

# INSERTING AND REMOVING FIXTURES

Fixtures and calibration/diagnostic plates are designed with test head docking fasteners, blind-mate TIM interface blocks, and alignment pins to make them easy to add and remove from the test system. These components provide easy access to test resources and require no teardown of the test setup when performing maintenance procedures on the tester. The methods for docking and undocking a fixture from the Cassini test systems are detailed in the following text.

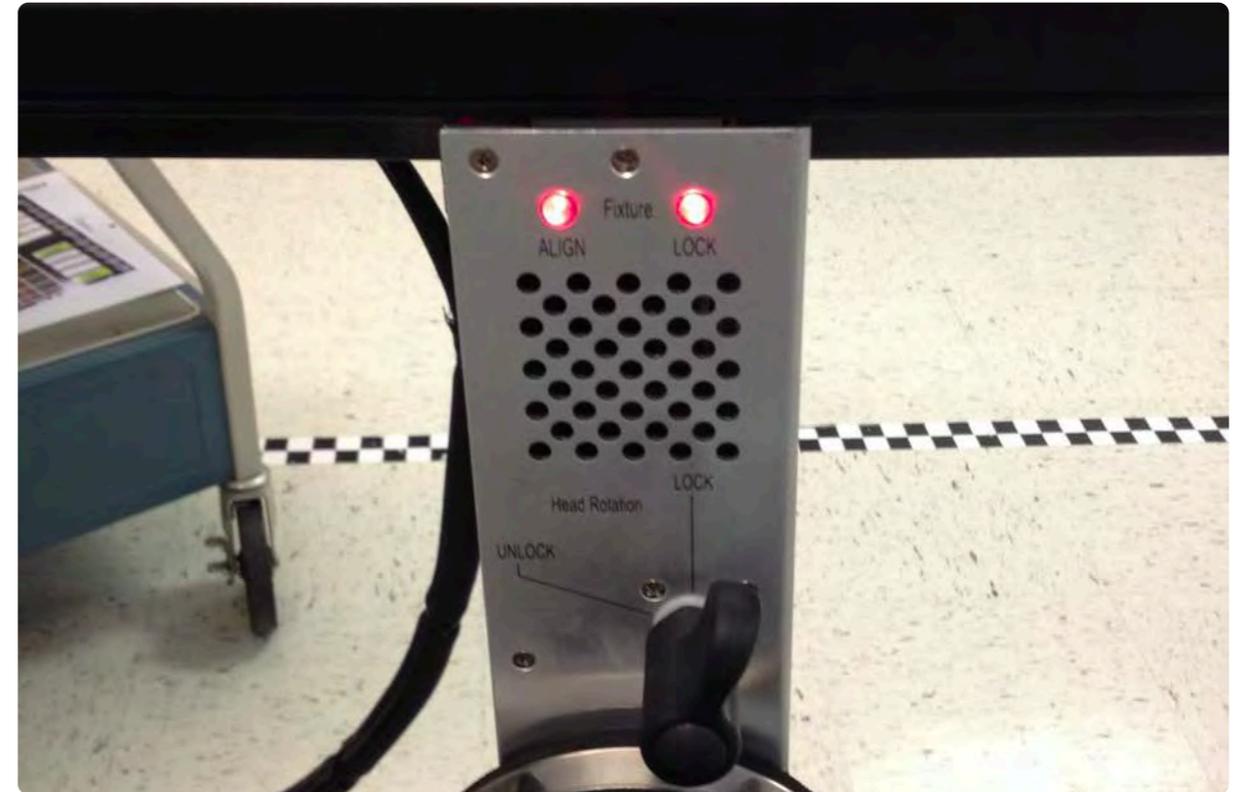
## CASSINI 16

*NOTE: Always use a TIM-compatible 16 slot or 8 slot bottom plate/fixture when docking to a Cassini 16 test system.*

### TO DOCK A FIXTURE OR DIAGNOSTIC PLATE, FOLLOW THE STEPS BELOW:

1. Rotate the test head into the upright position and secure the rotation lock by putting it into the LOCKED position.
2. Position the manipulator arm into the MAINTENANCE POSITION using the locking latch found on top of the manipulator armature.

FIGURE 1.47 FIXTURE DOCKING INDICATOR LIGHTS



The docking indicator lights are located on the side of the test head nearest the infrastructure chassis. When the test head is powered up and active but no fixture or calibration/diagnostic plate is present both LEDs are red.

3. Insure that the TIM locations on the test head match the TIM interface blocks on the bottom plate of the fixture or calibration/diagnostic plate.

**CAUTION:** *Keyed pins on the TIMs and keyed receive openings on the TIM interface blocks are designed to prevent mismatched TIM/interface block mating but unintentional damage can occur if the layouts do not match when docking.*

4. Insure the docking rotary knob on the infrastructure is in the UNLATCHED position.
5. Verify that the test head is active and the docking system is operational by checking that both fixture docking LEDs (ALIGN and LOCK) on the side of the test head nearest the chassis are both red as shown in image 1 of [Figure 1.47](#).
6. Holding the fixture or calibration/diagnostic plate along the short edges of the fixture or bottom plate with the docking pins facing downward, orient the alignment arrow (found on the fixture top plate or the sticker on a calibration/diagnostic plate) to point at the infrastructure chassis. Bring the fixture or calibration/diagnostic plate straight down onto the test head, checking that the docking pins move freely into position within their receive ports and interface blocks comply with their corresponding TIM alignment pins. Verify that the fixture orientation and alignment is correct by checking that the ALIGNMENT LED is now green and the LOCK LED is red (as shown in image 2 of [Figure 1.47](#)).

*NOTE: The alignment must be correct, and ALIGN LED must be green to activate the pneumatic locking drive system.*

7. The bottom plate or fixture should sit level on the test head and be slightly above flush relative to the finger guard on the test head that surrounds the bottom plate.

8. Turn the docking rotary knob to the LATCH position. The pneumatic drive force will engage the docking canoes underneath the test head with the bottom plate docking pins, pulling the bottom plate down and flush across the finger guard.
9. Verify that the fixture has been successfully docked checking that the ALIGNMENT LED and the LOCK LED are now green (as shown in image 3 of [Figure 1.47](#)).
10. Perform a **System Check** to activate the fixture or calibration/diagnostic plate resources in the test system software.

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*CAUTION: Always verify that both docking indicator lights are green before moving or rotating the test head to prevent accidental drop of the fixture or calibration/diagnostic plate.*

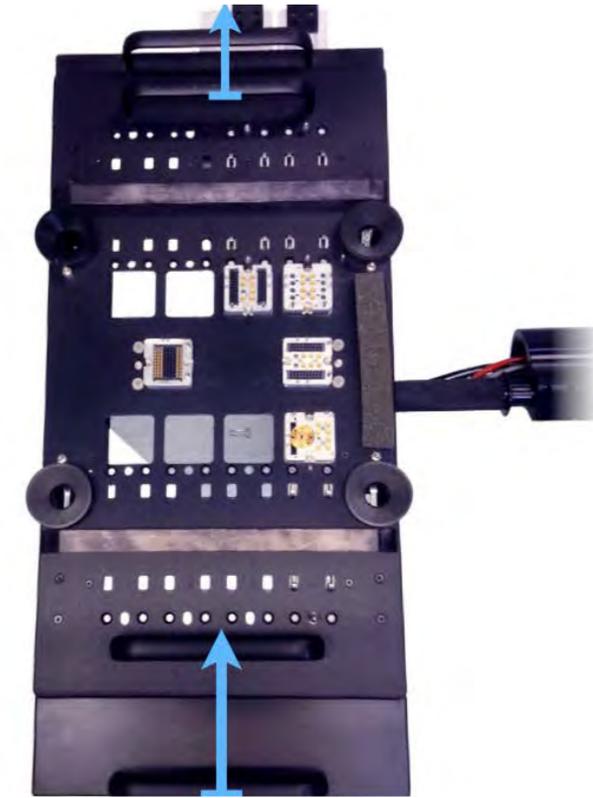
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When docking the test system to a handler, typically the fixture is docked to the handler first, and then the test system is positioned underneath or adjacent to the handler/fixture by rotating the test head accordingly and using the rolling castors. Fine adjustment is achieved through the electromechanical lift and 2-axis planar/gimbal movement to dock the system to the fixture/handler. The docking indicator lights are used to visually verify alignment and successful dock.

## TO UNDOCK A FIXTURE OR DIAGNOSTIC PLATE:

1. Rotate the test head into the upright position and secure the rotation lock by putting it into the LOCKED position.
2. Position the manipulator arm into the MAINTENANCE POSITION using the locking latch found on top of the manipulator armature.
3. Turn the docking rotary knob on the infrastructure from the LATCH to the UNLATCH position.
4. Verify that the pneumatic lock disengages the docking canoes underneath the test head from the bottom plate docking pins by checking that the LOCK indicator light is now red. (The bottom plate should move away from the test head and slightly above flush across the finger guard on the test head.)
5. Remove the fixture or calibration/diagnostic plate from the test head by lifting upwards and away from the test head.
6. Perform a **System Check** to remove the fixture or calibration/diagnostic plate resources from the test system software.

FIGURE 1.48 CASSINI 8/RI7100C FIXTURE DOCKING HANDLES



Actuation movement for locking a fixture to the test head.

7. When undocking the test system from a handler, turn the rotary latching knob from the LATCH position to the UNLATCH position. The test system can be moved away from the handler/fixture using the fine adjustment electromechanical lift and 2-axis planar/gimbal movement to undock. The test head can then be rotated back to upright and the system can be moved away using the rolling castors. The docking indicator lights can be used to visually verify undocking. The fixture can then be undocked from the handler.