

Manufacturer: Afa Dispensing Group  
Model: OpUs™ FO CR Trigger Sprayer Screw & Snap-on Versions  
ASTM Type: IXB

Description:

The OpUs™ FOnv (Foam-off, non-vented), FOvna (Foam-off vented narrow angle), and FOvwa (Foam-off vented wide angle) CR Trigger Sprayer all look alike (green and white trigger sprayer in Figure 1). The OpUs™ FO CR Trigger Sprayers all have a protrusion on the nozzle (arrow in Figure 1) and operate similarly. The package consists of a plastic bottle, a one-piece plastic closure and a trigger sprayer pump. See profile of package in Figure 1.



Figure 1

The trigger sprayer closure may be securely affixed to the container by two different methods, which are a continuously-threaded closure or a snap closure.

The continuously-threaded closure securely attaches the trigger sprayer to the container by continuous threading and engagement of matching ratchets on the inside of the closure and five ratchets on each side (180° apart) of the container (see arrow to ratchets on the closure and the bottle in Figures 2A and 2B).

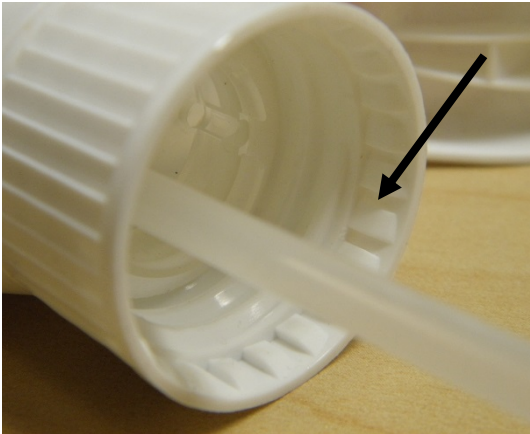


Figure 2A

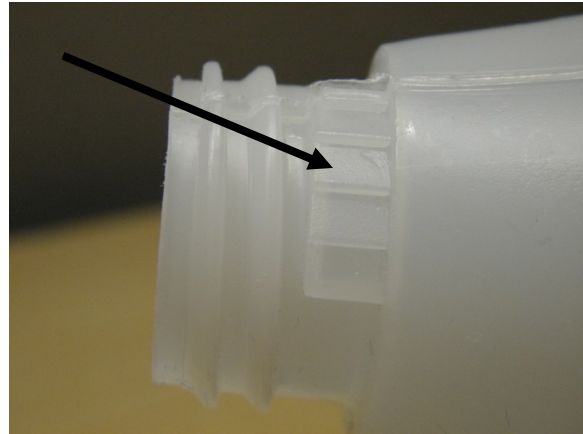


Figure 2B

The snap closure securely attaches the trigger sprayer to the container by snapping three tabs inside the closure skirt (see black arrows in Figure 3A) into three ledges/lugs on the container neck (see green arrow Figure 3B). There are also two sets of vertical ribs on the closure skirt (see red arrow in Figure 3A) and two vertical ribs 120° apart on the container neck (see red arrow to vertical rib in Figure 3B). Each of the vertical ribs on the container neck engages a set of the vertical ribs on the closure skirt inhibiting the sprayer from rotating. Once the closure is snapped onto the container neck the closure is difficult to remove.

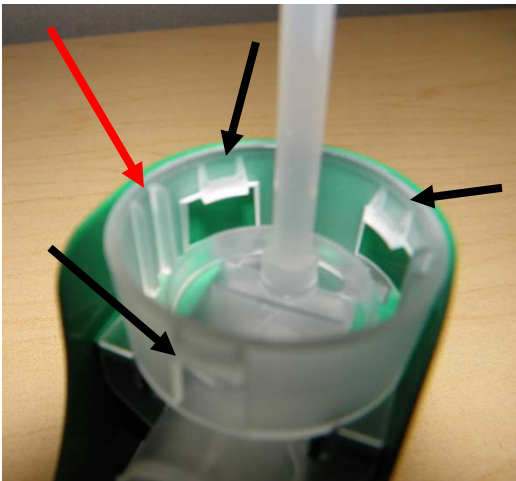


Figure 3A

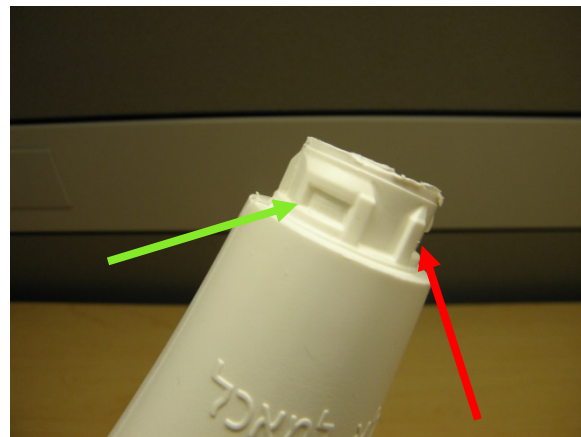


Figure 3B

The trigger sprayer nozzles for both the continuously threaded and snap closures are identical. The OPU<sup>TM</sup> FO trigger nozzles have 4 positions: The two spray positions are each indicated by a pictorial spray pattern (Figure 4A). The two spray positions are located 180° apart. The closed position indicated by the word "STOP" is 90° from the spray position (Figure 4B). The nozzle tab is located 180° apart from the closed position (see arrow in Figure 4A). The trigger sprayer

is operated by lifting the nozzle tab up, rotating the nozzle 90° from the stop position to the spraying position, and then squeezing the trigger. The trigger sprayer is closed by turning the nozzle back to the stop position, which lines up with a clear triangle on the shroud of the trigger sprayer (see arrow in Figure 4B).

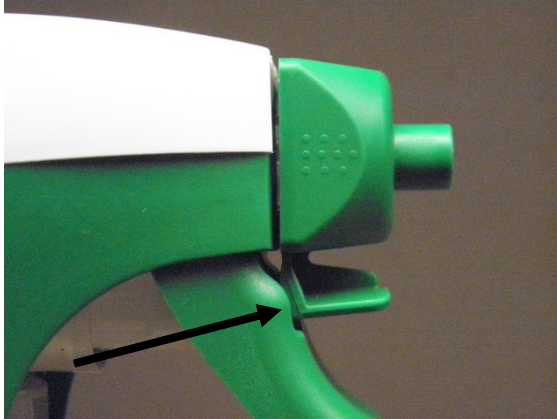


Figure 4A

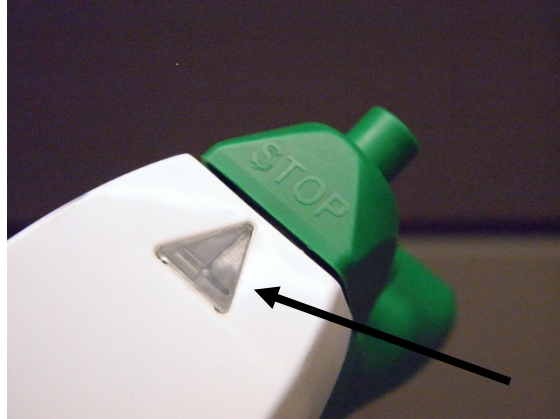


Figure 4B