




**IMPORTANT SAFETY INFORMATION**






Please read this manual carefully and follow its instructions. Improper use or failure to follow these instructions could result in serious injury, property damage or death. Operators must be trained and instructed in the safe and proper use and maintenance of this product. Keep this manual for future reference.

The following signal words and meanings are intended to explain the levels of risk associated with this product.

- |   |  |
|---|--|
|  | <b>DANGER:</b> Indicates a hazardous situation that, if not avoided, <b>WILL</b> result in serious injury or death   |
|  | <b>WARNING:</b> Indicates a hazardous situation that, if not avoided, <b>COULD</b> result in serious injury or death |
|  | <b>CAUTION:</b> Indicates a hazardous situation that, if not avoided, <b>MAY</b> result in minor or moderate injury  |

**INSTALLATION**

**MOUNTING**

- |   |   |
|---|---|
|    | <b>CAUTION:</b> <b>READ INSTRUCTIONS BEFORE USE.</b> To avoid injury: all operators should be instructed in the safe, proper use and maintenance of this product. |
|    | <b>WARNING:</b> Main support device must have break strength exceeding 6 times weight of load.  |
|  | <b>CAUTION:</b> Use new cotter pin when re-assembling clevis pin on upper mount.  |
|  | <b>CAUTION:</b> Do not adjust mainspring tension or release manual lock until tool and attachments are attached / suspended from balancer.                        |
|  | <b>CAUTION:</b> Mounting balancer in wrong configuration, with cable pulling against guide, can cause premature cable wear and cable to jam inside balancer.      |

- Install the main support device directly over work area [See - Fig. 01 & 02].
- If balancer needs to be pulled from side to side a swinging jib and/or moving trolley may be required.
- Attach balancer to main support, with upper mount shackle and secure shackle pin with nut & cotter pin.
- If upper Bullard-hook option, lock hook gate after installation.
- Unit should be mounted in such a manner as to minimize cable contact with cable guide to prolong cable assembly life [See - Fig. 01].

- |   |   |
|---|---|
| <b><u>CORRECT</u></b>   | <b><u>WRONG</u></b>   |
| <ul style="list-style-type: none"> <li>➢ Balancer directly over work area.</li> <li>➢ Secondary support attached to separate support</li> </ul> | <ul style="list-style-type: none"> <li>➢ Balancer not directly over work area.</li> <li>➢ Secondary support attached to the same support</li> </ul> |

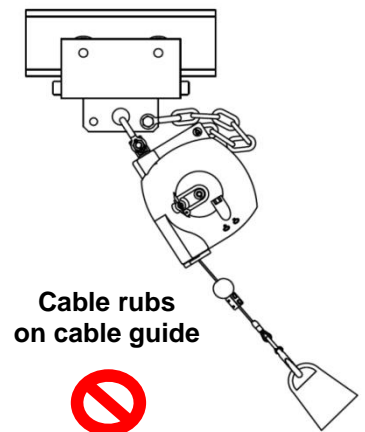
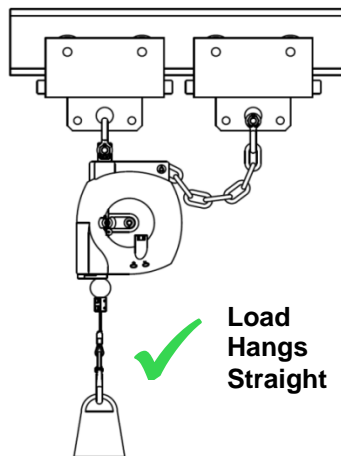


Fig. 01

## SECONDARY SUPPORT

**WARNING** **FALLING OBJECT HAZARD.** To avoid serious injury or death, all units mounted overhead must be secured by means of safety chain supplied with unit and secured in place with supplied cotter pin.

- Unit is shipped with one end of safety chain already fitted on the unit at the factory while the loose end of the safety chain is supplied with a shackle, bolt & nut, and a new cotter pin [See - Fig. 02].
- Attach the shackle, from the end of the safety chain, to a secondary support component [other than that which supports the balancer itself] by means of bolt & nut, and supplied new cotter pin.

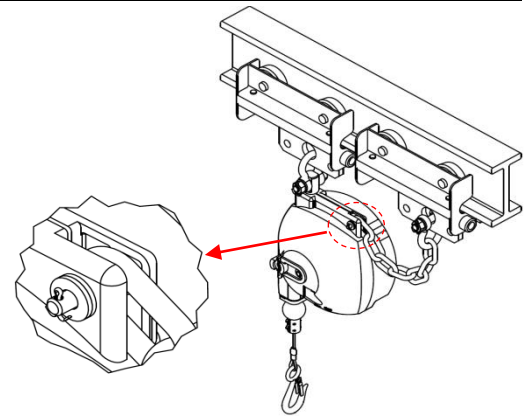


Fig. 02

## OPERATION

### TOOL ATTACHMENT

**CAUTION:** **READ INSTRUCTIONS BEFORE USE.** To avoid injury: all operators should be instructed in the safe, proper use and maintenance of this product.

**WARNING:** **CABLE CAN RETURN SUDDENLY.** To avoid serious injury or death: Always LIFT LOAD to hook. Never pull cable to attach Load to be retracted. If hook is accidentally released while it is extended, it could snap back quickly.

- Always measure weight of total LOAD [tool complete with hoses, cables and fittings] to make sure it is within **Weight Capacity of Balancer** printed on unit label.
- Lift LOAD [See - Fig. 03] to retractor and attach it to provided hook, making sure the spring-loaded latch of hook is fully closed.
- Extension cables are available for lowering the position of the tool without reducing active travel. Contact [techsupport@aero-motive.com](mailto:techsupport@aero-motive.com) for more details.

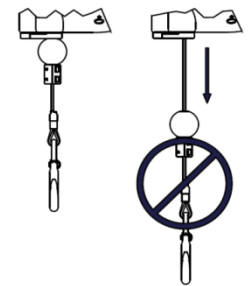


Fig. 03

### CABLE STOP ADJUSTMENT

- Adjusting cable stop is not recommended due to reduction in active travel distance.
- If additional cable extension is required, extension cable assemblies are offered as an accessory item.
- Special cable assemblies can be offered with specific overhang or unique adjustments. Contact [techsupport@aero-motive.com](mailto:techsupport@aero-motive.com) for more details.

### RATCHET LOCK (Not to be confused with Automatic Safety Lock)

- EBR models come with a permanent ON Ratchet Lock [ The Ratchet Lock cannot be Disengaged].
- The ratchet lock can engage in 4 inch [100 mm] increments.
- During every 4 inches of travel, there is a zone of 2 inches [50 mm] where it will lock.
- The other 2 inches [50 mm] travel will not lock.
- To engage, pull cable down to desired height, and then slowly allow it to retract. If it doesn't catch, pull out a little more, to get into the 2 inch [50 mm] locking zone, and allow retracting.
- The clicking noise can clue you in when it is likely to engage. To disengage, pull cable down a couple inches and lock will release.

## UNIT POWER SPRING TENSION ADJUSTMENT



**WARNING:** CABLE CAN RETURN SUDDENLY. To avoid serious injury or death: Load **MUST** be fully attached to balancer before adjusting tension.



**CAUTION:** Do NOT Over-Tension balancer main spring. This will reduce cable travel and spring life.

**NOTE:** If cable will not pull out of the balancer when reducing spring tension, increase tension until the automatic safety lock disengages. Cable may also not pull out due to side pulling as shown in Main Support Section [See - Fig. 01].

Before making spring tension adjustments please check the following:

- Tool and all accessories are attached to lower hook.
- All balancers come from factory pre-set at highest tension, thus the LOAD will lower if the weight of LOAD exceeds tension adjustment of balancer mainspring.
- If cable stop is up against cable guide prior to adjustment, there is too much tension on balancer mainspring.

### Unit Tension Adjustment

- To increase tension, engage a socket on the main gear shaft and turn in “+” direction [See - Fig. 04].
- To decrease tension, engage a socket on the main gear shaft and turn in “-” direction [See - Fig. 04].
- **While adding or removing tension, please note that the main gear shaft must be turned about 20 times for 1 full turn of the Power Spring.**

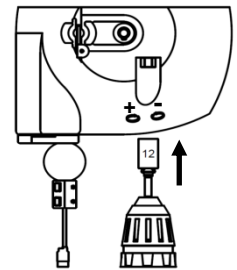


Fig. 04

## AUTOMATIC SAFETY LOCK



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: all operators should be instructed in the safe, proper use and maintenance of this product.

**NOTE:** If tension is removed well below rated range of the balancer during spring adjustment, lock will engage. It will be necessary to apply more tension to release the lock unless cable is jammed from side pulling.

If the power spring fails, the automatic lock will engage to prevent drum from turning. Lock will disengage after new spring assembly is installed and Balancer is re-tensioned.

## TOOL REPLACEMENT



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: all operators should be instructed in the safe, proper use and maintenance of this product.

- When replacing tool and attachments, make sure cable is fully retracted, or that Manual Drum Lock Lever is engaged
- [See - Fig. 05] for Manual Drum Lock Lever in engaged and disengaged position.
- Lift and allow pin to slide into housing to lock drum.
- Pull on cable to make sure pin is fully engaged before removing tool.
- To disengage, pull out and set lever in up position.
- Never disengage Manual Lock without attached Load to Unit.

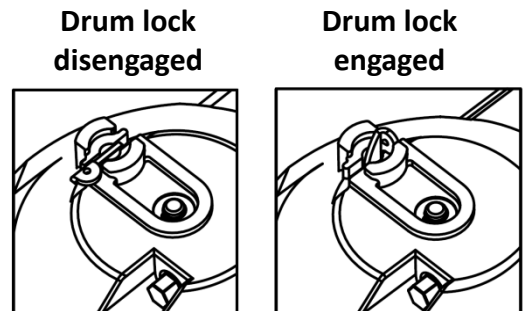


Fig. 05

## **SERVICE**



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: Only fully trained personnel should perform repairs on unit.



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: Always remove unit from service before performing any repairs.



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: Remove all spring tension from unit before performing any repairs.

### **LUBRICATION**

- The balancer is lifetime lubricated at the factory. No additional lubrication is necessary.

### **PREVENTIVE MAINTENANCE**

#### **Cable Assembly**

- Check hook for wear. Any damage to hook requires replacement.
- Check cable stop and swage fitting next to hook for any damage. Any damage indicates need for a new cable assembly.
- Check along entire length of cable for wear, breaks or fraying. If any damage, cable assembly must be replaced.

#### **Upper Mount**

- Check tightness of mounting bolts and/or soundness of mounting connection.
- Check mounting shackle for wear. Any damage to shackle requires replacement.
- Check condition of safety cable/chain and attachment points.
- Check condition of Cotter Pin. If any damage replace it with a new Cotter Pin.

### **SPRING & DRUM CASSETTE REPLACEMENT**



**CAUTION:** READ INSTRUCTIONS BEFORE USE. To avoid injury: Only fully trained personnel should perform repairs on unit.



**CAUTION:** To avoid injury: Do not disassemble balancer without reducing all spring tension first. (See UNIT POWER SPRING TENSION ADJUSTMENT). Also, do not adjust mainspring tension until tool and attachments are suspended and secured to the balancer.



**WARNING:** READ INSTRUCTIONS BEFORE USE. To prevent serious injury, death or property damage, never remove spring from spring pockets. Replacement springs are sealed for safety.

#### **Spring & Drum Cassette Replacement Procedure:**

1. Remove balancer from service.
2. Remove Safety Chain [Item 37] by un-securing Items 35, 38 & 39.
3. Remove tension completely from unit, see page '3' under "UNIT POWER SPRING TENSION ADJUSTMENT".
4. Remove screws [Items 16 and 17].
5. Open housing [Item 2] and remove upper mount [Item 15 and Item 36] from housing [Item 1].
6. Remove four screws [Item 16] holding spring pocket [Item 12] to cable drum [Item 3].
7. **Please note that the drop stop [Item 25] must be held out to release mainspring assembly.**
8. Once Spring Cassette is out, remove bearing from Spring Cassette [Item 04].
9. Install replacement mainspring in drum by aligning auto-stop windows.
10. **Cable must be fully wound onto drum before reassembling.**
11. Reassemble Balancer back in reverse order steps 8 through step 2.

## CABLE REPLACEMENT

**WARNING:** To prevent serious injury, death or property damage, do not release manual drum lock lever without installing load on hook. Otherwise, cable and hook will retract rapidly.

**CAUTION:** READ INSTRUCTIONS BEFORE USE. To prevent injury when cable is jammed into housing, remove all unit tension before disassembling the balancer to change cable out.

- Pull tool down to full cable extension. Cable anchor should be inline with housing window.
- Lock drum by pulling on manual lock lever and allowing pin to slide into housing to lock drum. Pull on cable to make sure pin is fully engaged before proceeding.
- Remove tool from hook.
- Through housing window insert a screwdriver under the cable and lift up cable anchor.
- Loosen set screw and remove cable.
- Install new cable up through cable guide. Pull swaged end of cable out of housing window and install into cable anchor.
- Tighten Set screw.
- Push anchor into housing, attach load on hook, and disengage manual drum lock lever.

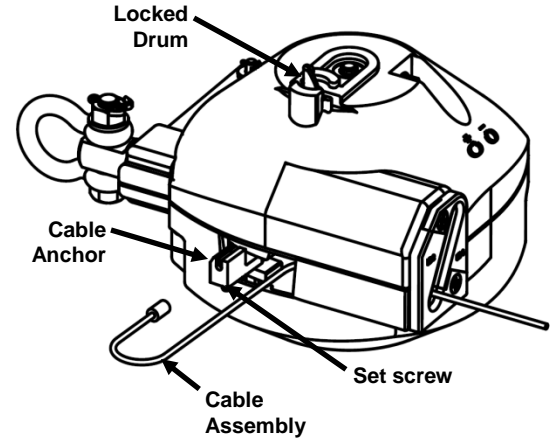


Fig. 06

### EXPLODED VIEW FOR REPLACEMENT PARTS:

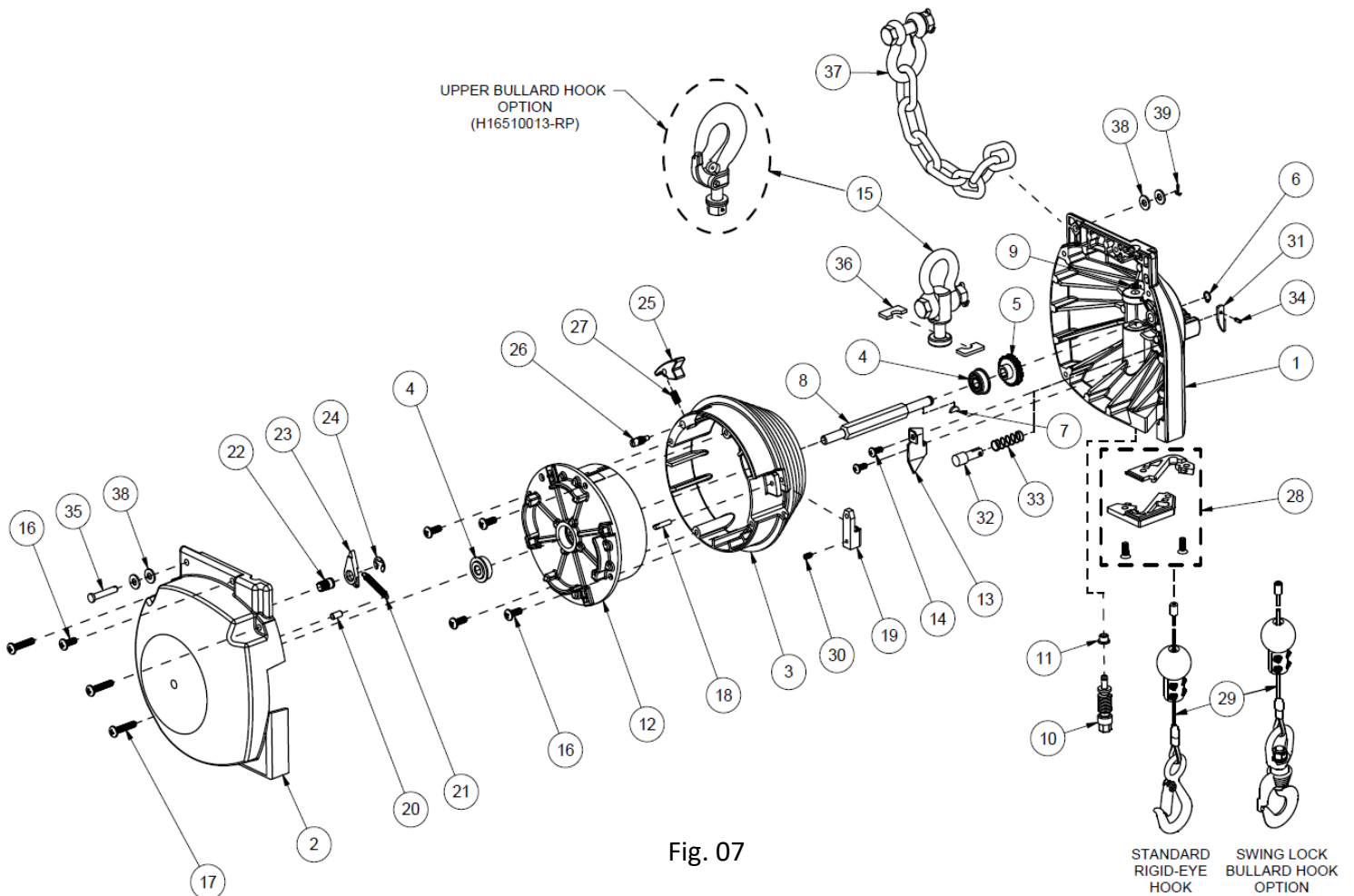


Fig. 07

**NOTE: When ordering replacement parts, always include the balancer model number and serial number.**  
 All parts shown on parts list are replaceable in the field without special tools.

Item	Aero-Motive Part Number	QTY	Part Number Description:
1	M04350011-RP	1	RP - HOUSING TENSION SIDE - POWDER BLUE
2	M04350012-RP	1	RP - HOUSING PLAIN SIDE - POWDER BLUE
3	M04840002-RP	1	RP - CABLE DRUM - CASTING ONLY
4	376-P-5-RP	2	RP - MAIN FLANGED BEARING
5	11098-1-RP	1	RP - MAIN GEAR
6	576-P-30-RP	1	RP - EXTERNAL RETAINING RING - MAIN SHAFT
7	751-P-22-RP	1	RP - WOODRUFF KEY - MAIN SHAFT
8	M26830003-RP	1	RP - MAIN SHAFT
9	580-P-95-RP	1	RP - EXTERNAL RETAINING RING - 1/4" SHAFT
10	M16300006-RP	1	RP - WORM GEAR
11	11060-RP	1	RP - FLANGED BEARING - WORM SHAFT
12	H41220111-RP	1	RP - SPRING CASSETTE ASSEMBLY - 25EB [COLOR CODE: RED]
	H41220112-RP	1	RP - SPRING CASSETTE ASSEMBLY - 35EB [COLOR CODE: WHITE]
	H41220113-RP	1	RP - SPRING CASSETTE ASSEMBLY - 45EB [COLOR CODE: BLUE]
	H41220114-RP	1	RP - SPRING CASSETTE ASSEMBLY - 60EB [COLOR CODE: ORANGE]
13	M65720002-RP	1	RP - DRUM & CABLE - GUIDING PLATE
14	C03500231-RP	2	RP - SCREW - THREAD FORMING - THREAD [M5] x LG[12]
15	H16510017-RP	1	RP - UPPER MOUNT ASSEMBLY - SHACKLE
	H16510013-RP	1	RP - UPPER MOUNT ASSEMBLY - BULLARD
16	C03500253-RP	5	RP - SCREW -THREAD [M6] x LG[16]
17	C03500258-RP	3	RP - SCREW - PHILLIPS PAN HEAD - THD [M6] x LG[30]
18	C00400100-RP	1	RP - GROOVE PIN - HEADLESS - [3/16"] x [7/8"]
19	M70780009-RP	1	RP - CABLE MOUNT - DRUM
20	C00400201-RP	1	RP - GROOVED PIN - HEADLESS - [1/4"] x [1/2"]
21	M15120003-RP	1	RP - RATCHET LOCK SPRING - EBR SERIES
22	M23560034-RP	1	RP - SHAFT - RATCHET LOCK - EBR SERIES
23	M08710006-RP	1	RP - LEVER - RATCHET LOCK - SINTETERED - EBR SERIES
24	580-P-80-RP	1	RP - EXTERNAL RETAINING RING - 7/16" SHAFT
25	M04600001-RP	1	RP - DROP STOP - AUTO SAFETY LOCK
26	M25360212-RP	1	RP - DROP STOP SHAFT
27	C60400128-RP	1	RP - SPRING FOR DROP STOP LEVER
28	CBG-EB-RP	1	RP - SNAP FIT - PLASTIC CABLE GUIDE KIT
29	H13120049-RP	1	RP - CABLE ASSEMBLY - STANDARD HOOK - [6.6FT][2M]
	H13120050-RP	1	RP - CABLE ASSEMBLY - BULLARD HOOK - [6.6FT][2M]
	H13120051-RP	1	RP - CABLE ASSEMBLY - STANDARD HOOK - [4.9FT][1.5M]
	H13120052-RP	1	RP - CABLE ASSEMBLY - BULLARD HOOK - [4.9FT][1.5M]
30	53-P-201-RP	1	RP - HEX SOCKET - SCREW - THREAD[10-24] x LG[3/8]
31	31294-RP	1	RP - MANUAL DRUM LOCK LEVER
32	31295-RP	1	RP - SHAFT - MANUAL DRUM LOCK
33	31643-RP	1	RP - MANUAL DRUM LOCK SPRING
34	229-P-10-RP	1	RP - MANUAL DRUM LOCK LEVER - SLOTTED ROLL PIN
35	1235-P-8-RP	1	RP - CLEVIS PIN - DIA [0.25"] x LG [1.375"]
36	M83010023-RP	2	RP - THRUST WASHER HALF - UPPER MOUNT
37	H11610004-RP	1	RP - SAFETY CHAIN ASSEMBLY
38	126-P-50-RP	4	RP - WASHER -[ID][0.28"] - [OD][0.63"]-[TK][0.06"]
39	228-P-11-RP	1	RP - COTTER PIN - SIZE [1/16"] - [1/2"] LONG

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