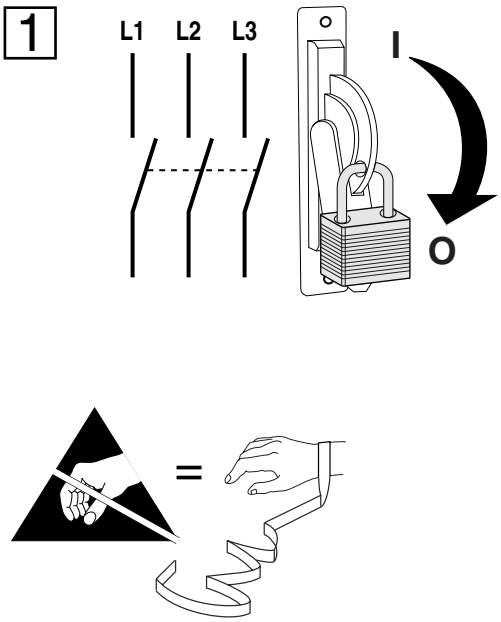
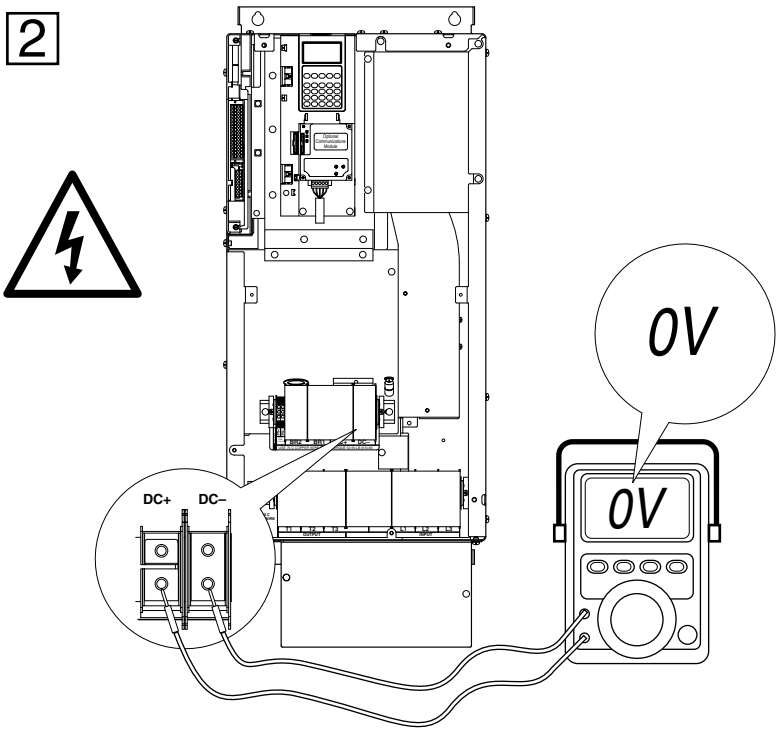
SCR, Brake IGBT and Power Module Replacement - Frame 6

Installation Instructions

1



2



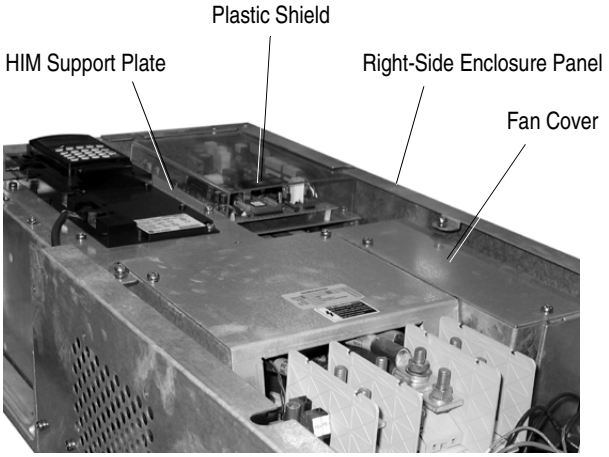
3

A. Remove front covers.

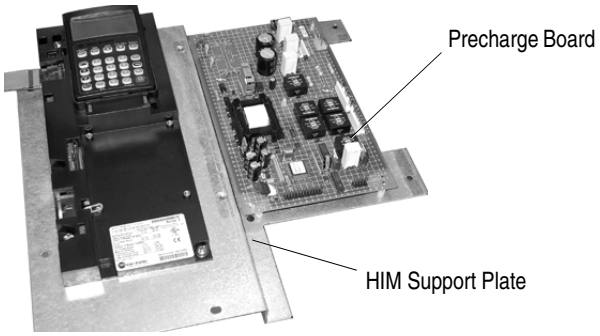
B. Disconnect cables from cassette.

C. Remove the plastic shield by taking out the screws.

D. Remove the six screws securing the HIM Support Plate. Disconnect cables.



E. Remove HIM Support Plate and set aside.



F. Remove the junction box on the bottom of the drive by taking out the four screws.

G. Remove the right-side enclosure panel by taking out the appropriate screws.

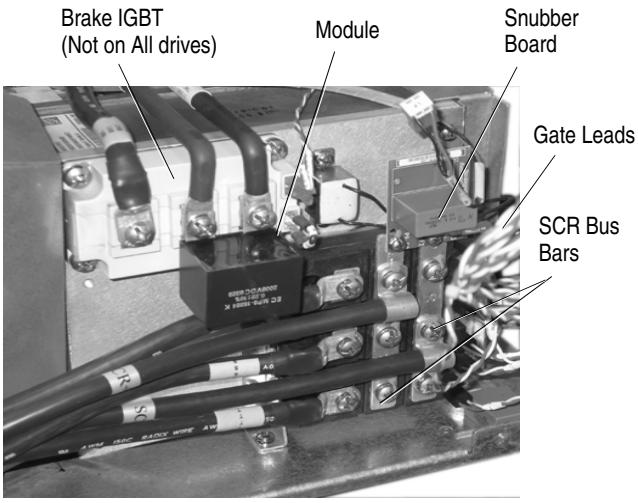
Important: It will be necessary to remove the terminal end block near “T (L3)” to gain screw access.

H. Remove the two screws securing the fan cover.

I. Pull-up fan enclosure, disconnect wires and set aside.

4

SCR Replacement



125-150 HP Shown

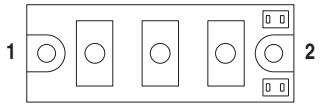
A. Locate SCR to be replaced. Note cable placement and disconnect Gate Leads.

B. Disconnect the "SCR+" and "SCR–" cables. Remove the SCR Bus Bars and Snubber Board.

C. Disconnect the "R," "S" or "T" cable from the SCR being replaced.

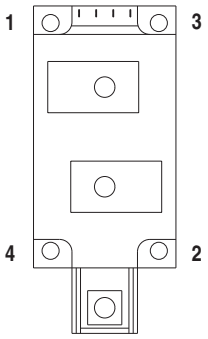
D. Remove the SCR by taking the appropriate screws out.

E. Thoroughly clean the SCR mounting surface. Apply a thin coating of the supplied thermal grease to the new SCR. Install with the supplied screws and tighten using the sequence below.



125-150 HP SCR Torque Sequence

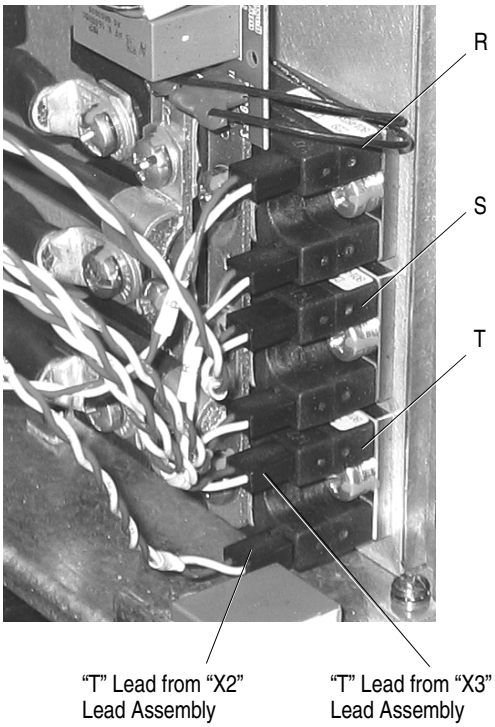
First Sequence: 0.7 ±0.2 N-m (6.0 ±2.0 lbf.-in.)
Final Sequence: 6.0 ±0.9 N-m (53 ±8.0 lbf.-in.)



200 HP SCR Torque Sequence

First Sequence: 0.7 ±0.2 N-m (6.0 ±2.0 lbf.-in.)
Final Sequence: 5.0 ±0.7 N-m (44 ±7.0 lbf.-in.)

F. Replace the Gate Leads and verify correct lead placement. Note: Placement is the same for all SCR's.



G. Re-assemble in reverse order. Tighten bus bar screws to:

125-150 HP	5.6 ±0.8 N-m (50 ±8.0 lbf.-in.)
200 HP	11 ±1.6 N-m (95 ±15.0 lbf.-in.)

Tighten Snubber Board screws to 1.7 ±0.4 N-m (15 ±4.0 lbf.-in.).

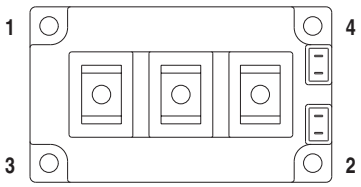
H. If no further replacement is needed, re-assemble drive. Tighten sheet metal screws to 3.2 N-m (28 lbf.-in.).

Brake IGBT Replacement

A. Locate Brake IGBT (see photo). Note cable placement and disconnect cables/leads. Retain Module.

B. Remove the IGBT by taking out the four screws.

C. Thoroughly clean the IGBT mounting surface. Apply a thin coating of the supplied thermal grease to the new IGBT. Secure with the supplied screws and tighten using the following sequence.



Brake IGBT Torque Sequence
First Sequence: 0.7 ±0.2 N-m (6.0 ±2.0 lbf.-in.)
Second Sequence: 1.6 ±0.4 N-m (14 ±4.0 lbf.-in.)
Final Sequence: 5.2 ±0.8 N-m (46 ±7.0 lbf.-in.)

D. Re-assemble in reverse order. Tighten cable screws to 4.0 ±1.0 N-m (35 ±9.0 lbf.-in.).

E. If no further replacement is needed, re-assemble drive. Tighten sheet metal screws to 3.2 N-m (28 lbf.-in.).

Power Module Replacement

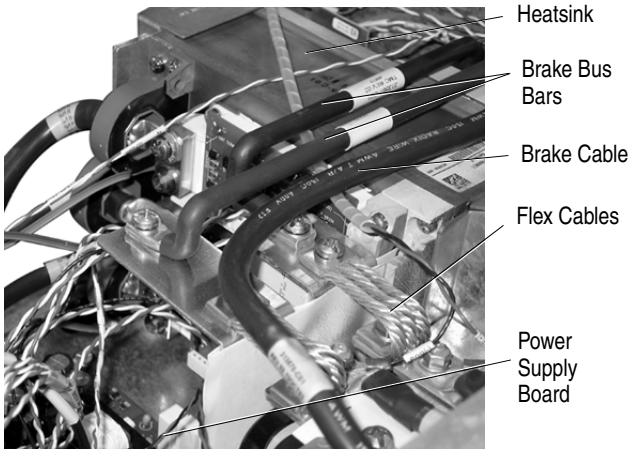
Refer to page 4 for component locations.

A. If the right-side sheet metal enclosure has not been removed, go to page 1, Step G.

B. Remove the left-side sheet metal enclosure by taking out the appropriate screws.

C. Remove the Power Supply Board mounted on the back panel of the drive.

D. If the drive has the Dynamic Braking Option installed, disconnect the two bus bars, cable and two flex cables.



E. Remove the U, V and W cables that extend through the Current Transducers. Remove the Terminal Spacers.

F. Disconnect the J1, J2 & J3 wire assemblies.

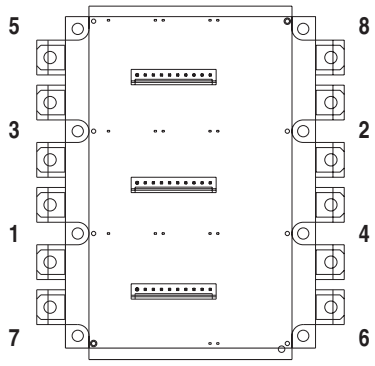
G. Loosen the heatsink assembly by removing; two heatsink bracket screws, one gusset screw and four heatsink screws. Position the assembly to gain access to the Power Module.

H. Remove the Plastic Clamp by taking out the two screws.

I. Remove the Power Module Bus Bar and three Snubber Capacitors by taking out the six screws.

J. Remove the eight screws securing the Power Module. Remove Module.

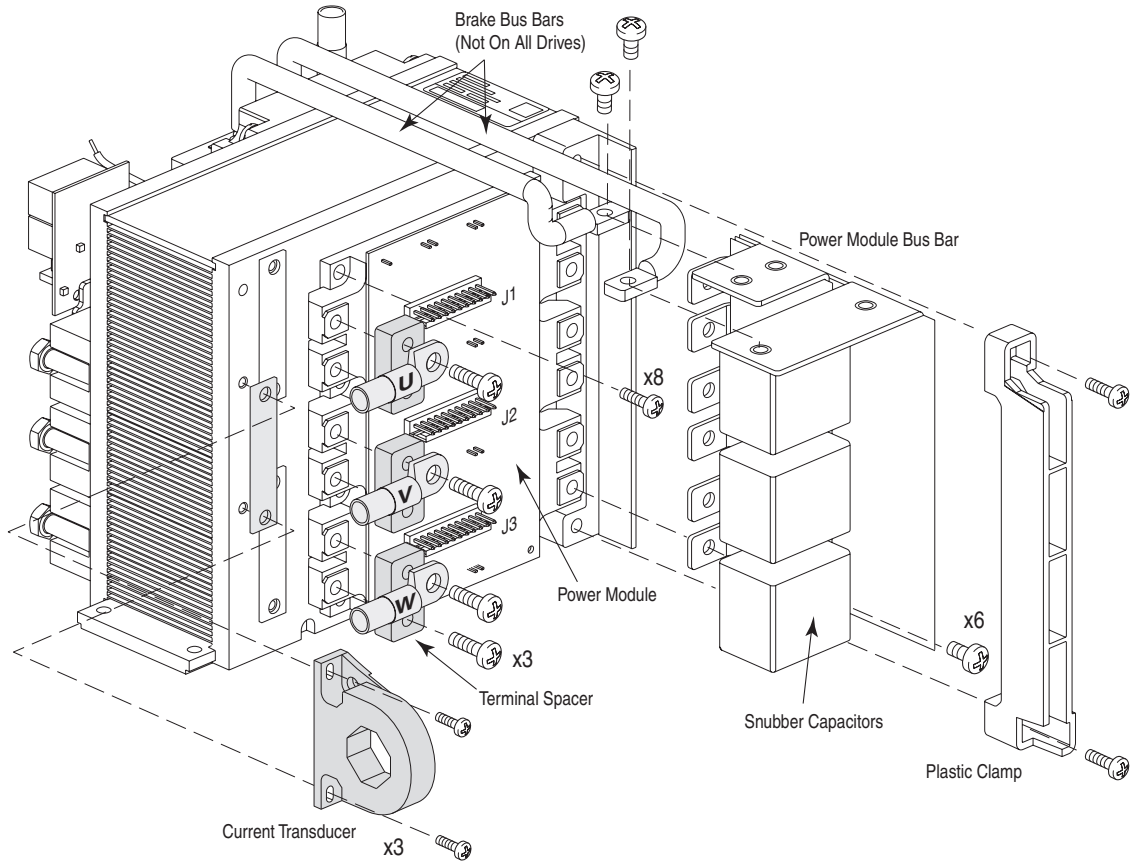
K. Thoroughly clean the module mounting surface. Apply a thin coating of the supplied thermal grease to the new module. Install with the supplied screws and tighten using the sequence below.



Power Module Torque Sequence
First Sequence: 0.7 ±0.2 N-m (6.0 ±2.0 lbf.-in.)
Second Sequence: 1.6 ±0.4 N-m (14 ±4.0 lbf.-in.)
Final Sequence: 5.2 ±0.8 N-m (46 ±7.0 lbf.-in.)

L. Re-assemble in reverse order.

M. Tighten sheet metal screws to 3.2 N-m (28 lbf.-in.).



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