Hollister-Whitney Elevator Corporation

Repair and Maintenance Manual – Mayr Brakes
GL100, GL115, GL130, GL170, GL101, GL131, GL171, GL130A, GL185, & GL260
PMAC Gearless Machines
NOTICE TO THE CUSTOMER concerning sealing Hollister-Whitney PMAC Gearless Machines Brakes;

As the Customer may know, ASTM A17.1-2013/CSA B44-13 states in part (see section 8.6.4.20.4);

…” For elevators installed under ASME A17.1-2000/CSA B44-00 and later editions, have the brake setting verified in accordance with the data on the brake marking plate. ..Upon completion of the test, the means of adjusting the holding capacity shall be sealed to prevent changing the adjustment without breaking the seal….”

Hollister-Whitney uses the following MAYR Corporation disc brakes on the various Hollister-Whitney PMAC Gearless Machines:

- MAYR #6 ROBA-diskstop, #6/894.510.03s
- MAYR #8 ROBA-diskstop, #8/894.510.03s
- MAYR #10 ROBA-diskstop, #10/894.210.03s

These brakes are factory set, and holding capacity of these brakes is not adjustable.

Note again the code statement above; “…the means of adjusting the holding capacity shall be sealed…”

Since no “means of adjusting the holding capacity” are available, and brake holding capacity is not adjustable: no means are provided to modify the brake to accept a seal.
Table of Contents

I. RSD6 & RSD8 – MAYR #6 & #8 Brakes
   a. Brake Removal
   b. Replacement and Wear Items.
   c. Brake Install – Repair or Replacement
   d. Brake Service – After Repair or Replacement

II. RSD10 – MAYR #10 Brake
    a. Brake Removal
    b. Replacement and Wear Items.
    c. Brake Install – Repair or Replacement
    d. Brake Service – After Repair or Replacement

III. Warranty & Repair Information

IV. Support Documentation

BEFORE PERFORMING ANY MAINTENANCE ON THE MACHINE BRAKES, TAKE ALL THE NECESSARY SAFETY PRECAUTIONS TO IMMOBILIZE THE CAR AND COUNTERWEIGHT TO PREVENT ANY UNINTENDED MOVEMENT DURING THE MAINTENANCE PERIOD THAT MAY RESULT IN INJURY OR DEATH!

READ THE ENTIRE BRAKE REPLACEMENT PROCEDURE BEFORE BEGINNING ANY OF THE STEPS OUTLINED BELOW. CONTACT HOLLISTER-WHITNEY WITH ANY QUESTIONS PRIOR TO BEGINNING THE BRAKE REPLACEMENT.

BEFORE OPENING ANY ELECTRICAL ENCLOSURES ON THE MACHINE, REMOVE ALL ELECTRICITY FROM THE MACHINE AND BRAKES TO PREVENT ELECTRICAL SHOCK THAT MAY RESULT IN INJURY OR DEATH DURING THE MAINTENANCE PERIOD!

MAYR #6
31 lbs.

MAYR #8
53 lbs.

MAYR #10
168 lbs.
I. RSD6 & RSD8 - MAYR #6 & #8 Brakes

a. Brake Removal

- Tools required - Flat, small screwdriver (for terminal blocks), pliers or flat, large screwdriver (for conduit nut), 1/4” x 5” long bolt (for holding brake open), 3/16” hex key, 3/8” hex key, 3/8” wrench, 11/16” wrench (or adjustable wrench), hammer and punch.
- For machines equipped with the Hollister-Whitney manual brake release cable, begin by removing jam nut "A", nut "B" and washer "C." Then, undo nut "D." Refer to Figure 1.

Once the manual brake release cable hardware has been removed and loosened, slide the brake release cable out of the brake.

Energize the brake needing service (to unlock brake from machine rotor). Insert long ¼” bolt across mounting flanges to hold brake open while removing from machine. Refer to Figure 2.
After brake has been “bolted open” remove power to machine before opening electrical enclosure.

**BEFORE OPENING ANY ELECTRICAL ENCLOSURES ON THE MACHINE, REMOVE ALL ELECTRICITY FROM THE MACHINE AND BRAKES TO PREVENT ELECTRICAL SHOCK THAT MAY RESULT IN INJURY OR DEATH DURING THE MAINTENANCE PERIOD!**

**BEFORE REMOVING ANY WIRES FROM THE ELECTRICAL ENCLOSURE, WRITE DOWN THE WIRE COLORS AND TERMINAL BLOCK DESIGNATIONS FOR FUTURE REFERENCE! THIS INFORMATION WILL BE NECESSARY WHEN CONNECTING THE WIRES FOR THE NEW BRAKE!**

- After writing down the wire colors and terminal block designations, remove the proper brake wires from the terminal blocks “A” and the corresponding conduit nut "B.” Refer to Figure 3.
Loosen all brake mount bolts. When removing mounting bolts take note to catch any shims under brake mounts, see “A” Figure 4. (if applicable) With brake and mounting assembly held remove last bolt. Move brake assembly to a working area.

After placing brake assembly on a work surface slide brake off of mount to service, replace, or make repairs. See Figure 5.

b. **Replacement and Wear Items**

Replacement Friction Pad Assembly Matrix (lining glued on adaption plate)

<table>
<thead>
<tr>
<th>Mayr</th>
<th>Mayr #</th>
<th>Set Qty</th>
<th>HW Part # (set)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSD6</td>
<td>#8180880/each</td>
<td>2</td>
<td>146-004</td>
<td>1</td>
</tr>
<tr>
<td>RSD8</td>
<td>#8193719/each</td>
<td>2</td>
<td>144-004</td>
<td>1</td>
</tr>
</tbody>
</table>

Replacement Release Monitoring Assembly Matrix (switch on adaption plate)

<table>
<thead>
<tr>
<th>Mayr</th>
<th>Mayr #</th>
<th>HW Part #</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSD6</td>
<td>#8195278</td>
<td>146-005</td>
<td>1</td>
</tr>
<tr>
<td>RSD8</td>
<td>#8195278</td>
<td>146-005</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTE:** Replacement of Release Monitor Assembly does not require removal of brake from machine (if space is available)

c. **Brake Install – Repair or Replacement**

- If replacing old brake with a new brake, check to make sure brake is of same make and model. If not consult Hollister-Whitney Engineering.
- New brake will come shipped de-energized, brake open, and bolted open to allow for mounting on machine. **NOTE:** Do not remove bolt as this will release brake and you will not be able to fit the brake over machine rotor.
If just performing replacement for wear-out items, follow these steps after you have reassembled brake with replacement parts.

- Slide brake onto guide rods. Refer to Figure 6.
- Loosely install top bolt, “A” through brake base to hold brake assembly on housing. Figure 7.
- Install bottom bolts, with shims, (if applicable) between brake base and housing. Loosely tighten these. Remove temporary top bolt, slide shims between brake base and housing, install both bolts loosely, after all bolts have been started, you can tighten all bolts to attach brake assembly to housing.
- Make sure shims are used if necessary. If not, brakes will not be mounted at correct distance from center of rotor. Brakes will not perform as designed.
- After the brake is attached, route the new brake wires into the electrical enclosure. Be sure to place the conduit nut on the conduit fitting before securing the brake wires into the terminal block.
- Once the conduit fitting is secure, cut wires to the desired length and secure them into the terminal block using the wire color and terminal block designations that were written down during the brake removal phase.
- After everything has been re-installed in the electrical enclosure, and the electrical enclosure closed, remove bolt holding brake in “open” position. After that it is now time to re-apply electricity to the system. See Figure 8 for bolt removal.

![Figure 8](image)

**d. Brake Service – After Repair or Replacement**

i. **Brake Burnishing** – See Bulletin 1146 Section IV.d.
ii. **Manual Brake Release Adjustments** – See Bulletin 1146 Section V.c.
iii. **Brake Adjustments** – See Bulletin 1146 Section V.b.

**NOTE:** All new Friction Linings must be burnished. All brakes after they are reinstalled must be checked and adjusted for proper functioning.
II. RSD10 – MAYR Brake

a. Brake Removal

- Tools required - Flat, small screwdriver (for terminal blocks), pliers or flat, large screwdriver (for conduit nut), 11/16”, 3/8” or adjustable wrench (for manual brake release) 1-1/2” wrench, or large adjustable wrench. 30mm wrench (loosen and split brake halves)
- For machines equipped with the Hollister-Whitney manual brake release cable, begin by loosening and removing bolt “A” behind bracket, then loosen and remove socket head screw “B”. Refer to Figure 9.

![Figure 9](image)

BEFORE OPENING ANY ELECTRICAL ENCLOSURES ON THE MACHINE, REMOVE ALL ELECTRICITY FROM THE MACHINE AND BRAKES TO PREVENT ELECTRICAL SHOCK THAT MAY RESULT IN INJURY OR DEATH DURING THE MAINTENANCE PERIOD!

BEFORE REMOVING ANY WIRES FROM THE ELECTRICAL ENCLOSURE, WRITE DOWN THE WIRE COLORS AND TERMINAL BLOCK DESIGNATIONS FOR FUTURE REFERENCE! THIS INFORMATION WILL BE NECESSARY WHEN CONNECTING THE WIRES FOR THE NEW BRAKE!

- Remove power to machine before opening electrical enclosure
- After writing down the wire colors and terminal block designations, remove the proper brake wires from the terminal blocks “A” and the corresponding conduit nut "B." Figure 11.
- Loosen M20x90mm long bolts with 30mm wrench (to unlock brake from machine rotor). Refer to Figure 3.
- Remove 1”x3” long bolts with 1-1/2” wrench (to remove RSD10 from mount). Figure 10.
- USE CAUTION when removing brake from mount, it weighs 168 lbs. Use of 10mm lift ring and hoist is suggested. Refer to figure 10.
- Move brake assembly to a working area.
- Perform service, replace, or make repairs.

### b. Replacement and Wear Items

Replacement Friction Pad Assembly Matrix (lining glued on adaption plate)

<table>
<thead>
<tr>
<th>Mayr</th>
<th>Mayr #</th>
<th>HW Part # (Set = 2pads)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSD10</td>
<td>#8197142/each</td>
<td>143-004</td>
<td>1</td>
</tr>
</tbody>
</table>

Replacement Release Monitoring Assembly Matrix (switch on adaption plate)

<table>
<thead>
<tr>
<th>Mayr</th>
<th>Mayr #</th>
<th>HW Part #</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSD10</td>
<td>#8195278</td>
<td>146-005</td>
<td>1</td>
</tr>
</tbody>
</table>
c. **Brake Install – Repair or Replacement**

- If replacing old brake with a new brake, check to make sure brake is of same make and model. If not consult Hollister-Whitney
- If installing a new brake, the new brake will come shipped energized, brake closed, the (4) M20 x 90mm long bolts will need to be loosened to allow for mounting on machine. **NOTE:** Do not remove bolts only loosen enough to widen gap to allow brake to slide over rotor on machine.
- Using eye bolt and hoist, position brake and bolt back onto brake mount. Using 1” UNC x 3” long bolts. Reference Figure 3 above
- After the brake is attached, route the wires into the electrical enclosure (if applicable). Be sure to place the conduit nut on the conduit fitting before securing the brake wires into the terminal block.
- Once the conduit fitting is secure, cut wires to the desired length and secure them into the terminal block using the wire color and terminal block designations that were written down during the brake removal phase.
- After everything has been re-installed in the electrical enclosure, and the electrical enclosure closed, tighten (4) M20 x 90mm long bolts. Now it is time to re-apply electricity to the system.
- Reinstall the manual brake release (if applicable)

d. **Brake Service – After Repair or Replacement**

i. Brake Burnishing – See Bulletin 1162 Section IV.d.
iii. Brake Adjustments – See Bulletin 1162 Section VI.b.

**NOTE:** All new Friction Linings must be burnished. All brakes after they are reinstalled must be checked and adjusted for proper functioning.
III. Warranty and Repair Information

- All parts and equipment manufactured by Hollister-Whitney Elevator Corporation are guaranteed against defects in material and workmanship for a period of one (1) year from the date of shipment. Warranty covers only the repair or replacement of parts, F.O.B. our factory, upon determination by inspection at our factory that warranty is applicable. Equipment and components not of our manufacture are warranted only to the extent of the original manufacturer's warranty. Our warranty specifically does not include any other incidental liability or expense such as transportation, labor, and unauthorized repairs.

- Manuals & Information can be found at: http://www.hollisterwhitney.com/#tech-support

Bulletin 1146 – for GL100, GL115, GL130, & GL170 Machines
Bulletin 1146S – Dimensions and Parts Lists for GL100, GL115, GL130, & GL170 Machines
Bulletin 1162 - for GL101, GL131, GL171, GL130A, GL185, & GL260 Machines

- For free technical support, contact Hollister-Whitney at 217-222-0466 or send an e-mail to info@hollisterwhitney.com

IV. Support Documentation

- 146-004 – RSD6 – Replacement Friction Linings Kit
- 144-004 – RSD8 – Replacement Friction Linings Kit
- 143-004 – RSD10 – Replacement Friction Linings Kit
- 146-005 – RSD6,8,&10 – Replacement Release Monitor Assembly Kit
146-004 FRICTION LININGS KIT INCLUDES:

- 1. (2) 146-004-1 - FRICTION LININGS (2 PADS TOTAL)
- 2. (8) M6x1.00 - 12mm LONG (12.9 grade) FLAT HEAD SOCKET SCREWS
- 3. THREAD LOCKING COMPOUND (LOCTITE 243 OR EQUAL)
- 4. 4mm HEX WRENCH
- 5. M6x1.00 TAP
- 6. 146-004.pdf (PRINT)

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

1. Bulletin 1158 - Mayr Brakes Repair / Maintenance

Tools needed or suggested:

1. Adjustable wrench
2. Small flat screwdriver - remove wires from terminal block
3. 3/8" Hex Key - Use on brake mount screws
4. 8mm Hex Key - Used for screws on brake to separate halves
5. Feeler gauges - from 0.020" to 0.040" - for setting and adjusting brakes

Brake friction pad assembly replacement procedure: - (as suggested by Mayr Brake Corp.)

1. Perform work on brake in a work area. Use proper safety devices to insure that elevator will not move while performing brake work.
2. Remove brake from machine. (Refer to Bulletin 1158 to remove brake from machine)
3. Unbolt the brake halves to allow access to worn friction linings. With 8mm hex key, remove the three bolts holding the brake together. If shims are present between halves, they must be replaced for brake to function properly.
4. Remove flat head socket screws that hold the friction linings to brake halves. (4mm hex key)
5. Clean threads in holes with tap to remove old thread locking compound if necessary.
6. Apply thread locking compound to new screws, screw new linings to brake halves.
7. Torque screws using standard torque values for grade 12.9 screws.
8. Assemble halves, making sure shims (if present) are between brake halves.
9. Install brake on machine & setup brake to proper adjustment. See Bulletins listed above for adjusting brake.

Reminder:

All new friction linings need to be burnished. See Bulletins 1146 or 1162. Check to make sure brake is adjusted & functioning correctly before returning elevator to running order.
144-004 FRICTION LININGS KIT INCLUDES:

*****************************************************************************
1. (2) 144-004-1 - FRICTION LININGS (2 PADS TOTAL)
2. (4) M8x1.25 - 16mm LONG (12.9 grade) FLAT HEAD SOCKET SCREWS
3. (6) M8x1.25 - 12mm LONG (12.9 grade) SOCKET HEAD CAP SCREWS
4. THREAD LOCKING COMPOUND (LOCTITE 243 OR EQUAL)
5. 5mm HEX WRENCH - (FLAT HEAD SOCKET SCREWS)
6. 6mm HEX WRENCH - (SOCKET HEAD CAP SCREWS)
7. M8x1.25 TAP
8. 144-004.pdf (PRINT)
*****************************************************************************

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

1. Bulletin 1158 - Mayr Brakes Repair / Maintenance

Tools needed or suggested:

1. Adjustable wrench
2. Small flat screw driver - remove wires from terminal block
3. 1/2" Hex Key - Use on brake mount screw
4. 10mm Hex Key - Used for screws on brake to separate halves
5. Feeler gauges - from 0.020" to 0.040" - for setting and adjusting brakes

Brake friction pad assembly replacement procedure: - (as suggested by Mayr Brake Corp.)

1. Perform work on brake in a work area. Use proper safety devices to insure that elevator will not move while performing brake work.
2. Remove brake from machine. (Refer to Bulletin 1158 to remove brake from machine)
3. Unbolt the brake halves to allow access to worn friction linings. With 10mm hex key, remove the three bolts holding the brake together. If shims are present between halves, they must be replaced for brake to function properly.
4. Remove socket cap screws that hold the friction linings to brake halves. (5mm & 6mm hex keys)
5. Clean threads in holes with tap to remove old thread locking compound if necessary.
6. Apply thread locking compound to new screws, screw new linings to brake halves.
7. Torque screws using standard torque values for grade 12.9 screws.
8. Assemble halves, making sure shims (if present) are between brake halves.
9. Install brake on machine & setup brake to proper adjustment. See Bulletins listed above for adjusting brake.

Reminder:

All new friction linings need to be burnished. Check to make sure brake is adjusted & functioning correctly before returning elevator to running order.
143-004 FRICTION LININGS KIT INCLUDES:

- 1. (4) 143-004-1 - FRICTION LININGS (4 PADS TOTAL)
- 2. (24) M6x1.00 - 12mm LONG (12.9 grade) LOW HEAD SOCKET CAP SCREWS
- 3. THREAD LOCKING COMPOUND (LOCTITE 243 OR EQUAL)
- 4. 5mm HEX WRENCH
- 5. M6x1.00 TAP
- 6. 143-004.pdf (PRINT)

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

Tools needed or suggested:

1. Adjustable wrench
2. Small flat screwdriver - remove wires from terminal block
3. 1-1/2" Wrench - Use on brake mount screw
4. 30mm Wrench - Used for screws on brake to separate halves
5. Feeler gauges - from 0.020" to 0.040" - for setting and adjusting brakes

Brake friction pad assembly replacement procedure: - (as suggested by Mayr Brake Corp.)

1. Perform work on brake in a work area. Use proper safety devices to insure that elevator will not move while performing brake work.
2. Remove brake from machine. (Refer to Bulletin 1158 to remove brake from machine)
3. Remove 30mm screws on brake half to allow access to worn friction linings. If shims are present between halves, they must be replaced for brake to work properly.
4. Remove socket head cap screws that hold the friction linings to brake halves. (5mm hex key)
5. Clean threads in holes with tap to remove old thread locking compound if necessary.
6. Apply thread locking compound to new screws, screw new linings to brake halves.
7. Torque screws using standard torque values for grade 12.9 screws.
8. Assemble halves, making sure shims (if present) are between brake halves.
9. Install brake on machine & setup brake to proper adjustment. See Bulletins listed above for adjusting brake.

Reminder:

All new friction linings need to be burnished. Check to make sure brake is adjusted & functioning correctly before returning elevator to running order.
146-005 MICRO SWITCH KIT INCLUDES:

- 1. 146-005-1 - MICRO SWITCH
- 2. (2) M2 X 0.4 X 10mm LONG SOCKET HEAD SCREW
- 3. (2) M4 X 0.7 X 8mm LONG SOCKET HEAD SCREW
- 4. 146-005 PRINT

Tools needed or suggested:

1. Small flat screw driver - remove wire from terminal block & brass screws on switch if applicable
2. 5mm Hex Key - RSD6 electrical cover
3. Medium flat screw driver - RSD8 electrical cover
4. 8mm & 4mm Hex Key - RSD10 electrical cover
5. 1.5mm hex key - socket head bolts on switch if applicable
6. 3mm hex key - socket head bolts holding switch to brake if applicable
7. Wire strippers - cutting and stripping of wires
8. Pliers - removal of conduit if necessary

Micro switch replacement procedure:

1. Switch change-out can be performed while brake is mounted on machine. Use proper safety to insure that elevator will not move while performing brake work. See that precautionary measures are used when working around electricity.
2. Remove electrical cover from brake.
3. Loosen and remove screws holding switch to brake (use 3mm hex key). These screws should be located in aluminum plate attached to switch itself. If no aluminum plate is present, remove switch by loosening and removing small screws holding switch to brake(brass pan head flat slot or steel hex head screws. Take care with removal of brass screws).
4. Open electrical enclosure. Be sure power is off to machine while enclosure is open.
5. Loosen and remove corresponding wires from switch.
6. Pull switch wires through conduit.
7. If small screws where removed to release "bad" switch from brake, then same will have to be performed with new supplied switch (remove aluminum mounting plate).
8. Install new supplied switch. (Us supplied screws for coreresponding attachemnt style).
9. Route wiring through conduit and into electrical enclosure.
10. Cut wiring to desired length
11. Reinstall wiring as removed in step 5.
13. Check to make sure brake is adjusted & functioning correctly before returning elevator to running order. (See Bulletin 1158 for Reference)