



BALDOR SWE0 TUNING PROCEDURE

Whenever a Baldor inverter is replaced, it will need to be "Zero-Balanced" to the machine.

On Rigid-Tapping machines in particular, the control sets the RPM and direction by supplying a precise 0 to 1 OVDC control voltage through pins 4 & 6 at the control Molex plug hanging on the right side of the inverter. To reverse the direction, a NEGATIVE 0 to 10 VDC is sent. This way, in Rigid Tapping, the spindle motor can rapidly be reversed and ramped up and down. If the control voltage at idle is not exactly 0 VDC, then it is possible for the inverter to interpret it as a command to move in one direction or another at a slow speed.

ZERO BALANCE: With power ON, and inverter connected properly, and SPINDLE OFF, type the following on the inverter display pad:

TYPE:	DISPLAY:
LOCAL	"0"
PROG	"P 0" until it reads "P I 00"
ENTER	"ALL"
	"Au0I"
ENTER	"PASS"
LOCAL	"PASS"
PROG	"0"

We will be shipping 45547175 BALDOR inverters, (not Baldor-Sweo), to replace 4554 and 4554-RT inverters.

Similarly, we will be shipping 4555-175 inverters to replace 4555 and 4555-RT inverters. Simply, the Baldor model 712-XXX-170 series inverters are replaced by the 712-XXX-175 series inverters.

The two inverters are interchangeable by altering the wiring as follows:

1. The harnesses hanging from the Inverter bottom are labeled J2 for the left one, and J I for the right one. The Molex plug marked Y-Delta may be ignored.



2. The right one has a standard size 6-pin Molex connector and may be plugged directly into the FADAL 6-pin Molex. If there originally was a RT Deceleration Board installed in-between these 6-pin Molex plugs, then remove it.
3. The left one should now have a 16-pin green connector to the inverter, and a 9-pin mini-Molex hanging outside, and may be plugged directly into the encoder wiring.
4. Originally, there was a two-wire 5 VDC Molex plug that came from the 1100-2 board at the bottom of the cabinet. It will not be needed for the new inverter, so tie it out of the way.
5. If the machine has been setup for Rigid-Tapping (Rigid-Tapping label on old inverter), then wire into J2 (16 pin green connector on inverter) the cable from the spindle controller card as follows.

J2 Connector Cable from controller

pin 9 green wire

pin 10 blue wire

pin 11 red wire

pin 12 yellow wire

pin 16 Black/shield wire

6. ALWAYS return connector harnesses with returned inverters, as each inverter has matched to it a particular harness.

BALDOR INVERTERS, *180 series*

Auto-Tuning Zero-Balance

Whenever a Baldor inverter, DC Power Supply, or a Spindle Controller card is replaced, it will need to be "Zero-Balanced" to the machine. On Rigid-Tapping machines in particular, the control sets the RPM and direction by supplying a precise 0 to 10VDC control voltage through pins 4 & 6 at the control Molex plug hanging on the right side of the inverter. To reverse the direction, a NEGATIVE 0 to 10 VDC is sent. This way, in Rigid Tapping, the spindle motor can rapidly be reversed and ramped up and down. If the control voltage at idle is not *exactly* 0 VDC, then it is possible for the inverter to interpret it as a command to move in one direction or another at a slow speed.

ZERO BALANCE: With power ON, and inverter connected properly, and SPINDLE OFF, and NOT in Orientation Hold, type the following on the inverter display pad:

TYPE:	DISPLAY:
- - -	"OFF MOTOR SPEED REMOTE 0 RPM"
LOCAL	"STOP MOTOR SPEED LOCAL 0 RPM"
PROG	"PRESS ENTER FOR PRESET SPEEDS"
↓↓	"PRESS ENTER FOR LEVEL 2 BLOCKS"
ENTER	"PRESS ENTER FOR OUTPUT LIMITS"
↓↓↓	"PRESS ENTER FOR AUTO TUNING"
ENTER	"CALC PRESETS P: NO"
↑↑↑	"CMD OFFSET TRM P: PRESS ENTER"
ENTER	"PRESS ENTER TO START THE TEST"
ENTER	"TEST PASSED PRESS ENTER"
RESET	"CMD OFFSET TRM P: PRESS ENTER"
RESET	"PRESS ENTER FOR AUTO TUNING"
RESET	"PRESS ENTER FOR PRESET SPEEDS"
↑↑↑↑	"PRESS ENTER FOR INPUT"
ENTER	"OPERATING MODE P: FADAL SPECIAL"
↑↑↑	"ANA CMD OFFSET P: XX.X%" (Note: XX.X is the Offset value)
RESET	"PRESS ENTER FOR INPUT"
RESET	"PRESS ENTER FOR PRESET SPEEDS"
DISPLAY	"STOP MOTOR SPEED LOCAL 0 RPM"
LOCAL	"OFF MOTOR SPEED REMOTE 0 RPM"

If the "ANA CMD OFFSET" value reads any value other than 0.0%, then the "Zero Balance offset Trim" has been set.