QSA Global, Inc.
40 North Avenue
Burlington, Massachusetts 01803 USA
Telephone: (781) 272-2000

SERVICE BULLETIN

This bulletin is to advise Cobalt-60 source users about the potential for excessive wear to the source assembly from using an improperly maintained remote control drive cable in the radiography system.

Recently, QSA Global was notified by a few international users regarding unusual wear to the source connector on the Model A424-14 source assembly. Also, during this same time period, QSA Global noticed an increase in unusual wear on a few older Cobalt-60 source capsules that were returned for disposal.

Excessively Worn Source Connector

Unusual Wear on Source Capsule

QSA Global conducted an extensive investigation into the issue to identify the cause of the wearing. The investigation found, in these cases, that inadequate lubrication, lack of maintenance and severe environmental conditions can lead directly to excessive and unusual wear on the source assembly. Examples of severe environmental conditions include use of equipment in and around desert sand, casting foundry sand, fly-ash in coal generation plants and other environments as listed in the device manuals.

A clean and properly lubricated drive cable deposits a thin layer of grease on the inner surfaces of the projector source tube (S-tube) and attached guide tubes every time the cable cycles in and out of the projector. The grease reduces the friction when the source assembly slides against the inside of the S-tubes. Without the continuous deposit of grease, the sliding parts begin to wear until they are damaged and no longer useful. In fact, running an unlubricated (dry) drive cable in an S-tube style exposure device will severely damage the projector S-tube and the damage will cause excessive capsule wear. This damage, once done to the S-tube of the projector, will continue to cause damage to sources used in the device, **even after lubrication is reapplied to the drive cable**.

The total number of exposure cycles (source movement in and out of the projector) must be considered when determining the frequency of equipment maintenance. High exposure cycle use during a three month period is considered an extreme condition that indicates a need to perform equipment maintenance more frequently than every three months. Drive cable maintenance should be performed after 10,000 cycles or every 3 months, whichever comes first. A drive cable that is cleaned and lubricated every 10,000 cycles or less will prevent excessive source assembly wear for at least 100,000 exposure cycles.

Preventative Actions:

- Clean and lubricate the remote control drive cable according to the operating and detailed maintenance instructions in the device manuals. Ensure that the recommended cleaning solvent and lubricants are used for all QSA Global remote control drive cables. Refer to the specific product manuals for these instructions.

- Remember that exposure cycles beyond 10,000 cycles before the three month maintenance interval should prompt remote control drive cable cleaning, inspection, and lubrication.

- Use only QSA Global supplied or approved parts and components in the radiography system. The use of third party ("copy") repair parts and components on QSA Global, Inc. industrial radiography equipment might also unknowingly contribute to the source assembly wear as well as invalidate the associated Type B, Type A and/or the ISO 3999 certifications of the respective equipment.

Other sources having a shorter half-life may not be as significantly affected, but users of these sources should still consider the appropriate preventative actions above to ensure long-term safe operation of their radiography equipment and to prevent damage and pre-mature wear to their exposure devices.

If additional information is required, please contact a Technical Manager at our Baton Rouge, Louisiana; La Porte, Texas; Burlington, Massachusetts; or Dobrany, Czech Republic offices, or our Belgian-based European Technical Manager:

Burlington, Massachusetts:	Bob Kelly – +1 781-272-2000
Baton Rouge, Louisiana:	Rusty Barrett, Curt Auzenne – +1 225-751-5893
La Porte, Texas:	Karl Anderson, Mike Fontenot – +1 713-944-3200
Dobrany, Czech Republic:	Lenka Zdenkova – +420 377-183-844
European Tech. Manager:	Jean-Louis Malotteau – +32 (0) 477-503-437