
**Oak Ridge National Laboratory (ORNL)
Transportation and Packaging Management (TPM)
Container Preparation and Filling Instructions/Checklist**

ORNL-1 IP-1/Excepted Packaging

ORNL-PKG-46, Rev. 2

Issued: 5/14/2003

Revised: 11/18/2005

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Instructions: Complete the activities below following the instructions in Section A. Activities should be checked off as performed. The completed checklist should then be signed by the Operating Personnel completing the checklist and submitted to the operations supervisor for approval for shipment.

NOTE 1: The ORNL-1 IP-1 is for *solid material only*.

NOTE 2: The maximum *gross* weight for the IP-1 is 10,000 pounds. However, at certain Laboratory Waste Management Services (LWS) storage areas or Waste Acceptance Criteria (WAC) end points, a lower weight limitation is imposed. This should be verified based on the receiving facility's operating instructions prior to loading. (It should also be noted that older ORNL container Butterfly clip closures were rated at only 8,000 pounds of gross weight.)

NOTE 3: The bottom forklift channels are removable.

NOTE 4: These boxes have been identified in SAP for limited distribution to authorized personnel only. Contact LWS for specific requirements based on path forward. If the contents do not necessitate LWS services, TPM should be contacted.

**A. PRE-LOADING INSTRUCTIONS FOR
ORNL-1 Painted 90 cu. ft. (Nominal) Container
Stores Catalog No. 02-119-4600**

Note: Items marked (#) are solely generator's/filler's responsibility.

**Operating
Personnel**

- _____ 1. (#) Inspect the container, prior to filling, to ensure that it is in good physical condition, there are no forklift blade punctures, the forklift base and lid lifting channel is not seriously damaged, the lid fits the container, and no severe corrosion, etc. exists that could cause or develop into a leak during normal storage or in transportation or cause question to the package integrity.

NOTE: The IP-1 lid gasket is now installed in each container lid prior to being shipped by the manufacturer.

- _____ 2. (#) Inspect the gasket to ensure that it is in good condition and adhered to the lid completely around the lid edge and that there are no gaps at the corners.
- _____ 3. Fill the container in accordance with [NOTE 2](#) above-- Maximum allowable gross weight per marked tare (empty) weight.
- _____ 4. (#) Ensure that the material being filled into the container is compatible with (will not react, soften, or attack) the internal steel construction of the container.

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Operating
Personnel

**A. PRE-LOADING INSTRUCTIONS FOR
ORNL-1 Painted 90 cu. ft. Container
Stores Catalog No. 02-119-4600 (cont'd)**

- _____ 5. Place the lid on the container using the four removable handles.

The lid should fit the container so that there is no severe binding that would interfere with the alignment and bolting of the lid to the body of the container.

**B. CLOSING INSTRUCTIONS FOR
ORNL-1 Painted 90 cu. ft. Container
Stores Catalog No. 02-119-4600**

- _____ 1. Close the IP-1 lid securely by inserting and tightening down the bolts and nuts furnished with each container.

NOTE 1: Older ORNL-1 containers in the system have different closure systems:

- (a) Butterfly clamp closures;
- (b) Swing T-bolt closures.

All of which must be inspected to ensure they are closed properly, and are not damage or missing.

NOTE 2: For containers from *CTI*, recommended torque value for bolt closure is 30 ft-lbs, \pm 5.

NOTE 3: For containers from *Bull Run Metal (BRM)*, see [Attachment #1](#).

NOTE 4: For containers from *FBF*, see [Attachment #2](#).

**C. POST-LOADING INSTRUCTIONS FOR
ORNL-1 Painted 90 cu. ft. Container
Stores Catalog No. 02-119-4600**

- _____ 1. Inspect container to ensure gasket has not come loose, and is not hanging out from lid.
- _____ 2. Label, mark, and identify the container per the current LWS operating directives, if applicable.
- _____ 3. **IF** instructions are not found in the LWS procedures, **THEN** Contact the ORNL Transportation and Packaging Management Organization for the appropriate Department of Transportation (DOT) determinations.
- _____ 4. Ensure all removable forklift channels are securely in place on bottom of the container.

FOR INTERNAL USE ONLY

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**C. POST-LOADING INSTRUCTIONS FOR
ORNL-1 Painted 90 cu. ft. Container
Stores Catalog No. 02-119-4600**

**Operations
Personnel**

- _____ 5. Sign and date the checklist in the appropriate signature block verifying that the activities have been performed and checklist has been completed.
- _____ 6. Submit this completed checklist to the Operations Supervisor for approval for shipment.

**Operations
Supervisor**

- _____ 7. Verify that all defined activities have been successfully completed.
- _____ 8. Sign and date the checklist in the appropriate signature block, approving the container for shipment.

APPROVED FOR SHIPMENT:

Operating Personnel:	Date:
Operations Supervisor:	Date:

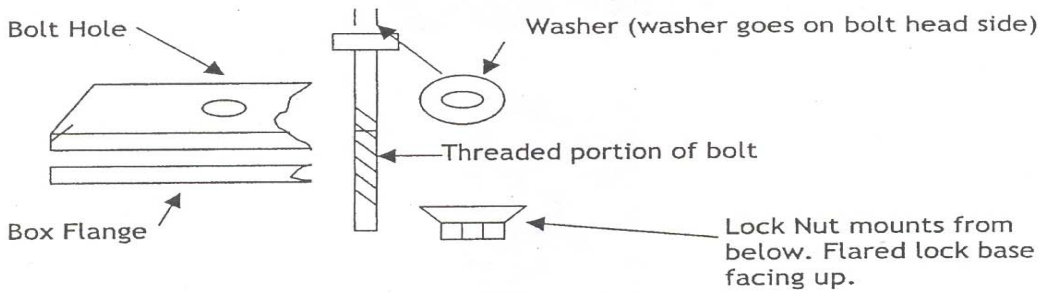
Prepared by: ORNL TPM Organization

Approved by: Jeff Shelton November 18, 2005
Jeff Shelton, Manager (576-6401)
ORNL TPM - Packaging Operations

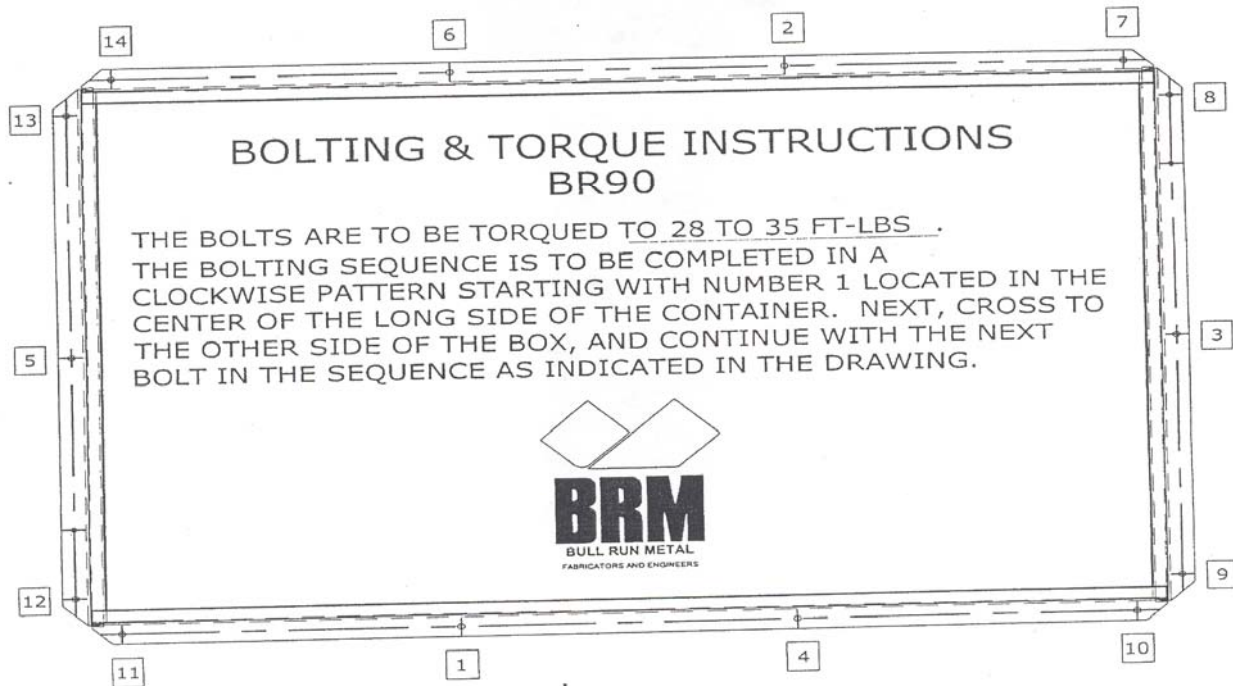
ATTACHMENT #1



**BOLTING INSTRUCTIONS FOR BR 90
BOLT DOWN LID CONTAINER**



**NOTE: TORQUE TO 28 TO 35 FT LBS.
DO NOT TORQUE GREATER THAN 35 FT LBS.**



ATTACHMENT #2

FBF-CTBC-001
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REV. 0

CONTAINER CLOSURE PROCEDURE FOR BOLTED CLOSURE

1.0 PURPOSE

The purpose of this procedure is to establish the proper method to close and seal bolt on lids to FBF Nuclear Containers, LLC containers utilized to ship Class 7 (radioactive) material.

2.0 SCOPE

This procedure defines the method to be utilized by users of FBF Nuclear Containers, LLC bolt-on lid containers to properly close and seal the lid to the container. Proper closure and seal is necessary to assure container integrity.

3.0 PROCEDURE

3.1 Check pre-installed lid gasket

3.1.1 Make certain joints have tight, snug fit.

3.1.2 Ensure gasket is firmly sealed to bottom of lid.

3.1.3 Ensure gasket has not been damaged or dislocated from position on outer perimeter of the lid.

NOTE: If above specified conditions cannot be met, gasket may need replacement.

3.2 Place lid on container.

3.2.1 Ensure proper lid fit with each orientation.

NOTE: Improper lid fit may be result of container not being level.

3.2.1.1 Measure diagonal corners of lid; and

3.2.1.2 Lift one corner of longest diagonal (this should assist lid fit.)

3.3 Seal Lid

3.3.1 Install studs (bolts), flat washer, lock washer, and nut as required.

3.3.2 Tighten each stud until snug.

3.3.3 Using alternating pattern, torque each stud to 15-20 ft. lbs.

3.3.3.1 Using alternating pattern, torque again to 20-25 ft. lbs.

This should result in gasket compression of 50-60%.

NOTES: it is the users responsibility to ensure that the gasket has not been damaged and that the lid is installed and secured properly; and Re-Closure – The container is designed for re-closure, however, it is the users responsibility to ensure that the gasket is not damaged or improperly located and that re-closure results in a proper seal.