



1334-MOD-K10

Dynamic Braking

Description The Bulletin 1334-MOD-K10 Dynamic Braking Option Kit contains components to perform the dynamic braking function for a Bulletin 1334 15, 20 or 25HP, 575V, Series A Drive. When installed, the 1334-MOD-K10 permits the Drive to generate a 100% braking torque in the motor during motor regenerating conditions. The Dynamic Brake duty cycle is 20% with a maximum braking time of 20 seconds.

The 1334-MOD-K10 Kit includes two major assemblies. One is a combined Brake Board and Power Transistor Assembly that is installed in the Drive — the other is a Brake Resistor Assembly that is installed externally.

Each 1334-MOD-K10 Option Kit Includes:

- (1) Dynamic Brake Board & Power Transistor Assembly, P/N 120606
- (1) 2 Gram Thermal Compound Packet, P/N 201686
- (4) 10-32 $\frac{1}{2}$ " Hex Head Screws, P/N 209708
- (4) #10 Split Lock Washers, P/N 209716
- (4) #10 Flat Washers, P/N 209724
- (1) Control Signal Wire Harness, P/N 120616
- (1) DC Bus Wire Harness, P/N 120608
- (1) Brake Resistor Assembly, P/N 120605

Additional materials including hardware for mounting the Brake Resistor Assembly externally and wire to connect the assembly to the Drive must be supplied by the user.

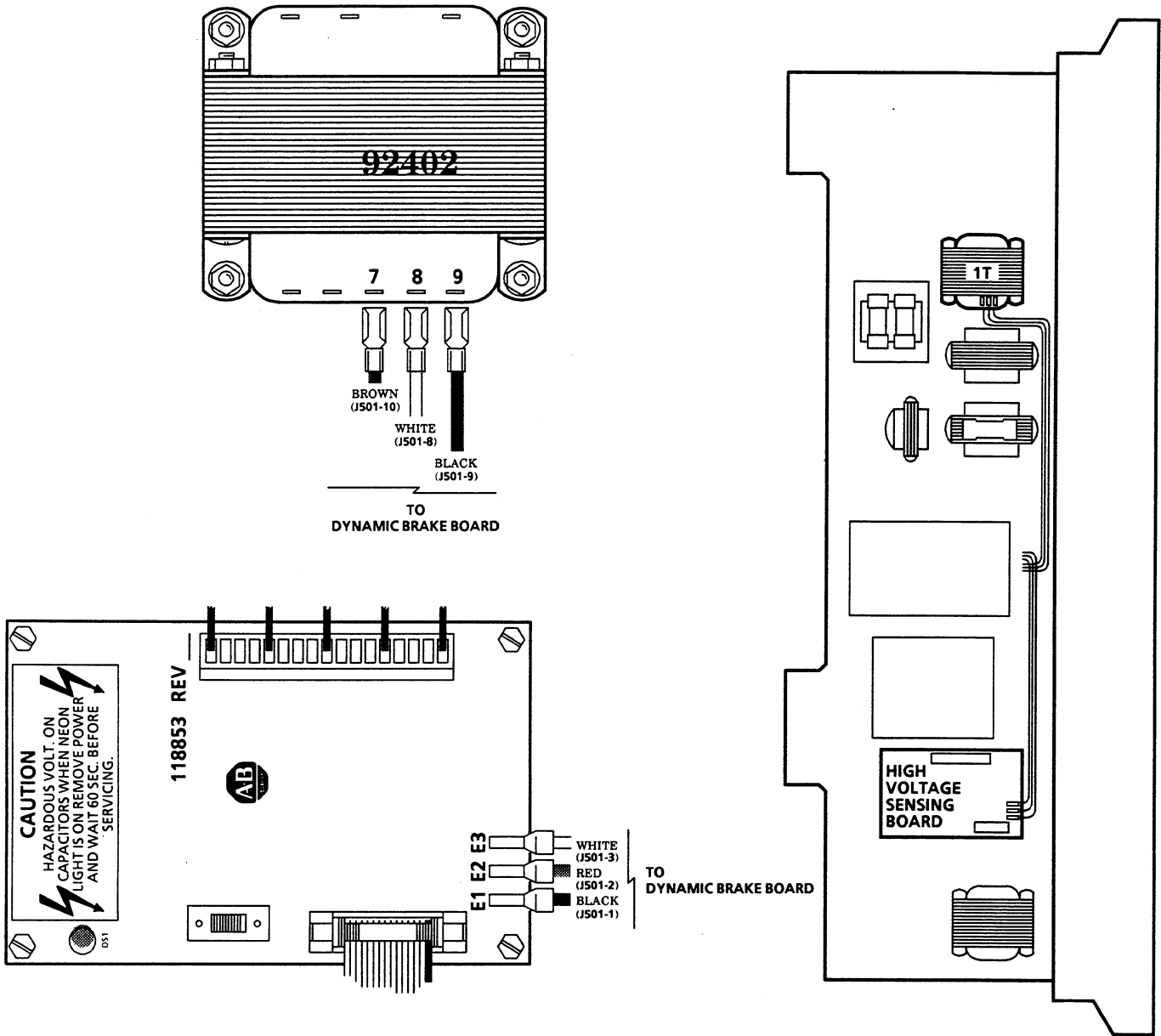
Installation



WARNING

Only personnel familiar with the Drive and its associated machinery should plan or implement the installation, startup, and adjustment of MOD kits. Failure to comply may result in personal injury and/or equipment damage.

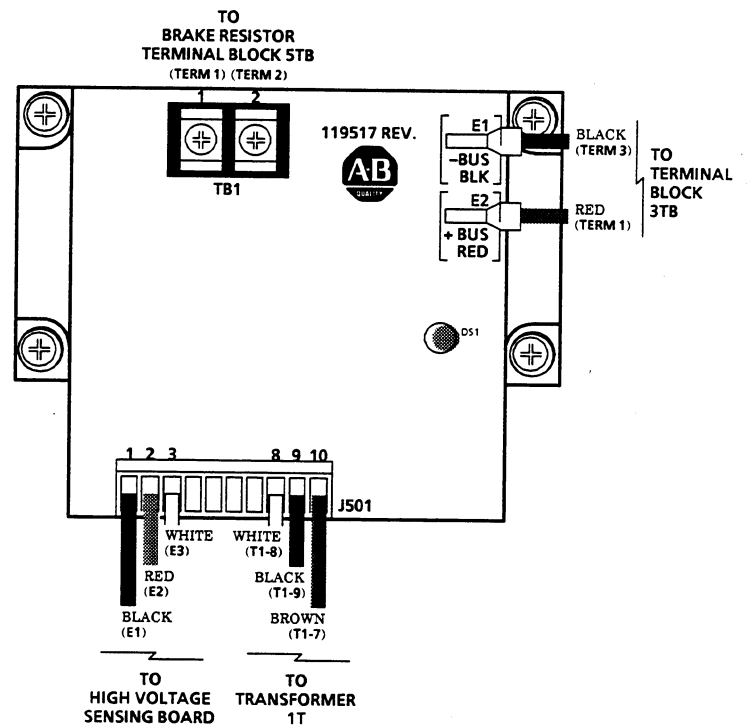
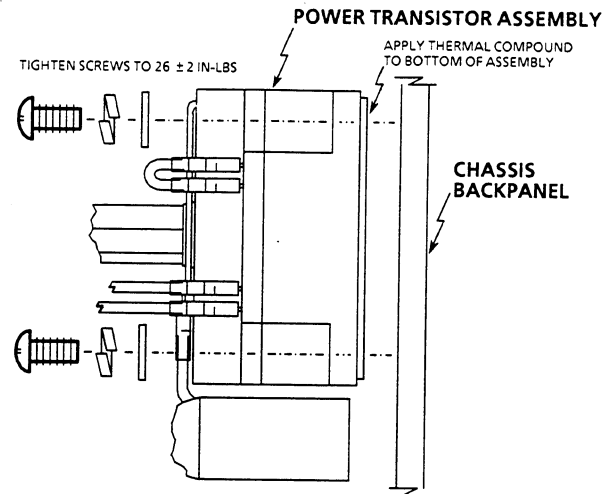
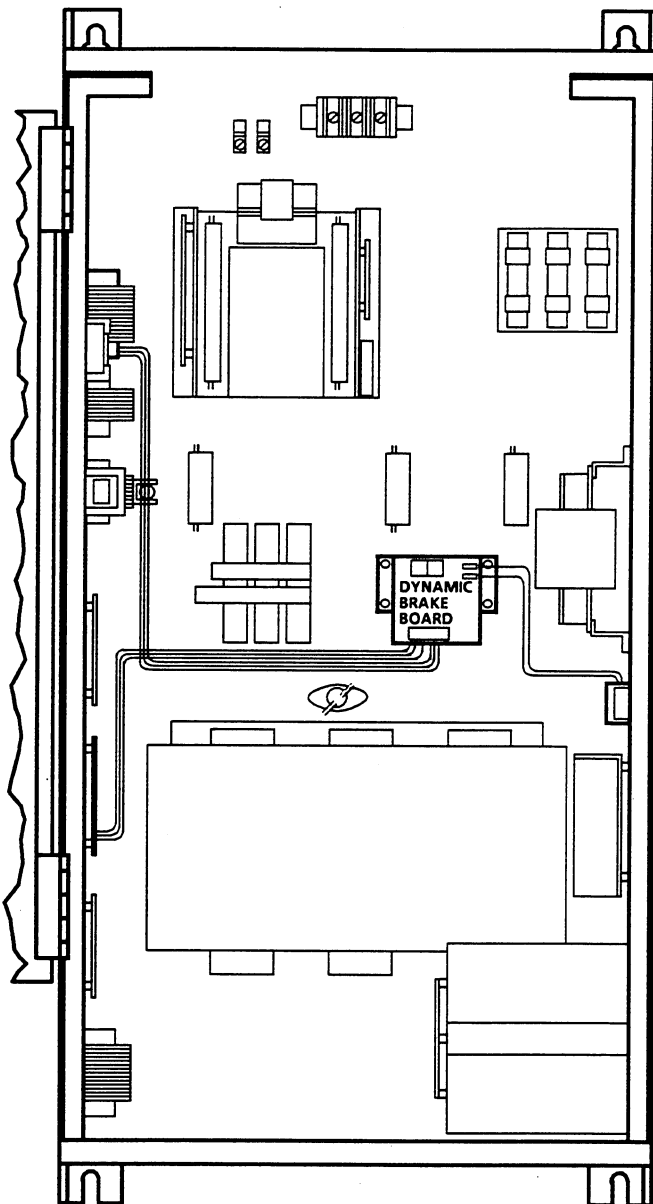
To guard against personal injury, always remove & lock out power to the Drive at the main supply disconnect and all other power source disconnects. Ensure that DS1 is not lit when boards or wires are being installed or connected. Refer to the instruction manual for your Drive for LED location.



Installation
(continued)

Dynamic Brake Board & Power Transistor Assembly Installation

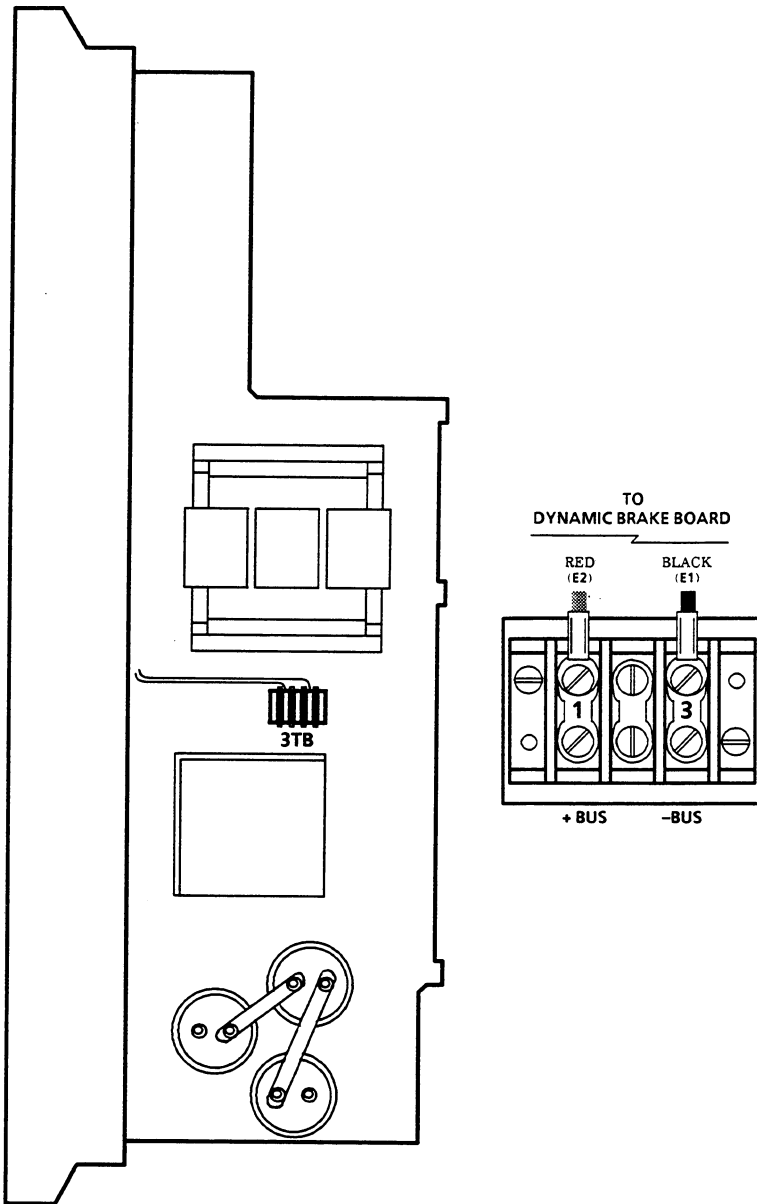
The Dynamic Brake Board & Power Transistor Assembly is installed in the center of the Drive chassis as shown on **page 3**. Before mounting the assembly, spread the contents of the 2 gram packet of thermal compound evenly on the bottom of the transistor. Install the assembly over the four predrilled and tapped holes on the chassis. Use the four screws, lockwashers, and flat washers to secure the assembly in place. Tighten the screws to 26 ± 2 in-lbs.



**Installation
(continued)**

**Control Signal Wire Harness
Installation**

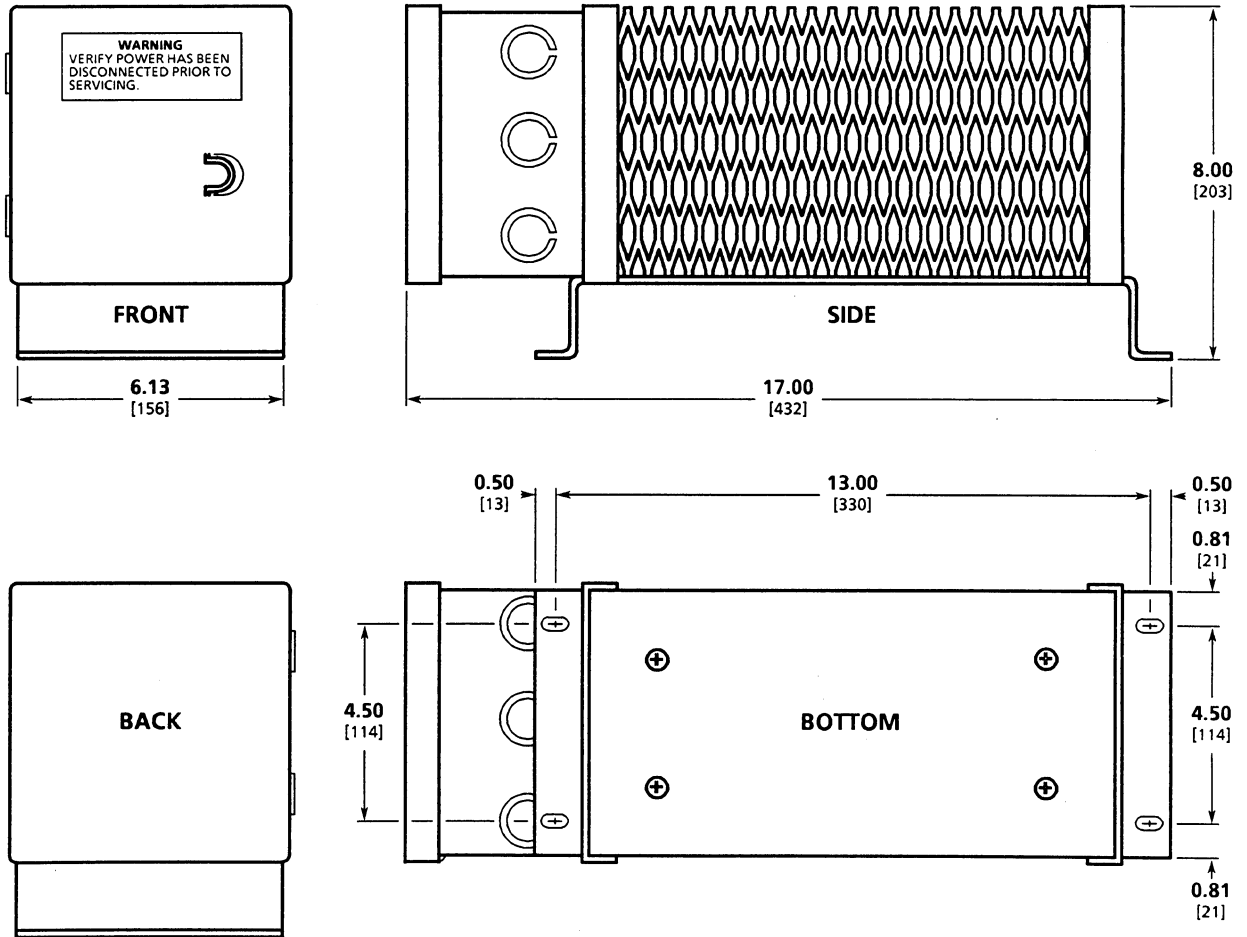
Route and connect the Control Signal Wire Harness between Dynamic Brake Board connector J501, Transformer 1T, and the High Voltage Sensing Board as shown on pages 2 thru 4. Tie the Control Signal Wire Harness to the existing main harness as required.



Installation
(continued)

**DC Bus Wire Harness
Installation**

Route and connect the DC Bus Wire Harness between Dynamic Brake Board connectors **E1** & **E2** and terminal block **3TB** as shown above. Tie the DC Bus Wire Harness to the existing main harness as required.



Installation
(continued)

**Brake Resistor Assembly
Installation**

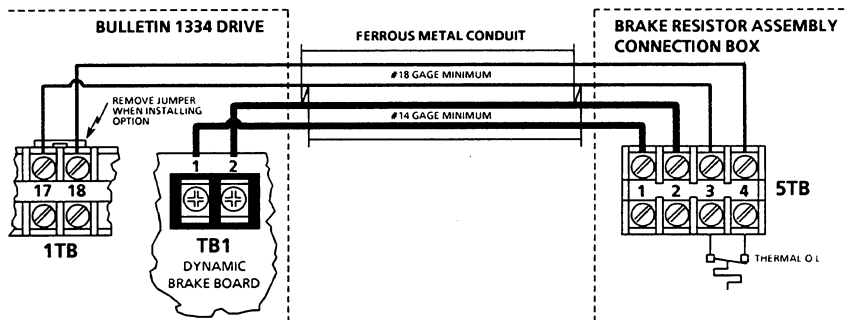
Determine a suitable mounting location for the Brake Resistor Assembly and mount it firmly in place. The entire assembly should be located within 10 ft. of the Drive and should have a minimum of 12 in. of air space around the cage for heat dissipation. Mounting the assembly with the feet facing upward will not permit proper heat dissipation and is not recommended. Interconnection wiring between the Drive and the Brake Resistor Assembly must be run in conduit. Use the knockouts on the assembly connection box for conduit connections.

Installation

(continued)

Brake Resistor Assembly Interconnection Wiring

Interconnection wiring between the Brake Resistor Assembly and the Drive is not provided with the kit. Four wires must be connected from the Brake Resistor Assembly to the Drive. Two of the wires must be 14 gauge minimum, while the remaining two may be 18 gauge minimum.



Operation

The DC bus voltage will rise during a braking or regenerative operation when energy from the motor is transferred to the Drive's DC bus. The Drive monitors the DC bus voltage and at a predetermined value tells the dynamic brake board to turn on the brake transistor. The brake transistor connects the dynamic brake resistors across the DC bus to absorb the excess energy. The brake transistor is turned off when the bus voltage returns to normal.

The Brake Resistor Assembly is thermally protected by an overload relay within the assembly. A normally closed contact is connected between terminals 17 & 18 at 1TB — the Drive's Main Terminal Block. If the resistor assembly overheats and trips, the overload relay circuit between terminals 17 & 18 will open, shut down the Drive, and illuminate the Brake Over Temperature LED on the Drive Diagnostic Display Panel.

TO RESET THE DRIVE —

- Wait a Few Minutes to Allow the Overload & Brake Resistor Assembly to Cool Down
- Remove Power From the Drive at the Disconnect Device
- Open the Connection Box On the Brake Resistor Assembly & Reset the Overload Relay by Depressing the Reset Plunger Until a Click Is Either Heard or Felt
- Reapply Power & Cycle the Drive Stop/Start Pushbuttons or Contact

IMPORTANT

Frequent tripping on **BRAKE OVER TEMP** could mean that the braking requirements imposed on the dynamic brake exceeds the design limits. Should frequent tripping occur, consult your nearest Allen-Bradley Area Sales/Support Center or representative for assistance.



Motion Control Division