

Application Note 99-1

Inspection of High/Cocked Caps with TapTone 100 system

The TapTone 100 is a new DSP controlled inspection/rejection system which mounted to the customer's production conveyor. The TT-100 has the capability to perform a multitude of on-line inspections including high or cocked caps on plastic, paper or glass containers. This option can be added to any TT-100 system.

What type of containers?

The TT-100 will inspect the following containers for high/cocked cap or lids.

- Glass jars with metal lids
- PET bottles with plastic caps
- Glass bottles with plastic caps
- Plastic food containers with plastic caps
- Pharmaceutical products with plastic caps

Where to install the system?

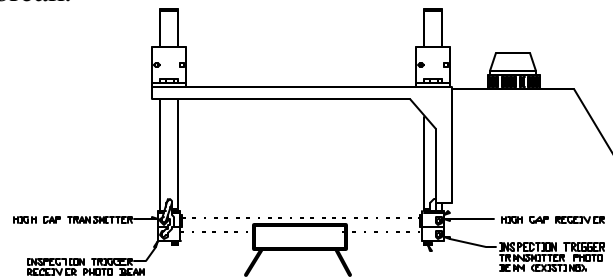
- Post capper
- Pre-warmer, cooker, cooler

How does it work?

The TT-100 incorporates two sets of photo beams to do the inspection. The lower photo beam pair detects the presence of the container to initiate the inspection. The upper photo beam pair detects any portion of the cap higher than normal production during the entire trigger beam break. Special lenses are applied to the upper photo beam to reduce the size of the beam pattern. This improves the resolution of the inspection. If any portion of the cap blocks the upper beam anytime during the trigger beam then that container will be rejected.

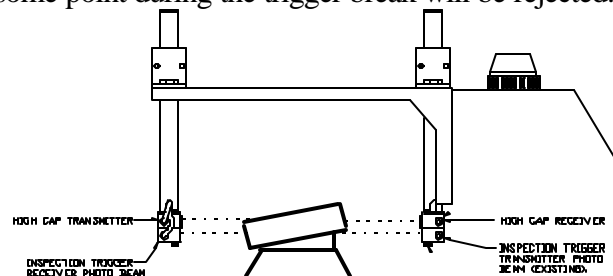
Example of a good cap.

The good cap will pass under the upper photo beam without interrupting the beam during the entire trigger break.



Example of a bad cap.

Any bad cap that breaks the upper photo beam at some point during the trigger break will be rejected.



What is the accuracy of inspection?

The accuracy of the inspection is about 1mm (.040") difference in overall cap height. This accuracy must be added to the container height tolerance for containers that may vary in height. It is recommended to set the height of the upper beam based on the tallest known good container.

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