Hollister-Whitney Elevator Corporation

Instruction for Checking Brake Torque by Slipping Brake – Empty Car

For use with

Hollister-Whitney Drum Brakes

&

Hollister-Whitney Disc Brakes

Mounted on Hollister-Whitney Machines

IMPORTANT NOTICE: This procedure may not be appropriate for some combinations of Gearing, Capacity, Hoistway Conditions and/or Machine Set-up. Each installation must be Field Tested for verification.

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Introduction – Verification of Brake Settings

To comply with the A17 and B44 Codes, Hollister-Whitney requires all Hollister-Whitney Brakes to stop and hold a downward moving car loaded at 125% of capacity. This Instruction Bulletin is intended to be used AFTER this requirement is met to establish a Brake Sliding Torque Benchmark, thus allowing for future Annual Qualification Testing of the Brake.

Brakes MUST be adjusted to meet all local, city, state and national codes.

The installation crew, mechanic, adjuster, and maintenance personnel should be thoroughly familiar with the proper installation, adjustment, operation, and maintenance of the Hollister-Whitney Disc or Hollister-Whitney Drum Brake prior to any Brake adjustment or testing.

SAFE ELEVATOR OPERATION DEPENDS ON PROPER BRAKE OPERATION DURING INSTALLATION, AS WELL AS THROUGHOUT THE LIFE OF THE ELEVATOR.

For Standard Brake Adjustment Instructions please see:

http://www.hollisterwhitney.com/#tech-support


Read and Understand ALL of the following Brake Instructions BEFORE starting this procedure!!

Tools Required

- Calibrated ½” Drive Torque Wrench – Dial Indicator or Digital Readout preferred, Click-Type not recommended.
- Hollister-Whitney Brake Load Testing Tool – See Table 1 Below

<table>
<thead>
<tr>
<th>Tool P/N</th>
<th>Machine</th>
<th>Brake</th>
<th>Adjustment Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>34-224</td>
<td>#34</td>
<td>92 Disc</td>
<td>E-163</td>
</tr>
<tr>
<td>43-224</td>
<td>#43</td>
<td>90 Drum</td>
<td>E-165</td>
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<tr>
<td>44-224</td>
<td>#44</td>
<td>102 Disc</td>
<td></td>
</tr>
<tr>
<td></td>
<td>#54</td>
<td>102 Disc</td>
<td></td>
</tr>
<tr>
<td>53-224</td>
<td>#53</td>
<td>100 Drum</td>
<td>E-165</td>
</tr>
<tr>
<td></td>
<td>#63</td>
<td>110 Drum</td>
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</tr>
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<td>64-224</td>
<td>#64</td>
<td>112 Disc</td>
<td>E-164</td>
</tr>
<tr>
<td>74-224</td>
<td>#74</td>
<td>120 Drum</td>
<td>E-165</td>
</tr>
</tbody>
</table>

Table 1 – Tools used per Machine & Brake

- Hollister-Whitney Brake Tags (see Figure 2):
  - For each Hollister-Whitney Drum Brake, use one Tag #P-155B, or
  - For each Hollister-Whitney Disc Brake, use one Tag #P-156B
Brake Torque Qualification Benchmarking

- Confirm Car is Out of Service, and Main Line Power is OFF.
- **Confirm all Proper Safety Precautions are in place.**
- Confirm Empty Car is at Top Landing.
- Confirm Brakes have been properly adjusted and qualified for 125% Load. Refer to proper Brake Adjustment Document listed in Table 1. When Brake adjustment is confirmed, a benchmark for the “Empty Car – Brake Sliding Torque” may be established.
- Refer to Figure 1. Place appropriate Load Testing Tool over 2 bolt **heads** (this may be on the motor hub side, or on the machine side) of the machine shaft assembly.

**IMPORTANT**: Do Not attach or use one socket directly on one bolt; this may loosen or over-tighten a connecting bolt and may cause future issues.

- Insert ½” drive of Torque Wrench into ½” socket of Load Testing Tool. Note that short socket extensions may be necessary.

**IMPORTANT**: Note Orientation of Torque Wrench to Load Testing Tool must be 90° for proper torque testing.

- Take Careful note of Torque Indicator (dial, readout, or etc.) of Wrench.
• Apply pressure to Wrench in appropriate direction to Lift Counter Weight (Empty Car Down). When Brake Disc slips, record Torque indicated.
• Apply pressure to Wrench in appropriate direction to Lift Empty Car (Empty Car Up). When Brake Disc slips, record Torque indicated.
• Refer to Figure 2. Using a scribe, punch, engraver or other permanent marking instrument, permanently record Torque on the appropriate Brake Tag in the spaces provided.
• Affix Tag to Brake, replacing old Brake Tag as applicable.
• When complete, remove all tools from machine, perform all safety checks necessary for returning the elevator to service.

Figure 2 - Hollister-Whitney Brake Tags, Blank

**Brake Torque – Annual or Interim Testing**

• Confirm Car is Out of Service.
• Confirm Brake has not been tampered with and is in good working order.
• Run elevator to assure proper Brake operation, arm alignment, and shoe clearance
  o Both shoes pick up and drop at the same time.
  o Brake arms
    ▪ Disc Brake - parallel and straight up.
    ▪ Drum Brake - orientation equal on both sides.
  o Shoes
    ▪ Disc Brake - parallel to disc with proper and equal air gap on both sides.
    ▪ Drum Brake - equal and proper air gap and heel and toe adjustment on both sides.
  o Proper setting of centering screws.
  o Proper coil voltage to always energize the Brake. Coil may lose 30% of power when hot.
  o Proper adjustment of monitor switch or other brake switches to indicate proper Brake Operation.
• Confirm all Proper Safety Precautions are in place.
• Re-Confirm Car is Out of Service, and Main Line Power is OFF.
• Confirm Empty Car is at Top Landing.
• Refer to Figure 1. Place appropriate Load Testing Tool over 2 bolt heads (this may be on the motor hub side, or on the machine side) of the machine shaft assembly.
**IMPORTANT:** Do Not attach or use one socket directly on one connecting bolt; this may loosen or over tighten a connecting bolt and may cause future issues.

- Insert \(\frac{1}{2}\)” drive of Torque Wrench into \(\frac{1}{2}\)” socket of Load Testing Tool. Note that short socket extensions may be necessary.

**IMPORTANT:** Note Orientation of Torque Wrench to Load Testing Tool must be 90° for proper torque testing.

- Take Careful note of Torque Indicator (dial, readout, or etc.) of Wrench.
- Apply pressure to Wrench in appropriate direction to Lift Counter Weight (Empty Car Down). When Brake Drum/Disc slips, record Torque indicated.
- Apply pressure to Wrench in appropriate direction to Lift Empty Car (Empty Car Up). When Brake Drum/Disc slips, record Torque indicated.
- Compare newly recorded Torques to Benchmarked Torques recorded on Brake Tag. Refer to Figure 2.
  - If new Torques are equal (or greater) than old Torques, take appropriate steps to record testing and return elevator to service.
  - If new Torques are less than old Torques, brakes must be readjusted and Benchmarks confirmed or reestablished. See appropriate Brake Adjustment Document listed in Table 1.
- When complete, remove all tools from machine, perform all safety checks necessary for returning the elevator to service.

Figure 3 – Tool Placement: Drum Brake Testing, Disc Brake Similar, See Figure 1

Contact Information for further Information or Questions:

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