WARNING

Failure to follow instructions on this page may result in serious personal injury or death.

ADJUSTING THE DRIVE SERVO GAIN AND BALANCE

Note: Before and after each test that requires energizing the drive, check that the machine axis is in its mid-range position.

This procedure is intended to supplement the Machine and Control Service Documentation. Refer to application documents for dedicated procedures.

POSITIONING AXIS

1. Prior to this procedure, complete the Servo Drift Adjusting procedure and set the Gain and Balance at the control.

2. Place the Main Electrical Disconnect Switch in the OFF position. Refer to WARNINGS on page 3-2-1 and 3-2-2.

3. Connect a Digital Volt Meter (DVM) to the positive lead of the meter to the test point identified as "R" and the negative lead to the board reference ground identified as M15. This will monitor the Command Voltage at the Axis Controller Board (N-board).

   These test points are accessible from the front edge of the N-Board. See figure 3.1.3, 3.1.6 and 3.4.4 for component and test point locations.

4. Place the Main Electrical Disconnect Switch in the ON position and power-up the control.

5. Program the control for long positioning moves, first in one direction and then the opposite direction. Select a feedrate that is relatively slow, 100 ipm or less.

6. Start the machine in cycle.

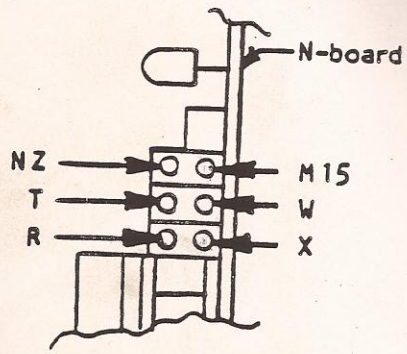
7. Monitor the Command Voltage on the DVM.

   The output voltage for the Command Signal is proportional to a programmed feedrate--after the "maximum Command Voltage" to the drive and the "maximum positioning feedrate" of the machine have been determined. Refer to the examples on the following page.

Note: The maximum Command Voltage for the drive should be limited to 10 volts or less. However, not all applications use the same maximum Command Voltage. To minimize the effects of noise and drift, the maximum Command Voltage should generally exceed 7 volts.

N-board Testpoint Terminal Identification

NZ = Speed Command #2 (IN)
T = Current Reference (CMD)
R = Speed Command (OUT)
M15 = Reference Ground
W = Actual Current
X = Tacho



Where:

R = -1.0 X of potential between terminals 56 and 14 X31__.

T = -0.5 X W when amplifier is functioning normally.

Figure 3.4.4
X33 Test Point Identification