

**AA-5 SERIES
MAINTENANCE MANUAL**

CHAPTER 77
ENGINE INDICATING
TABLE OF CONTENTS

| <u>NUMBER</u> | | <u>PAGE</u> |
|----------------------|---|--------------------|
| 77-0 | ENGINE INDICATING SYSTEM | 1 |
| | Description/Operation | 1 |
| | General | 1 |
| 77-1-1 | TACHOMETER | 1 |
| | Description/Operation | 1 |
| | General | 201 |
| | Maintenance Practices | 201 |
| | Removal/Installation of Tachometer and Tachometer Cable | 201 |

**AA-5 SERIES
MAINTENANCE MANUAL**

ENGINE INDICATING SYSTEM - DESCRIPTION/OPERATION

1. **General**

Because of the simplicity of the engine installed in AA-5, AA-5A and AA-5B aircraft a limited number of engine indicating instruments are required. Most of the engine indicating instruments are discussed in their specifically related system chapter. This chapter covers only the tachometer.

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MAINTENANCE MANUAL**

TACHOMETER - DESCRIPTION/OPERATION

1. General

The tachometer is a mechanical indicator mounted on the lower center of the instrument panel and driven by a flexible shaft. It measures the rate at which the crankshaft revolves in revolutions per minute (rpm), and is calibrated in hundreds of rpm. The instrument also incorporates a recording mechanism to keep an accurate record of engine hours.

The tachometer provides the pilot with throttle control information necessary in making required power settings and adjustments for takeoff, climb, cruise, and descent. The tachometer is also used when making magneto checks and for maintenance checks of the engine. The formation of carburetor ice is indicated by a drop in engine rpm.

The tachometer is color coded for easy interpretation. A green arc on the face of the instrument indicates the normal, safe operating range. The red line is the maximum allowable rpm. On the AA-5B tachometer a yellow arc extends from 1850 - 2250 rpm to indicate a caution range to the pilot. Continued engine operation in flight within the caution range may result in some engine vibration.

TACHOMETER - MAINTENANCE PRACTICES

1. Removal/Installation of Tachometer and Tachometer Cable

A. Remove Tachometer (See Figure 201)

- (1) Disconnect tachometer flexible cable at rear of instrument panel.
- (2) Remove four mounting screws and remove tachometer.
- (3) Install plastic cover or masking tape over nipple on tachometer.

B. Install Tachometer

- (1) Connect flexible cable to tachometer making sure that cable is seated in driveshaft.
- (2) Position tachometer on rear of instrument panel and install the four mounting screws.

C. Remove Tachometer Cable and Housing

- (1) Remove cowl to gain access (refer to Chapter 71).

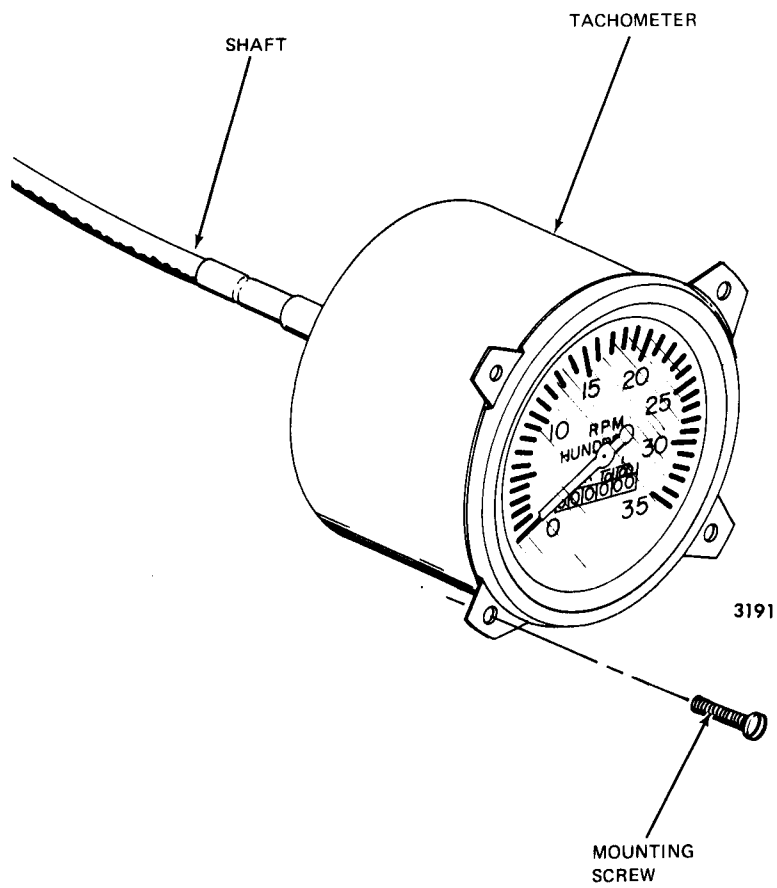
NOTE: If cable only needs removing, disconnect cable at tachometer and pull cable out of housing.

- (2) Cut plastic clamps both forward and aft of firewall, and free wiring from flexible cable.
- (3) Disconnect cable from tachometer and from engine.
- (4) Cover connections on engine and tachometer with masking tape or plastic caps.
- (5) Pull cable and housing through firewall.
- (6) Pull cable out of housing.

D. Install Tachometer Cable and Housing

- (1) If cable only has been removed, apply approved graphite base lubricant to cable and insert in housing as far as it will go and rotate slowly to make sure cable is seated in engine fitting. Connect cable to tachometer.
- (2) Check cable and housing for dents, kinks, or evidence of damage.
- (3) Apply approved graphite base lubricant to cable and insert into the housing.
- (4) Insert cable assembly through firewall and connect to engine and tachometer making sure that cable ends are properly seated.
- (5) Using plastic clamps, secure wiring to cable housing as necessary both forward and aft of firewall.
- (6) Start engine and check tachometer for proper operation.
- (7) If tachometer is erratic or noisy, check for loose connections or sharp bends in cable. No bend radius should be less than 6 inches.
- (8) Install cowl (refer to Chapter 71).

AA-5 SERIES
MAINTENANCE MANUAL



Tachometer
Figure 201