

# OPERATING INSTRUCTIONS FOR TULSA OIL THIEF

## TO OPEN OR COCK THE THIEF

Break the sealing force on the valve seat by bumping the closer arm (70603) extension on some solid object. Grasp the extension and pull it away from the thief until the lock pin of the lock pin yoke assembly (70612) engages the hole in the heel of the closer arm, holding in the open position.

## TO TRIP OR CLOSE THE THIEF ON BOTTOM

The thief is tripped on the bottom of a tank by the trip rod (70221) being struck against the bottom of the tank and its' upward movement raises the closer tube and head (70214) on which the lock pin yoke assembly is located. This disengages the lock pin from the closer arm letting the thief close.

To take samples close to the bottom of the tank, the trip rod should be set just below the legs of the base casting (70602). When the thief is in the open position the trip rod will then be extended enough to trip the thief without interference from the base casting legs. The trip rod can be extended up to a point where the wing screw (70613) located on the side of the lock pin yoke can still be tightened against the trip rod.

It is not necessary to always operate the thief right on bottom unless the type of sample is desired. The trip rod is scored in inch increments; therefore, you set the rod number of inches you wish to sample from the bottom of the tank. Always be sure the wing screw is tight of the trip rod so it will not slip.

## TO LOWER THE THIEF IN THE TANK

Engage the chain or rope snap in the hole of the bell crank of the bail assembly (70620). When tripping on the bottom, do not engage the bell crank in the closer tube head.

## TO TRIP THE THIEF OTHER THAN ON BOTTOM

Engage the bell crank of the bail assembly in the closer tube head and lower the thief into the tank. When the thief has been lowered to the depth desired. Give a sharp yank on the chain or tope. A marked rope is available to help in determining the depth of the thief in the tank. The force pulls the closer tube upward and the lock pin yoke located on the closer tube disengages the lock pun. The thief closes, trapping a sample at this level.

## TO ADJUST THE TRIP TENSION

Loosen the lock screw (70616) in the lock spring adjuster (70615) and push the lock spring adjuster upward for more tension. Lower it for less tension. The more tension on the lock spring (70617), the harder the thief rope or chain will have to be yanked, or the trip rod struck on the bottom to trip the thief. Extra tension is sometimes needed so the trip rod can penetrate heavy bottoms and not trip before reaching the floor plate of the tank.

## TO ADJUST CLOSING TENSION

Place the thief in some holding device so as to have both hands free. If one of the lock screws (70611) on the closer spring adjuster head (70610) should be in such a position that you can not work with it because of the barrel being in the way, either before starting or after you adjust the tension, be sure the other two lock screws are tight, then open the closer arm and rotate the adjuster head enough so you can either loosen or tighten this lock screw.

Next, loosen the wing screw (70613) and remove the trip rod (70221). Loosen the lock spring adjuster. Set the closer arm (70603) firmly in the closed position under the bumper pin (70608). Run a piece of wire around the leg the bumper pin is in and the back of the curve of the cocking extension. Be sure the wire is twisted tight so the closer arm will not move.

Place the palm of your hand on top of the closer springhead. Hold firmly so closer spring (70609) can not force the closer spring adjuster head out of the base casting spring housing. Loosen the remaining setscrews. Place the long part of an Allen wrench in a setscrew. Advance the setscrew clockwise, when looking from the top of the thief, to increase tension, counter-clockwise to reduce tension. A move of 10 to 15 degrees (1/8 to 1/4 inch) will make a considerable change.

Set the lock screw. Remove the wire. Replace the closer tube and lock pin back into the guide holes from which they were removed. Cock the closer arm so the lock pin can be pushed into the hole in the heel of the closer arm, locking the closer arm in the cocked position. Move the lock spring adjuster up against the lock spring (70617) until there is no slack. Compress the spring about 1/16 inch and set the lock screw.

Release closer arm, replace the trip rod, tighten wing screw, check thief for desired tension.

The above procedure is not difficult as long as you do not let the closer spring adjuster head come out of the base casting spring housing. If this does occur, we recommend you return the thief to us for assembly.

The tension is set for good force, so we do not believe it will need to be changed, except for use in very heavy tank bottoms. For this type sampling we recommend our 24 or 26-inch brass thief.

## CHECKING FOR EMULSIFIED WATER OR B.S. & WATER CONTENT

The contents of the thief should be poured over a sight glass (70160). This type of water will appear as granules of sand or bubbles in crude oil. Raise the thief upright when the granules appear. This is not merchantable oil. In the clear barrel thief, the measurement can be seen through the barrel. In metal barrel thieves, you must estimate the liquid level. This measurement, plus the distance the trip rod might be extended will give you the height of the BS&W above the tank bottom.

## GRAVITY TEST

The 16-inch and larger thieves are ideal for hydrometer gravity test. A standard length (15") API combined form hydrometer will float clear of the bottom and sides of the thief in accordance with ASTM test methods. All other tests can be made with this thief in accordance with API or ASTM test methods.