

Using Nonstandard Tips with the MicroScribe

Introduction

This document is intended for MicroScribe users who wish to use any tip other than the Standard Point Tip to digitize with. The Standard Point Tip is shipped with all MicroScribe units. Any type of tip other than the Standard Point Tip is considered to be nonstandard, or custom.

Immersion sells Extra Fine and Standard Ball Tips for use with MicroScribe digitizers. These tips may be ordered by calling 408-467-1900 or e-mailing sales@immersion.com. (see the *Types of Tips* section for more on this). This guide will outline proper installation and use of tips other than the Standard Point Tip.

Any questions about this process may be directed to the Technical Support Team at support@immersion.com or 408-350-8830.

The Importance of Software Support for Tip Compensation

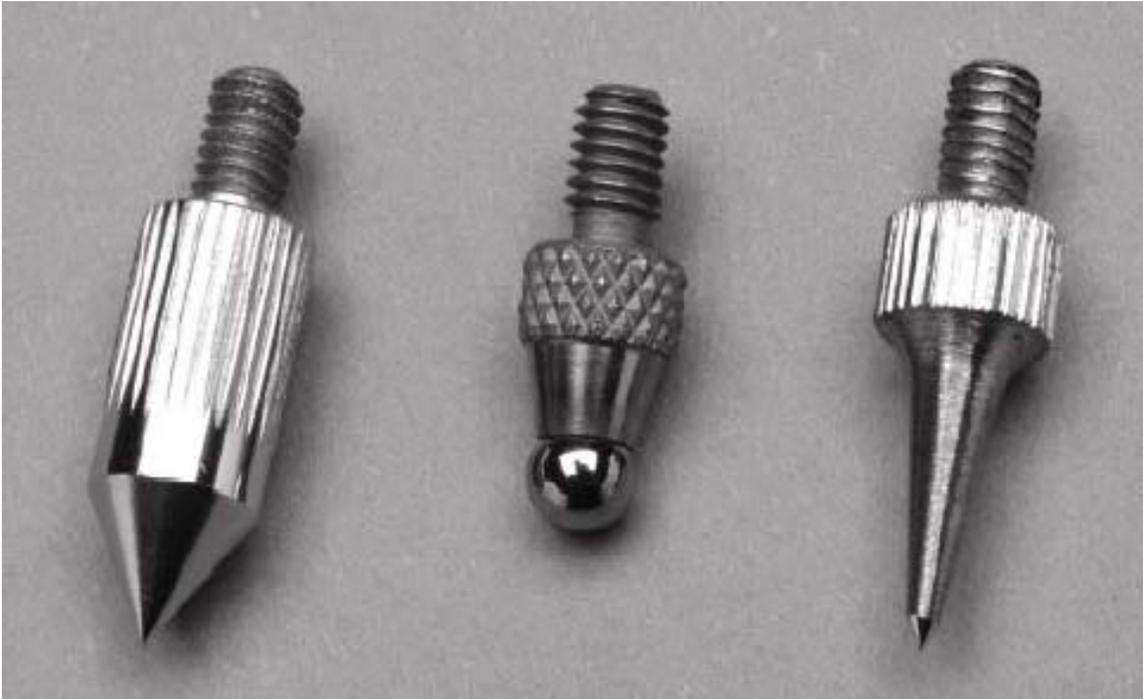
To use any tip other than the Standard Point or Extra Fine models, the software you are digitizing in needs to support tip compensation. If the program does, it will use a file called armdl32.dll. To find out if your software is using this file choose *Find* from the Windows *Start* menu. Search for *armdll32.dll* on any hard drives that you have your 3D software on. *NOTE: Keep in mind that although the armdl32.dll is on the hard drive, the software you are using may NOT support the use of tips other than the Standard Point Tip.*

If the search reveals that the armdl32.dll file is in the program folder of your 3D software, then you can successfully use a nonstandard tip with your MicroScribe-3D. If the file is not there, you will not be able to use a tip other than the Standard Point or Extra Fine tips on your digitizer.

MicroScribe Utility Software (MUS), the free utility from Immersion, does support tip compensation. MUS runs in the background of Windows 98, NT, 2000, XP and Me entering X, Y, Z coordinate values directly into many Windows applications each time the input device is activated. To learn more about MUS and download please visit: http://www.immersion.com/digitizer/software_solutions/

Types of Tips

As stated previously, Immersion supplies three different types of tips for MicroScribe users: Standard Point, Standard Ball, and Extra Fine. Each type is shown below:



From left to right: Standard Point Tip, Standard Ball Tip, Extra Fine Tip.

- **Using the Standard Ball Tip**

The Standard Ball Tip is 0.242 inches shorter than the Standard Point Tip. *Please note*, this measurement is to the center of the ball. Therefore, to get completely accurate surfaces your software will need to compensate for a uniform offset in both distance and direction.

This differs from the previously discussed requirement for software support for tip compensation. Consult the manuals that came with your 3D software to see if curve, line, or surface offsetting is supported in your package.

- **Using the Extra Fine Tip**

The Extra Fine Tip is the same length as the Standard Point Tip. Because of this, use of the Extra Fine Tip does not require software that supports tip compensation (for more on this see the *Importance of Software Support for Tip Compensation* section above).

Although the same length, the Standard Point and Extra Fine Tips cannot be used interchangeably when powering on the MicroScribe. Once the MicroScribe has been started you may switch out the Standard Point for the Extra Fine Tip.

- **Using Other Custom Tips**

If you are using a tip other than those outlined above, measure the exact difference between the Standard Point Tip and your tip in *inches*. You will need to know this difference to use the custom tip compensation feature of MUS.

- **Technical Support for Nonstandard Tips**

Although Immersion encourages you to customize your MicroScribe to be the most productive for your specific workflow, please take precautions when using tips other than those outlined in this document. Prior to fabricating your own tip please contact us (support@immersion.com) to get additional specifications, including the thread size required for tips. We usually do not provide technical support for issues regarding the use of tips other than the three explained above.

Powering on the MicroScribe Properly

Whenever you wish to use a nonstandard tip with the MicroScribe system it is very important that the digitizer is powered on in the 'Home Position' with the Standard Point Tip in place. For MicroScribe 3D products, this means that the unit is in the Home Position when the power switch is turned on. For MicroScribe G2 products, this means the unit is in the Home Position when the "Home" button on the back is pushed.

The Home Position is important because it is used by the MicroScribe as a reference for calculating and establishing an origin (0X, 0Y, 0Z) and reference coordinates in the 3D workspace. A tip other than the Standard Point Tip will skew these calculations and result in inaccurate data. To learn more about the Home position see the Technical Support section of the MicroScribe web site at: <http://www.immersion.com/digitizer/support/>

If you plan on digitizing with an Extra Fine Tip, the MicroScribe still needs to be powered on in the home position with the Standard Point Tip. After powering on the MicroScribe in the Home Position, you may simply switch tips by unscrewing the chrome tip in a counter-clockwise direction and screwing the replacement firmly in.

Directions for Using a Nonstandard Tip with MUS

1. Ensure the MicroScribe is properly connected to the PC.
2. Power on the MicroScribe in the Home Position with the Standard Point Tip in place.
3. Install and launch MUS.
4. If MUS is communicating properly with your PC the interface will appear with XYZ values at the bottom that change if the MicroScribe moves.
5. If you see "MicroScribe not connected." Near the bottom of the interface check the *How to connect the MicroScribe to a computer* section of the MUS help files for tips on connection.
6. Click on the MicroScribe Info icon, second one down on the left.
7. In the right portion of the screen check the *Use custom tip delta* option. In the field below type in the delta length for the custom tip.
8. If using the Extra Fine Tip leave the value at zero. If using the Standard Ball Tip change the value to 0.242.
9. If using any other type of custom tip you will need to calculate the delta length. Follow these steps to do so:
 - Measure the exact difference between the Standard Point Tip and your tip in *inches*. The result should be entered in the *Custom tip delta* area.
 - If the tip is longer than the Standard Point Tip, the value should be entered as a negative; if it is shorter the value should be positive.

10. Click OK to exit out of the MicroScribe Info panel.
11. Replace the Standard Point Tip of the MicroScribe with the nonstandard one.
12. Begin digitizing with the custom tip.
13. When you are finished using the nonstandard tip remember to change the *Custom tip delta* length in the MicroScribe Info panel back to zero.