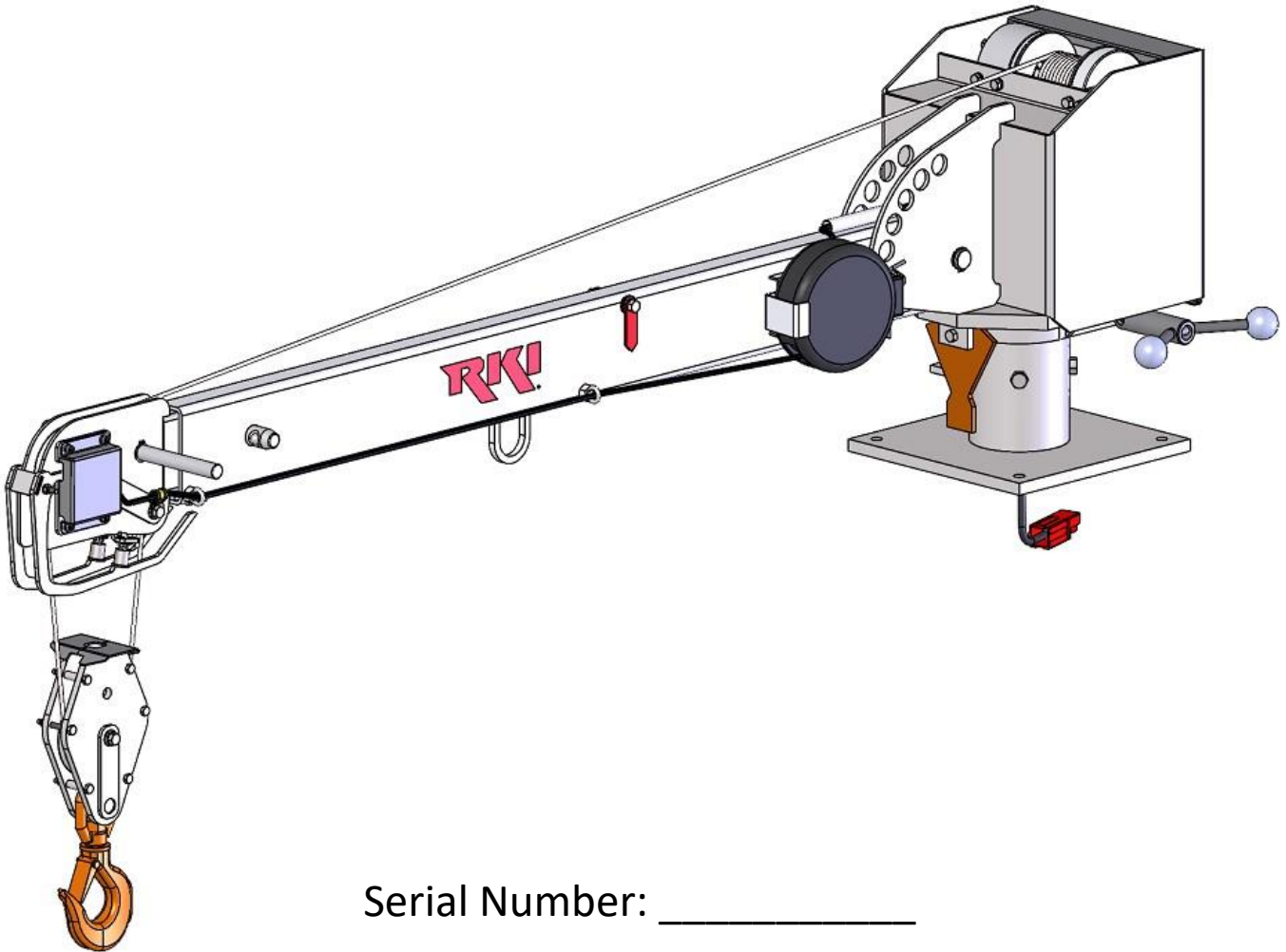


2500 SERIES CRANES

Models: 2500-3-9

USER MANUAL

Effective Serial Number: 5542



Serial Number: _____

Date: _____

RKI, Inc.

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Houston, TX. 77092
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PACKING LIST

The following items are included with your RKI 2500 Series crane:

1 – Crane Assembly

1 – Crane User Manual (W0065)

1 – Carton with the following contents, including Mounting Kit (45506) and other components:

1 – “Hot” Quill Power Cable (45499): 25ft #2ga Wire Assembly

1 –Ground Cable (43738): 3ft #2ga Wire Assembly from Service Body to Vehicle Frame

6 –Cable Retaining Clips (43512)

4 –Mounting Bolts (19152): ½-13 x 2-½” Grade 8

8 –Flat Washers (07889): ½”

4 –Lock Washers (03030): ½”

4 –Hex Nuts (43520): ½-13 Grade 8

1 – Remote Control (41140): 15’ heavy duty

IMPORTANT NOTICE

RKI, Inc. cannot possibly know or even anticipate all of the varied uses and applications that may be found for its crane products. For that reason, the company expressly disclaims any and all responsibility for the manner and methods used by the installer of these products. The company recommends that the installer of its crane products follow sound engineering principles and comply fully with each and every applicable ANSI, OSHA or other safety standard.

Safety Warning: RKI, Inc. cranes are not intended to be used, or incorporated as a component of any other equipment which may be used for the lifting or moving of people. Any such use is absolutely and categorically contrary to RKI, Inc.'s recommendation.

INTRODUCTION:

RKI cranes are designed and manufactured to provide you years of safe, dependable performance.

This manual has been provided to give you specific information regarding the safe operation and upkeep of your crane.

It is very important that all who operate or service the crane should begin by thoroughly reading this manual. In addition, the supervisor, and others concerned with the operation of the crane, should read this manual. Remember that an uninformed or careless operator can make the operation of any equipment dangerous.

The information in this manual helps to insure that your RKI crane is installed properly and operated safely. However it is not a definitive guide to every possible situation or circumstance. If you have any questions or require additional information, please contact RKI.

SPECIFICATIONS

Model: 2500-3-9

Moment Rating:

7,500 ft. lbs

Lift Capacities:

2,500 lbs. @ 3 ft.	1,071 lbs @ 7 ft.
1,875 lbs. @ 4 ft.	937 lbs @ 8 ft.
1,500 lbs. @ 5 ft.	833 lbs. @ 9 ft.
1,250 lbs. @ 6 ft.	

Boom:

The boom angle includes lifting positions of 0°, 15°, 30°, 45°, 60°, and 75°.

Manual boom extension ranges from 5' 6" to 9' in 21" intervals

Line Speed:

Approximately 6-½ feet per minute (first rope layer, double line).

Load Sensor:

A load sensor is standard to automatically protect overload.

Anti Two-Block:

Per OSHA 29 CFR Part 1926.1416(d)(3), An anti two-block feature is incorporated into the crane to prevent damage from contact between the travel block and the boom tip.

Winch, Cable and Block:

Winch is worm gear drive, providing forward and reverse operation.

52ft of 3/16" galvanized aircraft cable is supplied with traveling block with safety latch for double line operation.

Electrical:

12 VDC required to operate the electrical solenoid valve and contactor for the hoist winch.

Safety Standards:

Meets OSHA 1910.180 and OSHA 1926.1441 requirements.

Specifications:

Weight: 256 lbs (product), 378 lbs (shipping)

Length: 10' 2" (length dimension is without the boom extended)

Width: 17"

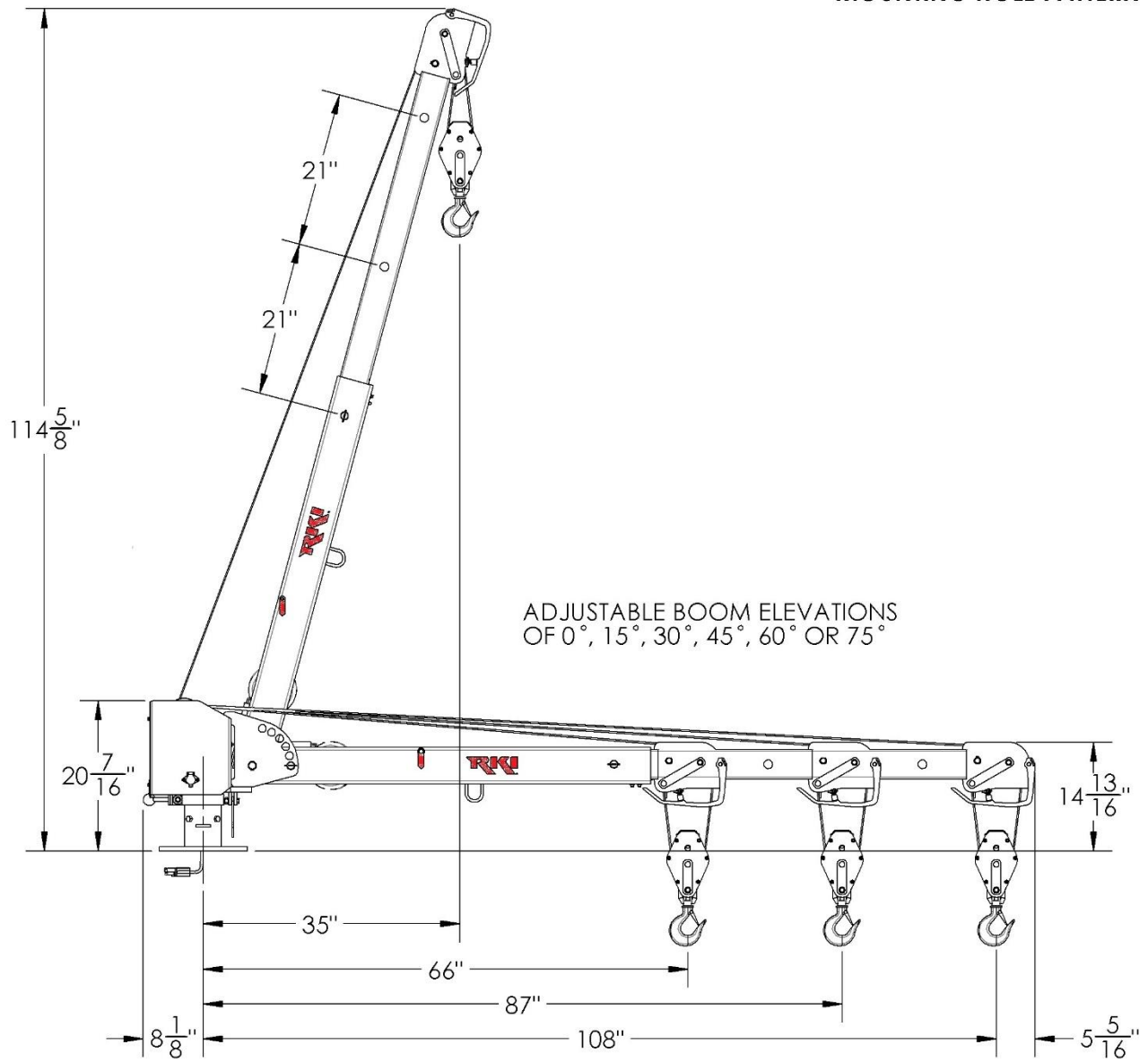
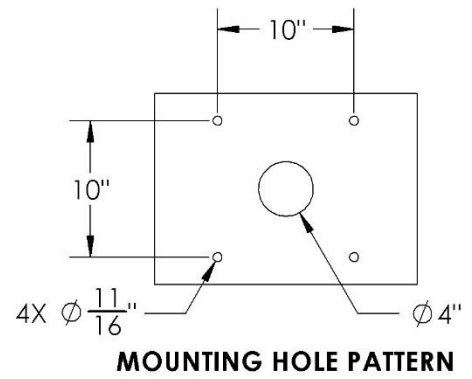
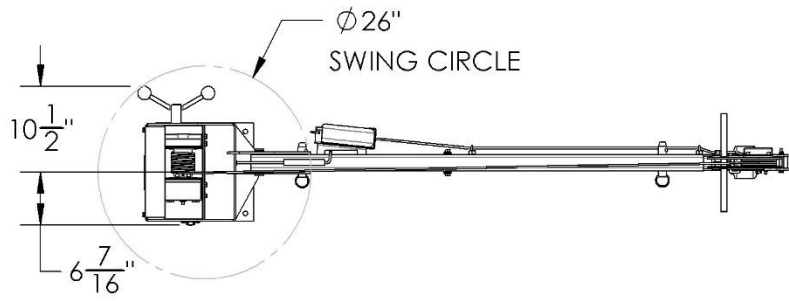
Height: 21"

Base Plate Dimensions: 12" x 12"

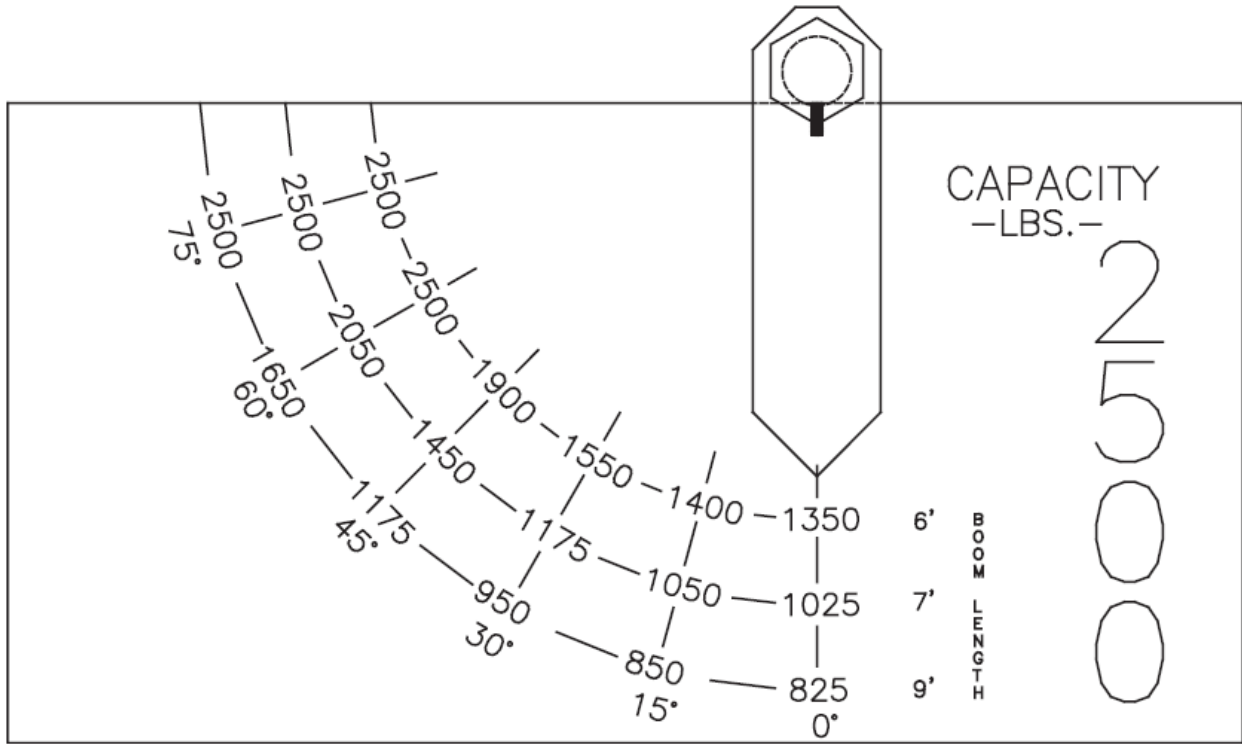
Truck Requirements: 8,600 lbs. GVWR (Minimum)

Jack Leg: p/n JKL1 or equivalent

2500-3-9 OVERALL DIMENSIONS



2500-3-9 CAPACITY CHART



INSTALLATION INSTRUCTIONS

1. The crane mounting base must be capable of safely supporting the crane assembly and its maximum capacity of 7,500 ft-lbs loading. The support structure for the mounting base must be tied directly to the main frame members of the vehicle.
2. Disconnect the ground cable from the vehicle's battery(ies).
3. Drill 4 holes (9/16" diameter on 10" square pattern) and a center hole (2" diameter), on the crane mounting location. Refer to the Mounting Hole Pattern shown on the Overall Dimension page.
4. Grind both the crane lower mounting base and the service body's top mounting plate, removing any paint, primer, or sealants. The crane is electrically grounded through the base plate, thus it is important that there is a good metal-to-metal contact between the crane and the mounting location.
5. Lift crane in place and install Grade 8 mounting bolts with nuts and washers. **Note: use only bolts, nuts, and washers provided with crane.** Do not substitute and do not reuse bolts that have been previously torqued.
6. Tighten ½-13 Grade 8 bolts in a criss-cross pattern, alternating until all are torqued to 110 ft-lbs (dry bolt).
7. If crane is being installed on a service or utility body, seal around all holes and bolts with silicone or equivalent sealer. Also seal around crane mounting plate.
8. Connect the 25ft power cord to the crane's quill then route the cord along the vehicle's frame rail to the vehicle's battery. Care must be taken so that the power cable is not positioned against burrs, sharp edges or anything that would chafe or cut the cable insulation. The cable should be supported at intervals to prevent sagging or dragging. Use rubber grommets when cable passes through bulkheads.
9. Cut cable to the minimum required length and connect it to the positive post of the vehicle's battery with the appropriate lug or clamp connection.
10. Use the supplied 3ft ground cable to ground the crane base, mounting base, or service body to the truck chassis. Use rubber grommets where the cable passes through bulkheads.
11. If the vehicle's negative ground cable is grounded only to the vehicle's engine, then install a second ground cable from the negative post of the battery to the vehicle's frame.
12. The vehicle should be equipped with a minimum 160-amp alternator, but a larger capacity is highly recommended. Note: alternator performance is significantly affected by vehicle RPM and temperature. At standard truck idle speeds, the alternator output can be as low as half of rated capacity.
13. The vehicle should be running during crane operation, and it is recommended that it run at an elevated idle.
14. A 150-amp circuit breaker is required for all crane installations (not included).

BATTERY

Adequate battery power is a necessity for satisfactory crane operation. Most original equipment vehicle batteries are designed for relatively light service of vehicle operation.

On vehicles with longer distances between battery and crane, or if heavy or extended periods of operation are anticipated, a heavy duty battery may be installed in the vehicle, or a second 12 volt battery added to the vehicle system, in order to increase available amperage. The vehicle charging system should be functioning properly. The battery charging system should supply a minimum of 13 volts DC at the crane with the vehicle engine running. The voltage should not drop below 9 volts when any function of the crane is actuated.

It should also be noted that the performance of vehicle's alternators drops significantly with running idle speed and ambient temperature. At standard truck idle speeds, the alternator output can be as low as half of the rated capacity. So it is recommended that the vehicle be running at an elevated idle during crane operation.

Normal operation of the crane should not require a second battery. However, if a second battery is used, it should be connected to the first battery in parallel; positive post-to-post and negative post-to-post.

GROUNDING

Proper and adequate grounding of the crane is necessary to prevent poor performance or malfunction. The 2500 Series cranes are grounded through the bottom mounting plate. A good ground must be established between the crane's lower mounting base and the vehicle battery. For service or utility body mounting, this grounding typically goes through the service body mounting plate, to the service or utility body, and then to the vehicle frame. Ensure that a good metal-to-metal contact is made between the crane's lower base and the service body mounting plate. If the body is mounted to the truck on wood runners, or rubber mounts, a # 2 gauge ground cable must be added between the body and the chassis frame.

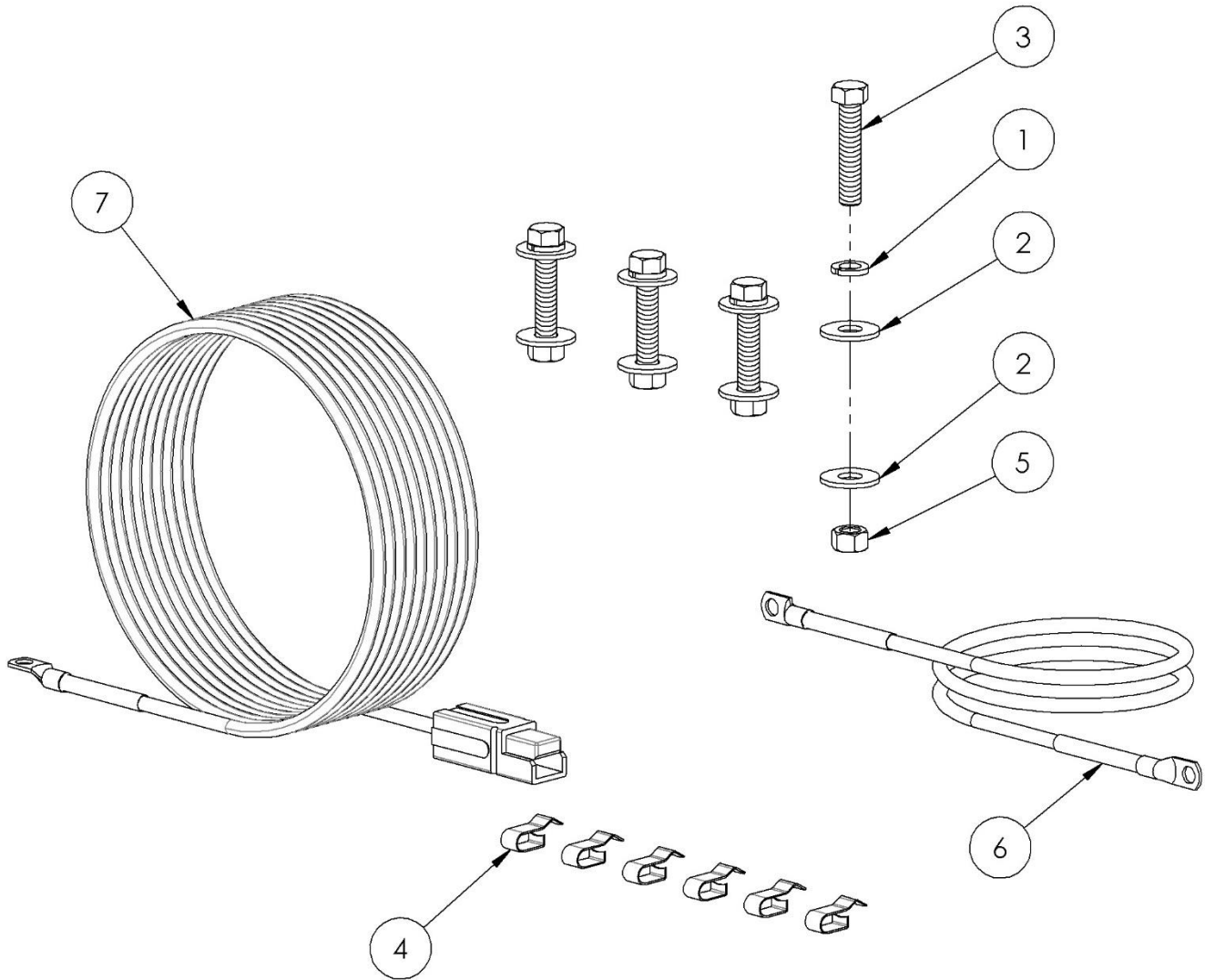
The vehicle battery, and second battery if used, must be grounded directly to the chassis frame. If the vehicle battery is grounded to the engine block, a second # 2 gauge minimum ground cable must be added from the battery to the chassis frame or the engine to the chassis frame. .

Maintain a regular schedule to ensure that the battery remains in good working condition. Clean all connections, check electrolyte levels, check for loose belts and make sure that your vehicle charging system is operating properly.

WARNING:

- 1. FEDERAL LAW (49 CFR PART 571) REQUIRES THAT THE FINAL STAGE MANUFACTURER OF A VEHICLE CERTIFY THAT THE VEHICLE COMPLIES WITH ALL APPLICABLE REGULATIONS. ANY MODIFICATIONS OF THE VEHICLE PRIOR TO THE FINAL STAGE ARE ALSO CONSIDERED INTERMEDIATE STAGE MANUFACTURING AND MUST BE CERTIFIED AS TO COMPLIANCE. THE INSTALLER IS RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE FEDERAL AND STATE REGULATIONS AND REQUIRED TO CERTIFY THAT THE VEHICLE IS IN COMPLIANCE.**
- 2. THE INSTALLER OF THE CRANE IS RESPONSIBLE TO COMPLY WITH THE OSHA TRUCK CRANE STABILITY REQUIREMENTS AS SPECIFIED BY 29 CFR PART 1910.180(c)(i).**

MOUNTING KIT (P/N 45506)



ITEM	PART #	QTY	DESCRIPTION
1	03030	4	WASHER-LOCK 1/2
2	07889	8	WASHER-FLT 1/2 W
3	19152	4	BOLT-HX 1/2-13X2.5 GR8
4	43512	6	CLIP-BODY F/BATTERY CABL
5	43520	4	NUT-HX 1/2-13 G8
6	43738	1	WIRE ASY-#02 36.0 GRND
7	45499	1	WIRE ASY-PWR CONTACT 25'

OPERATING INSTRUCTIONS (Page 1 of 3)

1. Do not operate this crane unless you have thoroughly read and understand the information in this manual.
2. Cranes shall be operated only by the following qualified personnel, and crane operator certification per OSHA 29 CFR Part 1926.1427-1430 is available from local and national certifiers:
 - a. Designated persons
 - b. Trainees under the direct supervision of a designated person
 - c. Inspectors, maintenance and test personnel (when it is necessary in the performance of their duty)
3. No one other than the personnel specified in (2) above shall enter the crane's operating area, with the exception of persons such as supervisors, signal persons, and those specific persons authorized by supervisors whose duties require them to do so, and then only in the performance of their duties and with the knowledge of the operator or other appointed persons.
4. The operator shall be familiar with the equipment and its proper care. If adjustments or repairs are necessary, the operator shall promptly report this to an appointed person, and notify the next operator.
5. The operator at the start of each shift shall test all controls. If any controls do not operate properly, they shall be adjusted or repaired before operations are begun.
6. Seek the best possible work site for the operation when parking the crane-mounted vehicle. The parking location should be firm, dry and level ground or pavement, which can adequately reach the load by the rated capacity of the crane.
7. The crane-mounted vehicle shall not be parked on uneven, rocky or muddy terrain, steep grades, or overhead-obstructed locations.
8. Fully extend the jacklegs to the ground to provide firm support and keep the crane-mounted vehicle as level as possible during the operation. When operating on soft terrain use wider pads or boards under the jackleg foot. Blocking under the jackleg foot shall be of sufficient strength to prevent crushing, bending, or shear failure.
9. After the vehicle has been properly positioned, engage the emergency brake and start the engine.
10. Connect the remote control to the crane, making sure the connector is properly engaged.
11. If the unit is equipped with a master cutoff switch, turn on power to the crane.
12. Vehicle should be running during all crane operations, and it is recommended that it run at an elevated idle.
13. When operating near electric power lines, comply with the requirements of OSHA 29 CFR Part 1926.1408. Summarized in Figure 1 and Table 1, no part of the crane or load may enter the danger zone.
14. For power lines rate 50 kV or below, minimum clearance between the lines and any part of the crane or load (including handling appendages) shall be 10 ft (3 m). For higher voltages, see Table 1.
15. Caution shall be exercised when working near overhead power lines because they can move horizontally or vertically due to wind, moving the danger zone to new position.
16. While in transit with no load and boom lowered, the clearance shall be as specified in Table 1.
17. The crane is now in operating position and ready for handling the load.
18. No crane shall be loaded beyond the specifications of the load rated chart.
19. The load to be lifted is to be within the rated capacity of the crane (refer to the crane load capacity chart).
20. Pay special attention to the advisory decals attached to the crane.

OPERATING INSTRUCTIONS (Page 2 of 3)

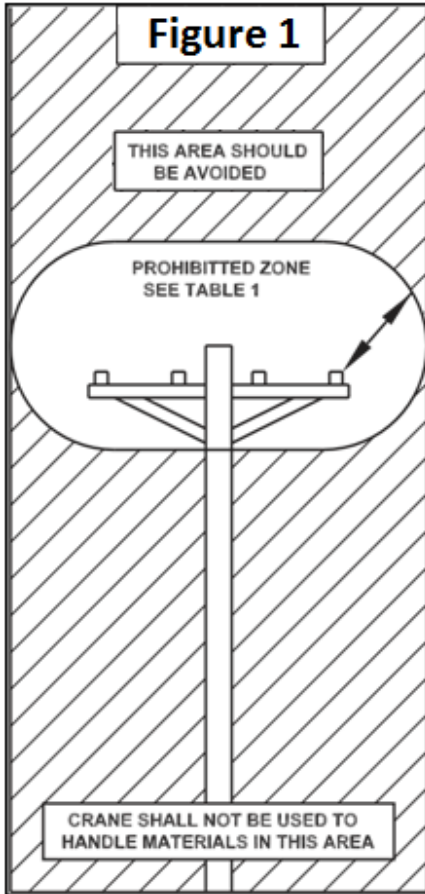


Table 1	
Normal Voltage, kV (Phase to Phase)	Minimum Required Clearance feet (meters)
Operation near High Voltage Power Line	
Up to 50	10 (3.05)
Over 50 to 200	15 (4.57)
Over 200 to 350	20 (6.10)
Over 350 to 500	25 (7.62)
Over 500 to 750	35 (10.67)
Over 750 to 1000	45 (13.72)
Operation in Transit With No Load and Boom Lowered	
Up to 0.75	4 (1.22)
Over 0.75 to 50	6 (1.83)
Over 50 to 350	10 (3.05)
Over 345 to 750	16 (4.88)
Over 750 to 1000	20 (6.10)

21. When loads which are not accurately known, are to be lifted, the person responsible for the job lift shall ascertain that the weight of the load does not exceed the crane ratings at the maximum radius at which the load is to be handled.
22. Always adjust the rotation handbrake.
23. The hoist rope shall not be wrapped around the load.
24. The load shall be attached to the hook by means of slings or other devices of sufficient capacity.
25. The operator shall not leave the controls while the load is suspended.
26. No person should be permitted to stand or pass under a suspended load.
27. Position end of boom directly over load. Do not attempt to drag a load; this may result in severe damage to the crane.
28. Keep tension on the hoist line at all times to prevent the line from fouling on the drum.
29. Never place a chain link on the tip of the hook in order to lift a load with the winch.
30. Make sure the safety latch on the hook is closed before lifting a load.
31. Before starting to lift, the following conditions should be noted:
 - a. The hoist rope shall not be kinked.
 - b. Part lines shall not be twisted around each other.
 - c. The hook shall be brought over the load in such a manner as to minimize swinging.
 - d. The effect of ambient wind on the load and on crane stability.

OPERATING INSTRUCTIONS (Page 3 of 3)

32. The person directing the lift shall see that:
 - a. The crane is level and, where necessary, blocked.
 - b. The load is well secured and balanced in the sling or lifting device before it is lifted more than a few inches.
 - c. The lift and swing path is clear of obstructions.
33. During lifting operations, care shall be taken that:
 - a. There is no sudden acceleration or deceleration of the moving load.
 - b. Load, boom, or other parts of the machine do not contact any obstruction.
34. Side loading of boom shall be limited to freely suspended loads. Crane shall not be used for dragging loads sideways.
35. The operator should never carry loads over people.
36. Neither the load nor boom shall be lowered below the point where less than five full wraps of rope remain on the winch drum.
37. When rotating the crane, sudden starts and stops shall be avoided. Rotating speed shall be such that the load does not swing out beyond the radius at which it can be controlled. A tag or restraint line should be used during rotation to control the load.
38. Personnel shall not be permitted to ride the bare hook or a load of material suspended from the hook.
39. Do not move the vehicle when the crane is being used.
40. The crane shall be in stowed position before traveling.
41. Make sure the remote control is properly stored in a dry area.

INSPECTION & MAINTENANCE SCHEDULE

COMPONENT	DAILY	WEEKLY	MONTHLY	EVERY 3 MONTHS	YEARLY	NOTES
Cable Drum	X					Make sure the cable is wound evenly on the drum
Cable	X					Check for cut or broken strands, kinking etcetera *
Load Hook	X					Check for any cracks or deformation of the hook or latch
Sheaves and Bearings				X		Inspect for any damage and add grease to bearings. Make sure the sheaves turn freely
Rotational Bearing				X Or more often under severe conditions		Add grease to the bearing
Roller Chains				X		Inspect for damage and lubricate as needed.
Winch					X	Use SAE EP-140 Gear lubricant, total capacity is 4 ounces
Base Mounting Bolts & Other Bolts		X				Check the bolt torque for the four mounting bolts and tighten other bolts as required
Boom Wear Pads				X		Inspect pads and replace as required

* To extend the life of cable, clean it periodically with a wire brush and lubricate it lightly with oil.

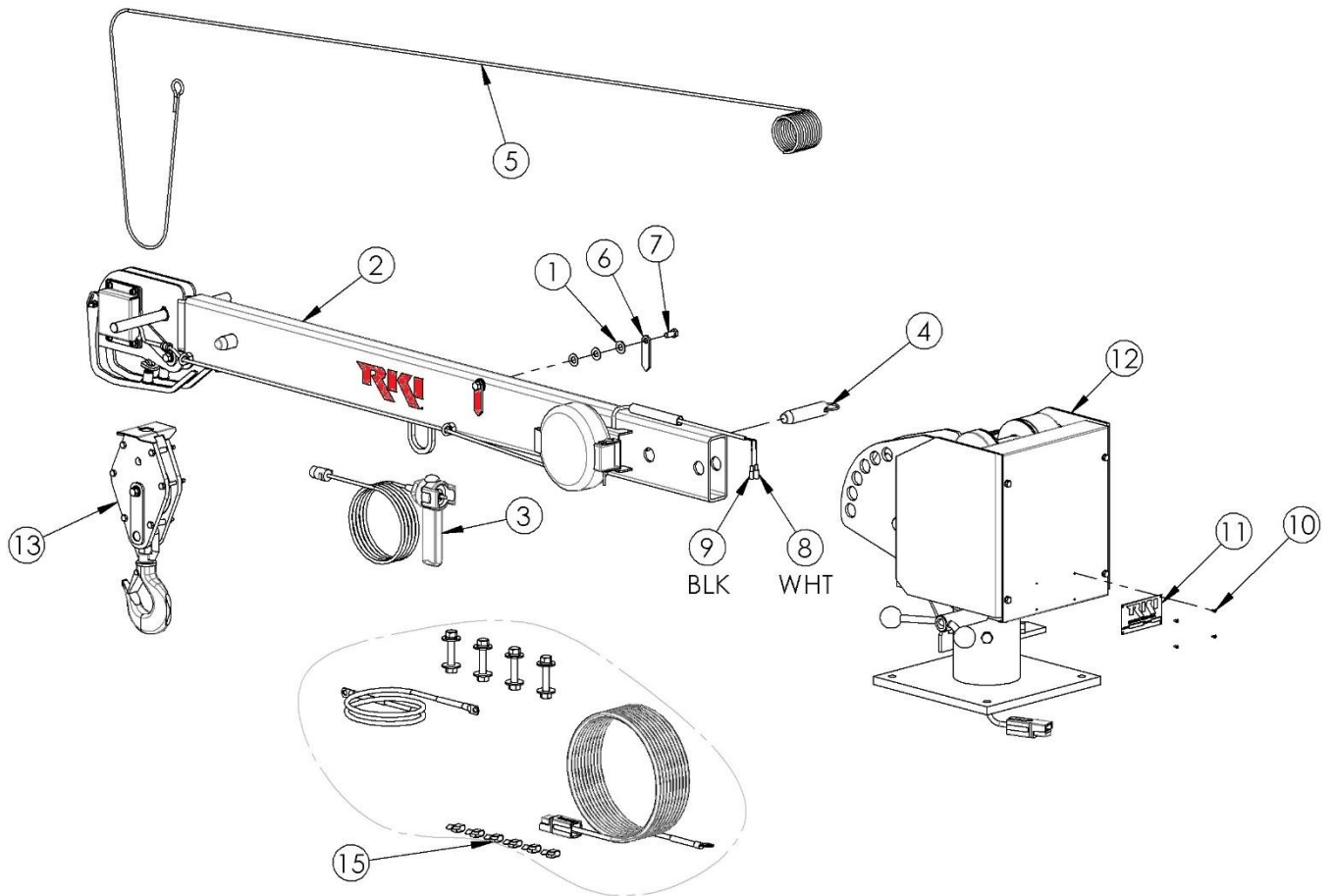
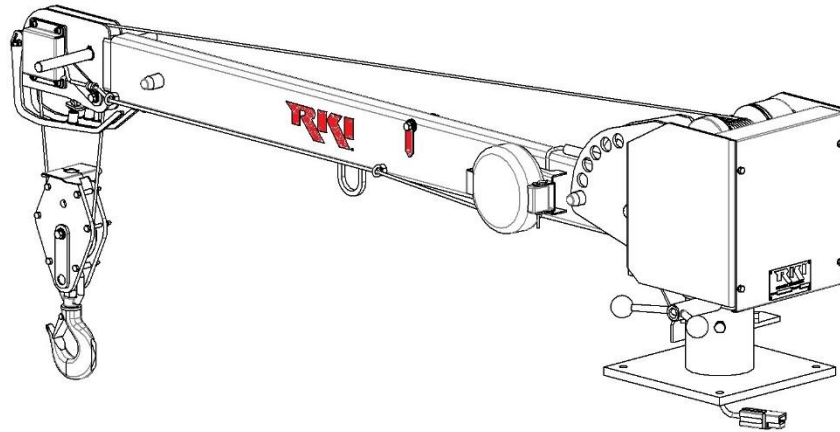
** All other bushings used are made of brass impregnated with an oil and graphite compound and require no maintenance. Other parts may be lubricated with a few drops of oil as needed.

LUBRICATION SPECIFICATION

1. Rotational Bearings: Mobil grease CM-S or equivalent
2. Hoist Winch: SAE EP-140 Gear Lubricant with extreme pressure additives or equivalent

2500-3-9 MAIN ASSEMBLY

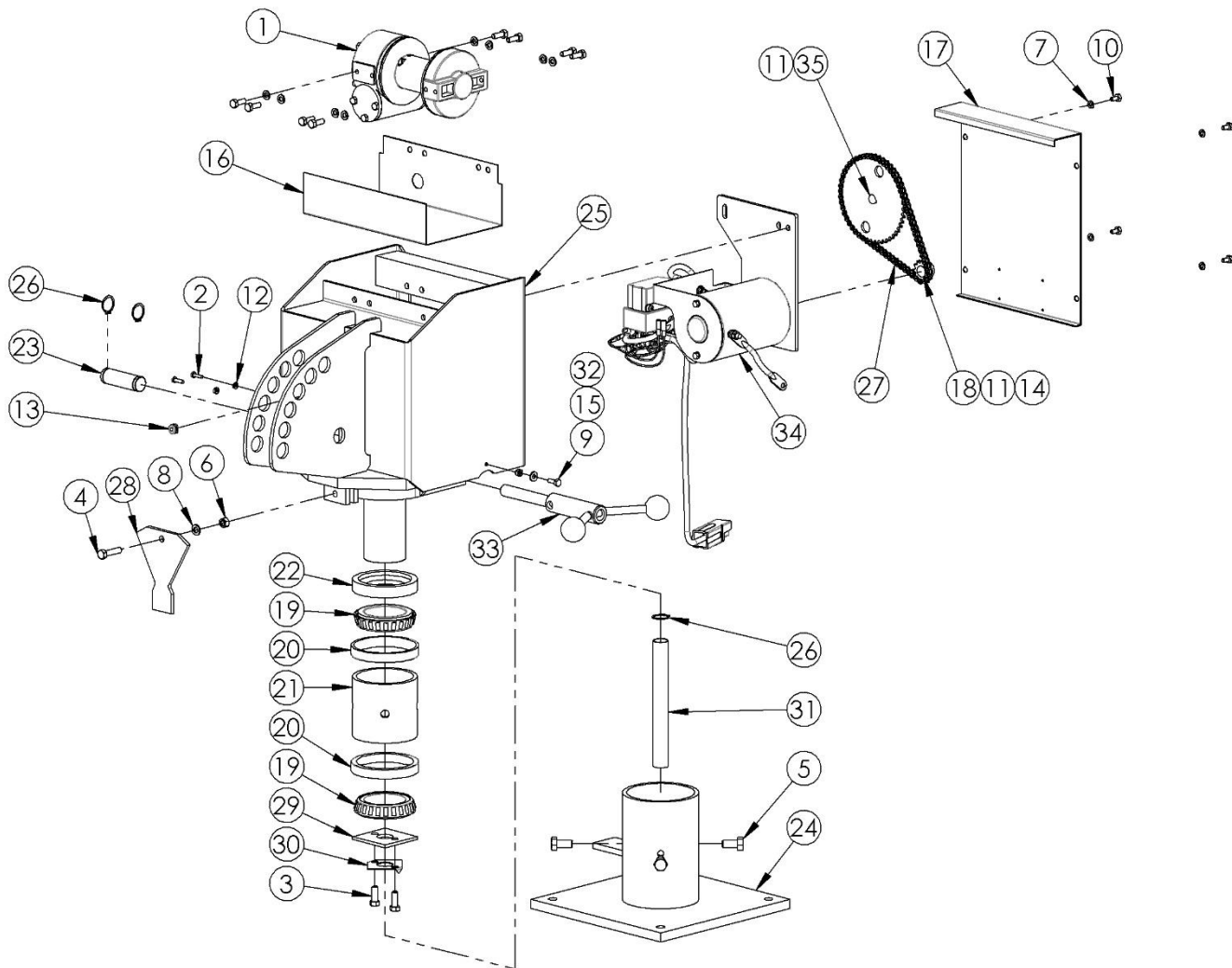
ITEM	PART #	QTY	DESCRIPTION	ITEM	PART #	QTY	DESCRIPTION
1	07887	6	WASHER-FLT 7/16 N	9	44792	1	CONNECTOR-BULLET FEMALE
2	40092	1	BOOM CMPL-2500-3-9	10	45141	4	RIVET-1/8X1/8 AL/ST AB42
3	41140	1	REMOTE-2500/E8 15'	11	45143	1	NAMEPLATE-S/N RVT BLANK
4	43016	1	PIN-QUICK 1.00 2.50 W/L	12	45154	1	TURRET CMPL-2500
5	43022	1	ROPE-WIRE .188 52FT EYE	13	45215	1	TRAV BLOCK ASY-20/25/32
6	44009	2	POINTER-DEGREE INDICATOR	14	45360	1	DECAL KIT-2500
7	44031	2	BOLT-HX 3/8-16X3/4 LK	15	45506	1	MTG KIT-2000/2500 5500+
8	44791	1	CONNECTOR-BULLET MALE				



2500 TURRET ASSEMBLY (P/N 45154)

ITEM	PART #	QTY	DESCRIPTION
1	02MLX-2RSSR	1	WINCH-02MLX-2RSSR
2	03226	2	SCRW-PAN #10-24X3/4 SLOT
3	07769	2	BOLT-HX 3/8-16X1
4	07771	1	BOLT-HX 3/8-16X1-1/2 G5
5	07784	4	BOLT-HX 1/2-13X1
6	07850	1	NUT-HX 3/8-16
7	07882	4	WASHER-LOCK 1/4
8	07886	1	WASHER-LOCK 3/8
9	07898	1	BOLT-HX 1/4-20X3/4
10	07916	4	BOLT-HX 1/4-20X1/2
11	08014	2	SCREW-STSKT 0.25 0.2 OVL
12	08023	2	NUT-HX #10-24 MA
13	40090	1	GROMMET-1/4ID 5/8OD
14	40729	1	KEY-WOODRUFF 606
15	40986	1	WASHER-FLT 1/4 N
16	43002	1	COVER-2500 WINCH BOTTOM
17	43003	1	COVER-TURRET REAR 2500
18	43005	1	SPROCKET-35BS11 .75X.18

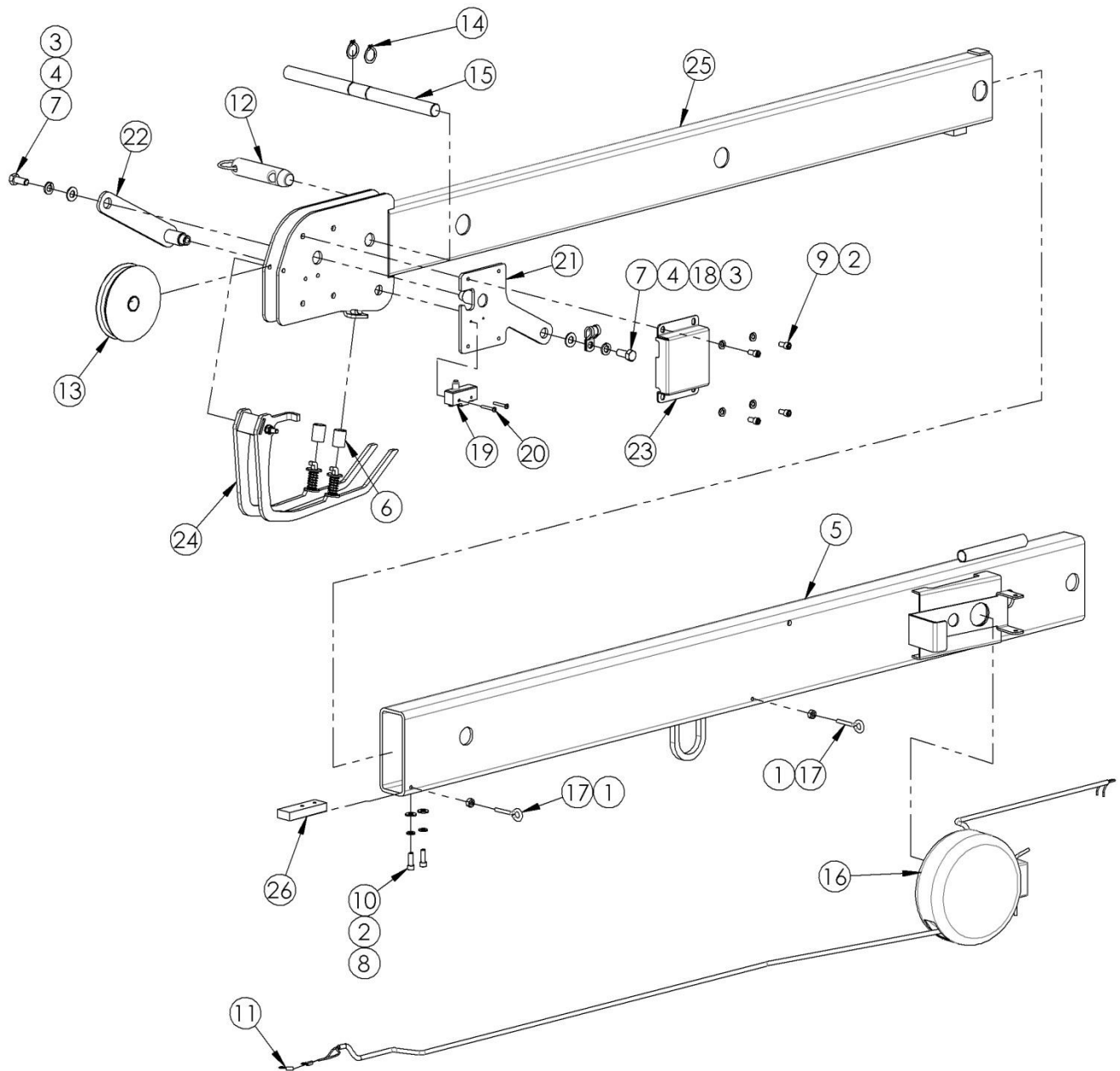
ITEM	PART #	QTY	DESCRIPTION
19	43019	2	BEARING-CONE 2.750X4.438
20	43020	2	BEARING-CUP 2.750X4.438
21	43035	1	SPACER-2000/2500 BRG BTM
22	43040	1	SPACER-2000/2500 BRG TOP
23	43059	1	PIN-GRVD. 1.00 2.56
24	43065	1	BASE ASY-2500 TURRET
25	43067	1	TURRET ASY-2500
26	43140	3	RING-RTNG EXT 1.000 1P
27	43150	1	CHAIN-ROLLER #35 23.87
28	43181	1	PLATE-2500 MOUNT STOP
29	43196	1	PLATE-2500 BRG CLAMP
30	43197	1	STRAP-LOCKING 2000-2500
31	43227	1	SLEEVE-2500 QUILL
32	43425	1	NUT-HEX .250NC FLEX
33	44111	1	SCREW-ROTATION LOCK 2500
34	45153	1	MOTOR DRIVE PKG-2500
35	45164	1	SPROCKET ASY-35BS48



2500-3-9 BOOM ASSEMBLY (P/N 40092)

ITEM	PART #	QTY	DESCRIPTION
1	07843	2	NUT-HX 1/4-20
2	07882	6	WASHER-LOCK 1/4
3	07885	2	WASHER-FLT 3/8 W
4	07886	2	WASHER-LOCK 3/8
5	40087	1	BOOM-2500-3-9 MAIN
6	40093	2	SLEEVE-SPRING 2500 A2B
7	40911	2	BOLT-HX 3/8-16X7/8
8	40986	2	WASHER-FLT 1/4 N
9	41013	4	SCRW-CPSKT 1/4-20X1/2
10	41014	2	SCRW-CPSKT 1/4-20X3/4
11	41155	2	TERMINAL-18GA #10 RING
12	43016	1	PIN-QUICK 1.00 2.50 W/L
13	43041	1	PULLEY-4.0 OD .75BORE

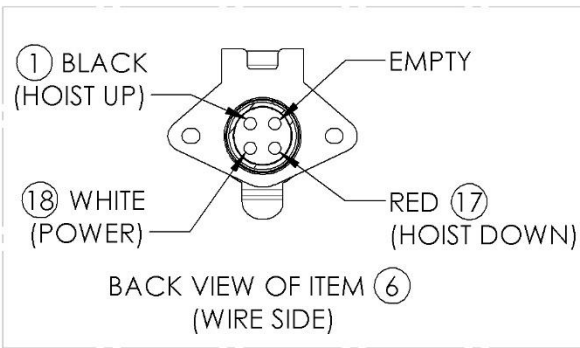
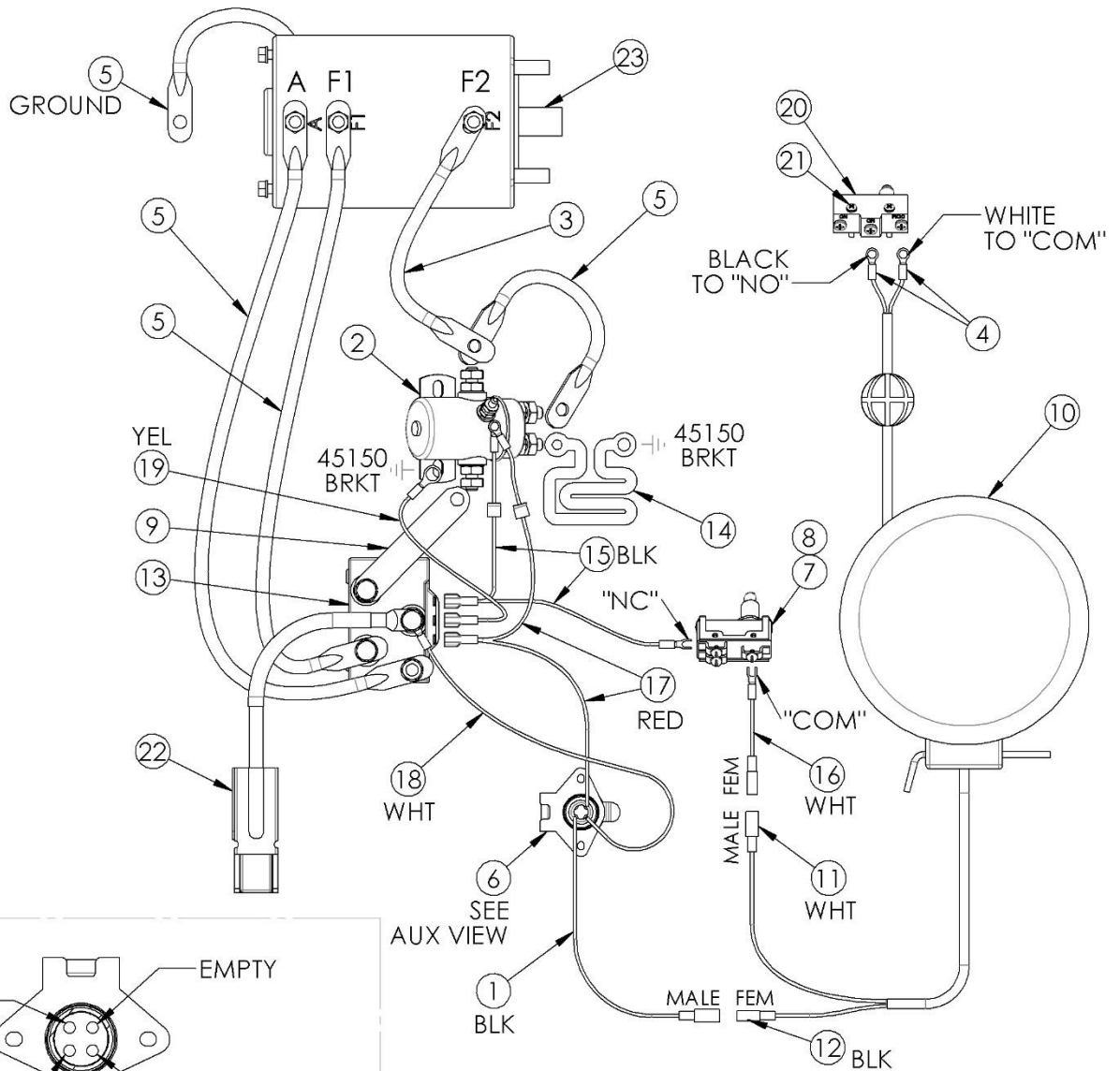
ITEM	PART #	QTY	DESCRIPTION
14	43139	2	RING-RTNG EXT 0.750 1P
15	43166	1	PIN-GRVD. 0.75 1.37
16	44248	1	REEL-CORD 20FT 18/3
17	44249	2	EYE BOLT .25-20UNC
18	44798	1	CLAMP-LOOM 3/8 MTG
19	45204	1	SWITCH-PLUNGER SPDT BZ
20	45205	2	SCRW-PAN #6-32X1
21	45207	1	PIN-W/KPR A2B 2000/2500
22	45209	1	PIN-W/KPR 0.75 1.13 5.75
23	45219	1	COVER-CRANE A2B
24	45220	1	RAIL PKG-CRANE A2B
25	45221	1	BOOM-2500-3-9 EXT
26	45228	1	PLATE-20/25 BOOM STOP



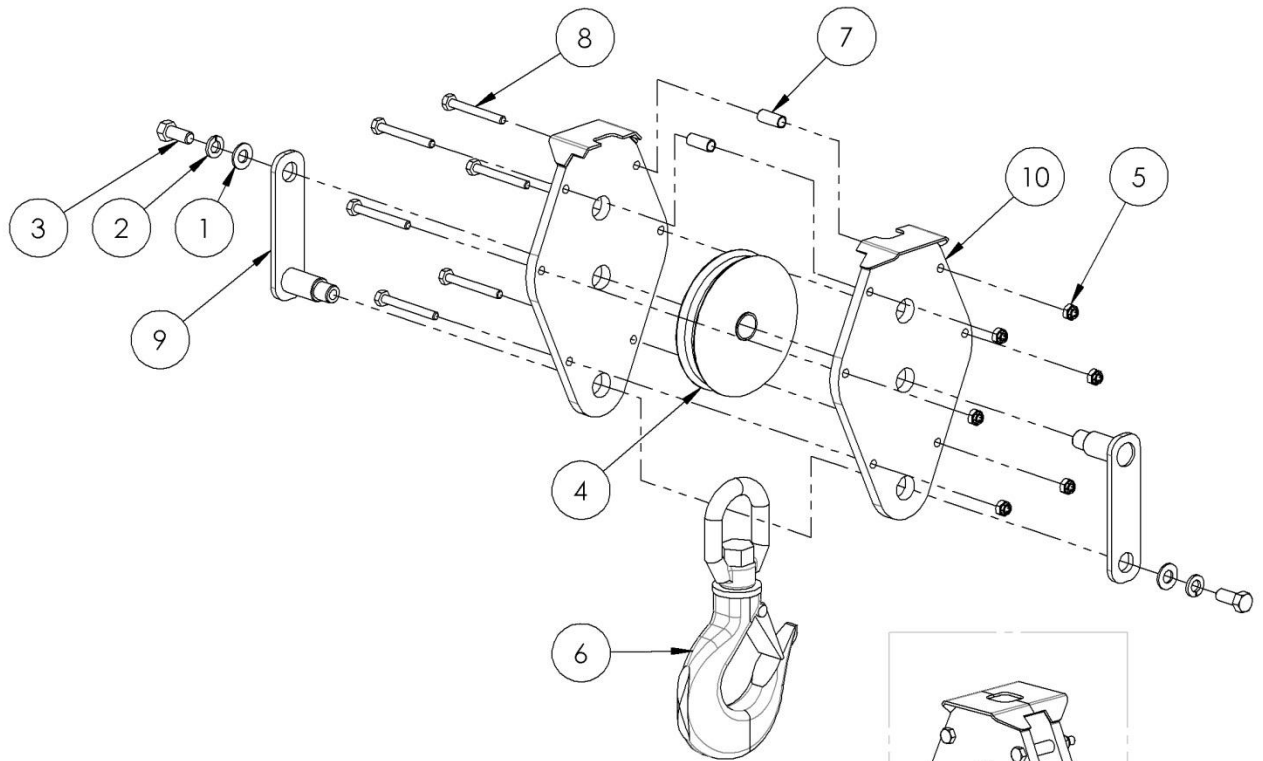
ELECTRICAL LAYOUT (W0029)

ITEM	PART #	QTY	DESCRIPTION
1	40091	1	WIRE ASY-2500 SWITCH BLK
2	41142	1	SOLENOID-STNDRD 12V
3	41151	1	WIRE-#04 10.5 RED
4	41155	2	TERMINAL-18GA #10 RING
5	41190	4	WIRE-#04 6.31 RED
6	41273	1	CONNECTOR-04 PIN MAL SKT
7	43017	1	MICROSWITCH-STANDARD
8	43018	1	ACTUATOR-MICROSWITCH
9	43074	1	STRAP-SOL SHORT F/2500
10	44248	1	REEL-CORD 20FT 18/3
11	44791	1	CONNECTOR-BULLET MALE
12	44792	1	CONNECTOR-BULLET FEMALE

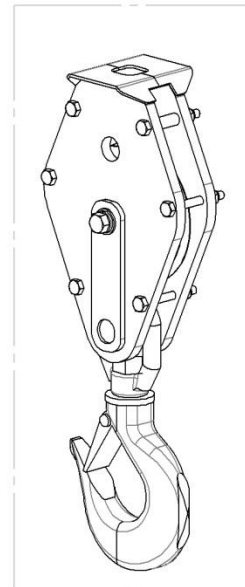
ITEM	PART #	QTY	DESCRIPTION
13	45151	1	CONTACTOR-DPDT 12V
14	45152	1	RESISTOR DYNAMIC BRAKE
15	45169	1	WIRE ASY-2500 SOL BLK
16	45170	1	WIRE ASY-2500 SWITCH WHT
17	45171	1	WIRE ASY-2500 SOL RED
18	45172	1	WIRE ASY-2500 PWR WHT
19	45173	1	WIRE ASY-2500 GRND YEL
20	45204	1	SWITCH-PLUNGER SPDT BZ
21	45205	2	SCRW-PHPHL #6-32X1
22	45500	1	WIRE ASY-PWR CONTACT 3'
23	49147	1	MOTOR-12V 4-POST MJB6302



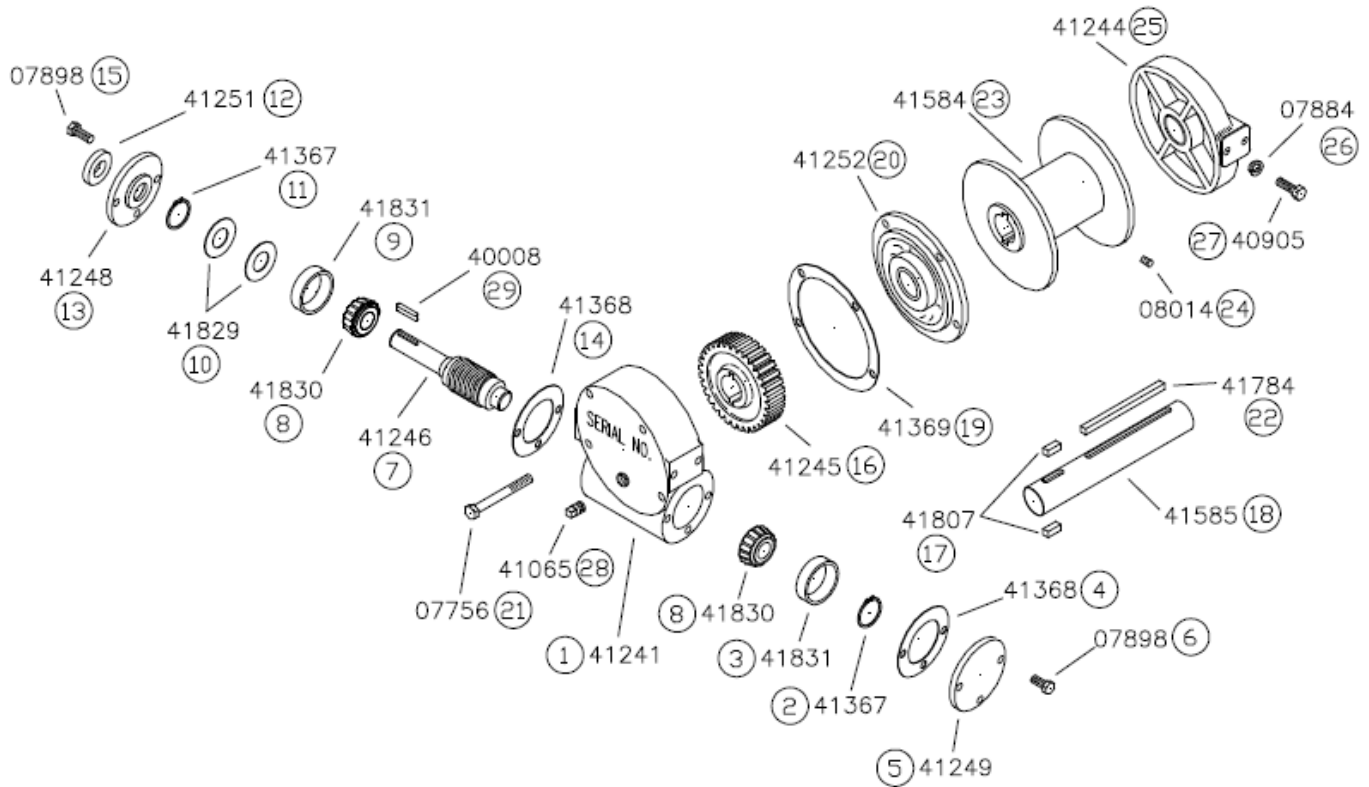
TRAVEL BLOCK ASSEMBLY (P/N 45215)



ITEM	PART #	QTY	DESCRIPTION
1	07885	2	WASHER-FLT 3/8 W
2	07886	2	WASHER-LOCK 3/8
3	40911	2	BOLT-HX 3/8-16X7/8
4	43041	1	PULLEY-4.0 OD .75BORE
5	43425	6	NUT-HEX .250NC FLEX
6	43819	1	HOOK-2.0 TON SWIVEL W/L
7	43909	2	SPACER-TB RD 3/8OD 7/8L
8	44002	6	BOLT-HX 1/4-20X2 1/4
9	45212	2	PIN-W/KPR 0.75 1.31 3.50
10	45216	2	PLATE ASY-TRAV BLOCK



WINCH ASSEMBLY (P/N 02MLX-2RSSR)



① INDICATES ORDER OF ASSEMBLY

PART NO.	QTY	DESCRIPTION	PART NO.	QTY	DESCRIPTION
07756	4	Screw - HHCS .250"nc x 2.50"	41252	1	Cover - Hsg. W/41253 Bushing*
07884	8	Washer - Lock .312"	41367	2	Ring - Retaining
07898	6	Screw - HHCS .250"nc x .750"	41368	2	Gasket
08014	1	Screw - Set Skt .250"nc x .250"	41369	1	Gasket
40008	1	Key - Worm	41584	1	Drum
40905	8	Screw - HHCS .312" x .875"	41585	1	Shaft - Drum
41065	1	Plug - Pipe .250" Sq. Hd.	41784	1	Key - Drum
41241	1	Housing W/41253 Bushing*	41807	2	Key - Gear
41244	1	Bracket W/41370 Bushing*	41829	1 or 2	Shim - .010
41245	1	Gear - 36:1 RH.	41830	2	Bearing - Cone
41246	1	Worm & Shaft Asy. - 36:1 RH	41831	2	Bearing - Cup
41248	1	End Cap			
41249	1	End Cap			
41251	1	Oil Seal			

*NOTE: BUSHINGS MAY BE ORDERED SEPARATELY.

ANTI TWO-BLOCK SYSTEM

Your RKI crane is equipped with an anti two-block system, per OSHA 29 CFR Part 1926.1416(d)(3), to prevent damage from contact between the travel block and the boom tip. If the travel block is allowed to contact the end of the boom, continued operation could result in significant damage to the crane and possibly failure of the wire rope.

When the travel block comes in contact with the rail mechanism at the end of the boom, the crane will disable the hoist up and boom out functions. All other functions will operate as normal.

The microswitch located at the end of the boom head and the rail mechanism that engages it are pre-set at the RKI factory. No adjustment or resetting is necessary. If either of the two following conditions exists, then the crane requires service:

- When the travel block compresses the rail mechanism and it comes in contact with the boom head and the crane hoist up function continues to operate.
- When the travel block is not in contact with the rail mechanism or the boom head and all crane functions fail to operate, particularly hoist up and boom out.

LOAD SENSOR CALIBRATION

Your RKI crane is equipped with a torque reading load sensor, which prevents overloading. If the crane's load capacity is exceeded, the load sensor deactivates the hoist up function. Remove the load from the crane and the overload sensor is **AUTOMATICALLY** reset, returning full function to the crane. If the load sensor gets out of adjustment, see instructions for its recalibration below.

Occasionally it may be necessary to recalibrate the load-sensing device.

The following is the proper procedure:

1. The load-sensing device is located in the right rear section of the crane turret housing. It consists of a microswitch fastened to a bracket, which in turn is welded into the crane turret.
2. The plunger on the microswitch may be adjusted by means of the nuts attaching it to the bracket.
3. Loosen the nuts securing the microswitch to the bracket. Adjusting the switch for closer engagement with the turret base decreases the load capacity while a larger gap increases capacity.
4. With the boom retracted and in the horizontal position, connect a dynamometer (scale). In this position, the distance from the center of the turret to the hook is approximately 66" for the 2500-3-9.
5. Raise the hook by operating the "hoist up" switch on the remote control until the dynamometer reads 1,364 lbs for the 2500-3-9. The 2500 series crane is rated for 7,500 ft-lbs of total capacity, thus different boom lengths require different load settings.
6. If a dynamometer is not available, the same results can be obtained by using a known weight and a known distance from the center of rotation to the hook on the travel block. An example would be 1,500 lbs. @ 5 ft. Any combination where the multiplication of the load and the radius length from the center of rotation equates to 7,500 ft-lbs is acceptable.
7. Relieve the pull on the winch line by operating the "hoist down" switch on the remote control until the dynamometer reads 0 (zero) lbs.
8. Repeat procedure #5. When the pull reads the appropriate weight the load sensor should stop the winch.
9. If the load sensor engages at the proper pull it is set correctly and the nuts securing the switch should be tightened.
10. If the load sensor does not engage properly repeat this procedure until the proper setting is attained.

SPARE PARTS

It is recommended that repair parts for your crane be obtained from your local RKI distributor. Please note that unauthorized servicing or alteration of your crane will void the warranty.

Each crane is assigned a serial number, which is stamped on a nameplate located on the rear cover on the turret. The serial number can also be found in the owner's manual that is provided with the crane.

Please record your serial number and retain a copy of your invoice for future reference. If your crane should need service, this information will be required.

Below is a list of miscellaneous parts available for replacement:

Part Description	Part Number	Comment
Hoist Winch	02MLX-2RSSR	Model 02 worm gear winch
Remote Control, Tethered	41140	15ft tethered remote control
12V Solenoid	41142	12 VDC 200 Amp SPDT HD intermittent duty switch
Drive Chain	43150	Single Strand Chain, ANSI 35, 23-7/8"
Ball Knob on Rotation Handle	44045	Ball Knob on end of rotation handle (2 per crane)
Rotation Lock Handle	44110	Screw lock handle only (ball knobs not included)
12V Contactor	45151	DPDT 12V 4-post contactor
Decal Kit	45360	Complete set of decals for 2500-3-9 crane
Mounting Kit	45506	Mounting Kit for 2500 series cranes, starting s/n 5500
12V Motor	49147	12 VDC 4-post reversible motor

TROUBLESHOOTING

Problem	Solution
Crane slowly stops while lifting	Check for weak battery, bad connections, or non-idling vehicle. Remove any corrosion from both ground and positive posts.
Cranes only operable function is hoist down	<p>Overload sensor may be engaged. Lower load to ground and switch will automatically reset.</p> <p>Anti Two-Block switch may be engaged. When the travel block is not in contact with the rail system, the rail system should be in its home position, compressing the switch. If the rail system does not pivot freely, the anti two-block system is not operating correctly. Contact your distributor or the RKI factory for further assistance.</p>
Load sensor gets out of adjustment	See instructions to recalibrate in this manual.
Anti Two-Block microswitch gets out of adjustment	The anti two-block system and its switch are preset at the RKI factory. No adjustment or re-setting is necessary. If the anti two-block system is not operating correctly, contact your distributor or the RKI factory for assistance.
Crane will not lift load	Load may exceed crane capacity. Refer to the load chart. You may need to reposition the truck closer to the load. Check microswitches (in turret and at the end of the boom) by pressing the point on the microswitch. If it does not click, replace the microswitch.
Remote Control will not operate	Check for any loose, exposed or frayed wires. Make sure the switch returns freely to the center position and is not sticking or loose. Inspect the remote socket and connections for damage or corrosion.
Sporadic Functions	Check the hot cable connections from the power source to the crane. (This includes the master cut-off switch, if applicable, and the connection to the brass rod in the crane.) Check for proper ground with good clean metal to metal connections (no paint, etc.). With the truck engine running, check the power source to confirm the crane is receiving 13 volts for proper operations. A replacement battery, alternator or adding an additional battery may be necessary.

Always provide the serial number of the crane when contacting RKI for further troubleshooting questions (stamped in the nameplate located on the rear cover on the turret).

RKI LIFETIME WARRANTY

This warranty applies to anything we have manufactured.

The warranty applies to whoever rightfully owns it right now.

If something goes wrong, which we determine was our fault we will repair or replace your product. The warranty does not apply to normal wear and tear.

Be sure to call your local distributor if you have a problem. We need the opportunity to talk to you about it. We may ask you to email us pictures or ship the product back to us for inspection.

Parts that we use but do not manufacture are covered to the extent of the warranty we get from the company that does manufacture them.

No loss of use coverage. No freight coverage. Repairs have to be authorized by us, in writing, in advance. No coverage if the product has been changed in any way.

To qualify for warranty the product must have been treated with respect in regard to normal installation, maintenance, and usage.

Accidents and acts of God are not covered.

This warranty will be in effect until we decide to change it.