

## Closing Instructions

**UN 1A1 Non-Removable Head Steel Drums**

**UN 1A2 Removable Head Steel Drums**

**UN 6HA1 Non-Removable Head Composite Drums**

**UN 6HA1 Removable Head Composite Drums**

**The person responsible for filling and closing these containers for shipment must have a copy of these instructions.**

Pursuant to U.S. Department of Transportation Regulations given in Title 49 Code of Federal Regulations Part 178. Specifications for Packagings §178.2(c)(1)(i), Mauser Corp. must notify each person to whom a packaging is transferred of the type and dimensions of any closures, including gaskets,

needed to satisfy performance test requirements. This notification is to include tightening instructions for closures.

**Note:**

Paragraph 178.2(c) cited above requires **you** to provide closing information to any person to whom this package is transferred who may need to close the packaging prior to reshipment

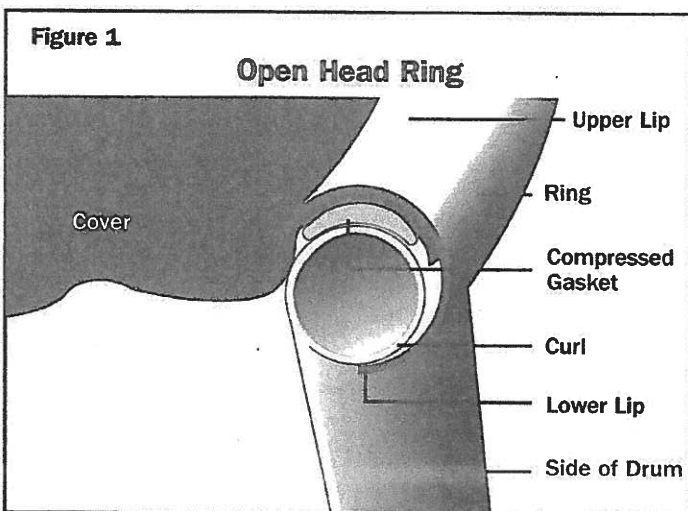
### Closing Instructions for Head Fittings:

All non-removable head, UN 1A1 Steel drums, all fully removable head UN 1A2 Steel Drums, and all Composite Drums 6HA1, that are supplied with plugs and gaskets, must be closed for shipment using only the plugs and gaskets supplied and specified in the design qualification test for the drum as indicated below:

- T/S Plugs: 2-inch and 3/4-inch steel and plastic, installed in T/S steel flanges of corresponding size and tightened to the torque recommended by the manufacturer for the plug and gasket used as indicated below.

- Rieke® Plugs: 2-inch and 3/4-inch steel and plastic, installed in the appropriate Rieke® steel or plastic flange of corresponding size and tightened to the torque recommended by the manufacturer as indicated below.
- Equivalent plugs: 2-inch and 3/4-inch steel and plastic, installed in the appropriate equivalent Steel flange of corresponding size and tightened to the torque recommended as indicated below.

*Note: Equivalent plugs and T/S plugs may be used interchangeably in the octagonal design fittings*



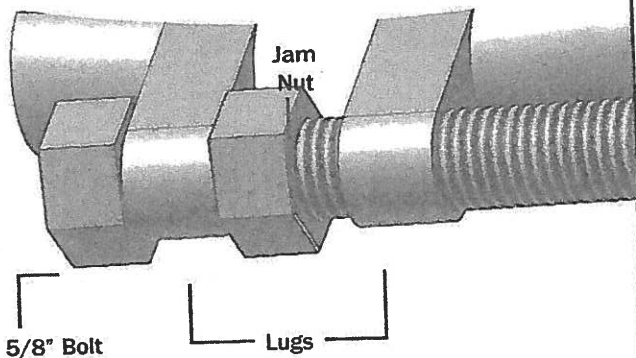
### Closing Instructions for Open Head Covers:

All removable head, UN 1A2, Steel drums supplied with bolt rings, bolts, gaskets and lids must be closed for shipment using only the components supplied and specified in the design qualification tests for the drum as marked according to the installation instructions below.

- Place drum head, with gasket in place as supplied, on the curl at the top of the drum body. (See figure 1)
- Place bolt ring around drum head and curl. (Note: Preferred orientation is with the ring gap in line with the 2" fitting)
- Using a head compressor, apply force to the top of the drum head assembly to compress head gasket.
- Drive bolt into lug until the ends of the bolt ring are as follows: (See Figure 2)

Figure 2

Open Head Ring and Bolt



Closing Instructions for M-C Open Head Covers:

For steel drum thickness marked on bottom of drum	
1.3/1.1/1.1:	1/2-inch or less ring gap
1.1/1.1/1.1:	1/2-inch or less ring gap
1.1/0.8/1.1:	3/8-inch or less ring gap
1.0/1.0/1.0:	1/2-inch or less ring gap

For composite drum thickness marked on bottom of drum	
1.1/1.1/1.1:	1/2-inch or less ring gap
0.8/0.8/0.8:	3/8-inch or less ring gap

Note: If prescribed ring gap can not be achieved, torque ring to 75 ft. lbs. (+/- 5 ft. lbs.)

If head compressor is not available, start bolt into lug, alternate tapping of ring with a mallet and drive bolt with wrench, until bolt ring ends meet above requirements.

When ring has been tightened as required, the jam nut must be tightened against the unthreaded lug to prevent the bolt from backing out of the closing ring.

Prescribed Closure Torques for Steel Drums (ft.lbs.)

Item	T/S Style Closures	
	3/4" (ft.lbs.)	2" (ft.lbs.)
<b>T/S Steel Plugs</b>		
Rubber Gaskets	12	20
Polyethylene, Teflon® Gaskets	20	30
<b>T/S Polypropylene &amp; Nylon Plugs</b>		
Rubber Gaskets	8	20
Polyethylene Gaskets	8	30
<b>T/S Polyethylene Plug, High Density</b>		
Rubber Gaskets	8	15

Materials classified "POISONOUS BY INHALATION" must be sealed with T/S Steel, Gasketed, Tab-Seal Caps or equivalent  
Closure torques listed above are minimum values

Rieke or Equivalent Closures

	Steel Flanges Nylon flanges			
	3/4" (ft.lbs.)	2" (ft.lbs.)	3/4" (ft.lbs.)	2" (ft.lbs.)
<b>Rieke® Steel Plugs</b>				
Rubber Gaskets	15	30	—	—
Polyethylene Gaskets	20	40	—	—
<b>Rieke® Plastic Poly-ViseGrip® Plugs</b>				
Rubber Gaskets	9	20	9	20
Polyethylene Gaskets	9	20	9	20
<b>Rieke® Poly-ViseGrip® Plug with Built-in Gasket</b>	9	20	9	20

Recommended torque tolerance: +6,-2 ft.lbs.

Prescribed Closure Torques for Composite Plugs (ft.lbs.)

Item	Torque (ft.lbs.)
<b>2" Buttress (05R) Combo Plugs</b>	
B4 Gasket	20
<b>2" Buttress (05T) Combo Plugs</b>	
EPDM Gasket	29
<b>2" NPS (02) Plugs</b>	
EPDM Gasket	15
<b>3/4" NPS (03) Plugs</b>	
EPDM Gasket	4

