

Temperature Compensated (TC) Tangent Assembly For AL-800/1000 Diaphragm Meters

Part # 43631G012

Installation and Adjustment Instructions

NOTE: Removal of the meter hand-hole plate allows both the timing and the stroke adjustments to be made. The word "proof" as used in these instructions indicates any of the three methods of stating meter accuracy, % Proof, % Accuracy, or % Error. The illustration on the opposite side of this document shows the different methods of stating meter accuracy.

Timing Adjustment

(This adjustment brings the open and check rate proof together)

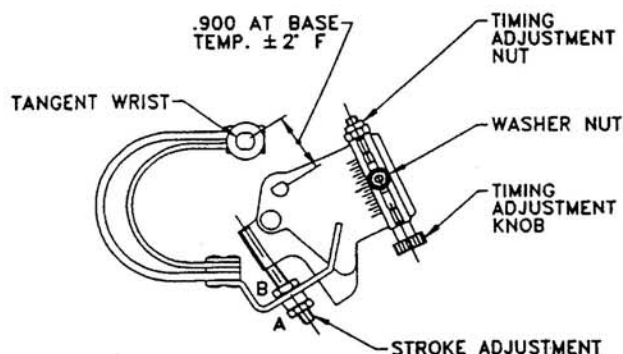
1. Loosen the washer nut about one turn with a nut driver.
2. If the open rate proof is **slower** than the check rate proof, turn the adjustment knob **counterclockwise**, while ** observing the number of flats on the nut at the other end of the timing adjustment screw. This movement makes the Open Rate proof **faster** and the Check Rate proof **slower** which brings both proofs closer together.
3. If the open rate proof is **faster** than the check rate proof, turn the adjustment knob **clockwise**, while ** observing the number of flats on the nut at the other end of the timing adjustment screw. This movement makes the Open Rate proof **slower** and the Check Rate proof **faster** which brings both proofs closer together.

** For flow rates to 1000 cfh, turning the nut one flat brings the proofs approximately 0.1% closer together. For open flow rates between 1000 and 1700 cfh, turning the nut a half a flat brings the proofs approximately 0.1% closer together.

4. After each adjustment, tighten the washer nut with a nut driver to lock the adjustment in place prior to re-test.

Stroke Adjustment

(The stroke adjustment changes both the open rate and check rate proofs by the same amount in the same direction whether it is FASTER OR SLOWER.)



1. To make the open and check rate proofs **faster**, loosen the outer nut (nut A) and tighten the inner nut (nut B). For flow rates to 1000 cfh, turning each nut two flats makes both the open and check rate proofs **faster** by approximately 1%. For open flow rates between 1000 and 1700 cfh, turning each nut 1 1/2 flats makes the open and check rate proofs **faster** by about 1%.
2. To make the open and check rate proofs **slower**, loosen the inner nut (nut B) and tighten the outer nut (nut A). For flow rates to 1000 cfh, turning each nut two flats makes both the open and check rate proofs **slower** by approximately 1%. For open flow rates between 1000 and 1700 cfh, turning each nut 1 1/2 flats makes the open and check rate proofs **slower** by about 1%.

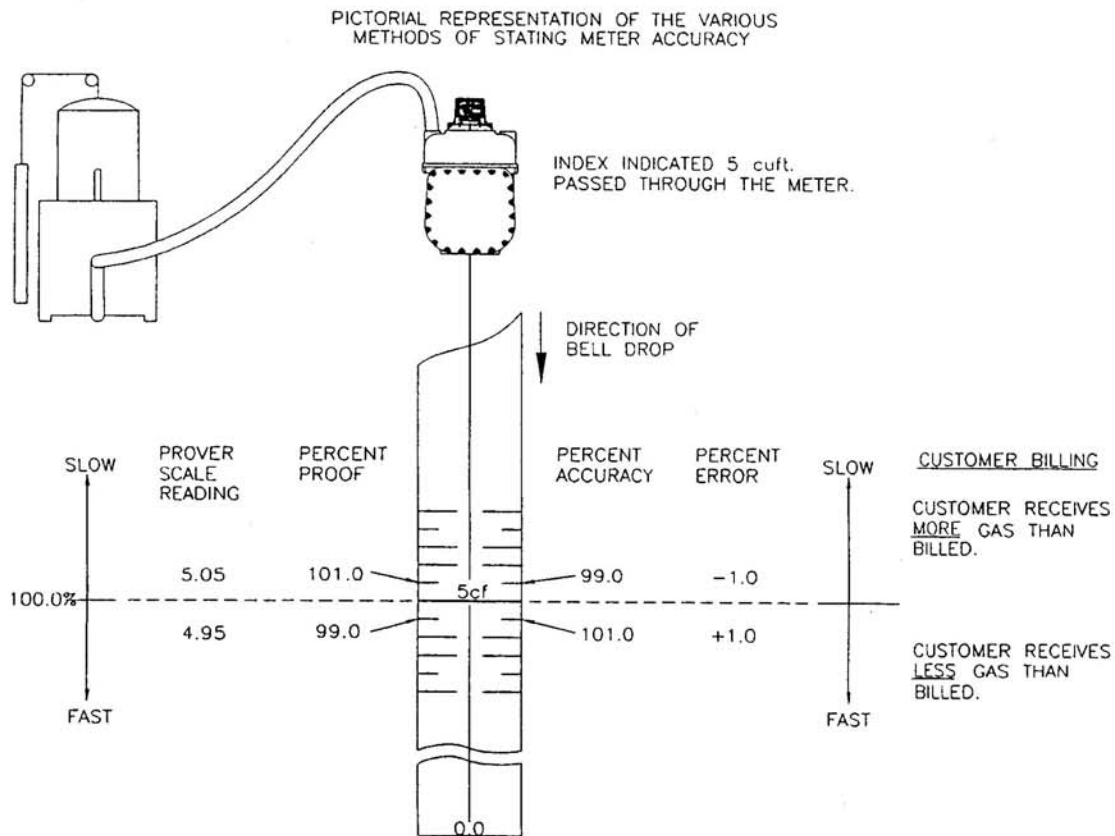
Existing TC Tangent Replacement

1. Remove the handhole plate and plate screws.
2. Remove the short flag arm retainer (E-ring or cotter pin) from the tangent wrist.
3. Looking from the top with the front of the meter facing toward you, rotate the tangent wrist to the nine o'clock position.
4. Remove the nut and washer securing the tangent assembly to the crank.
5. Lift the tangent assembly off of the crank and reposition the assembly to a lower elevation in the meter.
6. Lift the short flag arms off the tangent wrist and remove the tangent assembly from the meter.

New TC Tangent Installation

1. Position the tangent bushing on the tangent wrist.
2. Position the tangent assembly in the meter (NOT on the crank) at an elevation lower than the crank, with the wrist in the nine o'clock position.
3. Lift the short flag arms onto the tangent wrist.
4. Lift the tangent assembly onto the crank.
5. Secure the tangent assembly to the crank with the washer and nut.
6. Install the E-ring to retain the short flag arms on the tangent wrist.
7. Discard the old handhole cover gasket and make sure the mating surfaces of the handhole plate and the meter top are clean.
8. Install the new handhole cover gasket, plate and plate screws.
9. Tighten the handhole plate screws to the proper torque.

NOTE: To convert a non-TC meter to a new TC tangent, follow the above procedures using Kit # 44718K025.



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