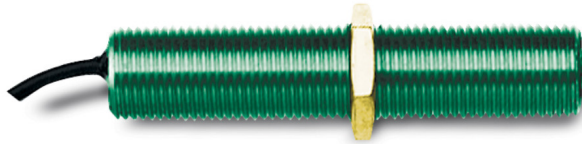


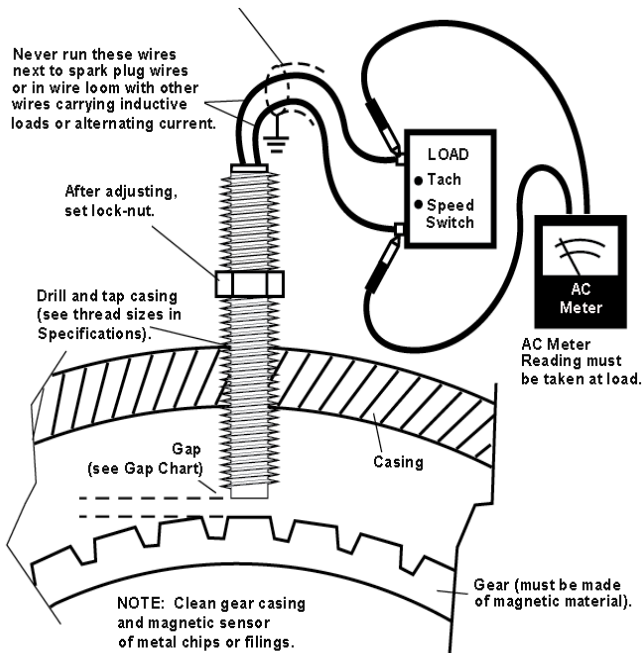
# Installation of Magnetic Pickups

## Models MP3298, MP7905 and MP7906

A magnetic pickup is an AC generator. It is normally installed into the flywheel housing of an internal combustion engine. The starter ring gear acts upon it to generate a voltage pulse each time a gear tooth passes the end of the sensor.



Always use a two-conductor shielded cable. Ground the shield to a metal frame ground at the engine end only.



## Specifications

### Housing Material:

MP3298: Type 300 Stainless Steel; Locknut: Type 300 Stainless Steel

MP7905 and MP7906: Type 6061 Aluminum/Anodize Class 1  
Locknut: steel nickel plated

**Output Leads (all models):** Two insulated leads, 20 AWG, STR/TEF insulated per MIL-W-16878D Type E, 1 White and 1 Black

**Output Voltage (all models):** 200 V.P.P. TYP. (tested at 1000 I.P.S. 20 Pitch gear, 0.005 Gap., and 100K OHM Load)

### Coil Resistance:

MP3298: 975 Ohms TYP

MP7905 and MP7906: 2500 Ohms TYP

**Potting (all models):** Internal portion of pickup is filled with epoxy resin, making the magnetic pickup oil- and moisture-resistant.

**Temperature (all models):** -65° to +225° F (-54° to 107° C)

### Coil Induct:

MP3298: 800 mH max, @ 1 KHz

MP3298: 400 mH TYP. @ 1 KHz



## Magnetic Pickup Installation

### Flywheel Housing

Drill and tap a hole in the flywheel housing (See below for model and thread size).

**IMPORTANT:** Drilling too deep may damage ring gear teeth.

Blow chips with air hose when drilling and tapping hole.

### Drill and Tap Chart

Model	Part Number	Total Length	Threaded Length	Thread Size
MP3298	20700162	3 in. (76 mm)	3 in. (76 mm)	5/8-18 UNF
MP7906	20700161	3 in. (76 mm)	3 in. (76 mm)	3/4-16 UNF
MP7905	20700160	4-1/2 in. (114 mm)	4-1/2 in. (114 mm)	3/4-16 UNF

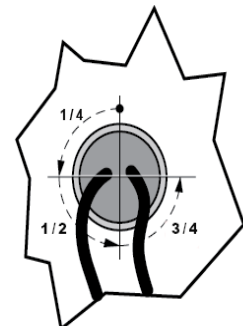
### Set Gap Adjustment

Insert magnetic pickup and turn until it stops at the face of the gear.

Back off the gear by turning the pickup counter clockwise 1/4, 1/2 or 3/4 turn. See Gap Chart to determine gap distance based on the turn.

Check gap clearance by rotating the gear completely around.

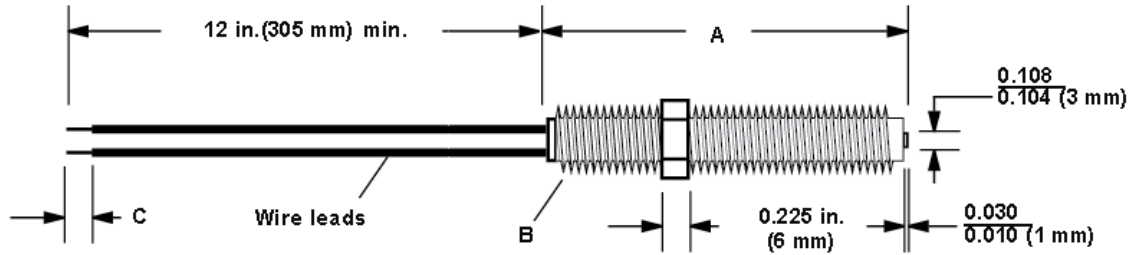
**NOTE:** Magnetic pickup gap should be adjusted so that the minimum voltage required is attained at the engine's lowest RPM. The voltage will increase as the speed increases. If erratic readings occur, remove the magnetic pickup and check the magnetic tip for metal chips.



### Gap Chart

Thread Size		5/8 - 18 UNF	3/4 - 16 UNF
TURN	1/4	.013 in. (0.33 mm)	.015 in. (0.38 mm)
	1/2	.028 in. (0.71 mm)	.030 in. (0.76 mm)
	3/4	.035 in. (0.88 mm)	.045 in. (1.14 mm)
	1	.055 in. (1.39 mm)	.062 in. (1.57 mm)
			<b>GAP</b>

# Dimensions



- A. MP3298 and MP7906 = 3 in. (76 mm)  
MP7905 = 4.5 in. (114 mm)
- B. MP3298 = 5/8-18 UNF-2A  
MP7905 and MP7906 = 3/4-16 UNF-2A

- C. MP3298 = 0.250 in. (6 mm)  
MP7905 and MP7906 = 0.370 in. (9 mm)

Polarity: White lead is positive with respect to Black lead upon approach of ferrous metal.

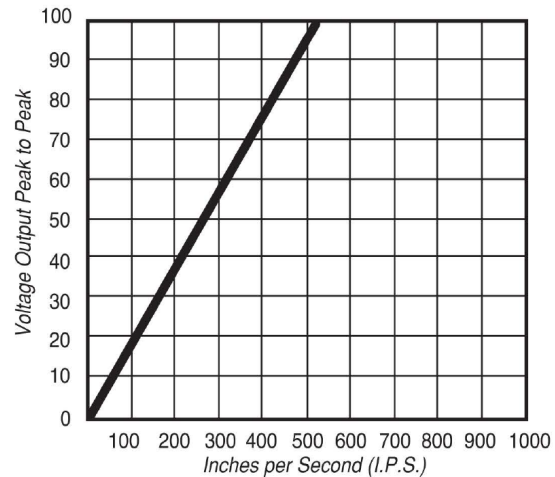
## Gear Pitch/Voltage Output

Gear Pitch	% Output Std. Volts
6	187
8	172
10	162
12	157
16	118
20	100
24	85
32	23
48	-
64	-
72	-

Note: Dash indicates not recommended.

$$\text{I.P.S.} = \frac{\text{R.P.M.} \times \text{dia.} \times 3.14}{60}$$

## Output Voltage Operating Chart



Note: Tested at 1000 I.P.S. 20 pitch gear, 0.005 gap and 100K OHM load.

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