MOTOR

## DY Servo Motor Resolver Alignment Procedure for the DS56 and DY71-DY112

The resolver of the DY motors frame size 71-112 can be aligned with a two channel oscilloscope and a 24 volt power supply. The procedure is true for both the Movidyn and Movidrive as follows:

1). Apply external 24vdc supply to drive. Do not apply main 3 phase power.

2). Connect the ground of Channel A's oscilloscope scope probe to the common 0volt and the tip to the drive's simulated encoder output Channel C.

3). Connect the ground of Channel B's oscilloscope probe to the motor terminal "V" and the tip to the motor terminal "W".

4). Configure the oscilloscope so that you have at least 20% pretrigger. This will enable you to view the "C" pulse. Set the trigger threshold voltage of channel A to 500mv or larger and to single shot capture.

5). Rotate the output shaft of the motor with your hand as quickly as possible. Within one turn you will trigger the B channel and capture the signal as in Fig. 1.

Explanation of Results:

The oscilloscope shot shown in figure 1 is the measured "C" channel of the drive's simulated encoder output that was measured on Channel "A" of the oscilloscope and the sine wave of phase V to W on channel "B" created by rotating the motors shaft. Note that the timing of the drive's "C" pulse coincides with the zero crossing of the sine wave. If the drive's simulated encoder output Channel "C" does not occur at the zero crossing of the sine wave of phase V to W, then the resolver is out of alignment. Realignment of the resolver is accomplished by rotating the stator of the resolver and repeating step 5.

Fig. 2 is simply a trace to demonstrate the sine wave from the motor phase and the "C" Channel of the drive's simulated encoder output in a more recognizable manner.

Fig 1.

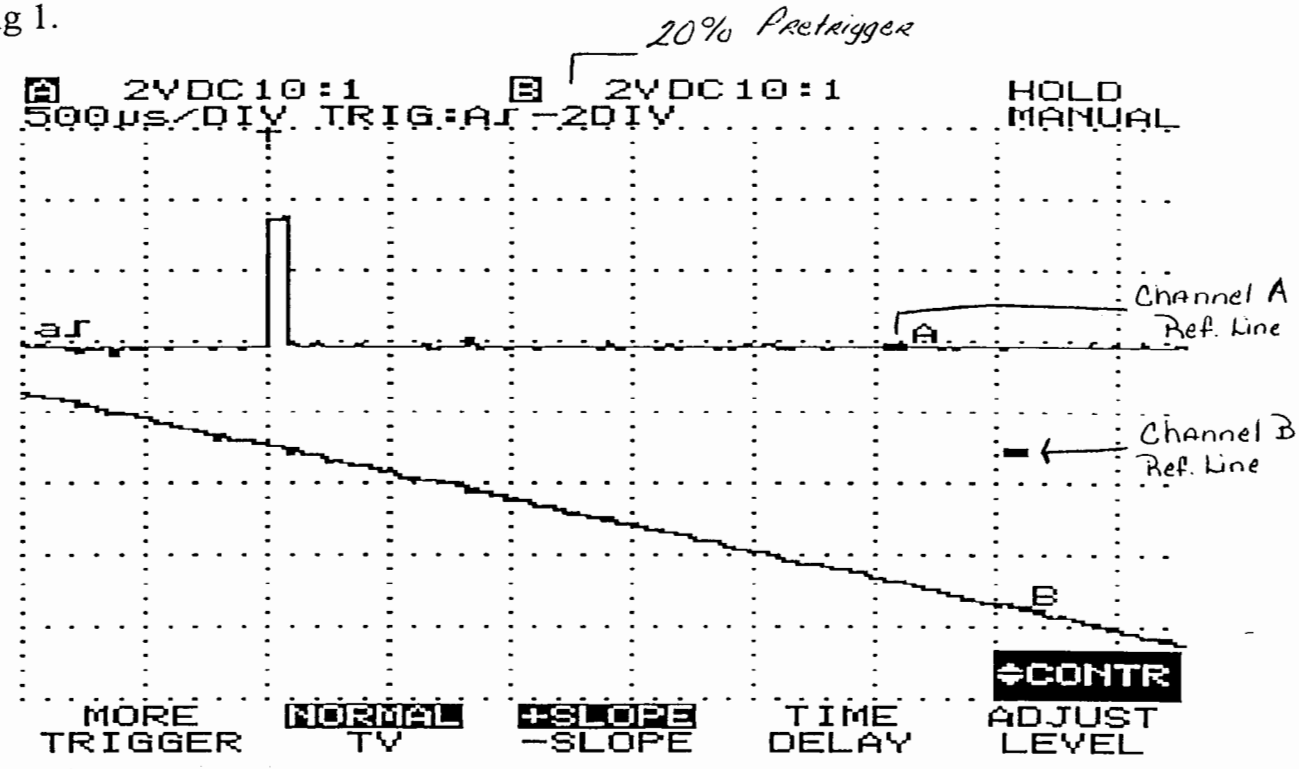
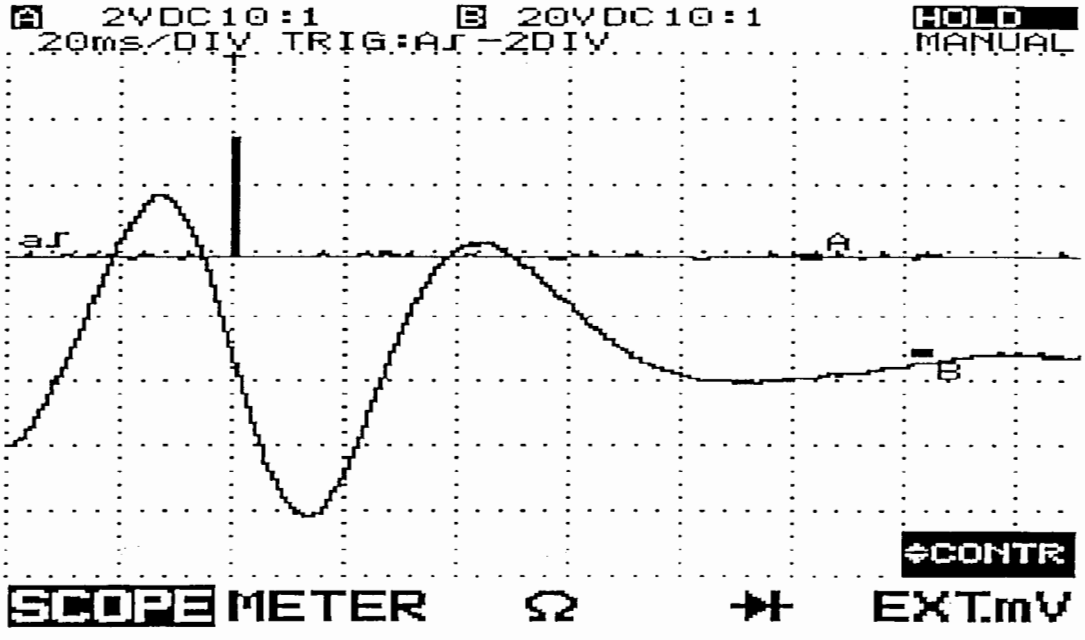

20% Pretrigger
A 2VDC10:1
B 2VDC10:1
HOLD
500µs/DIV TRIG:AJ -2DIV
MANUAL
Channel A
Ref. Line
Channel B
Ref. Line
A
B
CONTR
MORE
TRIGGER
NORMAL
TV
+SLOPE
-SLOPE
TIME
DELAY
ADJUST
LEVEL

Fig 2.


A 2VDC10:1
B 20VDC10:1
HOLD
20ms/DIV TRIG:AJ -2DIV
MANUAL
A
B
CONTR
SCOPE
METER
Ω
EXT.mV