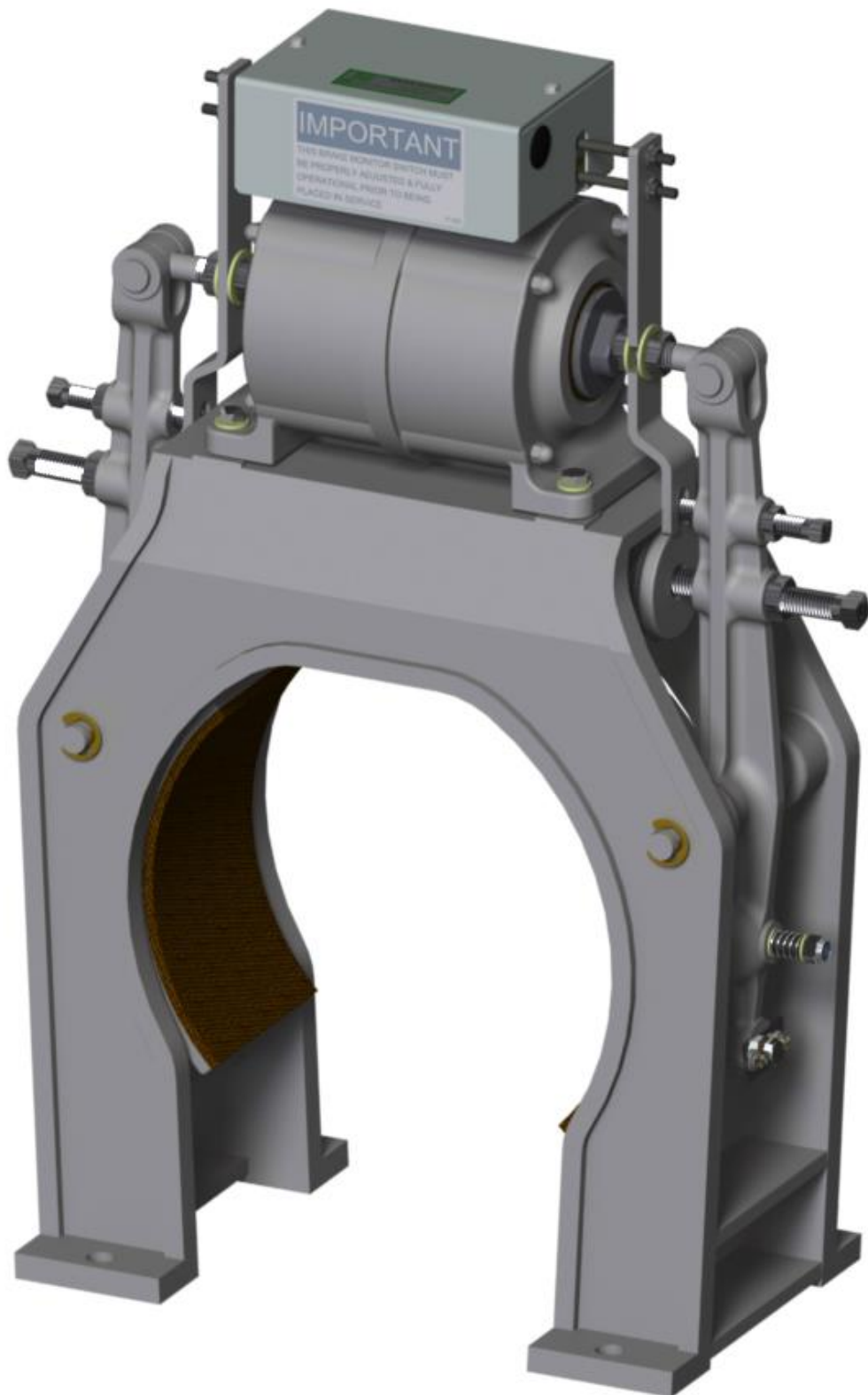


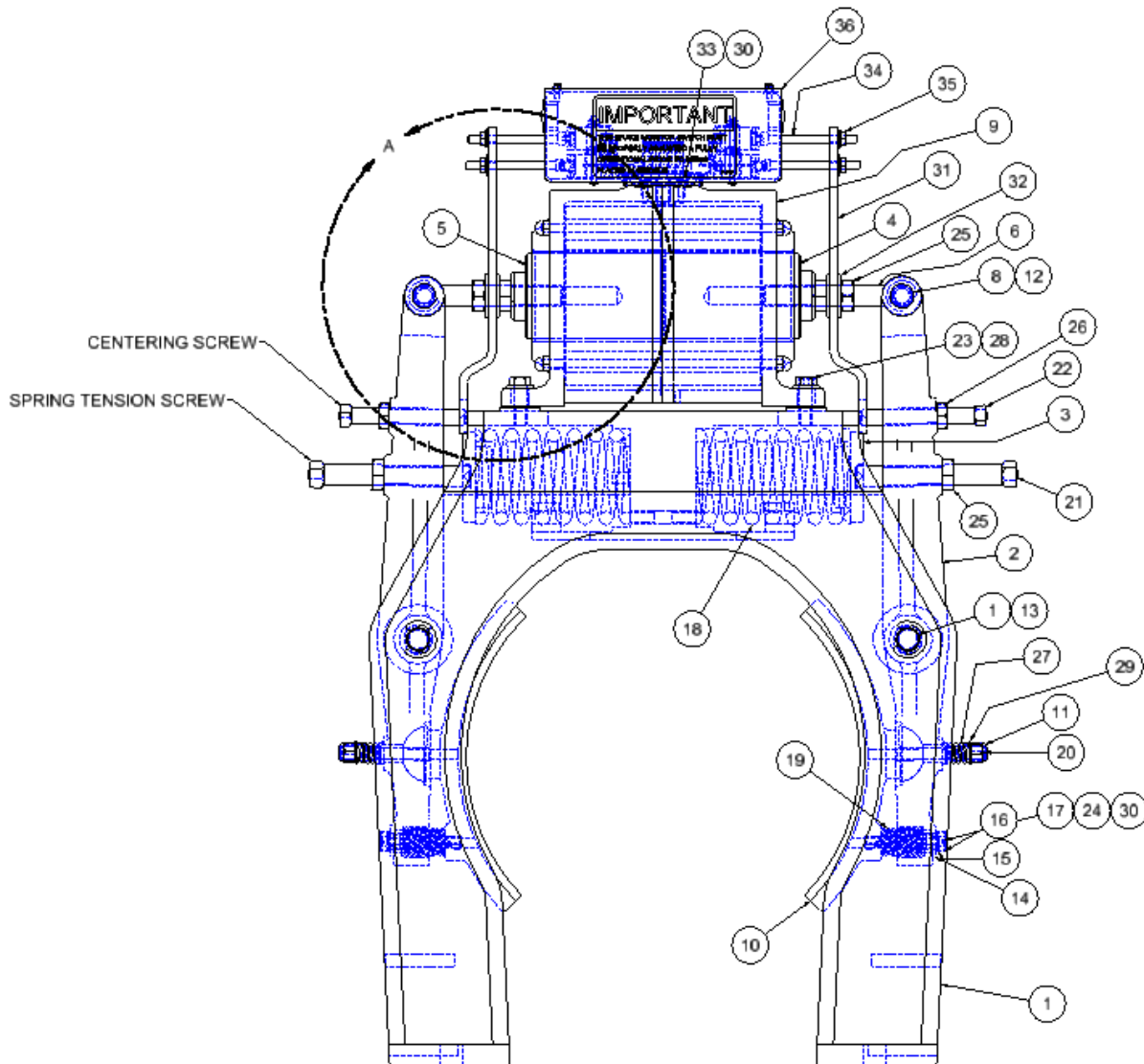
**DRUM BRAKE ADJUSTMENTS, MODELS #90, #100, #110 & #120
#102-092 BRAKE MONITOR**



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 | 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 | 100-008 | 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 | 400-034 | 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:

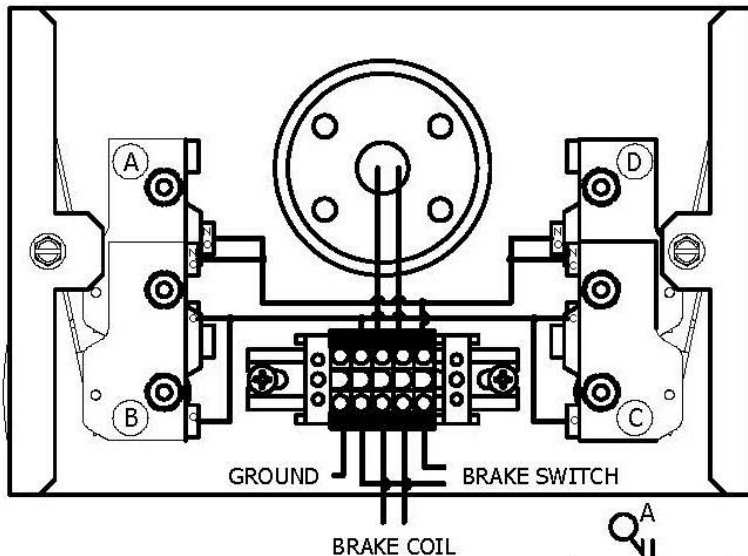
WARNING: IN ORDER TO DETECT A BRAKE FAILURE, THIS BRAKE MONITOR SWITCH MUST BE PROPERLY ADJUSTED & FULLY OPERATIONAL PRIOR TO BEING PLACED INTO SERVICE.

IMPORTANT: READ ENTIRE INSTRUCTIONS BEFORE ATTEMPTING ADJUSTMENT!!!

▲WARNING

SHOCK WARNING: ACTIVE ELECTRIC CIRCUITS!!

HOLLISTER-WHITNEY ELEVATOR CORP.
BRAKE MONITOR GOLD CONTACT WIRING SCHEMATIC
LABEL-0133N



BRAKE MONITOR PARALLEL CIRCUIT ASSEMBLY 102-092

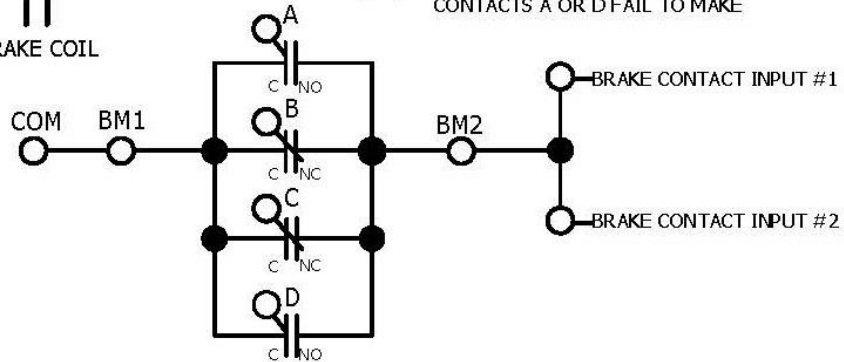
NORMAL BRAKE DE-ENERGIZED
ALL CONTACTS ARE OPEN
CIRCUIT OPEN BETWEEN BM1 & BM2

NORMAL BRAKE ENERGIZED
CONTACTS A & D MADE
CLOSED CIRCUIT BETWEEN BM1 & BM2

BRAKE FAILS TO DROP
CONTACTS A OR D FAIL TO OPEN

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

BRAKE FAILS TO LIFT
CONTACTS A OR D FAIL TO MAKE

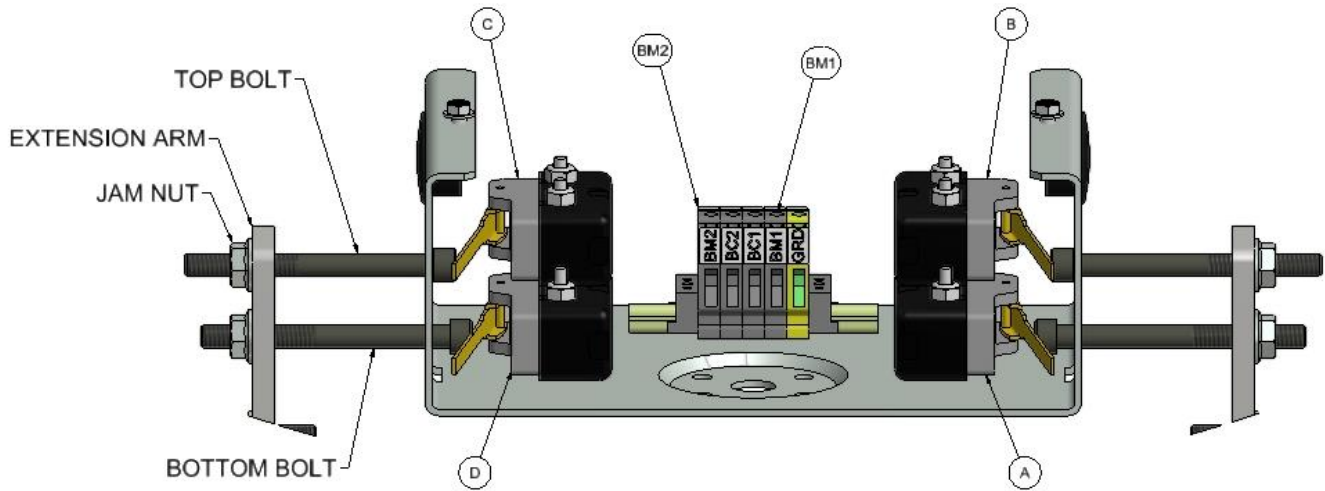


BRAKE MONITOR ADJUSTMENT:

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.

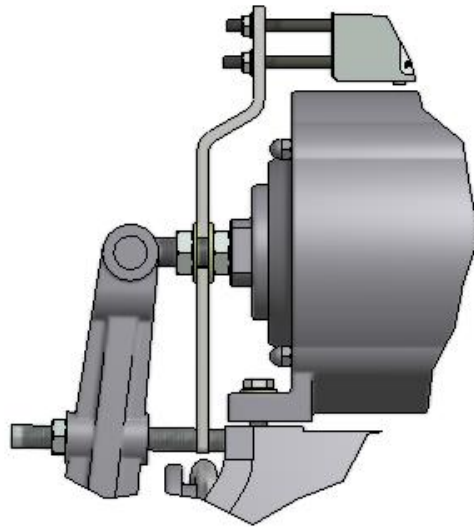
ANY ADJUSTMENT MADE TO THE BRAKE MIGHT AFFECT BRAKE MONITOR ADJUSTMENT.

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

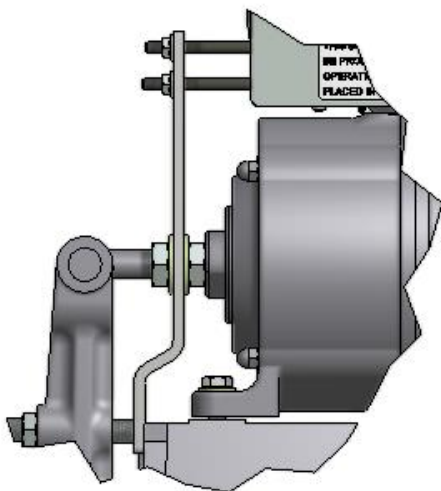
- 1) Constant 230 VDC, 0.82 A, 280 OHM or Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.16 A, 70 OHM or Step Down 125 V Pick, 75 V Hold

Coils for #120 Drum Brake

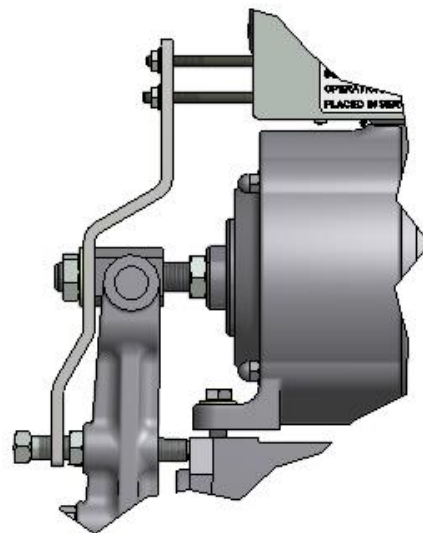
- 1) Constant 230 VDC, 0.74 A, 313 OHM or Step Down 250 V Pick, 150 V Hold
- 2) Constant 115 VDC, 1.38 A, 84 OHM or Step Down 125 V Pick, 75 V Hold



120 BRAKE
DETAIL A



100 & 110 BRAKE
DETAIL A



90 BRAKE
DETAIL A

Notes

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Procedures

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

