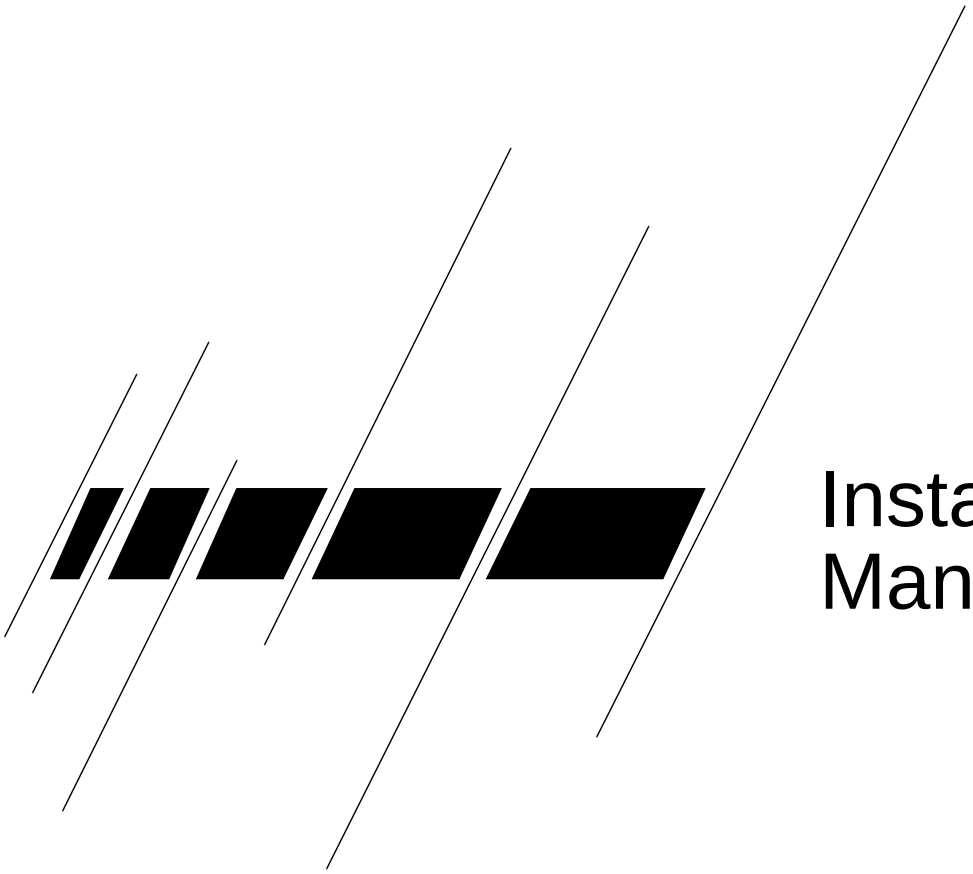
Catalyst

Delta Castle LX7500 Handler Interface for AMD Using Delta Seal Adapter



Installation Manual

Revision 0120
Documentation Part No.
573-004-00

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Delta Castle LX7500 Handler Interface for AMD Using Delta Seal Adapter

This manual provides installation instructions for the Delta Castle LX7500 material handler interface.

The material in this manual is being provided for informational purposes and is subject to change without notice.

Additional Information

Further information about the Catalyst Test System can be found in the following Teradyne service manuals:

- Catalyst Test Head Service Manual pn 553-700-58
- Catalyst Site Preparation Guide pn 553-700-60
- Catalyst Service Manual pn 553-700-63
- Catalyst KCS and Manipulator Manual pn 553-700-78

Revision History

Manual Name:	Delta Castle LX7500 Handler Interface for AMD using Delta Seal Adapter
Part Number:	573-004-00

Revision Date	Reason for Change
0120	Initial Release

Table of Contents

Delta Castle LX7500 Handler Interface Manual for AMD

Overview

This manual describes the assembly and installation of a Delta Castle LX7500 material handler interface to the Catalyst Test System. This interface is for use with a 0.187" thick handler interface board (HIB).

Installation Steps

1) Unpacking the Interface Assembly Kit

2) Site Preparation

3) Mounting Plate Modification

4) Installation

Unpacking the Interface Assembly Kit

Unpack and inspect the interface assembly kit thoroughly for shipping damage. Verify the material against the packing list to make sure that all necessary components are included in the kit. If there is damage or if there are any discrepancies, report it immediately to your local Teradyne field service office before proceeding with the installation.

Assemblies

Teradyne Kits (pn 806-250-03 and 806-250-04) consists of the parts listed in Tables 1and 2.

To install the Delta Castle LX7500 handler interface (pn 806-250-03 or 04) you will need the following kits:

- Delta Castle LX7500 Interface Kit Select from Table 1 or Table 2
- V-groove Upgrade Kit Table 3 (included in interface kit)
- Thread Repair Kit Table 4 (included in interface kit)
- Registration Tool Kit Table 5 (purchased separately)

Teradyne supplies the parts listed in Tables 1 through 5. However, you will also need a customer supplied drill, a 1/4-1/2" tap wrench and a 3-70 in-lbs torque wrench for 5/64-1/2 inch fasteners.

The difference between Table 1 and Table 2 is that Table 1 contains a drill fixture (pn 480-233-01), a thread repair kit (pn 480-235-03), and an alignment fixture (pn 480-381-04) and Table 2 does not.

Table 1 Delta Castle LX7500 Interface Kit (pn 806-250-03)

Quantity	Part No.	Description
4	470-046-16	SCRW CP Skt HD 1/4-20 X 5/8
2	480-018-14	Guide Pin
1	480-227-75	Spacer, Groove, A Pos, 0.274 thick, Cat
1	480-227-76	Spacer, Groove, B Pos, 0.274 thick, Cat
1	480-227-77	Spacer, Groove, C Pos, 0.274 thick, Cat
1	480-233-01	Drill Fixture
1	480-235-03	Thread Repair Kit (1/4-20”) (See Table 4)
1	480-380-02	Interface Plate Assembly
1	480-381-02	Alignment Fixture, Castle Cat/Tgr
1	807-873-00	V-groove Upgrade Kit (See Table 3)
3	804-887-00	V-groove Assembly

Table 2 Delta Castle LX7500 Interface Kit (pn 806-250-04)

Quantity	Part No.	Description
4	470-046-16	SCRW CP Skt HD 1/4-20 X 5/8
2	480-018-14	Guide Pin
1	480-227-75	Spacer, Groove, A Pos, 0.274 thick, Cat
1	480-227-76	Spacer, Groove, B Pos, 0.274 thick, Cat
1	480-227-77	Spacer, Groove, C Pos, 0.274 thick, Cat
1	480-380-02	Interface Plate Assembly
1	807-873-00	V-groove Upgrade Kit (See Table 3)
3	804-887-00	V-groove Assembly

Table 3 V-groove Upgrade Kit (pn 807-873-00) (included in 806-250-03 and 806-250-04)

Quantity	Part No.	Description
6	470-046-16	Screw, 1/4-20 x 5/8” Socket Head Cap Screw
12	470-080-26	Steel Washer
6	480-094-00	Brass Screw Sleeve
6	480-213-00	Bronze Washer

Table 4 Thread Repair Kit (pn 480-235-03) (included in 806-250-03)

Quantity	Part No.	Description
4	*	1/4-20” HeliCoil Insert
1	*	1/4-20” UNC Tap
1	*	0.201” Drill Bit
1	*	HeliCoil Insert Installation Tool

*Indicates parts of the thread repair kit.

Table 5 Registration Tool Kit (pn 806-303-00) (purchased separately)

Quantity	Part No.	Description
1	480-059-00	Torque Wrench
1	480-226-00	Registration Tool
3	480-379-00	Planarization Tool
1	480-060-00	Catalyst Interface Tool Kit
1	*	T-Handle Hex Key- 3/16” Hex, 6” Long (T-wrench)
1	*	0.120" Thick Rectangular Gauge Block
1	*	1/2” Square Drive, 11/16” 6 Point Deep Socket
1	*	1/2” x 9/16” Open End Wrench
1	*	9 Piece Folding Hex Key set
1	*	5” x 7” Zippered Utility Bag

*Indicates parts of the interface tool kit.

Note

Use proper equipment and do not exceed the indicated torque values in the Installation section.

Site Preparation

This section provides information for planning and preparing an installation site. As system layout is critical, Teradyne provides a recommended floor plan in each prober or handler interface manual. Proper layout allows unhindered docking and ensures minimal strain on the manipulator cable bundle while providing service access to the mainframe. Figure 2 shows examples of standard Teradyne recommended floor plans.

For additional information on floor strength requirements, please consult the Catalyst Site Preparation Guide (pn 553-700-60).

If your test head/manipulator configuration does not conform to those shown in Figure 1 and Figure 2 and/or you require additional floor plans, please contact the Teradyne Product Support Group (PSG).

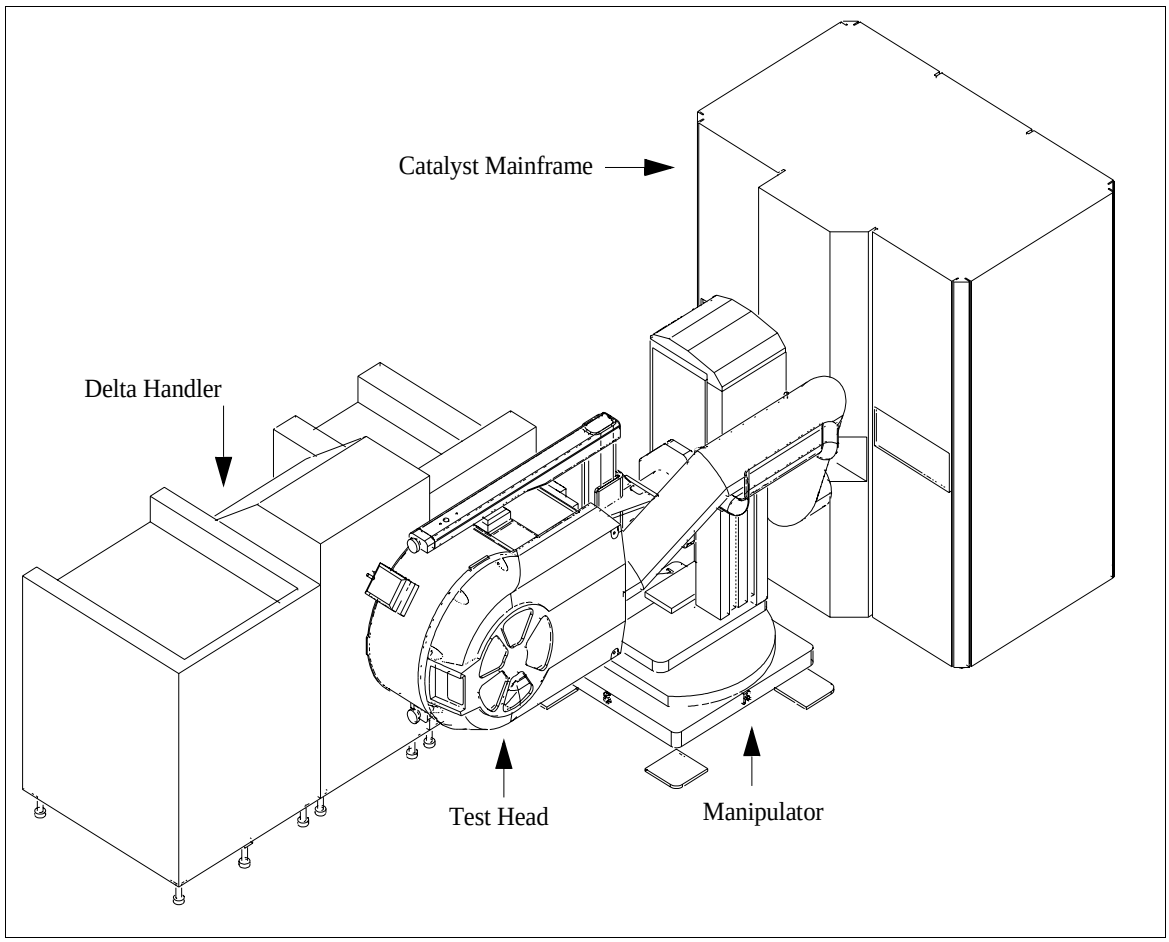
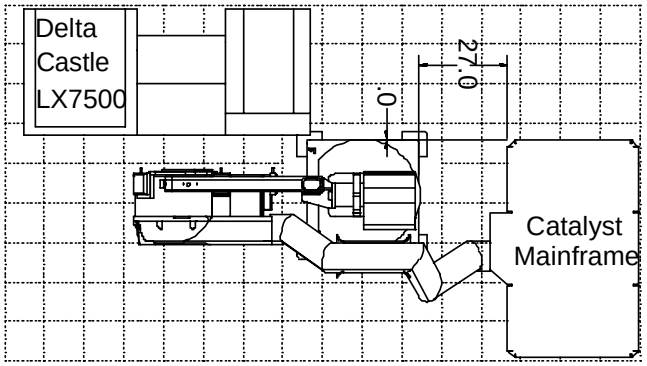
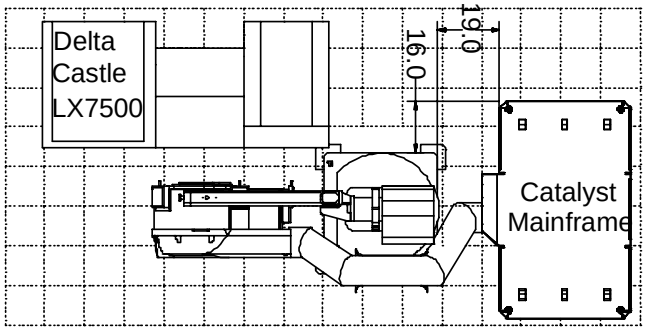
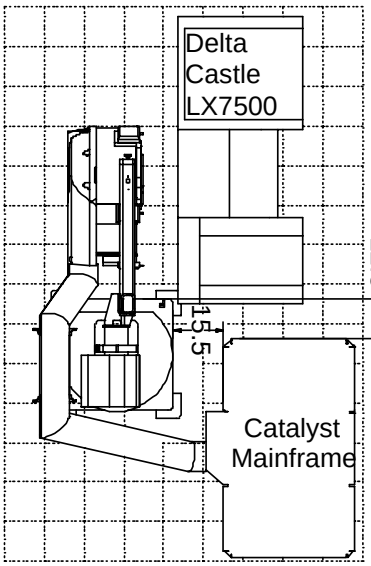


Figure 1 Manipulator with Test Head







Dimensions are in inches.

Figure 2 Sample Floor Plans

Mounting Plate Modification

Note

If it is necessary to add four 1/4-20” tapped holes and threaded inserts to the large handler base plate for mounting the interface plate assembly, complete this section. If the holes already exist, start with the *Installation* section on page 9.

1) Remove the mounting plate from the handler. Make note of how it is mounted; you will reattach this plate later.

2) Orient the drill jig with the flat side of the drill jig facing the rear side of the mounting plate. The hole and slot in the jig align with pins in the mounting plate. See Figure 3.

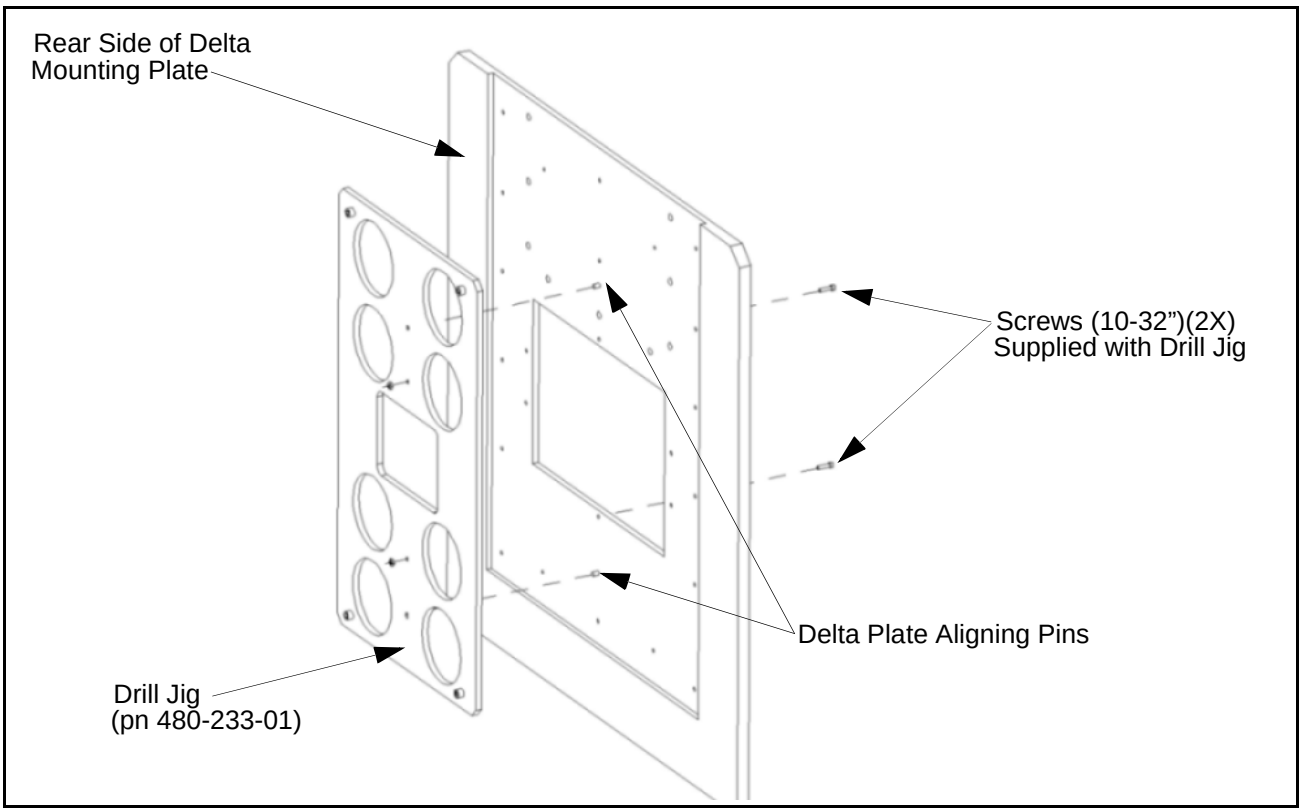


Figure 3 Drill Jig Alignment

3) Secure the drill jig to the mounting plate by attaching the two 10-32” screws and nuts in the locations shown in Figure 3.

4) Drill through the holes in the bushings at the corners of the jig using the drill bit provided in the thread repair kit (pn 480-235-03). These holes accept a tap that allows the installation of the 1/4-20" HeliCoil threaded inserts.

5) Remove the drill jig.

6) Thread the four new holes with a tap wrench and the 1/4-20" tap from the thread repair kit.

Note

Be sure to tap completely through the large base plate.

7) Install one threaded HeliCoil insert from the thread repair kit into each of the four holes on the mounting surface side (side facing away from handler) of the mounting plate. Use the HeliCoil insert installation tool provided in the thread repair kit.

8) Reattach the modified mounting plate to the handler.

Installation

An exploded view of the interface assembly is shown in Figure 4.

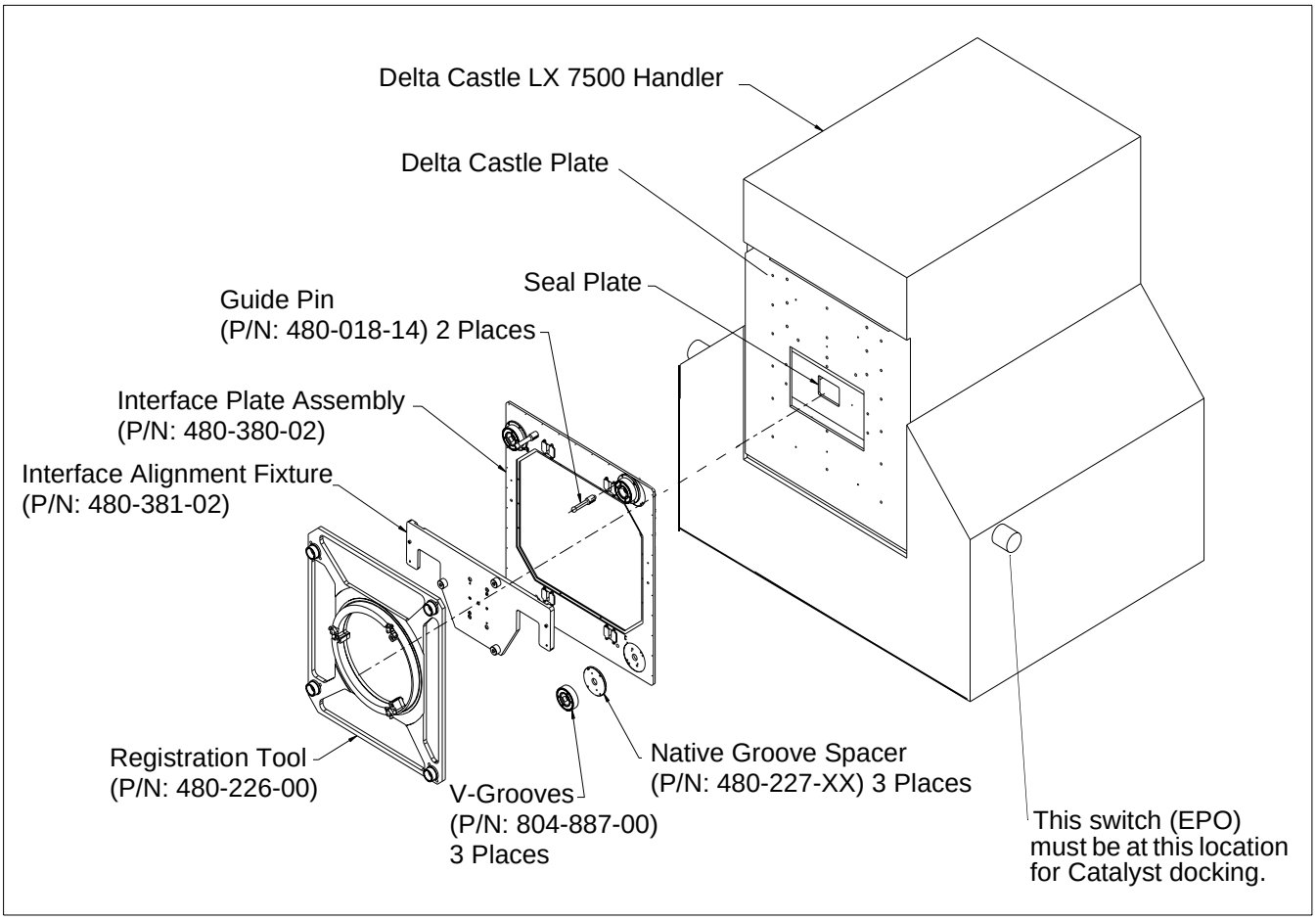


Figure 4 Interface Assembly

1) Lay the interface plate assembly on a flat surface. Raise the interface plate assembly off the surface by approximately an inch so the mounting blocks are free of the flat surface.

2) Fasten the two guide pins (480-018-14) to the interface plate assembly. See Figure 4.

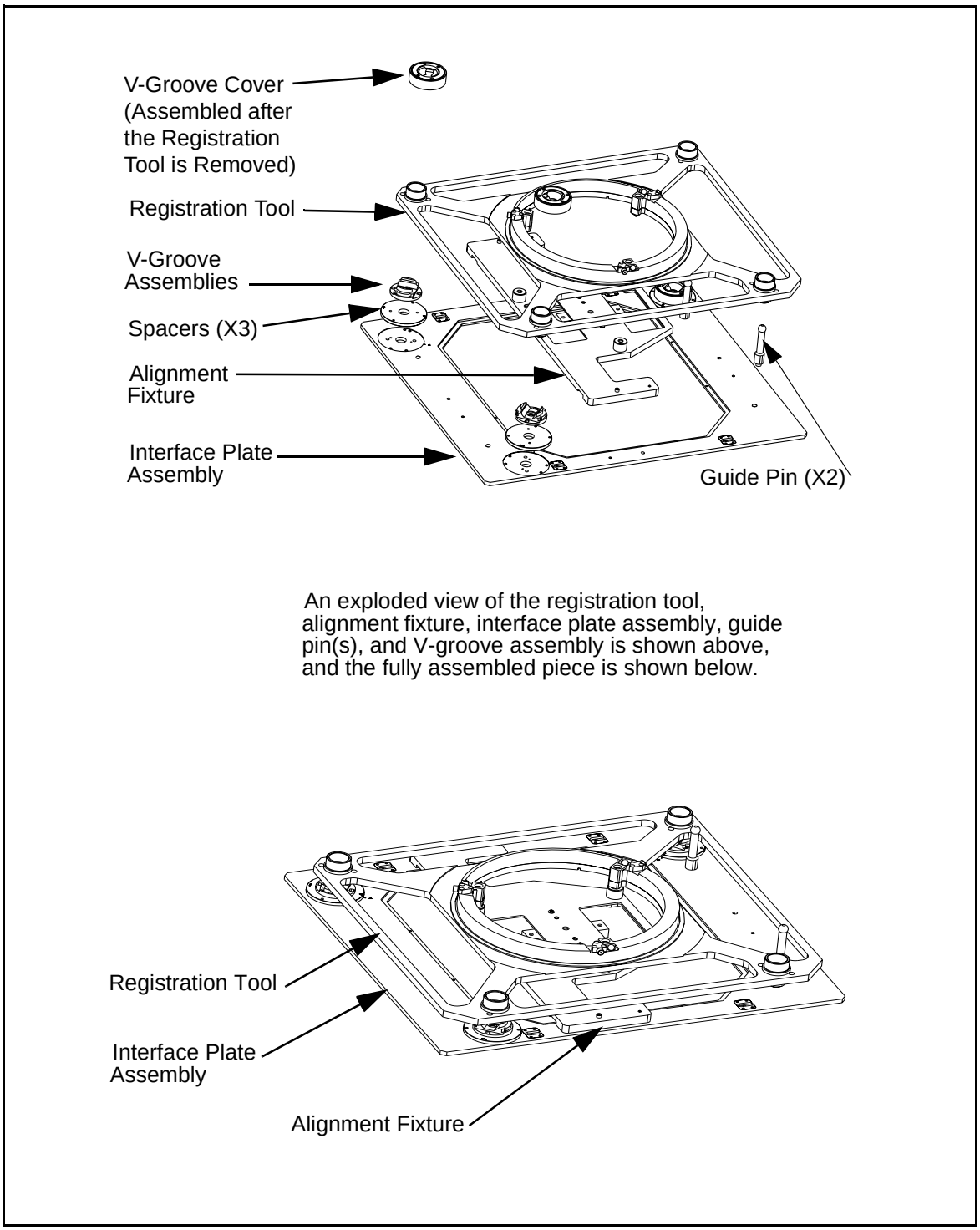


Figure 5 Registration Tool in Place on the Interface Plate Assembly

3) Attach the three native groove spacers (A, B, and C) (pn 480-227-75, 76, 77) to the interface plate assembly. Each spacer is marked with a letter that corresponds to a letter on the interface plate assembly. See Figure 5.

4) Tighten the 1/4-20” spacer screws to 70 in-lbs.

5) Disassemble the three V-grooves by loosening the four captive #8 screws holding the covers (set covers aside for later re-installation) onto the base with the 5/64” hex wrench supplied in the registration tool kit.

6) Discard the 1/4-20” screws (pn 466-832-04) and steel washers.

7) Assemble the V-groove screws (pn 470-046-16), brass screw sleeves (pn 480-094-00), steel washers (pn 470-080-26) and bronze washers (pn 480-213-00) from the V-groove Upgrade Kit (pn 807-873-00) in the following order: steel washer (against screw head) followed by the bronze washer, steel washer, and brass sleeve. See Figure 6. Repeat for all three v-groove assemblies.

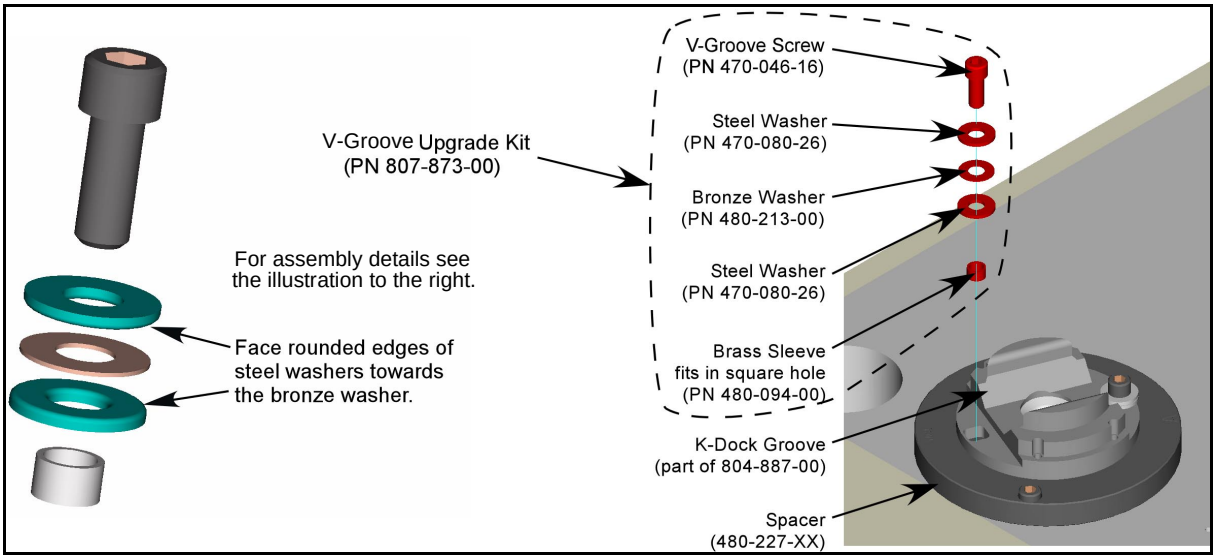


Figure 6 V-Groove Screw Assembly

8) Loosely fasten a V-groove to each of the spacers on the interface plate assembly using the screw assemblies assembled in Step 7.

10) Position the interface alignment fixture (pn 480-381-02) on the interface plate assembly so the two pins in the alignment fixture mate with the hole and slot in the interface plate assembly.

11) Secure the alignment fixture to the interface plate assembly by using the 1/4-20” captive screws supplied with the alignment fixture.

Note

Do not apply force to the periphery of the registration tool during Step 12 and Step 13.

12) Orient the registration tool (pn 480-226-00) next to the interface. The side of the registration tool with the inner ring must face the installer and the side with the flats on the corner bushings must face the interface plate assembly. The long and thin cut-out window can be used as a reference in positioning the registration tool in the proper orientation. Position the registration tool so that its pins engage the bushings in the alignment fixture and the alignment blocks at the corners engage the flats of the V-grooves. See Figure 5.

13) Tighten (to 70 in-lbs) each V-groove fastener using the torque-wrench from the registration tool kit.

14) Remove the alignment fixture-this will be used later.

15) Remove and store the registration tool in a safe place.

16) Reattach the V-groove covers to the V-groove assemblies by lightly fastening the four captive screws using the 5/64" hex wrench.

Note

Step 5 through Step 16 are executed only at initial installation or if a V-Groove must be replaced.

17) Make sure that the Emergency Power Off (EPO) switch is on the side of the handler for Catalyst docking. See Figure 4.

18) Place four 1/4-20 mounting screws (pn 470-046-16) in the holes in the Delta Castle plate. Leave enough thread exposed to allow the interface plate assembly to be loosely fastened at the four key-holes. See Figure 7.

Note

Step 19 requires two people.

19) Position the interface plate assembly (pn 480-380-02) next to the handler mounting surface.

The side of the plate with lettered markings (A, B and C) for the native groove spacers must face away from the handler. Marking C must be placed closest to the floor and markings A and B must be placed furthest from the floor. See Figure 7.

20) Secure by tightening the four captive 1/4-20" screws (470-046-16) so they are snug.

21) Loosen each fastener (four captive 1/4-20" screws from step 3) 1 1/2 to 2 turns so that the assembly can be re-positioned.

22) Position the alignment fixture (pn 480-381-02) next to the handler so that it captures a hole and slot in the interface plate assembly and the two pins on the seal block. See Figure 7.

23) Move the loosely mounted interface plate assembly until all of the pins are engaged and the alignment fixture rests flush against it.

24) Secure the alignment fixture to the interface plate assembly using the captive 1/4-20" screws supplied with the fixture.

25) Tighten the four 1/4-20 mounting screws to 70 in-lbs.

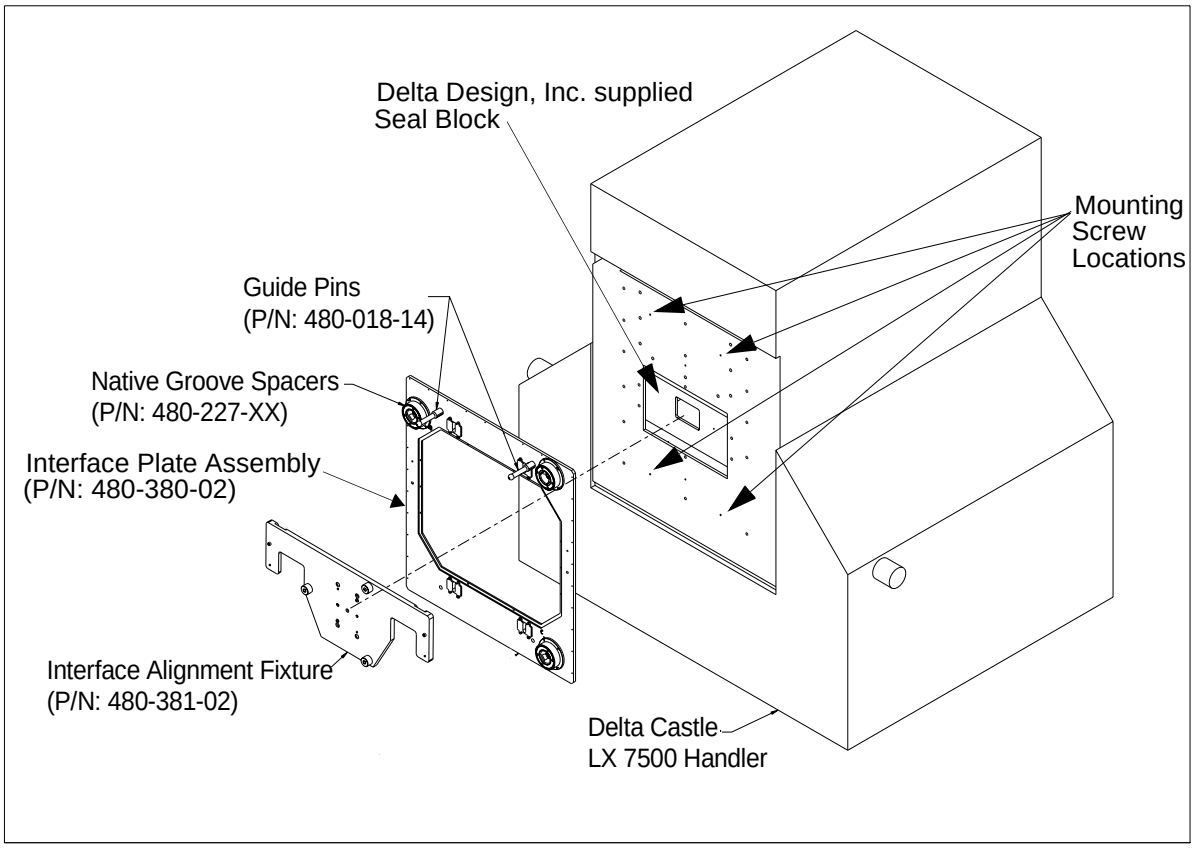


Figure 7 Interface Plate Assembly and Alignment Fixture Position

26) To attach a native Catalyst HIB, orient it with the flush circular edge positioned as shown in Figure 8.

27) Align the HIB to the Delta seal adapter by aligning the pins in the seal adapter to the hole and slot in the HIB.

28) Secure the HIB to the Delta seal adapter using the three stiffener captive screws (#10-32). See Figure 8.

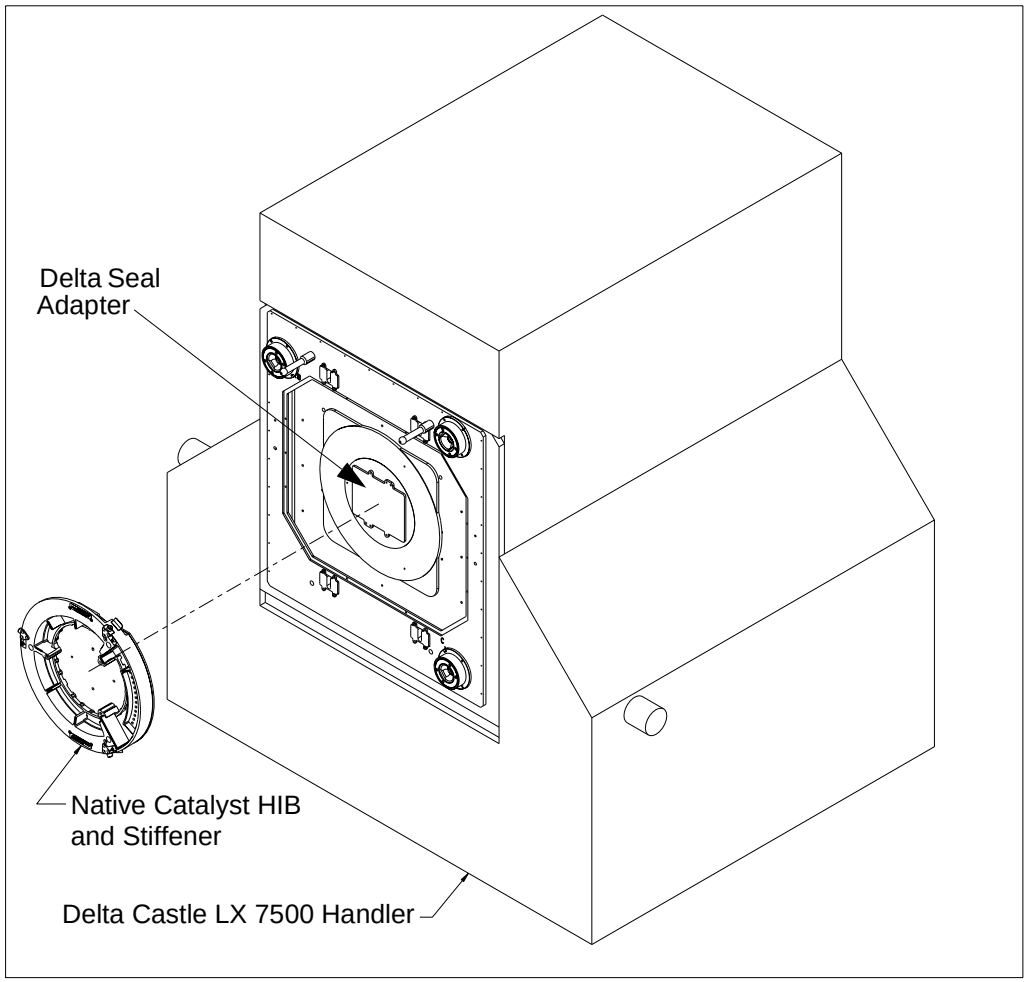


Figure 8 Native Catalyst HIB Attachment

The handler is now ready for docking with a Catalyst test head.

The KCS couplers on the test head must be registered prior to docking. Refer to Section 3.6 Kinematic Coupler Alignment and Section 4.4 Docking the Test Head in the KCS and Manipulator Manual (pn 553-700-78).