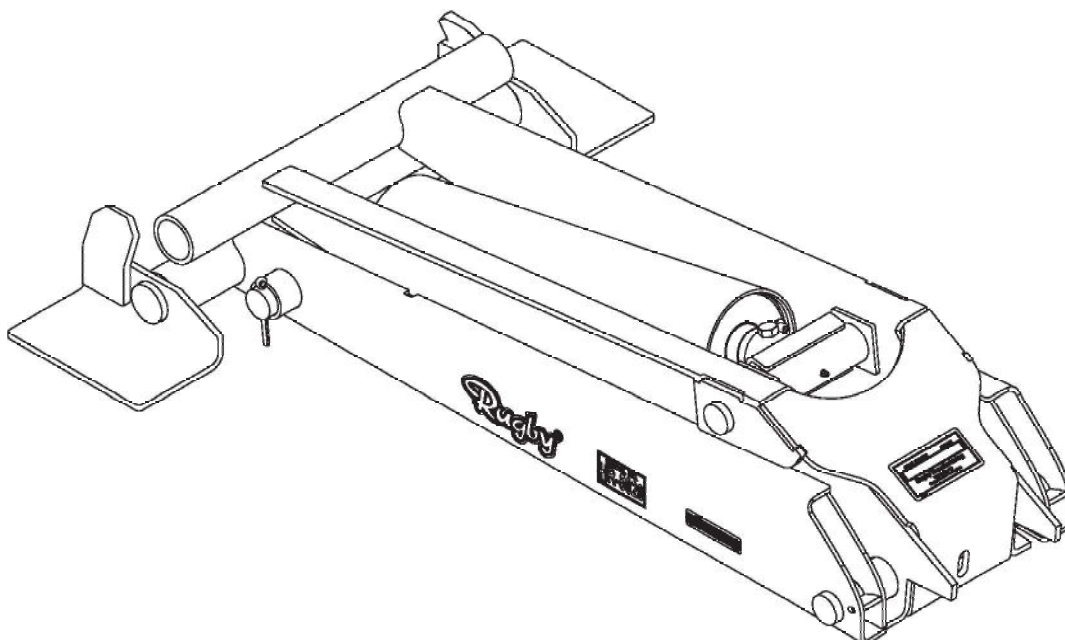




INSTALLATION AND OPERATION MANUAL

HR-5020 HOIST

2760187A



Serial Number: _____

In-Service Date: _____

Read this manual thoroughly prior to installation and operation. This manual outlines the installation and operation of an LR Series Hoist manufactured by Rugby Manufacturing Co. This manual should be kept readily accessible for any potential operator at all times. Contact your dealer or a Rugby Manufacturing customer service representative at 800-869-9162 or www.rugbymfg.com with any questions or concerns.

Table of Contents

Section 1: Safety	3
Section 2: Introduction	8
Serial Number	8
Specifications.....	9
Capacity Charts	10
Torque Chart	12
Section 3: Installation	13
Rear Hinge Installation	13
Hoist Frame Installation	15
Pump Bracket Installation.....	17
Body Installation.....	18
Body Prop Calculation	22
Body Prop Installation.....	26
Section 4: Decal Locations	27
Section 5: Operation	28
Body Prop Operation	28
Hoist and Pump Operation.....	29
Raising the Hoist	30
Lowering the Hoist	30
Section 6: Maintenance	31
Lubricate Grease Fittings.....	31
Check and Change Pump Reservoir	31
Section 7: Exploded Views	32
HR-5020 Model.....	32
HR-5020 Parts list.....	33

Section 1: Safety

This manual provides guidelines and instructions for correctly operating and maintaining your Rugby Manufacturing Co. product. Any and all people that own and operate a Rugby Manufacturing dump trailer are recommended to read and fully understand each section in this manual.

Throughout this manual, the three following types of labels will be used: Danger, Warning, and Caution. For the safety of the operator, it is imperative that all labels are obeyed.

DANGER

Indicates imminent danger. Failure to follow this instruction will result in death or serious injury.

WARNING

Indicates a possibly impending danger. Failure to follow this instruction can result in death or serious injury.

CAUTION

Indicates a hazardous situation or unsafe practice which, if not avoided, could result in injury or component damage.

In all cases, Rugby products are sold with the understanding that the purchaser agrees to thoroughly train all operating and maintenance personnel in the correct and safe installation and operation of hoist equipment and to provide adequate supervision of personnel at all times.

Read the following in its entirety before connecting, operating or repairing equipment. Purchasers and operators also should be familiar with the current version of any applicable OSHA regulations, standards and guidelines.

Should any questions arise concerning safe and proper procedures, contact Rugby Manufacturing Co. to the installation or use at (800) 869-9162 or (701) 776-5722.

The hydraulic system supplied with an HR-Series hoist manufactured by Rugby Manufacturing Co. is made up of components (pump, valves, reservoir, hoses, cylinder, etc.) designed to be compatible with each other. Several different types of pump and hydraulic components are available to power the LR-Series hoists. Refer to the pump and hydraulic component Installation and Operation Manual for more information.

 DANGER

If the hydraulic system used to power the hoist was supplied by TBEI, an operation manual will be included with the hydraulic components. This manual **MUST BE** available for reference by the operator when needed.

If the hydraulic system used to power the hoist was supplied by a company other than TBEI, an operation manual will be included with the hydraulic components. This manual **MUST BE** available for reference by the operator when needed.

 DANGER

It is the installer's responsibility to ensure any substituted components are compatible with Rugby Manufacturing Co. components. Incompatible hydraulic components may cause failure of the hoist, which in turn, could damage the vehicle, damage other property, and cause death or injury.

If hydraulic components are substituted, it is the installer's responsibility to be sure they are compatible with the components supplied by Rugby Manufacturing Co. Incompatible hydraulic components may cause failure of the hoist which in turn could damage the truck, damage other property, and cause human injury or death. Rugby Manufacturing Company's liability and warranty for a given hoist will be voided if it is determined by Rugby Manufacturing Co. that substituted hydraulic components were used that were incompatible with those supplied by Rugby Manufacturing Co.

DANGER

Welding, oxy-fuel cutting, or grinding sparks can cause fuel to ignite which in turn can lead to injury or death. Always take adequate steps to avoid ignition of fuel tanks during equipment installation.

DANGER

Not installing or operating equipment correctly can cause component damage or an accident which may cause injury or death. ALWAYS install and operate equipment in accordance with manufacturer's instructions. Read and understand this manual fully before proceeding.

DANGER

Damage to brake lines during equipment installation, or installing bolts or equipment in such a way that the line will rub and become damaged can lead to brake failure which can cause an accident and can lead to severe injury or death. ALWAYS take adequate steps to prevent brake line damage during installation and isolate brake lines from installed equipment.

DANGER

Malfunctioning equipment can cause property damage, injury or death. ALWAYS have faulty equipment repaired before continuing its use. If required, consult the manufacturer.

CAUTION

To prevent damage to the truck's electrical system, disconnect the positive battery cable and alternator when arc welding on the truck.

DANGER

The inadvertent shorting of the truck's electrical supply can cause a fire or equipment damage that could lead to injury or death. ALWAYS disconnect the vehicle battery prior to installing, servicing or repairing the pump.

DANGER

NEVER install a cable on a truck while the body is raised without first blocking, bracing, or propping the body up to prevent the body from inadvertently falling when the control valve lever is moved. A falling body will result in serious injury or death if the control valve lever is moved while someone is under the non-supported body.

DANGER

NEVER exceed the gross vehicle weight (GVW) or gross axle weight (GAW) rating of your vehicle. This may result in component damage, injury or death.

DANGER

Avoid bouncing or jerking of the hoist. This may result in component failure, injury or death.

DANGER

NEVER raise or drive a raised body against another object. This may result in property damage, injury or death.

DANGER

NEVER connect the hoist to a hydraulic system with more pressure (psi) or flow (gpm) than is recommended. This may result in component failure, injury or death.

CAUTION

Unlatch tailgate prior to elevating a loaded dump body as excessive forces on the rear of the dump body may result in component failure.

DANGER

NEVER operate the hoist until bystanders are free & clear of the hoist and body. This may result in injury or death.

DANGER

NEVER position yourself or allow others under a raised body as this can result in serious injury or death should the body inadvertently descend. ALWAYS prop up the **unloaded** body using the body props.

DANGER

Place a complete hoist operation manual in the glove box of the truck that will pull the trailer OR in a place on the trailer that is sheltered from the weather and other elements. This manual **MUST BE** available for reference by the operator when needed.

Section 2: Introduction

This manual covers the installation of the HR-series hoist.

The following manuals cover other components:

- 1656299 – Body Prop Manual
- 1903326 – Split “M” (Direct Mount Pump with Remote 9–Quart Reservoir) & Tower Control / Electric Operated Solenoid Valve
- 1657475 – Electric Single– and Double–Acting Pump

Ensure the correct manuals are present when working on equipment. For help locating the correct manuals contact Rugby Manufacturing Co. at (800) 869–9162 or (701) 776–5722.

Serial Number

This information is required for any warranty or service inquiries, and should be recorded on the front cover of this manual for easy reference. The serial number is located on the hoist serial number plate. Figure 1.

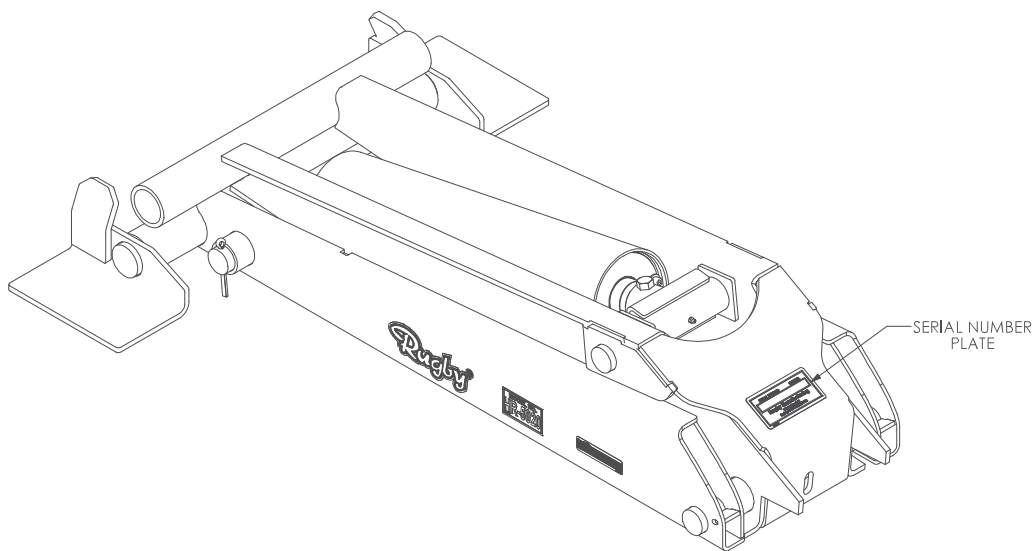


Figure 1: Serial Number Location

Specifications

Model	Hydraulic Flow Rate (gpm)	Maximum	
		Pressure (PSI)	Down Pressure (PSI)
HR-5020	6-9	3200	1000

DANGER

NEVER adjust the hydraulic pressure to more than the recommended setting. This may cause the hoist to fail during the dumping of a load and result in property damage, injury or death. NEVER adjust the pressure on your own. ALWAYS consult the manufacturer if the hydraulic pressure is in question to talk with a qualified mechanic.

Capacity Charts

The following charts are to be used as a reference when determining capacity based on overhang. The capacity and dump angle will vary depending on where the hoist is mounted in relation to the rear hinge. The following tables list dump angles and corresponding capacities for different mounting distances (M) (refer to Figure 2). REMEMBER, all capacities listed below are based on water level, non-diminishing loads and the hydraulic relief pressure set at the maximum of 3200 PSI.

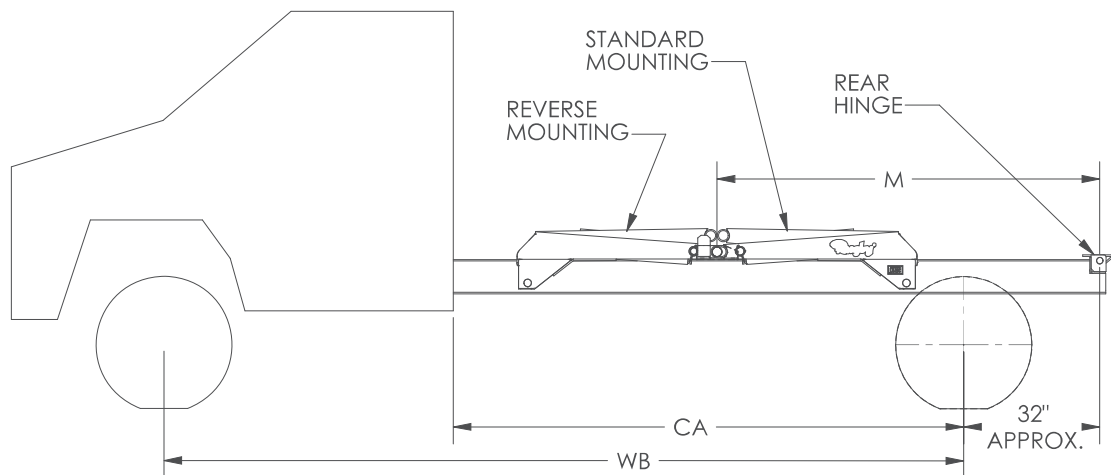


Figure 2: Mounting Distance

HR-5020 (FORWARD MOUNTING)			
Body Length (feet)	Rear Overhang (inches)	Capacity 45° Dump (tons)	Capacity 50° Dump (tons)
14	12	10.9	9.9
14	18	11.9	10.8
14	24	13.1	11.9
16	12	9.3	8.5
16	18	10.1	9.1
16	24	10.9	9.9
18	18	8.7	7.9
18	24	9.3	8.5
Mounting Height		7.5"	
Mounting Distance		99.50"	90.25"

HR-5020 (REVERSE MOUNTING)			
Body Length (feet)	Rear Overhang (inches)	Capacity 45° Dump (tons)	Capacity 50° Dump (tons)
14	12	10.4	9.5
14	18	11.4	10.3
14	24	12.5	11.4
16	12	8.9	8.1
16	18	9.6	8.7
16	24	10.4	9.5
18	18	8.3	7.6
18	24	8.9	8.1
Mounting Height		7.5"	
Mounting Distance		99.125"	89.88"

Torque Chart

The following chart is to be used as a guide during installation.

Size	Grade 2 (lb-ft)	Grade 5 (lb-ft)	Grade 8 (lb-ft)
			
1/4-20	3-4	6-7	10-11
1/4-28	4-5	8-9	11-12
5/16-18	8-9	14-15	21-22
5/16-24	9-10	15-16	21-22
3/8-16	17-18	24-26	37-40
3/8-24	19-20	28-30	40-43
1/2-13	38-42	60-65	90-100
1/2-20	43-47	70-75	95-105
5/8-11	75-80	122-130	180-190
5/8-18	85-90	145-150	200-210
3/4-10	132-140	220-230	315-330
3/4-16	152-160	250-260	355-370

Section 3: Installation

DANGER

Welding, oxy-fuel cutting, or grinding sparks can cause fuel to ignite which in turn can lead to injury or death. Always take adequate steps to avoid ignition of fuel tanks during equipment installation.

DANGER

Exhaust system heat can cause hydraulic component failure and may lead to a fire which could cause injury or death. Always install equipment in locations where heat from the exhaust system will not damage any hydraulic components.

Rear Hinge Installation

1. Determine the location of the rear hinge. This location should be immediately behind the rear wheel leaf spring shackle.

NOTE: If a distance of 38" is exceeded between the rear hinge and the center of the rear axle, additional reinforcement of the truck frame is required.

2. Refer to Figure 3 below and cut a notch as shown.

MODEL	X	Y
HR-5020	3.75	4.3125 minus D

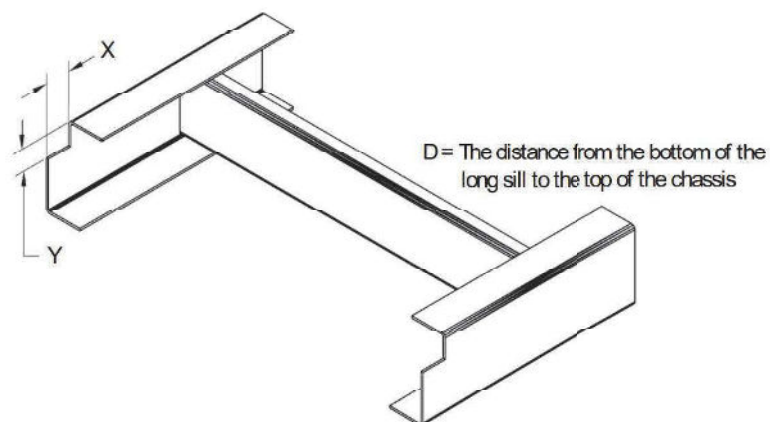


Figure 3: Notch Location

3. Position the rear hinge angle into the notch cut in Step 2 as shown in Figure 4. Center it side-to-side in the notch as illustrated and weld the rear hinge angle to each of the truck chassis frame rails.

NOTES:

- This hinge assembly is designed for a truck longsill spacing of 34" and is not recommended for any other width.
- The distance between the rear hinge shaft center and the saddle center is referred to as the "M" dimension. See the "Capacity Charts" on page 11 to see the various dump angles.

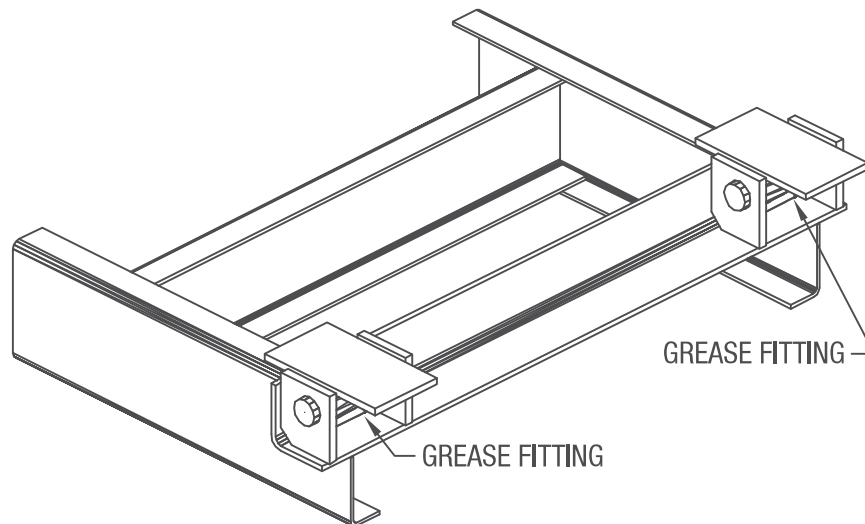


Figure 3: Rear Hinge Location

Hoist Frame Installation

1. Slide a lock collar onto each saddle shaft. Slide each saddle shaft into the lower tube as shown in Figure 8.

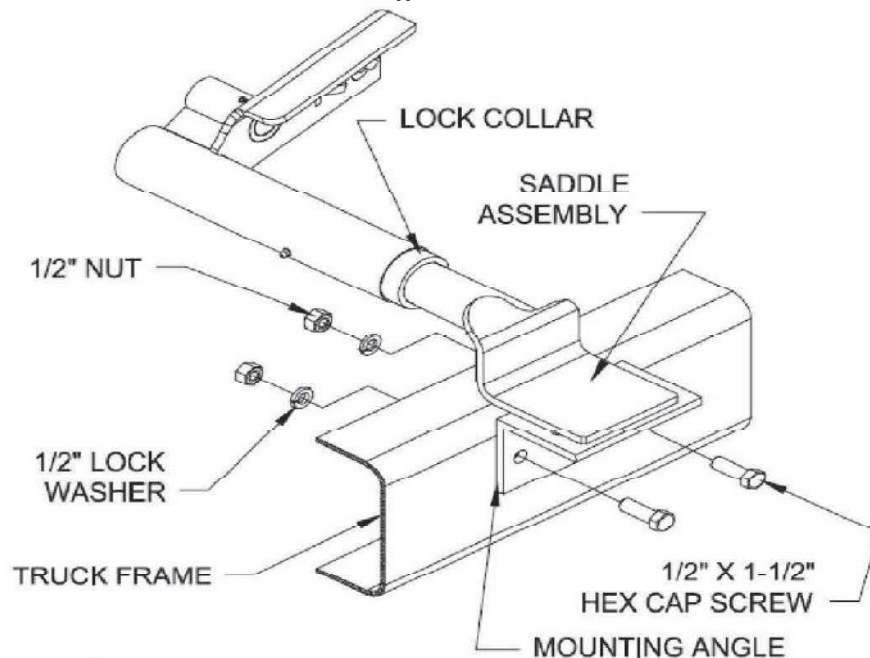


Figure 4: Saddle Assembly

2. Locate the hoist on the truck frame, making sure to center the hoist right and left, and to square the hoist with the truck frame. The hoist is designed to rest on the truck frame as shown in Figure 2. A small portion of the hoist extends below the truck frame, allowing the hoist to be moved forward or rearward to avoid truck cross members.

NOTES:

- If an obstruction can not be cleared by moving the hoist forward or rearward, the hoist may be reverse mounted as shown in Figure 2, or the portion of the hoist that extends below the frame may be lifted to the frame level without affecting the capacity or performance of the hoist. Be aware that lifting this portion of the hoist will raise the hoist mounting height.
- The distance between the rear hinge shaft center and the saddle center is referred to as the "M" dimension. In Figure 2, the "M" dimension for several dump angles are tabulated.
- Moving the hoist rearward or forward along the truck frame will affect the hoist's performance. A forward movement will reduce the dump angle and will increase capacity while a rearward movement will increase the dump angle and reduce capacity.

3. When the hoist is positioned, place a mounting angle under each side of the hoist saddle. Secure each mounting angle to the truck frame by drilling $17/32$ " holes and installing GR8 $1/2$ " x $1-1/2$ " serrated hex flange bolts, and GR8 $1/2$ " serrated hex flange nuts in each mounting bracket hole (see Figure 8). Tighten all $1/2$ " fasteners to 90 lbs–ft.
4. Weld each end of the hoist saddle bracket to the corresponding mounting angle (see Figure 8).

NOTES:

- Do not weld the hoist or mounting angle to the truck frame.
- The hoist saddle must set directly on the truck frame. If rivet interference is encountered, counter sink the rivet head into the hoist saddle.

Pump Bracket Installation

1. Position and clamp the pump bracket to the chassis frame in a convenient location. Ensure the location of the pump is close enough to allow the hose to connect the pump to the hoist cylinder.

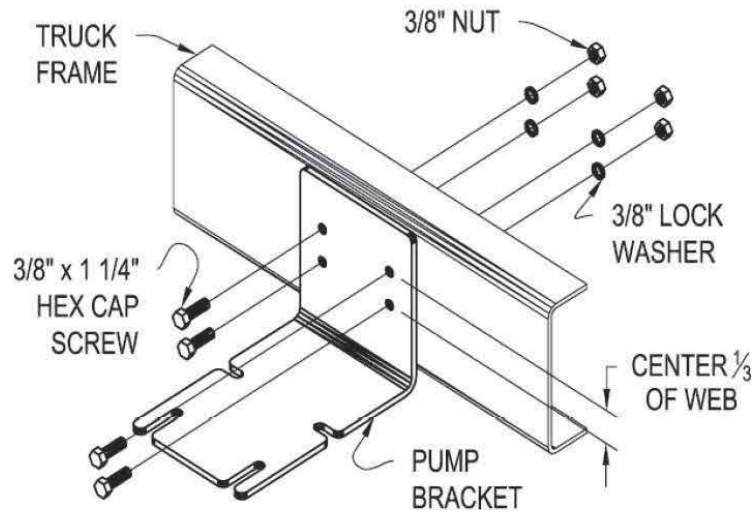


Figure 5: Pump Bracket Assembly

2. Drill four 13/32" holes through the chassis frame and the pump bracket. Fasten with four 3/8" x 1 1/4" hex cap screws, four 3/8" lock washers, and four 3/8" hex nuts (see Figure 9).

NOTES:

- To maintain chassis frame strength, keep all four 13/32" diameter holes within the middle third of the frame web (see Figure 9).
 - To install the pump, refer to the pump installation manual included with the pump package.
3. Install the hydraulic system using the applicable Pump Installation & Operation Manual listed on page 8.

Body Installation

1. Slide a lock collar onto each lifting shaft. Slide a lifting shaft with collar into each end of the hoist lifting tube (Figure 10).

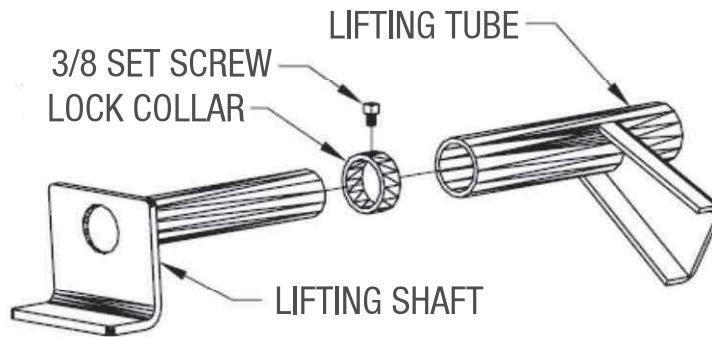


Figure 6: Lift Shaft Assembly

2. Position the body with the long beams (just long beams if they are separate from the body) onto the truck frame.

NOTES:

- A clearance of at least 2" is required between the truck cab and the closest point on the truck body.
- On some truck models, the frame is not flat from front to rear. On these models, provisions must be made to level the frame before installing the body.

3. Position the rear hinge brackets against the long beams. Once in position, weld the rear hinge brackets to the body long beams (Figure 11).

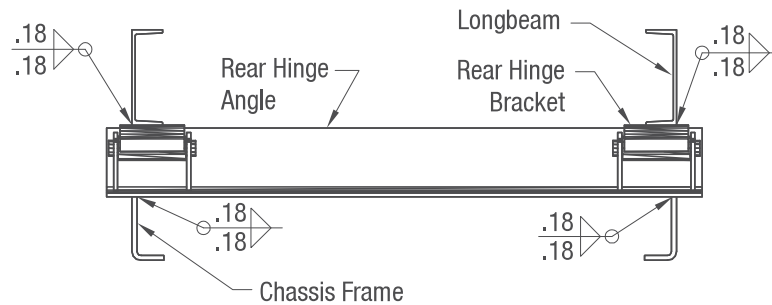
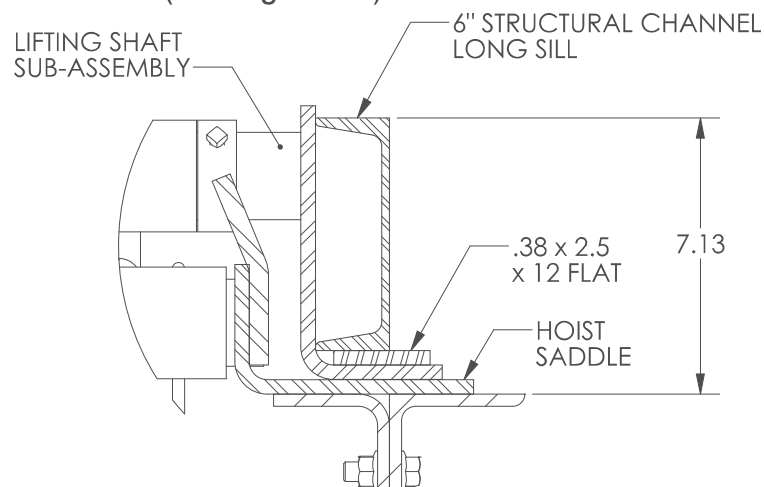


Figure 7: Rear Hinge Location on Long Beam

⚠ CAUTION

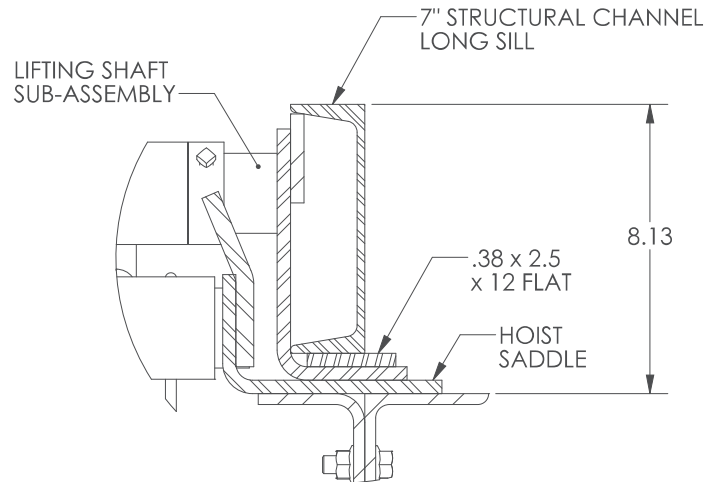
The saddle tube is oblong to allow the hoist to slide front to back as part of the anti-kickup design. Before performing the next step, the saddle tube must be slid as far rearward as possible as shown in Figure 6. Failure to do this will cause the anti-kickup to function improperly and cause damage to the hoist, truck body, and other truck components.

4. Slide each of the lifting shafts all the way against the inside of the long beam. Weld all around the lifting shaft plate to secure the shaft to the long beam. With the shaft secured, slide the lock collars against the hoist lifting tube and lock them there by tightening the set screw to 24 lbs–ft (see Figure 10).



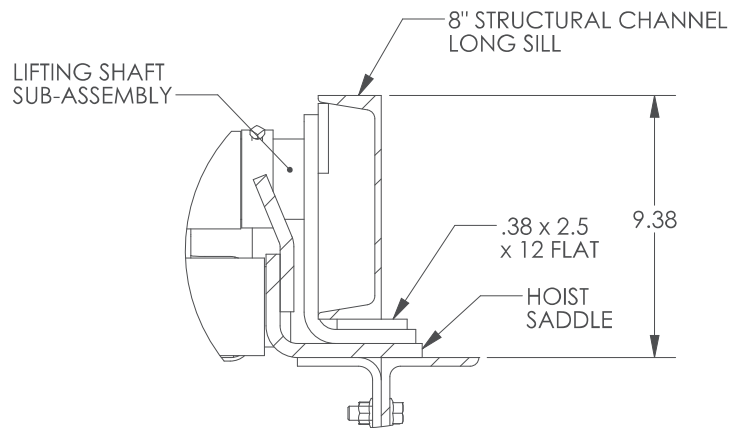
HOIST TO BODY ATTACHMENT DETAIL FOR 6" STRUCTURAL CHANNEL LONG SILL

Figure 8: Hoist to Body Detail for 6" Structural Channel



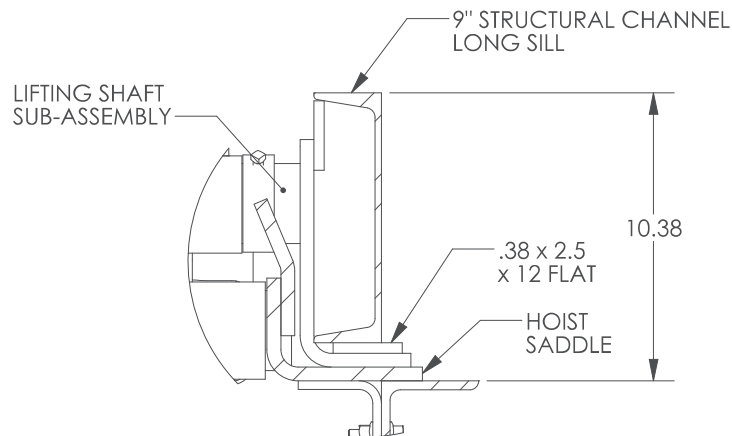
HOIST TO BODY ATTACHMENT DETAIL FOR 7" STRUCTURAL CHANNEL LONG SILL AND 8.13" MOUNTING HEIGHT.

Figure 9: Hoist to Body Detail for 7" Structural Channel



HOIST TO BODY ATTACHMENT DETAIL FOR 8" STRUCTURAL CHANNEL LONG SILL AND 9.38" MOUNTING HEIGHT.

Figure 10: Hoist to Body Detail for 8" Structural Channel



HOIST TO BODY ATTACHMENT DETAIL FOR 9" STRUCTURAL CHANNEL LONG SILL AND 10.38" MOUNTING HEIGHT.

Figure 11: Hoist to Body Detail for 9" Structural Channel

5. Install and lubricate all grease fittings and tighten to 70 lbs–in. See Figure 4 and Section 6: Maintenance for grease fitting locations.
6. With the hoist and body completely installed, cycle the hoist several times to rid the hydraulic circuit of air.

 DANGER

NEVER operate the hoist until bystanders are free & clear of the hoist and body. This may result in injury or death.

 DANGER

Not installing or operating equipment correctly can cause component damage or an accident which may cause injury or death. ALWAYS install and operate equipment in accordance with manufacturer's instructions. Read and understand this manual fully before proceeding.

7. Raise the hoist and body. Position the body prop and prop base as shown in Body Prop Installation Manual. Weld the prop base to the body long beam.

NOTE: Before using the hoist, read the Operation section on page 28.

8. Place all Installation & Operation Manuals in the vehicle glove box to ensure they are always available for the operator.

 DANGER

Place a complete hoist operation manual in the glove box of the truck that will pull the trailer OR in a place on the trailer that is sheltered from the weather and other elements. This manual **MUST BE** available for reference by the operator when needed.

Body Prop Calculation

A body prop and the required hardware is supplied with every HR-series hoist package. It is the responsibility of the installer to determine whether one body prop is sufficient. The following information will help make that determination.

DANGER

NEVER position yourself or allow others under a raised body as this can result in serious injury or death should the body inadvertently descend. ALWAYS prop up the **unloaded** body using the body props.

The body prop is designed for use only when the body is empty. The purpose of the body prop is to hold an empty body in the raised position when performing maintenance or inspection on the hoist, body, or any component that requires working under an **empty** body.

DANGER

NEVER operate the hoist until bystanders are free & clear of the hoist and body. This may result in injury or death.

DANGER

NEVER perform maintenance under a raised body without first blocking the empty body up with body prop(s).

DANGER

NEVER use a body prop that is bent or damaged. A damaged body prop has reduced holding capacity and may break during use. This may result in injury or death. Replace all damaged parts before using equipment.

For instructions on how to raise and lower the body prop, refer to the Operation section of this manual on page 28.

1. Referring to Figure 16, determine the horizontal distance between the rear hinge and the prop when the body is empty and in the upward position, known as value “P”.

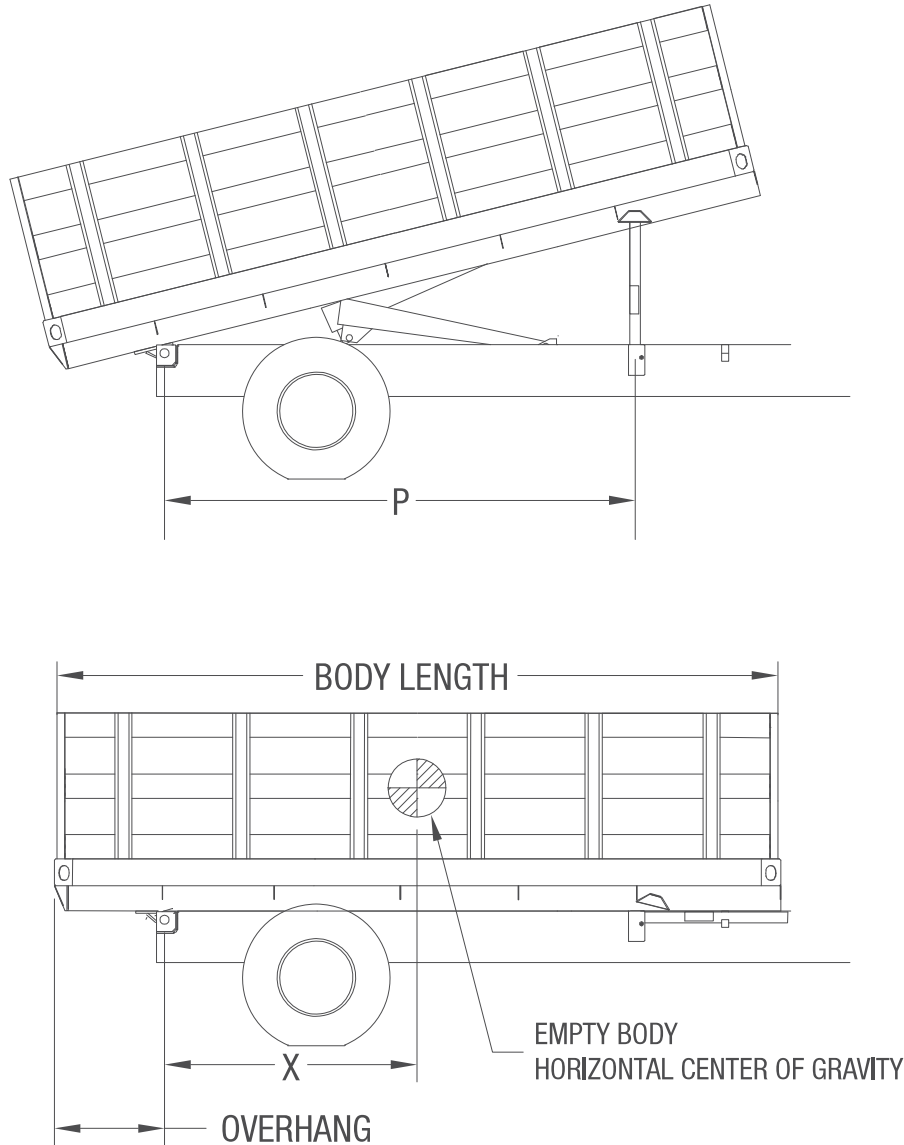


Figure 12: Body Prop Measurements

2. Referring to Figure 16, determine the horizontal distance between the body center of gravity and the rear hinge when the body is empty and in the lowered position, known as value “X”. Be sure to include any items attached to the body such as tool boxes or other structures when determining the center of gravity.

3. Use the following chart to locate the cell where the determined “P” and “X” values intersect. This represents the maximum weight that can be supported with only one body prop. **If the body weighs more than the amount listed, two body props will be required.** Contact Rugby Manufacturing Co. to order Body Prop part number 03–0703.

NOTE: If the body weighs more than two times the amount listed in the chart, another body prop with more weight capacity will be required.

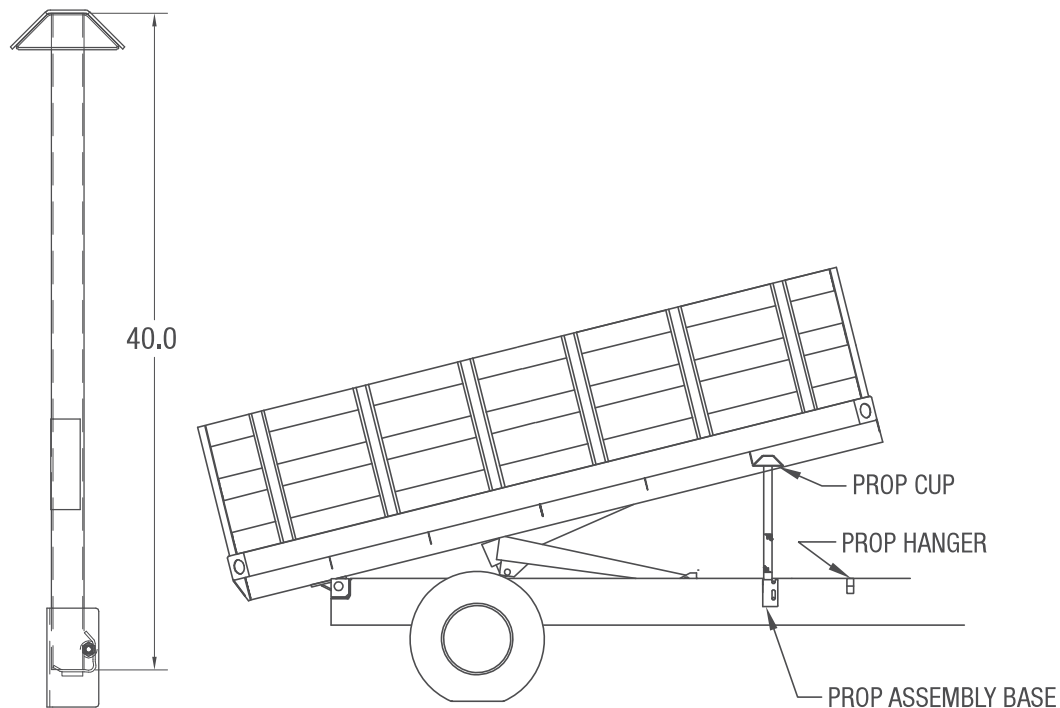
Distance Rear Hinge to Body Prop (P)	Maximum Body Weight Per Body Prop (PN 03–0703)									
	Distance Rear Hinge to Center of Gravity (X)									
	0–36	37–48	49–60	61–72	73–84	85–96	97–108	109–120	121–132	133–144
42–47	6100	4500	3500	2800	2300	2000	1700	1500	1300	1100
48–53	6600	4800	3800	3000	2500	2100	1800	1600	1400	1200
54–59	7200	5200	4100	3300	2800	2300	2000	1800	1600	1400
60–65	7700	5700	4400	3600	3000	2600	2200	1900	1700	1500
66–71	8300	6100	4800	3900	3300	2800	2400	2100	1900	1700
72–77	8900	6600	5100	4200	3500	3000	2600	2300	2000	1800
78–83	9500	7000	5500	4500	3800	3200	2800	2500	2200	2000
84–89	10200	7500	5900	4800	4000	3500	3000	2700	2400	2100
90–95	10800	7900	6200	5100	4300	3700	3200	2800	2500	2300
96–101	11400	8400	6600	5400	4600	3900	3400	3000	2700	2400
102–107	12100	8900	7000	5800	4900	4200	3700	3200	2900	2600
108–114	12700	9400	7400	6100	5100	4400	3900	3400	3100	2800
115–119	13400	9900	7800	6400	5400	4700	4100	3600	3200	2900
120–125	14000	10400	8200	6700	5700	4900	4300	3800	3400	3100
126–131	14700	10900	8600	7100	6000	5200	4500	4000	3600	3300
132–137	15300	11400	9000	7400	6300	5400	4700	4200	3800	3400
138–143	16000	11800	9400	7700	6500	5600	5000	4400	4000	3600
144+	16600	12300	9800	8000	6800	5900	5200	4600	4100	3700

Example: A 12' body with an empty weight of 6,000 lbs. The body is installed with an 18" overhang. The prop is located 84" forward of the rear hinge. Assume the center of gravity is 72" from the rear of the body. Subtract the overhang to get $X = 54"$. Using $P = 84-89$, $X = 49-60$, the maximum body weight is 5,900 lbs. This application needs 2 body props. Remember, this is an example only, and in no way means that this hoist is or is not acceptable to use in this application.

Body Prop Installation

The following steps are a guideline for installing the body prop. Since trucks vary according to their design, it is not possible to be specific about every aspect of the body prop installation.

1. Once the hoist has been installed, raise the hoist up and temporarily block the body up. Position the prop assembly against the truck frame as illustrated in Figure 17.



Body Prop 40" Tube

Mounting of Body Prop (For reference purposes only)

Figure 13: Body Prop Installation Location

2. Fasten the body prop assembly base to the truck frame.
3. Position and fasten the prop hanger to the truck frame. The hanger must be installed so that when the body is down, the body prop leg will not bounce out of the hanger.
4. Position and weld the prop cup on the body as illustrated in Figure 17.

Section 4: Decal Locations



Two Hoist Danger decals are supplied with each HR-series hoist. These decals must be positioned as shown in Figure 19 on both the left- and right-hand sides of the truck. The chosen decal location should be free of any viewing obstructions.

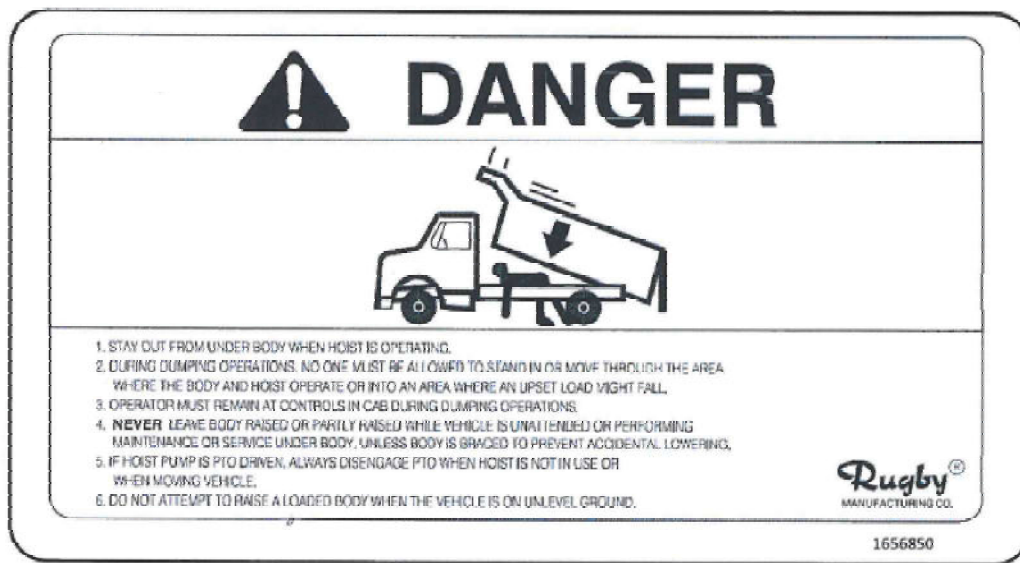


Figure 14: Hoist Danger Decal

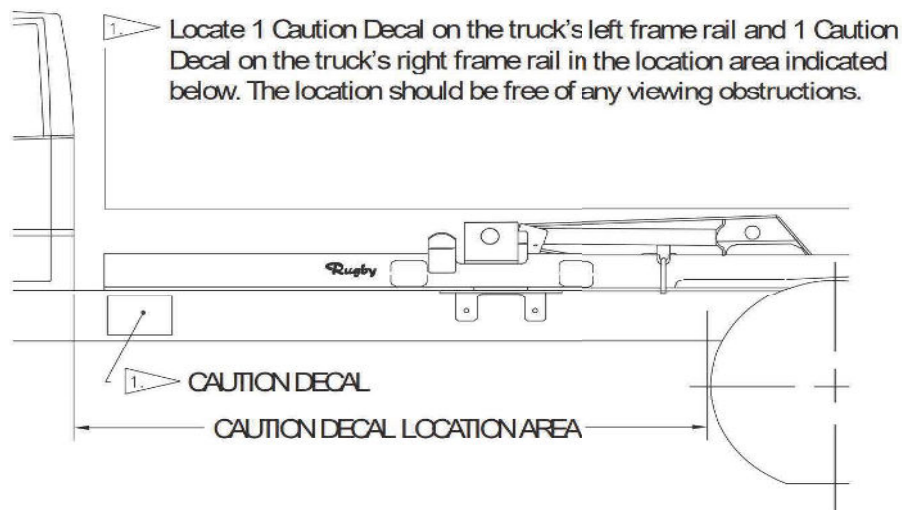


Figure 15: Hoist Danger Decal Location

Section 5: Operation

Body Prop Operation

DANGER

NEVER operate the hoist until bystanders are free & clear of the hoist and body. This may result in injury or death.

DANGER

NEVER position yourself or allow others under a raised body as this can result in serious injury or death should the body inadvertently descend. ALWAYS prop up the **unloaded** body using the body props.

1. Raise the body to the sufficient height and shut off all power.
2. Grasp the body prop handle at arms length and rotate the prop upwards.
3. Swing the body prop up to the vertical position and push downward until the prop locks in—line with the support bracket on the body.
4. Using the in—cab controls, lower the body slowly until the prop contacts the prop cup.

CAUTION

NEVER power the hoist downward when body prop(s) are being used. Damage to the hoist, truck body, and other truck components may occur.

5. To lower the body prop for normal operation, perform Steps 1—4 above in reverse order.

Hoist and Pump Operation

DANGER

Not installing or operating equipment correctly can cause component damage or an accident which may cause injury or death. ALWAYS install and operate equipment in accordance with manufacturer's instructions. Read and understand this manual fully before proceeding.

DANGER

NEVER operate the hoist until bystanders are free & clear of the hoist and body. This may result in injury or death.

DANGER

Avoid bouncing or jerking of the hoist. This may result in component failure, injury or death.

DANGER

- NEVER allow bystanders to stand in or move through the work area or surroundings where the load may fall.
- NEVER leave a body raised or partially raised while the truck is unattended.
- The operator must ALWAYS remain at the controls during a dumping operation. All controls must be permanently located in the truck cab or a location where it is not possible to be under the body during a dumping operation.
- NEVER raise a loaded body when the vehicle is on uneven ground to prevent the vehicle from over turning.
- ALWAYS disengage the drive when the hoist is not in use or when moving a load on units that the pump is direct driven by the truck.

Raising the Hoist

1. Push in the “UP” button on the control station to start the pump and raise the box.
2. When the hoist reaches full extension, the pump will bypass. Care should be taken not to let the pump bypass for long periods of time, as this will put stress on the whole hydraulic and electrical system.
3. To stop the pump from bypassing, release the “UP” button on the control station.

Lowering the Hoist

1. Push the “DOWN” button in on the control station to start the pump and lower the box.
2. To stop the hoist from lowering, release the “DOWN” button on the control station. The hoist will stop lowering and hold its position.

Section 6: Maintenance

Every 100 cycles or every two months, whichever comes first:

Lubricate Grease Fittings

1. Install and grease the eight grease fittings in the hoist frame itself.
Refer to Figure 20 for grease fitting locations.
2. Install and grease the two grease fittings in the truck rear hinge.
3. All grease fittings should be greased periodically or at least every time the truck itself is greased.

Check and Change Pump Reservoir

1. Check the pump reservoir oil level every time the oil is changed in the truck engine.
2. Keep the oil clean. An annual oil change can prevent contaminants from ruining the pump and hoist cylinder.

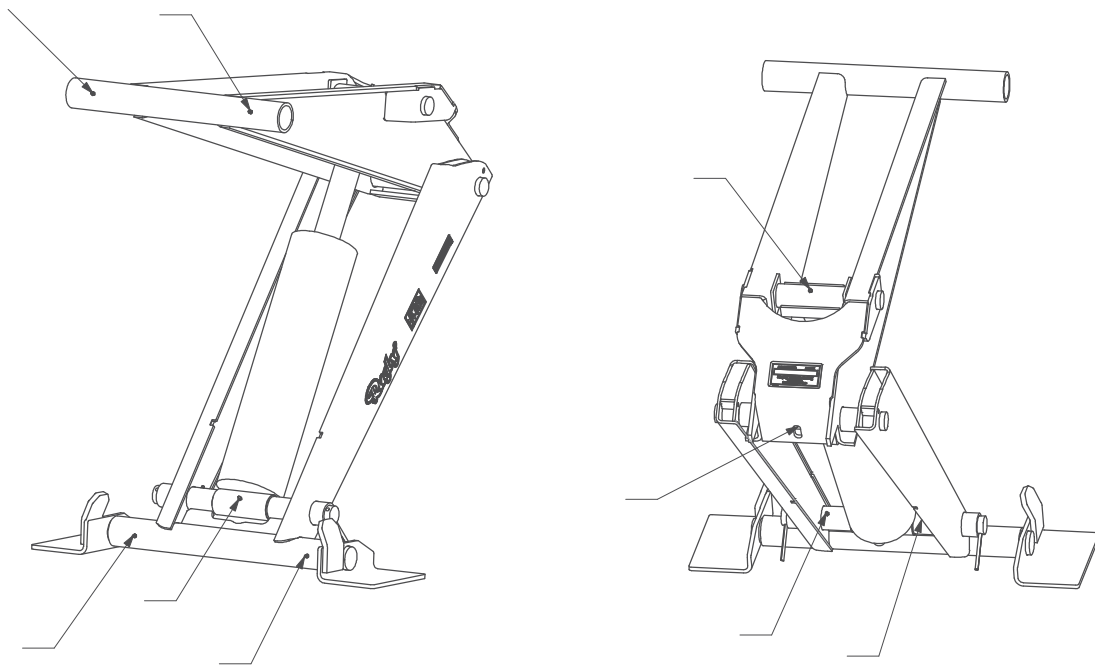
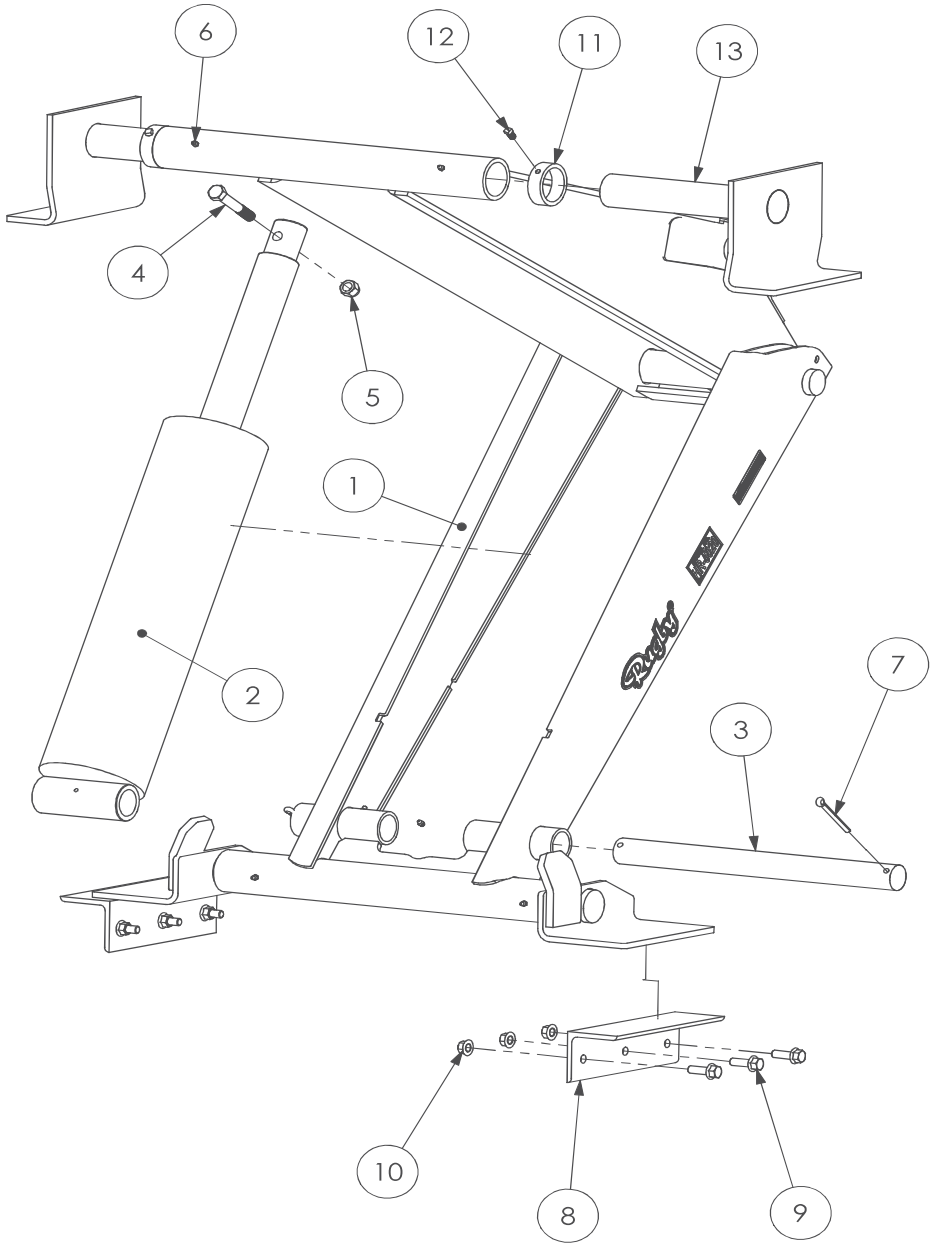


Figure 16: Grease fitting locations (HR-5020)

HR-5020 MODEL



HR-5020 PARTS LIST

TR-5020 Parts List			
Item	Part #	Description	Qty
1	2580064	FRAME, TR-16B PCBLK HOIST	1
2	1621268	CYLINDER, 6 X 20, 2.5 ROD, 2.0 NECK	1
3	1844096	SHAFT, 5020 CYL PINNING	1
4	1653838	SCREW, 5/8-11 X 4 HHC GR8 PLT	1
5	1643070	NUT, 5/8-1 NYLOCK – NE, GR. 5 STL	1
6	1520370	FITTING, 1/4-28 THREAD FORMING GREASE	9
7	1653921	PIN, 5/16" X 3-1/2" ZPCOTTER	2
8	1654936	ANGLE, 11.5 MOUNTING	2
9	2722650	BOLT, 1/2-13 X 1-1/2 FLG GR8 STL YZ SRTD	6
10	2722645	NUT, 1/2-13 FLG GR8 STL YZ SRTD	6
11	1656191	COLLAR, 2.25 LOCK	2
12	1653845	SET SCREW, 3/8-16 X 5/8 SQR HD, BLK	2
13	1656922	BRACKET, TR-16/18/20,HR-5020 LIFT	2



If questions exist, call your Rugby representative at 1-800-869-9162 for further information.

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Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Rugby Mfg Co; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.