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Technical Bulletin

Bulletin No	10	2017-01	Issued: 060517	Revised:	Page 1 of 5
Equipment	1 Gallon Bail-O-Matic				
Topic	DS Bailer - Can Escapement Cylinder & Photo Eye Setup				

Issue

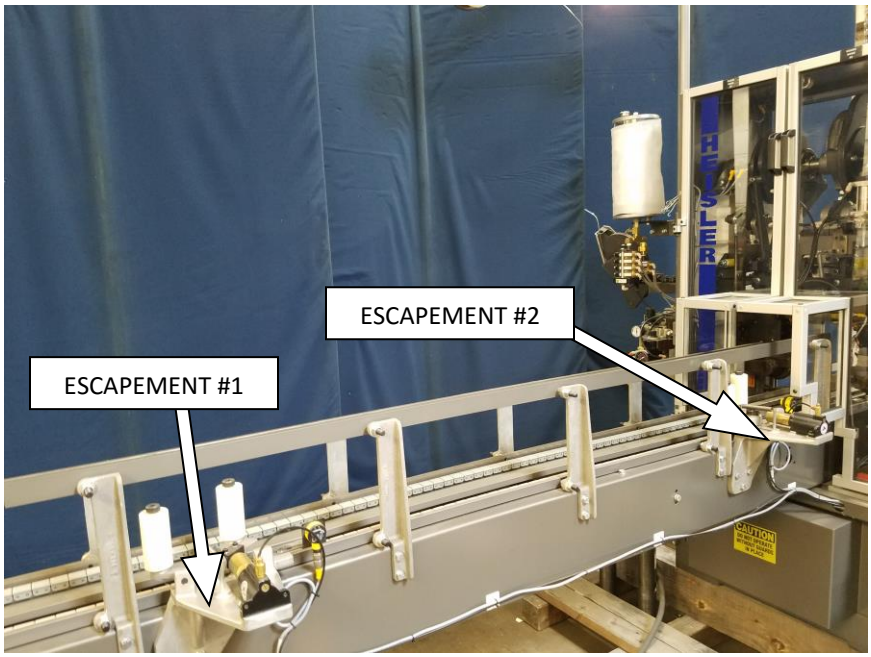
To allow maximum throughput of containers through the DS Bail-O-Matic, the escapement cylinder needle valves, and photo eye positions must be set properly.

The escapement cylinder speeds are controlled by the needle valve settings.

The necessary can spacing is controlled by the photo eye positions.

Escapement #1 Function: Create just enough container separation, to allow the ear of the can leaving the escapement, to orient to the ear rail, before that can touches the can that left prior to it.

Escapement #2 Function: Create just enough container separation, so the can leaving the escapement does not get closer than 5/8” to 3/4” to the can in the bailing station. This ensures the can leaving the ear rail is able to orient into the bailing station consistently.



Recommendation

Escapements #1 & #2:

To set both escapement's needle valves…

Place 2 cans against the closed escapement, with the trailing ears oriented to the ear rail.

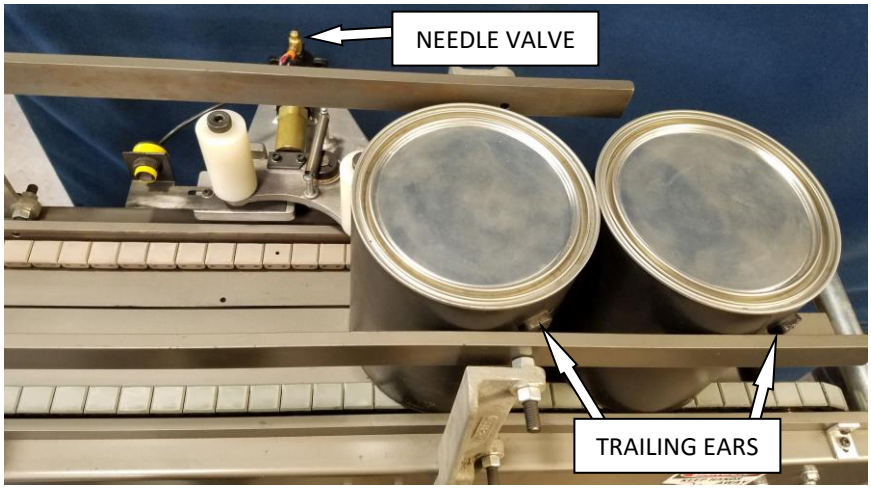
With the conveyor running in automatic mode, flag the photo eye to release the cans.

When the solenoid releases each can, the needle valve setting should 1st be closed slowly, until the escapement roller slows the travel of the can leaving the escapement. This may take a few tries to obtain that setting.

The needle valve should then be opened slowly, just until the can being released travels at the slow chain speed, without the roller slowing the can travel. This may also take a few tries to obtain the proper setting.

Setting the needle valve closed too much (clockwise looking down), will decrease machine throughput, by hesitating every can too long, as it passes through the escapement.

Setting the needle valve open too much (counter-clockwise looking down), will cause the cylinder to actuate the escapement arm too violently.



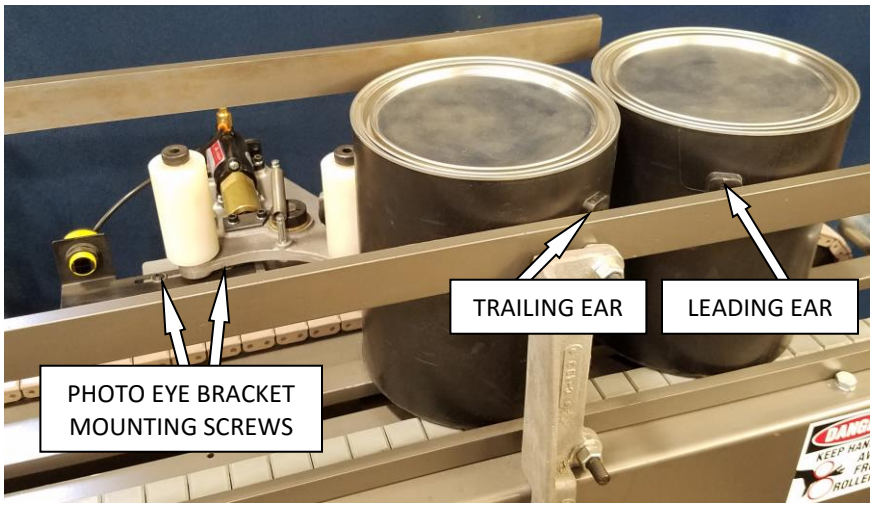
Escapement #1: **To set the escapement photo eye position…**

Place 2 cans against the closed escapement #1.

The 1st can being held back by the escapement roller, should have the trailing ear of the can oriented against the ear rail.

The 2nd can being held back by the first can, should have the leading ear turned just past the ear rail.

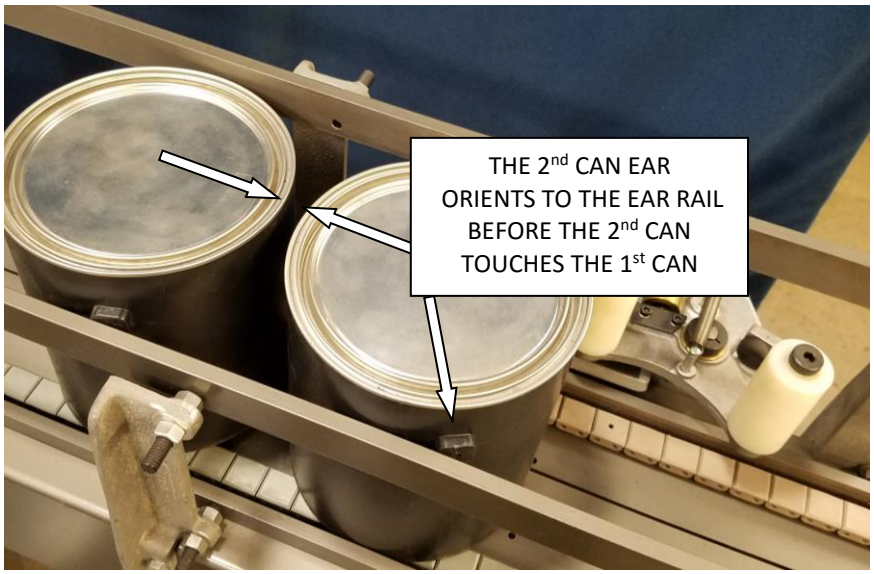
This setup, as shown in the picture below, will cause the 1st can to leave the escapement slowly when released (ear already oriented), and the 2nd can to leave the escapement faster when released (ear not yet oriented).



The position of the photo eye bracket should be downstream far enough to allow the 2nd can's trailing ear to reach the ear rail, before the 2nd can touches the 1st can.

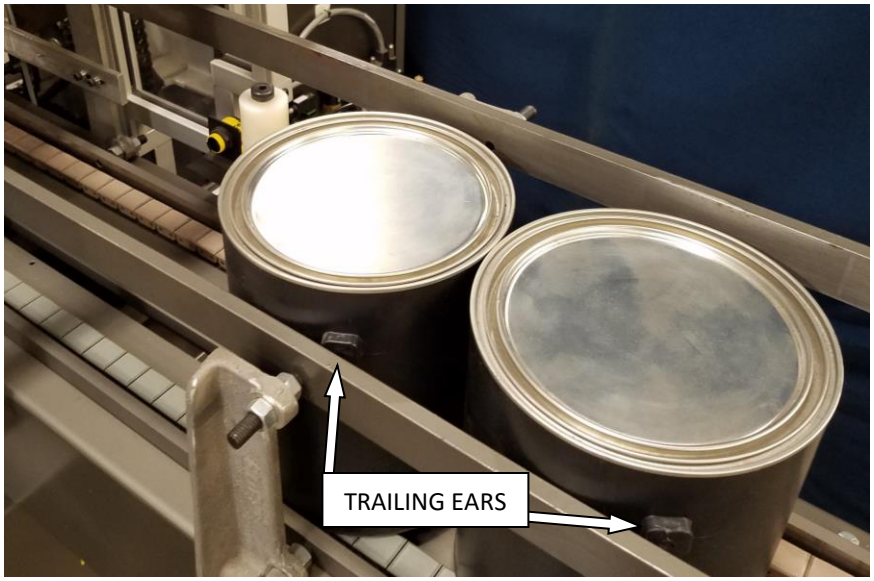
If the photo eye bracket is positioned too far upstream, the 2nd can will touch the 1st can before its ear reaches the ear rail. This will cause the 2nd can to stop orienting, and may cause an "orientation miss" at the bailing station.

If the photo eye bracket is positioned too far downstream, there will be too much space between the 1st and 2nd cans being released. This will decrease machine throughput.



Escapement #2: **To set the escapement photo eye position…**

Place 2 cans against the closed escapement #2, with the trailing ears oriented to the ear rail.



With the conveyor running in automatic mode, flag the photo eye to release the cans. The can leaving the escapement should not get closer than 5/8” to 3/4” from the can receiving the bail.

Adjust the escapement photo eye bracket downstream for more space, and upstream for less space.