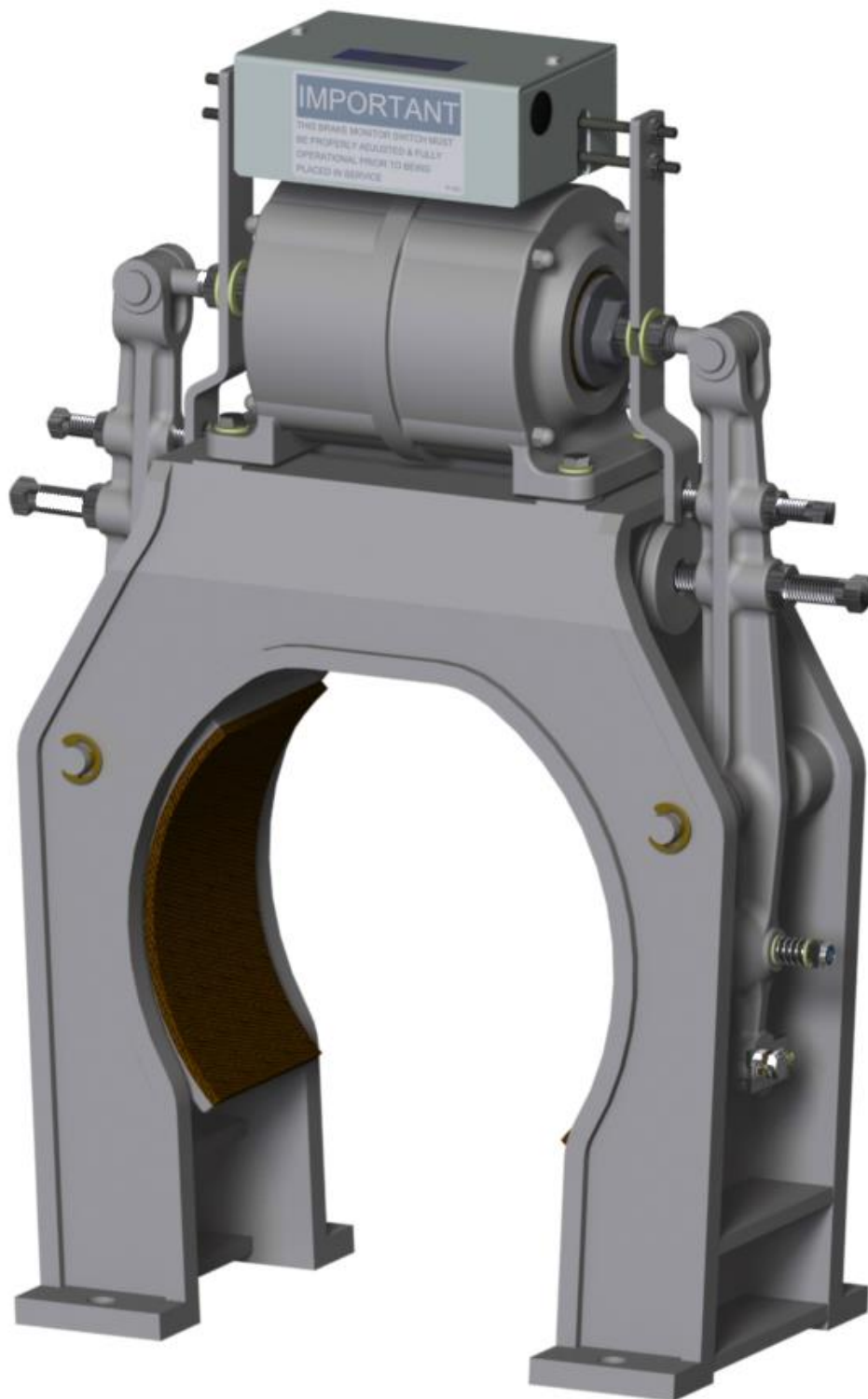


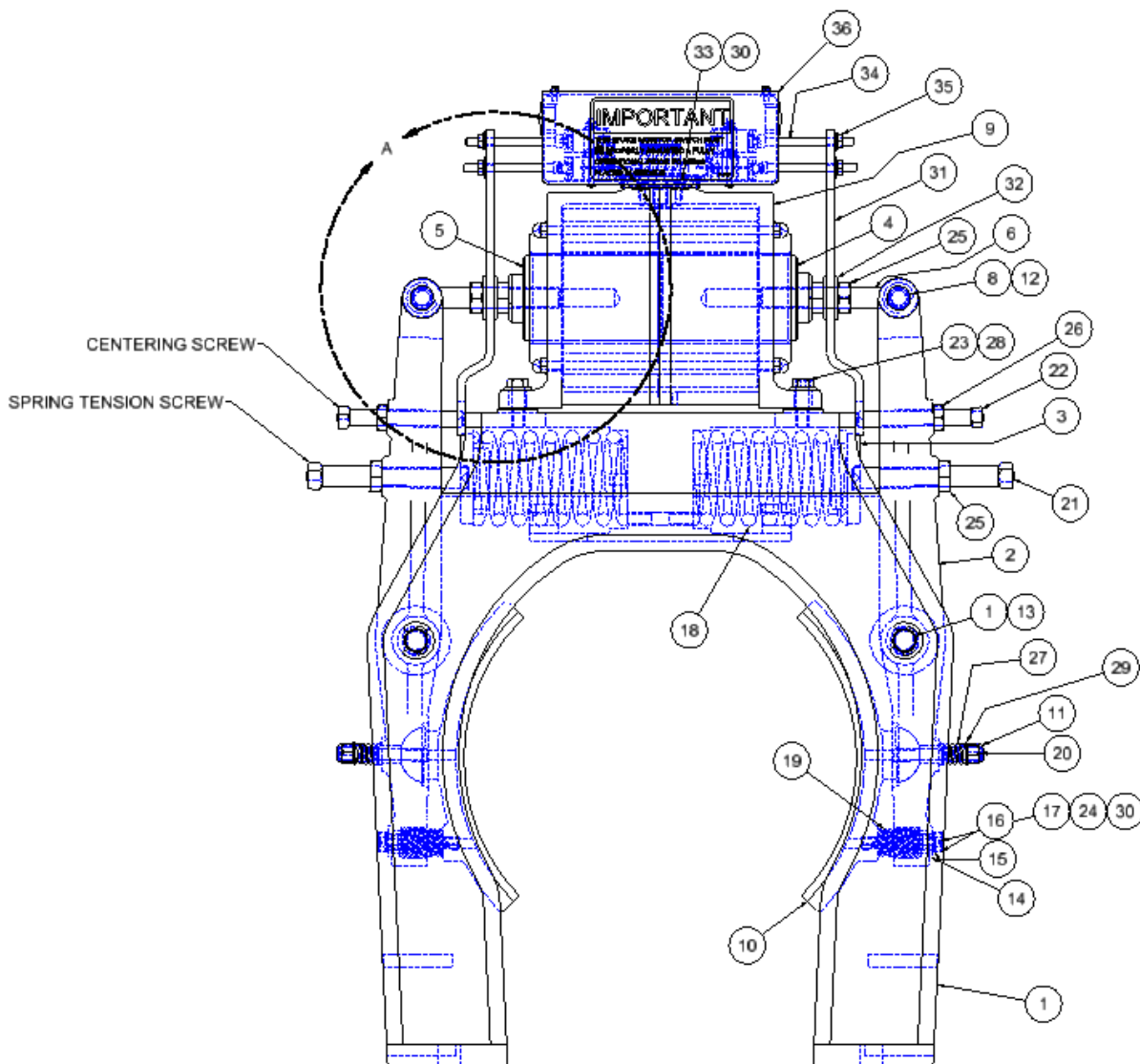
**DRUM BRAKE ADJUSTMENTS, MODELS #90, #100, #110 & #120
#102-091 BRAKE MONITOR**



HOLLISTER-WHITNEY DRUM BRAKE WITH MONITOR ADJUSTMENTS

IMPORTANT: READ ENTIRE INSTRUCTIONS BEFORE ATTEMPTING ADJUSTMENT!!!
SHOCK WARNING: ACTIVE ELECTRIC CIRCUITS!!

1. Energize and de-energize solenoid to determine that each plunger moves an equal distance, meeting in center with equal amounts protruding from housing. Adjust spring adjustment screws to assure this centering.
2. Make sure there is approximately 1/32" between each centering screw and the housing when the solenoid is energized (i.e. plungers make contact). **IMPORTANT:** DO NOT use centering screws as stops to limit the travel of either plunger.
3. Turn heel and toe adjustment bolt, with solenoid energized, to adjust top and bottom of shoes to get equal drum clearance. Clearance between shoes and drum may be increased or decreased by adjusting plunger eye bolts (by rotating plungers) equally on each plunger. Final drum clearance should be 0.005". Re-adjust centering screws so they are spaced properly to the housing as described in 2.) above.
4. With the heel and toe adjusting plate screws partially tightened, lightly tap side of adjusting plate to correct twisting motion created when shoe contacts drum face. Re-adjust heel and toe main bolt for clearance between shoe and drum.
5. Run car to determine overall Brake performance. Spring tension may have to be varied to obtain harder or softer stops and can only be determined by specific job conditions.



DRUM BRAKE PARTS LIST											
ITEM	90(10" DRUM)		100(12" DRUM)		110(14" DRUM)		120(16" DRUM)		DESCRIPTION		
	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER	QTY	PART NUMBER			
1	1	90-001	1	100-001	1	110-001	1	120-001	BRAKE HOUSING		
2	2	90-003A	2	90-003A	2	110-003A	2	120-003A	BRAKE LEVER w/ BUSHING		
3	2	90-005	2	90-005	2	90-005	2	90-005	CAP - BRAKE SPRING		
4	1	90-006	1	90-006	1	90-006	1	120-006	PLUNGER - BRAKE		
5	1	90-007	1	90-007	1	90-007	1	120-007	PLUNGER w/ PLUNGER RING		
6	2	90-064	2	100-008	2	100-008	2	90-008	PLUNGER EYEBOLT		
7	2	90-012	2	100-012	2	110-012	2	120-012	PIN - BRAKE LEVER		
8	2	90-013	2	90-013	2	90-013	2	90-013	PIN - 0.625" DIA.		
9	1	90-028	1	90-028	1	90-028	1	120-028	BRAKE SOLENOID ASSEMBLY		
9A	1	90-035	1	90-035	1	90-035	1	120-035	115V COIL		
9B	1	90-022	1	90-022	1	90-022	1	120-022	230V COIL		
10	2	90-029A	2	100-029A	2	110-029A	2	120-029A	BRAKE SHOE ASSEMBLY		
11	2	90-030	2	90-030	2	90-030	2	90-030	3/8 NYLON LOCK NUT		
12	2	90-032	2	90-032	2	90-032	2	90-032	E-CLIP, #5133-62		
13	4	90-033	4	90-033	4	90-033	4	90-033	E-CLIP, #X5133-74		
14	2	90-036	2	90-036	2	90-036	2	90-036	PLATE - HEEL & TOE ADJUSTMENT		
15	2	90-045	2	90-045	2	90-045	2	90-045	BUSHING		
16	2	90-038	2	90-038	2	110-038	2	110-038	BOLT - HEEL & TOE ADJUSTMENT		
17	4	90-039	4	90-039	4	90-039	4	90-039	WASHER		
18	2	400-032	2	400-032	2	400-032	2	400-032	SPRING - LEVER		
19	2	400-039	2	400-039	2	400-039	2	400-019	SPRING - SHOE		
20	2	500-023	2	500-023	2	500-023	2	500-023	STUD		
21	2	90-068 (5/8 - 11 UNC X 4)	2	100-068 (5/8 - 11 UNC X 4.5)	2	110-068 (5/8 - 11 UNC X 5)	2	100-068 (5/8 - 11 UNC X 4.5)	SCREW, SQ HD SET		
22	2	90-069 (1/2 - 13 UNC X 3.5)	2	90-069 (1/2 - 13 UNC X 3.5)	2	110-069 (1/2 - 13 UNC X 4)	2	120-069 (1/2 - 13 UNC X 5)	SCREW, SQ HD SET		
23	4	3/8 - 16 UNC X 1.25	4	3/8 - 16 UNC X 1.25	4	3/8 - 16 UNC X 1.25	4	3/8 - 16 UNC X 1.5	HEX HEAD CAP SCREW		
24	4	#10-32 X 0.5	4	#10-32 X 0.5	4	#10-32 X 0.5	4	#10-32 X 0.5	SCREW, FILLISTER HEAD		
25	6	5/8 - 11 UNC	6	5/8 - 11 UNC	6	5/8 - 11 UNC	6	5/8 - 11 UNC	HEX JAM NUT		
26	2	1/2 - 13 UNC	2	1/2 - 13 UNC	2	1/2 - 13 UNC	2	1/2 - 13 UNC	HEX JAM NUT		
27	2	400-070	2	400-070	2	400-070	2	400-070	SPRING - PIVOT		
28	4	3/8 WASHER	4	3/8 WASHER	4	3/8 WASHER	4	3/8 WASHER	STANDARD WASHER		
29	4	5/16 WASHER	4	5/16 WASHER	4	5/16 WASHER	4	5/16 WASHER	STANDARD WASHER		
30	6	#10 WASHER	6	#10 WASHER	6	#10 WASHER	6	#10 WASHER	LOCK WASHER		
31	2	90-093	2	100-093	2	100-093	2	120-093	EXTENSION - BRAKE ARM		
32	2	5/8 WASHER	2	5/8 WASHER	2	5/8 WASHER	2	5/8 WASHER	STANDARD WASHER		
33	2	#10-24 UNC X 0.5	2	#10-24 UNC X 0.5	2	#10-24 UNC X 0.5	2	#10-24 UNC X 0.5	SCREW, SLOTTED PAN HEAD		
34	4	1/4 - 20 UNC X 2.75	4	1/4 - 20 UNC X 2.75	4	1/4 - 20 UNC X 2.75	4	1/4 - 20 UNC X 2.75	SOCKET HEAD CAP SCREW		
35	4	1/4 - 20 UNC	4	1/4 - 20 UNC	4	1/4 - 20 UNC	4	1/4 - 20 UNC	WHIZ NUT		
36	1	102-091	1	102-091	1	102-091	1	102-091	MONITOR ASSEMBLY		
		102-092		102-092		102-092		102-092	MONITOR ASSEMBLY - GOLD CONTACTS		

BRAKE MONITOR SCHEMATIC AND WORKING PROCEDURE:

WARNING: IN ORDER TO DETECT A BRAKE FAILURE, THIS BRAKE MONITOR SWITCH MUST BE PROPERLY ADJUSTED & FULLY OPERATIONAL PRIOR TO BEING PLACED INTO SERVICE.

IMPORTANT: READ ENTIRE INSTRUCTIONS BEFORE ATTEMPTING ADJUSTMENT!!!

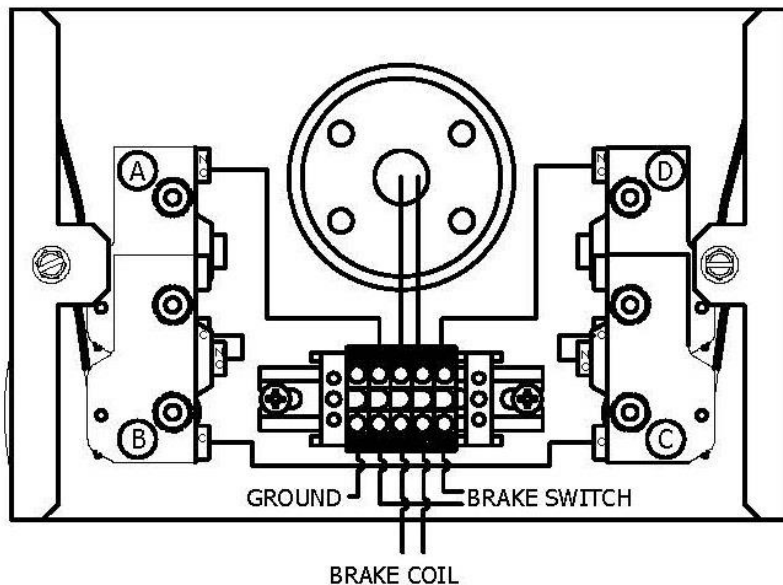
▲WARNING

SHOCK WARNING: ACTIVE ELECTRIC CIRCUITS !!

HOLLISTER-WHITNEY ELEVATOR CORP.

BRAKE MONITOR STANDARD WIRING SCHEMATIC

LABEL-0132N



BRAKE MONITOR ASSEMBLY 102-091

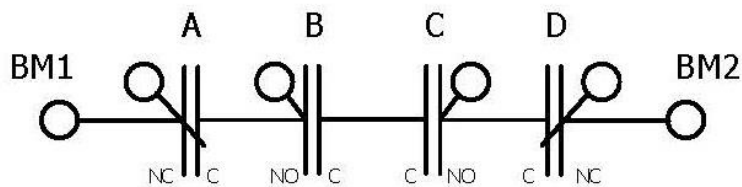
NORMAL BRAKE DE-ENERGIZED
ALL CONTACTS ARE MADE
CIRCUIT CLOSED BETWEEN BM1 & BM2

NORMAL BRAKE ENERGIZED
CONTACTS A & D OPEN
OPEN CIRCUIT BETWEEN BM1 & BM2

BRAKE FAILS TO APPLY PROPERLY (FAILS
TO DROP)
CONTACTS A OR D OR BOTH FAIL TO CLOSE

EXCESSIVE BRAKE PAD WEAR OR EXCESSIVE
THRUST BEARING END PLAY
CONTACTS B OR C OR BOTH OPEN

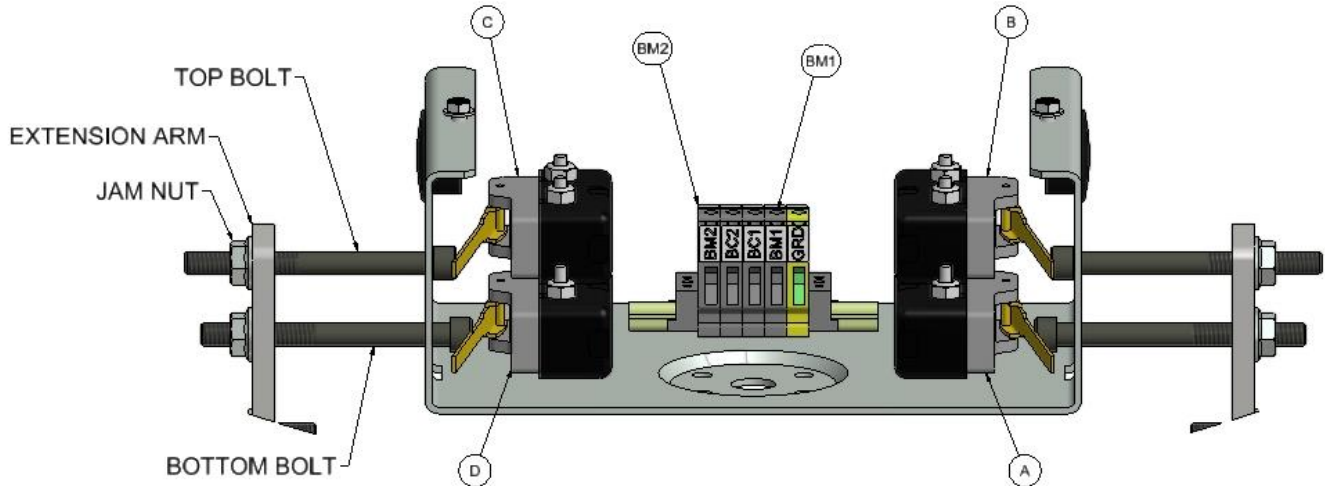
BRAKE FAILS TO LIFT
CONTACTS A OR D OR BOTH FAIL TO OPEN



BRAKE MONITOR ADJUSTMENT:

1. Adjust top bolt "in" until you hear micro switch "click".
2. Rotate top bolt "in" 1 full revolution then tighten jamb nut against extension arm.
3. Adjust bottom bolt "in" until you hear micro switch "click".
4. Rotate bottom bolt "out" until you hear micro switch "click"
5. Rotate bottom bolt "out" 1 full revolution then tighten jamb nut against extension arm.
6. Repeat steps 1 thru 5 on opposite side of monitor.
7. Cycle Brake – check for micro switch activation and circuits are performing as designed.
8. Run machine and check adjustment when machine is at operating temperature.
9. Fine tuning may be needed per bolt until proper adjustment is obtained.

BOLT ADJUSTMENT DIRECTIONS



BRAKE FAILURE: DO NOT RE-ADJUST THE BRAKE MONITOR SWITCH UNTIL THE BRAKE PROBLEM HAS BEEN CORRECTED AND THE BRAKE RE-ADJUSTED.

- a.) If both contacts A and D fail to open with Brake energized, failure indicates improper pick up which can cause lining wear. Re-check Brake voltages, air gaps, alignment and freedom of arm and plunger movement, etc. To test this failure, place a jumper across terminals BM1 and BM2. The controls should remove the elevator from service in some fashion (See Suggested Operation on Page #8).
- b.) If contact A or D stays opened when Brake drops, failure indicates improper drop out caused by a bind (find bind and correct) or by excessive worm shaft movement (check thrust bearings etc.). To test, hold open contacts A or D, when elevator stops it should not be able to start (See Suggested Operation on Page #8).
- c.) If contacts B or C open when Brake drops, this indicates either worm shaft movement (check thrust bearings, etc.) or brake lining wear. If cause is normal lining wear, re-adjust Brake including spring tension, air gap, and centering screws, then re-adjust Brake Monitor Switch. To test open contacts B or C. Elevator should not be able to start (See Suggested Operation on Page #8).

NOTE: BRAKES MUST BE INSPECTED DURING NORMAL ELEVATOR MAINTENANCE. IF LININGS INDICATE WEAR, THEN SPRINGS, GAPS AND MONITOR SWITCH MUST BE RE-ADJUSTED ACCORDINGLY.

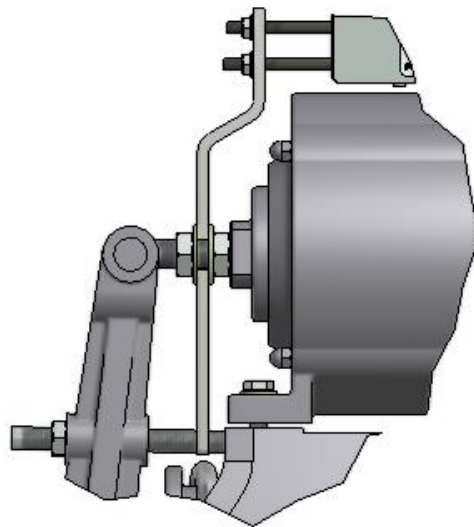
ANY ADJUSTMENT MADE TO THE BRAKE MIGHT AFFECT BRAKE MONITOR ADJUSTMENT.

Coils for #90, #100 & #110 Drum Brake

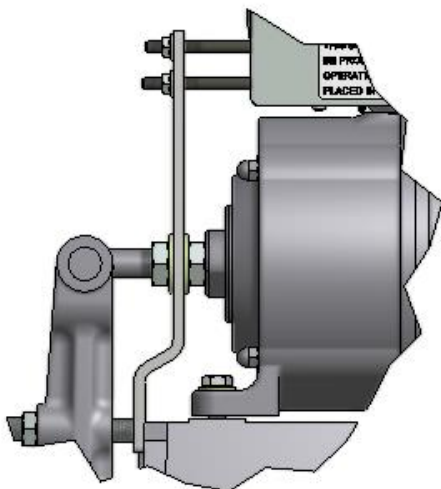
- 1) Constant 230 VDC, 0.82 A, 280 OHM or
Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.16 A, 70 OHM or
Step Down 125 V Pick, 75 V Hold

Coils for #120 Drum Brake

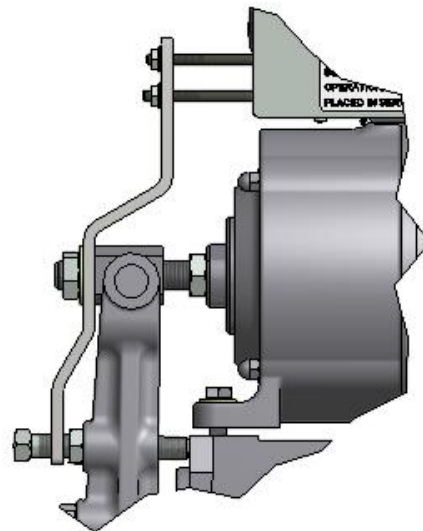
- 1) Constant 230 VDC, 0.74 A, 313 OHM or
Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.38 A, 84 OHM or
Step Down 125 V Pick, 75 V Hold



120 BRAKE
DETAIL A



100 & 110 BRAKE
DETAIL A



90 BRAKE
DETAIL A

Notes

Procedures

Date

Initials

Procedures	Date	Initials

Reference documentation can be found at <http://www.hollisterwhitney.com/#tech-support>

