OPERATOR'S MANUAL 7670–XX

INCLUDING: OPERATION, INSTALLATION & MAINTENANCE

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(REV.A) ASC

BALANCER

7670–25	7670–35	7670–45
25–35 LBS CAPACITY	35–45 LBS CAPACITY	45–60 LBS CAPACITY

READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING OR SERVICING THIS EQUIPMENT.

OPERATING AND SAFETY PRECAUTIONS

The following precautions call attention to potentially hazardous conditions.

⚠WARNING Indicates a situation in which personal injury may occur. Failure to read, understand, and follow these instructions may result in personal injury or death.

⚠CAUTION Indicates a situation in which damage to equipment or material may occur. Instruct the operators in the safe, proper use and maintenance of the balancer. Keep this manual for future reference.

NOTE: Provides helpful information for proper installation and operation of the balancer.

INSTALLATION

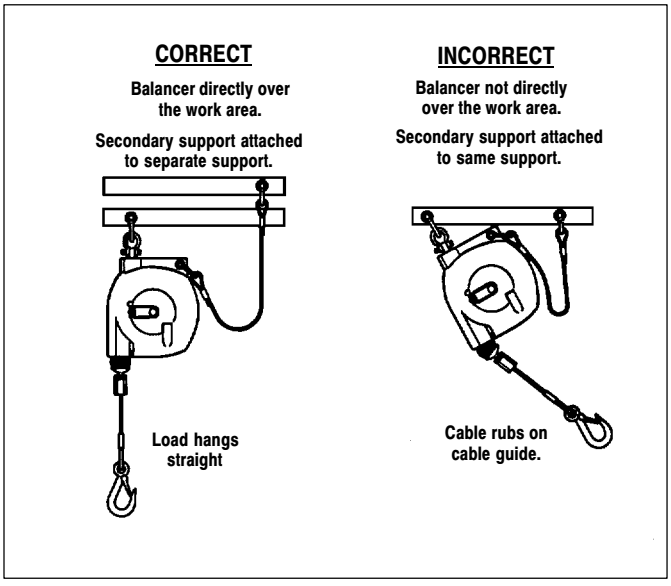
MAIN SUPPORT MOUNTING

1. Install the main support directly over the work area. (See illustration.

⚠WARNING The main support and attaching device (eye bolt) must have a break strength exceeding six times the combined weight of the balancer and its load.

2. Use shackle body (27), hex head cap screw (26), hex nut (28) and cotter pin (29) to secure balancer to main support installed in step 1.

SECONDARY SUPPORT MOUNTING



⚠WARNING A secondary support must be used to protect personnel in case of failure by mounting components or support structure.

1. Secondary support must attach to clevis pin (3) between the housing holes on the top of the balancer housing.
2. Secure clevis pin (3) with washer (23) and cotter pin (24).
3. Attach the opposite end of the secondary support to a separate structure. Do not attach the secondary support and main support to the same structure.

NOTE: Make the secondary support as short as possible so that the balancer will drop no more than twelve inches if the main support releases.

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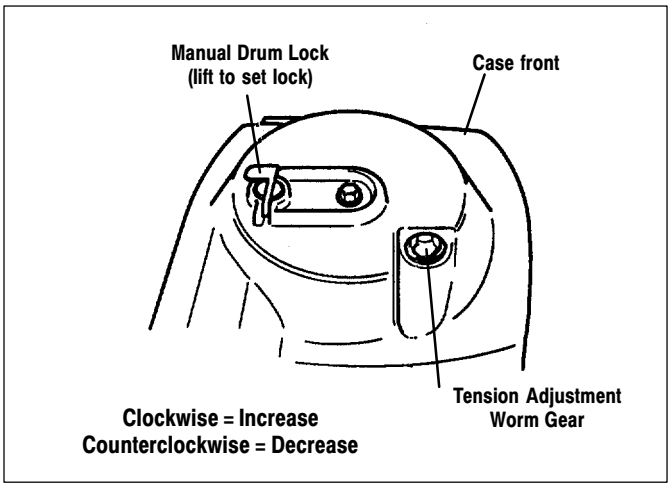
ADJUSTMENT

TOOL ATTACHMENT

⚠WARNING Never pull the tool clip (40) down to the tool. Always lift the tool up to the tool clip. If the tool clip is released when extended without a tool attached, it could snap back and cause damage or injury.

1. Attach the complete tool (including any hose, cable, fittings and attachments) to the tool clip on cable assembly (40).
2. After the tool is attached, make sure the retaining latch on tool clip has snapped back in the closed position.

SPRING TENSION ADJUSTMENT



Check all of the following conditions before making any tension adjustments:

- Make sure the complete load including all accessories is attached before adjusting tension.
- All balancers are factory pre–set for the lowest weight in the balancers range.
- The tool will move downward if the load exceeds the spring tension and upward if the spring tension exceeds the load.
- If the cable stop on cable assembly (40) rests against the cable guide (38) prior to adjustment, there is too much tension on the balancer mainspring.

1. Increase spring tension by turning the worm gear (37) clockwise.

⚠ CAUTION Over tensioning of the balancer will reduce cable travel, spring life, and may prevent end of cable stop from operating properly.

2. Decrease spring tension by turning the worm gear (37) counterclockwise.

Note: If all the tension is removed, the worm gear (37) will come out of the balancer housing. Insert worm gear (37) and turn clockwise to reinstall.

AUTOMATIC LOCK

Note: If tension is lost or a spring should break, the automatic lock will engage to prevent the drum from turning.

Note: If tension is lowered below the rated range of the balancer during spring adjustment, the automatic lock will engage.

⚠WARNING Never remove the spring from the spring pocket assembly. Replacement springs are sealed for safety. Serious injury or death may result from attempts to remove the spring from the spring pocket assembly.

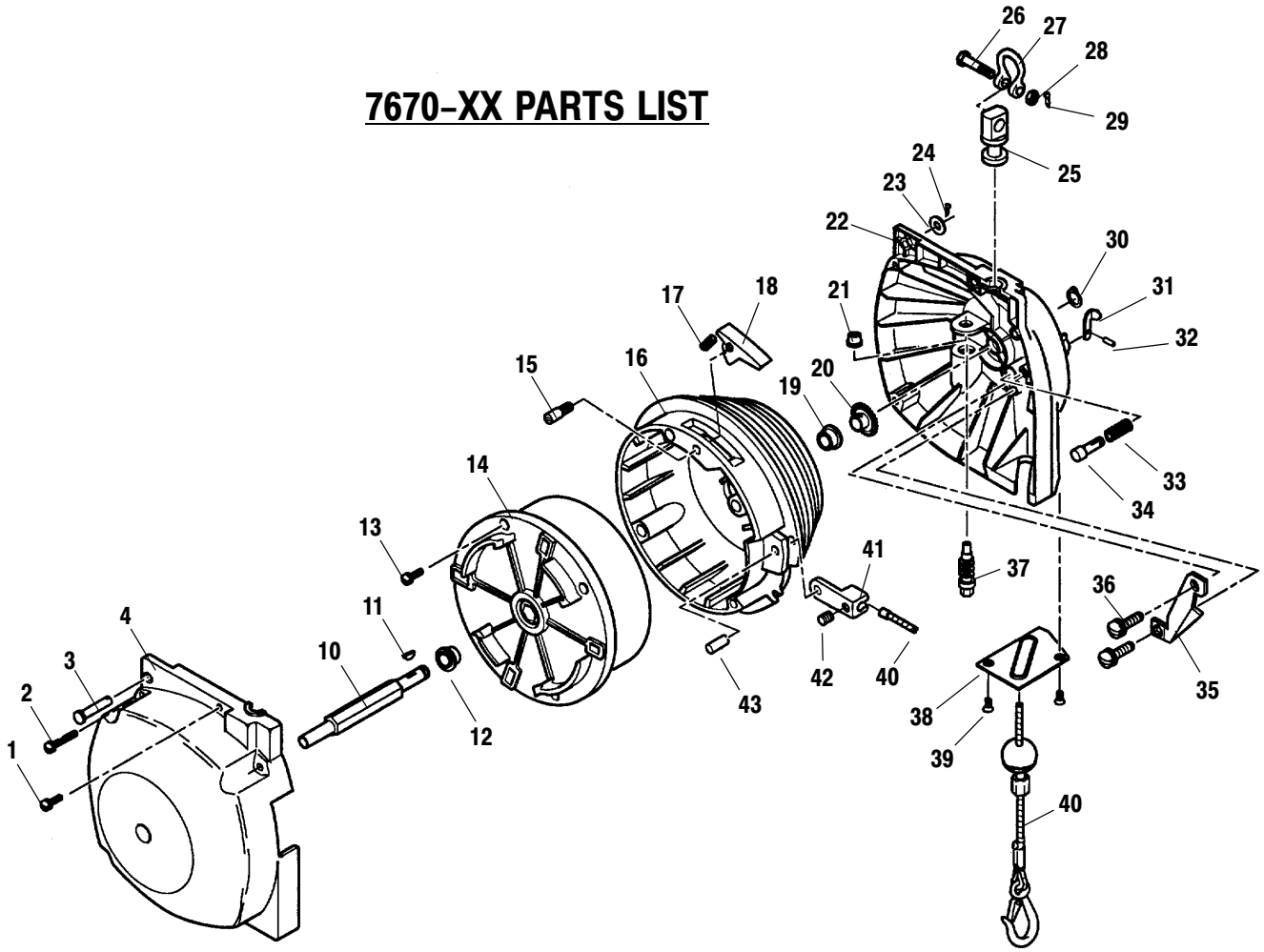
CABLE STOP ADJUSTMENT

Note: Make all cable stop adjustments with the tool and all the accessories attached to the tool clip and tension properly set. **(See Spring Tension Adjustment).**

1. Loosen one hex of the cable stop assembly and dislodge inserts inside clamping around cable.
2. Slide cable stop up or down on the cable assembly (40) to position tool at desired working height.
3. Tighten loosened hardware to hold cable stop at set position.

Note: Moving the cable stop closer to the cable guide (38) will shorten the active travel of the cable.

7670-XX PARTS LIST



ITEM	DESCRIPTION (SIZE) [INCLUDES]	QTY	PART NO.
1	Pan Head Screw (M6 x 16mm)	(1)	--------
2	Pan Head Screw (M6 x 30mm)	(3)	--------
3	Clevis Pin	(1)	29774
4	Rear Case	(1)	--------
10	Mainshaft	(1)	--------
11	Woodruff Key	(1)	--------
12	Bearing	(1)	29779
13	Pan Head Screw (M6 x 16mm)	(4)	--------
14	Spring Pocket Asm.- 7670-25	(1)	29780-1
	Spring Pocket Asm.- 7670-35	(1)	29780-2
	Spring Pocket Asm.- 7670-45	(1)	29780-3
15	Auto Stop Shaft	(1)	29781
16	Drum	(1)	--------
17	Compression Spring	(1)	29782
18	Auto Stop	(1)	29783
19	Bearing	(1)	29779
20	Mainshaft Gear	(1)	--------
21	Bearing	(1)	--------
22	Case Front	(1)	--------
23	Washer	(1)	--------
24	Cotter Pin	(1)	--------

ITEM	DESCRIPTION (SIZE) [INCLUDES]	QTY	PART NO.
25	Shackle Shaft Asm.	(1)	29790
26	Hex Head Cap Screw-Drilled	(1)	29791
27	Shackle Body	(1)	29792
28	Hex Nut	(1)	29793
29	Cotter Pin	(1)	Y15-43
30	Retaining Ring	(1)	29794
31	Lever, Manual Drum Lock	(1)	40610
32	Roll Pin	(1)	40647
33	Spring, Manual Drum Lock	(1)	36819
34	Shaft, Manual Drum Lock	(1)	40611
35	Guide Plate	(1)	29795
36	Pan Head Screw (M5 x 12mm)	(2)	--------
37	Worm Gear	(1)	--------
38	Cable Guide	(1)	29888
39	Pan Head Screw (M5 x 12mm)	(1)	--------
40	Cable Asm. Option		
	Cable Asm., Standard 2.0m	(1)	29796
	Cable Asm., Short 1.5m	(1)	29797
41	Cable Anchor	(1)	29798
42	Setscrew (#10-24 Screw)	(1)	29799
43	Groove Pin	(1)	29800

SERVICE

TOOL REPLACEMENT

1. Pull tool down to the most convenient height.
2. Set the manual drum lock (see illustration on page 2) by lifting the tab of lever (31) and allowing the shaft (34) to snap in position. Rotate the drum by moving the cable up or down until the drum locks in place.
3. The tool can now be removed and replaced.
4. After replacing the tool, the drum lock can be released by pulling outward on the tab and folding it back to its original position.

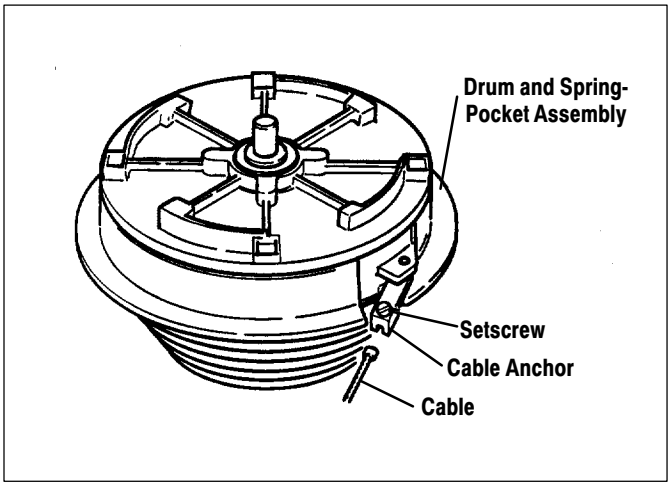
⚠WARNING Never release the drum lock without a full load attached. Releasing the drum lock with no load will allow the tool clip to retract rapidly which could cause damage or injury.

CABLE REPLACEMENT

Note: Replace cable (40) when cable shows any signs of deterioration.

Note: Cable replacement on the balancer does not require removal from its location, cable tension relief or disassembly.

⚠WARNING Never release the drum lock unless a full load is hung from the balancer. If disassembly is necessary, remove all tension before servicing the balancer.



1. Pull the cable (40) until completely unwound exposing the cable anchor (41) in the housing window (see illustration above).
2. Engage the manual drum lock as described in **Tool Replacement** and remove the tool.
3. Swing the cable anchor (41) out into the housing window.
4. Loosen the setscrew (42) in the cable anchor (41) and remove, the cable from the cable anchor. Remove the cable (40) from the balancer housing by pulling through cable guide (38).
5. Insert the new cable (40) in through the cable guide (38) and out the housing window.
6. Attach the end of the new cable (40) to the cable anchor (41) and tighten the setscrew (42) in the cable anchor (41).
7. Pull down on the new cable until the cable anchor swings back into the working position.
8. Re-attach tool and disengage manual drum lock as described in **Tool Replacement.**

MAINSPRING REPLACEMENT

Note: Replace the upper swivel (25) whenever mainspring is replaced.

⚠WARNING Before servicing the mainspring, remove all tension from the mainspring by turning the worm gear (37) counterclockwise until all tension is released. Failure to release spring tension can cause injury or property damage.

1. Remove balancer from service.
2. Turn worm gear (37) counterclockwise until all spring tension is released.
3. Remove all fasteners from the case rear (4) including fastener (39) holding cable guide (38) to rear case.
4. Loosen but do not remove the fastener (39) holding the cable guide (38) to the case front (22).
5. Remove the case rear (4).
6. Remove the four fasteners (13) that mount the mainspring pocket assembly (14).
7. Remove the auto stop shaft (15) in the cable drum (16). This will release the auto stop (18) and auto stop compression spring (17).
8. Remove the mainspring pocket assembly (14) and bearing (12) from the drum (16).
9. Place the bearing (12) in the new mainspring pocket assembly (14).
10. Align auto stop hole in mainspring pocket assembly (14) with auto stop hole in drum (16) then reassemble auto stop assembly.
11. Reassemble mainspring pocket assembly (14) to drum (16) then reassemble balancer in reverse order.

Note: Make sure worm gear (37) is assembled to case front (22). Make sure cable (40) is completely wound on drum (16) before attaching case rear (4).

⚠WARNING All cable must be wound on drum before case rear (4) is attached.

PARTS REPLACEMENT

Note: All parts shown on parts list are replaceable in the field without special tools.

Note: When ordering replacement parts, always include the balancer model number and serial number. Always insist upon genuine ARO replacement parts.

MAINTENANCE AND INSPECTION

The balancer is designed to require little maintenance. Periodically check cable assembly (40), tool clip on cable, the upper swivel for wear. Replace all worn parts immediately. Replace upper swivel whenever mainspring is replaced.

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