

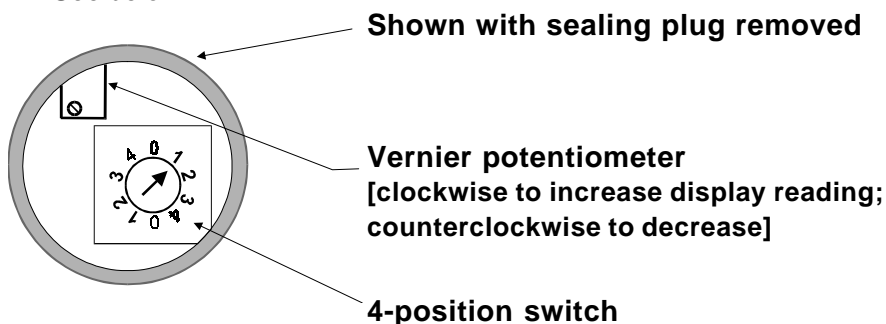
LST-100 and LST-100L SELF-POWERED TACHOMETER Calibration Instructions

The LST-100 and LST-100L tachometers are normally factory-calibrated to the customer-specified number of sensing teeth or discontinuities, sensing speed, and desired numerical display.

If necessary, turn to the reverse side of the card to calculate Signal Frequency and Gate Time.

To calibrate the LST-100 or LST-100L:

1. Remove the sealing plug on the back of the housing.
2. Apply the calculated signal frequency to terminals A and B. *A Dynalco F-16 or F-15 signal generator is ideal.*
3. Select the appropriate gate time range on the 4-position switch. *See label on back of LST-100; LST-100L; or Item 3, reverse side of card.*
4. Adjust the vernier potentiometer for the desired display. *See below.*



Example: *If 3390 Hz = 1800 RPM, then gate time is 0.53 seconds.*

1. Apply 3390 Hz to terminals A and B on tachometer (no polarity).
2. Turn the gate time range switch to (either) position number 1 to select gate time range of 0.26 – 0.72 seconds.
3. Adjust the vernier potentiometer to obtain a display of 1800.

See label on back of LST-100, LST-100L for additional information

QUICK GATE TIME CALCULATION } $\frac{60}{\text{Number of Teeth}}$ { Assumes the pickup is "seeing" the gear of interest directly, not through a step up or step down ratio.

(For example: 60/113 teeth = 0.53 sec. gate time)

1. Calculating Signal Frequency (in Hz)

Multiply RPM times the number of teeth (or discontinuities), then divide by 60. For example, sensing a ring gear with 113 teeth rotating at 1800 RPM gives a frequency of 3390 Hz.

$$\text{Signal Frequency in Hz} = \frac{(\text{RPM}) \times (\text{Teeth or Discontinuities})}{60}$$

$$\text{Signal Frequency in Hz} = \frac{(1800 \text{ RPM}) \times (113 \text{ Teeth})}{60} = 3390 \text{ Hz}$$

2. Calculating Gate Time (In seconds)

Divide the number to be displayed on the LST-100 or LST-100L by the corresponding signal frequency.

$$\text{Gate Time} = \frac{1800 \text{ RPM}}{3390 \text{ Hz}} = 0.53 \text{ seconds}$$

3. Gate Time Range Selection on 4-Position Switch

Select either position for each number pair on the switch:

Position 1: 0.26–0.72 sec.

Position 2: 0.72–1.43 sec.

Position 3: 1.43–2.85 sec.

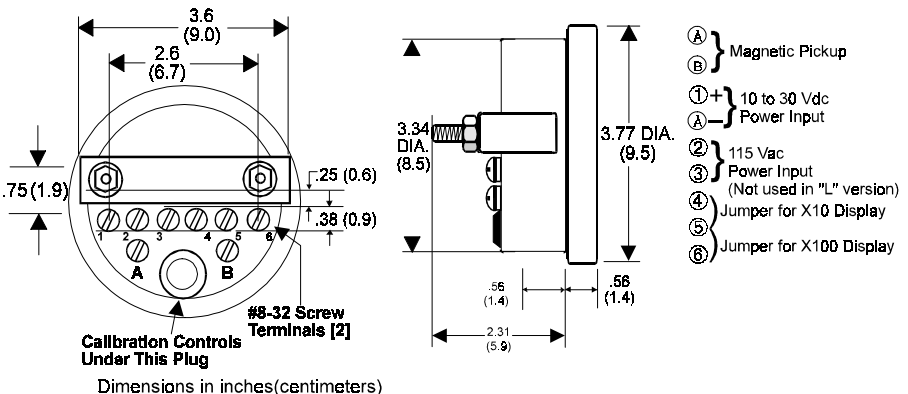
Position 4: 2.85–5.70 sec.

4. Pulse Rate Multiplier: Required gate time *divided by ten*: jumper terminals 4 to 5. The input pulse rate will be multiplied by ten times. ♦ Required gate time *divided by one hundred*: jumper terminals 5 to 6. The input pulse rate is multiplied by one hundred.

Optional Calibration Method: On-engine

- Select the appropriate gate time range on the 4-position switch.
- Connect the magnetic pickup output to terminals A & B.
- Adjust vernier potentiometer on LST-100 or LST-100L until its display agrees with another precise digital tachometer.

OUTLINE AND CONNECTION DRAWING



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