

## SLIP COMPENSATION OPTION PCB 46S02520-0010 SCHEMATIC 45S02520-0010

### DESCRIPTION

The motor's speed at a set frequency is essentially constant. Typically, at no load, the motor operates at synchronous speed, and at full load, the speed reduces by one to two percent. This speed reduction is called slip, and is the speed regulation of the motor for a 100% load change. The Slip value differs among motors and is normally of little or no consequence in most adjustable frequency drive applications.

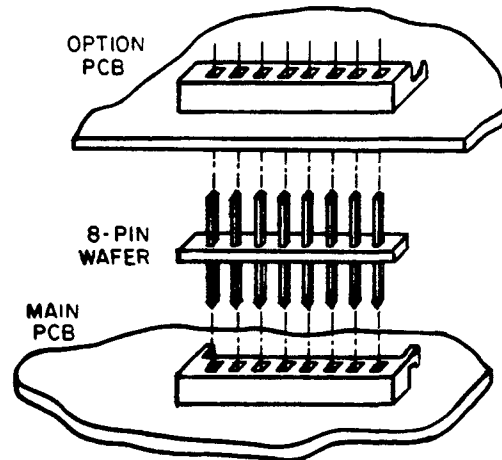
When required, however, one method of improving this regulation is to electronically sense and correct for slip. The Slip Compensation option adds a circuit which detects output load and automatically boosts output frequency as a function of load to return shaft speed to near synchronism with set speed frequency. 0.5% regulation is possible with close adjustment.

This circuit does not alter the drift characteristic of the drive. It does not provide the tracking or response of a tachometer feedback system, although it is equivalent to most in terms of regulation due to load only.

### INSTALLATION PCB

The Slip Compensation PCB mounts to two standoffs located on the bottom of the Inverter Main PCB (see Figure 7-3 in the Instruction Manual). Connection is made to the Inverter Main PCB thru 105CONN. No connections are made to the Rectifier Main PCB. To install the Slip Compensation PCB, first install the standoffs

onto the Inverter Main PCB. Next, insert 8-pin wafer into 105CONN on the Inverter Main PCB (see illustration). Locate the Slip Compensation PCB so that pins on the wafer are lined up with holes on the back of the PCB behind 105CONN. Then push the PCB onto the wafer pins and standoffs.



If the Slip Compensation PCB is being added after the drive has been installed, refer to Section 1.2 in the Instruction Manual for instructions on how to update the 53SL number. A simplified diagram in the form of a pastie has been included with the Slip Compensation PCB. Modify the Signal Flow Diagrams in the Instruction Manual by pasting the pastie in position on Sheet 5.

### ADJUSTMENTS

After installing the Slip Compensation PCB, and before power is applied, adjust

### CHANGE RECORD

1	STD-2426	2/25/86
2	STD-2582	7/16/86

DWG. NO. 02Y00025-0128  
SHEET 1 OF 2  
EFF. 12/18/85

the SLIP COMP pot to 40% setting to obtain a typical slip compensation of 1.6% from no load to full load. On some motors, this may actually produce greater than no load speed.

For closer adjustment, typically .5%, user must run motor near full load amps

for 30 to 45 minutes before attempting adjustment. Run motor at top speed with no load and measure shaft speed with hand held tachometer and record reading. Apply full load to the motor and adjust SLIP COMP pot to obtain motor shaft speed equal to that measured under no load condition.

DWG. NO. 02Y00025-0128  
SHEET 2 OF 2  
EFF. 12/18/85