

*For Field use*

## **CALIBRATION AND SETTINGS PROCEDURE FOR DA-020F**

**NOTE:** The instrument must **NOT** be in direct sun light (cloud cover or under umbrella is OK).  
Atmospheric conditions must be very good (no heat waves etc.)

**WARNING::** The following mechanical adjustments must be checked (and corrected if necessary) prior to Offset Adjust.








### **Vial Adjustment**

1. Setup DA-020F on tripod  
(These procedures must not be performed in direct sunlight – shaded setup area is preferred.
2. Adjust plate vials and circular vial.  
(See “Plate vial” and “Circular vial” on pages 42 and 43 of the DA-020F instruction manual).



### **Adjust Reticle**

1. Adjust the reticle, left or right, by flopping between target A and B.  
(See “Perpendicularity of Line of Sight to Horizontal Axis” on page 45 of the DA-020F instruction manual).

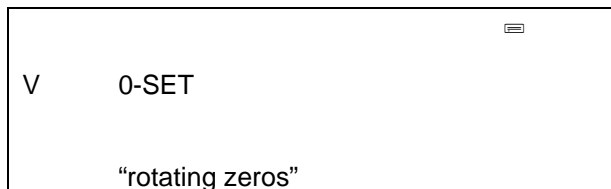
## Adjust Offset (Vertical 0 point offset)

Press and hold  +  and  keys, press and release  key, release  +  and  keys when ConS7 (CONST) appears on the display.



1. Use  to display OFFSE7 (OFFSET)  
Press  to select

**WARNING – DO NOT ACCESS OR CHANGE ANY OTHER ITEMS IN THIS MENU. All other items are for Factory Technicians or Authorized Service personnel only. Changing these items will result in the DA-020F not measuring correctly.**



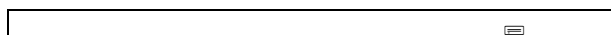
2. Move telescope eyepiece from down to up.



3. Align the instrument reticle on a precisely definable target, with the telescope in the normal position.  
(Target must be within 10°, plus or minus, of level.)

**NOTE: Reticle alignment must be precise.**

Press the  key.




SET 2

4. Release the horizontal tangent assembly and rotate the alidade 180°. Release the vertical tangent assembly and rotate the telescope 180° (telescope is now in the reverse position). Align the instrument reticle on the target

Press the  key.






Offset value will display (This value has no “accuracy” meaning).

*Example value -*

2° 31'14"   
SET 2




5. Press the  key to store the value.
6. Turn OFF 

## USA Default Settings

Press and hold  +  , press and release  key, release  +  when °C (or °F) appears on the display.

**Change**, or verify, the settings to:


Temperature : F  
 Pressure : inHg  
 Prism offset : -30  
 Zero zenith : Z-0 (looks like 2-0)  
 Angle display : 10"  
 Distance display : ft  
 Angle type : ° ‘ “ (degrees, minutes, seconds)

by using the  key to select (in turn) and the  or  key to change

Note: The choices are:

|                  |           |             |
|------------------|-----------|-------------|
| °C               | <u>°F</u> |             |
| Hpa              | MmHg      | <u>InHg</u> |
| <u>-30</u>       | 0         |             |
| <u>2-0 (Z-0)</u> | H-0       | 90-0-90     |
| <u>10"</u>       | 20"       |             |
| M                | <u>ft</u> | ft-in       |
| <u>° ‘ “</u>     | G         |             |

Note: The **BOLD** and UNDERLINED choices are our USA settings

Press the  to store values.

Press the OFF key .

## Adjust Optical Plummet Reticle

1. Adjust Optical Plummet Reticle.  
 (See "Optical Plummet" on page 47 of the DA-020F instruction manual.)