8A BUMPER ATTACHMENT

Operator Manual

Includes operating, adjustment, maintenance, technical,
repair parts, and safety instructions for the 8A Bumper Attachment.

Please retain this document for future reference. Keep this manual available for reference to the operator at all times.

RCI Engineering LLC
RC125064 Rev H 7Apr25
www.RCI.ag
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RCI New Agricultural Attachments and Implements
Warranty Statement

RCI Engineering LLC, hereinafter referred to as RCI, warrants new RCI attachments and implements to the Original Retail Purchaser to be free from defects in material and workmanship for a period of one (1) year from the date of sale.

RCI warranty includes:

Genuine RCI parts costs and labor required to repair or replace equipment at the selling dealer's business location.

RCI MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE), EXCEPT AS EXPRESSLY STATED IN THIS WARRANTY STATEMENT.

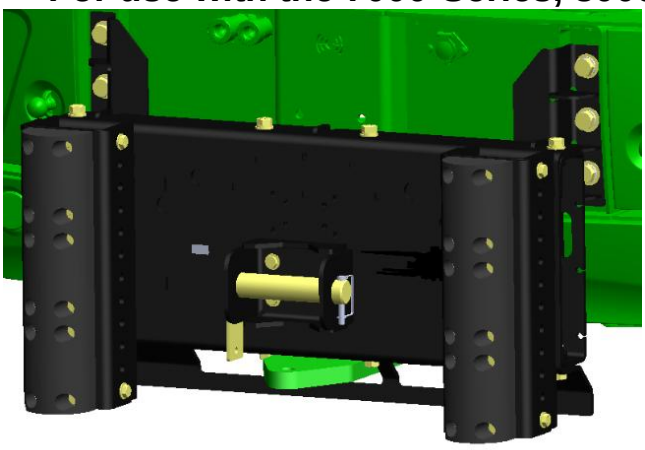
RCI WARRANTY DOES NOT INCLUDE:

1. Transportation to the selling dealer's business location or, at the option of the Original Retail Purchaser, the cost of a service call.
2. Freight costs above standard shipping costs for the replacement parts.
3. Used equipment.
4. Components covered by their own non-RCI warranties, such as tires and trade accessories.
5. Normal maintenance service and expendable, high-wear items.
6. Sacrificial components designed to fail to prevent damage to other components when obstructions are encountered (i.e. shear bolts, pickup teeth)
7. Repairs or adjustments caused by: improper use; non-intended use; failure to follow recommended maintenance procedures; use of unauthorized attachments; accident or other casualty.
8. Liability for incidental or consequential damages of any type, including, but not limited to lost profits or expenses of acquiring replacement equipment or damage to machines to which the attachment is installed.

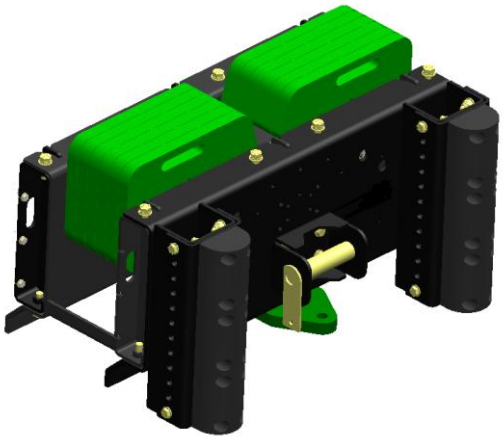
No agent, employee, or representative of RCI has any authority to bind RCI to any warranty except as specifically set forth herein. Any of these limitations excluded by local law shall be deemed deleted from this warranty; all other terms will continue to apply.

8A Bumper / Water Tank / Weight Rack System

For use with the 7000-Series, 8000-Series, and 9000-Series SPFH

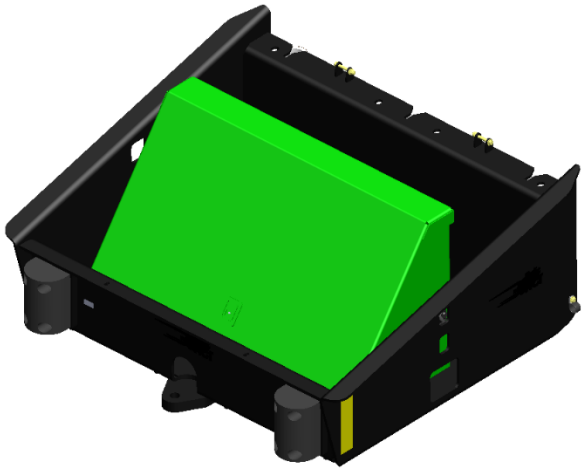


Base Bumper

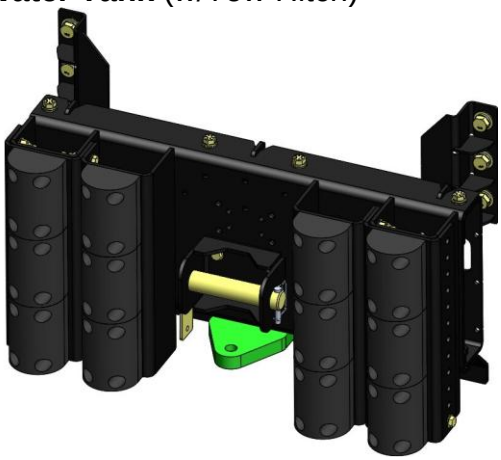


Weight Rack

Water Tank (w/Tow Hitch)



Tool Carrier (w/Tow Hitch)



Inner Bumper Kit

Bolt-On Pintle Hitch and Receiver Hitch

The 8A Bumper Attachment and Accessories are available from RCI Engineering for the John Deere 7000-Series, 8000-Series, and 9000-Series Self-Propelled Forage Harvesters.

Intended Use:
The 8A is intended to be used to provide a bumper as well as ballast for the SPFH to allow for ease of installation of larger headers. Other options are provided for additional functionality and value of the Bumper Attachment System.

Options:

1. Base Bumper
2. Weight Rack
3. Water Tank (w/ Tow Hitch)
4. Tool Carrier (w/ Tow Hitch)
5. Inner Bumper Kit
6. Bolt-On Pintle Hitch
7. Bolt-On Receiver Tube

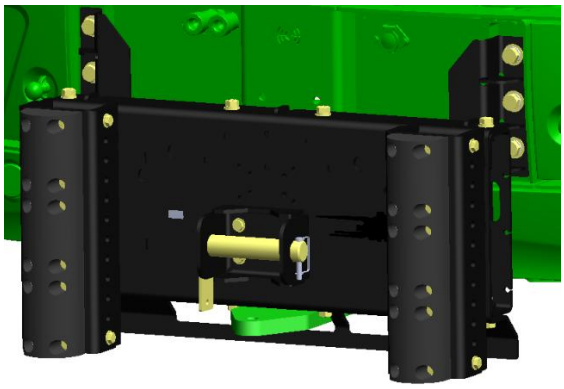
Base Bumper
The RC125061 Base Bumper Bundle is needed for all configurations and accessories offered for this system.

The bumper height is adjustable and allows for ground clearance from approximately 12” to 21”, depending on tire options of the SPFH.

Clearance is provided for access to rear SCV and electrical connection of SPFH for auxiliary functions. A tow strap mount with removable pin at rear of unit is standard for ease of connection of tow straps and/or chains.

The original John Deere hitch plate can be mounted to the bottom of the rear bumper. Bumper frame is constructed of 3/8” thick steel and reinforced for the most demanding conditions.

Six standard rubber bumpers are included as standard equipment, and additional rubber bumpers can be added if desired with an additional bundle.



Weight Rack
The Weight Rack option allows for a more cost-effective ballast solution than factory weights and a custom-built bumper.

Machines can be ordered from the factory “Less Ballast” and standard John Deere tractor suitcase weights can be used with the Weight Rack.

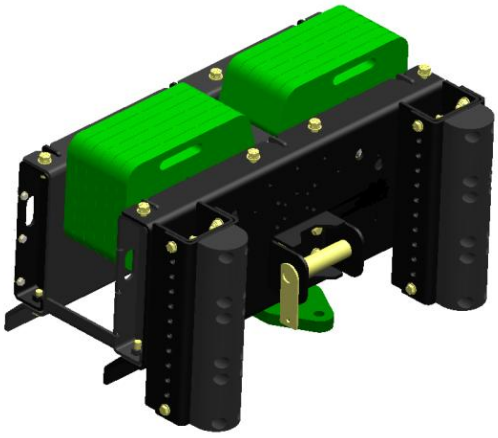
A maximum of 12 suitcase weights (6 per side) can be used with the weight rack. Weights are retained with a threaded rod.

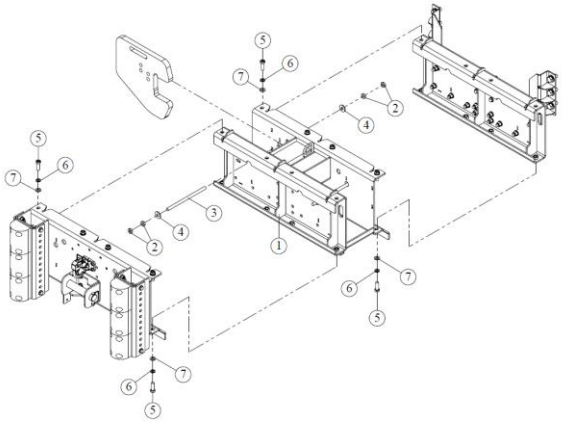
The modular design allows for removal of the weight rack and reinstallation of the bumper when using hay pickups to:

- Reduce compaction in hay fields to increase yield
- Improve fuel efficiency, especially in transport.
- Improve harvest capacity when the engine is under full load

When switching from hay pickups to corn heads, the weight rack can be easily removed using forklift pockets or with chains at the lift point locations on the rack.

The original John Deere hitch plate can be mounted to the bottom of the weight rack. The weight rack is used in conjunction with the Base Bumper. See 8A Operator Manual for more information regarding ballasting.





Water Tank (w/ Tow Hitch)
The optional water tank provides for 200 gallons of additional water carrying capacity and connects to the on-board water system for extended harvesting. A pulling hitch option is available for the Water Tank to add a point for a tow rope for in-line pulling with this option.

Two rubber bumpers are provided at the rear of the attachment for limited protection. The Water Tank attachment can be removed, and the bumper plate re-installed to provide additional protection for the back of the machine when not in use. The Base Bumper is needed for use with the Water Tank. The Water Tank is retrofittable to all previous 8A Bumper Attachments.

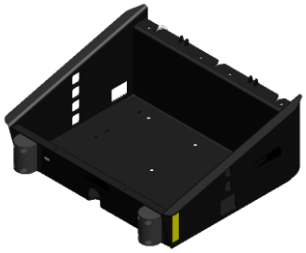
Hose and fittings are provided with the tank to connect to the SPFH on-board water system or customer's inoculant system, but end connections are the responsibility of the customer.

IMPORTANT: The Tow Hitch Kit option is not for use with trailers or other implements. It is provided for attachment of a chain, strap or rope and only in-line (i.e. no side-pulling).

Tool Carrier (w/ Tow Hitch)
The tool carrier option can be used to carry a toolbox or other items in the field. A Tow Hitch option is available for the Tool Carrier to add a point for a tow rope or chain for in-line pulling with this option. Mounting holes are provided for use with Montezuma Toolboxes (toolbox not included). Customers may choose to also use this option for installation of other accessories.

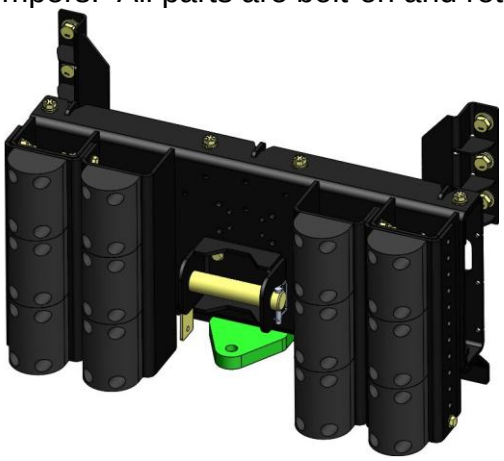
The Tool Carrier attachment can be removed, and the bumper plate re-installed to provide protection for the back of the machine when not in use. The Base Bumper is needed for use with the Tool Carrier. The Tool Carrier is retrofittable to all previous 8A Bumper Attachments.

The open area of the Tool Carrier attachment is 48" left-to-right and 36" front-to-rear.



Inner Bumper Kit
The optional Inner Bumper Kit provides for additional protection at the back of the SPFH for when tractors with narrow weight racks are used on wagons and carts when opening fields, or additional protection from trucks in corners and other tight conditions.

This bundle adds 6 additional rubber bumpers and is adjustable with the existing rubber bumpers. All parts are bolt-on and retrofittable to all previous 8A Bumpers.

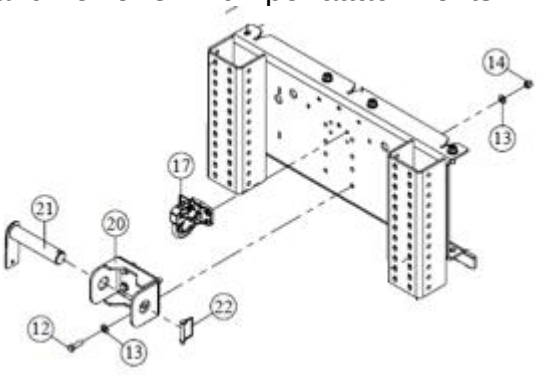


Bolt-On Pintle Hitch and Receiver Tube
The optional Bolt-On Pintle Hitch is provided for quick chain and strap attachment. It is NOT INTENDED to be used for pulling trailers. It bolts into existing holes in the 8A Bumper attachment.

The optional Bolt-On Receiver Hitch is provided for quick installation of customer accessories such as a pintle hitch or D-Ring on a 2-inch receiver. It is NOT INTENDED to be used for pulling trailers. It bolts into existing holes in the 8A Bumper attachment.

The Removable Tow Pin is included as standard on all 8A Bumper attachments.

These options will retrofit to all MY22 and newer 8A Bumper attachments.



IMPORTANT: Straps, toolboxes, and any other accessories are not included in any bundle

SPFH Ballasting Recommendations for Weight Rack

IMPORTANT: Proper ballasting will keep efficiency of the four-wheel drive system and steering function when braking.

IMPORTANT: Always put the same number of weight plates inside the left and right side of weight carrier when using the Standard Weight Rack. Refer to SPFH Operator Manual for information regarding weight plate installation if a weight rack is not needed.

IMPORTANT: Do not overload rear tires, especially when the header is removed.

IMPORTANT: Special field conditions may require higher ballasting to keep efficiency of the four-wheel drive system and steering function.

Depending on machine/header type configurations, ballasting differs. To properly ballast the machine, ALWAYS refer to the relevant ballasting chart, then install required amount of weight.

Specifications – Base Weight:

RC125061	Bundle, 8000- and 9000-Series Base	583 lbs (265 kg)
RC125070	Bundle, 7000-Series Base	525 lbs (238 kg)
RC125049	Rack, Standard Weight	400 lbs (180 kg)
Combined Weight		Approx. 985 lbs (445 kg)
RC125100	Bundle, Water Tank (w/ base, water.)	Approx. 2,600 lbs (1180 kg)

Ordering Information:

RC125061	Bundle, 8000-and 9000-Series Base	Qty 1
RC125070	Bundle, 7000-Series Base	Qty 1
RC125049	Rack, Standard Weight	Qty 1
RC125100	Assembly, Water Tank Bumper	Qty 1
RC125115	Assembly, Tool Carrier Bumper	Qty 1
RC125108	Kit, Tow Hitch (2/ Water Tank / Tool Carrier)	Qty 1
RC125111	Kit, Inner Bumper	Qty 1
RC125068	Hitch, Pintle	Qty 1
RC950663	Kit, 2” Bolt-On Receiver Tube	Qty 1

Estimated Installation Times:

Base Bundle Installation	1.5 hours
Weight Rack and Water Tank Initial Installation	1 hour
Field change between weight rack, tank, and bumper	0.5 hour

All times are dependent on the use of appropriate tools and technician experience. No modifications to the SPFH are required for the installation, only the removal of a few components at the rear mount plate.

Ballasting

IMPORTANT: Proper ballasting will keep efficiency of the four-wheel drive system and steering function when braking.

IMPORTANT: Always put same amount of weight plates inside left and right hand weight carrier when using the Standard Bumper. Refer to 8000 or 9000 Series SPFH Operator Manual for information regarding weight plate installation.

IMPORTANT: Do not overload rear tires, especially when header is removed.

IMPORTANT: Special field conditions may require higher ballasting to keep efficiency of the four-wheel drive system and steering function.

Depending on machine/header type configurations, ballasting differs. To properly ballast the machine, ALWAYS refer to the relevant ballasting chart, then install required amount of weight.

IMPORTANT: For the 7000-Series SPFH, refer to the Operator Manual for the SPFH and account for the weight of the bumper attachment in the same manner as rear, factory suitcase weights.

8000 and 9000-Series SPFH Field Operation Ballasting Chart

The following ballasting charts for field operations are only recommendations. Keep in mind to ballast the machine so that the four-wheel drive system and steering function are ensured. Install required amount of weight plates or suitcase-type weights, depending on the style of bumper installed.

Base Bundle (Base bumper only; no weight rack) RC125061

	Ballasting Chart—Field Operation—Moderate Conditions				
Harvesting Unit	**8100, 8200—Nb of weight plates on each side**	**8300—Nb of weight plates on each side**	**8400, 8500—Nb of weight plates on each side**	**8600—Nb of weight plates on each side**	**8700, 8800—Nb of weight plates on each side**
639 Pickup	0	0	0	0	0
649 Pickup	0	0	0	0	0
659 Pickup	0	0	0	0	0
480 ProfiCut	0	0	NR	NR	NR
620 ProfiCut	NA	NA	0	0	0
445+/676 RHU	3	2	NR	NR	NR
460+/778 RHU	6	3	8400: 3 8500: 3	3	NR
475+/770+ RHU	NA	NA	8400:NA 8500: 6	6	6
345+/696+ RHU	3	2	NR	NR	NR
360+/698+ RHU	6	3	3	3	NR
375+/690+ RHU	NR	NR	6	6	6

Notes:

A. Values indicate number of plates to be used on the base machine.
B. These plates are available through the John Deere parts system.
C. NR = Not Recommended
D. NA = Not Applicable
E. RHU = Rotary Harvesting Unit
F. Suitcase weights are not compatible with the Base Bundle. This is a bundle for a bumper only.
G. All configurations without header support wheel option.

Base Bundle (Continued) (Base bumper only; no weight rack) RC125061

	Ballasting Chart—Field Operation—Hilly/Wet Conditions				
Harvesting Unit	**8100, 8200—Nb of weight plates on each side**	**8300—Nb of weight plates on each side**	**8400, 8500—Nb of weight plates on each side**	**8600—Nb of weight plates on each side**	**8700, 8800—Nb of weight plates on each side**
639 Pickup	0	0	0	0	0
649 Pickup	0	0	0	0	0
659 Pickup	0	0	0	0	0
480 ProfiCut	0	0	NR	NR	NR
620 ProfiCut	NA	NA	0	0	0
445+/676 RHU	4	4	NR	NR	NR
460+/778 RHU	10	6	6	6	NR
475+/770+ RHU	NA	NA	8400: NA 8500: 10	10	10
345+/696+ RHU	6	4	NR	NR	NR
360+/698+ RHU	10	6	6	6	NR
375+/690+ RHU	NA	NR	10	10	10

Notes:

A. Values indicate number of plates to be used on the base machine.
B. These plates are available through the John Deere parts system.
C. NR = Not Recommended
D. NA = Not Applicable
E. RHU = Rotary Harvesting Unit
F. Suitcase weights are not compatible with the Base Bundle. This is a bundle for a bumper only.
G. All configurations without header support wheel option.

Standard Weight Rack RC125049

	Ballasting Chart—Field Operation—Moderate Conditions				
Harvesting Unit	**8100, 8200— total weight to add**	**8300— total weight to add**	**8400, 8500— total weight to add**	**8600— total weight to add**	**8700, 8800— weight to add**
639 Pickup	Remove	Remove	Remove	Remove	Remove
649 Pickup	Remove	Remove	Remove	Remove	Remove
659 Pickup	Remove	Remove	Remove	Remove	Remove
480 ProfiCut	Remove	Remove	NR	NR	NR
620 ProfiCut	NA	NA	Remove	Remove	Remove
445+/676 RHU	0	0	NR	NR	NR
460+/778 RHU	350	350	0	0	NR
475+/770+ RHU	NA	NA	8400:NA 8500: 350	350	350
345+/696+ RHU	350	0	NR	NR	NR
360+/698+ RHU	350	0	0	0	NR
375+/690+ RHU	NA	NA	350	350	350

Notes:

A. Values indicate total weight to be added to Weight Rack.
B. No plates are to be used in the base machine.
C. Suitcase weights to be evenly distributed on the weight rack.
D. NR = Not Recommended
E. NA = Not Applicable
F. RHU = Rotary Harvesting Unit
G. Remove = Remove weight rack and install bumper plate on base machine (no weights needed and weight rack to be removed to reduce weight)
H. All configurations without header support wheel option.

Standard Weight Rack (Continued) RC125049

	Ballasting Chart—Field Operation—Hilly/Wet Conditions				
Harvesting Unit	**8100, 8200— total weight to add**	**8300— total weight to add**	**8400, 8500— total weight to add**	**8600— total weight to add**	**8700, 8800— weight to add**
639 Pickup	Remove	Remove	Remove	Remove	Remove
649 Pickup	Remove	Remove	Remove	Remove	Remove
659 Pickup	NR	NR	Remove	Remove	Remove
480 ProfiCut	Remove	Remove	NR	NR	NR
620 ProfiCut	NA	NA	Remove	Remove	Remove
445+/676 RHU	350	350	NR	NR	NR
460+/778 RHU	875	875	350	350	NR
475+/770+ RHU	NA	NA	8400: NR 8500: 875	875	875
345+/696+ RHU	875	350	NR	NR	NR
360+/698+ RHU	875	350	8400: NR 8500: NR	NR	NR
375+/690+ RHU	NA	NA	875	875	875

Notes:

A. Values indicate total weight to be added to Weight Rack.
B. No plates are to be used in the base machine.
C. Suitcase weights to be evenly distributed on the weight rack.
D. NR = Not Recommended
E. NA = Not Applicable
F. RHU = Rotary Harvesting Unit
G. Remove = Remove weight rack and install bumper plate on base machine (no weights needed and weight rack to be removed to reduce weight)
H. All configurations without header support wheel option.

Suitcase Weight Installation

All current standard tractor suitcase weights from John Deere should fit either weight rack. The most common part numbers of weights are as follows:

R127764	(95 lbs: 43 kg)
L38450	(104 lbs; 47.4 kg)

When an odd number of suitcase weights are used, place the last suitcase weight on the RH side of the machine to offset the weight of the drives of the header and feedrolls.

IMPORTANT: Always install weights on the weight rack before installing the rack on the machine for ease of access to hardware. Always install weights towards the front of the rack.

Standard Weight Rack

Install weights on rack towards the front of the rack. Secure with threaded rod and jam nuts provided. See Figure 1.

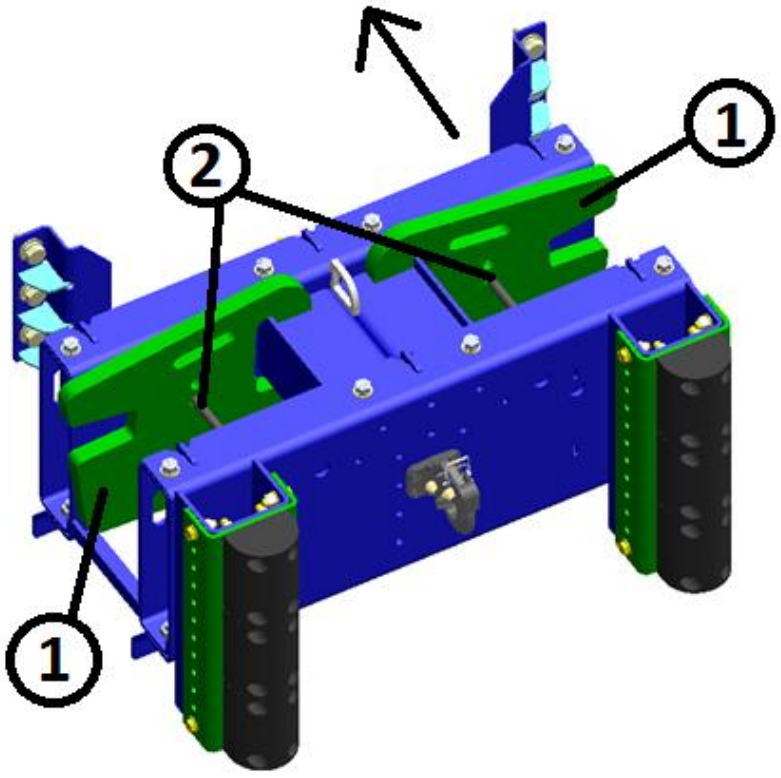


Figure 1. Standard Weight Rack Weight Installation
Key 1 – Suitcase Weight

Key 2 – Threaded Rod and Jam Nuts (provided)

Bumper Clearance Height Adjustment

Bumper Adjustment

The rubber stops of the bumper can be adjusted to decrease ground clearance as desired by the operator.

To adjust the ground clearance, first remove the hardware for the rubber bumpers and the side bolts.

Move the side rails down to a desired position.

Reinstall side bolts at the highest and lowest holes possible containing both parts (4 places per side)

Install the rubber stops to match the range of positions that customers' trucks or other equipment may need. This is typically the highest and lowest position of the sliding rail, or about 5" (150 mm) apart.

Tighten all hardware properly, but do not overtighten the hardware for the rubber stops as damage may occur.

See Figure 2.

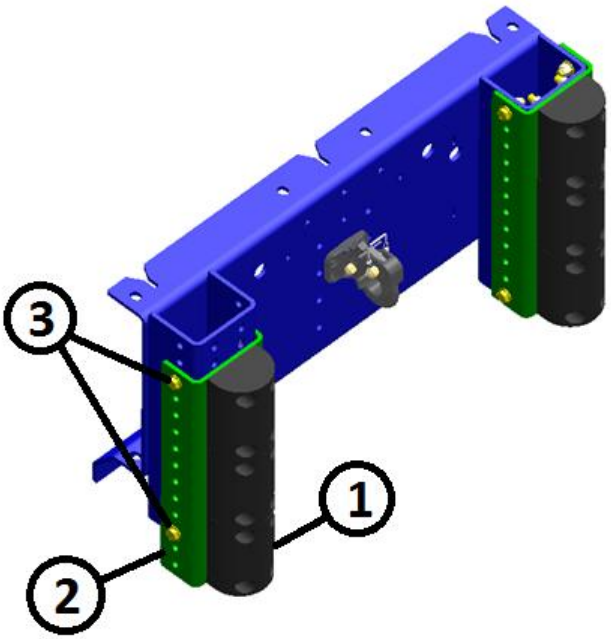


Figure 2. Bumper Adjustment
Key 1 – Rubber Stop
Key 2 – Side Rail

Key 3 – Side Rail Hardware

Weight Rack Handling

There are two different methods available to lift the weight rack into place on the machine: chains with lift mechanism or forklift.

IMPORTANT: ALWAYS USE APPROPRIATE EQUIPMENT AND MEASURES WHEN LIFTING WEIGHT RACKS INTO POSITION OR SERIOUS INJURY MAY RESULT.

Chain Method for Lifting

Three hook points are provided on each weight rack for installation of chains. See Figures 3 and 4.

Secure chains properly to hooks provided.

Safely lift weight rack and bumper assembly into place.

Install 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the weight rack.

Tighten all hardware properly.

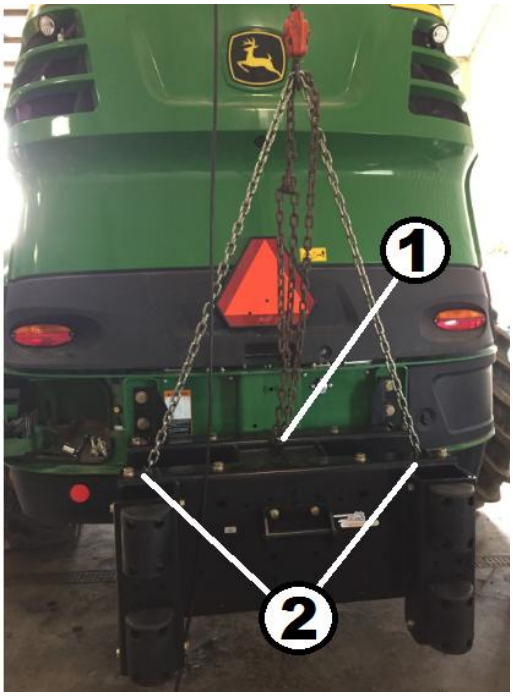


Figure 3. Chain Method
Key 1 – Front Hook (center)
Key 2 – Rear Hooks (at back plate)

Pintle Hitch Use

Effective with s/n 1135, a pintle hitch replaces the bar at the rear of the bumper. Effective with s/n 1163, bumpers are equipped with both a bar and a pintle hitch. This pintle hitch is only intended for quick connections for a tow strap or chain.

IMPORTANT: DO NOT USE THE PINTLE HITCH FOR PULLING ANY TRAILERS OR OTHER DEVICES AS MACHINE DAMAGE AND/OR INJURY MAY RESULT.

See Figure 4.

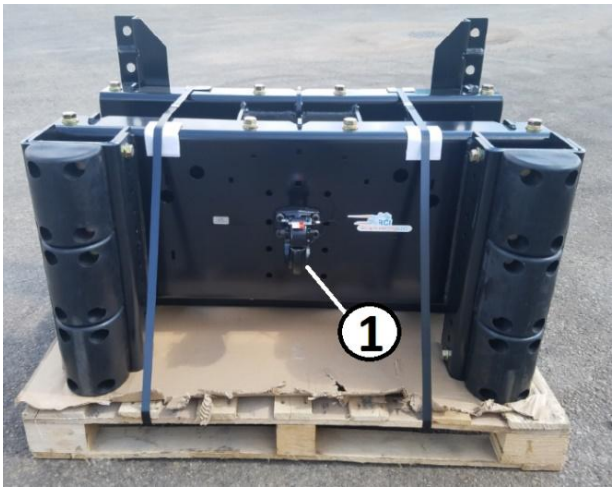


Figure 4. Pintle Hitch Location
Key 1 – Pintle Hitch

Forklift Method for Lifting
Forklift fork holes are provided for lifting the weight rack by the use of a forklift.

Align forks with the holes in the weight rack. Take care during handling to not protrude past the end of the assembly and damage other components on the base machine.

Safely lift weight rack and bumper assembly into place.

Install 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the weight rack.

Tighten all hardware properly.

See Figure 5.

Bumper Installation

If a weight rack is not used, the bumper can be installed directly on the base plate.

Use a lifting device to lift the bumper into position.

Then secure bumper to base plate using 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the base plate.

See Figure 6.

Tow Hitch Kit Option with Water Tank

IMPORTANT: The Tow Hitch Kit option is not for use with trailers or other implements. It is provided for attachment of a chain, strap or rope and only in-line (i.e. no side-pulling).

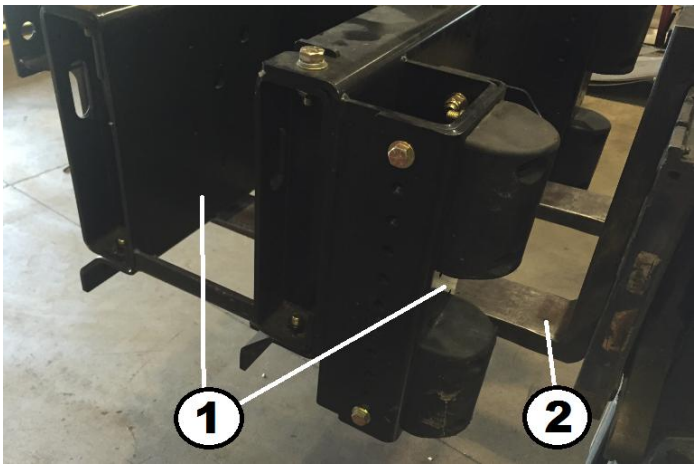


Figure 5. Forklift Method
Key 1 – Forklift Fork Holes
Key 2 – Forklift Fork (ref)

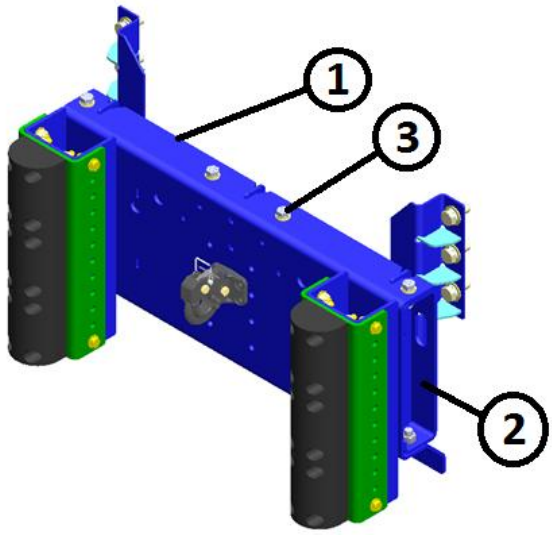
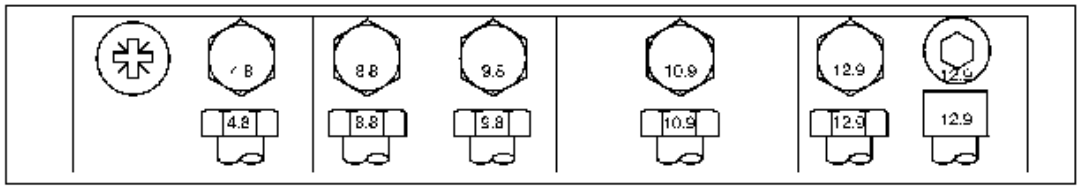


Figure 6. Bumper Installation
Key 1 – Bumper Assembly
Key 2 – Base Plate
Key 3 – Bolt Location

Metric Bolt and Screw Torque Values



Bolt or	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
Screw	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
Size	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb-ft	N·m	lb-ft	N·m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb-ft														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.

[b] "Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.

Bolt or	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
Screw	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
Size	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb-ft	N·m	lb-ft
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb-ft	N·m	lb-ft				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb-ft	N·m	lb-ft	N·m	lb-ft								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb-ft														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] Grade 2 applies for hex cap screws (not hex bolts) up to 6. in (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

[b] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.

[c] "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

Installation Instructions
for 8000 and 9000-Series SPFH

1.0 Preparing the Machine

1.1 Park Machine
Park machine on a flat, hard surface. Set Park Brake. Lower header to the ground. Remove key from ignition.

1.2 Remove Hitch and Strap.

Remove the Hitch Plate and Strap from the rear of the machine.

See Figure 7.

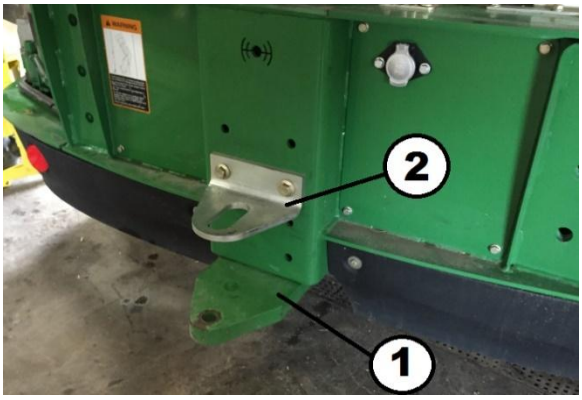


Figure 7. Rear of Machine
Key 1 – Hitch Plate
Key 2 - Strap

1.3 Open access panel.

Open rear door and remove cover at top of main frame. Set to side and take care to not damage the alarm.

See Figure 8.

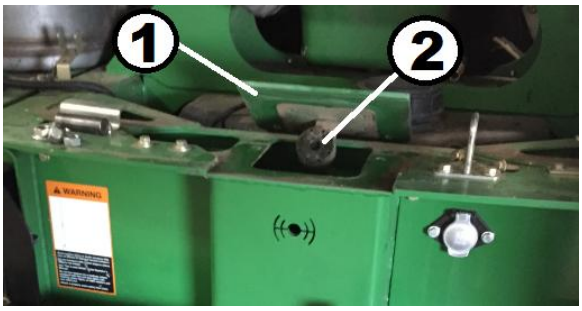


Figure 8. Access Panel Removal
Key 1 – Access Panel
Key 2 - Alarm

2.0 Preparing the Attachment

2.1 Remove the base plate from the attachment.

Support the base plate at the lift holes and/or at the holes in the adapter brackets as indicated in Figure 5.

Remove the eight (8) ¾" x 2-1/4" Bolts, four (4) on top, four (4) on bottom, from the weight rack or bumper plate at the base plate.

See Figure 9.

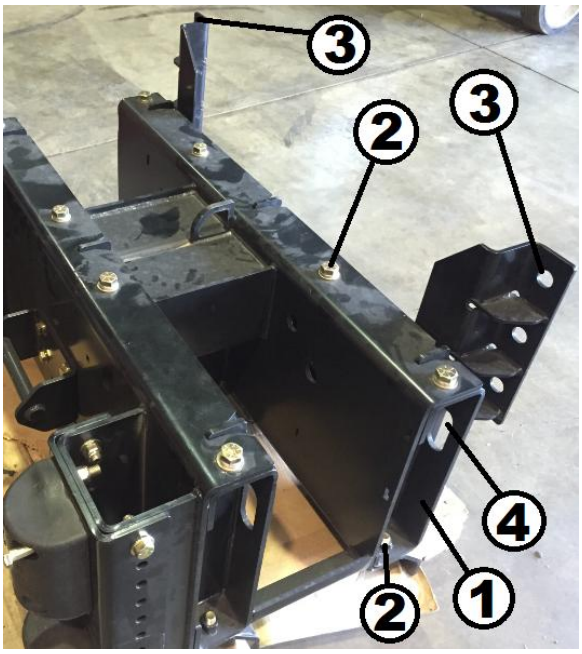


Figure 9. Base Plate Removal
Key 1 – Base Plate Key 2 – ¾" Bolts
Key 3 – Adapter Holes Key 4 – Lift Hole

2.2 Loosen hardware on base plate

<u>Loosen all hardware remaining on base plate to make it easier to install the base plate on the machine.</u>

If installing a standard weight rack, remove bag of hardware from back of base plate adapter.

See Figure 10.

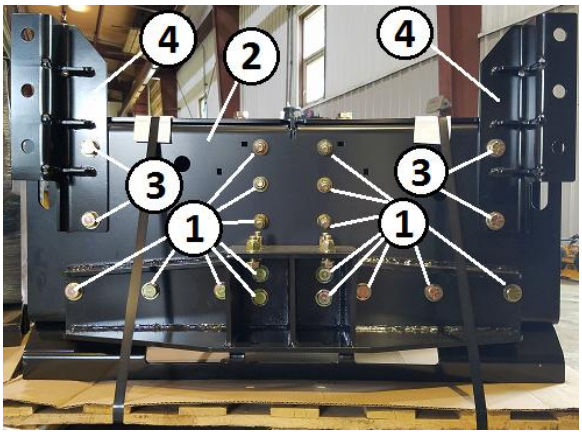


Figure 10. Base Plate Hardware
Key 1 – Hardware Locations
Key 2 – Base Plate (Reference Only)
Key 3 – Support Hardware
Key 4 – Supports

3.0 Install Base Plate

3.1 Install base plate on machine by lifting the base plate with a lifting device at the chain holes.

3.2 Align the loose adapter brackets with the holes in the rear plate of the main frame of the base machine as shown in Fig. 11.

IMPORTANT: Remember to keep all hardware loose for ease of assembly.

3.3 Inspect weld nuts on main frame or debris before installation to prevent damage. It may be beneficial to turn a M24 tap through each hole to make sure the threads are clean before installing the hardware. Install the M24 x 50 Bolts, Lock Washers, and Washers in the holes, but only hand tighten.

3.4 Install the provided 5/8"x2" Gr. 8 Bolts, Lock Washers, Washers, and Nuts at all frame locations in the center of the adapter (6 places)

IMPORTANT: DO NOT TIGHTEN HARDWARE AT THIS TIME. ONLY HAND TIGHTEN.

3.5 Install the provided 5/8"x2" Gr. 8 Bolts, Lock Washers, Washers, and Nuts at the bottom support to the original mounting location for the hitch plate.

IMPORTANT:

If unable to reach from the top access hole to install the nuts on bolts at Key 4 of Figure 12, remove the bottom support (shown in Figure 13) and access the bolt locations through the hole in the mainframe. Reinstall the bottom support after the hardware at Key 4 of Figure 11 is installed. See Figure 12.

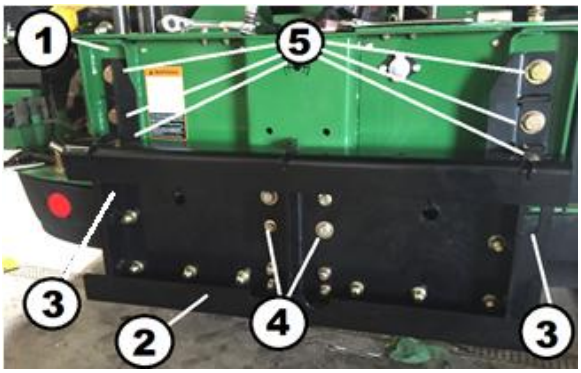


Figure 11. Base Plate Install
Key 1 – Main Frame (ref)
Key 2 – Base Plate
Key 3 – Lift Holes
Key 4 – Main Frame Holes (qty 6)
Key 5 – M24 Bolt Locations (qty 6)

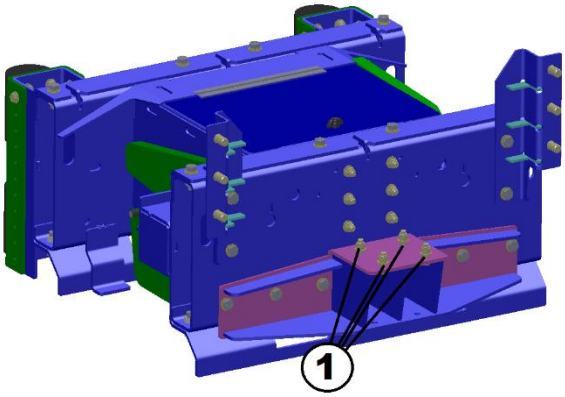


Figure 12. Bottom Support Bolts
Image for reference only.
Key 1 – Bolt Locations

3.6 Tighten all hardware in sequence as follows:

A. Snug all hardware so all components are aligned properly.
B. Tighten center bolts on rear of main frame (qty 6). See IMPORTANT note on Page 19 if unable to access this hardware and tighten before the bottom support is installed.
C. Tighten M24 bolts at main frame (qty 6).
D. Tighten 5/8" bolts at base plate (qty 4).
E. Tighten bottom support bolts at hitch mount (qty 4).
F. Tighten bottom support bolts at base plate (qty 10; 4 in center).

Tighten all hardware properly. See Figure 13.

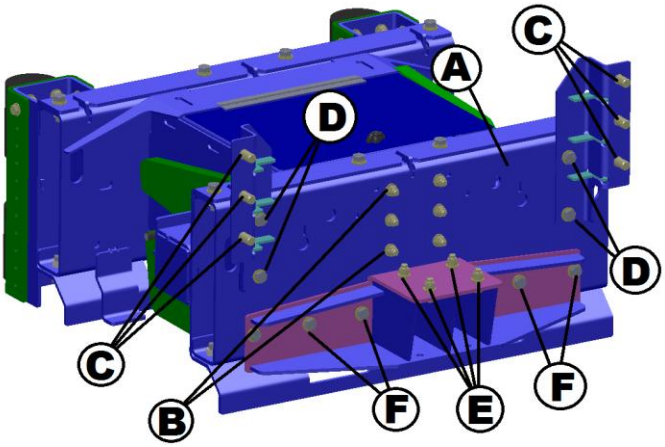


Figure 13. Bolt Tightening Sequence
Key A – Base Plate (reference)
Key B – Main Frame Center Bolts
Key C – M24 Bolts
Key D – Base Plate Bolts
Key E – Hitch Mount Bolts
Key F – Bottom Support Bolts

3.7. Reinstall Cover

Reinstall cover at top of main frame of base machine.

Take care to not damage the alarm.

See Figure 14.

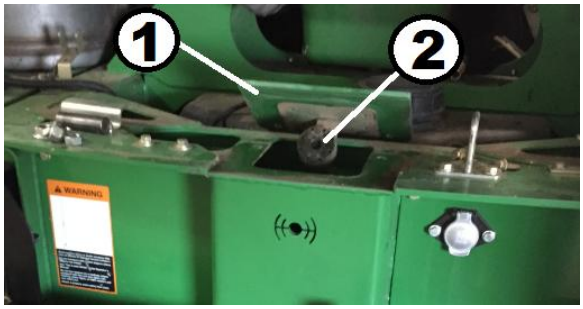


Figure 14. Access Panel Installation
Key 1 – Access Panel
Key 2 – Alarm

NOTE: If installing only the bumper and not a weight rack, proceed to Section 5.0 Bumper Installation.

4.0 Install Weight Rack

There are two different methods available to lift the weight rack into place on the machine: chains with lift mechanism or forklift.

IMPORTANT: ALWAYS USE APPROPRIATE EQUIPMENT AND MEASURES WHEN LIFTING WEIGHT RACKS INTO POSITION OR SERIOUS INJURY MAY RESULT.

4.1 Chain Method For Lifting

Three hook points are provided on each weight rack for installation of chains. See Figure 15.

Secure chains properly to hooks provided.

Safely lift weight rack and bumper assembly into place.

Install 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the weight rack.

Tighten all hardware properly.

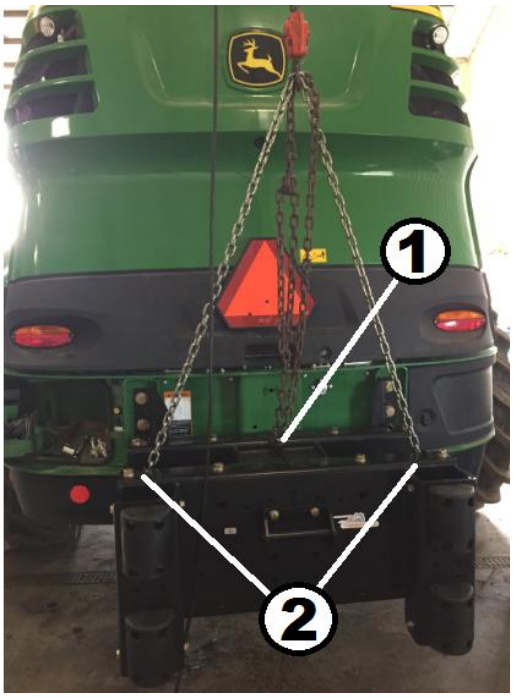


Figure 15. Chain Method
Key 1 – Front Hook (center)
Key 2 – Rear Hooks (at back plate)

4.2 Forklift Method for Lifting

Forklift fork holes are provided for lifting the weight rack by the use of a forklift.

Align forks with the holes in the weight rack. Take care during handling to not protrude past the end of the assembly and damage other components on the base machine.

Safely lift weight rack and bumper assembly into place.

Install 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the weight rack.

Tighten all hardware properly.

See Figure 16.

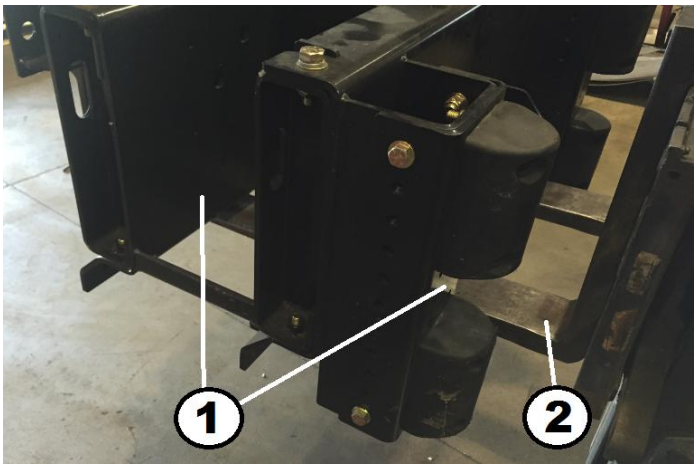


Figure 16. Forklift Method
Key 1 – Forklift Fork Holes
Key 2 – Forklift Fork (ref)

5.0 Bumper Installation

If a weight rack is not used, the bumper can be installed directly on the base plate.

Use a lifting device to lift the bumper into position.

Then secure bumper to base plate using 8 of the ¾" x 2" Gr.8 Bolts with Lock Washers, and washers to the weld nuts in the base plate.

See Figure 17.

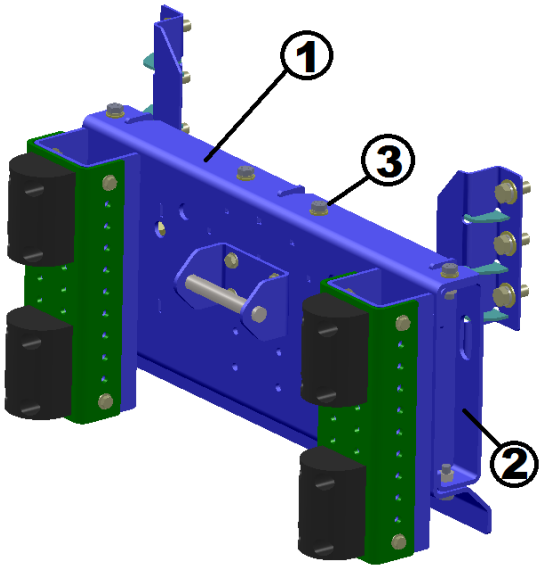


Figure 17. Bumper Installation
Key 1 – Bumper Assembly
Key 2 – Base Plate
Key 3 – Bolt Location

5.1 Bumper Adjustment

The rubber stops of the bumper can be adjusted to decrease ground clearance as desired by the operator.

To adjust the ground clearance, first remove the hardware for the rubber bumpers and the side bolts.

Move the side rails down to a desired position.

Reinstall side bolts at the highest and lowest holes possible containing both parts (4 places per side)

Install the rubber stops as desired on the Side Rail. Bumpers can be spaced apart or together, to accommodate different bumper heights of trucks as needed. Effective with s/n 1163, 6 bumpers are used. They can be spaced as desired.

Tighten all hardware properly, but do not overtighten the hardware for the rubber stops as damage may occur.

See Figure 18.

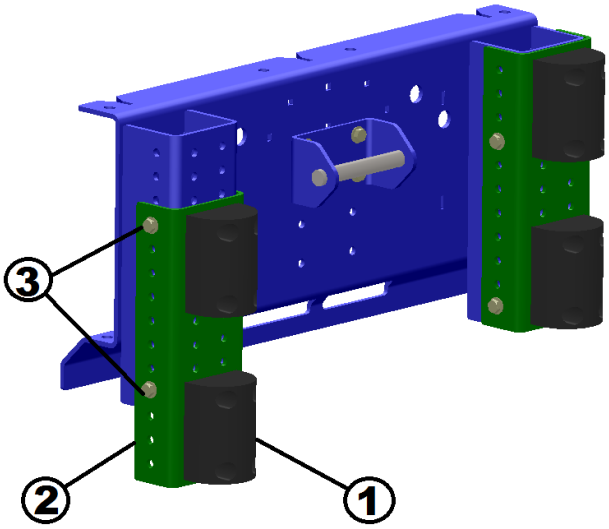


Figure 18. Bumper Adjustment
Key 1 – Rubber Stop
Key 2 – Side Rail
Key 3 – Side Rail Hardware

Note: Effective with s/n 1135, two additional rubber bumpers are added to the design. Also, the bar at the rear is replaced with a pintle hitch. Additional holes are provided for the pintle hitch. If adding these components to previous bumpers, additional holes will need to be drilled in the base plate for the pintle hitch. The additional bumpers can be added using two (2) new RC125046 Plates for mounting. See Figure 19.

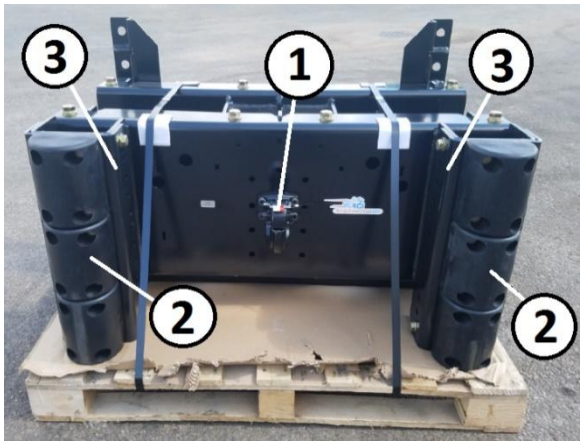


Figure 19. Bumper Updates
Key 1 – Pintle Hitch
Key 2 – Additional Bumper
Key 3 – RC125046 Plate

6.0 Water Tank Installation

The water tank assembly installs in the same manner as the weight rack option.

To install the water tank, the rear bumper plate assembly is removed from the frame.

The tank assembly is installed on the base plate and secured with 8 bolts total. 4 are at the top and 4 at the bottom.

See Figure 20.

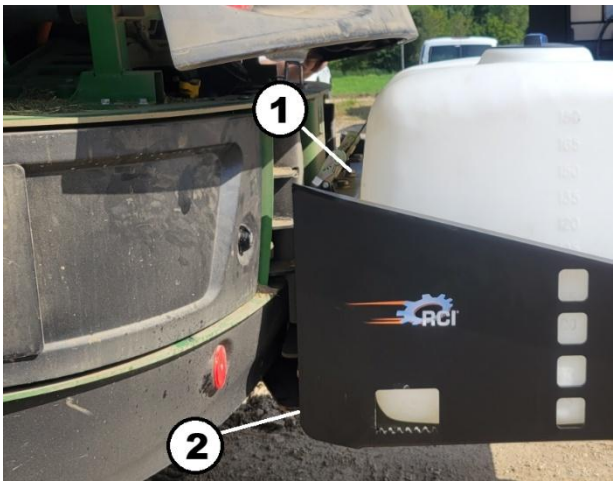


Figure 20. Tank Installation
Key 1 – Upper Bolts
Key 2 – Lower Bolts

The hoses provided can be used by the customer to connect to the on-board water system or can be customized however the customer desires.

See Figure 21.

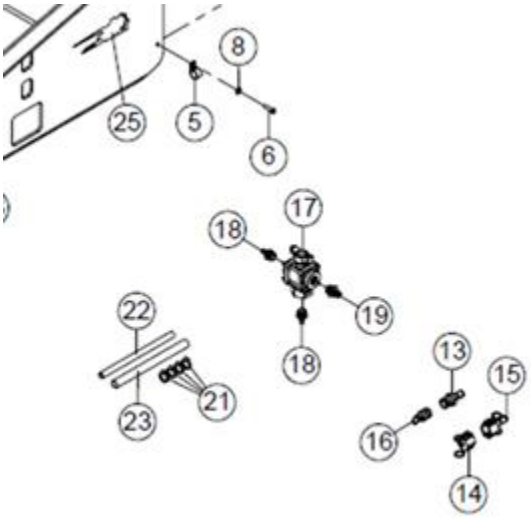


Figure 21. Water Tank Hoses

6.1 Tow Hitch Kit Installation

The tow hitch kit is installed beneath the water tank.

IMPORTANT: The Tow Hitch Kit option is not for use with trailers or other implements. It is provided for the attachment of a chain, strap or rope and only in-line (i.e. no side-pulling).

The base of the hitch will install in the bottom holes of the support bracket of the base bumper. A bracket is provided for vertical support at the rear.

Install the hitch plate, with a spacer, at the base bumper support and leave the hardware loose.

Install the support under the water tank to support the weight of the hitch.

Tighten all hardware properly.

See Figure 22 and 23.

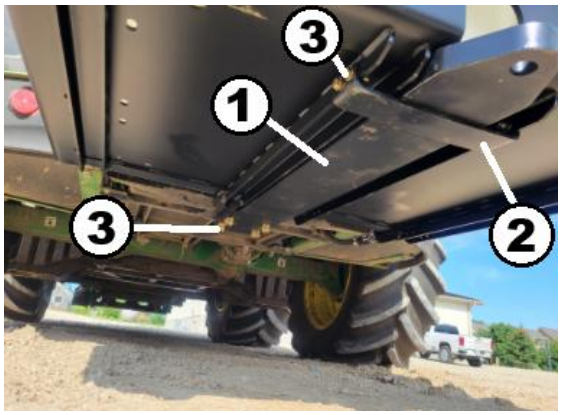


Figure 22. Tow Hitch Installed
Key 1 – Hitch Key 2 – Support
Key 3 – Bolts

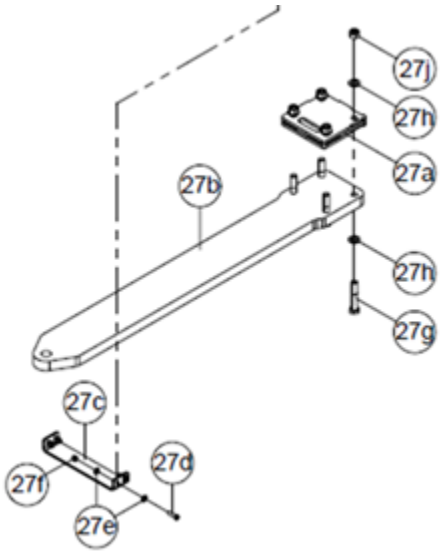


Figure 23. Tow Hitch Components

6.2 Inner Bumper Kit Installation

The Inner Bumper Kit provides for more rubber bumpers to be installed with bolt-on parts at the rear plate of the bumper.

These parts can be bolted on with hardware provided, and adjusted to be parallel to the original bumpers.

See Figure 24 and parts pages for more information.

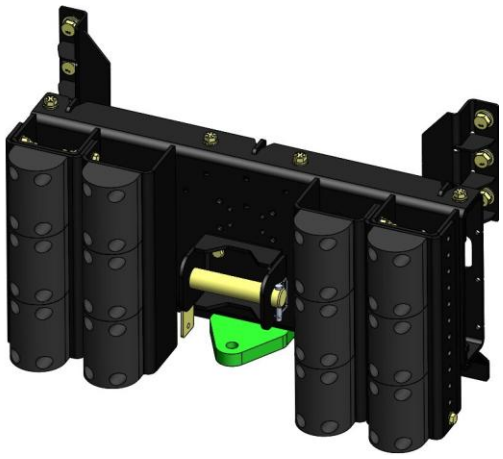


Figure 24. Inner Bumper Installation

Installation Instructions
For 7000-Series SPFH

Installation of the bundle is nearly the same as for an 8000 and 9000-Series SPFH, with a few exceptions.

The vertical supports and lower support frame are not used with the 7000-SPFH. However, additional hardware is used on the base plate for mounting to the rear of the SPFH.

Additional holes are provided at the sides of the base plate. Hardware is provided. These METRIC bolts are used with AND without an in-frame tank. They are full-thread such that they can be used with or without spacer plates as described below. They are metric to match the hardware used for the in-frame tank mounts.

If using an in-frame inoculant tank, 4 John Deere plate weights (Z48791) are needed as a spacer to allow the base of the bumper to clear the brackets supporting the tank. Longer bolts are provided with the RCI bundle to account for the increased mounting distance needed. Scrap any unused hardware after installation.

If an in-frame inoculant tank is used, the hitch plate cannot mount to the frame of the SPFH. To mount a hitch plate, the weight rack bundle from RCI must be used.

If no tank is used, the hitch plate will mount to the original mounting location of the SPFH when the RCI weight rack is not used. A spacer is required, along with longer hardware. This is provided in the RCI bundle. If an RCI weight rack is used, the spacer will not be needed and can be scrapped. Longer bolts are provided as extra with the spacer. Any unused hardware should also be scrapped after installation.

See Figure 25 for an illustration of the extra parts provided.

Refer to Parts Pages for more information.

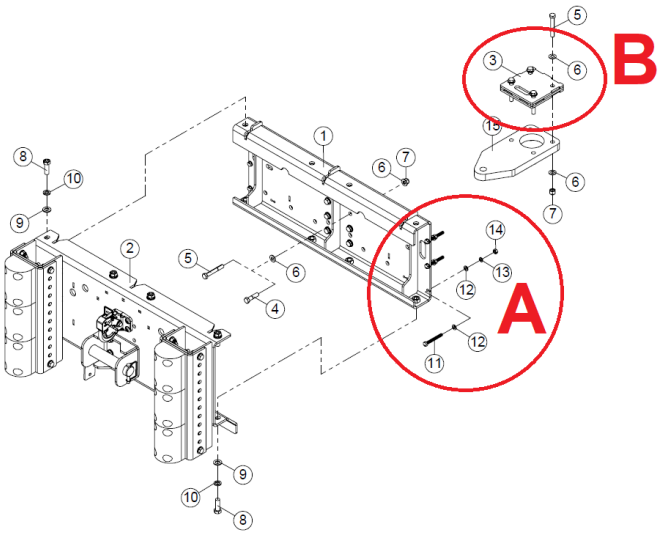


Figure 25. Extra Parts Provided
Key A – Side Mounting METRIC Bolts
Key B – Hitch Spacer Plate
Refer to text at left for more information.

REPAIR PARTS

General Comments

The following includes information regarding parts for the Bumper Attachment. Right or left hand parts are determined by sitting in the operator's seat facing forward. The abbreviation "A.R." in the "USED" column indicates "As Required." This is because a different number of the specific component may be needed for proper assembly depending on the tolerance of the individual machine.

All parts listed for the Bumper Attachment are available through your local dealer.

Attention: Dealer – Contact RCI directly for all part orders for this attachment. In general, any fabricated component painted black is an RCI part and any part that is painted John Deere green is a John Deere part and can be located in the Parts Manual for the machine to which the attachment is installed. Please include a serial number and model of the attachment when placing a parts order. The serial number plate is attached to the rear plate of the belt frame.

Replacement Hardware

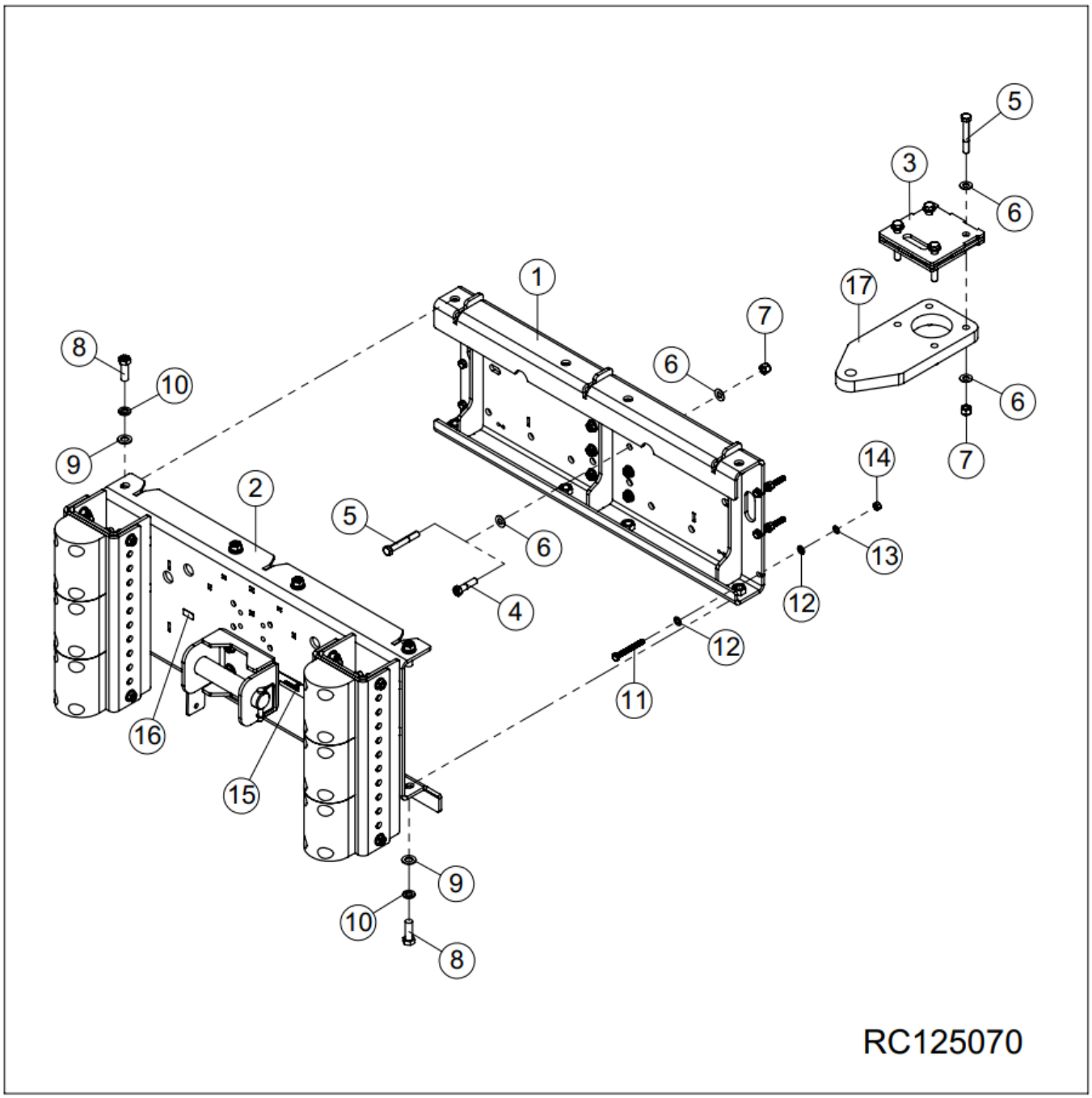
The use of improper hardware in any location can result in the failure of the component fastened with the hardware or related structures, and can cause personal injury, further damage to the product, or loss of property.

Replacement Parts

Replacement parts may have occasional differences to the parts being replaced. This difference is typically providing the benefit of a design change made after the release of this publication.

Repair Parts Alphabetical Index

7000-SPFH Base Bundle

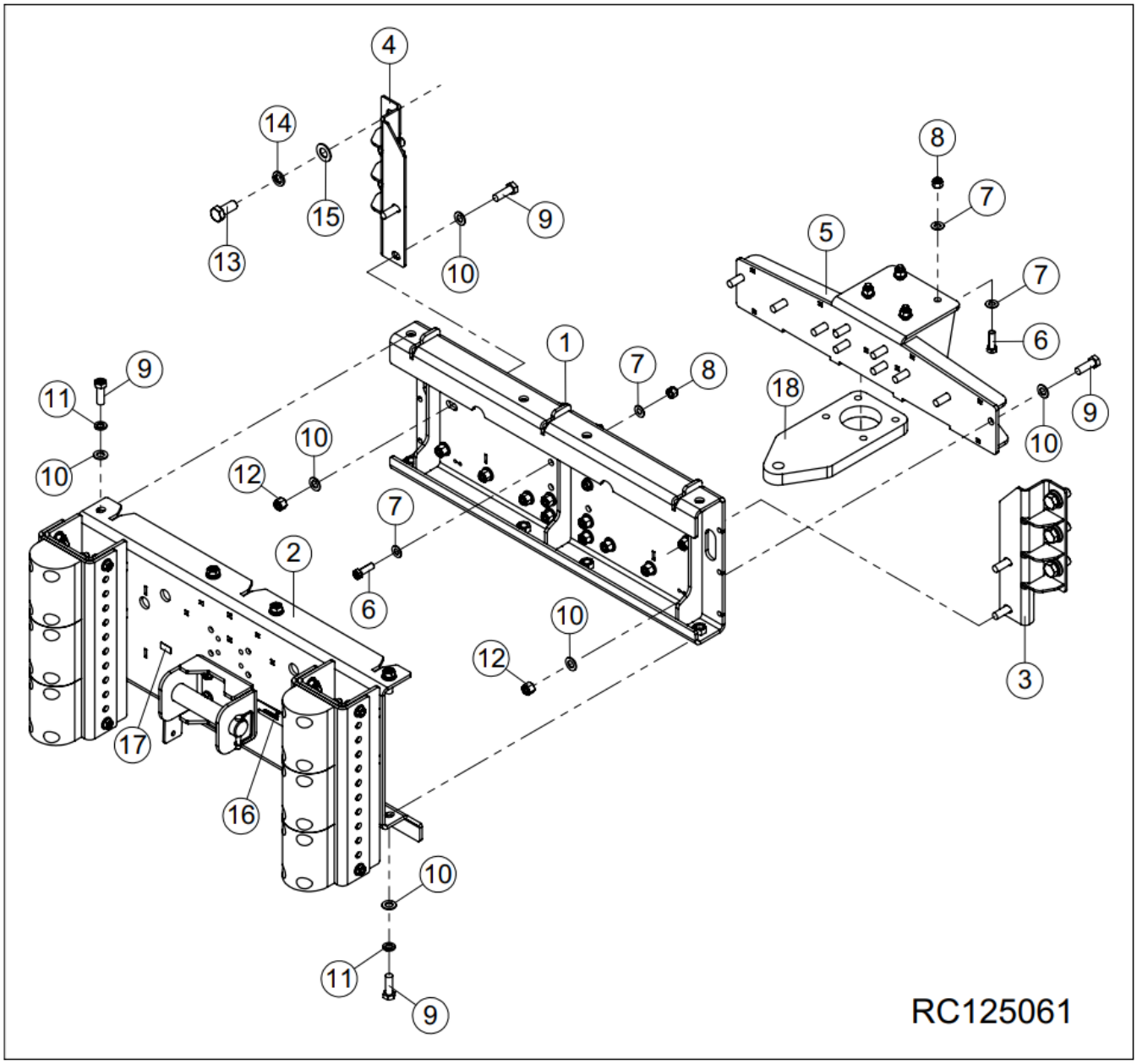


7000-SPFH Base Bundle

Key	Part Number	Description	QTY	Comments
1	RC125073	Frame, Mount	1	
2	RC125053	Assembly, Back Plate	1	A
3	RC125083	Weldment, Hitch Plate Spacer	1	B
4	RC901596	Bolt, 5/8-11 x 2-1/2 Gr 8 YZ Hex	8	C
5	RC902430	Bolt, 5/8-11 x 4-1/4 Gr 8 YZ Hex	12	D
6	RC900694	Washer, 5/8 SAE YZ Hard Flat	24	
7	RC900593	Nut, 5/8-11 YZ Nylock	12	
8	RC900311	Bolt, 3/4-10 x 2-1/4 Gr 8 YZ Hex	8	
9	RC900703	Washer, 3/4 SAE YZ Flat	8	
10	RC900736	Washer, 3/4 YZ Lock	8	
11	RC902431	Bolt, M12-1.75 x 100mm Gr 10.9 YZ Tap	6	E
12	RC902432	Washer, M12 YZ Hard Flat	12	
13	RC901294	Washer, M12 YZ Lock	6	
14	RC901629	Nut, M12-1.75 YZ Hex	6	
15	RC901923	Decal, 2 x 6 RCI Logo	1	
16	RC901924	Tag, RCI Serial Number	1	
17	Deere Part	Plate, Hitch		F

A – See Back Plate page for break out
B - For use without tank kit or Standard bundle
C - For use without tank kit
D - For use with tank kit
E - If tank kit installed, bottom two bolts thread into tank support
F - Used from base machine, unless tank kit installed

8000 and 9000-SPFH Base Bundle

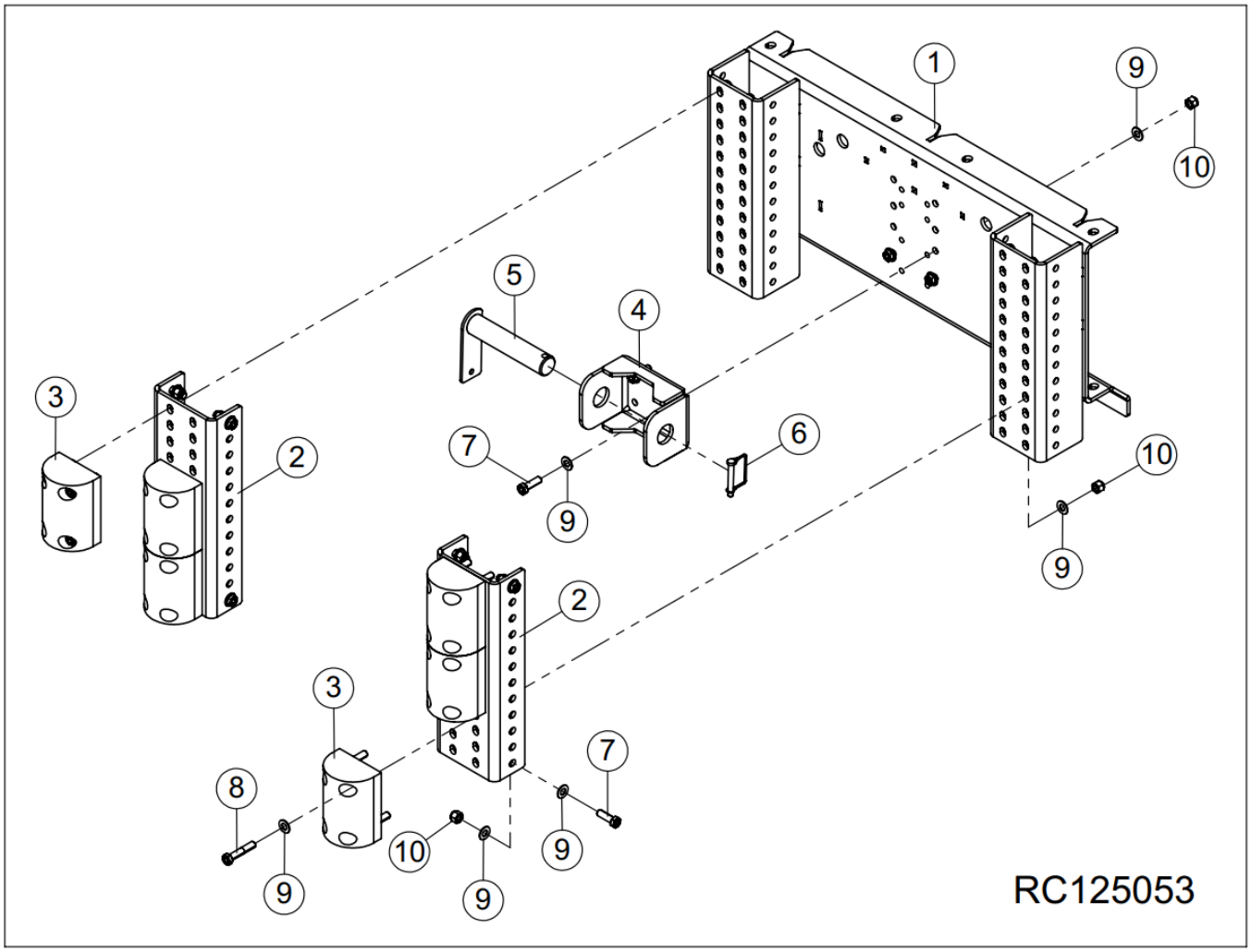


8000 and 9000-SPFH Base Bundle

Key	Part Number	Description	QTY	Comments
1	RC125073	Frame, Mount	1	
2	RC125053	Assembly, Back Plate	1	A
3	RC125074	Support	1	
4	RC125075	Support	1	
5	RC125076	Support	1	
6	RC901603	Bolt, 5/8-11 x 2 Gr 8 YZ Hex	10	
7	RC900694	Washer, 5/8 SAE YZ Hard Flat	20	
8	RC900593	Nut, 5/8-11 YZ Nylock	10	
9	RC900311	Bolt, 3/4-10 x 2-1/4 Gr 8 YZ Hex	22	
10	RC902416	Washer, 3/4 SAE YZ Hard Flat	36	
11	RC900736	Washer, 3/4 YZ Lock	8	
12	RC900597	Nut, 3/4-10 YZ Nylock	14	
13	RC901692	Bolt, M24-3.0 x 55mm Gr 10.9 YZ Hex	6	
14	RC901693	Washer, M24 CZ Lock	6	
15	RC900708	Washer, 1 SAE YZ Hard Flat	6	
16	RC901923	Decal, 2 x 6 RCI Logo	1	
17	RC901924	Tag, RCI Serial Number	1	
18	Deere Part	Plate, Hitch		B

A – See Back Plate page for break out
B - Used from base machine

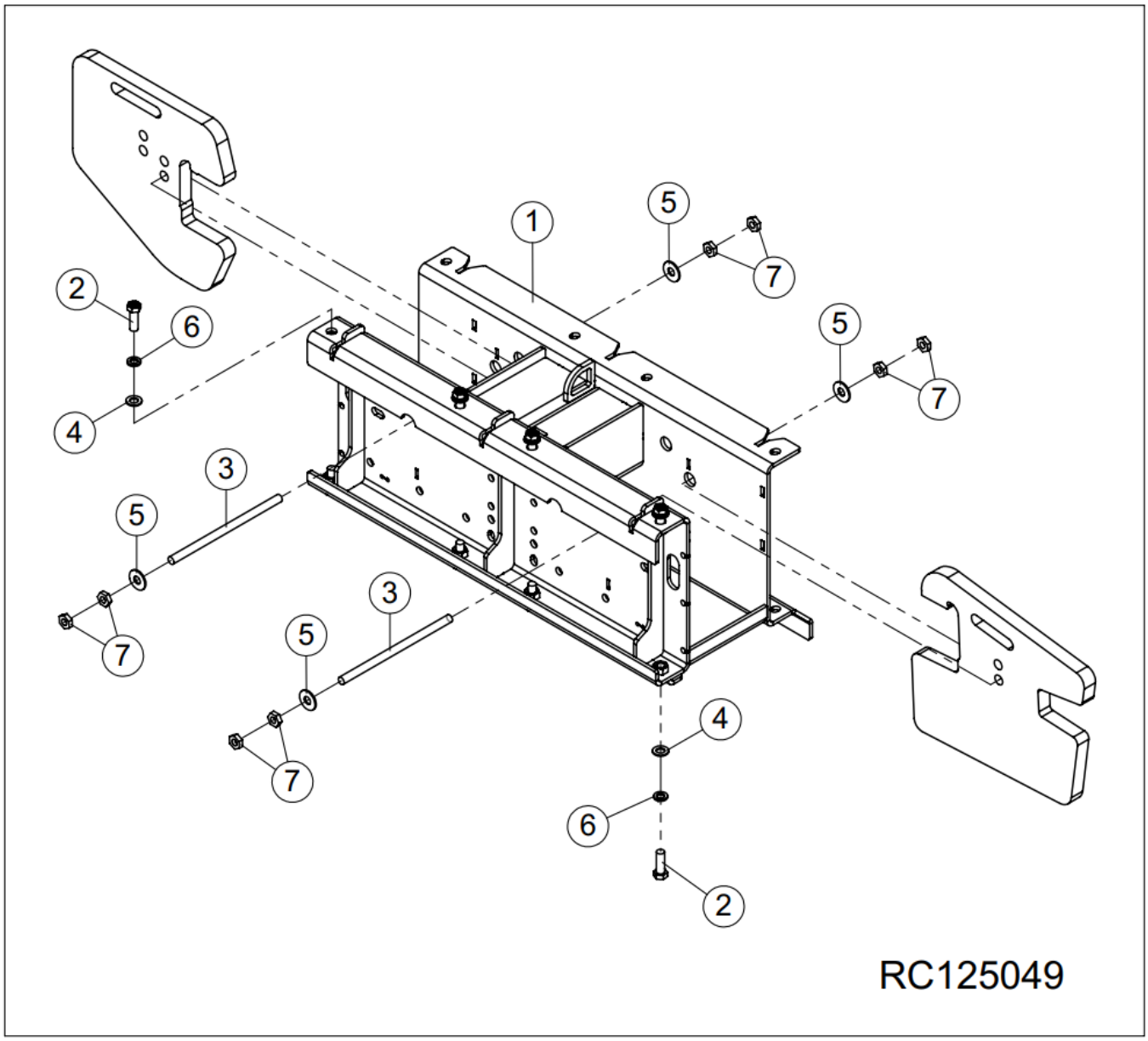
Back Plate Assembly



Back Plate Assembly

Key	Part Number	Description	QTY	Comments
1	RC125077	Weldment, Front Plate	1	
2	RC125078	Plate, Bumper Adjuster	2	
3	RC125015	Bumper	6	
4	RC125082	Bracket, Bar	1	
5	RC125079	Pin	1	
6	RC902146	Pin, 1/2 x 3 Locking Square Retainer	1	
7	RC901603	Bolt, 5/8-11 x 2 Gr 8 YZ Hex	12	
8	RC902075	Bolt, 5/8-11 x 3-1/4" GR8 Hex	24	
9	RC900694	Washer, 5/8 SAE YZ Hard Flat	72	
10	RC900593	Nut, 5/8-11 YZ Nylock	36	

Standard Weight Rack

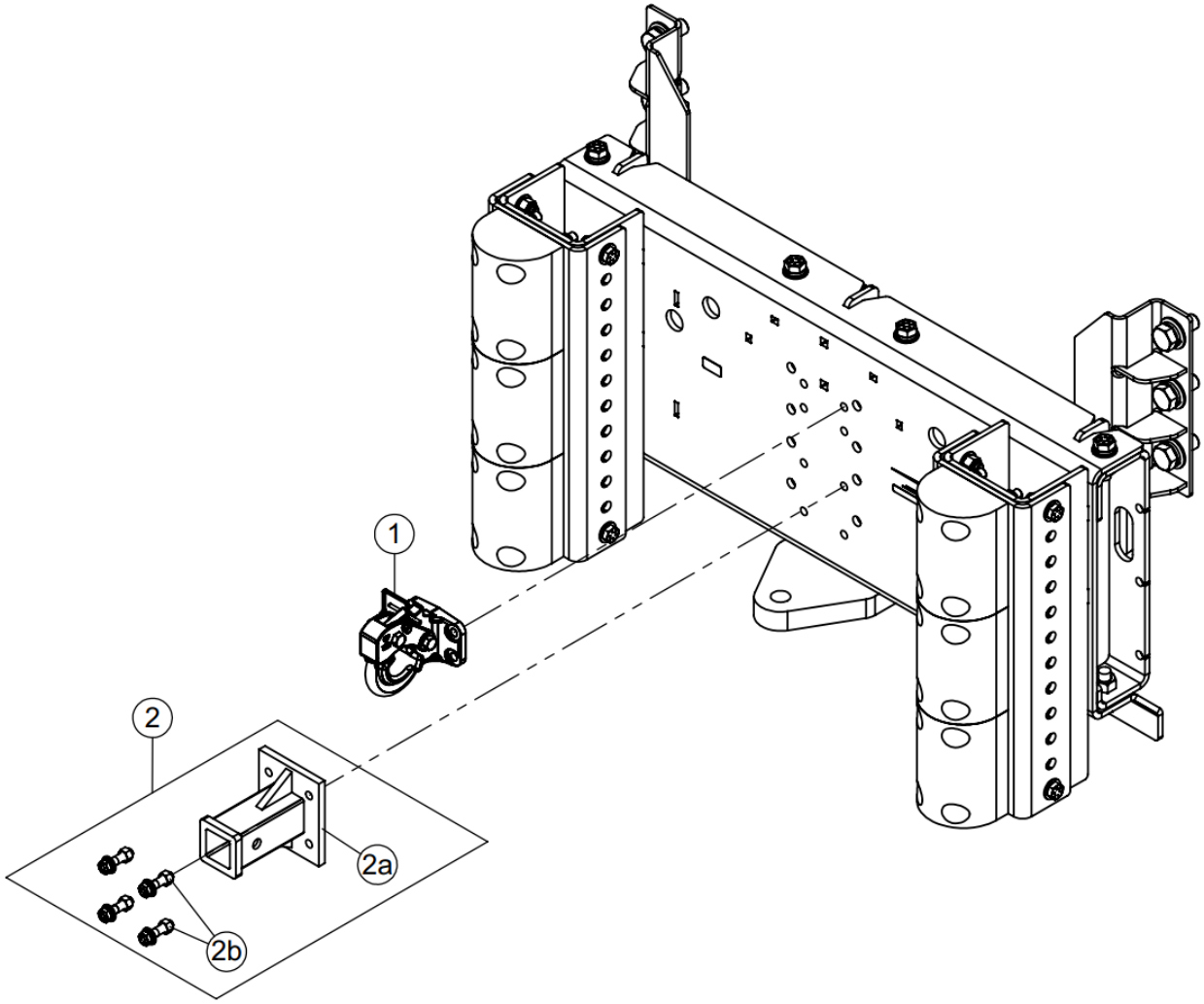


Standard Weight Rack

Key	Part Number	Description	QTY	Comments
1	RC125080	Weldment, Standard Weight Rack	1	
2	RC900311	Bolt, 3/4-10 x 2-1/4 Gr 8 YZ Hex	8	
3	RC901826	Rod, 3/4-10 x 14 CZ Threaded	2	
4	RC902416	Washer, 3/4 SAE YZ Hard Flat	8	
5	RC902587	Washer, 3/4 USS YZ Hard Flat	4	
6	RC900736	Washer, 3/4 YZ Lock	8	
7	RC900620	Nut, 3/4-10 YZ Hex Jam	8	
8	RC901924	Tag, RCI Serial Number	1	

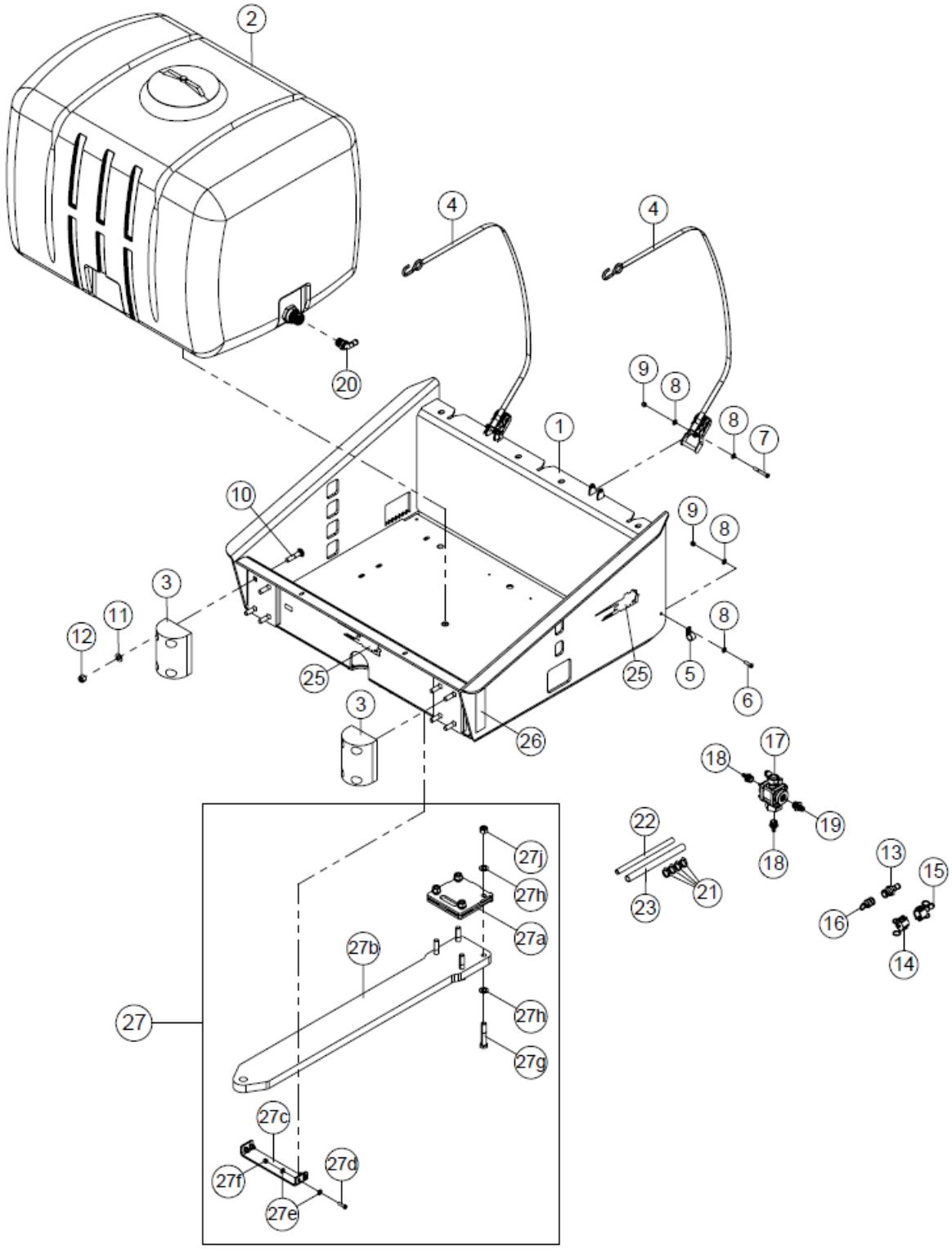
Weights are not included

Hitches



Key	Part Number	Description	QTY	Comments
1	RC125068	Hitch, Pintle	1	Use hardware provided
2	RC950663	Kit, 2" Bolt-On Receiver Tube	1	
2a	RC950661	Tube, 2" Bolt-On Receiver	1	
2b	RC950662	Kit, 2" Bolt-On Receiver Tube Hardware	1	

Water Tank



*Parts Listing on next 2 pages.

Water Tank

Key	Part Number	Description	QTY	Comments
1	RC125101	Frame, Water Tank Bumper	1	
2	RC125085	Tank, Water	1	
3	RC125015	Bumper	2	
4	RC950841	Strap, 1" x 10' S-Hook Ratchet	2	
5	RC902064	P-Clamp, 1 Cushion	1	
6	RC900091	Bolt, 3/8-16 x 1-1/4 Gr 5 YZ Hex	1	
7	RC900103	Bolt, 3/8-16 x 2-3/4 Gr 5 YZ Hex	2	
8	RC900677	Washer, 3/8 SAE YZ Hard Flat	6	
9	RC900583	Nut, 3/8-16 YZ Nylock	3	
10	RC901580	Bolt, 5/8-11 x 3 Gr 5 CZ Carriage	8	
11	RC900694	Washer, 5/8 SAE YZ Hard Flat	8	
12	RC900593	Nut, 5/8-11 YZ Nylock	8	
13	RC703200	Coupler, 3/4 Male x 3/4 Hose Barb Cam Lever	1	
14	RC703202	Cap, 3/4 Cam Lever Coupler	1	
15	RC703203	Coupler, 3/4 Female x 3/4 Hose Barb Cam Lever	1	
16	RC703201	Plug, 3/4 Cam Lever Coupler	1	
17	RC703204	Valve, 3/4 NPT 3-Way Bottom Load	1	
18	RC703205	Barb, 3/4 NPT x 1/2 Hose Straight Hose	2	
19	RC703206	Barb, 3/4 NPT x 3/4 Hose Straight Hose	1	
20	RC703207	Barb, 1" NPT x 3/4 90° Plastic Hose	1	
21	RC902549	Clamp, 1/2 - 1-1/4 SS Worm Drive	4	
22	RC125112	Hose, 1/2" I.D. x 5 ft Heater	1	
23	RC125113	Hose, 3/4" I.D. x 5 Foot Heater	1	
24	RC901973	Tie, 11 UV Resistant Cable	10	
25	RC3190381	Decal, 2.875 x 9.5 Black RCI Logo	3	

Water Tank (continued)

Key	Part Number	Description	QTY	Comments
26	RC901939	Reflector, Yellow 2 x 9	2	
27	RC125108	Kit, Tow Hitch	1	*Optional
27a	RC125083	Spacer, Hitch Plate	1	
27b	RC125105	Plate, Long Hitch	1	
27c	RC125107	Strap, Hitch	1	
27d	RC902631	Bolt, 3/8-16 x 1-1/4 Gr 8 YZ Hex	4	
27e	RC900677	Washer, 3/8 SAE YZ Hard Flat	8	
27f	RC900583	Nut, 3/8-16 YZ Nylock	4	
27g	RC903023	Bolt, M18-2.5 x 100mm Gr 10.9 YZ Hex	4	
27h	RC901766	Washer, M18 YZ Flat	8	
27J	RC903022	Nut, M18-2.5 Gr 10 CZ Nylock	4	

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