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Attachment 0047
Revisions and Exceptions
to SAE ARP 1967A

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Revisions and Exceptions to SAE ARP 1967A

The below listed paragraphs are exceptions to SAE ARP 1976A as requested by the U.S. Army Tank Automotive Command (TACOM) and shall be included with the container development/design effort for the ___ Assembly container. The exceptions listed apply to the specific paragraph noted and do not flow down to the sub-paragraphs in each section.

3.3.1.4 – Add the following sentence at the end of the paragraph: Elastomeric isolators shall meet the requirements of A-A-52486, have the transmissibility of no more than 5 to 1, and transmit no more than 12 G's to the item during drop testing.

3.3.2 – The last sentence does not apply.

3.3.3.2.2 – Replace the first sentence with: All sealing surfaces shall be such to ensure sealing under performance requirements of this specification at 20 kPa (3.0 psig) positive pressure.

3.3.4.2 – N/A.

3.3.5.3 – N/A.

3.3.5.5 – N/A.

3.3.5.6 – N/A.

3.3.5.9 – N/A.

3.4.3 – Replace paragraph with the following: Welding: Welding shall be in accordance with drawing 19207 – 12479550, Reference MIL-STD-1261, Class 2 (steel) and 19207 – 12472301, Reference Section 8 and/or 9 (aluminum).

3.8.2- Delete the last sentence and replace with the following: Shock loads transmitted to the item shall not exceed 12 G's. To demonstrate this requirement, longitudinal, vertical and lateral accelerations shall be measured by accelerometers mounted as close as possible to the center of gravity of the item. An oscillograph having facilities for direct recording of accelerometer signals shall be used. The system shall have a range of from one to 100 cycles per second (CPS).

3.9 a. – Change from: **TIEDOWN/LIFT HERE** to: **LIFT HERE**. The rest of **Paragraph 3.9 a.** does not apply.

3.9 m. – N/A.

3.9 n. – N/A.

4.5.3 – Container high and low temperature drop tests not applicable. Additional sub test apply at ambient conditions except as noted.

4.5.3.1- Replace paragraph with the following:

Edgewise Drop Test. The loaded container shall be supported at one end of its base on a wood sill nominally six inches high, placed perpendicular to the skids. The opposite end of the container shall be raised and allowed to fall freely from heights of 6, 12, 18, 24, 30 and 36 inches successively to a concrete or similarly hard surface. Two drops shall be made from the 36 inch height. This test shall be applied to the other end of the container. If the size of the container and the location of the center of gravity are such that drop tests cannot be made from all of the prescribed heights, the greatest attainable height shall be repeated for a total of six drops.

4.5.3.2- Replace paragraph with the following:

Cornerwise Drop Test. The loaded container shall be supported at one corner of its base on a block nominally six inches high. A block nominally 12 inches high shall be placed under the other corner of the same end of the container. The opposite end of the container shall be raised and allowed to fall freely from heights of 6, 12, 18, 24, 30 and 36 inches successively (as measured from the lower of the two corners) to a concrete or similarly hard surface. Two drops shall be made from the 36 inch height. If the size of the container and the center of gravity are such that drop tests cannot be performed from all of the prescribed heights, the greatest attainable height shall be repeated for a total of six drops. This test shall be applied to diagonally opposite corners on each end of the container. If during the testing, the blocks shift more than six inches from the end of the skids, the blocks shall be repositioned at the ends of the skids.

4.5.3.3- N/A

4.5.3.4 - Replace paragraph with the following:

Flatwise Drop Test. The container shall be raised in its normal storage position and allowed to fall freely from heights of 6 and 12 inches to land flat on a concrete or similarly hard surface. Container, 5 cubic feet to 25 cubic feet exterior volume, shall be dropped four times at each height. Containers 25 to 50 cubic feet shall be dropped twice from each height. Containers over 50 cubic feet shall be dropped once from each height.

4.5.4- Replace paragraph with the following:

Roll-Over Test. The container in normal storage position shall be rolled slowly sideways until it falls freely onto its side on a concrete or similarly hard surface. This procedure shall be repeated with a fall from one side to the top, from the top to the other side, and from the other side to the base. This test shall be applied to vertical cylindrical containers. In vertical cylindrical containers the component is mounted from one end with its longitudinal axis perpendicular to the base of the container.

Tip-Over Test. The test applies to containers having a width less than $\frac{1}{4}$ of the height. The container in normal storage position on a hard level surface shall be slowly tipped to

the heavier side until it falls freely to the ground. If the container has no heavier side, two falls, each 180 degree apart, shall be made.

4.5.5 – N/A.

4.5.6 – Replace paragraph with the following:

Pendulum Impact Test. The container shall be suspended as a pendulum from four chains or cables (two chains or cables shall be used for cylindrical containers with two hoisting devices). The chains or cables shall be of sufficient length to provide a distance of 16 feet from bottom of the container to point of suspension. The impact bumper shall be stationary and vertically flat and may be faced with a nominal two inch thickness hardwood impact surface. The bumper impact surface shall be at least six inches high. The suspended container shall clear the floor or ground surface by two or three inches while swinging. The ends of the skids shall be the point of impact. The suspended container shall be pulled back perpendicularly from the bumper until a height of 18 inches or more than the floor clearance is reached. This measurement shall be taken vertically between a measuring reference point on the container and the floor or ground. The container shall be released to swing freely in a perpendicular line to strike the bumper. One impact shall be made on each end of the container.

4.5.7.1- Replace paragraph with the following:

Static Load Test. One of the following tests, whichever is the greater load, shall be applied.

Concentrated Load Resistance. A simulated load equal to twice the weight of the container with its designated contents shall be stacked on top of the container. If the stacked height of three containers does not equal 16 feet, add additional weight until it simulates containers stacked to a minimum height of 16 feet. Containers shall not be pressurized during this test. Measurements shall be taken to determine if permanent deformation has taken place.

Distributed Load Resistance. A load of 175 pounds per square feet shall be evenly distributed on the top surface of the container. This test shall not be applied to areas with curved or dome shaped cross-section. Containers shall not be pressurized during this test. Measurements shall be taken to determine if permanent deformation has taken place.

4.5.8.1 – Replace paragraph with the following:

Hoisting Test. The loaded container shall be suspended for at least two minutes clear of the ground (or other supports) by one of the hoisting provisions. The hoisting provision shall be capable of withstanding this test without failure or visible permanent deformation. This test shall be applied separately to each individual hoisting eye, ring, lug or bracket. Stationary hoisting devices shall not be positioned to extend beyond the maximum dimensions of the container. The same requirement applies to retractable hoisting devices when not in use.

4.5.8.3.2. – N/A.

4.5.8.3.5 – Use bottom section positioned on top section to validate integral stacking.

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