

# DP 45 Calibration Procedure

## SCOPE

This specification establishes the field calibration requirements for the AngleStar Digital Protractor Model DP-45 to ensure that the unit is in satisfactory operating condition.

## GENERAL REQUIREMENTS

Test units per calibration test procedure outlined on this sheet. This testing should be performed on a scheduled basis (6 month interval). Testing should also be conducted if the unit is dropped or when misalignment is suspected. If unit is not within specifications, then follow this procedure.

## EQUIPMENT REQUIREMENT

Standard rotary table or sine blocks.

## CALIBRATION PROCEDURE

Set the Digital Protractor on a zero reference surface. The surface should be within  $\pm 0.5^\circ$  of level, and flat within  $\pm 0.005$  inches.

1. Remove rear cover.
2. Turn the unit on.
3. Press calibration switch using a small blunt object, e.g. ball point pen. See Figure 1 for location of switch. Note: This switch toggles in and out of the calibration mode.
4. Replace back cover before continuing.

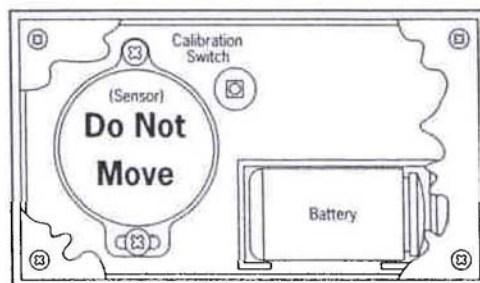


Figure 1

### Warning!

**Manual adjustment of the sensor voids warranty.**

5. Display will read "3.0". Position at  $30^\circ$  (must be a positive angle) from reference surface using the sine bar or rotary table. See Figure 2.

## DP 45 Calibration Procedure

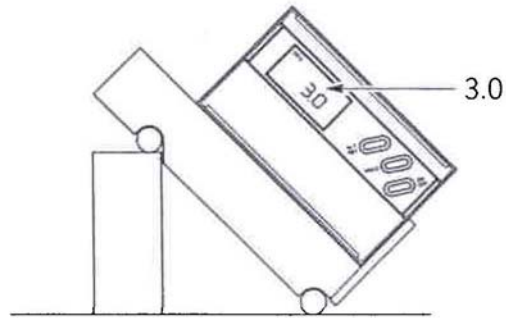


Figure 2

6. Wait two minutes to allow reading to settle.
7. Press "Hold" button. Unit will read "0.0" within five (5) seconds.  
**CAUTION: DO NOT MOVE UNTIL LCD READS "0.0".**
8. Position unit on reference surface, display facing towards you. See Figure 3.

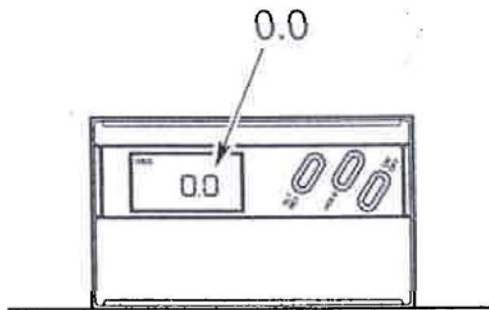


Figure 3

9. Wait two minutes to allow reading to settle.
10. Press "Hold" button. Unit will read "-0.0" within five (5) seconds.  
**CAUTION: DO NOT MOVE UNTIL LCD READS "-0.0"**. Position unit 1800 on reference surface, display facing away from you. See Figure 4.

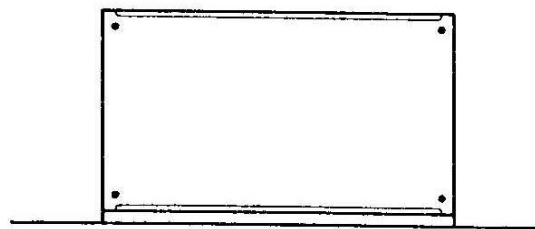


Figure 4

11. Wait two minutes, then press the "Hold" button. Unit will read "00.0" within five (5) seconds.  
**CAUTION: DO NOT MOVE UNTIL LCD READS "00.0"**. The DP-45 Digital Protractor is now calibrated.

# DP 45 Calibration Procedure

## OVERRANGE VERIFICATION

1. Put the Digital Protractor on the rotary table. Rotate the table clockwise until the display indicates the unit is an overrange condition by flashing the overrange annunciator.
2. Note the angle of the rotary table. The unit must overrange beyond 50.0°.
3. Repeat for the counterclockwise direction. The unit must overrange beyond -50.0°.

## CALIBRATION TEST PROCEDURE

Adjust the rotary table to each angle specified in Table 1, or use the specified angle blocks. Read the LCD on the Digital Protractor at each angle. The readings on the LCD must be within the limits specified in Table 1.

Table 1

Angle Degree	LCD Readout		
	Min.	Nominal	Max.
+45	44.3	45.0	45.6
+20	19.7	20.0	20.3
+10	9.9	10.0	10.1
+5	4.9	5.0	5.1
0	-1	0.0	+1
-5	-4.9	-5.0	-5.1
-10	-9.9	-10.0	-10.1
-20	-19.7	-20.0	-20.3
-45	-44.3	-45.0	-45.6

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