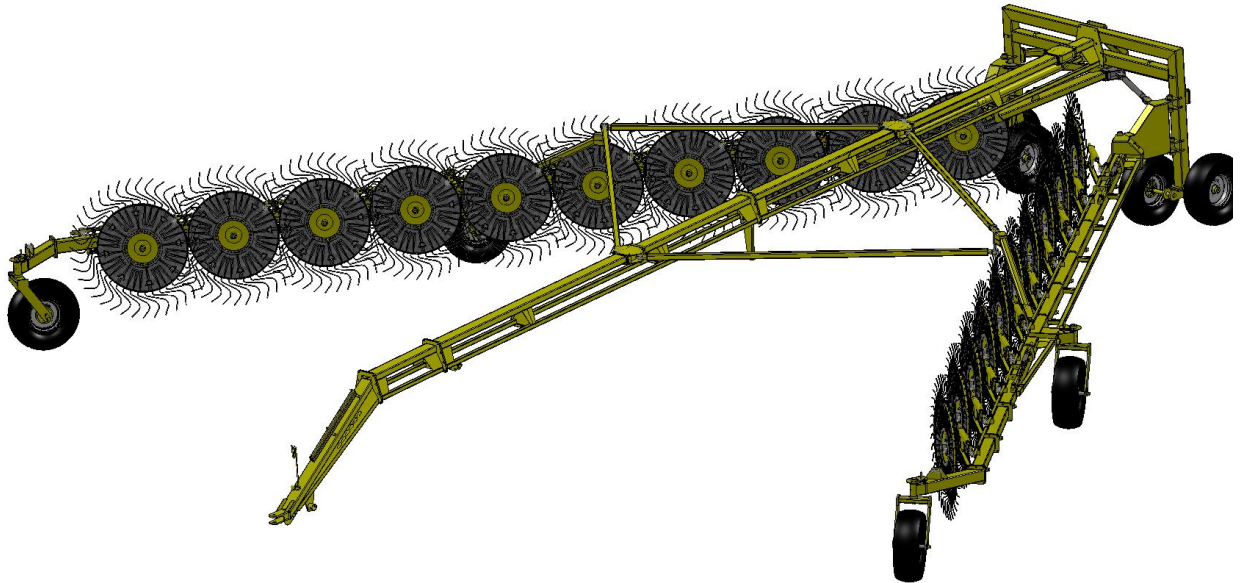




BRIDGEVIEW



VR482 Hay Rake

OPERATOR & PARTS MANUAL

Last Updated: May 12, 2014

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Your Authorized Dealer

Your Serial Number

The Serial Number is located near the front of the hitch beam on the left side.



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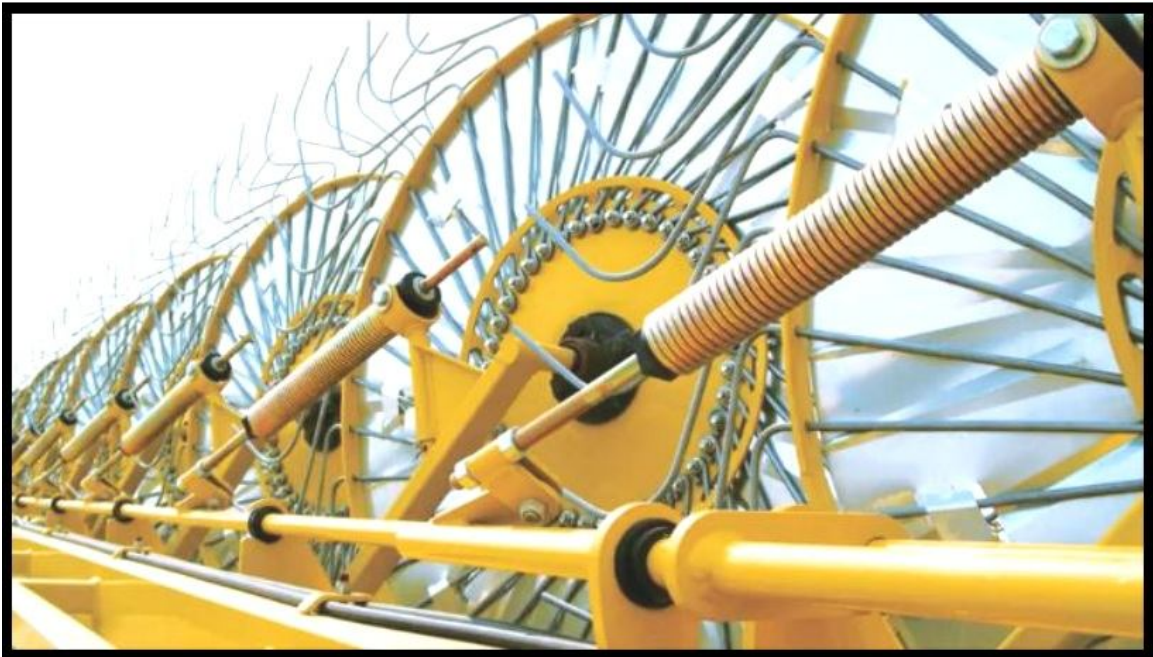


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1.0 Introduction

Thank you for purchasing your new **Bridgeview Bale King VR482 Hay Rake**. With the proper operation and service as outlined in this manual, this rake will provide you with years of trouble free operation.

This is a complete safety, operation, and parts manual for the VR482. The manual covers in detail how to safely and effectively use the rake and these steps should be followed to ensure safety and longevity of your machine. The parts manual covers all the parts you may need to order in case of accident or breakdown. Also included in this manual is the procedures on how to assemble the 16 wheel base model rake, and optional 18 & 20 wheel extension kits. Please read through this manual before beginning assembly.



Please note that some parts and assemblies may not be as shown

2.0 Safety and Operation

2.1 Safety Precautions

The following safety precautions **MUST** be followed to ensure the safe operation of the VR482:

1. This trailed machine was designed and intended for on-farm use only. **Tow at speeds not to exceed 20 MPH.** Slow down for hills, curves, rough areas, and in advance of braking to prevent loss of control and possible injury or death.
2. **Always** turn off the tractor when leaving the operating platform.
3. **Always** read and follow the Highway Transport section before towing the VR482 on the highway.
4. Unless operating tractor, **stand clear** of the rake when in operation.
5. **Do not** stand inside the rake while it is being opened or closed.

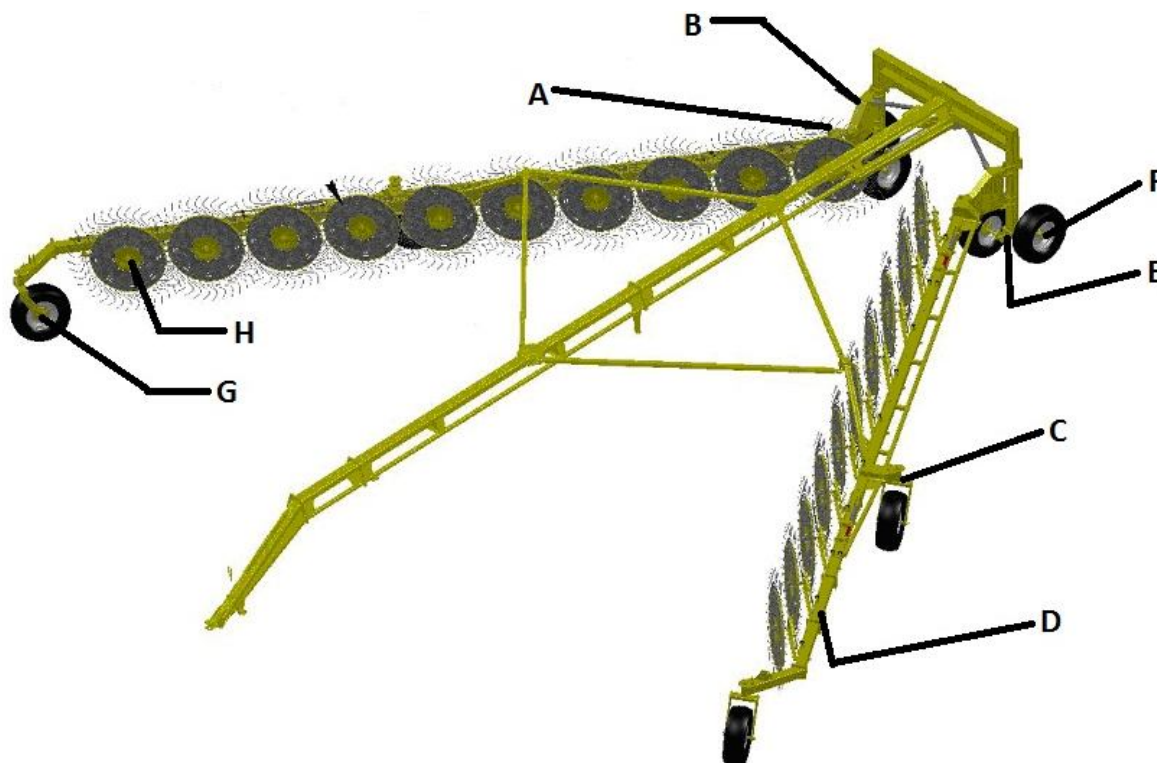
2.2 Machine Maintenance & Lubrication

General maintenance of your V-Rake should be done on a regular basis. This includes checking all bolts to ensure they are tight, making sure all grease zerks are accepting grease and ensuring that all moving parts are functioning correctly.

Your Bale King VR482 is equipped with a number of grease zerks. It is important that these locations are lubricated according to the following maintenance schedule:

	Location	QTY 16 wheel	QTY 18 wheel	QTY 20 wheel	Timeline
A	Knuckle Joint	4	4	4	10 hours
B	Rear Pivot	4	4	2	
C	Caster Pivot	4	4	4	
D	Wheel Arms	16	18	20	
E	Tandem Axle Pivot	2	2	2	
F	Rear Wheel Hub	4	4	4	200 hours or seasonally
G	Caster Wheel Hub	4	4	4	
H	Rake Wheel Hub	16	18	20	

NOTE: For ease of greasing, all zerks are accessed from the outside.



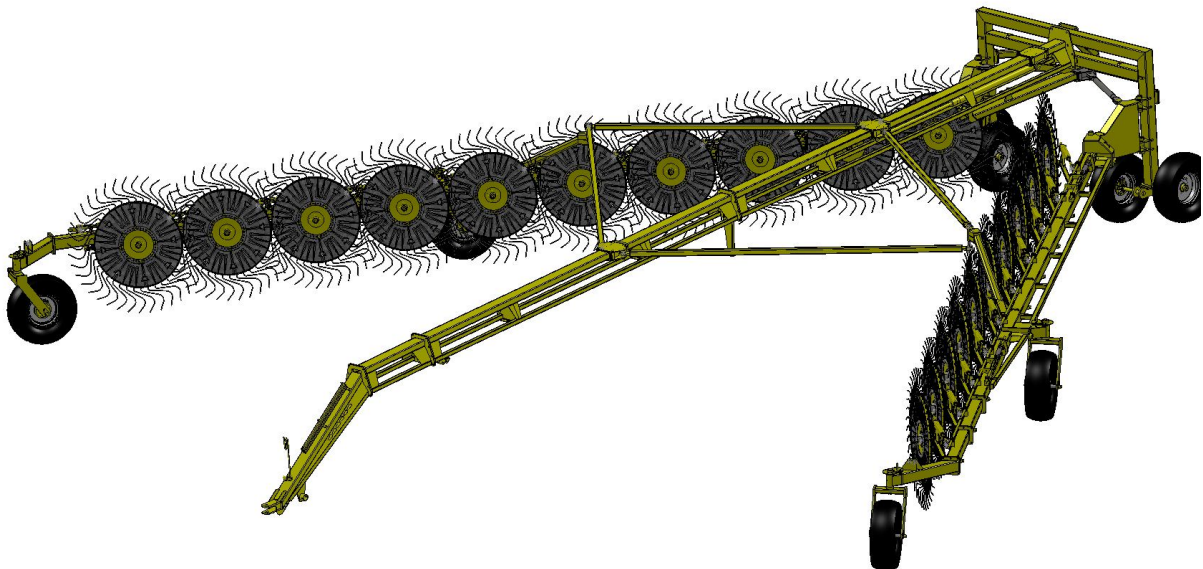
2.3 Wheel & Tire Information

The proper tire pressure for the Bale King V-Rake is **35 psi**. Proper tire inflation will help alleviate a puncture problem when pulling and operating the machine in rough terrain. The optimum tire size is 9.5L-15, 8 Ply on a 5-bolt, 5.5" pattern rim.

- **NOTE:** Check and tighten wheel bolts on a regular basis to ensure that bolts are tightened to **90 ft-lbs**.
- Warranty **does not** cover damaged rims and hubs due to loose wheel bolts.
- Tire warranty is covered by the tire manufacturer.

2.4 Wheel Extension Kits

The 16 wheel rake can be fitted with an optional 18 or 20 wheel extension kit. These kits extend the length of the rake arms, adding one or two rake wheels to each side, and making the rake cover a wider area. The kits can be purchased separately.



2.5 Hydraulic Hook-up

There are six hydraulic hoses to be connected to the tractor. All six hoses run out of the gooseneck of the rake, near the hitch.

Each hose is colour coded so that they are easier to keep track of. They are also marked with a long and short marker to determine direction.

- **Green Hose** controls the **main wing cylinder**, used to open (long) and close (short) the rake arms.
- **Blue Hose** controls the **windrow adjustment cylinder**, to change the width of the rear opening, and the size of the windrow.
- **Yellow Hose** adjusts the **wheel lift cylinders used** to raise (long) and lower (short) the rake wheels.

An optional diverter valve kit is available to allow your machine to operate on only four hoses.

- **Yellow Hose** adjusts the **wheel lift cylinders used** to raise (long) and lower (short) the rake wheels.
- **Blue Hose** controls both the main wing and windrow adjustment actions. To switch back and forth between the two, a control box is supplied for the cab, which will allow easy transfer between the two functions.

Further information on the diverter kit can be found in section 2.11.

2.6 Highway Transport

When transporting your rake on the highway there are a number of safety precautions that must be taken to ensure safe travel.

DO NOT EXCEED 20 mph (32 km/h) DURING TRANSPORT

<u>Rake</u>	<u>Transport Width</u>	<u>Transport Weight</u>
16 wheel	12'3"	6500 lb
18 wheel	12'3"	6900 lb
20 wheel	12'3"	7300 lb

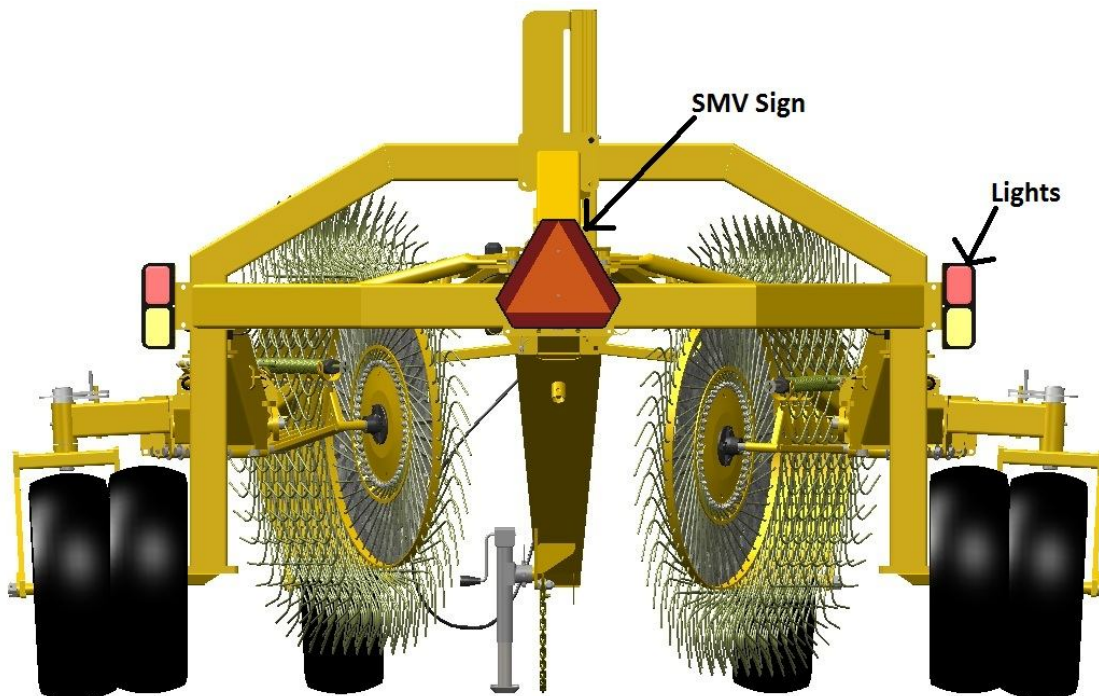
2.6.1 Safety Chains

Make sure that you have attached the safety chain to the hitch through the safety chain hole. The chain is rated at 11,000lb. The jack is stored underneath the hitch.

2.6.2 Lights and Marking

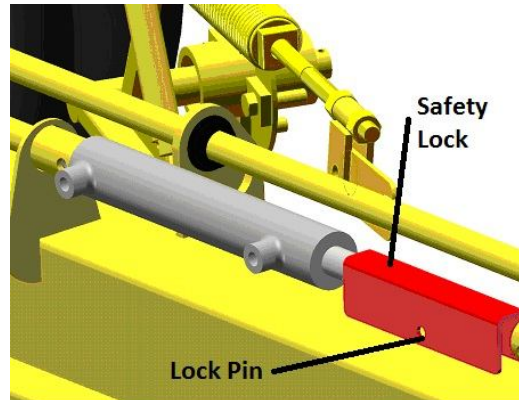
The VR482 is supplied with a light kit for better visibility. The lights can be plugged into the tractor or truck using a 7-pin trailer plug. These lights will act as flashing amber lights, as well as red tail lights. Ensure that the lights work properly before highway transport.

Ensure that the SMV (Slow Moving Vehicle) sign is in place and visible.



2.6.3 Cylinder Safety Locks

The lift arm cylinders (located on the left and right rake arms) should be fitted with cylinder safety locks. To insert the safety locks, raise the rake wheels to their highest position, then insert the lock pin.



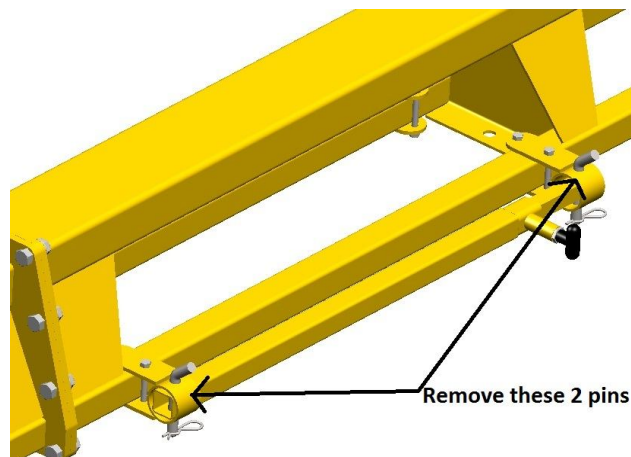
2.6.4 Retract Windrow Arms

Ensure that the rear opening is in the narrow position by fully stroking the windrow adjustment cylinder. Then bring in the arms by retracting the wing cylinder until the front casters are brought in near the hitch.

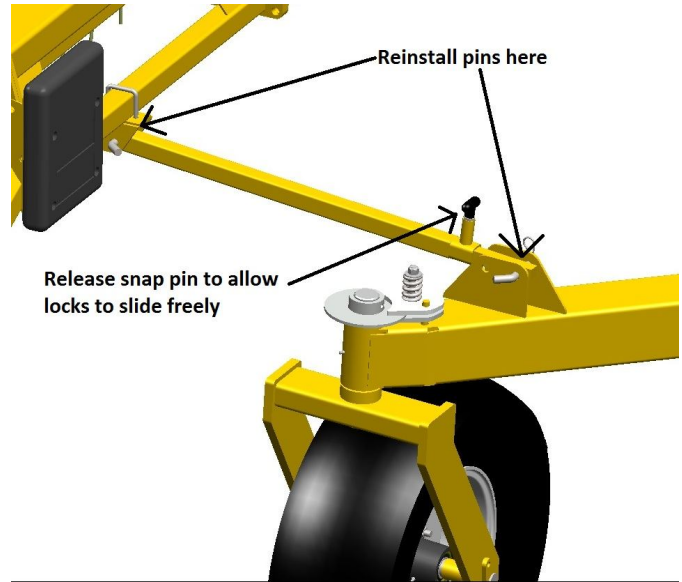


2.6.5 Transport Locks

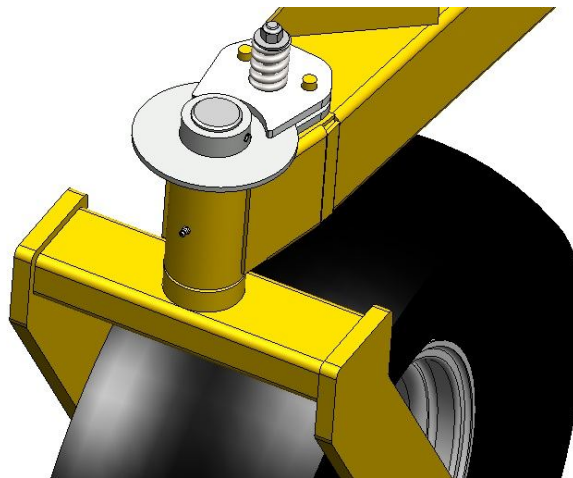
Next install the transport locks. First, remove the links from the carrying brackets by removing the pin at each end, as shown below.



Next insert the large end into the bracket at the bottom of the main frame. Pull out the self-locking pin and allow the inside tube to freely slide, then insert the small end into the bracket on the arm. Retract the wing cylinder until the self-locking pin locks in transport position. Ensure that both arms are secured and all hairpins are in place.



Align the road wheels and tighten the brake springs for all casters. The caster wheels will whip if the brakes are not sufficiently tight. Make sure that you loosen the brakes off before operation.

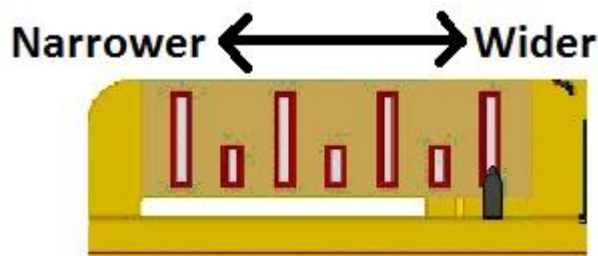


Ensure that all of the tires are at the correct pressure and that all wheel bolts are secured.

2.7 Windrow Width Adjustment

The rear opening of the VR482 is adjustable using the windrow adjustment cylinder. It must be in the narrow position to be able to transport on the highway. Widening the rear opening will space the rear rake wheels further apart, creating a wider windrow. Pulling the rear opening closer together will also pull the rake wheels closer together, and make a tighter swath. This allows the operator to adjust the width of the windrow to suit field conditions, and accommodate different baler sizes.

An indicator is provided to show you how wide the rear end is set. This will allow you to consistently set the machine to your desired windrow width. The needle moves along on the gauge.



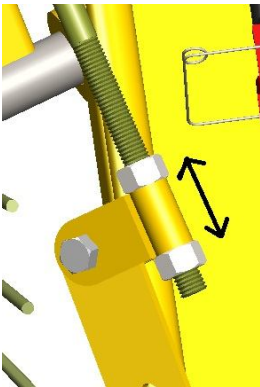
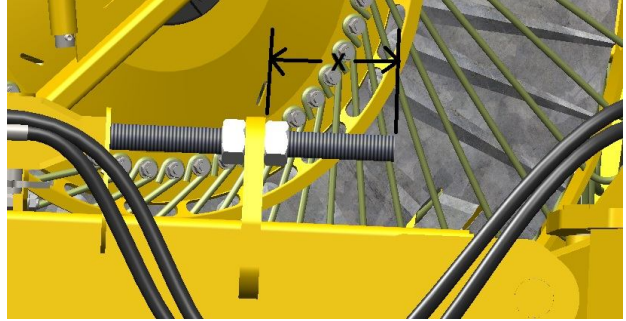
2.8 Field Operation

The **recommended MAXIMUM raking speed is 8 mph (13 km/h)**, depending on field conditions. Rougher land and heavier windrows require slower operation. This will prevent damage to the rake wheels, and ensure that hay is picked up properly. For faster operation, it is recommended that rake wheel spring tension is increased to prevent bouncing of the tines.

2.9 Adjusting Rake Wheel Arm Spring Tension

Optimum rake performance is achieved when the rake wheels are lightly scratching the ground. If the spring tension is set too heavy, premature rake tine damage will occur. If tension is too light, the hay will not be properly picked up. If the tension in the spring arms needs to be adjusted there are a number of ways to accomplish this. The first is by moving the threaded rod adjusters.

The threaded rod adjusters are located at the rear end of each rake arm and are directly attached to the lift rod cylinder. By adjusting the bolts attached to the rod adjusters the tension in all the springs of that rake arm are adjusted evenly. To increase tension, increase rod length "X", as shown above. To decrease tension, decrease rod length.

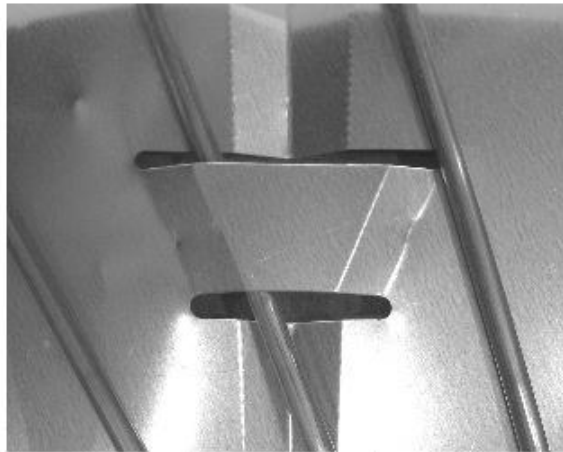
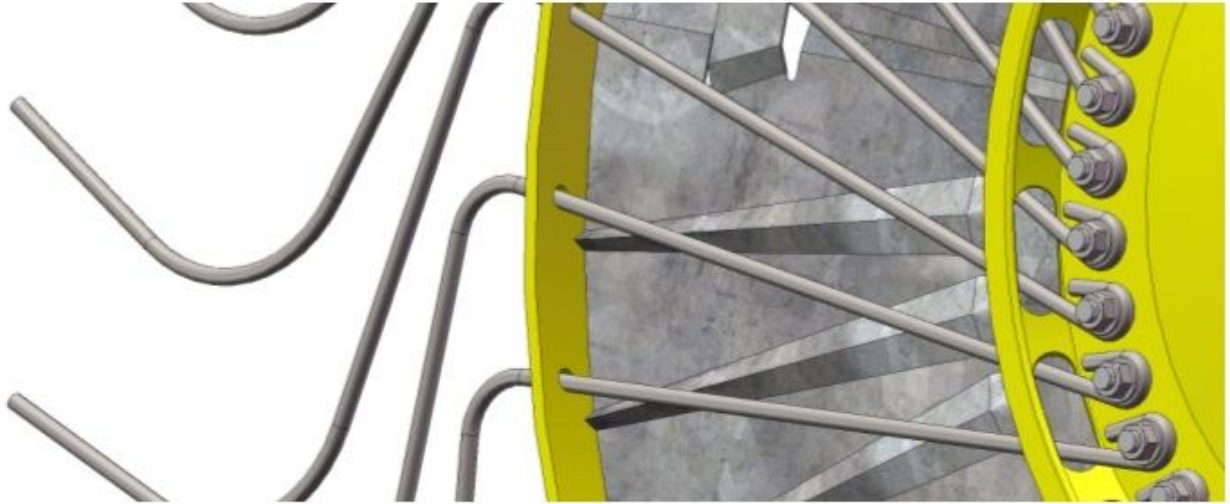


If the spring tension in only one spring needs to be adjusted then the adjustment can be done on the individual spring. There are two nuts near the end of the spring (LEFT) that allow the spring to be loosened or tightened.

2.10 Tine Replacement

NOTE: If a tine on one of the rake wheels needs to be replaced, the following procedure can be used:

1. The bolt on the back of the rake wheel that corresponds to that tine should be loosened and removed completely.
2. Slide the tine out of the hole in the center disk.
3. Slide the tine out of the wind guard tab if necessary.
4. Slide the tine out of the hole in the outer ring by pushing it in the opposite direction from before.
5. Insert the replacement tine in the same direction as the other tines on the rake wheel.
6. Then insert the bolt back in to the wind guard and tighten the nut.



2.11 Specifications

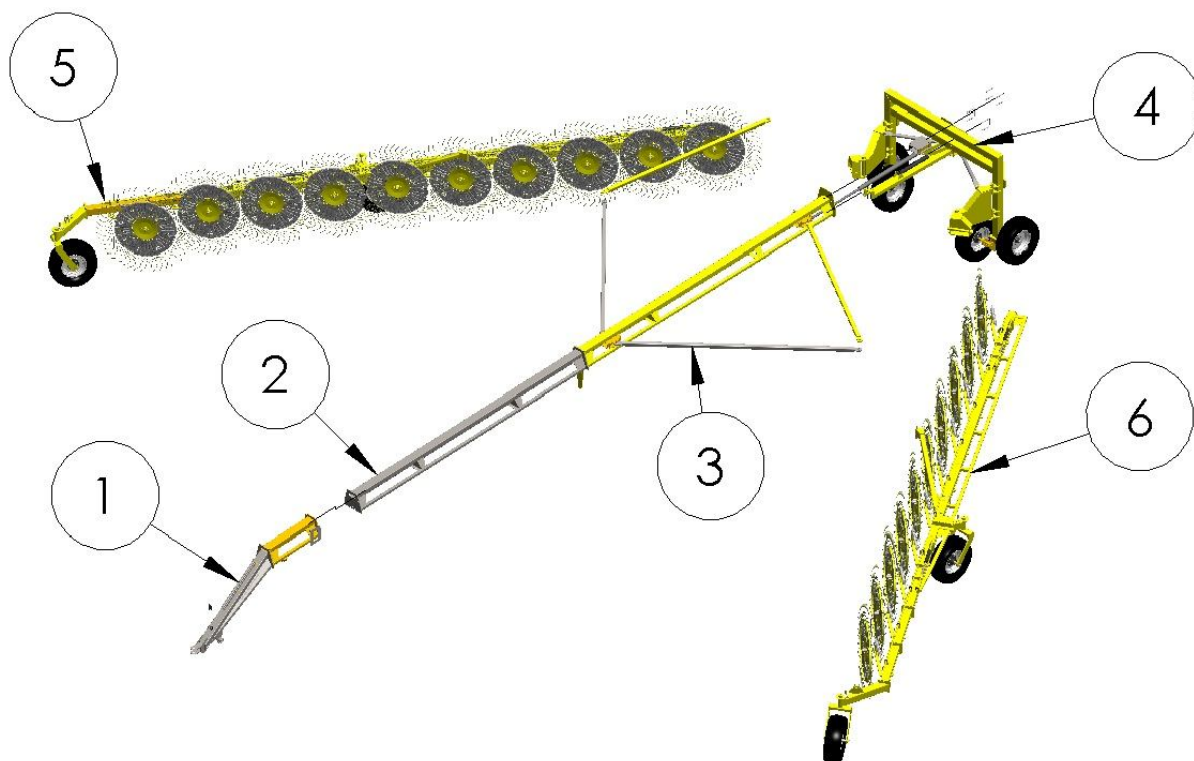
Dimensions and Weights

	16 Wheel	18 Wheel	20 Wheel
OPERATION			
Raking Width (Front)	33'-3"	36'-6"	39'-11"
Rear Opening (MIN)	3'-0"		
Rear Opening (MAX)	5'-7"		
Rake Wheel Tines	48		
Rake Wheel Diameter	62"		
TRANSPORT			
Transport Width	12'-3"	12'-3"	12'-3"
Transport Height	6'-11"		
Transport Length	41'-8"	41'-8"	45'
Weight	6500 lbs	6900 lbs	7300 lbs
TIRES			
Tire Size	9.5L-15SL, 8 ply		
Tire Pressure	35 psi		
Wheel Nut Torque	90 ft-lb (dry)		

3.0 Parts Diagrams and Part Numbers

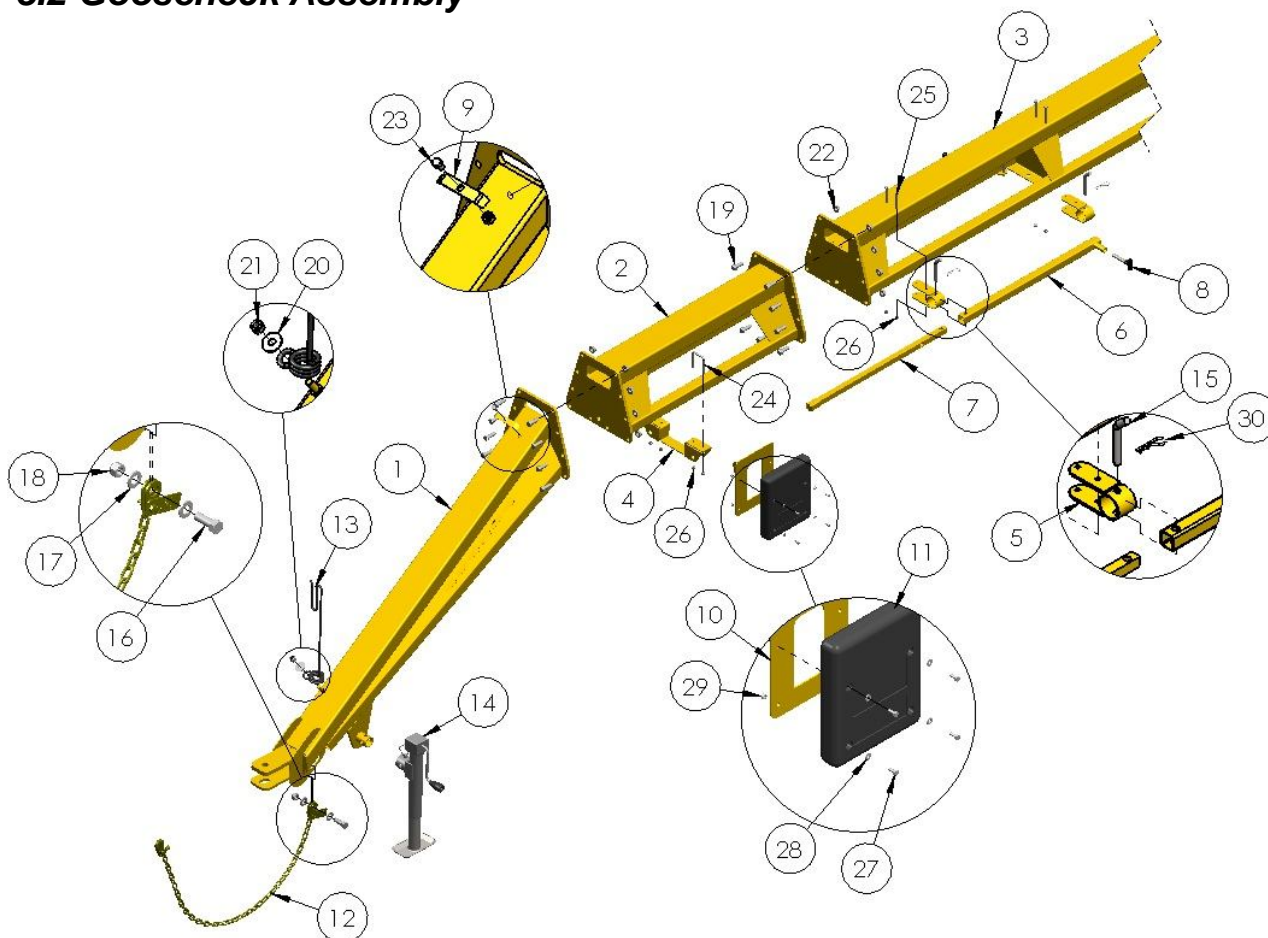
NOTE: Quantities shown are for the drawing shown, not necessarily total for your machine. Quantities in brackets or for the opposite side from shown (ie. Right side shown, left side part in brackets).

3.1 General Assembly



#	Name	Part #	QTY
1	Gooseneck Assembly	See Section 3.2	1
2	Main Frame	See Section 3.3	1
3	Scissor Assembly	See Section 3.4	1
4	Rear End	See Section 3.6	1
5	Right Arm Assembly	See Section 3.9	1
6	Left Arm Assembly	See Section 3.9	1

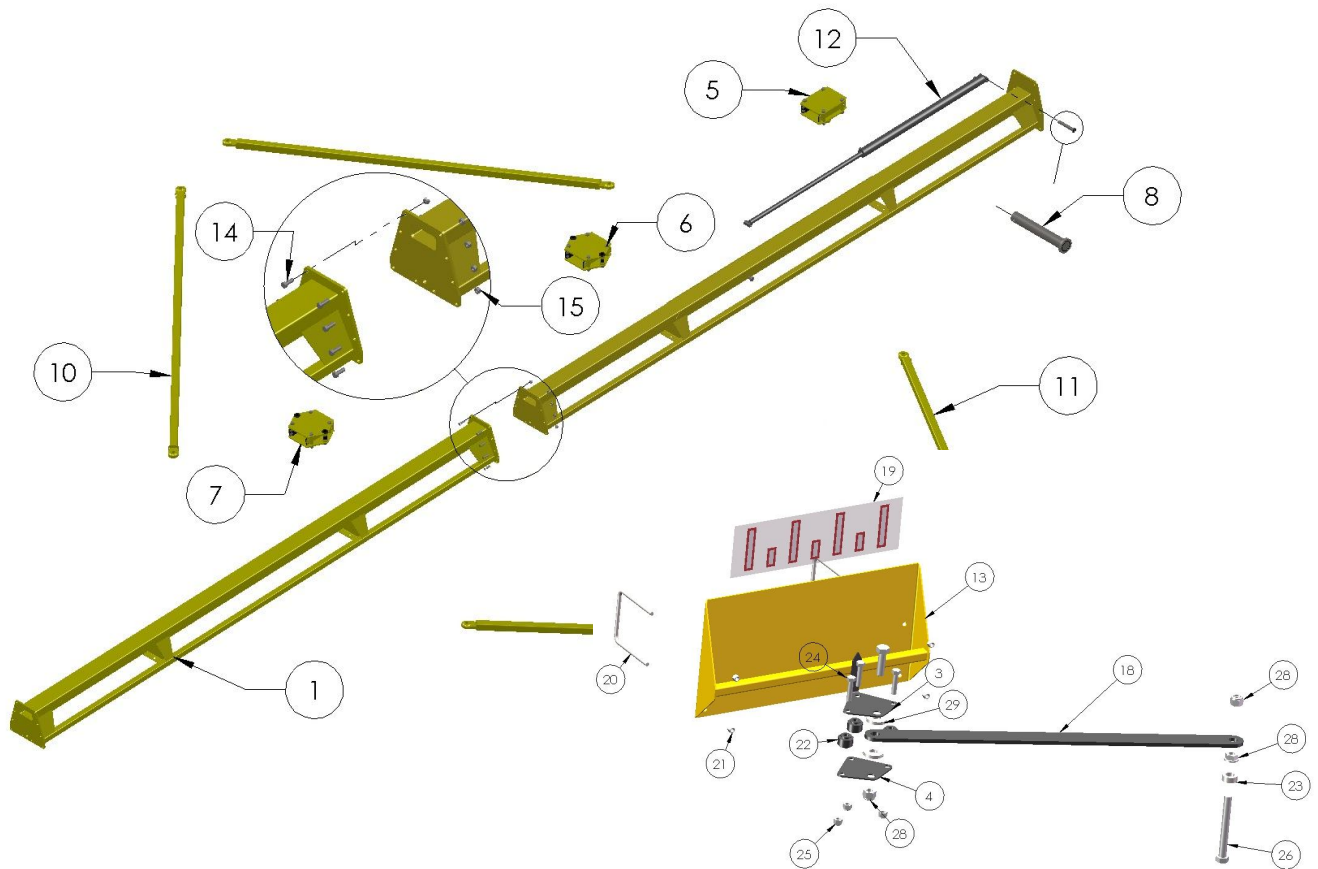
3.2 Gooseneck Assembly



#	Name	Part #	QTY	#	Name	Part #	QTY
1	Gooseneck Hitch	23102	1	16	Bolt, 3/4 x 2"	21243	1
2	Hitch Extension	22192	1	17	Washer, 3/4" Flat	20687	2
3	Main Frame Front	23131	1	18	Nut, 3/4" Stover Lock	11823	1
4	Transport Lock Bracket	23133	1	19	Bolt, 5/8 x 1-3/4"	12379	20
5	Transport Lock Mount	22228	4	20	Washer, 5/8" Flat	21390	1
6	Transport Lock Outer Tube	22231	2	21	Nut, 5/8" Nylon Lock	10364	1
7	Transport Lock Inner Tube	22230	2	22	Nut, 5/8" Serrated Flange	11614	20
8	Transport Locking Pin	21246	2	23	Bolt, 1/2 x 3/4"	15851	1
9	Hydraulic Hose Clamp	22227	1	24	U-Bolt, 3/8 x 2 x 2"	16531	2
10	Operator's Manual Bracket	23294	1	25	Bolt, 3/8 x 3"	20905	4
11	Operator's Manual Holder	22409	1	26	Nut, 3/8" Nylon Lock	13802	12
12	Safety Chain	21715	1	27	Bolt, 1/4 x 3/4"	11809	4
13	Spring Hose Holder	18080	1	28	Washer, 1/4" Flat	11666	4
14	Side Wind Jack	18034	1	29	Nut, 1/4" Nylon Lock	11664	4
15	Hitch Pin, 5/8 x 3" *	16339	4	30	Hairpin, 5/32 x 2-15/16"	16363	4

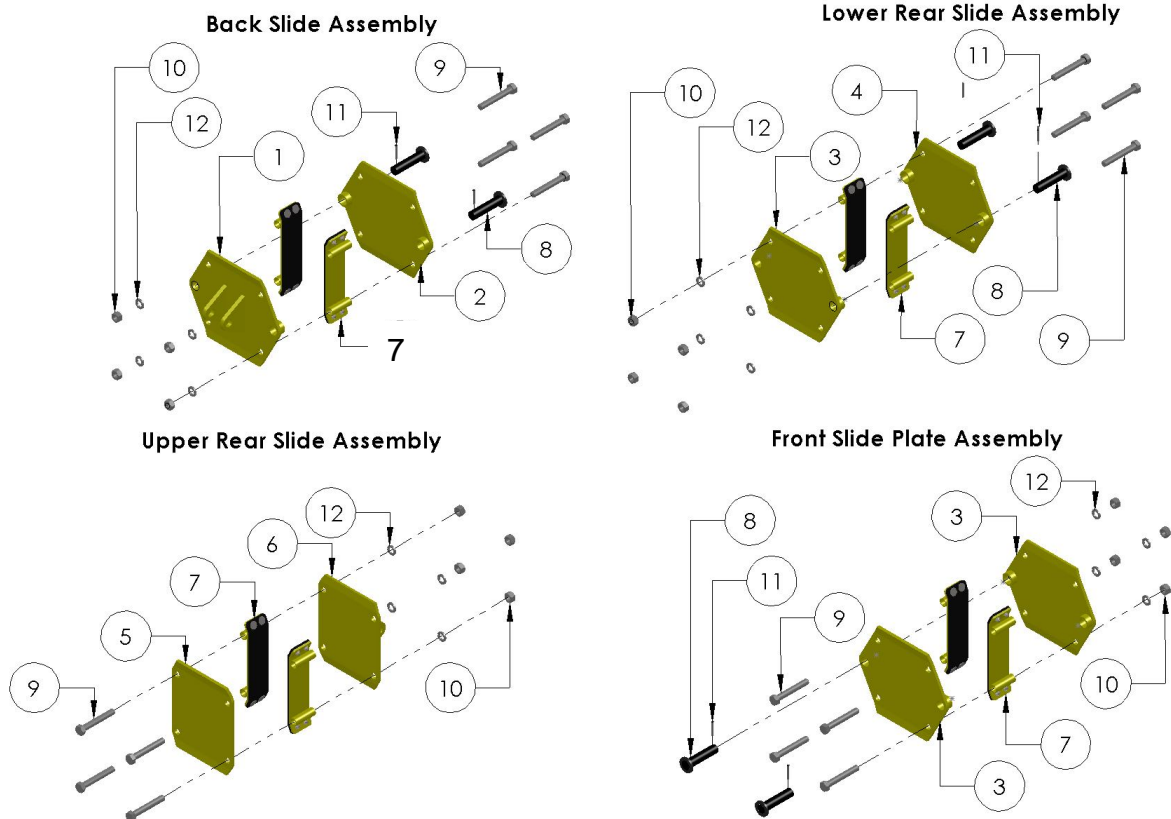
***NOTE:** Hitch pin comes with hairpin

3.3 Main Frame Assembly



#	Name	Part #	QTY	#	Name	Part #	QTY
1	Main Hitch Beam (Front)	23131	1	16	BOLT 0.6250x2.2500	20910	2
2	Main Hitch Beam (Rear)	23132	1	17	Cotter Pin 0.250x2	10580	2
3	Width Indicator Needle	23049	1	18	Width Indicator Linkage	23136	1
4	Width Indicator Roller Plate	23064	1	19	Width Indicator Decal	23011	1
5	Upper Rear Slide Plate Assembly	See Section 3.5	1	20	U-bolt, 3/8 x 5 x 5"	16091	2
6	Lower Rear Slide Assembly	See Section 3.5	1	21	Nut, 3/8" Nylon Lock	10806	4
7	Front Slide Plate Assembly	See Section 3.5	1	22	Plastic Roller, 2 piece	11637	3
8	Compensation Cylinder Pin	23129	1	23	Set Collar Spacer	19600	1
9	Ram Cylinder Pin	22245	1	24	Bolt, 1/2 x 2-1/4"	11820	3
10	Scissor Arm Front	23113	2	25	Nut, 1/2" Nylon Lock	10241	3
11	Scissor Arm Rear	23114	2	26	Bolt, 3/4 x 6-1/2"	20787	1
12	48 Inch Cylinder	See Section 3.18	1	27	Bolt, 3/4 x 2-1/2"	14470	1
13	Width Indicator Bracket	23135	1	28	Nut, 3/4" Stover Lock	11823	3
14	BOLT 0.6250x1.7500	12379	8	29	Washer, 3/4" Flat	13717	4
15	SFN 0.6250	11614	10				

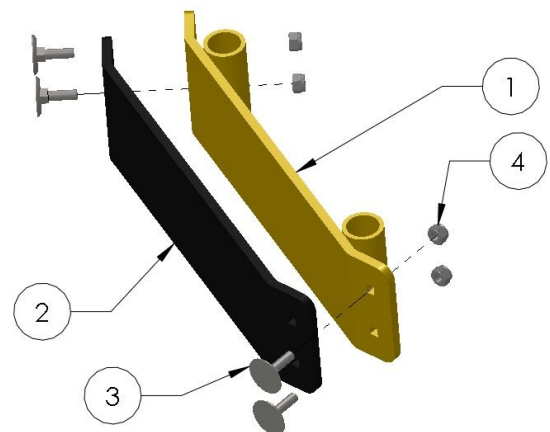
3.5 Slides



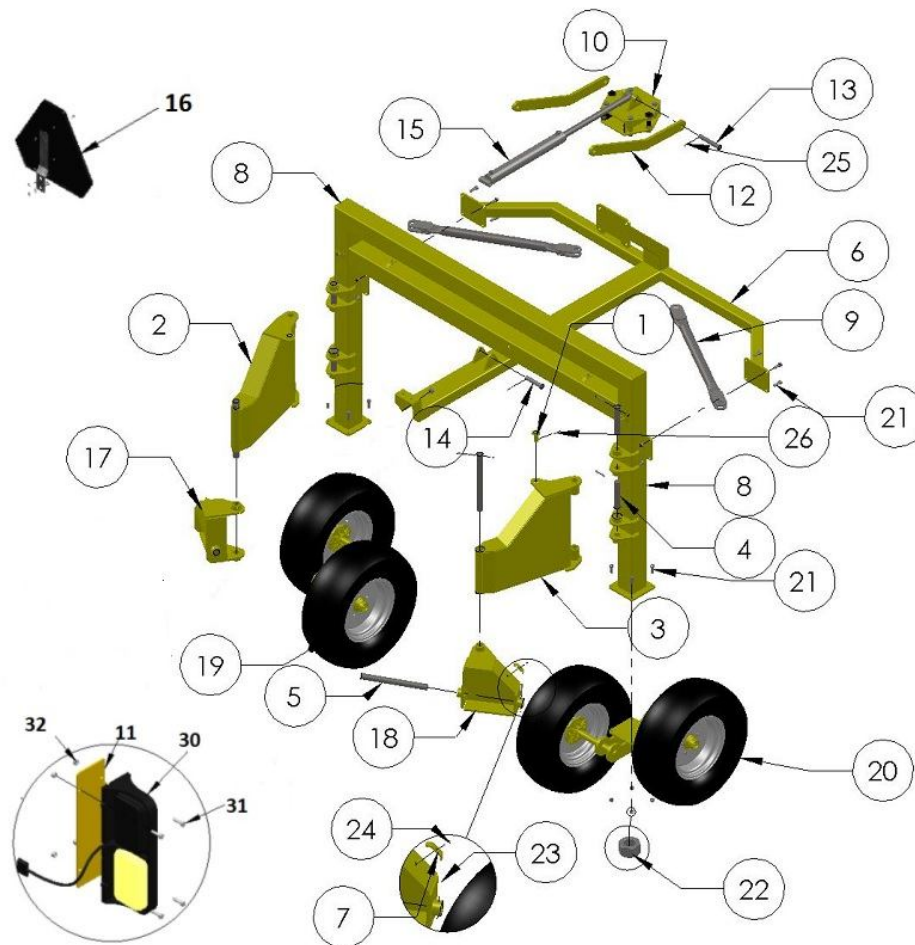
#	Name	Part #	QTY.
1	Slide Plate, BF48	22243	1
2	Slide Plate, TF48	23124	1
3	Slide Plate, Plain	22242	3
4	Slide Plate, Comp. Cyl.	23123	1
5	Slide Plate, TR48	23130	1
6	Slide Plate, BR48	23122	1
7	Slide Side	See Section 3.5.1	6
8	Scissor Arm Pin	22244	6
9	Bolt, 3/4 x 5"	17826	16
10	Nut, 3/4" Stover Lock	11823	16
11	Roll Pin 0.2500x2	15872	6

3.5.1 Slide Side

#	Name	Part #	Qty
1	Slide Side Plate	22246	1
2	Plastic Slide	18011	1
3	Elevator Bolt, 1/4 x 1"	17970	4
4	Nut, 1/4" Nylon Lock	11664	4

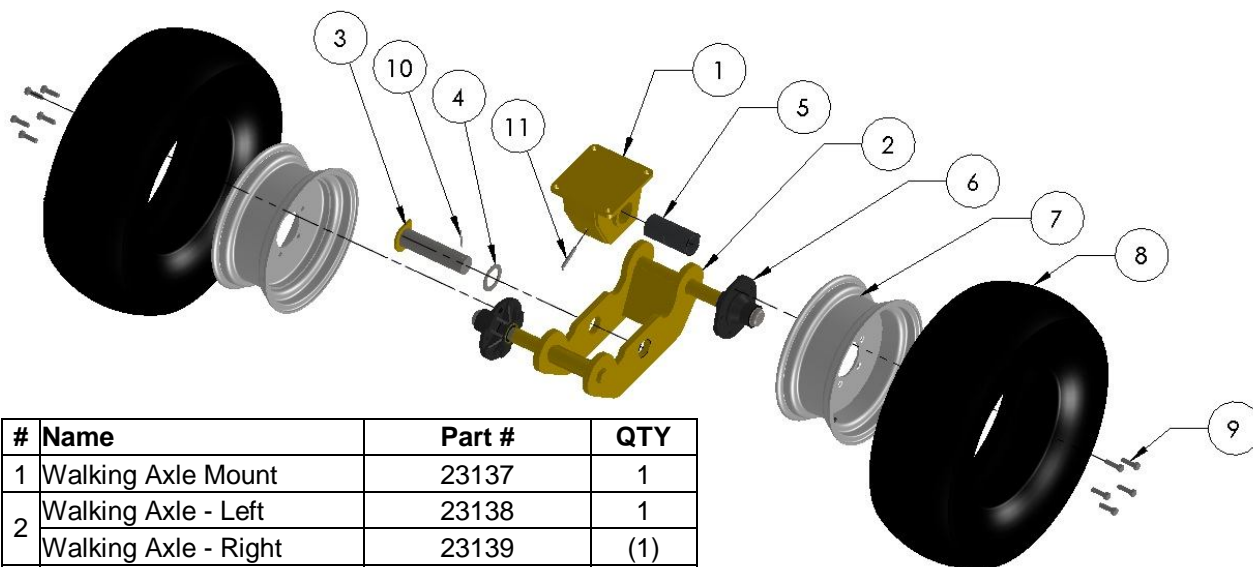


3.6 Rear End Assembly



#	Name	Part #	Qty	#	Name	Part #	Qty
1	Pin, Rear Pivot Link	22256	2	17	Knuckle, RH	23118	1
2	Box Pivot, RH	23106	1	18	Knuckle, LH	23107	1
3	Box Pivot, LH	23105	1	19	Tandem Wheel Asm. RH	See Section 3.6	1
4	Knuckle Pin 3	18170	4	20	Tandem Wheel Asm. LH	See Section 3.6	1
5	Knuckle Pin 2	17174	4	21	Bolt, 5/8 x 1-3/4"	12379	16
6	Rear Slide	23134	1	22	Nut, 5/8" Serrated flange	11614	16
7	Hose Clip	22249	6	23	Bolt, 3/8 x 3"	13770	8
8	Rear Frame	23103	1	24	Nut, 3/8" Nylon lock	10271	14
9	Rear Pivot	23104	2	25	Cotter pin, 1/4 x 2"	10580	2
10	Lower Rear Slide Asm.	See Section 3.5	1	26	Roll pin, 1/4 x 2"	15872	2
11	Light Mounting Bracket	23101	2	30	Dual Light Assembly, RH	22969	1
12	Compensation Bar	23121	2		Dual Light Assembly, LH	22968	1
13	Compensation Cyl. Pin	23129	1	31	Bolt, 1/4 x 1"	11810	8
14	Base Cylinder Pin	22240	1	32	Nut, 1/4" Nylon lock	11664	8
15	20 Inch Cylinder	See Section 3.18	1				
16	SMV Sign Kit	See Section 3.19	1				

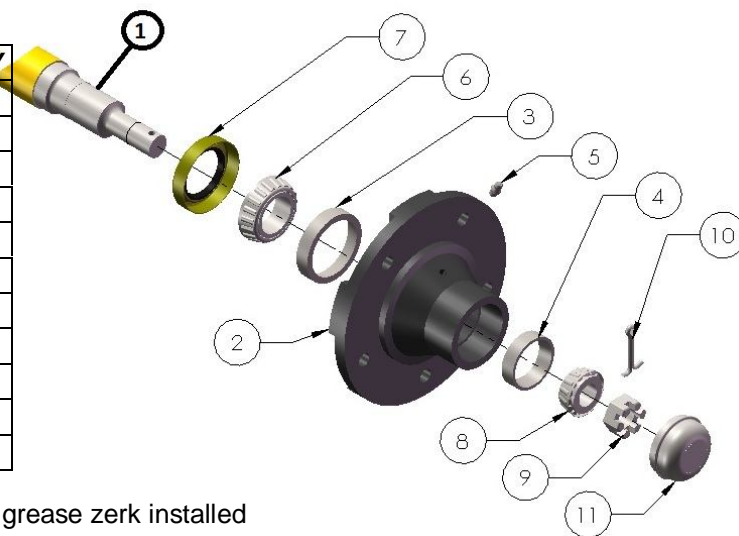
3.7 Tandem Walking Rear Axle Assembly



#	Name	Part #	QTY
1	Walking Axle Mount	23137	1
2	Walking Axle - Left	23138	1
	Walking Axle - Right	23139	(1)
3	Walking Axle Pivot Pin	23112	1
4	Tandem Axle Washer	23119	1
5	Plastic Bushing	21150	1
6	Spindle & Hub Assembly	See Section 3.8	2
7	5-Bolt Rim, Outset	18425	2
8	Tire 9.5L-15	See your tire dealer	2
9	Wheel Stud, 1/2 x 1-3/4"	16307	10
10	Roll Pin, 1/4 x 2-1/4"	10293	1
11	Grease Zerk, 1/8" NPT	23356	1

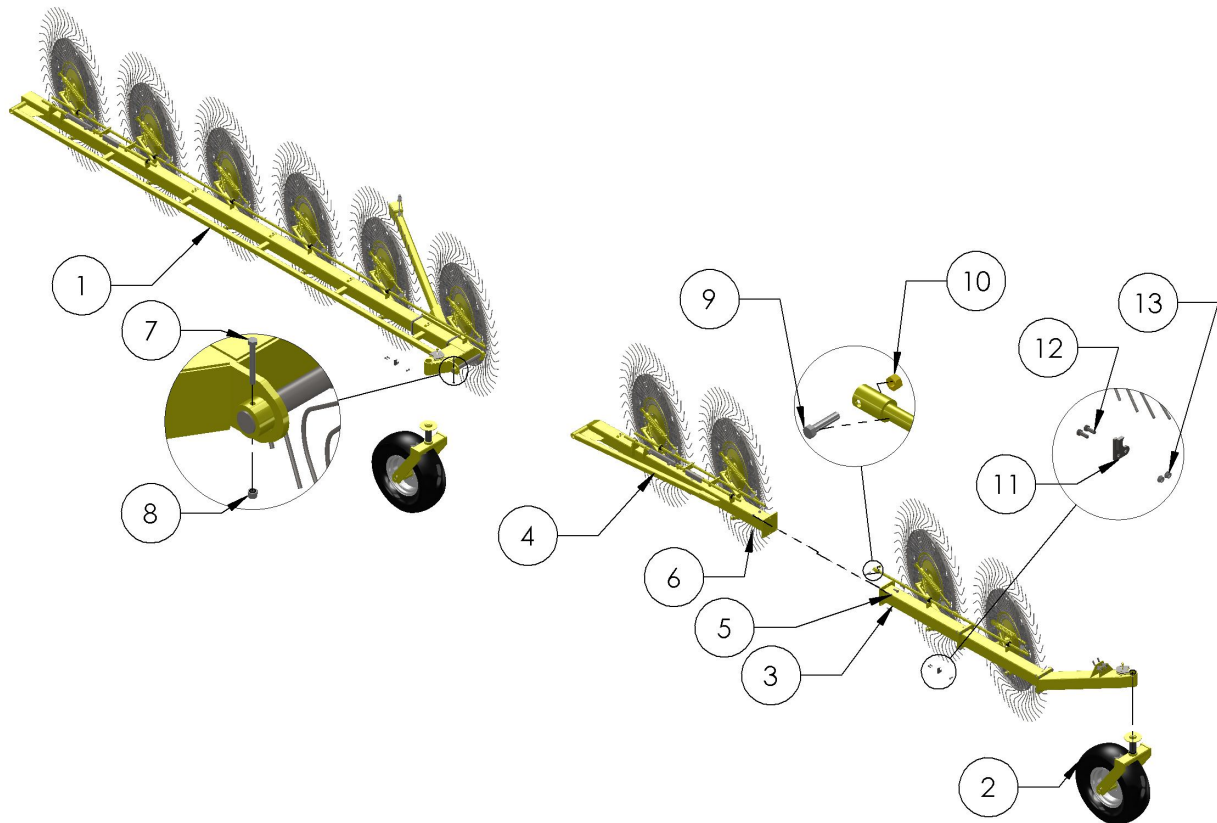
3.8 Rear Spindle and Hub Assembly

#	Name	Part #	QTY
1	Spindle	NSS	
2	Hub*	16724	1
3	Inner Bearing Cup	10083	1
4	Outer Bearing Cup	16304	1
5	Grease Zerk	16364	1
6	Inner Bearing Cone	10082	1
7	Oil Seal	16306	1
8	Outer Bearing Cone	16305	1
9	Castle Nut, 3/4"-16	16358	1
10	Cotter Pin, 3/16 x 1-1/4"	11669	1
11	Dust Cap	16308	1



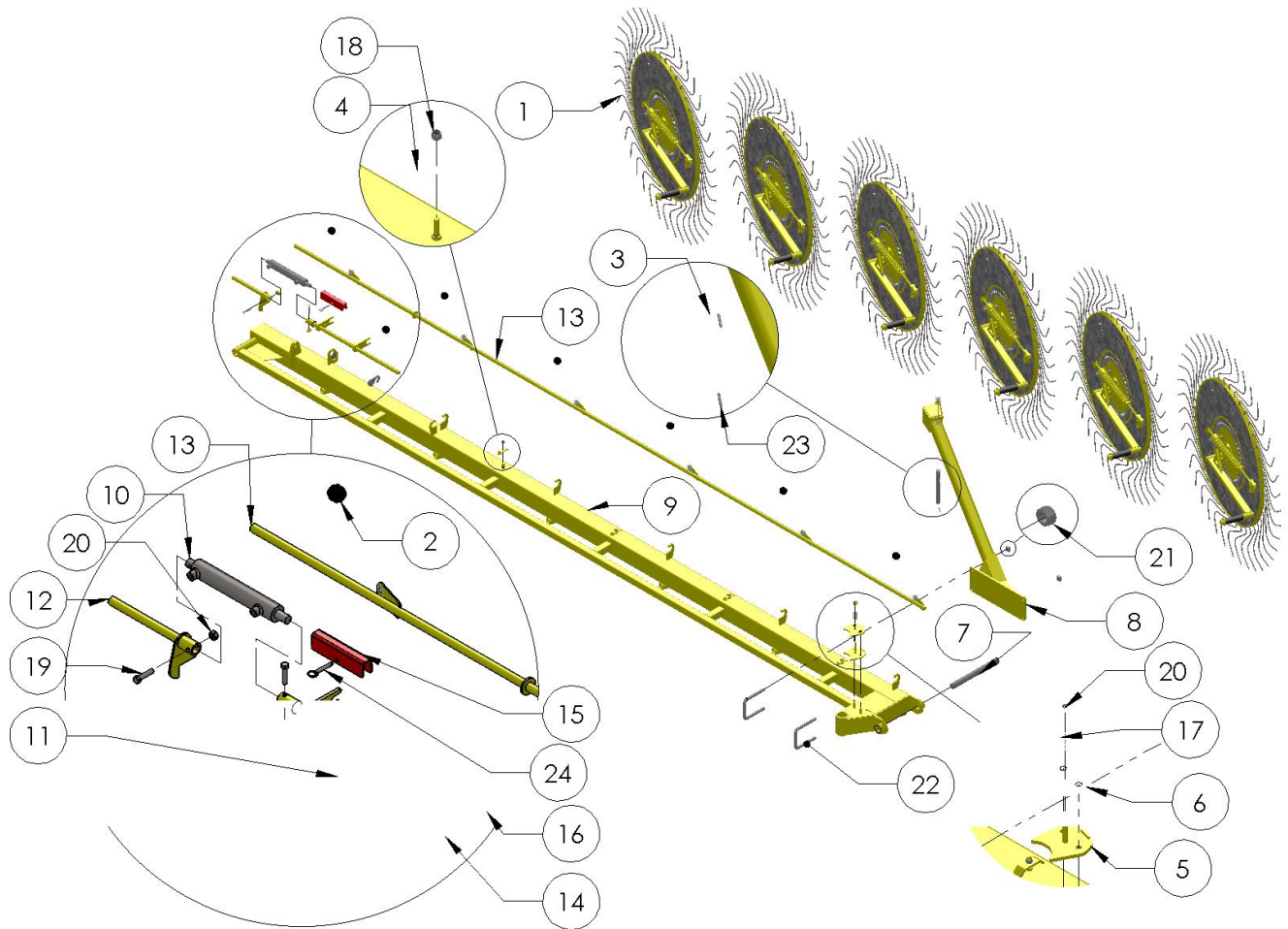
***NOTE:** Hub comes with bearing cups and grease zerk installed

3.9 Rake Arm Assembly



#	Name	Part #	QTY.
1	Right Long Arm Assembly	See Section 3.10	1
2	Caster Wheel Assembly	See Section 3.12	2
3	Right Outer Extension	See Section 3.10	1
5	BOLT 0.6250x1.7500	12379	6
6	SFN 0.6250	11614	6
7	BOLT 0.3750x3	13770	1
8	NLN 0.3750	10271	1
9	BOLT 0.5000x2.2500	11820	1
10	NUT 0.5000	16085	1
11	Lift Rod Lock	22257	2
12	BOLT 0.375 x 1.00	13806	4
13	SFN 0.375	10271	4

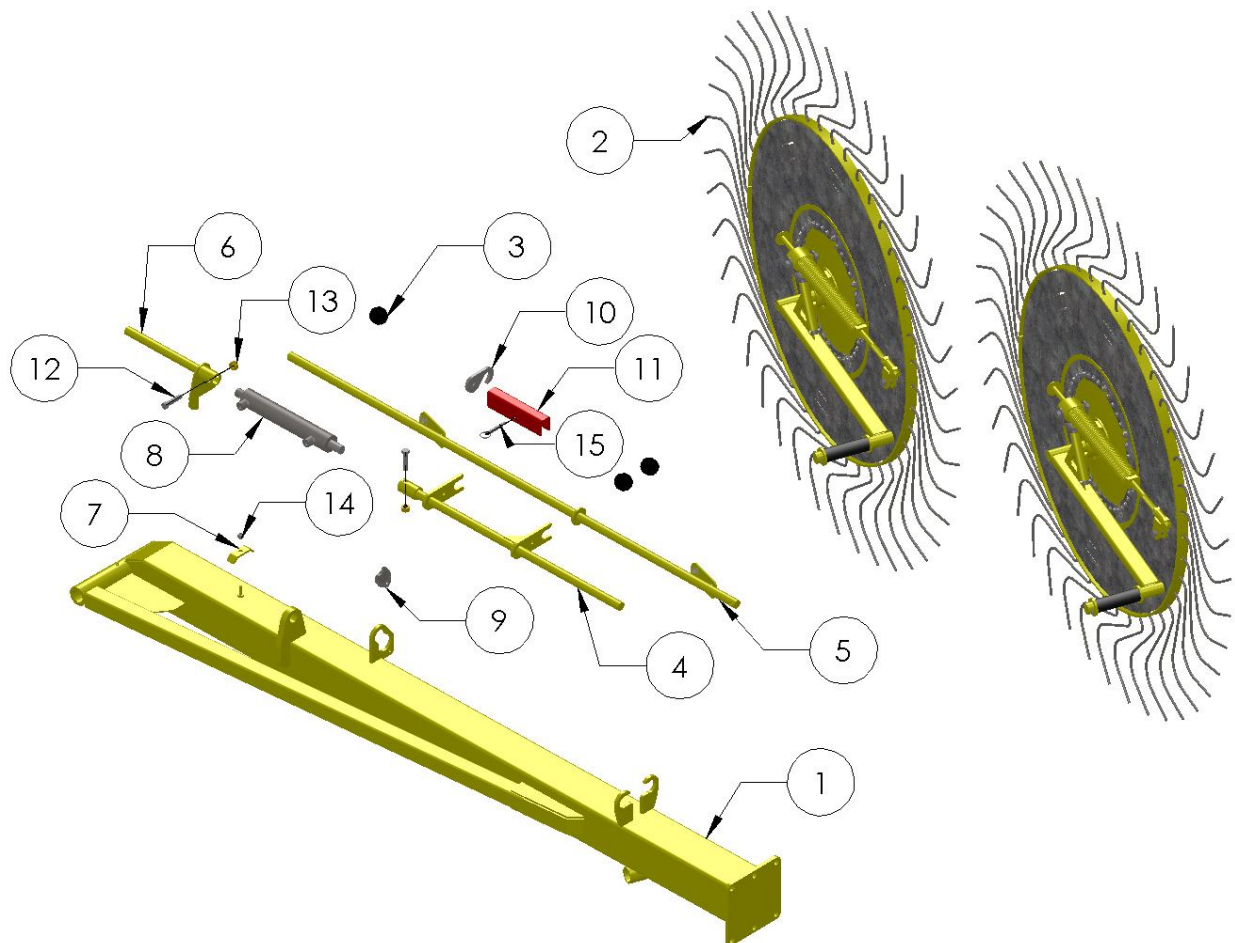
3.10 Lift Rod Assembly



#	Name	Part #	Qty
1	Rake Wheel Assembly	See Section 3.13	6
2	Bushing Lift Rod Slide	16099	7
3	Scissor Center Pin	212961	1
4	Hose Clip	22249	4
5	Bottom Brake Pad	16138	1
6	Brake Pad	16137	1
7	Knuckle Pin 2	17088	1
8	Riser Arm RT	23126	1
8(b)	Riser Arm LT	23125	(1)
9	Long Arm RT	23109	1
9(b)	Long Arm LT	23108	(1)
10	8" Stroke Cylinder	See Section 3.16	1
11	Lift Rod Lock	22262	1

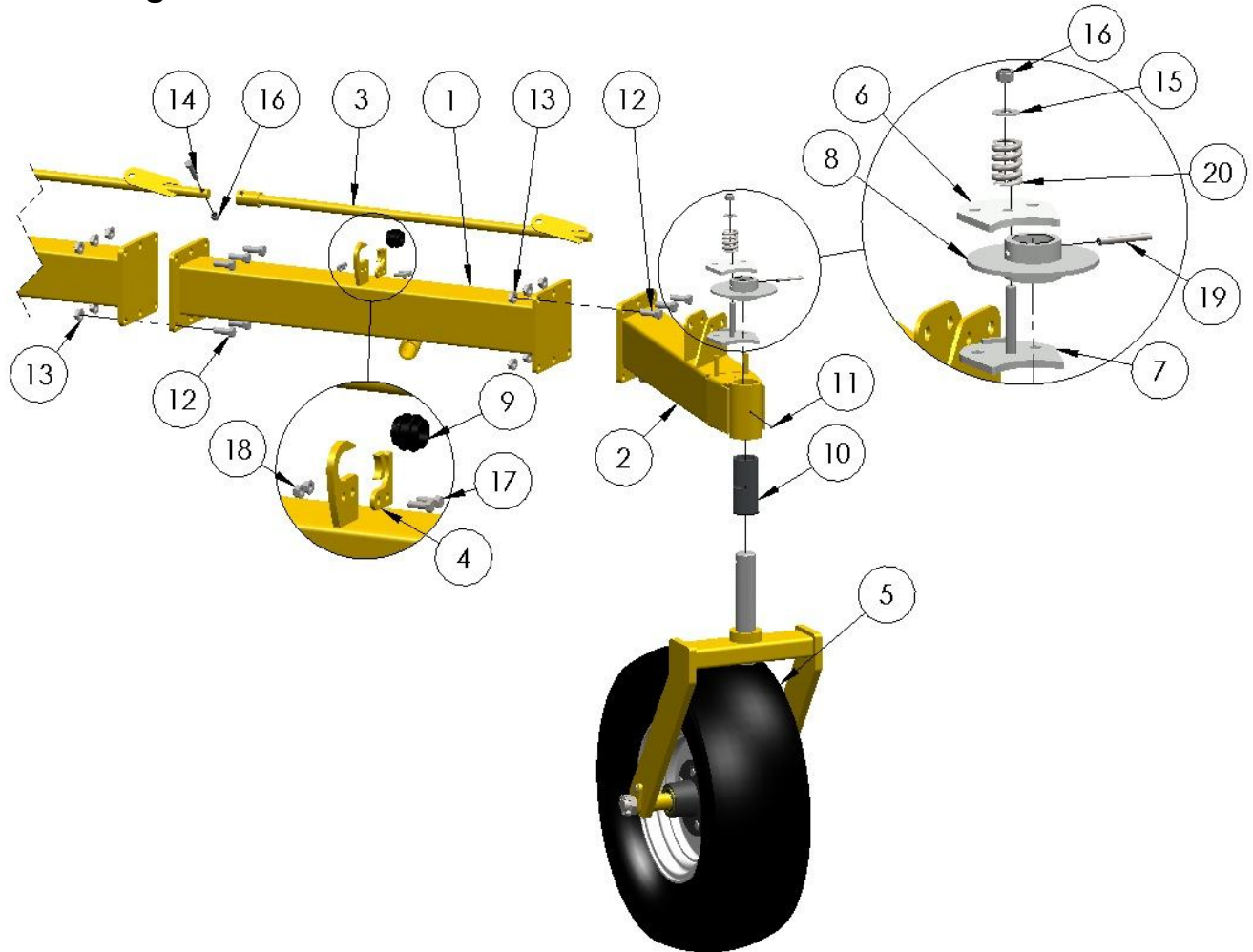
12	Threaded Rod RT	23128	1
12(b)	Threaded Rod LT	23127	(1)
13	Lift Rod - Long	23115	1
14	Lift Rod Fork Lock	22458	1
15	Cylinder Safety Lock	23120	1
16	Lift Rod - Outer	23117	1
17	Spring	16093	2
18	NLN 0.3750	11614	4
19	BOLT 0.5000x2.2500	11820	2
20	NUT 0.5000	14393	3
21	SFN 0.7500	10283	4
22	Riser Arm U-bolt	16091	2
23	Roll Pin 0.2500x2	15872	2
24	0.3750 x 2" Quick Pin	12050	1
25	Washer for Pin #3	16322	2

3.10 Outer Arm Extension



#	Name	Part #	QTY.
1	Short Arm RT	23111	1
1(b)	Short Arm LT	23110	(1)
2	Right Rake Wheel Assembly	See Section 3.14	2
3	Bushing Lift Rod Slide	16099	3
4	Lift Rod - Outter	23117	1
5	Lift Rod - Short	23116	1
6	Threaded Rod RT	23128	1
6(b)	Threaded Rod LT	23127	(1)
7	Hose Clip	22249	1
8	8" Stroke Cylinder	See Section 3.17	1
9	Lift Rod Lock	18193	1
10	Lift Rod Fork Lock	22458	1
11	Cylinder Safety Lock	23120	1
12	BOLT 0.5000x2.2500	11820	2
13	NUT 0.5000	10241	2
14	NLN 0.3750	10806	1
15	0.3750 x 2" Quick Pin	12050	1

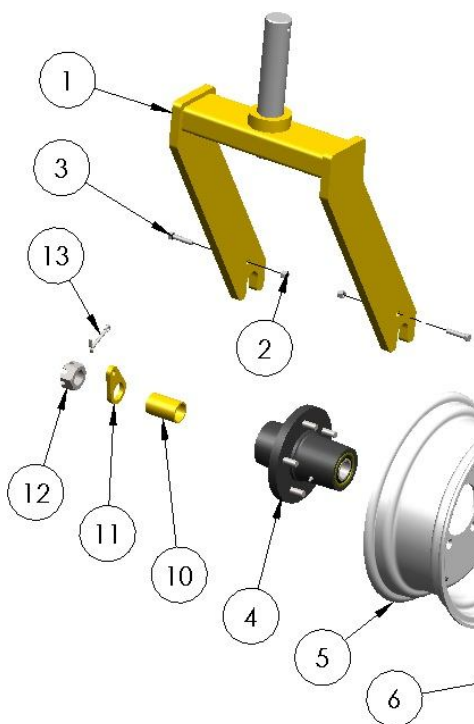
3.11 Right/Left Outer Extension



#	Name	Part #	QTY	#	Name	Part #	QTY
1	Rake Arm Extension, RH	22267	(1)	10	Caster Pivot Bushing	21150	1
	Rake Arm Extension, LH	22268	1	11	Grease Zerk	16364	1
2	Front Caster Support, RH	22265	(1)	12	Bolt, 5/8 x 1-3/4"	12379	12
	Front Caster Support, LH	22266	1	13	Nut, 5/8" Serrated Flange	11614	12
3	Lift Rod Extension, 18W	22269	1	14	Bolt, 1/2 x 2-1/4"	11820	1
	Lift Rod Extension, 20W	24281	(1)	15	Washer, 1/2"	16322	1
4	Lift Rod Lock - Front	22257	1	16	Nut, 1/2" Stover Lock	14393	2
5	Caster Wheel Assembly	See section 3.12	1	17	Bolt, 3/8 x 1"	13806	2
6	Caster Damper Plate	16183	1	18	Nut, 3/8" Serrated Flange	10271	2
7	Caster Brake Plate	16137	1	19	Roll Pin, 3/8 x 2-3/4"	16039	1
8	Brake Disc, 2 Inch	17330	1	20	Brake Spring	16093	1
9	Lift Rod Bushing	16099	1				

3.12 Caster Wheel Assembly

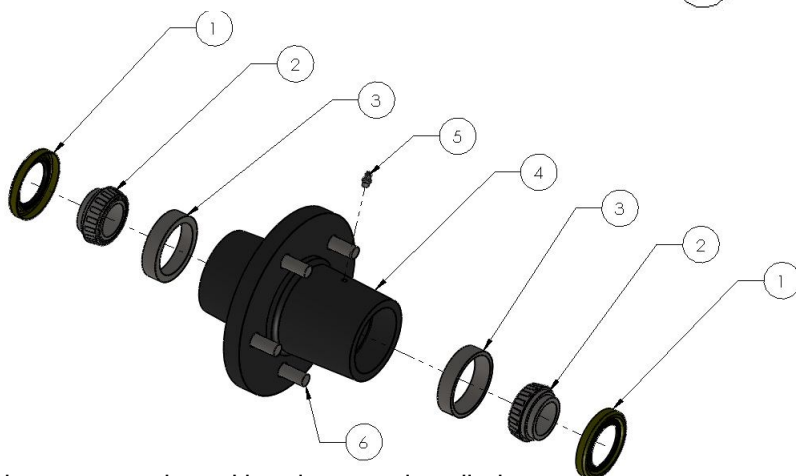
#	Name	Part #	QTY
1	Caster Fork	22270	1
2	Bolt, 3/8 x 1-3/4"	16040	2
3	Nut, 3/8" Nylon Lock	10271	2
4	Caster Hub Assembly	See Section 3.13	1
5	5 Bolt Rim	18425	1
6	Tire - 9.5Lx15	See your tire dealer	1
7	Wheel Nut	16356	5
8	Spindle Spacer 2	22272	1
9	Caster Axle	22273	1
10	Spindle Spacer 1	22271	1
11	Caster Tear Trop	22274	1
12	Castle Nut	16299	1
13	Cotter Pin	10580	1



NOTE: For RH casters, install fork opposite as shown

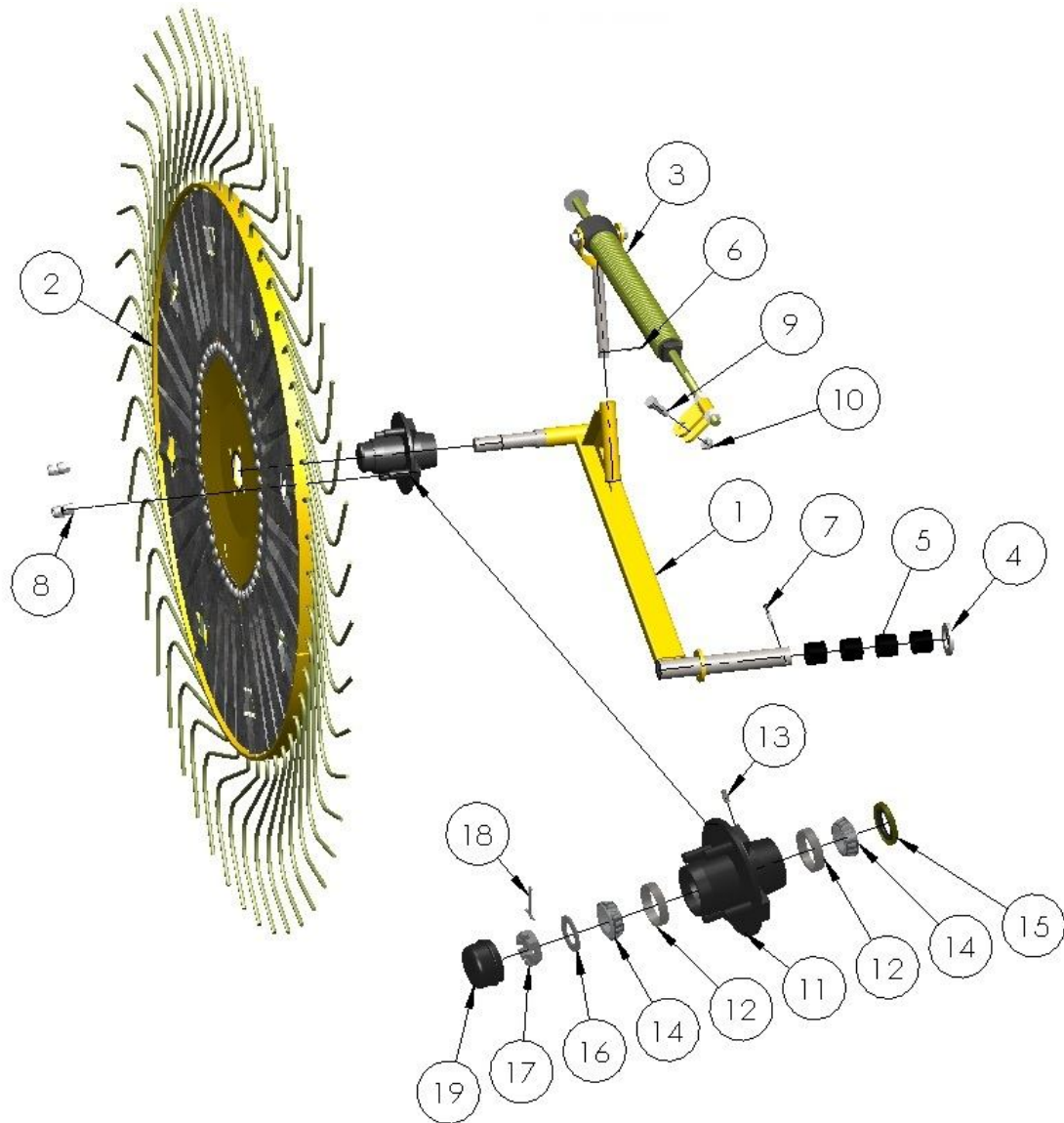
3.13 Caster Hub Assembly

#	Name	Part #	QTY
1	Oil Seal	16297	2
2	Bearing Cone	16296	2
3	Bearing Cup	16295	2
4	Caster Hub*	18819	1
5	Grease Zerk	16364	1
6	Wheel Stud	16391	1



***NOTE:** Hub comes with wheel studs, grease zerk, and bearing cups installed

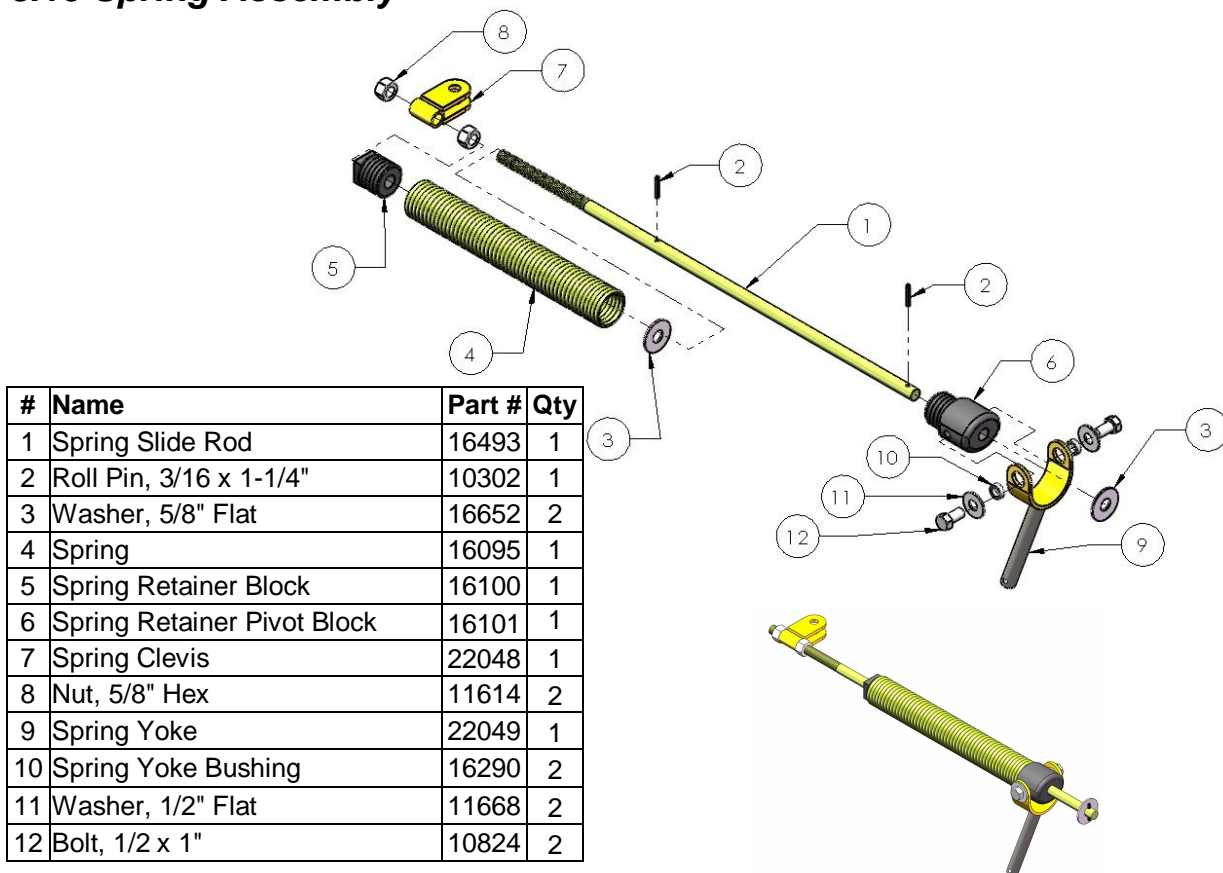
3.14 Right/Left Rake Wheel Assembly



#	Name	Part #	QTY	#	Name	Part #	QTY
1	Rake Wheel Arm, LEFT	22275	1	10	Nut, 1/2" Stover Lock	14393	1
	Rake Wheel Arm, RIGHT	22276	1	11	Rake Wheel Hub *	16413	1
2	Rake Wheel	See Section 3.16	1	12	Bearing Cup	16081	2
3	Spring Assembly	See Section 3.15	1	13	Grease Zerk	16364	1
4	Rake Arm Washer	16650	1	14	Cone Bearing	16082	2
5	Rake Arm Pivot Bushing	16096	4	15	Oil Seal	16083	1
6	Roll Pin, 1/4 x 1-1/4"	16021	1	16	Washer	16088	1
7	Roll Pin, 1/4 x 2"	15872	1	17	Castle Nut	16087	1
8	Rake Wheel Nut	16085	4	18	Cotter Pin	16089	1
9	Bolt, 1/2 x 1-1/2"	14461	1	19	Dust Cap	16084	1

***NOTE:** Hub comes with wheel studs, grease zerk, and bearing cups installed

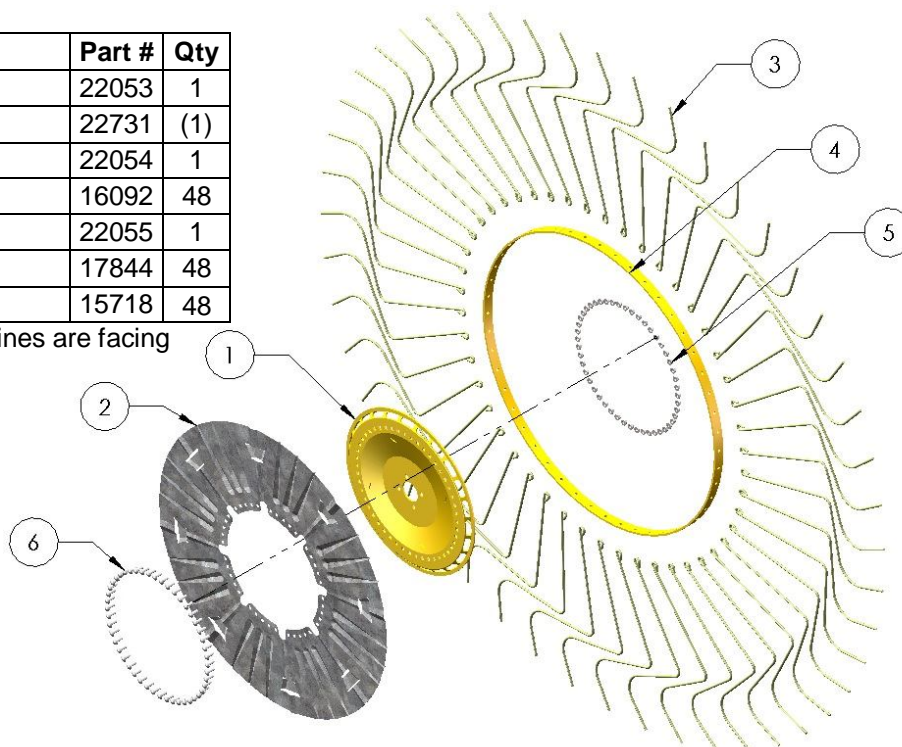
3.15 Spring Assembly



3.16 Rake Wheel

#	Name	Part #	Qty
1	Center Disk, Left	22053	1
	Center Disk, Right	22731	(1)
2	Wind Guard	22054	1
3	Tine	16092	48
4	Outer Ring	22055	1
5	Nut, 3/8" Stover Flange	17844	48
6	Bolt, 3/8 x 1" Carriage	15718	48

NOTE: Make sure that the tines are facing the correct way



3.17 Hydraulic Cylinders

Complete Cylinder - 17442

Cylinder Rod – 17614

Cylinder Seal Kit - 17613

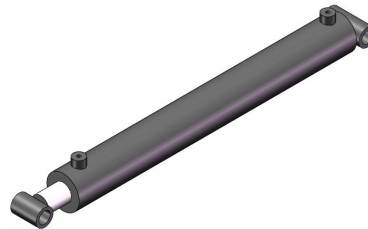


2-1/2" x 20" x 1-1/2" Rod

Complete Cylinder - 17328

Cylinder Rod – N/A

Cylinder Seal Kit - 16396

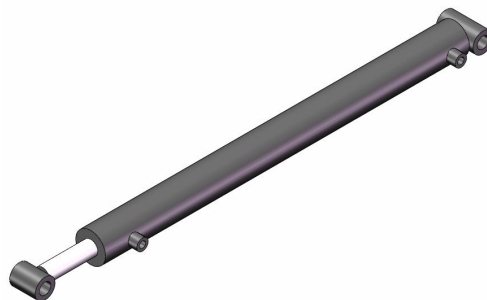


2-1/2" x 48" x 1-1/2" Rod

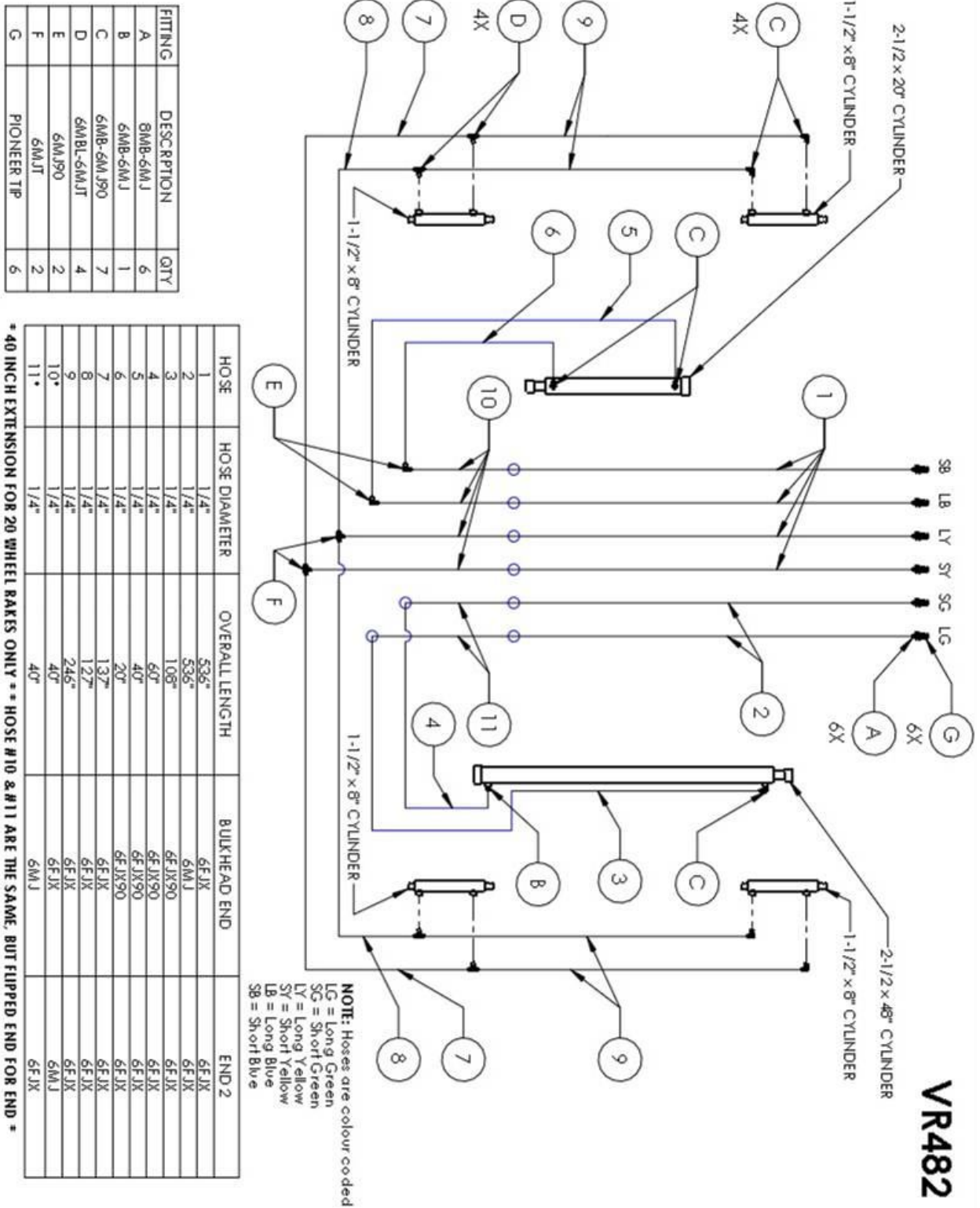
Complete Cylinder - 17331

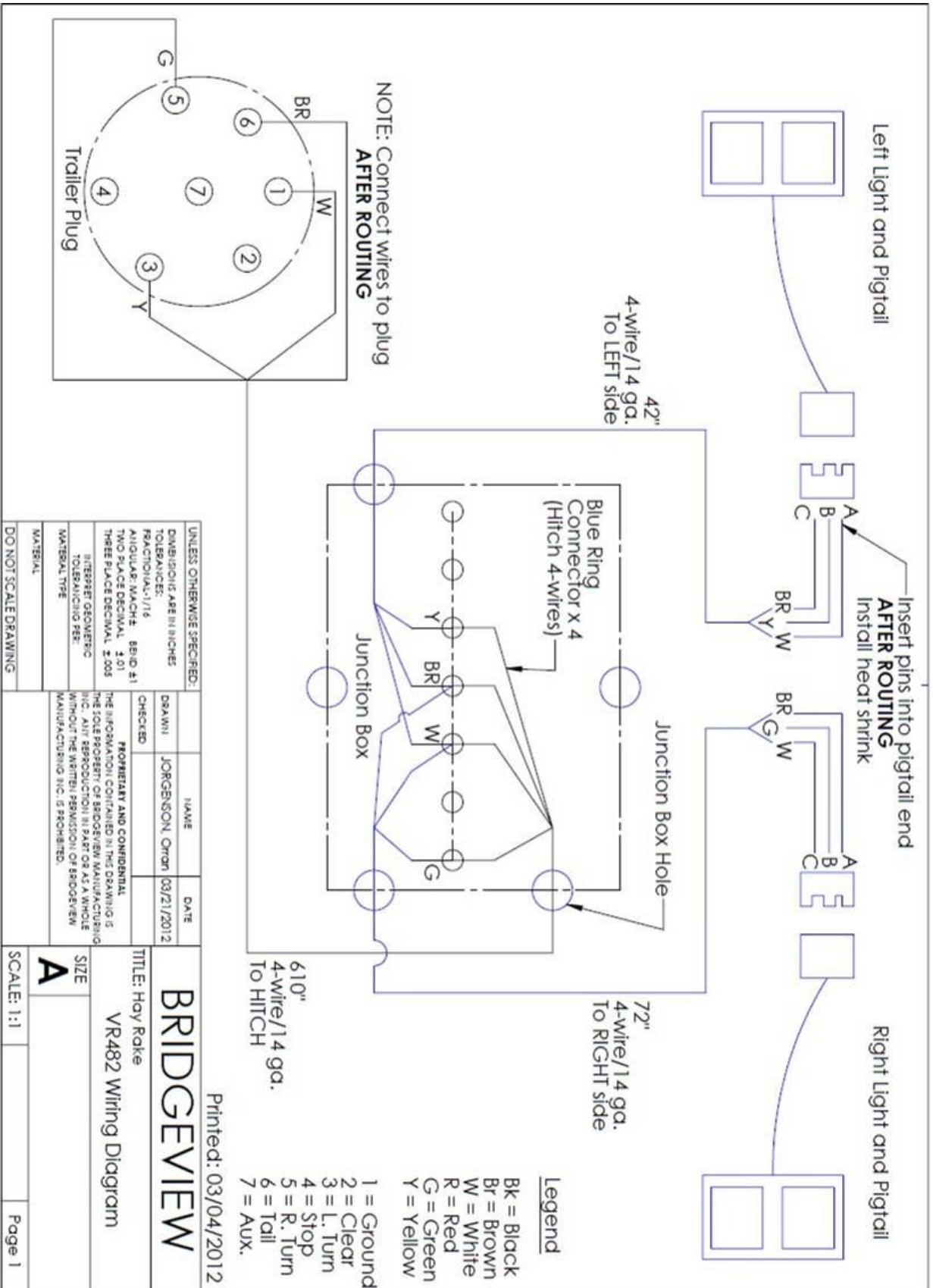
Cylinder Rod – N/A

Cylinder Seal Kit - 16396

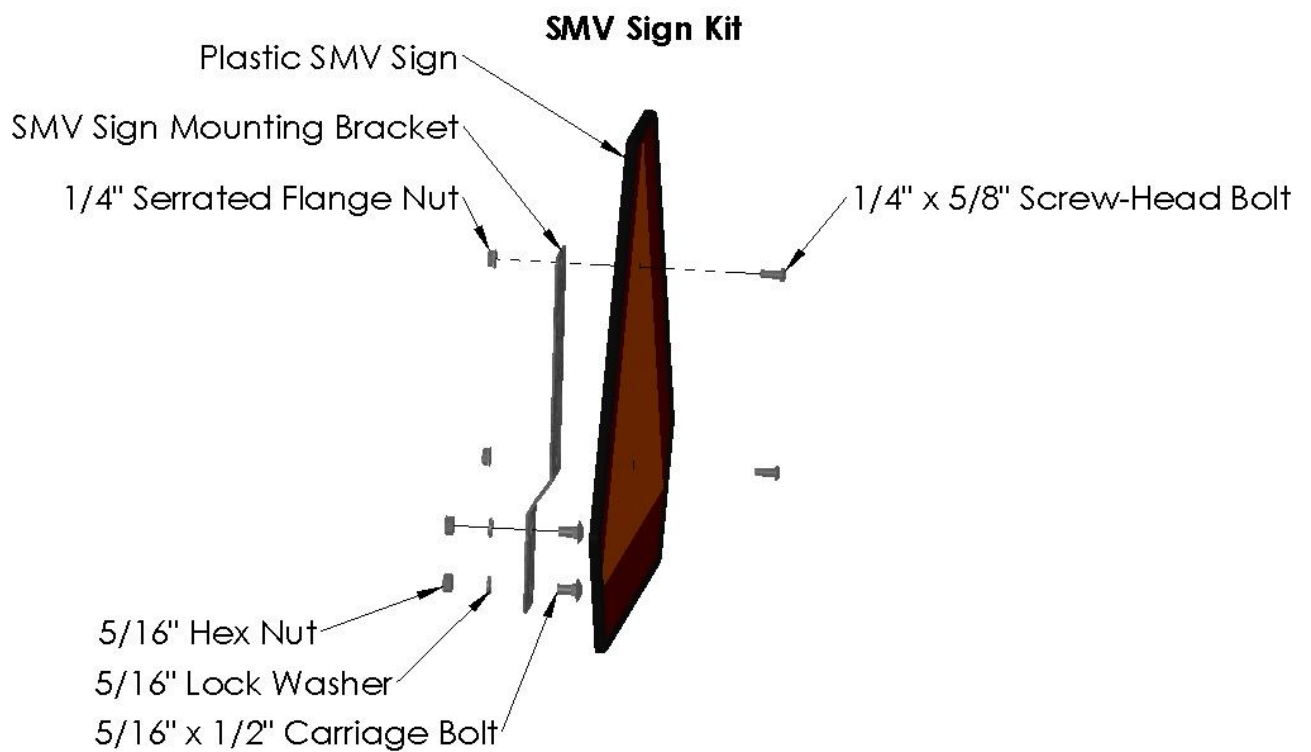


3.18 Hydraulics & Electrical





3.19 Slow Moving Vehicle Sign Kit



Complete Kit - Part # 22411

4.0 Extension Kits: 18 & 20 Wheels

4.1 Introduction

This section describes the assembly process in order to attach the Bridgeview Rake Extension Kit. Please read through this before beginning assembly of the kit. Before assembly, ensure that all of the components are included.

Note: Some of the hardware used in assembly may be used as packaging hardware. Please save the packaging hardware.

4.2 Safety

Proper precautions must be taken to ensure safe assembly of the Bridgeview Extension Kit:

- Wear proper safety equipment when assembling the rake. Steel toe boots and safety glasses are required. Earplugs are recommended when tightening bolts.
- Gloves are recommended when handling materials.
- Ensure that all parts of the rake are **safely supported** before working around or beneath it.
- Always have help when lifting heavy pieces.
- **Relieve hydraulic pressure** and disconnect lines before installing hose extensions.

4.3 Tools required

The following tools may be required for the assembly of the Bridgeview Extension Kit:

- Forklift or Hoist
- Impact Wrench
- Basic Hand Tools

4.4 Fastener Information

Your Bale King VR482 is fastened with a variety of bolts. For these bolts to work properly the correct washer and nut must be used in the proper situation. Please consult this guide for correct fastener information. Also ensure that all fasteners are securely tightened. Serrated flange nuts must be installed tightly with an impact wrench. The flanged nut must be tight against the steel in order for the nut to correctly bind.

All of the bolts should be tightened to their correct torque settings, as follows:

1/2"	Dry 90 ft-lb.
9/16"	Dry 120 ft-lb.
3/4"	Dry 300 ft-lb.

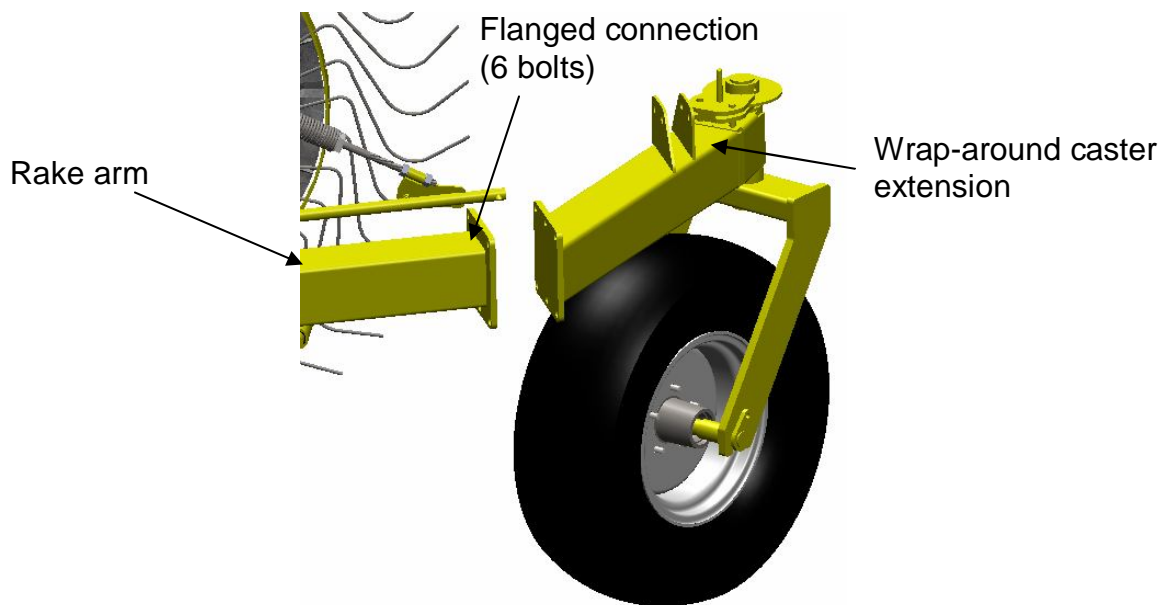
4.5 Rake Wheel Extension Assembly Procedure

The following is the standard procedure used to attach the VR481 Extension Kit. For ease of connection, extend the rake to the open position (space permitting).

Note: Left and right, as referred to in this guide, are taken as if you are standing at the rear of the rake, looking along the length of the rake towards the tractor hitch.

4.5.1 Remove Wrap Around Caster Extension

First, the wrap-around caster extension must be removed. To do this, support the rake arm near the front rake wheel to take the weight off of the flanged connection. Remove the 6 bolts ($5/8'' \times 1 \frac{3}{4}''$) and flange nuts and save for later use.



4.5.2 Install Rake Arm Extensions

NOTE: There is a left & right version of the arm extensions. Make sure they go on the correct sides.

To Upgrade from 16 Wheel Rake with 18 Wheel Kit:

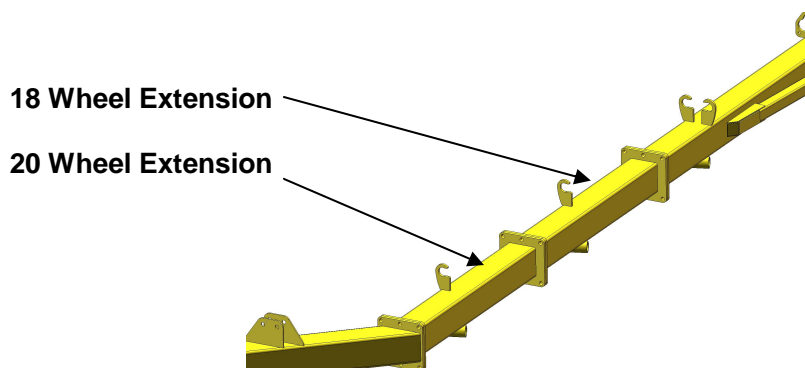
Install the rake arm extender at this time. The rake arm extender is bolted to the open end of the rake arm. The rake arm extender is attached using 5/8" x 1-3/4" bolts using serrated flange nuts. Make sure that the rake wheel arm stoppers are located on the same side and are at the same angle as the arm stoppers of the rake arm.

To Upgrade from 18 Wheel Rake with 20 Wheel Kit:

Install the rake arm extender at this time. The rake arm extender is bolted to the open end of the first rake arm extender. The rake arm extender is attached using 5/8" x 1-3/4" bolts using serrated flange nuts. Make sure that the rake wheel arm stoppers are located on the same side and are at the same angle as the arm stoppers of the rake arm.

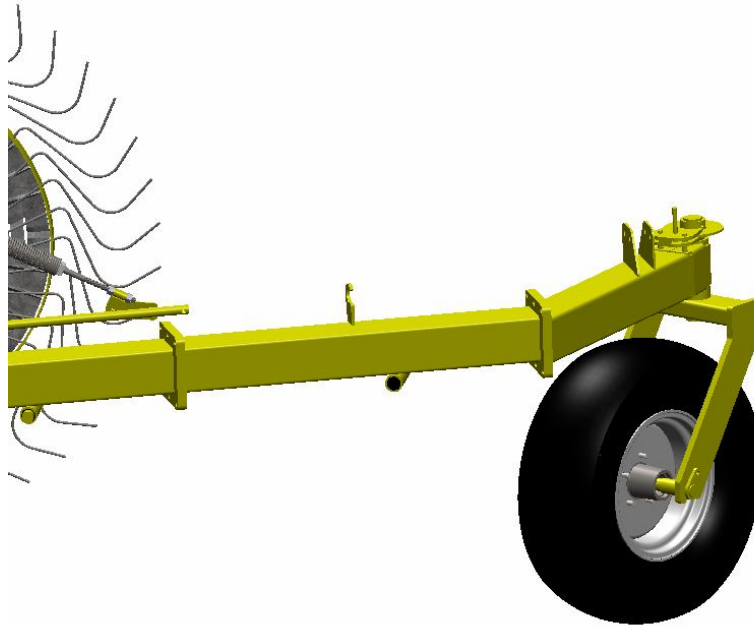
To Upgrade from 16 Wheel Rake with 20 Wheel Kit:

Install the rake arm extenders at this time. The rake arm extenders are bolted together to the open end of the rake arm. The rake arm extenders are attached using 5/8" x 1-3/4" bolts using serrated flange nuts. Make sure that the rake wheel arm stoppers are located on the same side and are at the same angle as the arm stoppers of the rake arm.



4.5.3 Reinstall Wrap Around Caster Extension

The wrap around caster extension can now be remounted on the end of the rake arm extension, in the same orientation as before. Reuse the six 5/8" x 1 3/4" bolts and serrated nuts that were removed previously.



4.5.4 Install Lift Rod Extender

To Upgrade from 16 Wheel Rake with 18 Wheel Kit:

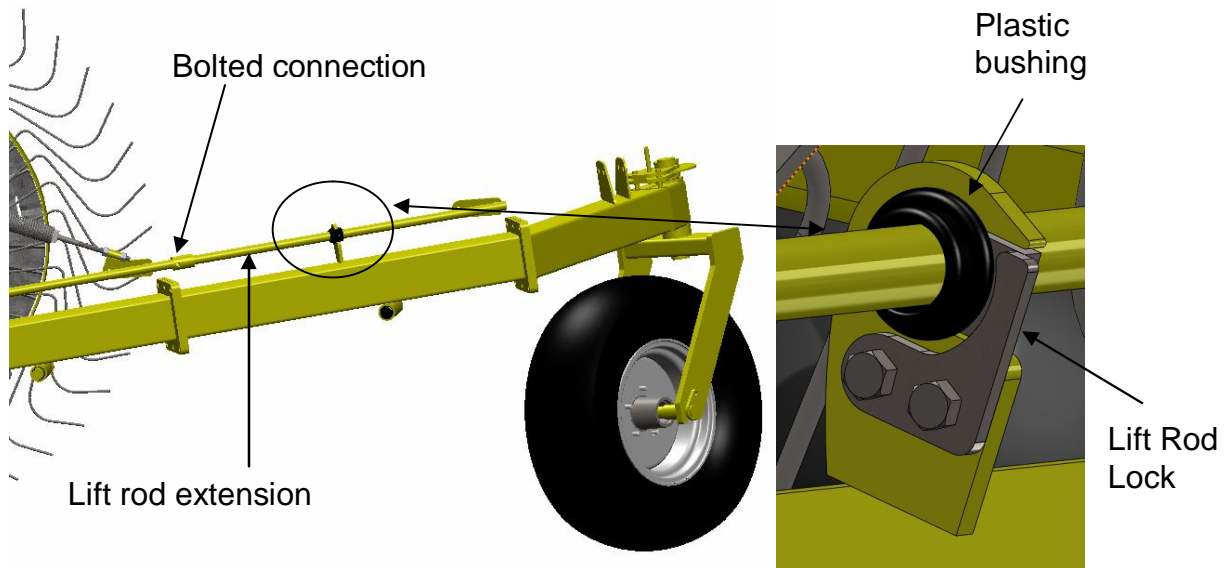
The lift rod extenders can now be installed. These extenders mount directly to the end of the regular lift rods. Slide the plastic bushing over the lift rod extension and slide the lift rod extension into the mount. The extension is bolted to the end of the lift rod using 1/2" x 2-1/4" bolts and nylon locking nuts. Relocate the lift rod lock using existing hardware.

To Upgrade from 18 Wheel Rake with 20 Wheel Kit:

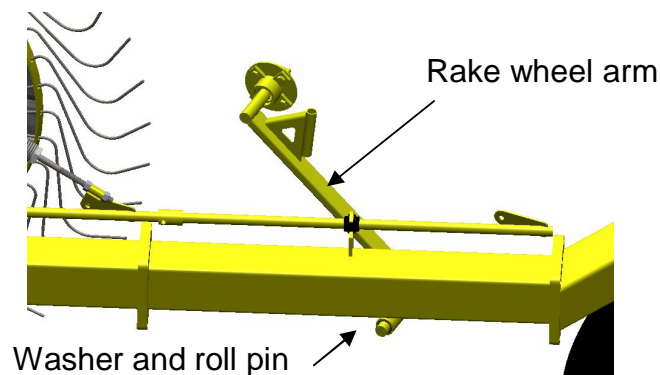
The lift rod extenders can now be installed. These extenders mount directly to the end of the long extenders. Slide the plastic bushing over the lift rod extensions and slide the lift rod extensions into the mount. The extensions are bolted together using a 1/2" x 2-1/4" bolt and nylon locking nut. Relocate the lift rod lock using existing hardware.

To Upgrade from 16 Wheel Rake with 20 Wheel Kit:

The lift rod extenders can now be installed. The longer extenders mount directly to the end of the regular lift rods. The shorter extenders now mount directly to the end of the long extenders. Slide the plastic bushing over the lift rod extensions and slide the lift rod extensions into the mount. The extensions are bolted together and to the end of the lift rod using $\frac{1}{2}$ " x 2- $\frac{1}{4}$ " bolts and nylon locking nuts. Relocate the lift rod lock using existing hardware.

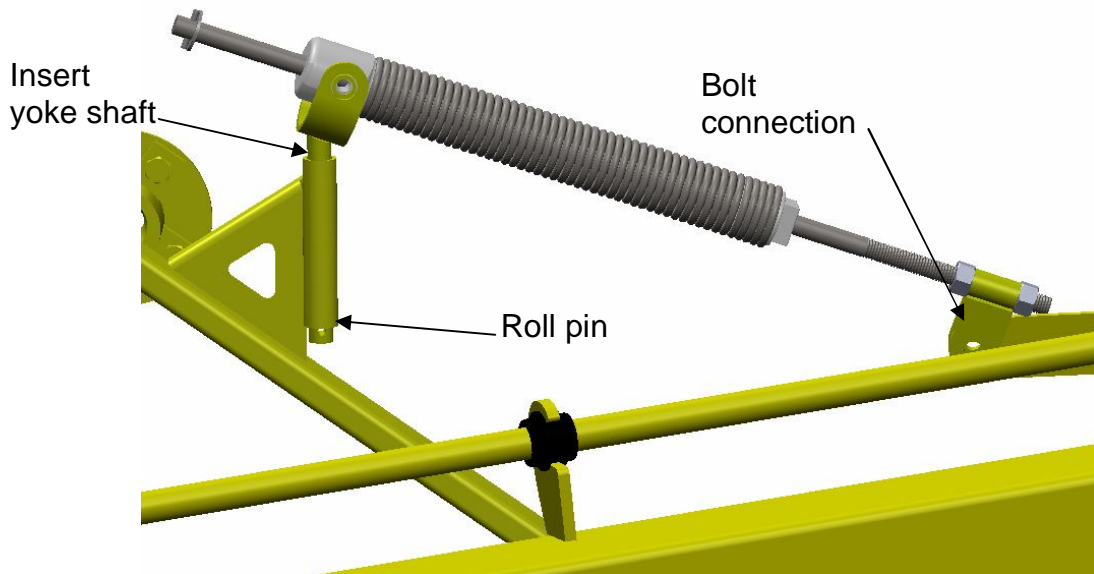
**4.5.5 Install Rake Wheel Mounting Arm**

There are two different types of mounting arms, one for the left and one for the right sides of the rake. The mounting arms are installed inside the rake arms with the spring mounting facing towards the rear of the rake. The arms are slid through the bushings and secured on the outside of the rake with a 1- $\frac{1}{4}$ " inside diameter painted washer and $\frac{1}{4}$ " x 2" roll pin.



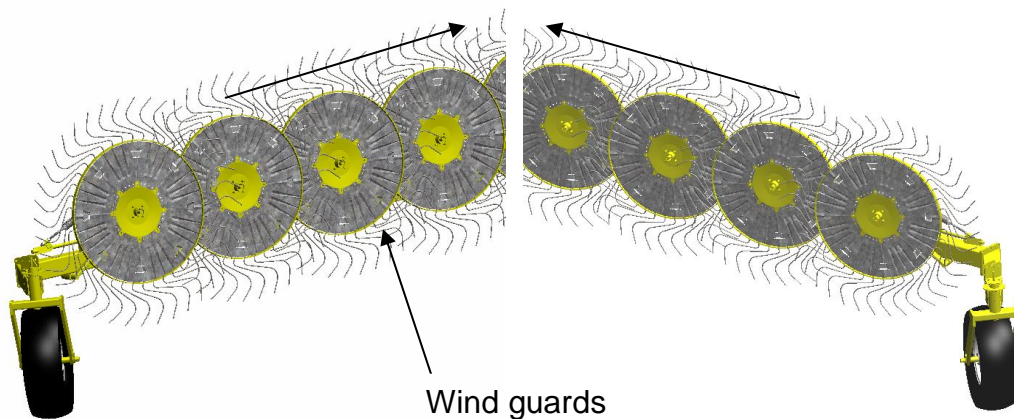
4.5.6 Install Spring Assembly to Mounting Arm

To mount the spring assembly, first insert the yoke shaft into the rake wheel arm pivot, and insert the clevis over the bracket on the lift rod extension, as shown. Attach the clevis to the bracket using a 1/2" x 1 1/2" bolt and Stover lock nut. Insert a 1/4" x 1 1/4" roll pin to secure the yoke shaft.

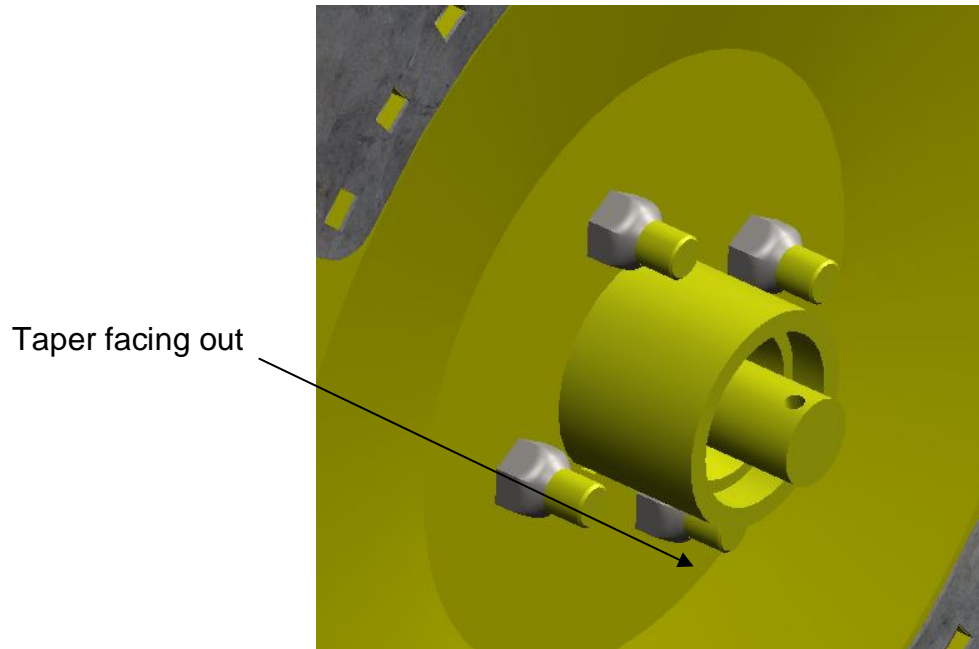


4.5.7 Install Rake Wheels

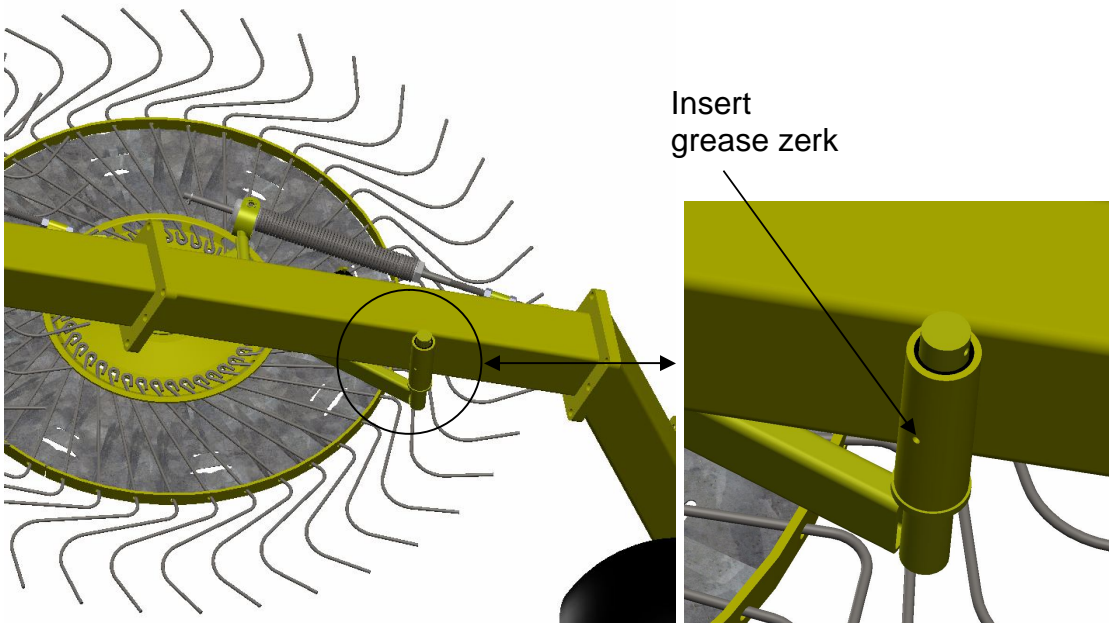
The rake wheels are installed onto the hubs of the rake wheel arms. There is one wheel for each side of the rake. Ensure that the tines point in the same direction as the other wheels on the same side, with the wind guard facing inward.



The wheels are mounted using $\frac{1}{2}$ " tapered wheel nuts. FOR MOUNTING THE RAKE WHEELS, THE TAPERED EDGE OF THE NUTS FACES OUT. This means that the flat edge of the nut is tightened against the rake wheel. **Torque nuts to 90 ft-lb.**



Finally, the $\frac{1}{4}$ " grease zerk should be installed in the rake wheel arm pivot, as shown.



- Repeat all previous steps on the opposite side -

4.6 Hitch Extension Assembly Procedure (20 Wheel Only)

This part of the manual covers the steps involved in adding the hitch extension. Ensure that the hydraulic pressure is relieved and disconnected before beginning.

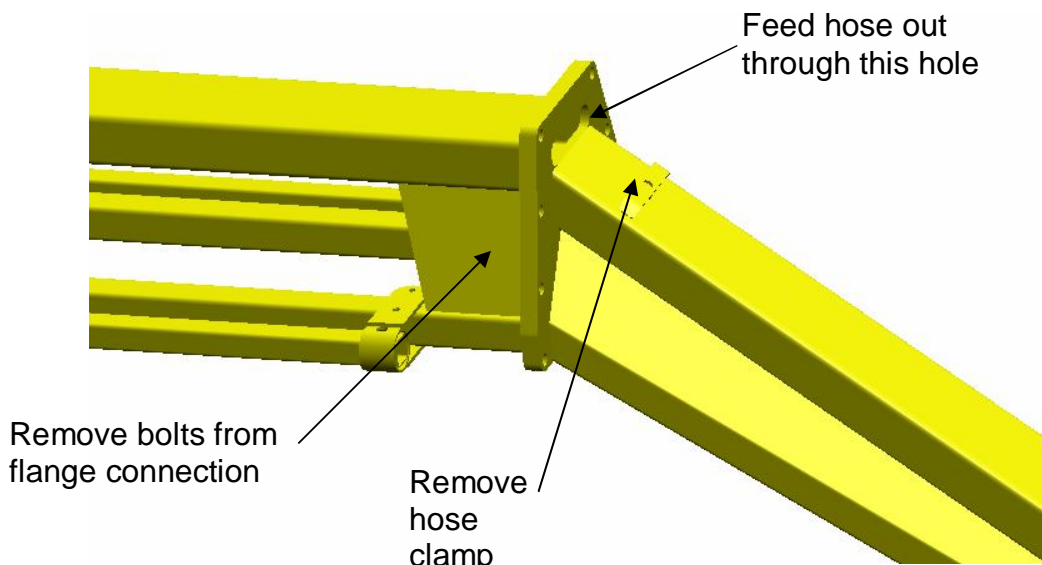
4.6.1 Install Hydraulic Hose Extensions

In order to extend the hitch length, the hydraulic hoses must first be extended. This is accomplished using the connections at the rear of the machine.

Remove each individual hose and install a 40" hose extension on each hose, making sure that they are reconnected to the same port that they came off of. 4 of the hoses will run one way, while 2 are turned around the opposite way.

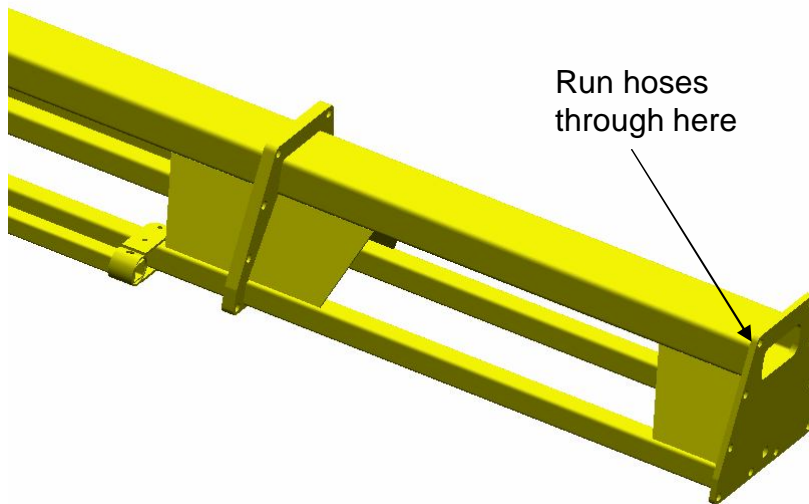
4.6.2 Remove Front Hitch

Next, the front hitch must be removed. Before doing this, ensure that both sides of the flange connection are supported to take weight off of the connection, and so that the hydraulic lines are not damaged. Remove all 10 bolts (5/8" x 1-3/4") and save for later use. Also, remove the hose clamp from the front hitch, and feed the hose out through the hole.



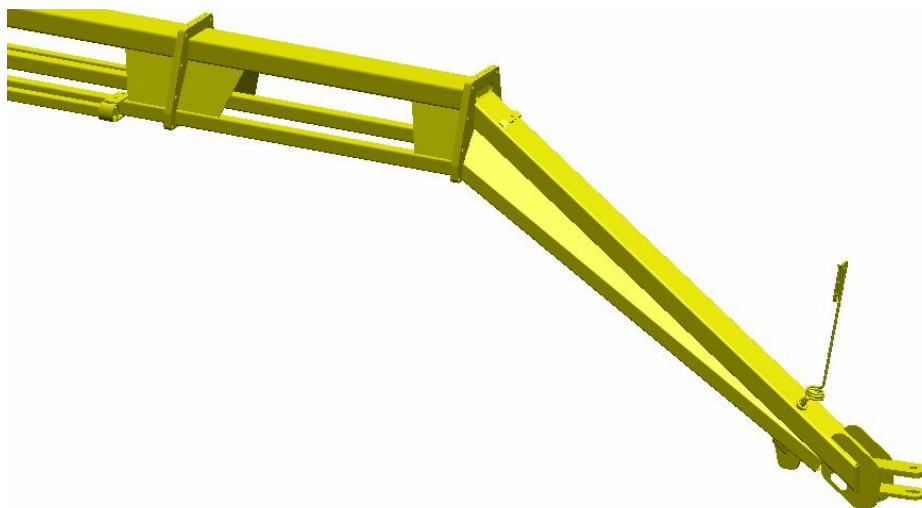
4.6.3 Install Hitch Extension

Once the hitch is removed, the hydraulic hose should be run through the top pipe of the hitch extension, then the hitch extension should be bolted to the flange on the hitch of the machine using 10 bolts (5/8" x 1-3/4") and serrated flange nuts.



4.6.4 Reinstall Front Hitch

Next, the front hitch can be reinstalled. First, feed the hydraulic hoses back through the opening, and reconnect the flange using the bolts removed earlier. Reattach the hose clamp and run the hoses down along the hitch as before.



4.7 Relocate the Transport Lock

To Upgrade to 18 Wheel Kit:

The transport lock now needs to be relocated to the new position of the transport link when its installed on the arms. The first step to relocate the transport locks is to loosen the two U-bolts connecting it to the main hitch beam. Then move the lock to roughly same distance from the gooseneck flange. Now install the transport links in arms assemblies and adjust the transport lock position until a good fit is achieved.

To Upgrade to 20 Wheel Kit:

The transport lock now needs to be relocated to the new position of the transport link when its installed on the arms. The first step to relocate the transport locks is to remove the two U-bolts connecting it to the main hitch beam. Then loosely reinstall the U-bolts with the transport lock on the hitch extension. Move the lock to roughly same distance from the gooseneck flange. Now install the transport links in arms assemblies and adjust the transport lock position until a good fit is achieved, then tighten the nuts.



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