



SERVICE BULLETIN

This service bulletin provides updated inspection and maintenance recommendations for the exposure devices listed below. This information is to be used in conjunction with the applicable operating instruction manuals:

- **Model 460**
- **Models 660, 660E, 660A, 660AE, 660B and 660BE**
- **Models 684, 684E, 684A, 684AE, 684B and 684BE**
- **Models 741, 741E, 741A, 741AE, 741B and 741BE**
- **Models 680, 680E, 680A, 680AE, 680B and 680BE**
- **Models 676, 676E, 676A, 676AE, 676B and 676BE**
- **Models 880 Elite, 880 Sigma and 880 Delta**

Misconnect Test

After performing **quarterly maintenance**, the locking system should be tested by the maintenance program administrator or Radiation Safety Officer. A misconnect test on the exposure device, including the radioactive source assembly, effectively tests the integrity of the entire locking system. This procedure detects long-term wear (or damage) of control and locking mechanism components including the control cable and sealed source connectors simultaneously.

The test should only be performed by personnel that are formally trained, authorized, and thoroughly familiar with quarterly maintenance procedures. For devices that utilize a shipping plug assembly, this test should be performed only after confirming that the shipping plug assembly is fully installed in the front plate of the device. This test is performed by engaging the remote control connecting plug assembly into the exposure device's locking mechanism without first engaging the control cable connector within the source assembly connector. The ability to then rotate the locking mechanism from the "CONNECT" position towards the "LOCK" position indicates critical dimensions of the locking system are excessively worn to an unsafe condition. **Extreme care should be exercised to prevent rotating the locking mechanism's selector ring beyond the "LOCK" position.** If the locking mechanism and remote controls fail a misconnect test the equipment must be removed from radiographic operations. The equipment must not be used until repairs are performed and misconnect test results are satisfactory.

During the performance of the misconnect test, there is a **risk of losing control of the radioactive source assembly if:**

- The components are excessively worn or damaged
- The person performing the test intentionally or inadvertently rotates the selector ring from the "CONNECT" position to the "OPERATE" position
- The person performing the test on a Posilok™ style device, intentionally or inadvertently pushes the lock slide into the "EXPOSURE" mode.

Note that component wear occurs to both the control assemblies and the device lock assemblies, therefore, to ensure acceptable equipment operation, the misconnect test should be performed on each device lock assembly and control assembly combination that could be used in the field. For example, if controls are used interchangeably with more than one specific exposure device, then each control should be checked with each device to ensure all control assembly/device combinations are compliant.

Contact an AEA Technology QSA, Inc. service center if you have questions regarding the misconnect test.