Electronic Tachometer

Installation Instructions

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F–2245	04/03/95	04/25/14

The electronic tachometer consists of a magnetic sensor installed in the pump transmission or PTO case and a pulse generator on the rotating shaft. The pulse generator generates a frequency proportional to the speed of the rotating shaft. The frequency reading from the sensor is to be used to calculate the rotational speed of the shaft.

The output from the sensor can be measured with a hand-held frequency meter.

Table 1. Fire Pump Transmissions

Model	Build Date	Ratio	Correction Factor	Speed Measured
YB, YC, YD, YE, YF, YBX, YCX, YDX, YEX, YFX	All Years	All	1.500	Input Shaft of Pump
C10B, C10C, C10D, C10E, C10F	Prior to 3/28/2008	All	1.500	Input Shaft of Pump
	After 3/28/2008	All	10.000	
C20B, C20C, C20D, C20E, C20F	All Years	All	10.000	
C21	All Years	All	10.000	
PA	All Years	All	6.000	
KC	All Years	1.16	1.875	Impeller Shaft of Pump
		1.30	2.000	
		1.38	2.070	
		1.56	2.220	
		1.65	2.308	
		1.88	2.500	
		2.14	2.727	
		2.45	3.000	
		2.83	3.333	
		3.40	2.400	

Table 2. PTO's:

Model	Build Date	Ratio	Correction Factor	Speed Measured
TYB, TYC, TYD, TYE, TYF, TYBX, TYCX, TYDX, TYEX, TYFX	All Years	All	1.500	Input Shaft of Pump
TC10B, TC10C, TC10D, TC10E, TC10F	Prior to 3/28/2008	All	1.500	
	After 3/28/2008	All	10.000	
TC20B, TC20C, TC20D, TC20E, TC20F	All Years	All	10.000	
TC21	All Years	All	10.000	
TPA	All Years	All	6.000	

1. **Measuring Shaft Speed:**
   Use the correction factors in Tables 1 or 2 to calculate the shaft rotational speed from the sensor output. Multiply the frequency measured in hertz (Hz) by the correction factor listed in the tables below to obtain revolutions per minute (RPM).

2. **Optional Tachometer Cables:**
   The magnetic sensor mates with a MS3106A-10SL-4S connector. Optional 10 ft. long cables are available from Waterous as follows (diagrams of each cable are provided on Page 2):
   - Part Number 63033 with integral panel connection
   - Part Number V 3398 without panel connection (two bare leads wires to be terminated at the panel by the OEM).

3. **Magnetic Sensor Adjustment:**
   The air gap between the magnetic sensor and pulse generator affects the sensor's output. The air gap is set at the factory. If adjustment is necessary, loosen the jam nut on the sensor. Turn the sensor clockwise (CW) until it makes contact with the pulse generator. Rotate the shaft by hand to ensure the sensor is not located over one of the gaps in the pulse generator. Once the shaft can be turned freely, back the sensor out 1/2 turn counterclockwise (CCW). Tighten the jam nut after adjusting.

Figure 1. Optional Tachometer Cables