Set-up and Operating Procedure
FTF-U
Flex Test Fixture
(DUT Traces Up)

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Z-AXIS Connector Company EUROPE

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Flex Test Fixture

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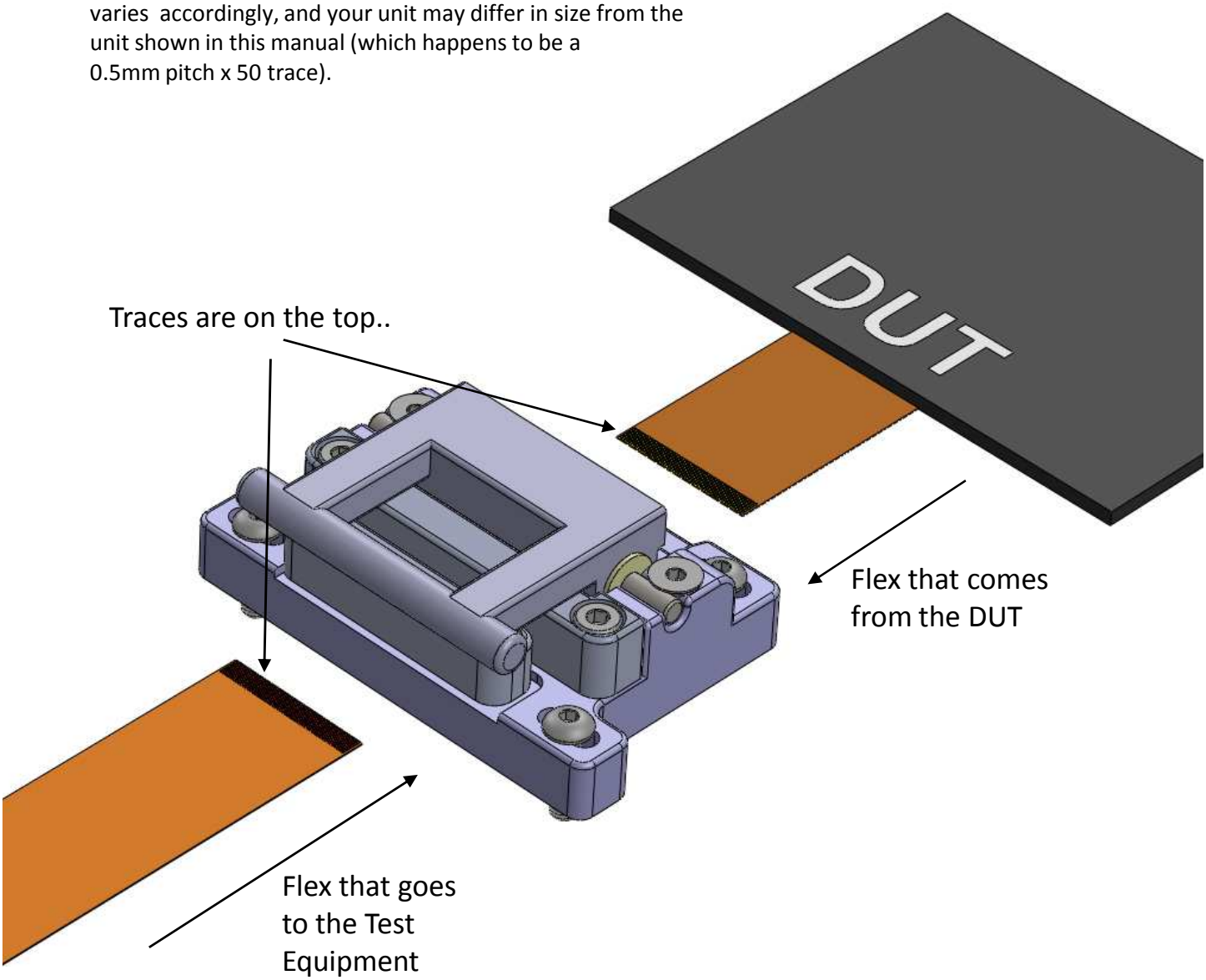
Flex Test Fixture U – Traces Up

Electronic devices which are connected by flex cables can be tested using a Z-Axis FTF, flex test fixture. FTFs come in two varieties - for DUTs (device under test) with traces that are up or down.

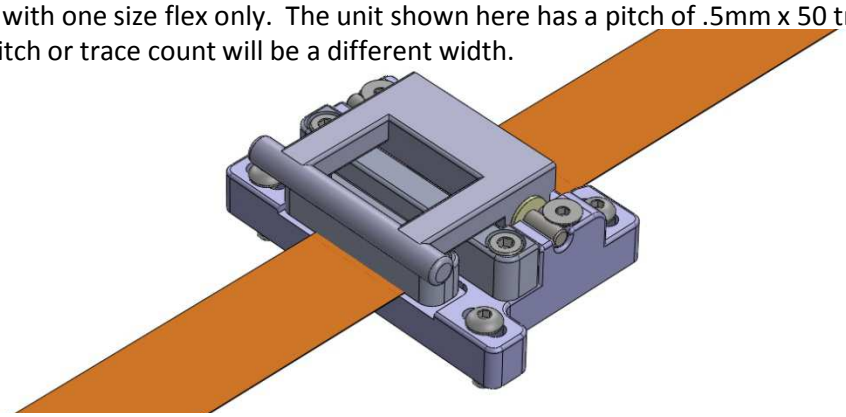
In the picture below, the DUT (device under test) is a small view screen. When the DUT is tested the view screen must be facing up to be visually inspected, and with this particular screen, the traces are on the up side of the connecting flex. For this DUT an "up" style FTF is needed. If the traces were on the bottom, Z-Axis makes a "down" style which is somewhat different and covered in a different manual.

In the picture below, we can see that the traces on both the DUT flex and Test Equipment flex are both facing up. FTF units are sized to fit a particular size flex. The width varies accordingly, and your unit may differ in size from the unit shown in this manual (which happens to be a 0.5mm pitch x 50 trace).

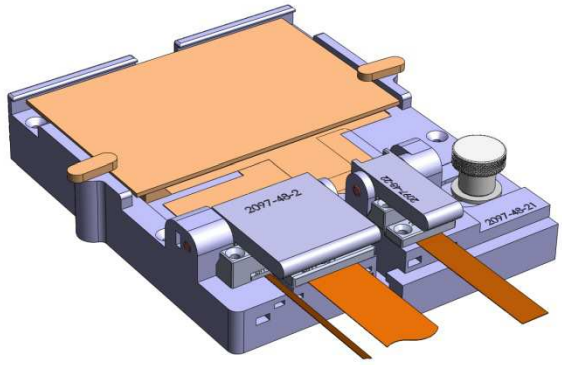


Flex Test Fixture U – Different Varieties

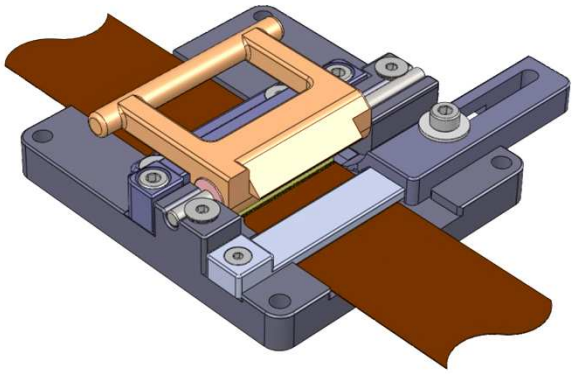
Standard Unit The Flex Test Fixture described in this manual is a standard “traces up” unit. For applications, where a single type of DUT is being tested , a dedicated unit is best. A dedicated unit is designed to work with one size flex only. The unit shown here has a pitch of .5mm x 50 traces. A unit with a different pitch or trace count will be a different width.



Custom Unit FTFs can be designed for specific applications, sometimes for interfacing to circuitry other than a single flex cable. In the case below, the unit is designed to connect to three flex cables from an LCD display simultaneously.



Universal Unit Another type of FTF, called a UTF (Universal Test Fixture) is designed to connect any type of flex cable to a maximum width of 33 mm.



While FTF units may look different, they all work basically the same, as will be described in the rest of this manual.

Installation

Prior to operation the Z-Axis Flex Test Fixture should be attached to a work surface and wired to the test equipment. Slots for (4) M4 screws are provided in the corners of the Base and provide 1/4” of adjustment. The flex coming from the back of the fixture is connected to the test equipment.

Operation

Before testing, the lever is raised as shown in figure 1. The Device Under Test (DUT) is inserted into the slot on the top of the shelf as shown in figure 2. The flex must be pushed in fully to make a good connection. Once the flex is in place, the lever is rotated to the back and clamps the element to make the connection as shown in Figure 3. Once the test is completed, the lever is raised and the DUT flex can be removed.

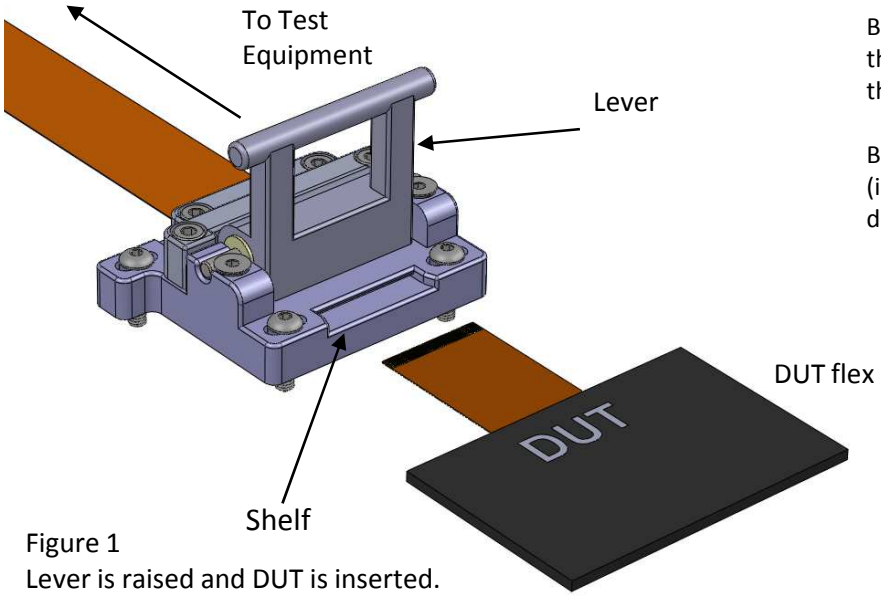


Figure 1
Lever is raised and DUT is inserted.

Be careful to not insert a flex when the lever is down – you can damage the element.

Be careful to not slide the flex on top (instead of inside) the slot – this can damage the element.

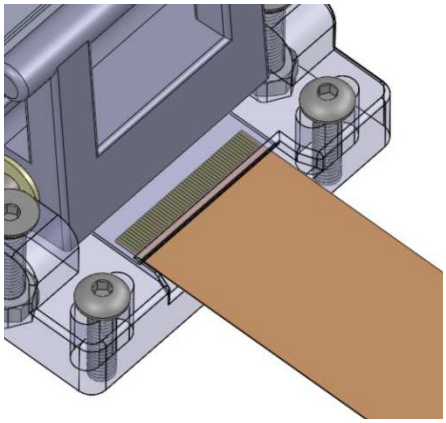


Figure 2

Since the fixture is made of a clear plastic, you can see the flex as it slides in through the slot. The flex must not hit the element as it moves in. If any resistance is encountered, check the set up of the element.

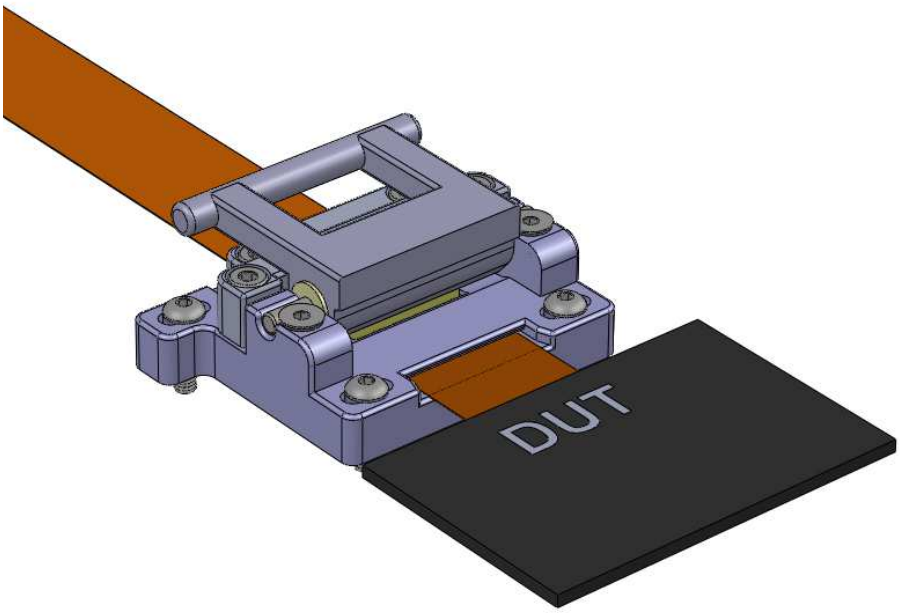


Figure 3
Lever is closed to make connection for testing.

Setup of Permanent Flex Cable

The flex that goes to the test equipment is permanently installed. This is usually done at the Z-Axis factory. If a flex circuit should become damaged, it can easily be replaced as follows:

Remove Lever - Loosen flat head screws (using 2.5mm hex key) and slide out steel dowel pin. Lever will come free (figure 4).

Removing Element – Remove (2) M4 screws (using 3mm hex key) that hold the element clamp (figure 4). Element will be free when clamp is removed.

With most of the hardware removed and the Flex Clamp loosened (it does not need to be fully removed) so the flex can move freely below it, place the new flex as shown in figure 5. Bench the flex against the edge shown in item (1) below and slide it up to the raised edge shown in item (2). With the flex properly benched, tighten the Flex Clamp (figure 5).

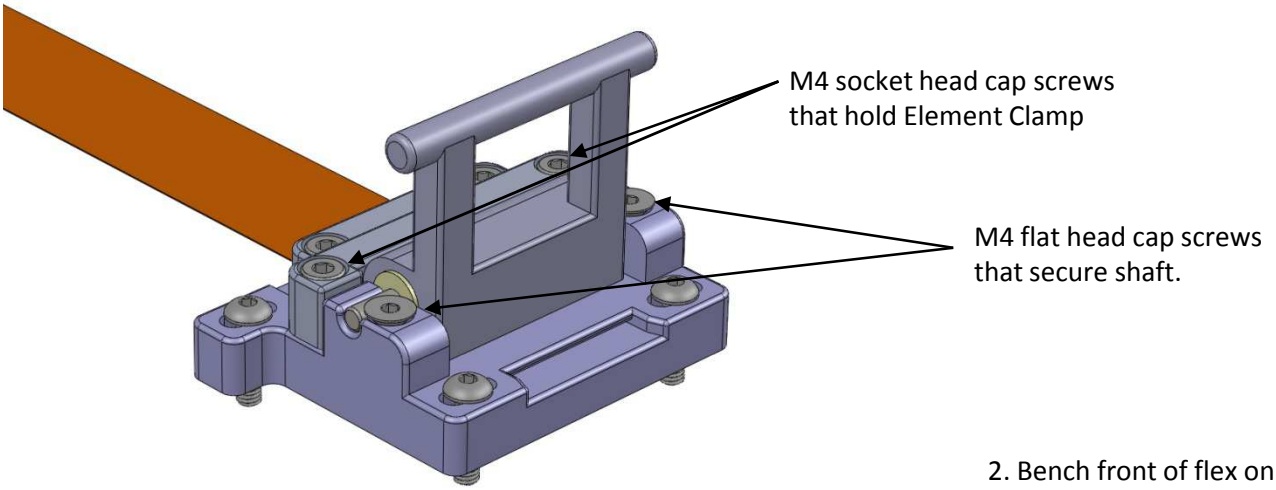


Figure 4

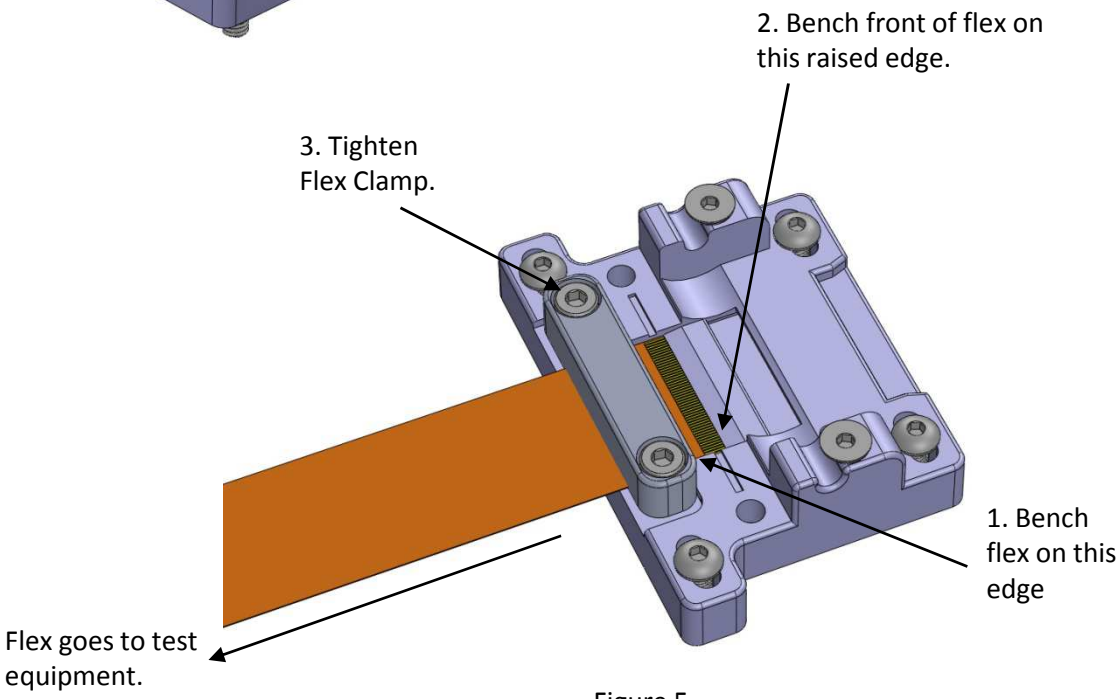


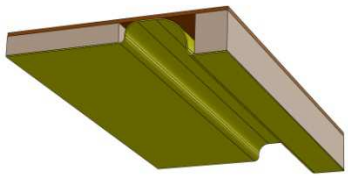
Figure 5

Replacing Connector Element

Remove the lever and clamp holding the connector element as described on the previous page. The new element will look similar to figure 6. Note: wear gloves while handling the new element.

Insert the new element as shown in figure 7. The element should be constrained side-to-side between raised edges in the Base and the back of the element should be benched against the edge that sticks down on the element clamp. (see figure 8).

Figure 6 – Z-Axis Connector Element



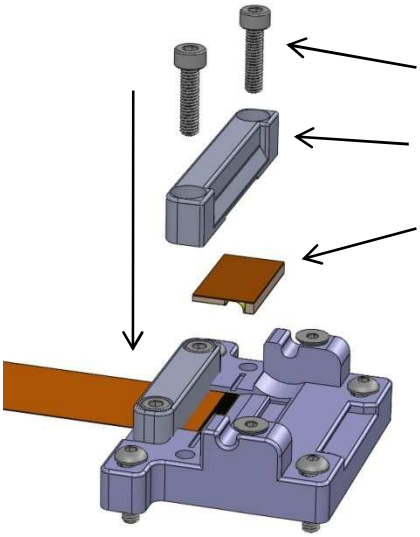


Figure 7

When installing the element, put the parts together loosely, with the element itself forward slightly from the benching edge. Then, push gently on the end of the element to move it back against the benching edge, then fully tighten the M4 screws.

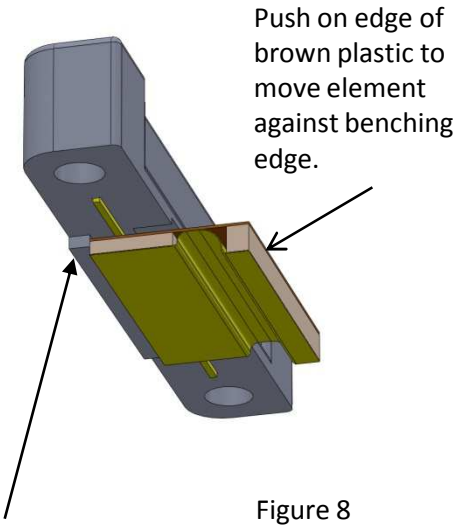


Figure 8

Once element is set, check that benching of element is correct by looking down through clear material of Element Clamp and noting that the brown element can be seen touching the benching edge of the clamp (as shown in figure 9). Check that the tall side of the element is positioned in the notches on either side. The element should be tilted up, but should move down freely when you push with your finger (see figure 10). Also, check that a DUT flex slides in freely and does not hit the element when it is up in the up-tilted position.

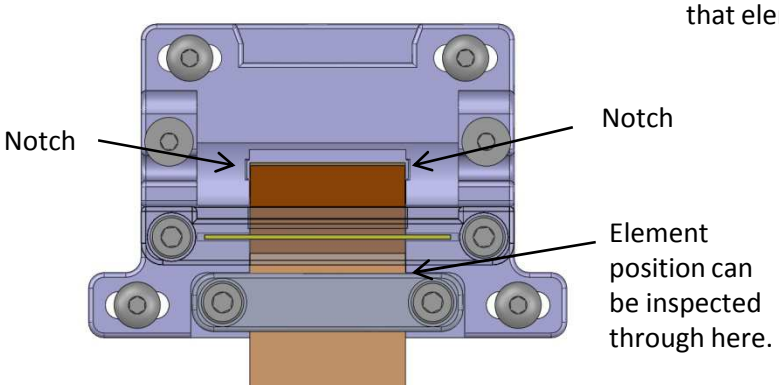


Figure 9

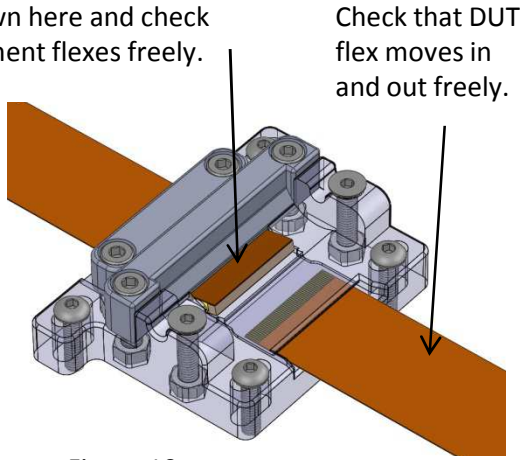


Figure 10

Lever Replacement

With the element secure, replace the lever, by aligning it with the central bore and inserting the dowel pin under the heads of the flat head screws. With lever on the pin and the pin centered in the fixture, tighten the flat head screws (2.5mm hex key). If you now actuate the lever, you should see the element inside going up and down. The unit is now fully assembled.

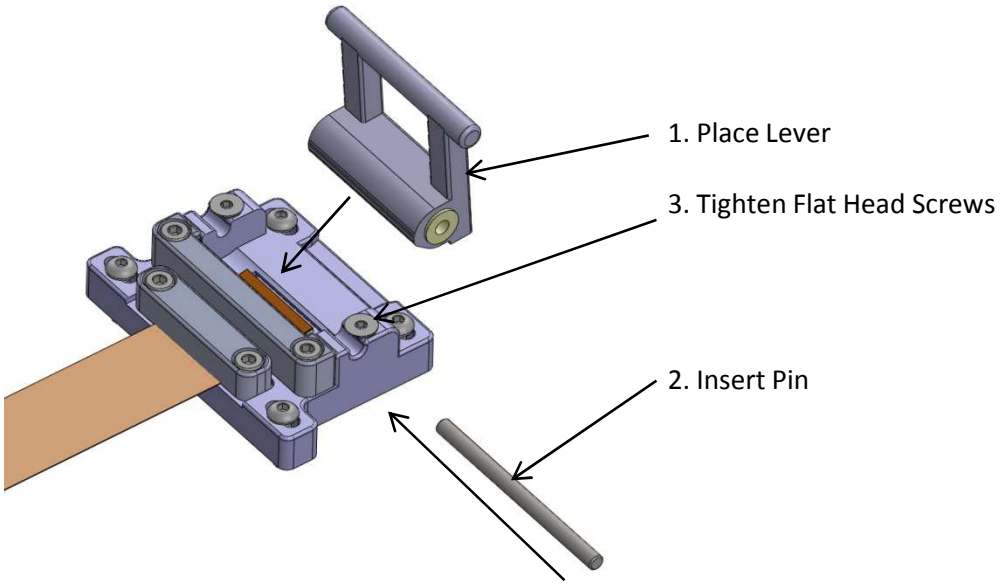


Figure 11

Figure 9

Spare Parts

Replacement elements for this unit can be obtained by contacting
Z-Axis Connector Co.

Support

For additional support regarding this unit contact:

Z-Axis Europe Ltd.
+972-52-7772247

www.z-axiseurope.com