

## CLOSURE INSTRUCTIONS

In compliance with DOT 49 CFR §178.2 (c), persons shipping Skolnik drums must comply with the following closure instructions.

### BOLT RING CLOSURE FOR OPEN HEAD DRUMS

- CHECK GASKET** – to ensure cover gasket is properly fitted into cover groove (see Fig. 1 or 2).
- PLACE COVER ON DRUM** – being careful to properly seat gasket all around curl (see Fig. 3).
- POSITION & SEAT RING** – with lugs downward. Ensure the inner channel of the closure ring engages entire drum curl and cover (see Fig. 4). Apply downward pressure on cover. Use a non-sparking dead-blow mallet to further seat cover and drum curl into the inner channel of the ring.
- INSERT BOLT** - through the unthreaded lug of the ring. Assemble the locking hex nut onto the threaded end of the bolt and tighten into the threaded lug (see Fig. 5). Close the ring to an initial gap of about 1/2".
- TIGHTEN THE BOLT** - with a calibrated torque wrench while using downward pressure on the cover and hammering the outside of the ring with a non-sparking dead-blow mallet to further seat the ring. Continue tightening and hammering the ring until the torque stabilizes at 55 - 60 ft. lbs. and does not decrease when further hammering on the ring circumference is performed. Ring ends must not touch. (Effective 25 September, 2006 and in accordance with CFR 178.2(c), we have revised this procedure to use torque as the most effective closure requirement.)
- LOCK RING** – by tightening the nut against the unthreaded lug (see Fig. 6).

### OPEN HEAD DRUM - LEVERLOCK CLOSURE

- CHECK GASKET** – to ensure cover gasket is properly fitted into cover groove (see Fig. 1 or 2).
- PLACE COVER ON DRUM** - being careful to properly seat gasket around curl (see Fig 3).
- OPEN LEVERLOCK** – and place expanded ring on to the drum cover with the vertical-skirt hugging the drum body (see Fig. 7)
- CLOSE LEVERLOCK** –by slowly and cautiously pulling the LEVERLOCK so that the outer ring engages the cover / body juncture. Downward pressure along with tapping the outside of the ring may assist in an even closure (see Fig. 8).
- ENGAGE LOCK** – to complete closure

### DRUMS WITH FITTINGS

- CHECK GASKETS** – and ensure gasket is properly seated on plug.
- TIGHTEN** – to specifications listed below, and do not cross thread.

PLUG TYPE	Tri-Sure			Rieke (plastic)	Rieke (steel)		Nuc-Fil filters
	Buna	Poly or Teflon	PE/PP (composite drums)	—	poly	all other	
¾" plug	12 ft-lbs	20 ft-lbs	—	9 ft-lbs	20 ft-lbs	15 ft-lbs	8 - 12 ft-lbs
2" plug	20 ft-lbs	30 ft-lbs	10 ft-lbs	20 ft-lbs	40 ft-lbs	30 ft-lbs	—

#### IMPORTANT

A drum is properly closed only when all steps are completed in the manner and sequence indicated.

If difficulties are encountered, do not ship the drum and call Skolnik for further instruction.

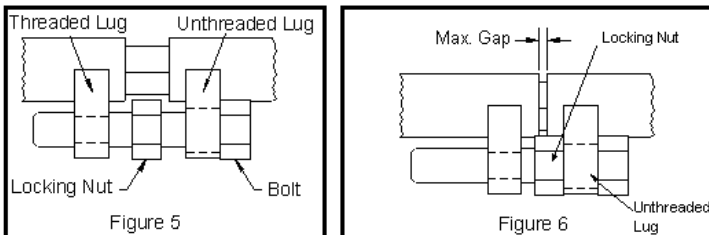
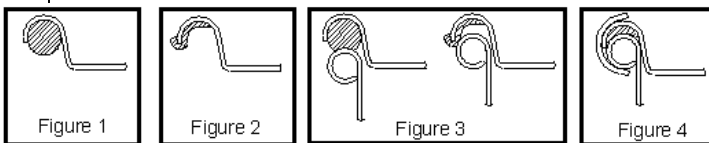


Figure 7

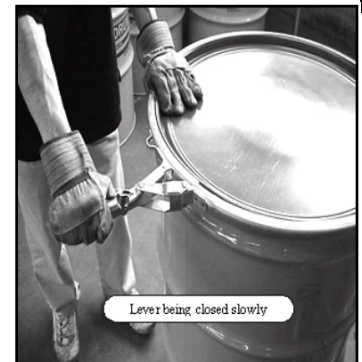


Figure 8

#### IMPORTANT:

- Under the applicable DOT regulations, any changes made to the method of closure or a closure component constitutes a change in the design type of this packaging, and invalidates the certification.
- After filling and prior to transport, the shipper should verify the torque of all closures to determine if the effects of heating and cooling or gasket relaxation have resulted in the need to re-tighten the closure.
- Drums (other than the composites) are tested at room temperature.
- Calibrated plug torque wrenches can be purchased from Skolnik.