



SAFETY ISSUES

IMPORTANT – USER SAFETY AND PROTECTION: In setting up systems to fit your operations, care must be taken to select the proper components and design to insure that all safety measures have been taken to avoid the risk of personal injury and property damage from your application or system.

GARDNER BENDER is not RESPONSIBLE FOR DAMAGE OR INJURY CAUSED BY UNSAFE USE, MAINTENANCE OR THE APPLICATION OF ITS PRODUCTS. Please contact Gardner Bender for guidance when you are in doubt as to the proper safety precautions to be taken in designing and setting up your particular application. Technical Support # 1-800-624-4320.

US Patent: 8,434,741 B2

1.0	Safety Symbol Definitions.....	2	7.0	Motor, Gauge & Wiring	
2.0	Warning Labels on Product.....	2		Troubleshooting Guide	4-5
3.0	Key Safety Information	2	8.0	Hydraulics	6
4.0	CP10K Instruction Sheet.....	2	9.0	Boom-B Lock Pin Assembly	7
5.0	Required Tools and Test Equipment.....	2	10.0	Motor, Capstan, and Pull Meter	8
6.0	Parts Identification	3	11.0	Replacement Parts Guide.....	9-13



1.0 SAFETY SYMBOL DEFINITIONS

The instruction manual and labels applied to the product provide information for avoiding injury or death from unsafe practices related to setting up and operating this machine. It is critical that all personnel involved with the use of this machine understand these hazards and unsafe practices. The three levels (Danger, Warning, and Caution) define the severity of the hazard.

⚠ DANGER: Immediate hazards that if not avoided WILL result in severe injury or death.


⚠ WARNING: Serious injury or death COULD occur if proper attention is not observed.


⚠ CAUTION: Injury or property damage MAY occur if proper attention is not observed.




2.0 WARNING LABELS ON PRODUCT

The product has safety related labels securely adhered to it in several locations. They serve to highlight the areas of this machine that have the potential to cause injury if the operator does not use caution. The labels include internationally recognized symbols that are described below.

 Read and understand the instruction sheet before setting up or operating this machine.

 Body parts are in danger of being crushed by moving or moveable parts.

 Body parts are in danger of being entangled in rope.

 Read instruction sheet before operation.



3.0 KEY SAFETY INFORMATION

1. Do not use the cable puller for any other purpose or application beyond its intended use. It is intended for pulling wire or cable through fixed conduit, with the conduit adaptor engaged in the conduit and fastened to the cable puller.
2. Do not operate the cable puller in poorly lit areas.
3. Do not exceed the maximum rated 10,000 lbs. pulling force.
4. Inspect all cable puller components prior to operation.
5. Keep the pull rope away from the operator's feet. Gather the tailing rope in an area where the operator or crew cannot become entangled.
6. Never stand directly under a vertical pull or directly in line with pull rope under tension.
7. Never use general purpose rope; always use double braided polyester rope and inspect the rope for damage after each pull. Do not use damaged rope for pulling cable.
8. Do not allow the rope coils to overlap on the Capstan.
9. Keep bystanders away from operations. Distractions increase chances of injury.
10. Do not use the cable puller while under the influence of drugs, alcohol or medication.
11. Do not operate near water or other liquids.

12. Do not wear jewelry or loose-fitting clothes. Long hair, clothing, body parts and gloves should be clear of moving parts.
13. Always use all personal safety equipment, including eye protection and a hard hat.
14. Do not wrap rope around legs, arms or torso of body.
15. Do not plug Power Cord directly into power source. Power Cord must be plugged into the Footswitch.



4.0 CP10K INSTRUCTION SHEET

Instruction Sheet IS-164

These Service instructions are intended to be used by a qualified personal at Authorized Gardner Bender Service Centers. Users of this product should see the CP10K instruction sheet IS-164 for installation, operation, and maintenance information.



5.0 REQUIRED TOOLS AND TEST EQUIPMENT

- 3/8"-1-1/4", 1/2" Drive Socket Set
- 1-1/16" Box-end Wrench
- 11/16" Box-end Wrench
- 7/16" Box-end Wrench
- 10" Adjustable Wrench
- E-Ring Install Tool
 - A-230
 - A-210
 - A-200
- SAE Allen Wrench Set
- Pliers
- 3/8" Socket Allen Wrench
- 3/16" Flat Head Screwdriver
- #2 Phillips Screwdriver
- 3/8" Socket Allen Wrench
- Battery Operated Continuity Instrument

⚠ DANGER: Make certain that the motor and foot switch are unplugged prior to performing any repair or service efforts.

FAILURE TO OBSERVE THESE CAUTIONS MAY RESULT IN DAMAGING MACHINE MOTOR OR SEVERE INJURY.

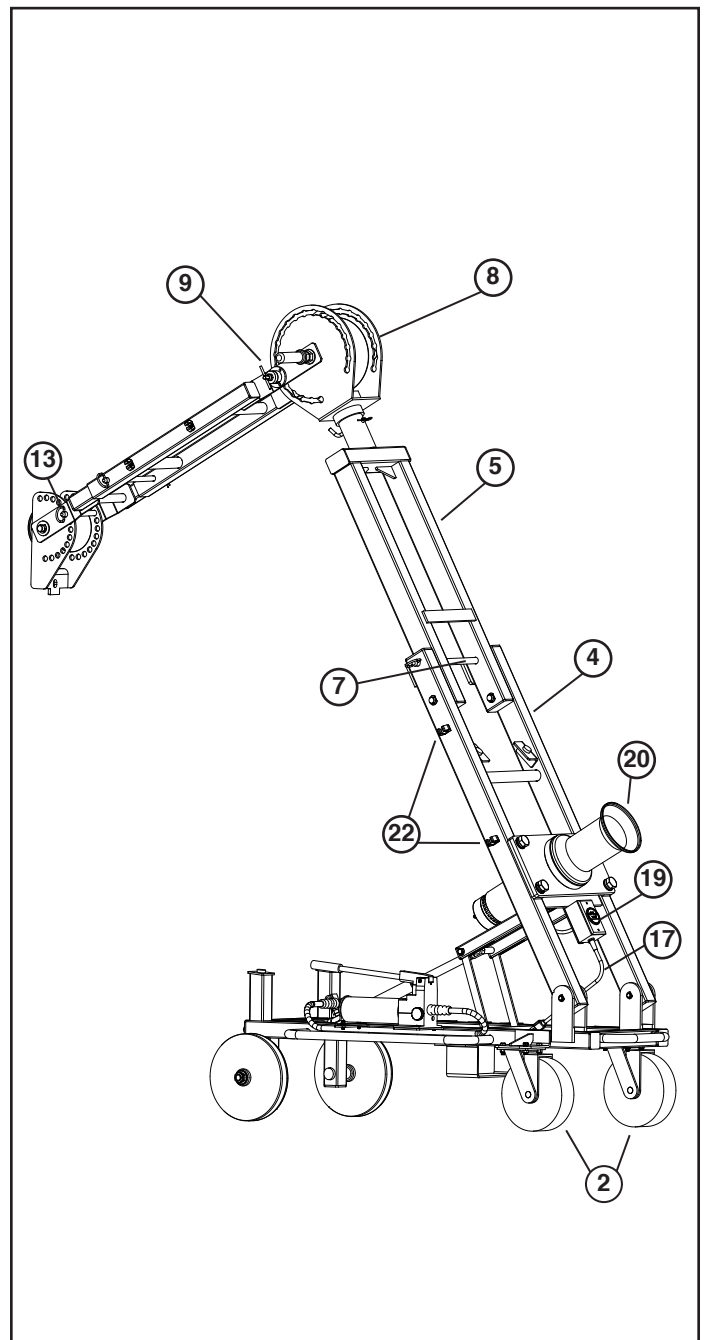
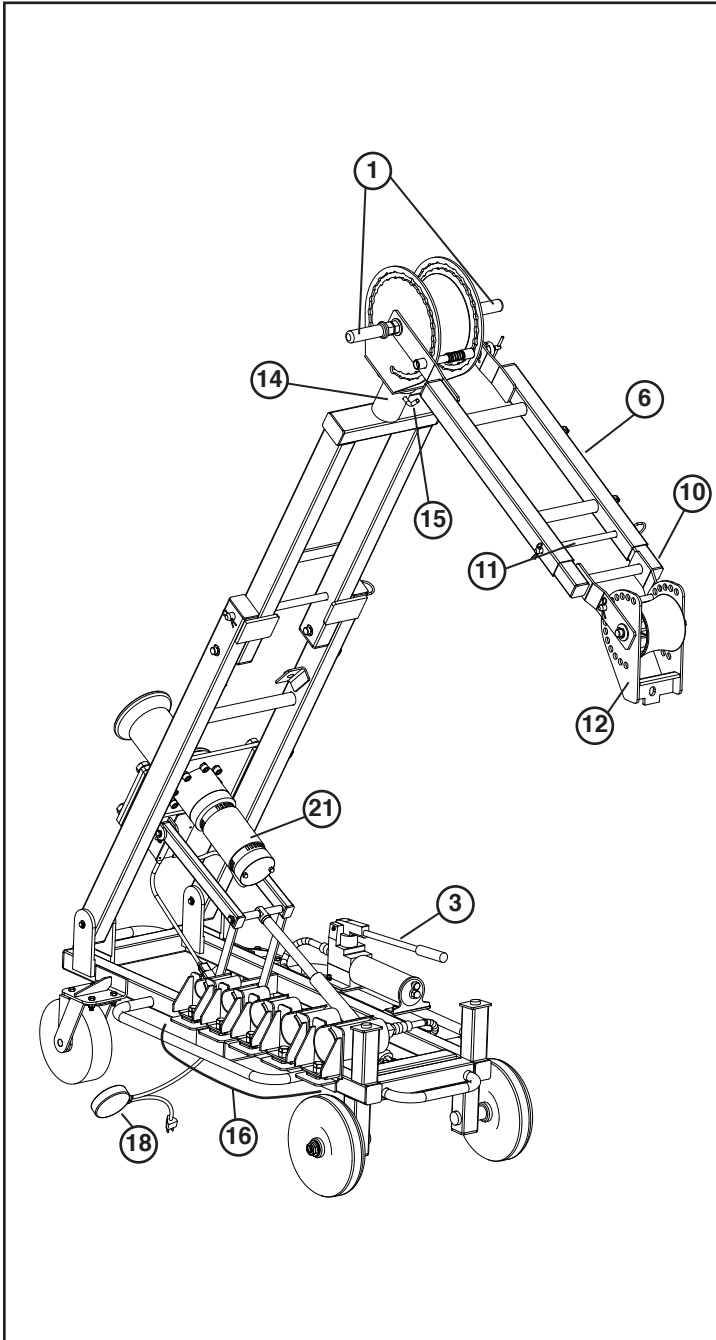
⚠ DANGER: Check for overhead wires prior to unfolding the boom structure.

FAILURE TO OBSERVE THESE DANGERS WILL RESULT IN SEVERE INJURY OR DEATH

⚠ WARNING: If you do not place your hands as instructed, then you may crush your hand or fingers. If you do not observe the machine warning labels, you may crush your hand or fingers.

FAILURE TO OBSERVE THESE WARNINGS COULD RESULT IN SEVERE INJURY OR DEATH

- | | |
|----------------------------------|----------------------------------|
| 1. Steering Handles | 12. Pulley-B Housing |
| 2. Caster Wheels & Brakes | 13. Pulley-B Housing
Lock Pin |
| 3. Hydraulic Pump | 14. Pull Orientation Pivot |
| 4. Main Boom | 15. Pull Orientation Pin |
| 5. Boom-A | 16. Conduit Adaptors |
| 6. Boom-B | 17. Power Cord |
| 7. Boom-A Lock Pin | 18. Footswitch |
| 8. Pulley-A Housing | 19. Pull Meter & Switch Box |
| 9. Boom-B Lock Pin | 20. Capstan |
| 10. Boom-B Extension | 21. Motor |
| 11. Boom-B Extension
Lock Pin | 22. Pin Clips |





The CP10K utilizes a DC Permanent Magnet motor. AC power from the wall socket is routed through the Pull Meter & Switch Box (Item 19) and a Bridge Rectifier in the circuit converts the AC voltage supply to a DC voltage supply to support the motor.

7.1 GENERAL TROUBLESHOOTING

If the capstan does not rotate, there are several possible reasons outlined below.

1. Mechanical Failure

- A. Capstan/shaft key is missing
- B. Internal gearbox failure

2. Electrical System Failure

- A. Source Voltage Failure
- B. Foot Switch Failure
- C. Pull Meter Switch failure
- D. Wiring Circuit Failure
- E. Bridge Rectifier Failure
- F. Motor Failure

⚠ DANGER: All electrical troubleshooting can be successfully completed with the cable puller disconnected from the voltage supply. **DO NOT CONNECT THE CABLE PULLER TO POWER WHEN TROUBLESHOOTING ELECTRICAL SYSTEM FAILURES. FAILURE TO OBSERVE THIS DANGER WARNING WILL RESULT IN SEVERE INJURY OR DEATH.**

7.2 MECHANICAL FAILURE TROUBLESHOOTING

- A. If the motor runs when power is applied, but the capstan does not rotate, then confirm that the Capstan/shaft key is intact. See Section 10.0, Figure 3.
- B. If the motor runs when power is applied and the Capstan/shaft key is intact, the Capstan is not rotating due to an internal gearbox failure. Replace the gear motor or have it serviced.

7.3 ELECTRICAL SYSTEM FAILURE

A. Source Voltage Failure

Check for correct 120 volt AC voltage supply at the wall socket and extension cord if utilized.

B. Foot Switch Failure

Plug the foot switch into a 120 AC volt voltage supply. Do not connect the Foot Switch to the Cable Puller. With the foot switch depressed to the on position, check the output plug for correct 120 AC voltage supply. Replace the Footswitch if necessary.

C. Pull Meter Switch Failure

Unplug the Cable Puller and Foot Switch from the voltage supply. **!! IMPORTANT !!**

Remove the 2 screws holding the Pull Meter & Switch Box cover in place.

Carefully pull the cover, including the pull meter away from the box as shown in **Figure 1**.

Use the probes of a continuity instrument to touch the two switch terminals (**WITH NO POWER APPLIED**) and check the operation of the switch. The instrument should indicate continuity with the switch in the on position. The instrument should indicate no continuity with the switch in the off position. Replace the Switch if necessary.

D. Wiring Circuit Failure

Re-assemble the Pull Meter & Switch Box cover if you removed it in step C.

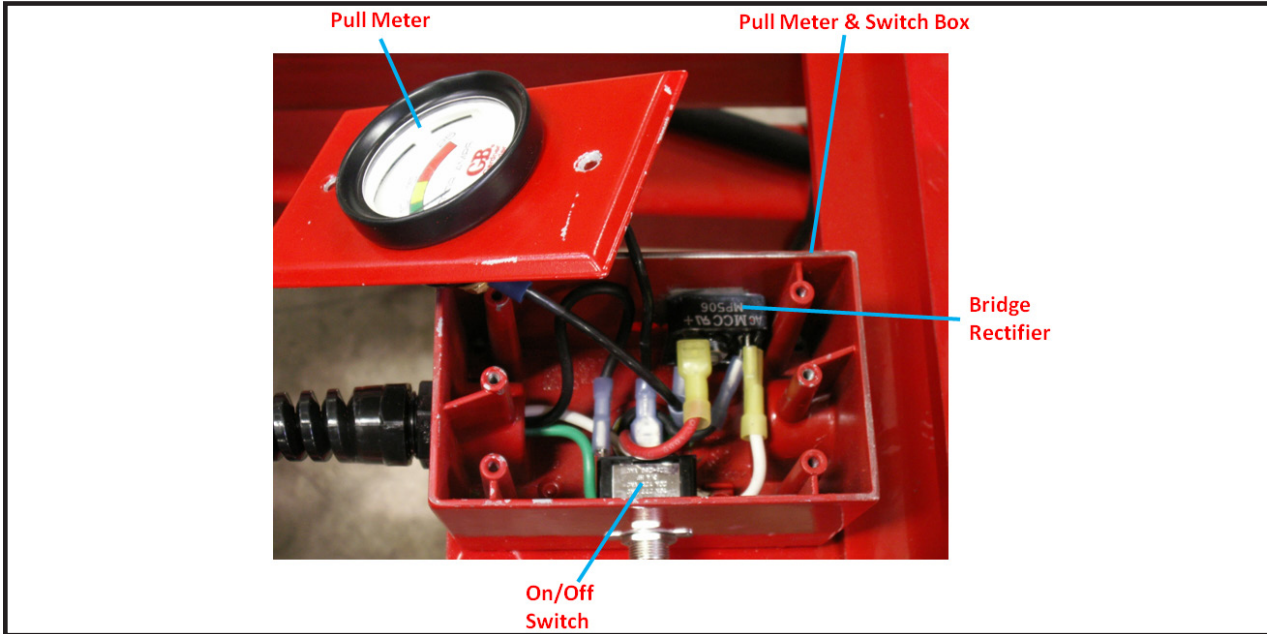
Make certain that there is no voltage supply to the system.

Remove Pull Meter and Switch Box cover. See Figure 1. This will expose the Bridge Rectifier.

Use a continuity instrument to check for continuity between the Pull Meter & Switch Box plug and the two terminals on the Bridge Rectifier marked "AC". Note: the Pull Meter & Switch Box switch has to be in the **ON** position to allow continuity. The wiring circuit is okay if each of the plug posts has continuity to one of the Rectifier AC terminals.

SECTION 7.0 TROUBLESHOOTING – CONTINUED

Figure 1. Pull meter and switch box.



E. Bridge Rectifier Failure

Check your continuity instrument to be identify which probe is positive and which probe is negative. It will depend on how the batteries were installed in the continuity instrument.

Carefully note the wire terminal locations, then remove all 4 wire terminals from the rectifier.

Touch the positive probe to the unmarked terminal on the rectifier while touching the negative probe to either one of the rectifier terminals marked "AC". There should be continuity in either case. Unmarked terminal to AC(1) and Unmarked terminal to AC(2).

Touch the negative probe to the rectifier marked with the "+" sign while touching the positive probe to either one of the rectifier terminals marked "AC". There should be continuity in either case. "+" terminal to AC(1) and "+" terminal to AC(2).

If any of the 4 cases does not indicate continuity, then the rectifier has failed. You will not get accurate results for this test unless you have first identified the positive and negative probes on the continuity instrument, which depends on how the batteries are installed.

Replace the Bridge Rectifier if necessary. It is important to apply dielectric grease between the rectifier and the mounting surface.

F. Motor Failure

If steps A through E do not identify a failure, then the motor requires servicing.

SECTION 7.0 TROUBLESHOOTING – CONTINUED

Figure 3. Complete Wiring Schematic.

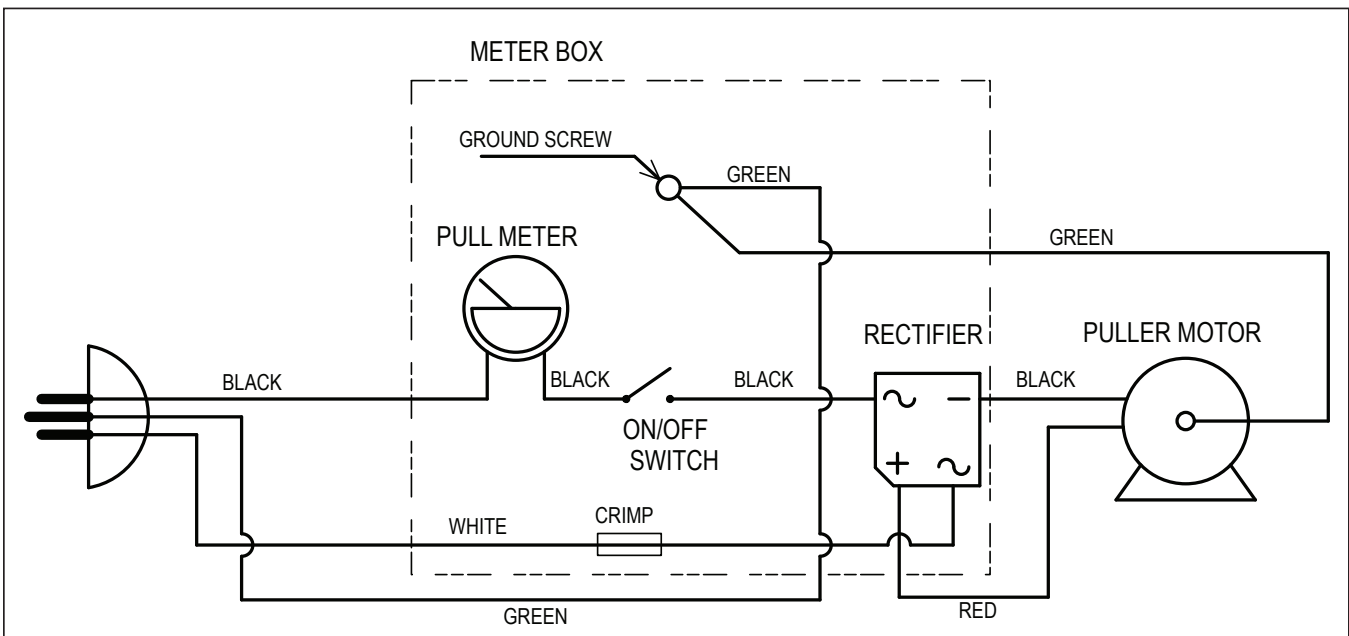
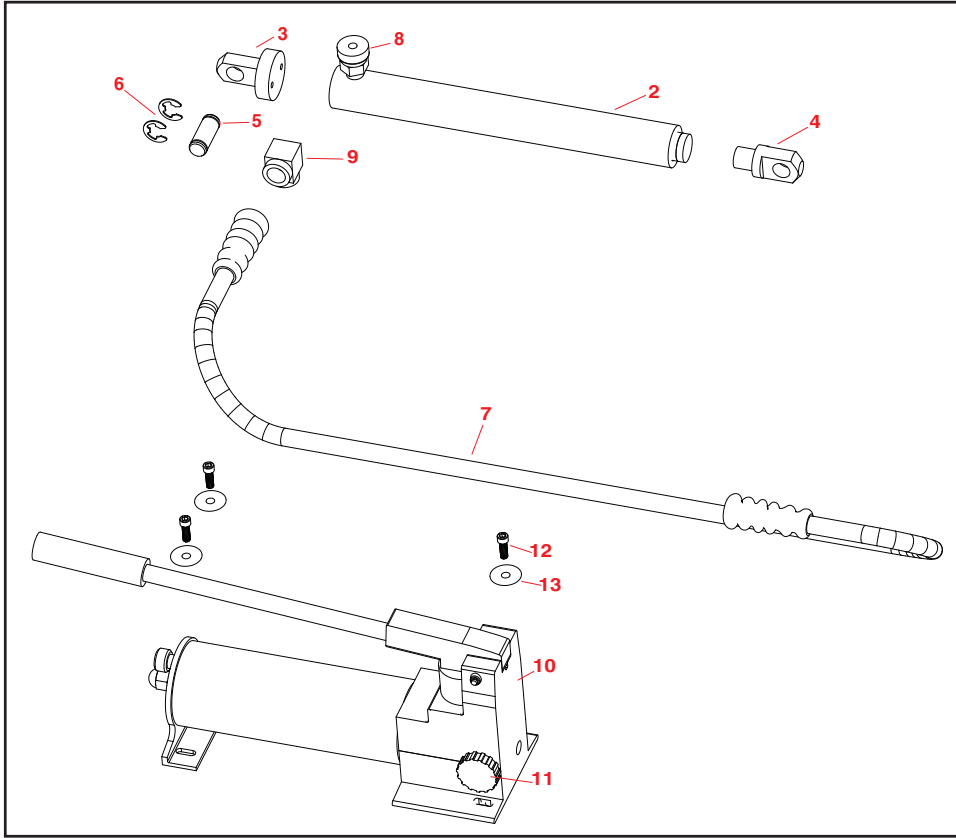


Figure 4.



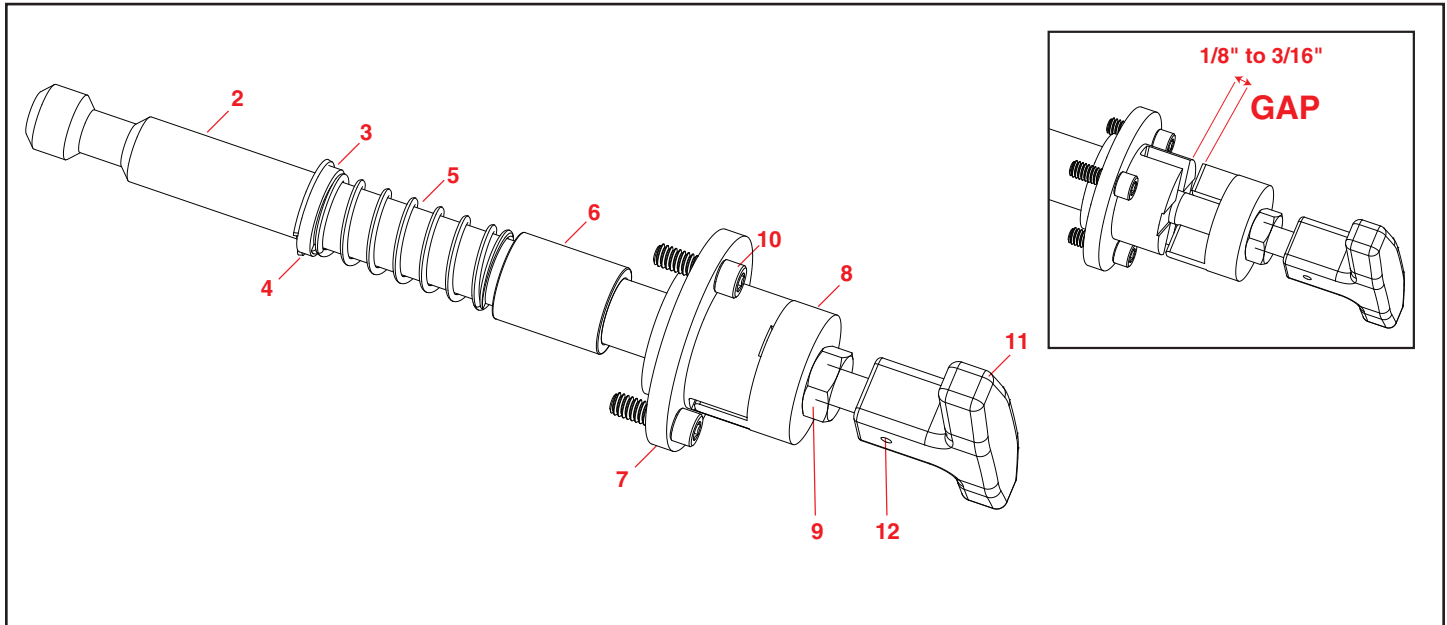
Item	Description	Qty.	Part No.	Includes Items
1	Cylinder Kit	1	CP10-114	2, 4, 5, 6
2	Cylinder RC59	1	<i>not sold separately</i>	
3	Clevis Eye REB-5	1	<i>not sold separately</i>	
4	Clevis Eye Plunger	1	CP10-160	
5	Clevis Pin	1	<i>not sold separately</i>	
6	E-ring for 1/2" shaft	2	*	
7	Hose & Fittings	1	CP10-116	Hose, 3 cable ties
8	Swivel	1	CP10-226	
9	Elbow	1	CP10-223	
10	Pump P392S Kit	1	CP10-115	Pump & 11, 12, 13
11	Pump Valve Knob		DA6301900	
12	Screw 1/4-20 x 3/4 SHCS	3	*	
13	Washers 1/4 x 0.08	3	*	
14	Pump Seal Kit	1	P392ALK	
15	Cylinder Seal Kit	1	RC53K1	

* Items without part numbers are standard hardware parts available locally.

Hydraulic Service Tips

1. Make certain that the hydraulic pressure is relieved before servicing or unthreading hose.
2. The hose can not be removed unless either the pump or cylinder is removed first.
3. Do not allow the free ends of the hose to come in contact with contaminants while servicing.
4. Check pump fluid level when the pump is horizontal & level and after air is bled from the system.
5. The pump kit and cylinder kit include more detailed instructions.
6. A final step should be to raise the main boom to 30 degrees and check all fittings for leaks.

Figure 5.



Item	Description	Qty.	Part No.	Includes Items
1	Boom-B Lock Pin Kit	1	CP10-144	All items 2–11
2	Index Pin	1	CP10-146	Includes 11 & 12
3	E-ring for 3/4" shaft	1	*	
4	Index Joint Washer 25/32 x 1 x 5/32	1	*	
5	Spring	1	<i>not sold separately</i>	
6	Index Joint Bushing	1	<i>not sold separately</i>	
7	Index Guide Flange	1	<i>not sold separately</i>	
8	Index Joint Lock	1	<i>not sold separately</i>	
9	Nut 1/2-13 x 19/64 thick	1	*	
10	Screw 1/4-20 x 3/4 SHCS	3	*	
11	Handle	1	CP10-237	Includes 12
12	Roll Pin 1/8 x 3/4	1	*	

* Items without part numbers are standard hardware parts available locally.

9.1 LOCK PIN ASSEMBLY SERVICE TIPS

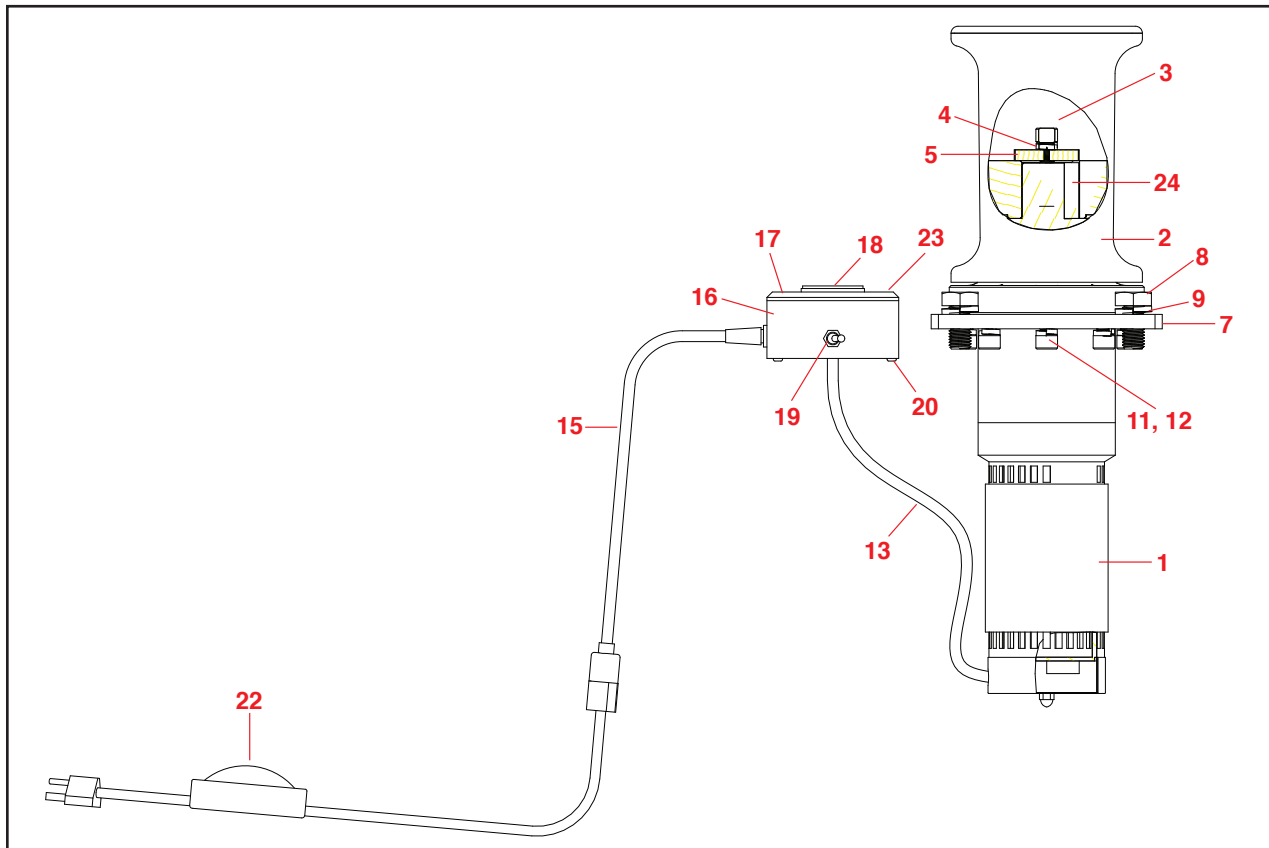
Disassembly

1. Brace Boom-B to remove the weight from the Lock Pin (Item 2)
2. Remove the E-ring (Item 3).
3. Remove the screws (item 10)

9.2 ADJUSTING THE GAP

1. After assembling items 2 through 11, the gap shown above must be adjusted to 1/8"–3/16".
2. Back-off the nut (Item 9) to get it out of the way. Do not remove the nut.
3. Pull on the handle (Item 11) to completely collapse the spring.
4. While pulling on the handle, rotate the Index Lock Joint (Item 8) until the gap is within range (1/8"–3/16").
5. Now allow the Index Lock Joint to engage with the Index Guide Flange slot.
6. Tighten the Nut (Item 9) against the Index Lock Joint (Item 8), while preventing the Index Pin (Item 2) from rotating. Now the gap will be set.

Figure 6.



Item	Description	Qty.	Part No.	Includes Items
1	Motor & Capstan Kit		CP10-129	1, 2, 13
2	Capstan Kit	1	CP10-130	2, 3, 4, 5, 24
3	Bolt 1/2-13 x 1-1/4 SHCS	1	* Same as item 11	
4	1/2" High Collar Lock Washer	1	* Same as Item 12	
5	Washer 1/2" x 1" x 1/8"	1	*	
6	Motor Mount Plate Kit	1	CP10-128	7, 8, 9, 10
7	Motor Mount Plate	1	not sold separately	
8	Hex Bolt 3/4-10 x 1-3/8	4	*	
9	3/4" Spring Washer	4	*	
10	Labels	3	not sold separately	
11	Bolt 1/2-13 x 1-1/4 SHCS	8	*	
12	1/2" High Collar Washer	8	*	

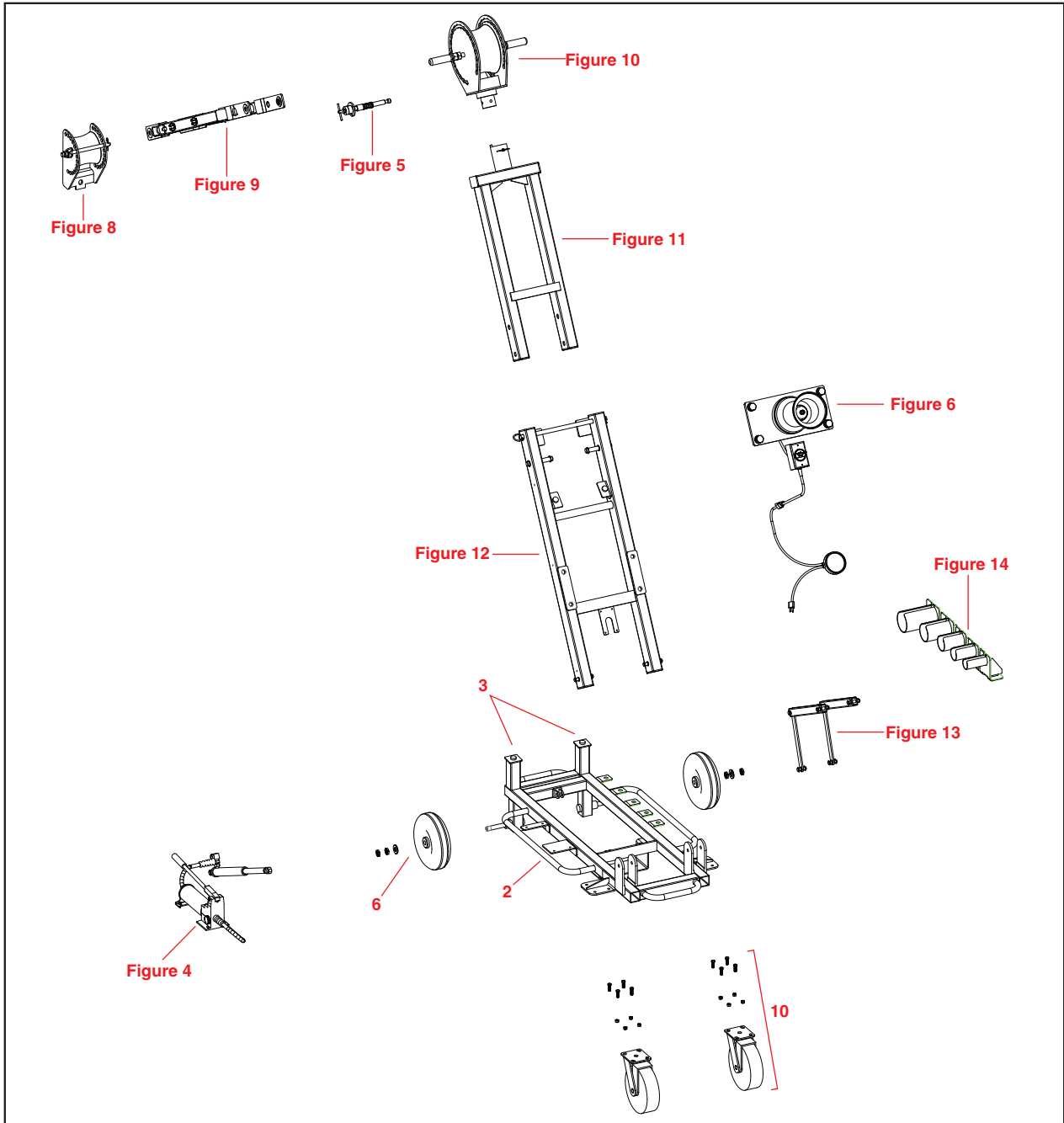
Item	Description	Qty.	Part No.	Includes Items
13	Flexible Conduit & Fittings	1	not sold separately	
14	Pull Meter & Switch Box Kit	1	CP10-186	Items 15-21
15	Cord	1	not sold separately	
16	Box	1	not sold separately	
17	Face Plate & 2 screws	1	not sold separately	
18	Pull Meter	1	CP10-185	
19	Switch	1	GSW-10	
20	Screw #8-32	4	*	
21	Label	1	not sold separately	
22	Foot Switch	1	CP15	
23	Bridge Rectifier	1	CP10-238	
24	Key 1/2 x 1/2 x 2	1	not sold separately	

* Items without part numbers are standard hardware parts available locally.

Motor, Capstan and Pull Meter Service Tips

1. See Section 7.0 for Troubleshooting these subsystems.
2. Note the orientation and routing of the flexible conduit from the motor to the Pull Meter box.
3. Torque the capstan bolt (Item 3) to 119 ft-lbs.
4. Torque the Motor Mount Plate bolts (Item 8) to 250 ft-lbs.
5. Carefully note the orientation of the Bridge Rectifier (Item 23), terminal locations and directions before servicing. See page 5.

FIGURE 7



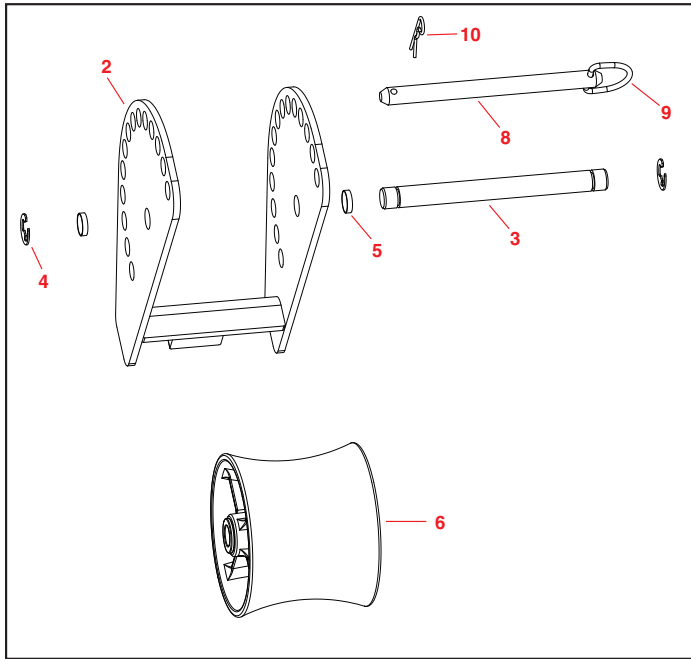
Item	Description	Qty.	Part No.	Includes Items
1	Cart Assembly Kit	1	CP10-100	2, 3, 4
2	Cart Weldment	1	<i>not sold separately</i>	
3	Push-in Bumper	2	<i>not sold separately</i>	
4	Labels	2	<i>not sold separately</i>	
5	Wheel Kit	1	CP10-106	6, 7, 8
6	Wheels & Tires	2	<i>not sold separately</i>	

Item	Description	Qty.	Part No.	Includes Items
7	Lock Nut 3/4-10 x 5/32	2	*	
8	Washer 25/32 x 1-5/8 x 5/32	2	<i>not sold separately</i>	
9	Castor Kit	1	CP10-107	10, 11, 12
10	Castors	2	<i>not sold separately</i>	
11	Hex Bolt 3/8-16 x 7/8	8	*	
12	Nut 3/8-16	8	*	

* Items without part numbers are standard hardware parts available locally.

SECTION 11.0 REPLACEMENT PARTS GUIDE – CONTINUED

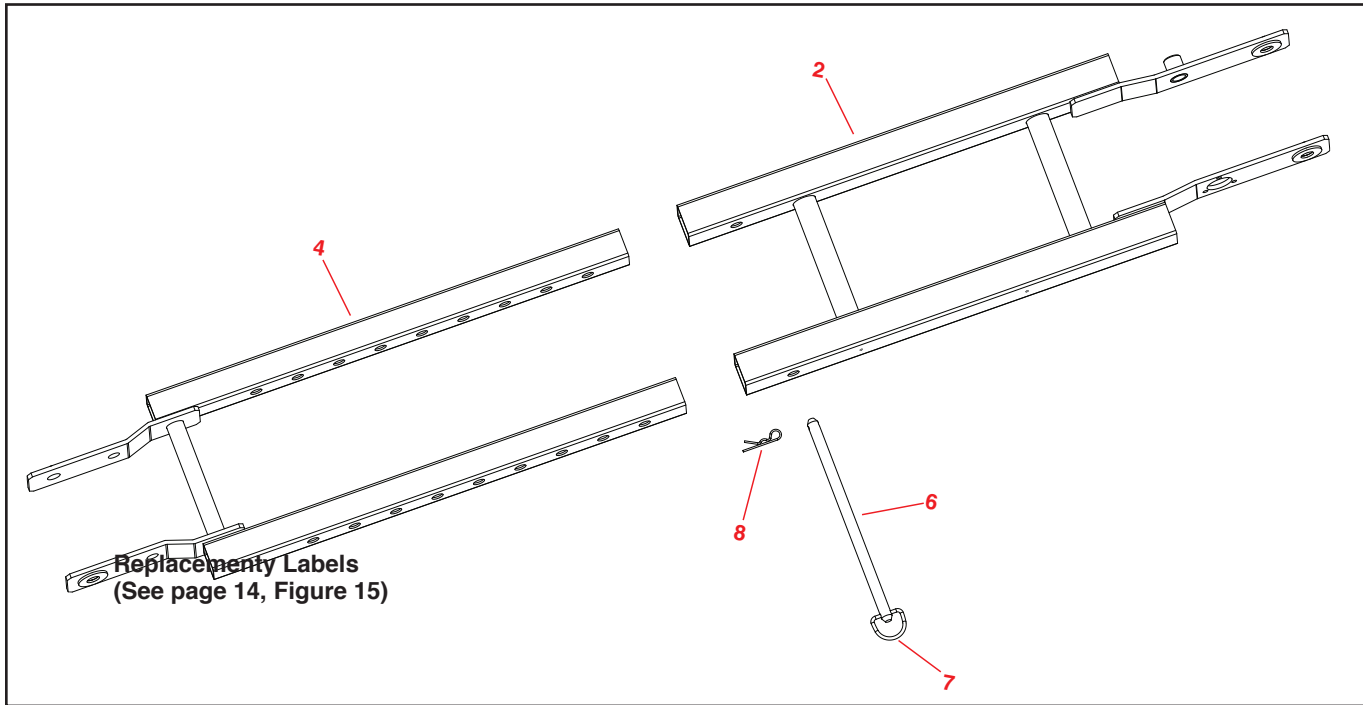
FIGURE 8



Item	Description	Qty.	Part No.	Includes Items
1	Pulley-B Assembly Kit	1	CP10-700	Items 2–5
2	Pulley-B Weldment	1	<i>not sold separately</i>	
3	Pivot Pin-B	1	<i>not sold separately</i>	
4	Retainer Ring ¾"	2	*	
5	Nylon Washer 13/16 x 1/4	2	<i>not sold separately</i>	
6	Pulley-B Roller & Bushings	1	CP10-216	
7	Pulley-B Lock Pin Kit	1	CP10-203	8, 9, 10
8	Pulley-B Lock Pin	1	<i>not sold separately</i>	
9	D-ring	1	<i>not sold separately</i>	
10	Hair Cotter Pin	1	*	

* Items without part numbers are standard hardware parts available locally.

FIGURE 9



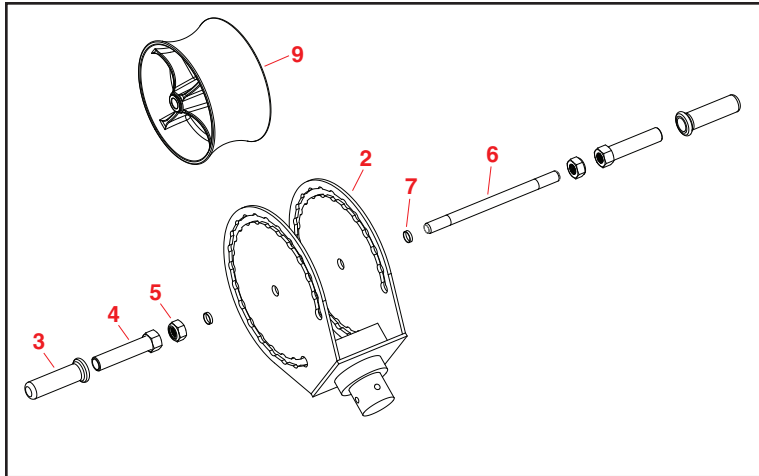
Item	Description	Qty.	Part No.	Includes Items
1	Boom-B Assembly Kit	1	CP10-600	2, 3
2	Boom-B Weldment	1	<i>not sold separately</i>	
3	Labels	4	<i>not sold separately</i>	
4	Boom-B Extension	1	CP10-215	

Item	Description	Qty.	Part No.	Includes Items
5	Boom-B Extension Lock Pin	1	CP10-138	6, 7, 8
6	Extension Lock Pin	1	<i>not sold separately</i>	
7	D-Ring	1	<i>not sold separately</i>	
8	Hair Cotter Pin	1	*	

* Items without part numbers are standard hardware parts available locally.

SECTION 11.0 REPLACEMENT PARTS GUIDE – CONTINUED

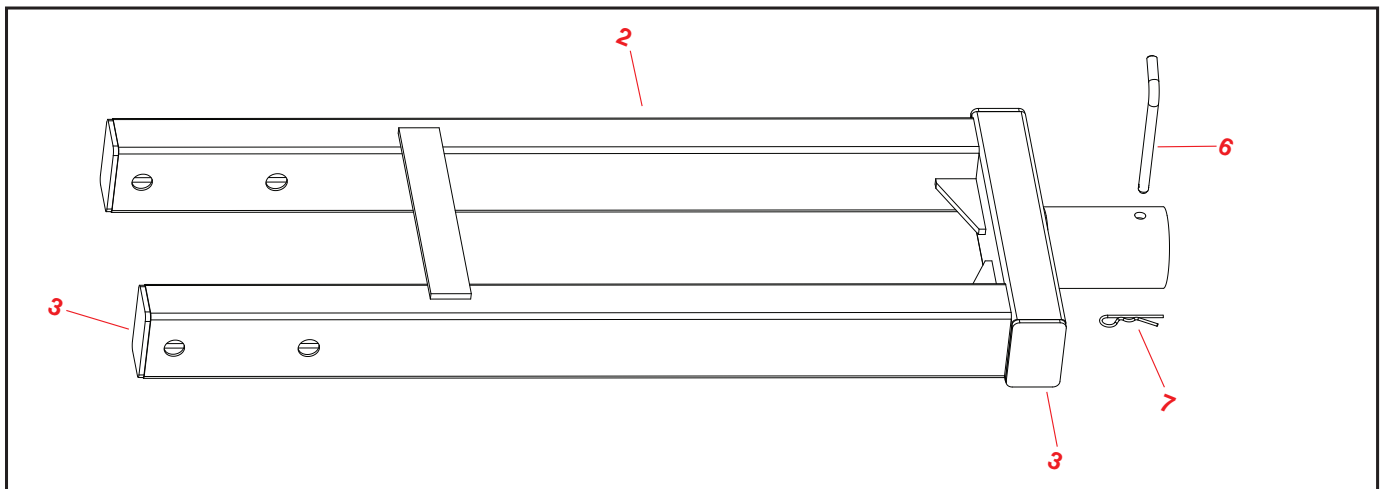
FIGURE 10



Item	Description	Qty.	Part No.	Includes Items
1	Pulley-A Assembly Kit	1	CP10-500	Items 2–8
2	Pulley-A Weldment	1	<i>not sold separately</i>	
3	Handle Grip (Rubber)	2	<i>not sold separately</i>	
4	Handle Weldment	2	<i>not sold separately</i>	
5	Hex Nylock Nut 3/4-10	2	*	
6	Pivot Pin-A	1	<i>not sold separately</i>	
7	Nylon Washer 13/16 x 1.4	2	<i>not sold separately</i>	
8	Labels	3	<i>not sold separately</i>	
9	Pulley-A Roller & Bushings	1	CP10-193	

* Items without part numbers are standard hardware parts available locally.

FIGURE 11

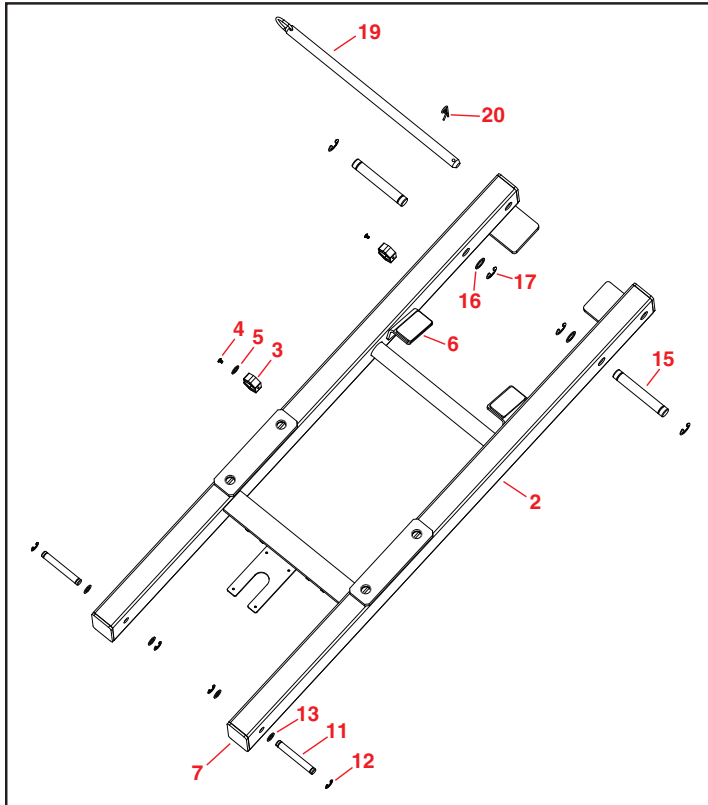


Item	Description	Qty.	Part No.	Includes Items
1	Boom-A Assembly Kit	1	CP10-400	2, 3, 4
2	Boom-A Weldment	1	<i>not sold separately</i>	
3	Rectangular End Cap	4	<i>not sold separately</i>	
4	Labels	2	<i>not sold separately</i>	
5	Pull Orientation Pin Kit	1	CP10-189	6, 7
6	Bent pull Hitch Pin	1	<i>not sold separately</i>	
7	Hair Cotter Pin	1	*	

* Items without part numbers are standard hardware parts available locally.

SECTION 11.0 REPLACEMENT PARTS GUIDE – CONTINUED

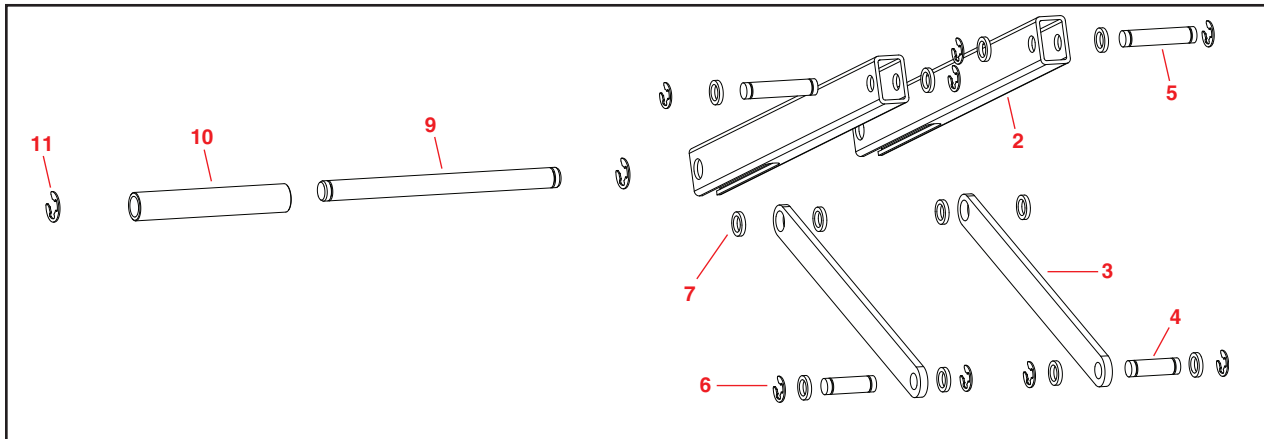
FIGURE 12



Item	Description	Qty.	Part No.	Includes Items
1	Main Boom Assembly Kit	1	CP10-200	Items 2–9
2	Main Boom Weldment	1	<i>not sold separately</i>	
3	Lock Pin Storage Clip	2	*	
4	Screw 6-32 x 1/4 Sheet Metal	2	*	
5	#6 Washer	2	*	
6	Rubber Pads	2	<i>not sold separately</i>	
7	Rectangular End Caps	4	<i>not sold separately</i>	
8	Labels	10	<i>not sold separately</i>	
9	Nameplate	1	<i>not sold separately</i>	
10	Main Boom Pivot Pins	1	CP10-122	11, 12, 13
11	Clevis Pin	2	<i>not sold separately</i>	
12	Retainer Ring 1/2"	4	*	
13	Nylon Washer 1/2"	4	*	
14	Boom-A Pivot Pins	1	CP10-124	15, 16, 17
15	Boom-A Pivot Pin	2	<i>not sold separately</i>	
16	Nylon Washer 3/4"	2	*	
17	Retainer Ring 3/4"	4	*	
18	Boom-A Lock Pin Kit	1	CP10-127	19, 20
19	Lock Pin & D-Ring	1	<i>not sold separately</i>	
20	Hair Cotter Pin	1	*	

* Items without part numbers are standard hardware parts available locally.

FIGURE 13



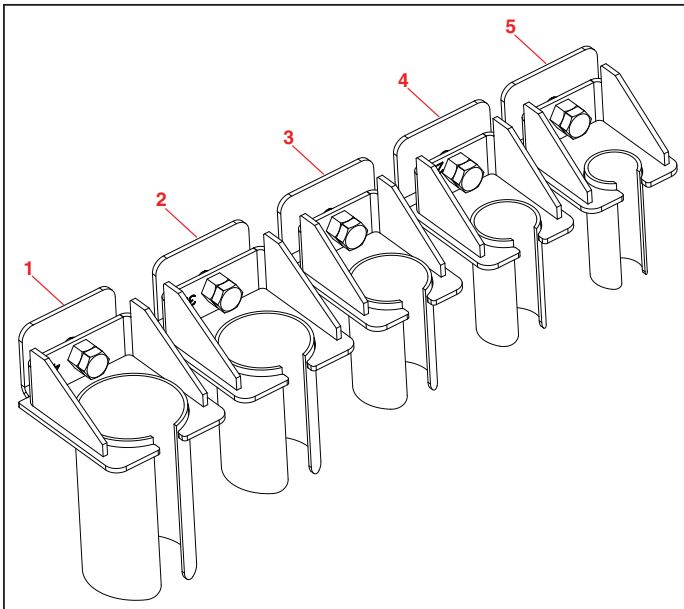
Item	Description	Qty.	Part No.	Includes Items
1	Lifting Linkage Kit	1	CP10-101	Items 2–7
2	Tubular Link	2	<i>not sold separately</i>	
3	Link	2	<i>not sold separately</i>	
4	Clevis Pin 1/2 x 1-1/4	2	<i>not sold separately</i>	
5	Clevis Pin 1/2 x 2	2	<i>not sold separately</i>	
6	Retainer Ring 1/2"	8	*	

Item	Description	Qty.	Part No.	Includes Items
7	Washer 1/2"	12	*	
8	Cylinder Plunger Clevis Pin	1	CP10-103	9, 10, 11
9	Clevis Pin 5/8 x 8	1	<i>not sold separately</i>	
10	Sleeve	1	<i>not sold separately</i>	
11	Retainer Ring 5/8"	2	*	

* Items without part numbers are standard hardware parts available locally.

SECTION 11.0 REPLACEMENT PARTS GUIDE – CONTINUED

FIGURE 14



Item	Description	Qty.	Part No.	Includes Items
1	4" Conduit Adaptor	1	CP10-188	
2	3-1/2" Inch Conduit Adaptor	1	CP10-217	
3	3" Conduit Adaptor	1	CP10-218	
4	2-1/2" Conduit Adaptor	1	CP10-219	
5	2" Conduit Adaptor	1	CP10-220	
6	Hex Bolt 5/8-11 x 1-1/4"	1	*	

Each conduit adaptor includes one hex bolt item 6.

* Items without part numbers are standard hardware parts

REPLACEMENT LABELS AND LITERATURE

Item	Description	Qty.
IS-164	Instruction Sheet	1
TL_001	Service/Repair Manual	1
ZCP00157	Pallet CP10K	1
ZZC401	Label, Keep Hands Clear (2.5 x 1.5)	6
ZZC402	Label, Do Not Touch Rope While Motor Is Running (2 x 2.5)	3
ZZC403	Label, Keep Hands Clear (5.25 x 2.5)	4
ZZC404	Label, Keep Hands Clear When Collapsing (6 x 3)	2
ZZC405	Label, GB Logo, Read, and Warning Symbols (2.5 x 7.5)	1
ZZC406	Label, Keep Hands Clear (4.5 x 1.125)	2
ZZC407	Label, Caution: Must Use For Side Pulls (3 x 1.5)	2
ZZC408	Label, Arrow to show Direction of Rope (6 x 1.5)	1
ZZC409	Label, Arrow for Setup (1 x 2.5)	2
ZZC410	Label, On/Off (1.25 x .5)	1
ZZC411	Label, Upward Pull/Downward Pull (11.25 x .5)	1
ZZC412	Label, Gardner Bender Label (17 x 2)	2
ZZC413	Label, Ultra Brutus, 10,000 lb Cable Puller (13 x 2)	2
ZZC0040	Label, Master, Wrap Around, Red (8 x 1.75)	1

Contact Technical Service at 1.800.624.4320.