Elevating and Amusement Devices
Safety Division

DIRECTOR’S RULING

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<th>Ref. No.:</th>
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**Subject:** ELEVATORS EQUIPPED WITH DOVER 105B OR GD105 MACHINES AND MP-1 CONTROL RETROFITTING OF MACHINE BRAKES REQUIRED

**Sent to:** ALL ELEVATOR CONTRACTORS IN SCOPE A1 & F1 (& CONSULTANTS)

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1. **Order to Contractors**
   If you are maintaining elevators that are equipped with both, DOVER 105B OR GD105 MACHINES and MP-1 CONTROL:
   you shall ensure that, not later than JULY 1, 1993, the machine brake arm and controller brake resistor on such elevators are retrofit and readjusted, if necessary, in accordance with the DOVER recommendations copied below (see underlined paragraphs) and instructions contained in DOVER kit No. 363280.

   **NOTE:** Machine type 105B or GD105 is identified on the machine data plate. Controller type MP-1 is identified on its data plate located at the top central part of the controller cabinet.

   If the required work does not constitute a part of your maintenance contract and you cannot obtain authorization from the owner to complete the work, you must inform this branch immediately, indicating the elevator installation numbers (to the attention of N.L. Benn, re EDB Ruling 104/93), so that we may issue an order to that owner to have the retrofit completed.

2. **Dover Retrofit Recommendation**
   The following are excerpts from a Dover letter sent to this ministry explaining the inherent deficiencies and containing the procedure for necessary retrofits (underlined).

   We have recently discovered some potential deficiencies with the brakes on the above mentioned type of equipment. The Dover branches have been advised of these deficiencies and are attending to those we still maintain as quickly as possible, but those jobs being maintained by other companies should be reviewed and corrected if required.

   The conditions that exist are as follows:

   1) The original installation instructions did not specify that there should be 100 VDC across that brake solenoid coil when the brake is lifted (measured between B3 & B4 on the terminal panel), and has been found to be as low as 35 V which may be insufficient to lift the brake under certain conditions, causing the brakes to drag, and linings to wear out.

      **We are recommending that Dover Kit No. 363280 be ordered which includes a 25 ohm resistor with mounting hardware (to be put in series with the existing resistor), and detailed rework and maintenance instructions which can be applied to the inside of one of the controller doors for future reference.**

   2) It is possible to mount the solenoid onto the brake arm in such a way as to cause the rear guide pin of the solenoid core to rub on the bottom of the clearance slot in the brake arm, which will make the problem of low coil voltage worse.

      **We are recommending that the solenoid be removed, and the clearance slot IN THE BRAKE ARM be filled down about 2-3 mm. The solenoid can then be reinstalled, and re-aligned to ensure that the push rod is well centred in the core tube. The stroke adjustment screw is then adjusted to ensure that there is approximately 11 mm of stroke in the solenoid core when the brake is applied. The 3/16” free play mentioned on the brake tag was intended to be Minimum value before readjustment is necessary, but it may have been interpreted as the desired initial setting.**

      We ask that this notice be passed on to any firm maintaining this type of equipment.

   The above mentioned kit (363280) can be obtained from:
   Dover Elevators- National Distribution Centre
   25 Connell Court, Unit 4 Toronto, Ontario, M8Z IE8 (416) 253 – 8087