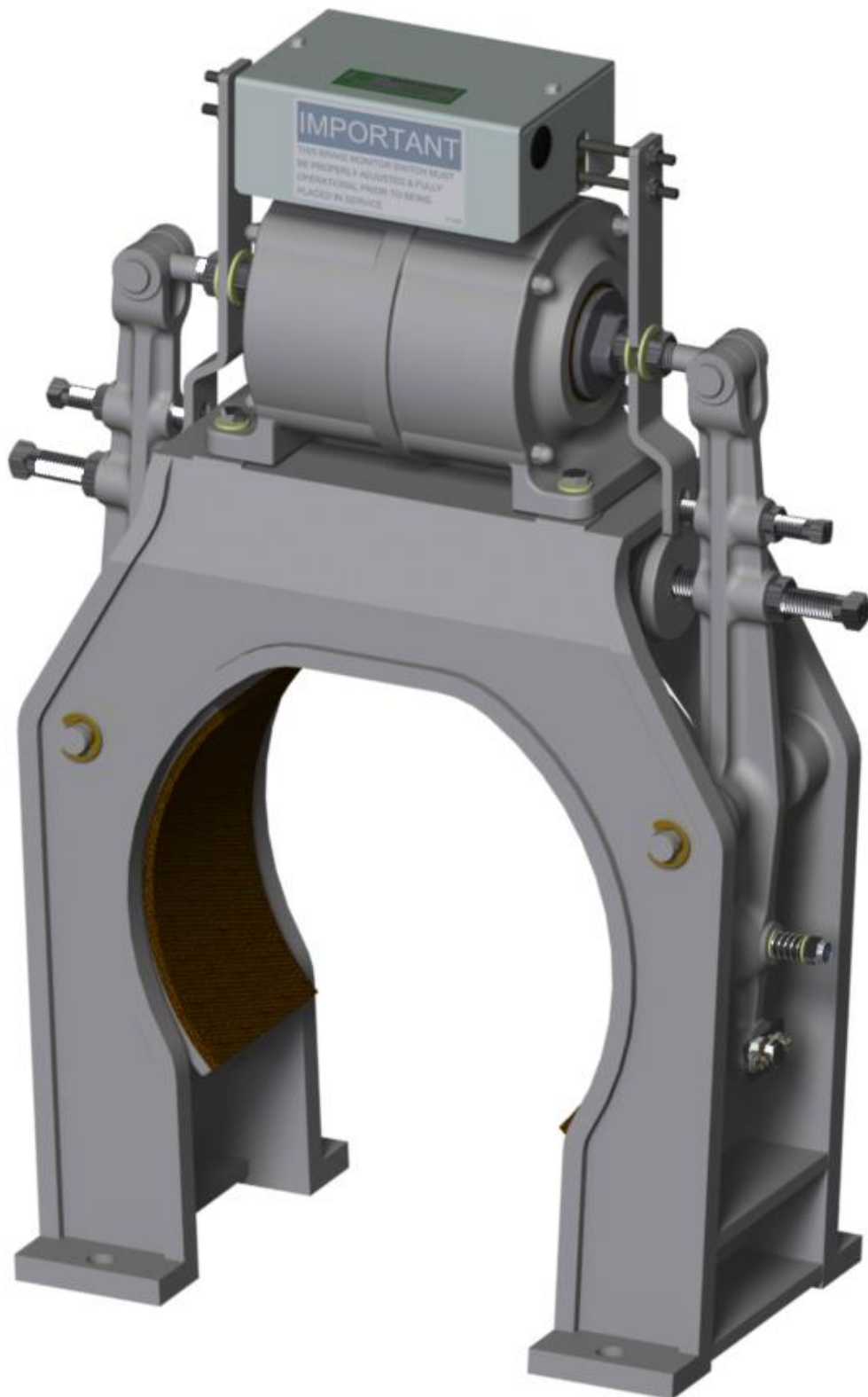


**DRUM BRAKE ADJUSTMENTS, MODELS #90, #100, #110 & #120  
#102-092 BRAKE MONITOR**

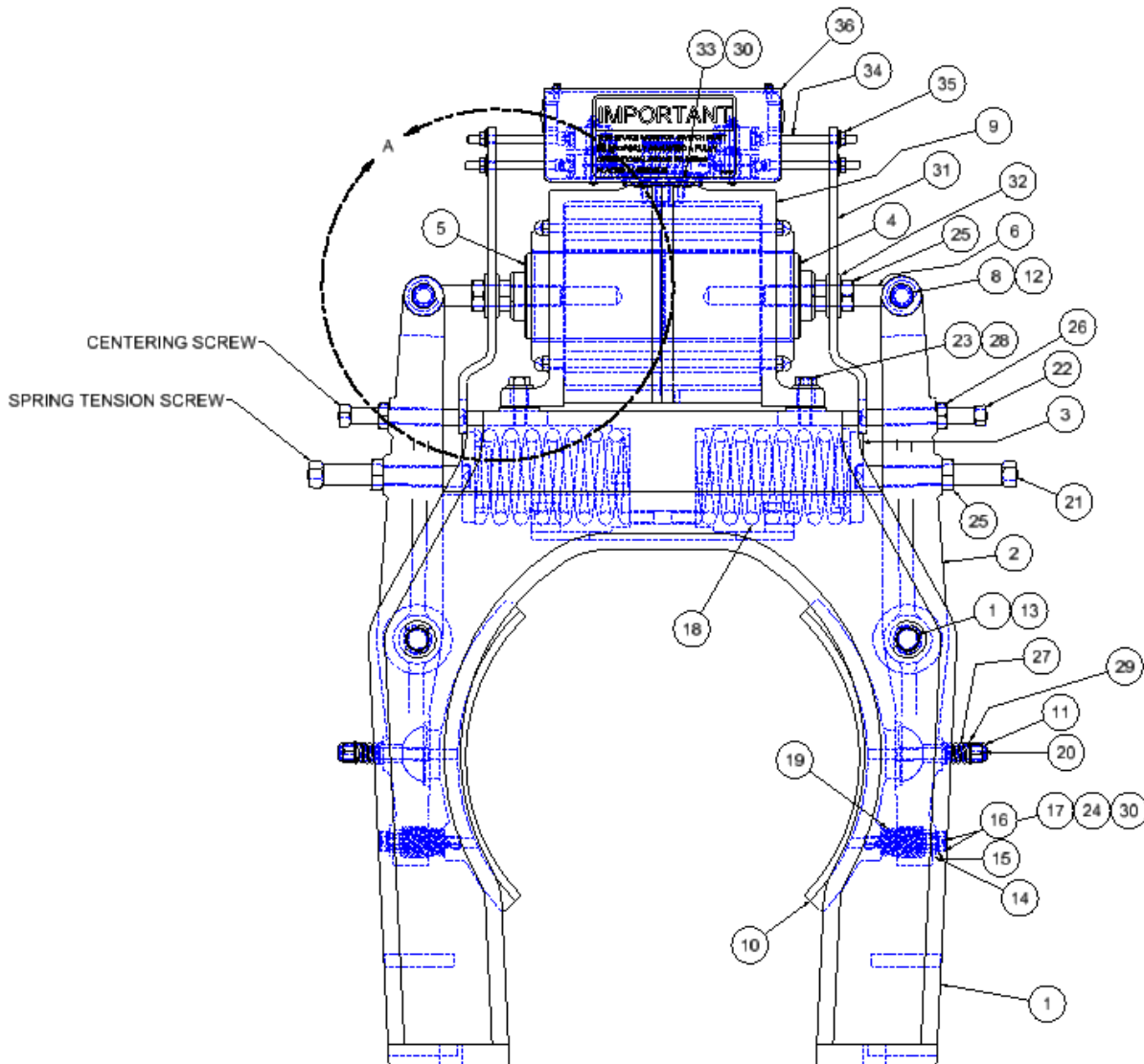


# HOLLISTER-WHITNEY

## 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	1	120-001		
2	2	90-003A	2	90-003A	2	110-003A	2	120-003A	2	120-003A		BRAKE LEVER w/ BUSHING	
3	2	90-005	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	1	120-006		PLUNGER - BRAKE	
5	1	90-007	1	90-007	1	90-007	1	120-007	1	120-007		PLUNGER w/ PLUNGER RING	
6	2	90-064	2	100-008	2	100-008	2	90-008	2	90-008		PLUNGER EYEBOLT	
7	2	90-012	2	100-012	2	110-012	2	120-012	2	120-012		PIN - BRAKE LEVER	
8	2	90-013	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	1	120-028		BRAKE SOLENOID ASSEMBLY	
9A	1	90-035	1	90-035	1	90-035	1	120-035	1	120-035		115V COIL	
9B	1	90-022	1	90-022	1	90-022	1	120-022	1	120-022		230V COIL	
10	2	90-029A	2	100-029A	2	110-029A	2	120-029A	2	120-029A		BRAKE SHOE ASSEMBLY	
11	2	90-030	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	2	90-032		E-CLIP, #5133-62	
13	4	90-033	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	2	90-036		PLATE - HEEL & TOE ADJUSTMENT	
15	2	90-045	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	2	110-038		BOLT - HEEL & TOE ADJUSTMENT	
17	4	90-039	4	90-039	4	90-039	4	90-039	4	90-039		WASHER	
18	2	400-032	2	400-032	2	400-032	2	400-034	2	400-034		SPRING - LEVER	
19	2	400-039	2	400-039	2	400-039	2	400-019	2	400-019		SPRING - SHOE	
20	2	500-023	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)	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)	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	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	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	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	2	1/2 - 13 UNC		HEX JAM NUT	
27	2	400-070	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	4	3/8 WASHER		STANDARD WASHER	
29	4	5/16 WASHER	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	6	#10 WASHER		LOCK WASHER	
31	2	90-093	2	100-093	2	100-093	2	120-093	2	120-093		EXTENSION - BRAKE ARM	
32	2	5/8 WASHER	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	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	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	4	1/4 - 20 UNC		WHIZ NUT	
36	1	102-091	1	102-091	1	102-091	1	102-091	1	102-091		MONITOR ASSEMBLY	
		102-092		102-092		102-092		102-092		102-092		MONITOR ASSEMBLY - GOLD CONTACTS	

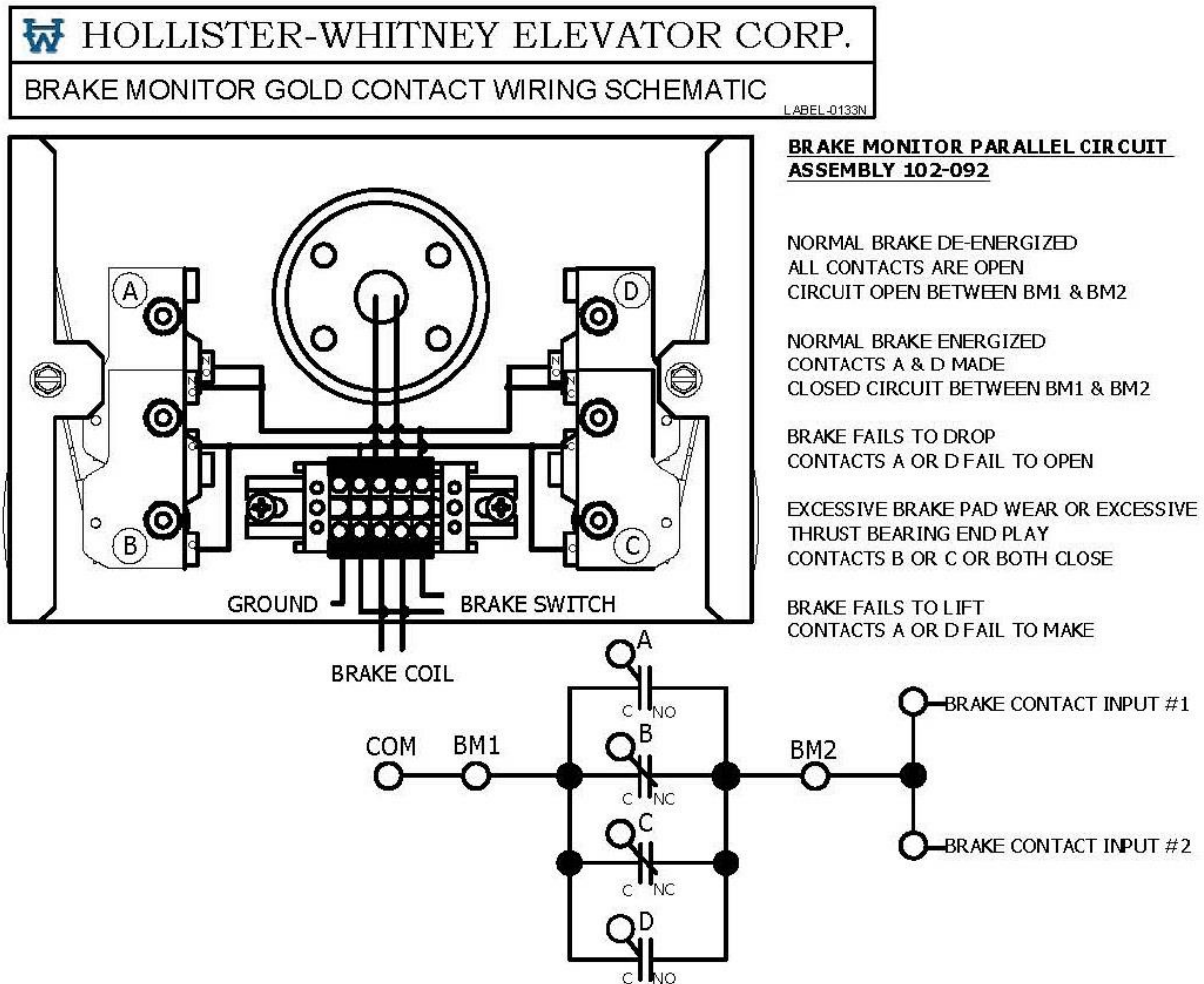
## BRAKE MONITOR SCHEMATIC AND WORKING PROCEDURE:

**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 !!**

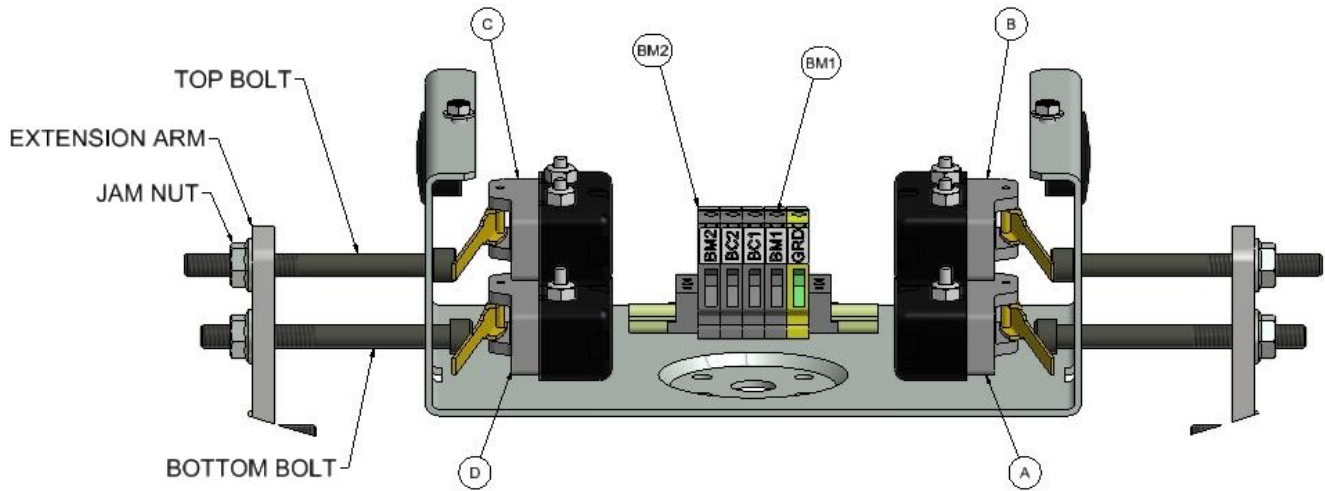


## BRAKE MONITOR ADJUSTMENT:

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

→→→→→→→→ IN ←←←←←←←←←←  
←←←←←←←←←← OUT →→→→→→→→→→  
MONITOR SHOWN WITH COVER REMOVED



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

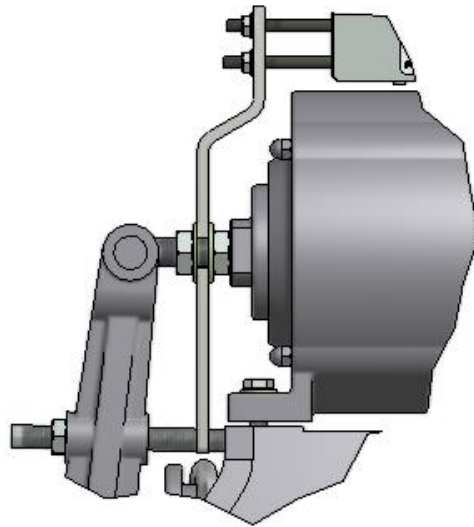
ANY ADJUSTMENT MADE TO THE BRAKE MIGHT AFFECT BRAKE MONITOR ADJUSTMENT.

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

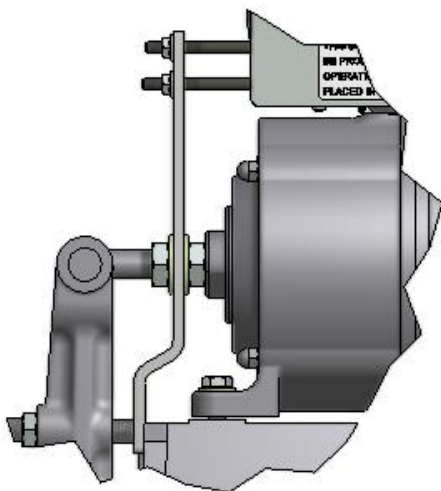
- 1) Constant 230 VDC, 0.82 A, 280 OHM or Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.16 A, 70 OHM or Step Down 125 V Pick, 75 V Hold

Coils for #120 Drum Brake

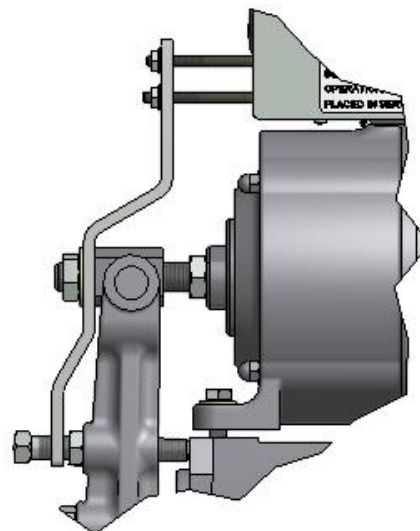
- 1) Constant 230 VDC, 0.74 A, 313 OHM or Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.38 A, 84 OHM or Step Down 125 V Pick, 75 V Hold



120 BRAKE  
DETAIL A



100 & 110 BRAKE  
DETAIL A



90 BRAKE  
DETAIL A

