



Model 3711-100-1 Optical Tachometer Test Fixture

Product Description

King Nutronics Corporation's optical tachometer test fixture (KNC P/N 3711-100-1) simplifies the testing and calibration of handheld optical tachometers from 500 RPM to 65,000 RPM when used with the Model 3711-B Tachometer Test Set and included accessories.

The test fixture is specially designed for use with the Model 3711-B Tachometer test set, and significantly reduces the time required for setup and aiming of the optical tachometer being calibrated.

If the tachometer is configured for continuous operation, a series of test points can be quickly measured and logged with minimal need for re-aiming or re-adjustment of the test setup.

The stability of the test fixture also enables the readout stability and recovery time of the tachometer to be conveniently measured and logged.



Features & Benefits

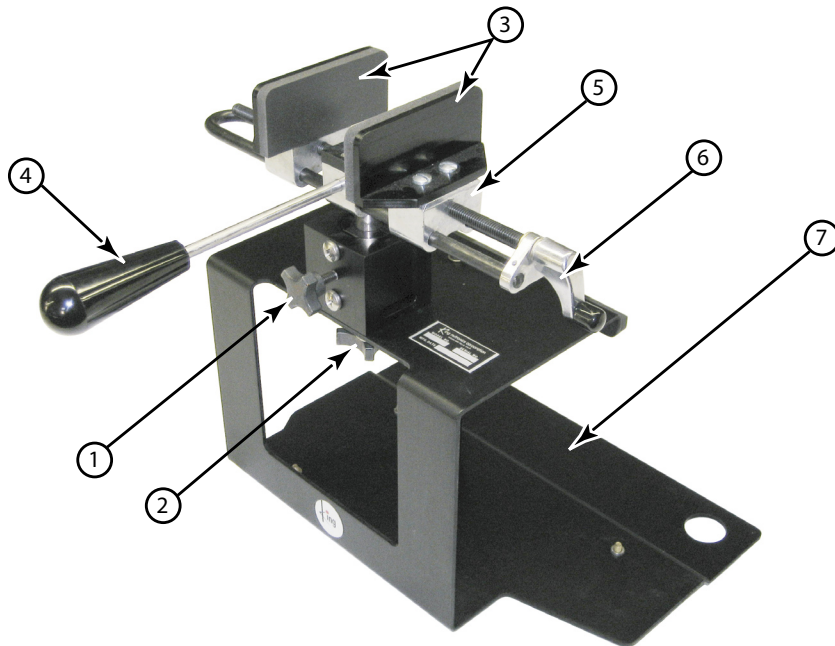
- Designed for Model 3711-B Tachometer Test Set
- Simplifies optical tachometer setup and testing
- Increases measurement accuracy and stability
- Easy to use horizontal and vertical adjustments
- Tripod-style handle enables fast aiming of light beam
- Clamp accommodates instruments up to 6-inches wide
- Clamp jaws protect optical tachometer from damage
- Replacement parts available; contact KNC for more info.

Required Equipment:

- 1 Model 3711-B Tachometer Test Set, KNC P/N 3711-1-1
- 1 Optical Tachometer Test Fixture, KNC P/N 3711-100-1
- 1 Optical Test Adapter, KNC P/N 3711-48-1
- 1 SAE Output Adapter, KNC P/N 3711-39-1
- 1 Optical Tachometer Beam Mask, KNC P/N 3711-71-1
- 1 Stable work table or bench



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Test Fixture Parts Identification

- 1) Horizontal Locking Knob.** Loosening this knob, by turning it counter-clockwise, allows the entire fixture head (5) to be rotated horizontally in the right and left directions using the adjustment lever (4). Turning this knob clockwise will lock the fixture head in the desired position. Knob (1) must also be loosened before making vertical adjustments using knob (2).
- 2) Vertical Adjustment Knob.** Turning this knob to the right (clockwise) will lower the fixture head. Turning this knob to the left will raise the fixture head. Please note that the horizontal locking knob (1) must be loosened before making vertical adjustments using knob (2).
- 3) Clamp Jaws.** These jaws clamp the optical tachometer in the fixture head. The jaws are padded to prevent damage to the tachometer.
- 4) Horizontal Adjustment Lever.** This lever is used to aim the light beam from the optical tachometer undergoing calibration after loosening locking knob (1). Moving the lever to the left will aim the light beam towards the right. Moving the lever to the right will aim the light beam towards the left.
- 5) Fixture Head Assembly.** The fixture head assembly is used to hold and position the tachometer during optical calibration. The entire head can be pivoted along the horizontal axis using lever (4), and adjusted approximately 3/4-inch up and down using knob (2).
- 6) Clamp Screw.** Turning the crank on the clamp screw (6) clockwise will tighten the clamp jaws (3), securing the tachometer. The clamp can accommodate objects approximately 1-inch to 6-inches wide.
- 7) Fixture Base Plate.** The fixture base (7) positions the tachometer at the correct height and setback to perform accurate measurements. The fixture base should be positioned at the front of the Model 3711-B tachometer test set as shown so that the feet on the test set engage in the holes in the base.

Setup Instructions

NOTE: The front page photo depicts the proper setup using the optical test fixture.

- 1) Place the Model 3711-B Tachometer Test Set on a stable work surface. Open and remove the case lid.
- 2) Plug the test set into an AC outlet and power it ON. Allow the test set to warm-up for 5 minutes before performing measurements.
- 3) Tip the test set rearwards and slide the test fixture base plate (7) under the test set. Engage the feet on the test set with the holes in the base. Lower the test set back onto the work surface.
- 4) Mount the SAE adapter and beam mask onto the test set drive pad. Secure the SAE adapter and beam mask using four brass thumbnuts.
- 5) Insert the shaft of the optical test adapter into the SAE adapter. Ensure that the key on the shaft engages in the keyway in the SAE adapter.
- 6) Set the test set to **10:1 Multiplier** mode using **RPM** units. The multiplier mode is usable in the clockwise and counter-clockwise directions.
- 7) Secure the tachometer in the fixture head assembly (5) using the clamp screw (6) to tighten the jaws (3). Do not over-tighten the clamp, or the tachometer or fixture head may be damaged.
- 8) Enter the desired speed on the test set using the **Speed Selector** switch. Press the **[GO]** switch to start the motor. The motor will ramp up and stabilize at the selected speed.
- 9) Switch ON the tachometer so the light beam is constant. If the tachometer is fitted with a momentary switch, a rubber band may be used to hold the switch so the light beam is constant.
- 10) Loosen the horizontal locking knob (1) on the fixture and use the adjustment lever (4) to aim the light beam through the slit in the beam mask. To raise the tachometer, turn the vertical adjustment knob (2) to the left. To lower the tachometer, turn the vertical adjustment knob (2) to the right. Tighten the horizontal locking knob (1) to secure the fixture in its current position.