



MODEL CN09-2
INDICATOR - TOTALIZER CALIBRATION UNIT
OPERATING INSTRUCTIONS

INSTRUCTIONS FOR CALIBRATION OF MODEL CN-06-2 INDICATOR-TOTALIZER

- 1). The CN09-2 can be used to verify calibration of an existing CN06-2 Indicator/Totalizer, or to calibrate one that has been modified with a new dial face and totalizer change gears.
- 2). The B-(driven) gear attached to the bottom of the indicator must be removed (using a 1/16" hex. allen wrench) so that the 20 tooth gear with the short hub (supplied) can be mounted to the indicator drive shaft. The 20 tooth gear with the long hub (supplied) should be mounted on the CN09-2 drive shaft (using a 1/16" hex. allen wrench). Adjust the gear on the CN09-2 drive shaft so that the top face of the gear is 1/8" below the top surface of the CN09-2 meter head. Position the 20 tooth gear with the short hub on the indicator drive shaft so that the face of the gear is 1/8" below the bottom of the indicator. NOTE: A 32 pitch, 40 tooth gear is supplied for calibrating registers used in a vertical orientation.
- 3). Place the indicator-totalizer on the CN09-2 meter head with the indicator gear positioned on the side of the head with the gear clearance cutout. Set the CN09-2 calibration unit to 10% on the selector knob. Slide the indicator toward the center of the CN09-2 meter head until the unit stops because of full gear mesh. Now slide the unit back 1/64". The indicator must be held in place while it is being calibrated. Switch on the indicator calibration unit in the forward position.
- 4). Locate the hairspring regulator set screw in the spring mounting block (see drawing for location). Loosen the set screw (using a .062" hex. allen wrench) and carefully rotate the spring and mounting block until the indicator needle shows 10% of full scale (see the percentage chart to determine 10% of scale for your indicator). Do not tighten set screw yet.
- 5). Set the CN09-2 calibration unit to 75% on the selector knob. Locate the set screw in the hub on the magnetic flux adjusting plate (see drawing for location). Loosen the set screw in the flux adjusting plate hub and carefully turn the flux adjusting plate until the indicator shows 75% of full scale (see the percentage chart to determine 75% of scale for your indicator). Do not tighten set screw yet.
- 6). Set the CN09-2 calibration unit to 10% and check the indicator reading. If the indicator has changed from the correct 10% of scale then the zero spring must be carefully adjusted so that the indicator shows 10% and the flux adjusting plate must also be reset to show 75% of scale. After the indicator is set so that the 10% and 75% readings are correct, then tighten the set screws in the hairspring regulator and the flux adjusting plate hub.
- 7). Set the CN09-2 to 10%, 25%, 50%, 75%, and 100% ranges and check the indicator (see the percentage chart to determine the correct scale for your indicator) to be sure that it is linear through the entire range. If the indicator is not linear or you cannot calibrate the indicator then the indicator should be sent back to the factory. Contact the factory for more information.
- 8). Set the CN09-2 to 100% and time the totalizer sweep hand for one revolution. The two should match. For example, if the rate at 100% is 1000 gallons per minute, then in one minute the totalizer sweep hand should make one revolution.



INDICATOR SCALE	PERCENT OF SCALE				
	10%	25%	50%	75%	100%
0-3	.30	.75	1.5	2.25	3.0
0-4	.40	1.0	2.0	3.0	4.0
0-5	.50	1.25	2.5	3.75	5.0
0-6	.60	1.5	3.0	4.5	6.0
0-8	.80	2.0	4.0	6.0	8.0
0-10	1.0	2.5	5.0	7.5	10.0
0-12	1.2	3.0	6.0	9.0	12.0
0-15	1.5	3.75	7.5	11.25	15.0
0-20	2.0	5.0	10.0	15.0	20.0
0-25	2.5	6.25	12.5	18.75	25.0
0-30	3.0	7.5	15.0	22.5	30.0
0-35	3.5	8.75	17.5	26.25	35.0
0-40	4.0	10.0	20.0	30.0	40.0
0-50	5.0	12.5	25.0	37.5	50.0
0-60	6.0	15.0	30.0	45.0	60.0
0-80	8.0	20.0	40.0	60.0	80.0
0-100	10.0	25.0	50.0	75.0	100.0
0-200	20.0	50.0	100.0	150.0	200.0

