AMP

Design Recommendations for Printed Circuit (PC) Board Support Fixture

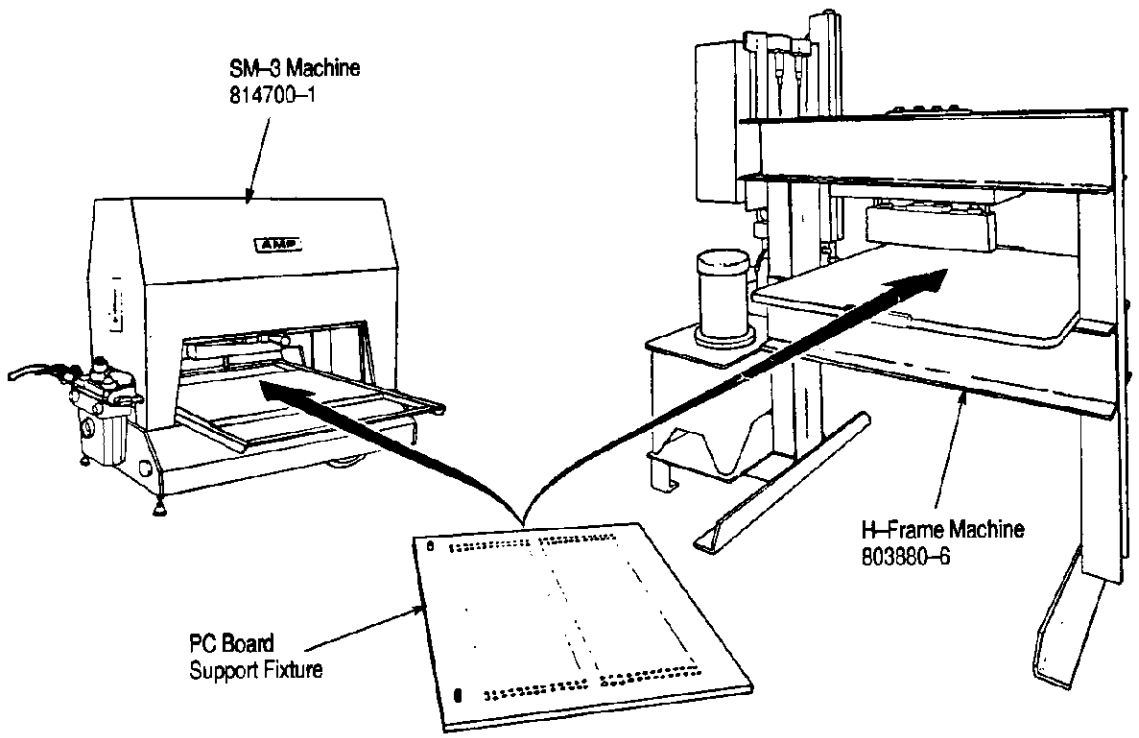


Figure 1

1. INTRODUCTION

This instruction sheet provides the design recommendations for a pc board support fixture for the AMP* SM–3 Machine 814700–1 and –2 or AMP 10/20–Ton H–Frame Power Unit Machine 803880–6. The fixture is used to help assemble pre–assembled connectors with ACTION PIN* Contacts to pc boards. Read these instructions and review the illustrations thoroughly before manufacturing the support fixture.

NOTE *Dimensions are in millimeters [with inches in brackets].*

Reasons for reissue are provided in Section 5, REVISION SUMMARY.

2. DESCRIPTION

The pc board support fixture is custom–designed from an aluminum tooling plate to suit the customer's pc board. AMP will design and construct these pc board support fixtures if required by the customer. The aluminum support fixture plate for use with the SM–3 Machine must be 19.05 mm [.750 in.] thick, and it must be 19.05 or 25.40 mm [.750 or 1.000 in.] thick for use with the H–frame machine. Refer to AMP Customer Manual 409–5626 for instructions concerning the SM–3 machine, and to 409–5567 for instructions concerning the H–frame machine.

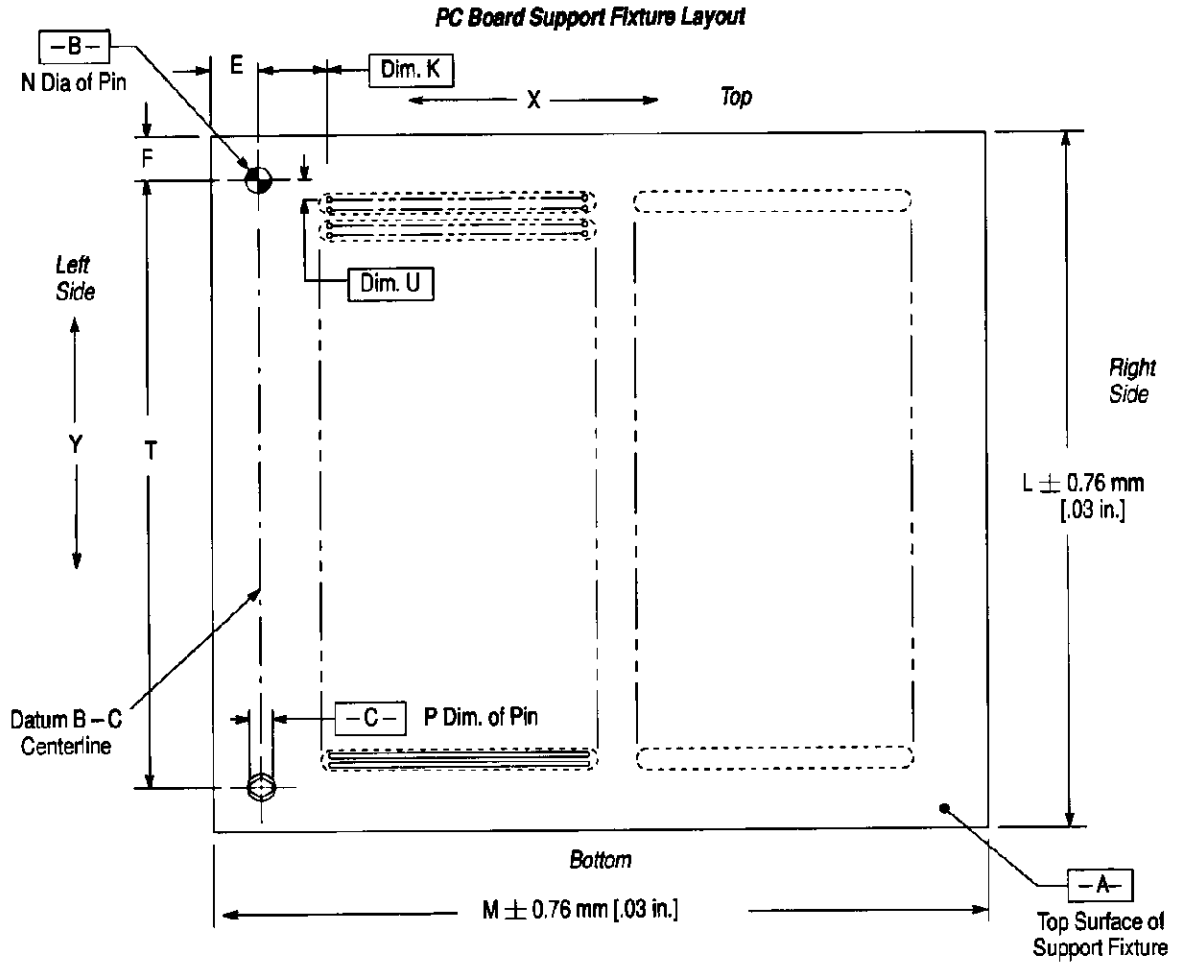
NOTE *When constructing the layout on the support fixture for the pc boards, use holes for multilayered pc boards with internal circuitry. Optional slots may be used only for single–layered pc boards that have no internal circuitry.*

3. SUPPORT FIXTURE CONSTRUCTION (Figure 2)

1. Cut fixture (refer to dimension L) at least 25.4 mm [1 in.] longer than the length of the pc board.

2. Cut fixture (refer to dimension M) at least 25.4 mm [1 in.] wider than the width of the pc board.

NOTE *Maximum width of the pc board fixture should be no more than 508 ± 0.8 mm [20 ± .03 in.] for the SM–3 and no more than 686 mm [27 in.] for the H–frame machine.*



Datum B must be perpendicular to top surface of support fixture within ± .03 [.001].

Figure 2

NOTE *Datum B in Figure 2 represents the N diameter of the round locator pin while Datum C represents the P dimension of the diamond-shaped locator pin. The P dimension of the diamond-shaped locator pin must be at a right angle to the Datum B–C centerline. Dimension T corresponds to the distance between datum holes on the pc board.*

3. Dimension E in Figure 2 represents the location of Datum B in the X direction, and is at the fabricator's discretion. Dimension F in Figure 2 represents the location of Datum B in Y direction, and is also at the fabricator's discretion. Basic dimensions K and U in Figure 2 represent the distance from the datum to the first row of holes: these dimensions correspond to the design of the pc board.

4. Refer to Figure 3 and manufacture the hole or slot pattern for the support fixture.

NOTE *If, for example, a .125 x .125 in. 60-pin dual row connector is being terminated, then the holes in the fixture would be on .125 in. basic centerlines. The H dimension in Figure 3 (between No. 1 pin and No. 30 pin) would be 92 mm [3.625 in.] basic.*

5. The length of slot R is equal to the H dimension plus the full radius at both ends.

6. The length of the cavity S is equal to the H dimension plus the full radius at both ends.

Slot and Hole Dimensions (Bottom View of Fixture)

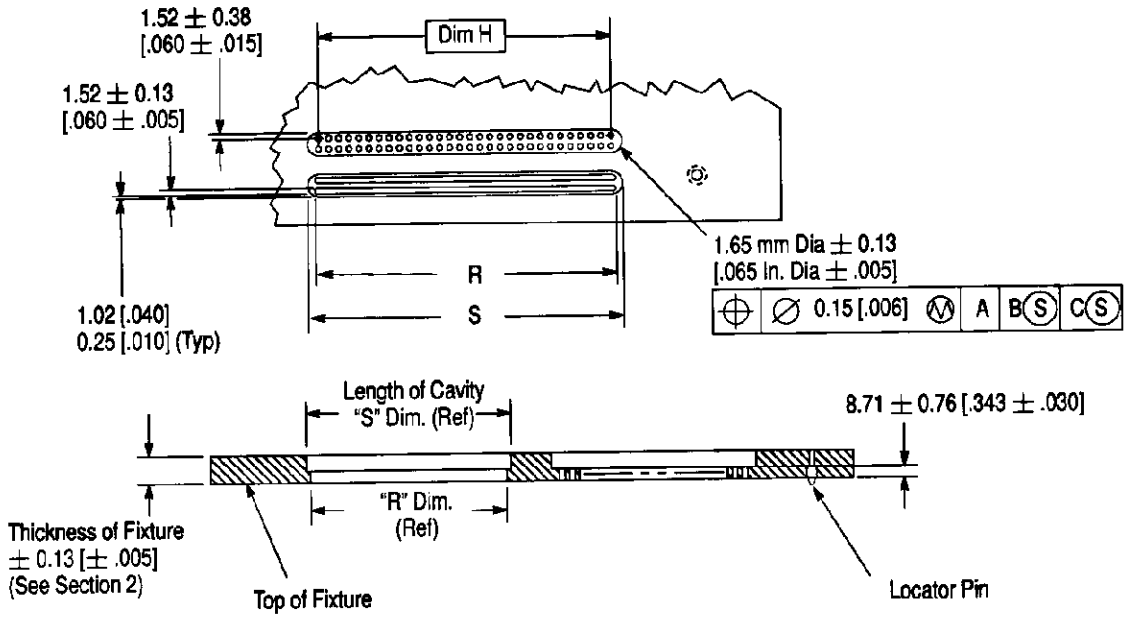
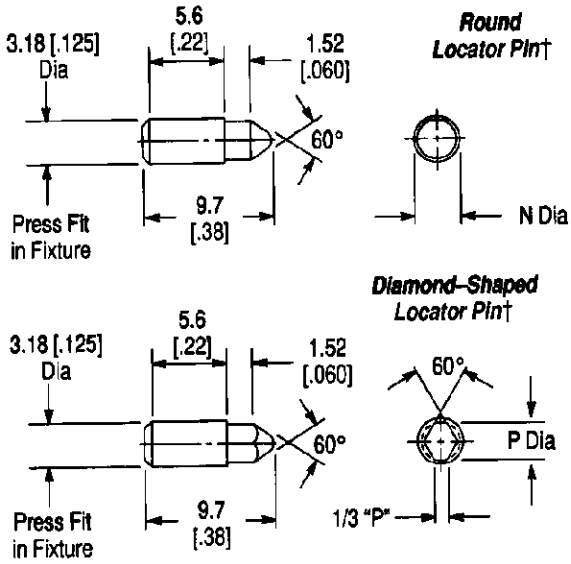


Figure 3

4. LOCATOR PINS (Figure 4)

Refer to the dimensions in Figure 4 and manufacture the locator pins. The locator pins shown are for a typical fixture hole with a diameter of 3.18 mm [.125 in.] drilled to a depth of 5.97 mm [.235 in.]. The location of the holes would depend on the location of the holes in the pc board. Usually, only two locator pin holes are needed for the support fixture.

Typical Locator Pins



†Material – AMP 100–40 (AISI D2).

Figure 4

Refer to the following dimensions in Figure 4 when constructing the locator pins.

1. The pin diameter N is machined to suit the datum hole in the pc board.

NOTE

If the datum hole is 3.18 +0.05/–0.03 mm [.125 +.002/–.001 in.] dia, then the N dimension should be 3.10 +0.00/–0.03 mm [.122 +.000/–.001 in.] dia.

2. The pin diameter P is machined to suit the datum hole or slot in the pc board.

NOTE

If the hole diameter or slot width is 3.18 +0.05/–0.03 mm [.125+.002/–.001 in.] dia, then the P dimension should be 3.10 +0.00/–0.03 mm [.122 + .000/– .001 in.] dia.

5. REVISION SUMMARY

Since the previous revision of this document, these changes have occurred:

Per EC 0990–0725–95:

- Updated format
- Added metric dimensions