

## Note

**Title & Document Type:** 10583A Footspacing Kit for 5526A  
**Manual Part Number:** 10583-90003  
**Serial Prefixes:** none  
**Revision Date:** Aug 1975

### HP References in this Manual

This manual may contain references to HP or Hewlett-Packard. Please note that Hewlett-Packard's former test and measurement, semiconductor products and chemical analysis businesses are now part of Agilent Technologies.

### Changes to this Manual

No changes have been made to this manual. All pages are scanned at 300 DPI or greater.

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**DESCRIPTION**

The Model 10583A Footspacing Kit is designed to be used with the 5526A Laser Measurement System Option 20 series Angular/Flatness Optics. A two-inch, four-inch, and six-inch pad spacing for the 10559A Reflector Mount is supplied giving the user the flexibility needed to minimize the grid setup time and data accumulation time required in checking the flatness of a surface plate.

Each individual footspacing has carbide steel pads to minimize wear and conforms to the current U.S.A. Federal Specification GGG-P-463 covering measurement of flatness on a granite surface plate. The 10583A Footspacing Kit also provides two spacers which raise the 10557A Turning Mirrors to the proper height.

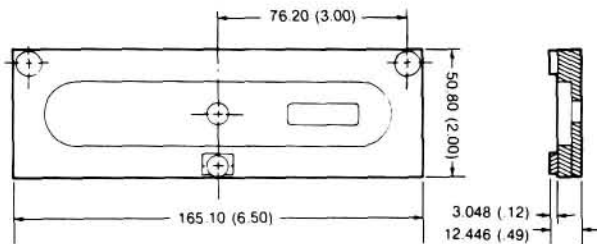
**SPECIFICATIONS**

**PAD:** 9.53 mm (.38 in) Diameter Carbide Steel Insert.

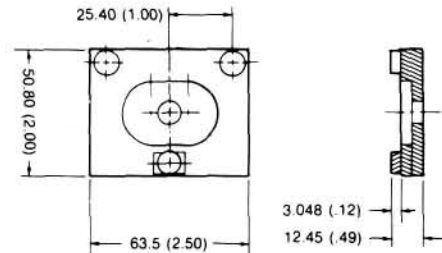
**WEIGHT:**

152.4 mm (6 inch) Footspacing	31.4 gm (1.1 Lbs.)
101.6 mm (4 inch) Footspacing	22.3 gm (.78 Lbs.)
50.8 mm (2 inch) Footspacing	13.3 gm (.47 Lbs.)
10557A Turning Mirror Spacer	3.7 gm (.13 Lbs.)

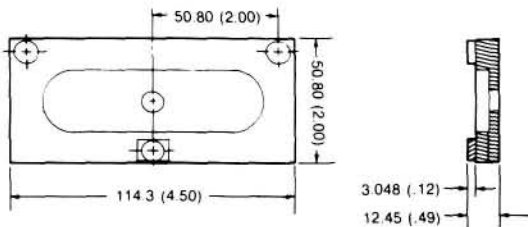
**DIMENSIONS:** See dimensional drawings.



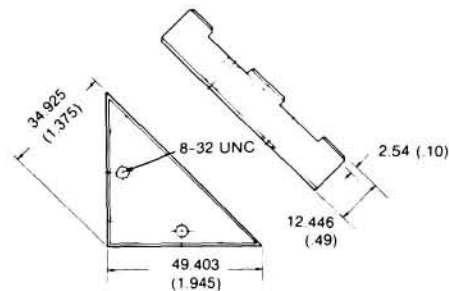
**SIX-INCH BASE**



**TWO-INCH BASE**



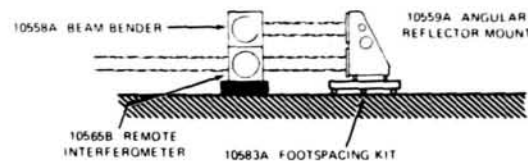
**FOUR-INCH BASE**



**SPACER**

## INSTALLATION

The two-inch, four-inch or six-inch footspacing fixture is attached to the 10559A Reflector Mount by using the socket head screw supplied with the kit. The length of the footspacing selected for a particular setup depends upon the size of the surface plate and the number of positions selected (larger footspacing requires fewer positions). The equipment setup is as shown below. (The baseplate provided with the 10565B Remote Interferometer is used to space the Remote Interferometer and Beam Bender stack to the proper height.)



The triangular spacers are attached to the 10557A Turning Mirrors by using the No. 8-32 set screws supplied with the kit. Four screws are provided (two for each spacer).

## OPERATION

The footspacing kit is a special fixture that provides convenience and speed in performing a calibration of a surface plate. The kit simplifies the grid line setup and reduces the number of measurements required. Operator Handbook Supplement for Linear and Angular/Flatness Interferometer 5526A Option 020 and 021 (Manual Part No. 05526-90007) covers flatness measurements. Application Note 156-2, *Calibration of a Surface Plate*, explains the setup procedures of the angular measurement system. This publication is available upon request.

As described in Application Note 156-2, the length of each line in the grid setup should be an even integral of the footspacing of the 10559A Reflector Mount. With the Footspacing Fixture this requirement changes so that each line in the grid should be an even integral of the selected footspacing. Different size footspacings can be used for different lines in the same grid as long as each line is an even integral of the particular footspacing being used. If the HP Programmable Calculator program is used, a simple proportionality factor will convert the readings into true elevation in the calculator program. If the calculator is not used, the correction factor for converting the 5526A Laser Measurement System (LMS) reading to the actual height differential of front to back pad is as follows:

$$\text{LMS reading} \times \frac{\text{Footspacing (in inches)}}{2.0625 \text{ (inches)}} = \text{LMS reading} \times \text{Correction Factor}$$

The correction factor for each footspacing supplied is shown in the following table:

Footspacing Size	Correction Factor
2 inch	.9697
4 inch	1.9394
6 inch	2.9091

For example, if the 4-inch footspacer is selected and at some point on the grid line the 5526A Laser Measurement System reads 100 microinches, the true height differential is 100 microinches times the correction factor or  $100 \times 1.94 = 194$  microinches.

## STORAGE

When the footspacing kit is not in use, store the parts in the wooden box supplied.

## REPLACEABLE PARTS

Replaceable parts can be ordered from the nearest Hewlett-Packard Sales and Service Office (listed at the back of manual). Replaceable parts are listed in the following table.

*Replaceable Parts*

<b>Quantity</b>	<b>Description</b>	<b>Part Number</b>
1	SCREW, SOCKET HEAD	3020-0026
4	SCREW, SOCKET HEAD, 8-32	3030-0229
1	TOOL, DRIVING	8710-0100
1	CASE, WOOD	9211-1618
2	PAD, FOAM (TOP)	9220-1735
1	PAD, FOAM	9220-2297
1	BASE, 6-INCH 152.4	10583-20103
1	BASE, 4-INCH 101.6	10583-20104
1	BASE, 2-INCH 50.8 MM	10583-20105
2	SPACER	10583-20106

## CERTIFICATION

*Hewlett-Packard Company certifies that this product met its published specifications at the time of shipment from the factory. Hewlett-Packard further certifies that its calibration measurements are traceable to the United States National Bureau of Standards, to the extent allowed by the Bureau's calibration facility, and to the calibration facilities of other International Standards Organization members.*

## WARRANTY

This Hewlett-Packard system product is warranted against defects in materials and workmanship for a period of 90 days from date of installation. During the warranty period, HP will, at its option, either repair or replace products which prove to be defective.

Warranty service of this product will be performed at Buyer's facility at no charge within HP service travel areas. Outside HP service travel areas, warranty service will be performed at Buyer's facility only upon HP's prior agreement and Buyer shall pay HP's round trip travel expenses. In all other cases, products must be returned to a service facility designated by HP.

For products returned to HP for warranty service, Buyer shall prepay shipping charges to HP and HP shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to HP from another country.

HP warrants that its software and firmware designated by HP for use with an instrument will execute its programming instructions when properly installed on that instrument. HP does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error free.

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*For any assistance, contact your nearest Hewlett-Packard Sales and Service Office. Addresses are provided at the back of this manual.*

