



# Applications Note X Probe® Drilling Suggestions

When drilling X Probe® fixtures, the size and straightness of the hole is very important. The holes must be straight, without a taper and must be aligned to each other when the plates are stacked together.

However, although the hole sizes are important, it is not required to drill the recommended holes sizes (refer to X Probe® Drill Sizes Applications Note D10050) **all of the way** through the plates. By following the suggestions below, you should be able to drill the X Probe fixture plates faster, more accurately and more efficiently.

The following are the locations where the recommended holes sizes must be followed:

- **Top of the Probe Plate**- this guide hole is where the X Probe is installed and ensures that the probe is aligned with its intended target. The diameter of this hole is slightly larger than the diameter of the probe tube. Having close tolerances between the X Probe tube OD and the hole diameter ensures that the pointing accuracy will be optimized. We recommend that the first 0.125 (3.18) of the hole depth meet the hole diameter requirements. The plate can now be flipped over and drilled from the backside with a larger drill.
- **Bottom of the Spacer Plate**- this hole guides the interconnect receptacle on the bottom of the X Probe to the interconnect pin on the termination. This hole diameter is less critical compared to the Probe Plate and its sole responsibility is to guide the X Probe onto the termination. This is a clearance hole and tight tolerances are not required. In addition, if a termination requires replacement, the spacer plate helps to guide the X Probe extraction tool onto the termination.
- **Top of the Back Plate**- the hole diameter must be within the recommend hole tolerance to ensure that the termination has the proper insertion and retention force. This hole should also be accurately located to optimize the pointing accuracy. We recommend that the first 0.375 (9.25) of the hole depth meet the hole tolerance requirements. The plate can now be flipped over and drilled from the backside with a larger drill if the plate thickness exceeds 0.375 (9.25).

