Allen-Bradley 1336M Dynamic Brake Control Board Replacement

What This Instruction Covers

This publication provides you with the information necessary to reconnect the Chopper Transistor Gate and Emitter flying leads when switching from a Series A, B or C to a Series C Dynamic Brake Control Board on 1336M AC Drives supplied to KONE Elevator Company.

Why These Installation Instructions Must be Implemented

There are three (3) versions of Dynamic Brake Control boards that have been used on the Allen–Bradley 1336M AC drives. The assembly numbers are:

- AB catalog no. 1336M–BKB–SP1A; AB part no. 74101–158–51; Kone part no. 91376–001 and has V1.02 or V1.03 EPLD for U11. This board is known as a Series A board and has been obsoleted.
- AB catalog no. 1336M–BKB–SP1B AB part no. 74103–342–51; Kone part no. 91979–001 and has V2.01 EPLD for U11. This board is known as a Series B board and has been obsoleted.
- AB catalog no. 1336M–BKB–SP1C AB part no. 191101; Kone part no. 95494–001. This board is known as a Series C board and is the only board available as a replacement part.

The **Series A DB Control Board,** which is no longer available as a spare part can only be used on 14 Amp to 48 Amp (7.5 to 30 HP) 1336M drives.

The **Series B DB Control Board** which is no longer available as a spare part, can be used on all 1336M drives. The **Series C DB Control Board** can be used on all 1336M drives.

ATTENTION: Severe injury or death can result from electrical shock, burn, or unintended actuation of controlled equipment. Hazardous voltages may exist in the cabinet even with the circuit breaker in the off position. Multiple sources of power may be connected to the 1336M Drive. Recommended practice is to disconnect and lock out equipment from all power sources and discharge stored energy in capacitors, if present. If it is necessary to work in the vicinity of energized equipment, the safety related work practices of NFPA 70E, Electrical Safety Requirements for Employee Workplaces, must be followed. DO NOT work alone on energized equipment!

Replacement Instructions

Deenergize the drive by removing all input voltages (460 Volts, 115 Volts and 24 Volts) that are connected to the drive. Wait until the DC Bus voltage has discharged to at least 5 VDC (wait at least two minutes after power has been removed and the drive has deenergized to ensure this).

ATTENTION: This Drive contains ESD (Electrostatic Discharge) sensitive parts and assemblies. Static Control precautions are required when installing, testing, servicing or repairing this assembly. These precautions should be applied when working with the Dynamic Brake control board. Component damage may result if ESD control procedures are not followed. If you are familiar with static control procedures, reference A–B publication 8000–4.5.2, *Guarding Against Electrostatic Damage* or any other applicable ESD Protection Handbook.

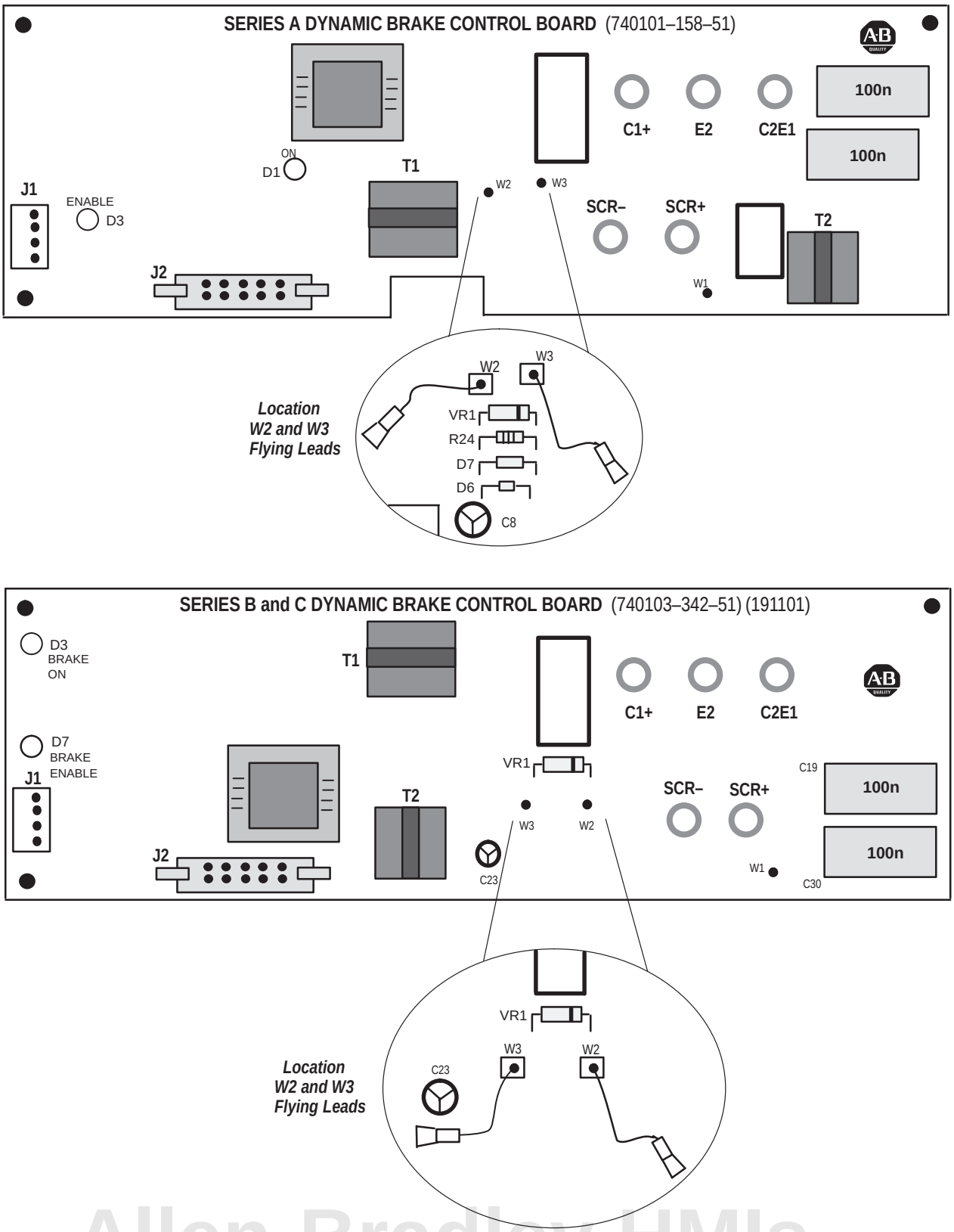
Board Replacement Wire Connection:

- When replacing a Series A Dynamic Brake Control Board with a Series B or C board, it is necessary to reconnect the Chopper Transistor Gate and Emitter leads by wire designator, **NOT** by physical location.
- On All series boards (See Fig.1), the wire marked as “W3” is always connected to the gate lead of the transistor “G2”. The wire marked “W2” is always connected to the emitter lead of the transistor “E2”.
- “W3” and “W2” are silk screened on the boards next to the flying leads (Fig. 1). “G2” and “E2” are imprinted upon the plastic case of the transistor directly next to the small spade leads for these connections.

Identifying Terminal Physical Locations:

- “W3” and “W2” are physically **NOT** in the same location on A, B and C series boards.
- Special care must be taken when installing these leads as it is easy to swap leads onto the transistor gate and emitter terminals when changing from one series board to another. Study the illustration in Figure 1 carefully before installing the leads on the new board.
- If leads were swapped, and the drive energized, the Dynamic Brake Control board could identify the situation as a shorted Chopper transistor and would gate the crowbar SCR, blowing the DC Bus fuse “F4”. If this were to occur, it would be necessary to change the Chopper transistor, Crowbar SCR, and DC Bus fuse, F4.

Figure 1.
Terminal Locations On Series A and B Dynamic Brake Control Boards



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