



Cam-Latch Manhole Opening and Closing Procedure

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MM-CL002
Date: 10/14/16
Rev: A
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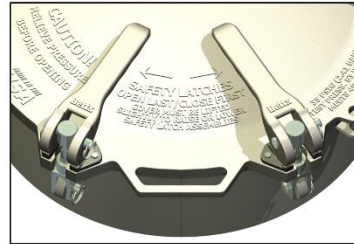
Opening Procedure

- ① Relieve all tank pressure prior to opening manhole cover.

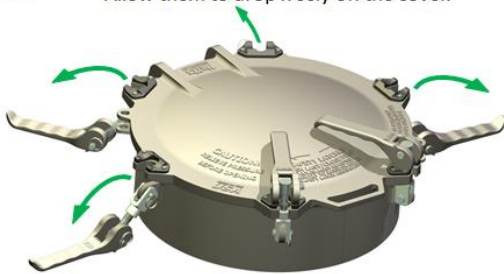
⚠ WARNING Tank may contain residual pressure. Failure to relieve pressure may result in sudden loss of pressure and could result in death or serious injury.

⚠ WARNING Before working on a cargo tank, insure tank is completely free of vapor and/or product that could present a risk of fire, explosion, asphyxiation or other hazard. Failure to remove vapors could result in death or serious injury.

- ② **Safety latch location**
The two safety latches are located to the left and right of the manhole cover handle. These will be released last during the opening sequence.



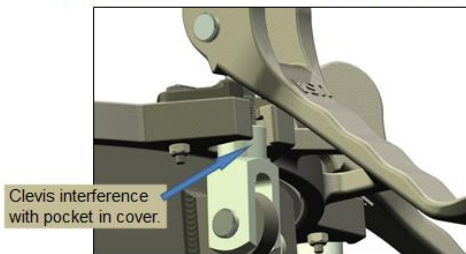
- ③ Release four non-safety latches. Allow them to drop freely off the cover.



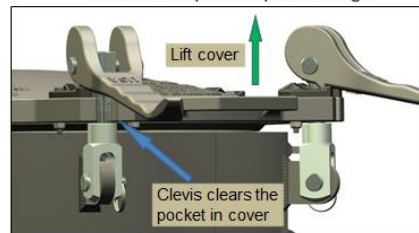
- ④ Release two safety latches. Note: These latches will NOT drop freely off the cover and will be held in position as shown.



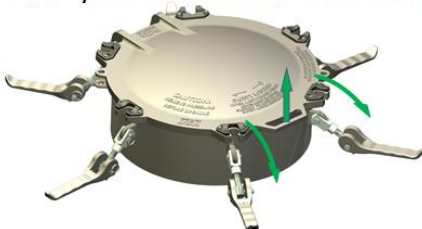
- ⑤ **Safety latch retention.**
The safety latch assembly is held in position by interference between the clevis and the cast cover.



- ⑥ Lift cover slightly off collar seat to release safety latch assemblies. Note: If residual pressure is present in the tank, allow it to relieve prior to proceeding.



- ⑦ While continuing to hold cover off collar seat, rotate the two safety latch assemblies off cover.



- ⑧ Manhole cover can now be fully opened.





Cam-Latch Manhole Opening and Closing Procedure

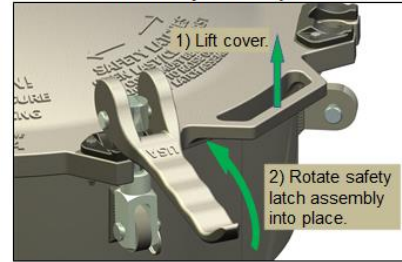
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Closing Procedure

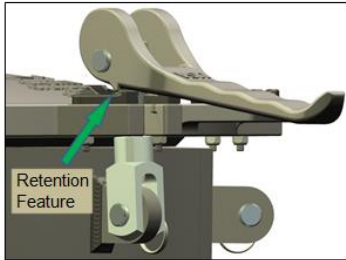
- ① The two safety latches are located to the left and right of the manhole cover handle.



- ② Lift cover slightly off collar seat and rotate first safety latch assembly into place.



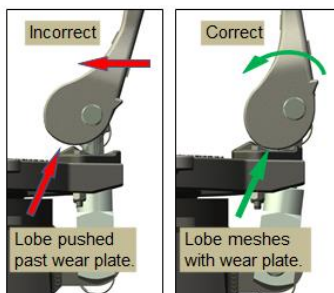
- ③ Hook first latch assembly into place using retention feature.
Note: Cover must continue to be lifted slightly to allow second latch assembly to be engaged.



- ④ Once both safety latch assemblies are in place, cover can be lowered.



- ⑤ When closing, lobe of latch must mesh with profile of wear plate.



- ⑥ Close cam-latches following a crisscross/star pattern.

