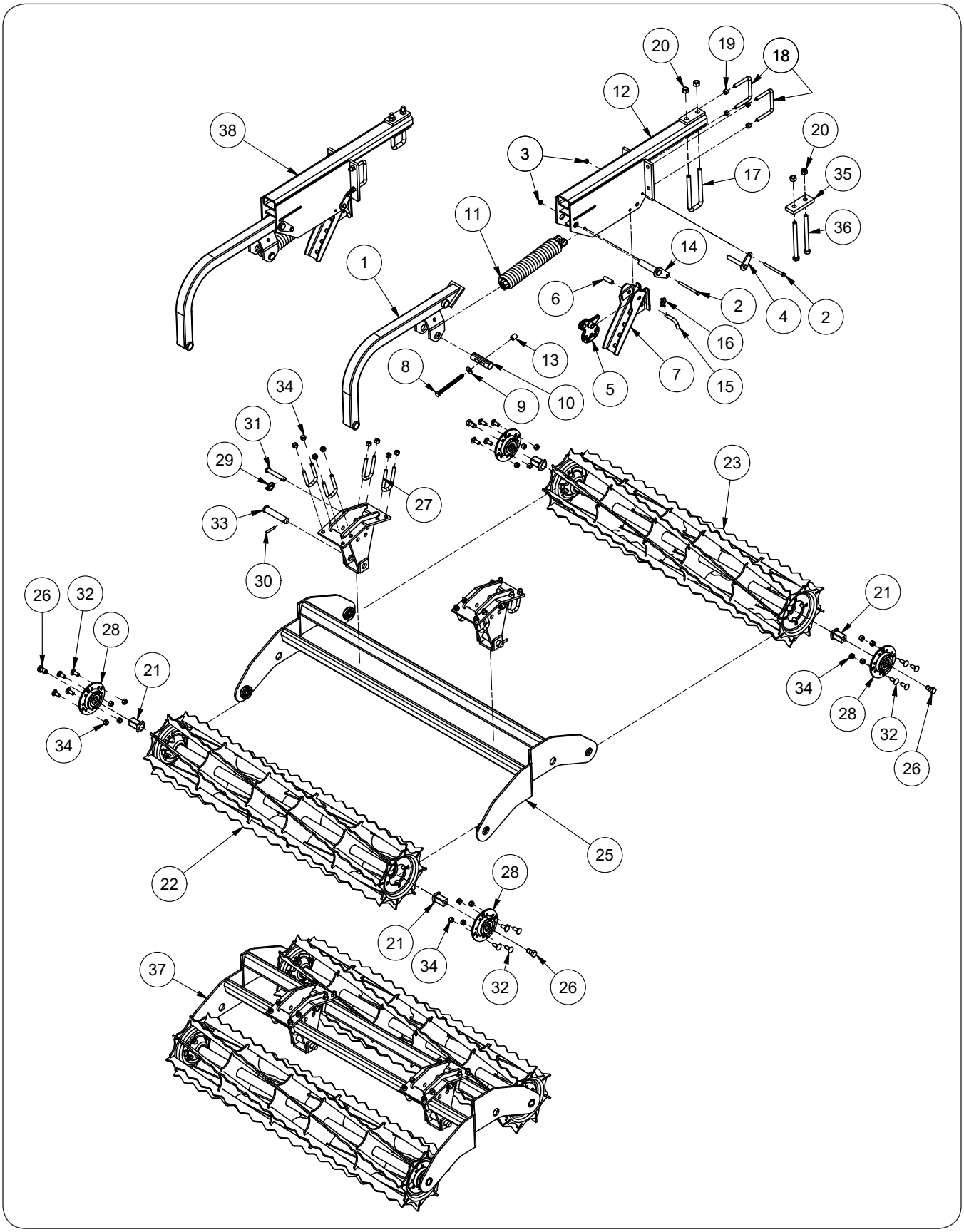
Single Rolling Harrow Basket Components



Single Rolling Harrow Basket Components

ITEM	PART NO.	DESCRIPTION	NOTES
1	87181	Flange Bearing Assembly	Incl. washer, flange bearing, seal & collar
2	9404-019	5/16 Lock Washer	
3	97321	Capscrew 5/16-18 x 7/8" Lg. (Epoxy Lock)	
4	74227B	Arm Assembly	Includes Items 5 through 26
5	67173	Trunnion	
6	9801	Locknut 5/8-11	
7	9093	Klik Pin 3/16" Dia.	
8	89256	Link	
9	81321	Pin 5/8" Dia. x 1 7/8" Lg.	
10	82251B	Spring Assembly	
11	9798B	Spring	
12	8001B	Spring Plug	
13	81249B	Spring Clevis	
14	84356	D-Pin 1" Dia. x 4 1/2" Lg.	
15	84371	D-Pin 5/8" Dia. x 4 3/8" Lg.	
16	89260B	Saddle Weldment	
17	85620	U-Bolt 5/8-11	
18	86825B	Arm Weldment	
19	81308B	Mounting Bracket	
20	91434	U-Bolt 1/2"-13UNC	
21	91552	Full Threaded Bolt 1/2"-13UNC x 4"	
22	902450	Bent Pin 1/2" Dia.	
23	91144-186	Spiral Pin 5/16" Dia. x 2"	
24	91144-165	Spiral Pin 1/4" Dia. x 1 7/8"	
25	84259PL	Spacer Tube	
26	9800	Locknut 1/2"-13UNC	
27	92256	Decal, Roller Action	
31	81123	4 Ft. Aggressive Roller	
	81125	5 Ft. Aggressive Roller	
	71423B	6 Ft. Aggressive Roller	
32	81327	4 Ft. Rolling Harrow Frame	
	81328	5 Ft. Rolling Harrow Frame	
	71364B	6 Ft. Rolling Harrow Frame	
33	81324	Basket & Frame 4 Ft. Assembly	Includes Items 1, 2, 3, 27, 31, 32
	81325	Basket & Frame 5 Ft. Assembly	
	86388B	Basket & Frame 6 Ft. Assembly	

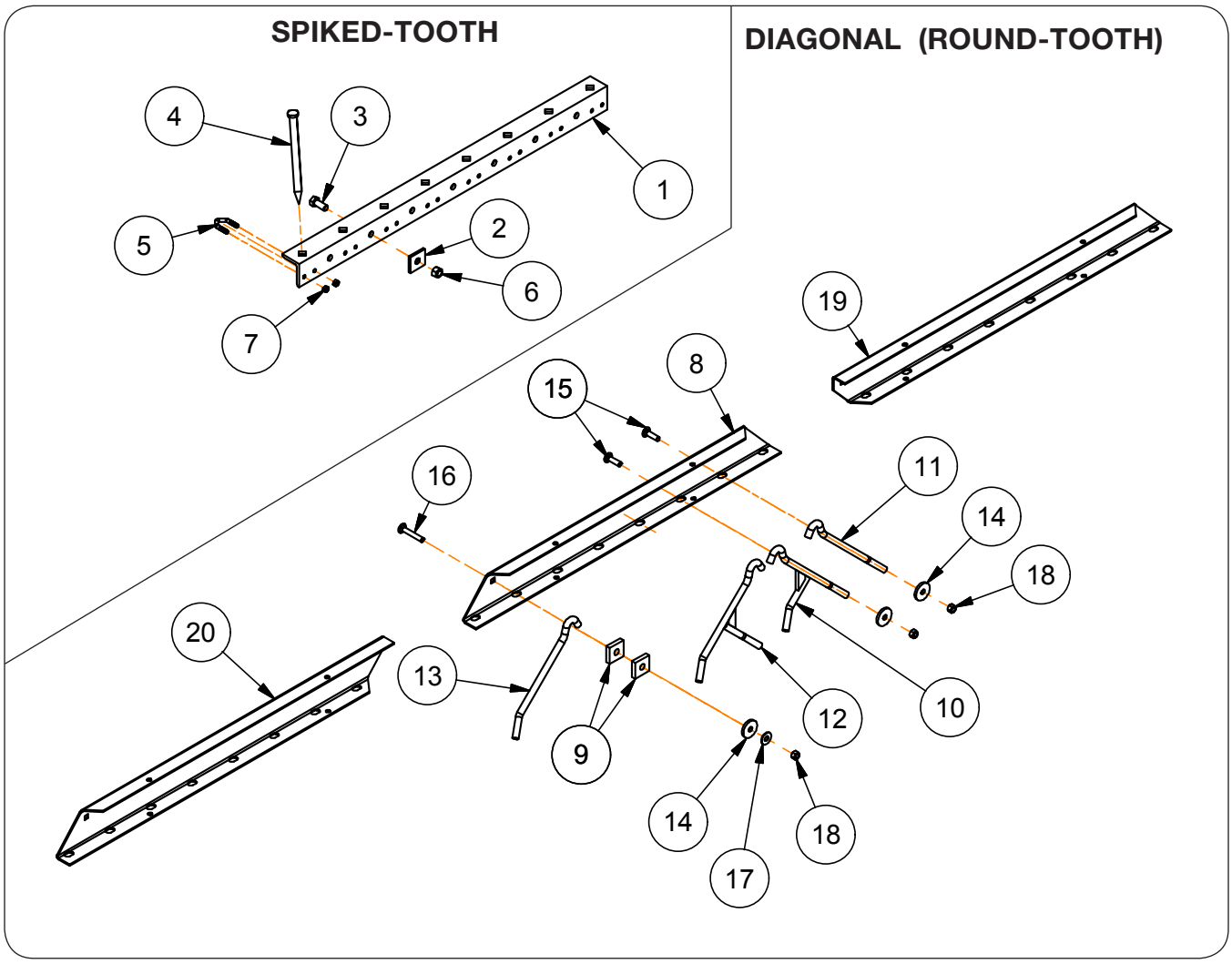
Double Rolling Harrow Basket Components



Double Rolling Harrow Basket Components

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	74793B	Bent Arm Weldment	2	
2	9390-068	Capscrew 3/8"-16UNC x 4 1/2" G5	4	
3	9928	Lock Nut/Top 3/8"-16UNC	4	
4	86251B	Pin Weldment 5/8" Dia. x 3 7/8"	2	
5	89256	Link/Adjustable Plate	2	
6	81321	Pin 5/8" Dia. x 1 7/8"	2	
7	74848B	Saddle Weldment	2	
8	97171	Capscrew 1/2"-13UNC x 6" G5 Full Threaded	2	
9	9405-082	Flat Washer 7/16" USS	2	
10	74850	Trunnion 1 1/4" Dia. x 4 1/4"	2	
11	75473B	Spring Assembly	2	
12	76405	Rear Bracket Weldment	2	
13	21491	Bushing	2	
14	76331PL	Pin Weldment 1" Dia. x 4 11/16"	2	
15	902450	Bent Pin 1/2" Dia.	2	
16	9093	Klik Pin 3/16" Dia.	2	
17	9501753	U-Bolt 5/8"-11UNC x 7 1/4"	2	
18	95161	U-Bolt 1/2"-13UNC x 3 1/2"	4	
19	9800	Lock Nut 1/2"-13UNC	8	
20	9801	Lock Nut 5/8"-11UNC	4	
21	74280	Bearing Bolt 1.125SQ x 2 1/16	4	
22	74597B	Regular Basket 4' Weldment	1	
	74576B	Regular Basket 5' Weldment (SHOWN)		
	74598B	Regular Basket 6' Weldment		
23	74600B	Aggressive Basket 4' Weldment	1	
	74579B	Aggressive Basket 5' Weldment (SHOWN)		
	74601B	Aggressive Basket 6' Weldment		
24	79921B	Bolt-On Basket Bracket Weldment	2	
25	76487B	Frame 4' Weldment	1	
	76478B	Frame 5' Weldment (SHOWN)		
	76473B	Frame 6' Weldment		
26	900872	Capscrew 5/8"-11UNC x 1 1/4" G5 Full Threaded	4	
27	901837	U-Bolt 1/2"-13UNC	8	
28	902714	Flange Bearing Assembly	4	
29	9093	Klik Pin 3/16" Dia.	2	
30	91144-186	Spiral Pin 5/16" Dia. x 2"	2	
31	91523	Clevis Pin 5/8" Dia. x 4"	2	
32	9388-103	Carriage Bolt 1/2"-13UNC x 1 1/4" G5	16	
33	9500423	Pin 1" Dia. x 5 1/8"	2	
34	9800	Lock Nut 1/2"-13UNC	32	
35	77059	Mounting Arm Kit	1	Includes Bar & Items 20 & 36
	76442B	Bar 5/8" x 2" x 5"	2	
36	9390-139	Capscrew, 5/8"-11UNC x 7 1/2"	4	
37	76486B	Basket & Frame 4' Assembly	-	Includes Items 21-23, 25, 26, 28, 32, 34
	76477B	Basket & Frame 5' Assembly	-	
	76471B	Basket & Frame 6' Assembly	-	
38	76441B	Mounting Arm Assembly	-	Includes Items 1-20, 35 & 36

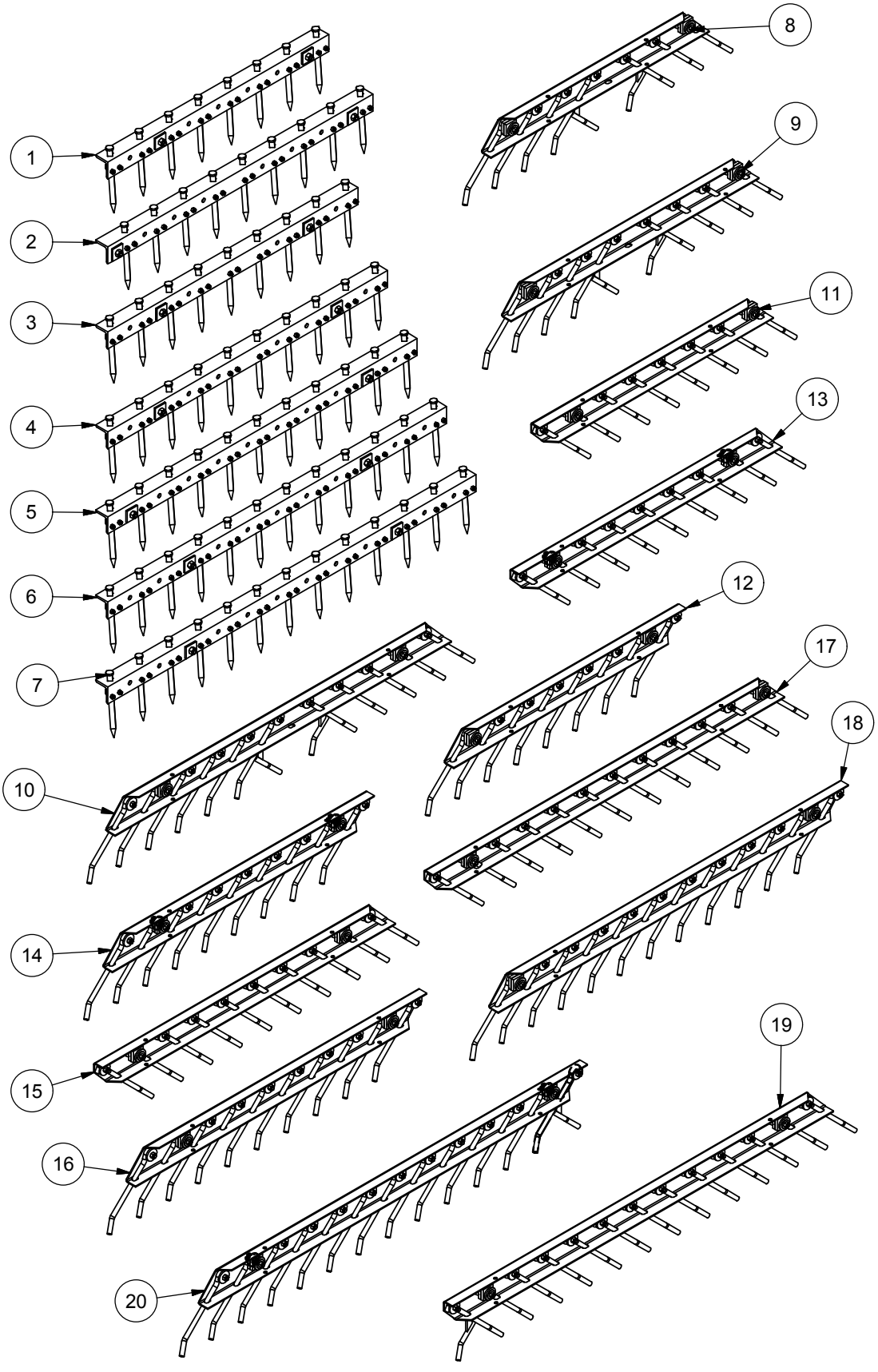
Leveler Bar Components



Leveler Bar Components

ITEM	PART NO.	DESCRIPTION	NOTES
1	71185B	4 Ft. Spike Tooth Leveler-Bar	
	72963B	4 1/2 Ft. LH Spike Tooth Leveler-Bar	
	106918B	4 1/2' Ft. LH Spike Tooth Leveler-Bar	
	71186B	5 Ft. Spike Tooth Leveler-Bar	
	72965B	5 1/2 Ft. Spike Tooth Leveler-Bar	
	71580B	6 Ft. Spike Tooth Leveler-Bar	
	72967B	6 1/2 Ft. Spike Tooth Leveler-Bar	
2	83284	Square Washer	
3	9390-122	Capscrew 5/8"-11 x 1 1/2"	
4	9634P	Diamond-Shaped Spike Tooth	
5	9635	V-Bolt 3/8"-16UNC	
6	9801	Hex Nut 5/8"-11UNC	
7	9928	Locknut 3/8"-16UNC	
8	71254B	4 Ft. Round Tooth Leveler-Bar Center	
	76466B	4 1/2 Ft. Round Tooth Leveler-Bar Center	
	71583B	6 Ft. Round Tooth Leveler-Bar Center	
9	3788B	Spacer (Required In Two Places)	
10	74670B	RH "Y" Tooth Weldment	
11	74672B	RH Tooth	
12	74671B	LH "Y" Tooth Weldment	
13	74676B	LH Tooth	
14	91069	Flat Washer 2" OD	
15	9388-105	Carriage Bolt 1/2-13 x 1 3/4" Lg.	
16	9388-110	Carriage Bolt 1/2-13 x 3" Lg.	
17	9405-088	Flat Washer 1/2" USS	
18	9800	Locknut 1/2-13	
19	71258B	4 Ft. Round Tooth Leveler-Bar Right Half	
	71316B	4 1/2 Ft. Round Tooth Leveler-Bar Right Half	
	71260B	5 Ft. Round Tooth Leveler-Bar Right Half	
	72144B	6 Ft. Round Tooth Leveler-Bar Right Half	
	72525B	6 1/2 Ft. Round Tooth Leveler-Bar Right Half	
20	71259B	4 Ft. Round Tooth Leveler-Bar Left Half	
	71296B	4 1/2 Ft. Round Tooth Leveler-Bar Left Half	
	71261B	5 Ft. Round Tooth Leveler-Bar Left Half	
	72147B	6 Ft. Round Tooth Leveler-Bar Left Half	
	72523B	6 1/2 Ft. Round Tooth Leveler-Bar Left Half	

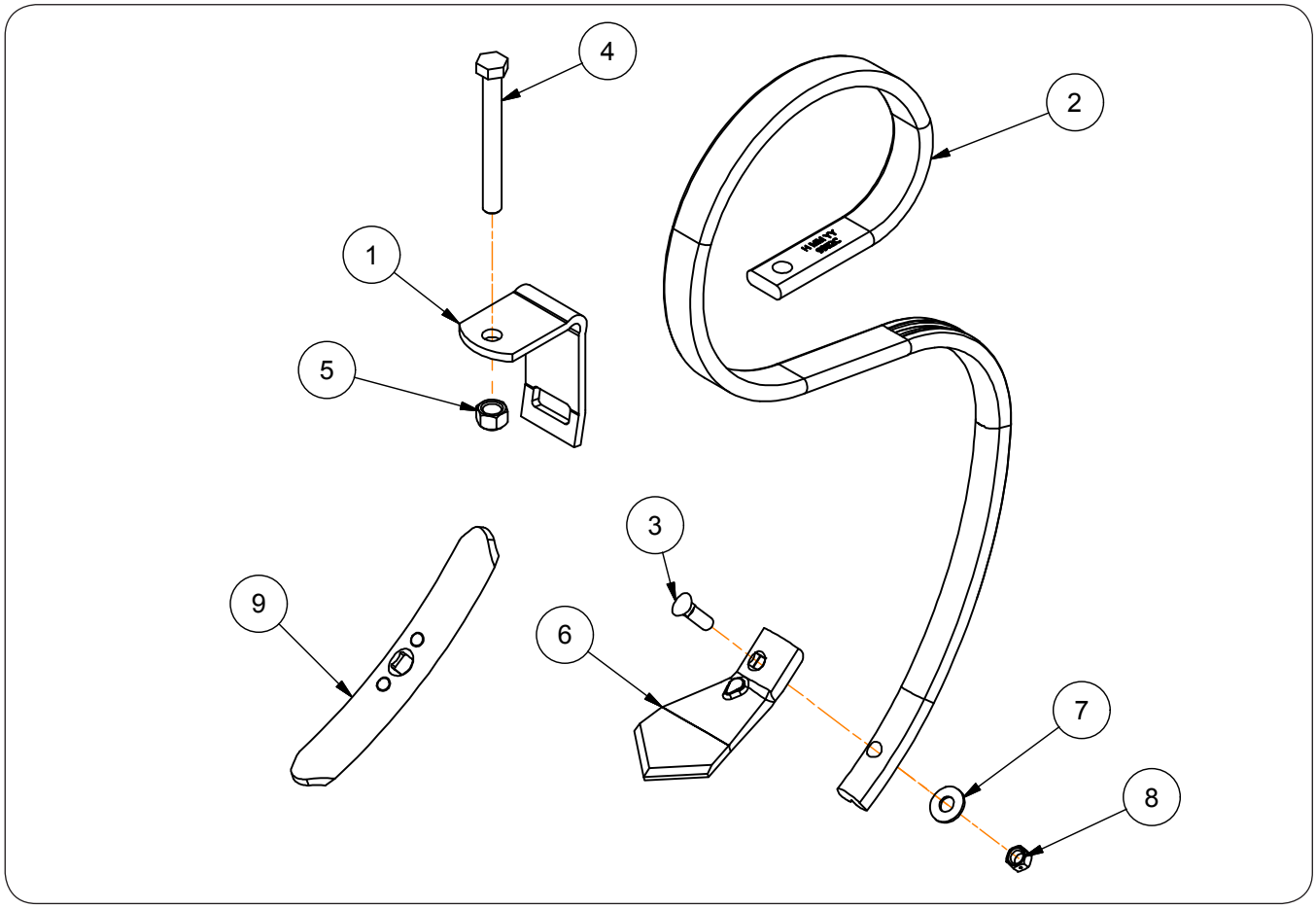
Leveler Bar Assemblies



Leveler Bar Assemblies

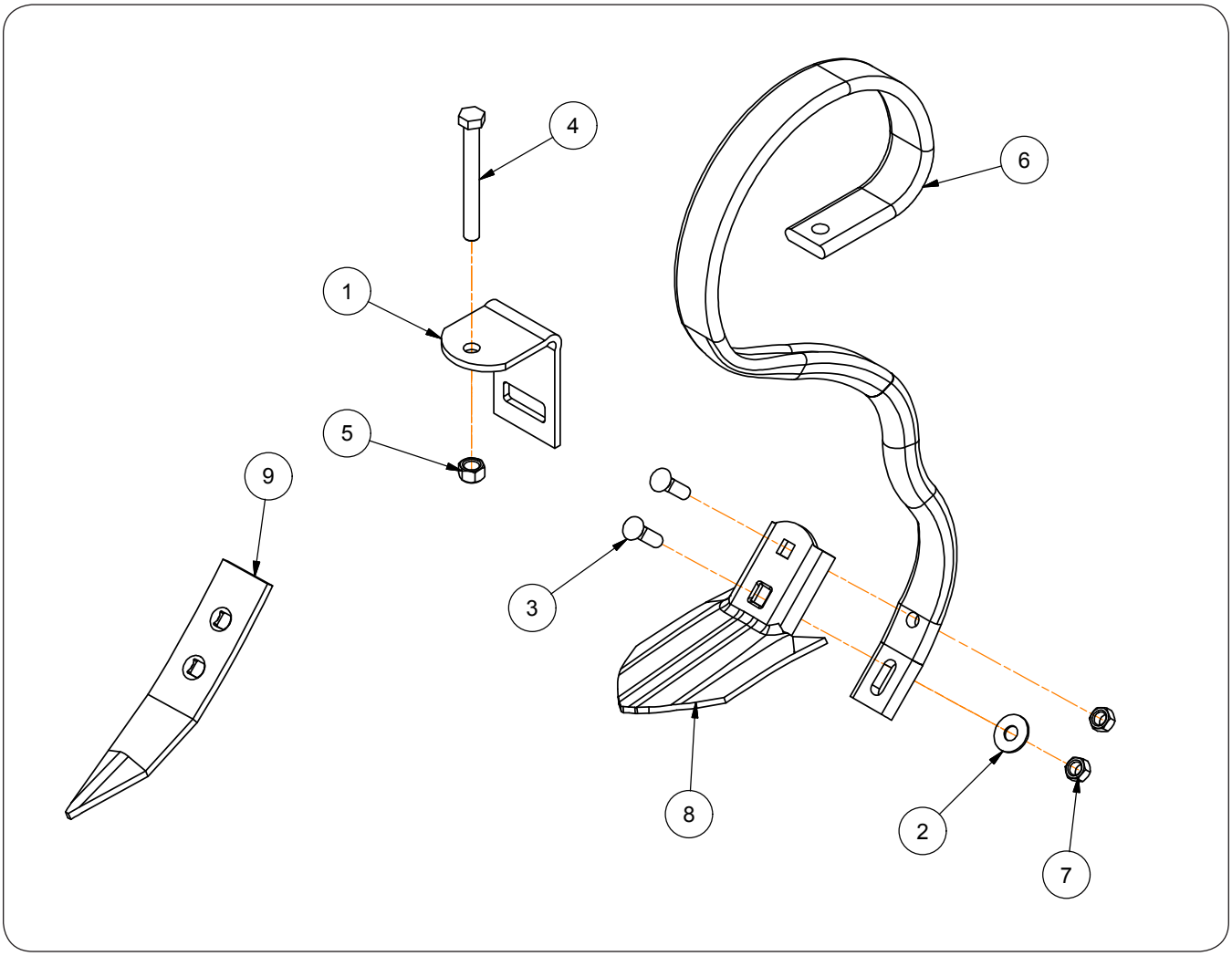
ITEM	PART NUMBER	DESCRIPTION
1	71182	Straight Spike-Tooth One Bar 4' Assembly
2	72964B	Straight Spike-Tooth One Bar 4 1/2' LH Assembly
3	106919	Straight Spike-Tooth One Bar 4 1/2' Assembly
4	71183	Straight Spike-Tooth One Bar 5' Assembly
5	72966B	Straight Spike-Tooth One Bar 5 1/2' Assembly
6	71579B	Straight Spike-Tooth One Bar 6' Assembly
7	72968B	Straight Spike-Tooth One Bar 6 1/2' Assembly
8	74687B	Diagonal-Tooth One Bar 4' Center Assembly
9	76465B	Diagonal-Tooth One Bar 4 1/2' Center Assembly
10	76692B	Diagonal-Tooth One Bar 6' Center Assembly
11	74682B	Diagonal-Tooth One Bar 4' RH Assembly
12	74681B	Diagonal-Tooth One Bar 4' LH Assembly
13	76830B	Diagonal-Tooth One Bar 4 1/2' RH Assembly
14	76831B	Diagonal-Tooth One Bar 4 1/2' LH Assembly
15	74684B	Diagonal-Tooth One Bar 5' RH Assembly
16	74683B	Diagonal-Tooth One Bar 5' LH Assembly
17	74686B	Diagonal-Tooth One Bar 6' RH Assembly
18	74685B	Diagonal-Tooth One Bar 6' LH Assembly
19	76827B	Diagonal-Tooth One Bar 6 1/2' RH-Y Assembly
20	76828B	Diagonal-Tooth One Bar 6 1/2' LH-Y Assembly

S-Tines, Sweeps & Shovels — Model 10



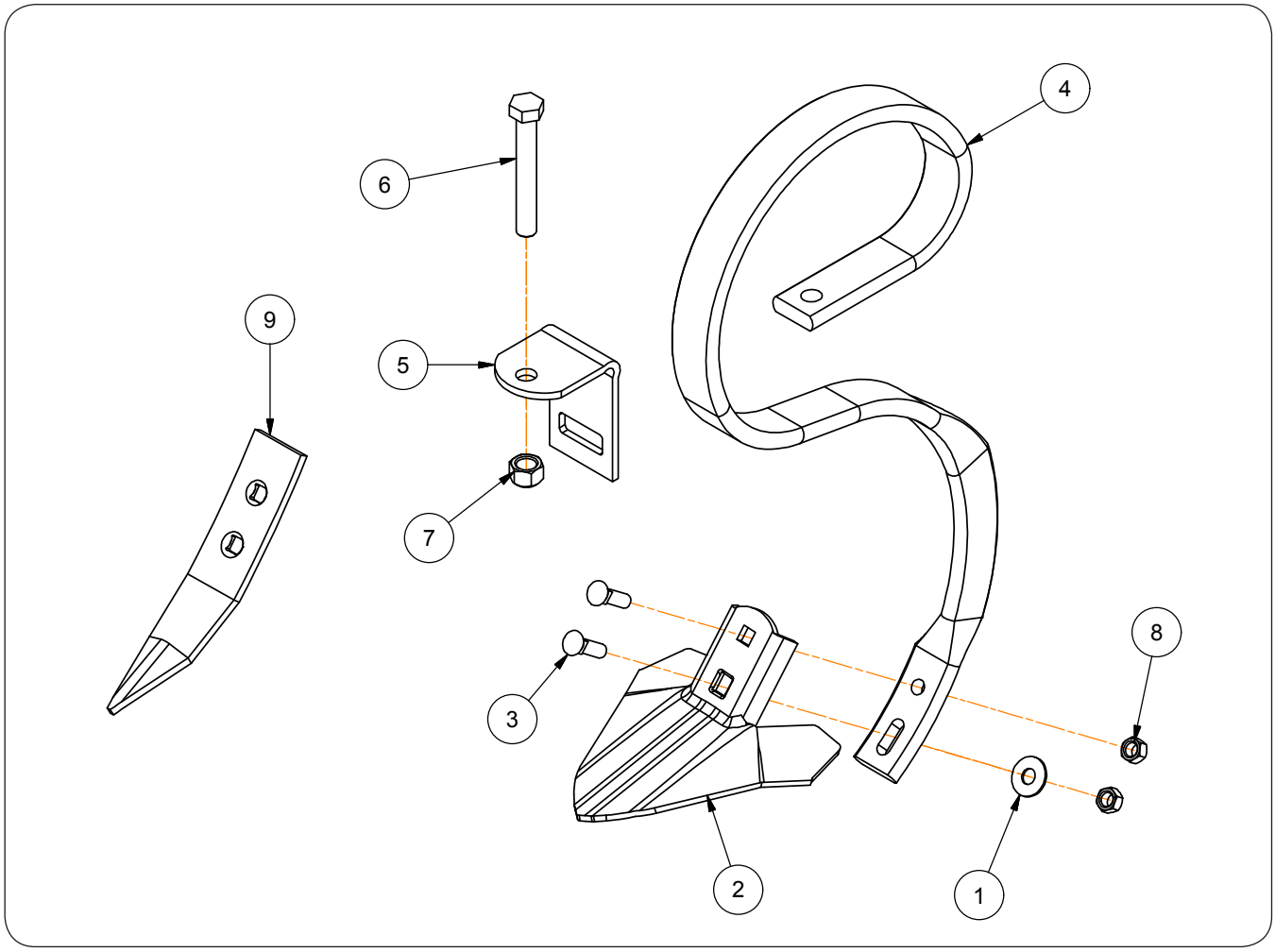
ITEM	PART NO.	DESCRIPTION	NOTES
1	82065	Clamp	
2	9952	S-Tine 1 1/4 x 1/2 (32 x 12 M.M.)	
3	9823	Plow Bolt 3/8-16UNC x 1 1/2" Lg.	Grade 8
4	9390-112	Capscrew 1/2-13UNC x 4 1/2" Lg.	Grade 5
5	9800	Locknut 1/2-13UNC	
6	91381	Sweep 2 3/4”	
7	9005471	Flat Washer 3/8”	Hardened
8	902875	Locknut 3/8-16UNC	
9	9974	Point 8”x 1 3/8” X 1/4”	

S-Tines, Sweeps & Shovels — Model 12



ITEM	PART NO.	DESCRIPTION	NOTES
1	83417	Clamp	
2	9405-082	Flat Washer 7/16" USS	
3	91411	Plow Bolt 7/16-14UNC x 1 1/2" #3 Flat Head	Grade 5
4	9390-112	Capscrew 1/2-13UNC x 4 1/2"	Grade 5
5	9800	Locknut 1/2-13UNC	
6	94138	S-Tine H.D. Edge Rolled (High Residue) .472x1.772x18.96	
7	9799	Locknut 7/16-14UNC	
8	9500465	Sweep 4”	
9	95848	Point Shovel (Non-Reversible) 2x5/16x9 1/2	

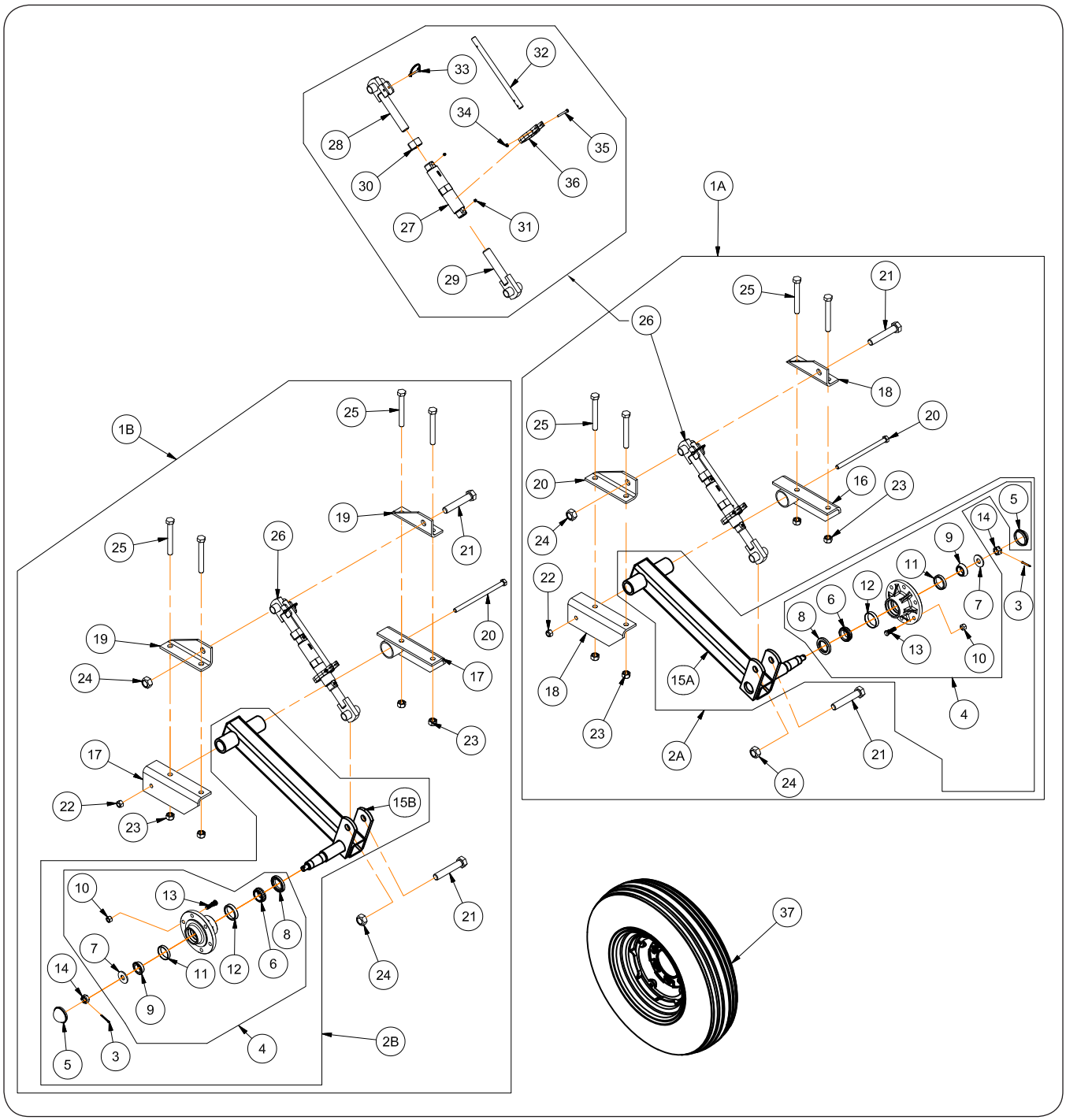
S-Tines, Sweeps & Shovels — Model 14



S-Tines, Sweeps & Shovels — Model 14

ITEM	PART NO.	DESCRIPTION	NOTES
1	9405-082	Flat Washer 7/16" USS	
2	93687	Sweep 7”	
3	91411	Plow Bolt 7/16-14UNC x 1 1/2" #3 Flat Head	Grade 5
4	91495	S-Tine with Edge Flattened For Trash Clearance 9/16x1 3/4x19 1/4	
5	82066	Clamp	
6	9390-133	Capscrew 5/8-11UNC x 4 1/2"	Grade 5
7	9801	Locknut 5/8-11UNC	
8	9799	Locknut 7/16-14UNC	
9	95848	Point Shovel (Non-Reversible) 2x5/16x9 1/2	

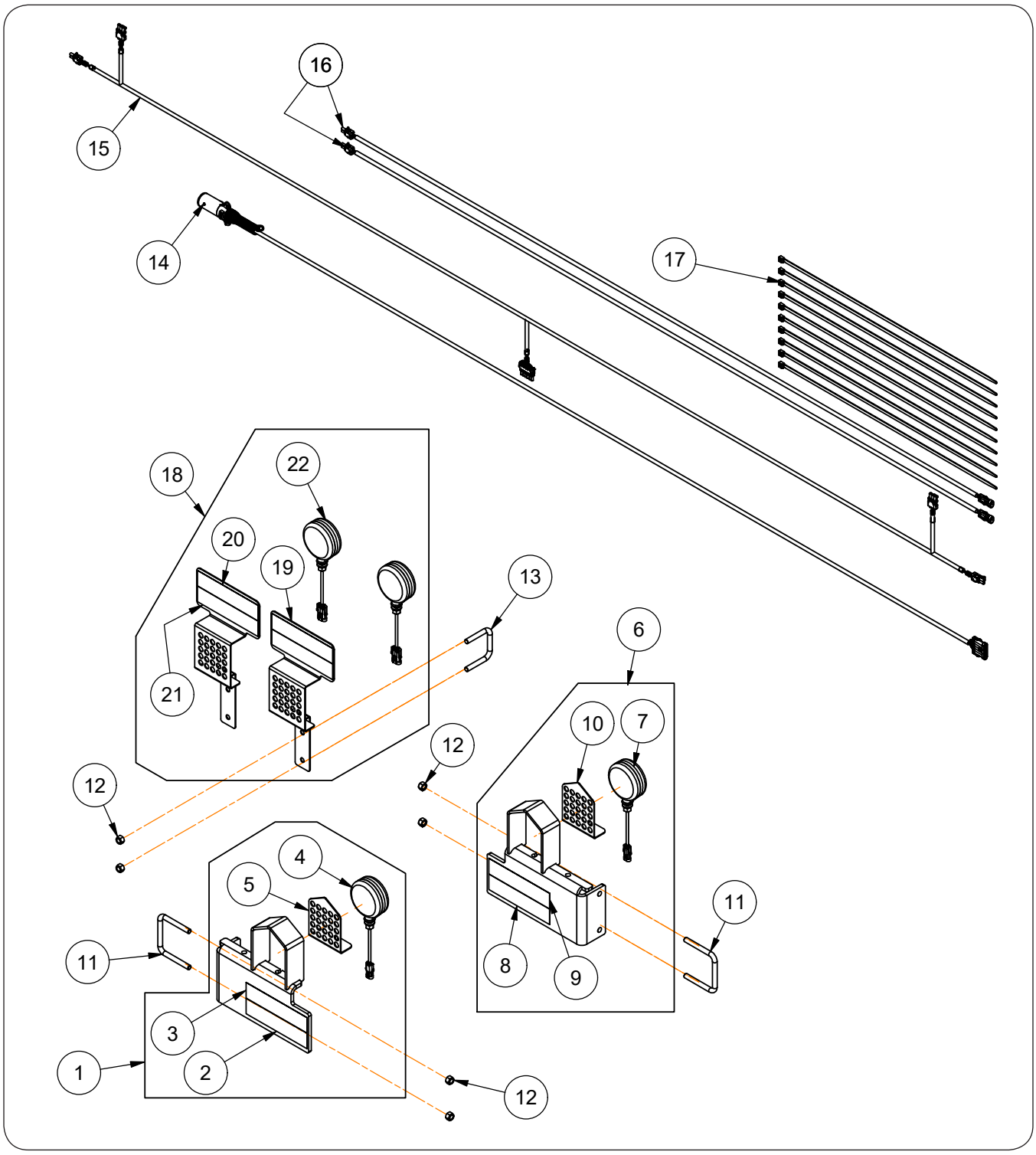
Stablizer Wheels



Stablizer Wheels

ITEM	PART NUMBER	DESCRIPTION	QTY
1A	75881B	Stabilizer Wheel Right-Hand Assembly	1
1B	75815B	Stabilizer Wheel Left-Hand Assembly	1
2A	75882B	Arm Hub Assembly Right-Hand	1
2B	75816B	Arm Hub Assembly Left-Hand	1
3	9391-035	Cotter Pin 5/32" Dia. x 1 1/2"	1
4	9768B	Hub Assembly	1
5	9162	Hub Cap	1
6	9166	Bearing Cone	1
7	9234	Flat Washer-Hardened	1
8	9168	Seal	1
9	9165	Bearing Cone #LM67048	1
10	9348	Beveled Nut 1/2"-20UNF	6
11	9345	Bearing Cup #LM67010	1
12	9346	Cup - Inner	1
13	9347	Stud Bolt 1/2"-20UNFx1 7/8"	6
14	9393-016	Slotted Nut 3/4"-16 UNF Gr2	1
15A	76906B	Spindle Arm Right-Hand Weldment	1
15B	76914B	Spindle Arm Left-Hand Weldment	1
16	60909	Pivot Tube Weldment Right-Hand	1
17	60910	Pivot Tube Weldment Left-Hand	1
18	60890	Adjusting Clamp Bracket Right-Hand	1
19	60891	Adjusting Clamp Bracket Left-Hand	1
20	9390-444	Capscrew 5/8"-11UNC x 10 1/2" Gr5	1
21	9390-194	Capscrew 1"-8UNC x 5 1/2" Gr5	2
22	9801	Locknut/Top 5/8"-11UNC	1
23	9802	Locknut/Top 3/4"-10UNC	4
24	9663	Locknut/Top 1"-8UNC	2
25	9390-157	Capscrew 3/4"-10UNC x 6" Gr5	4
26	66833	Turnbuckle Assembly 20 1/2" Nom.	1
27	62324	Turnbuckle Casting	1
28	66832	Adjusting Rod Weldment Right-Hand	1
29	60907	Adjusting Rod Weldment Left-Hand	1
30	9394-024	Hex Nut 1 1/4"-7UNC G5	1
31	91160	Grease Zerk	2
32	66830	Rod-Handle	1
33	9000936	Lynch Pin	1
34	9936	Locknut/Top 1/4"-20UNC	1
35	9390-009	Capscrew 1/4"-20UNC x 2" Gr5	1
36	67957	Wrench Body-Cast	1
37	81145	Mounted Tire & Wheel Assemly (W615-6 TL7.6B15 8-PLY I-1)	2

Light Kit #76557B



Light Kit #76557B

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	75953B	Light Bracket Right-Hand	1	
2	9003126	Reflector =RED=	1	
3	9003125	Fluorescent Orange Decal	1	
4	9003876	Light Round AMBER	1	
5	76667B	Light Bracket	1	
6	75949B	Light Bracket Left-Hand	1	
7	9003876	Light Round AMBER	1	
8	9003126	Reflector =RED=	1	
9	9003125	Fluorescent Orange Decal	1	
10	76667B	Light Bracket	1	
11	901897	U-Bolt 1/2”-13UNC x 4.125”	2	
12	9800	Locknut/Top 1/2”-13UNC	8	
13	96566	U-Bolt 1/2”-13UNC x 3.25”	2	
14	86466	Main Wiring Harness 114”	1	
15	22790	Wiring Harness 132”	1	
16	64140	Wiring Extension 96”	2	
17	94038	Cable Tie 32”	10	
18	77805B	Light Bracket Assembly	2	
19	77800B	Light Bracket	1	
20	9003126	Reflector =RED=	1	
21	9003125	Fluorescent Orange Decal	1	
22	9003877	Round Light =RED=	1	

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