

NORTON PACKAGING U.N. PACKAGE ASSEMBLY

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The following information is provided in accordance with 49CFR178.2(c).

Provided to: _____ Date: _____

INSTRUCTIONS FOR NORTON PACKAGING, INC. U.N. PACKAGE ASSEMBLY

The Norton Packaging U.N. package consists of a Norton UN pail and a Norton 200, 300, or 900 series cover. The 900 series cover is part of a package with both a liquid and a solids rating. The 200 and 300 series covers are part of a package with a solids rating only. The cover may have a pre-installed closure, an opening for a closure, or no opening. The Norton Packaging U.N. package must be assembled correctly to assure the performance for which the package is rated. Care must be taken not to overfill the package. There must be no liquid on the lip of the pail. Inspect the pail to verify that there is no liquid on the pail lip prior to closing. Head space should be maintained to ensure that no product is released by the action of applying the cover to the pail.

The cover should be installed on a pail with either a pneumatic press, a roller closer or a rubber mallet.

Pneumatic Press: Norton Packaging recommends 2,260 to 2,800 lbf when using a pneumatic press. This is equivalent to 80 to 100 psi on a 6" air cylinder. Stroke and force must be sufficient to snap the hook of the cover under the lip of the pail for the full circumference. The press plate should be parallel with the top of the pail and the cover. The press plate should have a burper plug (approximately 1.15" thick, 2.75" diameter) in the center. When closing, application pressure should be maintained for one to two seconds.



Pneumatic Press

Roller Closer: The roller closer should be a progressive roller style cover installer with multiple small rollers being preferred to a lesser number of large rollers. Whichever type of closer is used, ensure that the closer is set up and used in accordance with the manufacturer's instructions.

Setting up the Roller Closer: The bottom of the last roller (discharge end) on the closer is set by placing a pail with no lid under it so it contacts the rim of the pail. This equates to 15.120" for a 20 liter pail, 14.560" for a 5 gallon pail, and 10.690" for a 3.5 gallon pail.

The entry roller is then set so that a pail with lid can just get under the entry roller, allowing the back end of the roller (beginning of the decline) to just start to set the lid. This is approximately 1" higher than the exit roller. This is only a starting point. Usually you can close the pail/lid between this setting of the final roller and up to 1/8" - 3/8" below the top of the pail. Some pails and lids may require a greater distance setting to properly close them.

Manual closing with a rubber mallet: A 30 oz. mallet (minimum) is required to properly close the package. Pails must be addressed individually during the closing process, resting fully supported on a solid flat surface. Inspect the pail to verify that there is no fluid on the pail lip. Inspect the cover to verify that the gasket is seated inside the gasket channel of the cover. The cover should rest on top of the pail such that the inner skirt of the cover is centered inside the pail opening. Hand force should be maintained downward on the cover while installing. The mallet operator must be able to maintain vertical direct impact between the mallet and the cover throughout the closing process.



Rubber Mallet

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The striking of the cover must be straight down (not at an angle) and such that the center of the mallet head makes impact near the edge of the cover just above the gasket. Impact at angles away from vertical can cause the gasket to move off the lip of the pail. The cover should be struck with enough force to latch the hook of the cover over the lip of the pail. The strikes should progress in either a clockwise or counter-clockwise direction around the edge of the cover, approximately three to four inches apart.



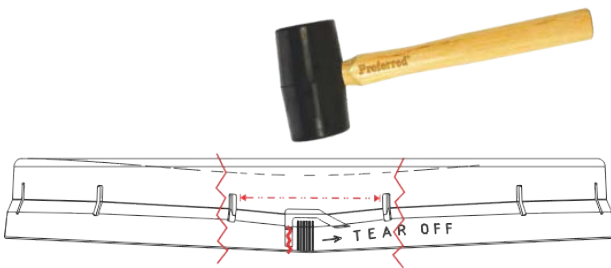
Cover with gasket pushed off of the lip

Installation Inspection:

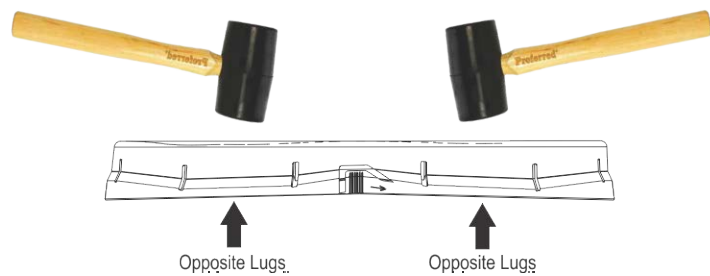
When Norton Packaging U.N. packages are correctly assembled there should be a noticeable click or snap sound when using the pneumatic press or roller closer method of assembly. Also, the bottom edge of the cover will be parallel to the top "satellite ring" of the pail (as pictured) and the hook of the cover will have latched the lip of the pail.



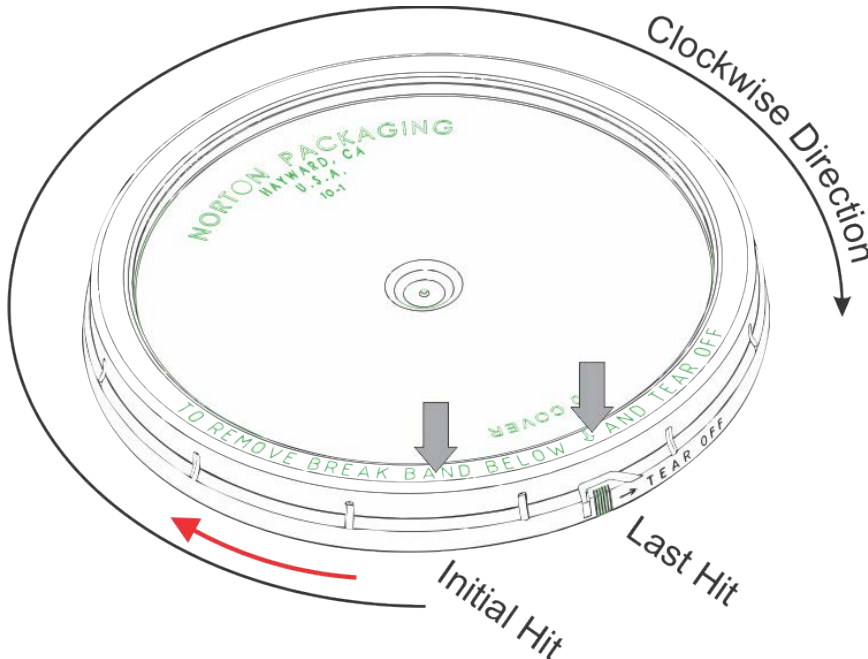
Hook of cover latched over lip of pail



Tear Off - Lug Section - By hitting directly over the tear off engagement lug the tear off web has high probability of breaking or tearing off during mallet impact - As the lug engages, the web is under extremely stress pressure, due to the other adjacent engagement lugs that are not equally engaged.



By hitting the adjacent lugs first - there is less stress to the tear off web as the other lugs engagement is equally engaged before engaging the tear off lug segment, the tear off web is compressed instead of being pulled apart.



When installing covers start by using the clockwise direction. By impacting the adjacent lug first, as describe on the drawing. Then follow the sequence as directed. The following method will help reduce stress on the tear off web section.

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After installation, perform a visual inspection to again verify that the gasket is seated inside the gasket channel, the hook is latched over the lip for the full circumference of the package, and the bottom edge of the cover is parallel to the top satellite ring. Post-closing inspection (either manual or automatic) should be performed to verify proper application of lid.



Properly Closed



**Package (parallel) improperly closed
Package-(Uneven)**

Closures

Norton Packaging U.N. packages are available with no opening/no closure, pour spouts, and 70 mm. screw caps. The following instructions are specific to closure application







70 mm Screw Cap. Norton Packaging offers both the Norton Packaging 70 mm Norcap (Zitex vented and non-vented) and the Rieke 70 mm screw cap (FS-70 and FS-80, PTFE vented and non-vented). Caps must include proper gasket. Rieke caps are supplied with an EPDM rubber gasket. Norcaps are supplied with a Tri-Seal F-217 liner. These gasket materials must be present when assembled. Caps are available individually or pre-assembled on to covers. If not purchased pre-assembled, screwcaps should be installed with 150 inch pounds of torque. It is the shipper's responsibility to ensure that there is a minimum of 50 in-lbf removal torque 24 or more hours after installation and prior to shipping package. It is a good practice to document torque verification. A proper wrench head adapter is required for correct cap installation.

Pour Spout. Norton Packaging offers various spout closures, vented and non-vented, all-plastic and crimp-on. These are available pre-assembled on to covers or, in some cases, unassembled. If not purchased pre-assembled, use manufacturer's tools and follow manufacturer's instructions for installation.









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Following is a list of qualified closures.

Item	Description	Closure Installation	Closure Image
900	Cover With No Opening Or Fitment	N/A	N/A
917	70mm Noz. Gore D38 Vent. Norcap Required	Manual Insert (Vent) Torque Wrench (Cap) Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
918	70mm Noz. Gore D17 Vent. Norcap Required	Manual Insert (Vent) Torque Wrench (Cap) Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
920	70mm Noz. Norcap Required	Torque Wrench	
922	70mm Norton Screwcap (Norcap) Installed	Pre-installed using proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
929	70mm Vented Norcap Installed	Pre-installed using proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
950	2.300 in. Neck. Qualified Pour Spout Required		
951	Plastic Rieke Flexspout Installed	Pre-installed using Rieke proprietary equipment	
952	Plastic Rieke Gas Vented Flexspout Installed	Pre-installed using Rieke proprietary equipment	See 951, with PTFE vent
953	Plastic APC Gas Vented Spout Installed	Pre-installed using APC proprietary equipment	
954	Plastic APC Spout Installed	Pre-installed using APC proprietary equipment	

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955	Rieke FSII (FS-10-10) Flexspout Installed	Pre-installed using Rieke proprietary equipment	
957	Rieke FSII Gas Vented Flexspout Installed	Pre-installed using Rieke proprietary equipment	See 955, with PTFE vent
958	Plastic APC Anti-Glug Spout Installed	Pre-installed using APC proprietary equipment	
970	70mm Noz. Rieke 70mm Cap Required	Torque Wrench	
971	Rieke FS-70 Screwcap Installed	Pre-installed using Rieke proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
972	Rieke FS-80 Screwcap Installed	Pre-installed using Rieke proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
978	Rieke FS-70 Vented Screwcap Installed	Pre-installed using Rieke proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	
979	Rieke FS-80 Vented Screwcap Installed	Pre-installed using Rieke proprietary equipment or torque wrench. Torque to 150 in-lbf Minimum removal torque of 50 in-lbf after 24+ hrs.	

If there are any problems or questions about the assembly of the Norton Packaging, Inc. U.N. package please contact your Norton Packaging sales representative.

This instructions does not purport to address all of the safety concerns, if any associated with its use. It is the responsibility of the user of this instruction to establish appropriate safety and healthy practices prior to use.