

THROTTLE CONTROL - MAINTENANCE PRACTICES

1. General

- A. The throttle control is the push-pull type that incorporates a knurled friction knob, which prevents vibration induced "creeping" of the control. The ball bearing-type rod end on the throttle is secured to the engine with a predrilled AN bolt, a castellated nut and a cotter pin.

NOTE: Steel AN bolts with an undrilled shank are identified with an "A" suffix (AN3-6A). A steel bolt of the same size, with the shank drilled for castellated nut and cotter pin is identified as AN3-6. Aluminum AN bolts shall not be used in this application.

- B. When adjusting the throttle control, it is important to check that throttle control slides smoothly throughout its full range of travel, that it locks securely with the friction lock and the throttle arm operates through its full arc of travel. Do not lubricate throttle control. If excessive binding is noticed, replace throttle control.
- C. Whenever engine controls are being disconnected, pay particular attention to the exact position, size and number of attaching parts for re-connecting controls.

2. Throttle Control Removal/Installation

- A. Remove Throttle Control (Refer to [Figure 201](#)).

- (1) Remove engine cowling. Refer to [Chapter 71, Cowling - Maintenance Practices](#).
- (2) Remove cotter pin, castellated nut, bolt and washers securing throttle control rod end to throttle body arm.
- (3) Remove clamp securing throttle control to engine mount.
- (4) Remove throttle cable retaining nut and washer from forward side of firewall.
- (5) Inside the cockpit/cabin area, remove throttle cable retaining nut and washer from forward side of instrument panel.
- (6) Carefully pull throttle control through firewall and instrument panel, and remove from airplane.

- B. Install Throttle Control (Refer to [Figure 201](#)).

NOTE: When installing throttle control, ensure that control is routed exactly as previously installed. Ensure that no binding or preloading occurs from a too small bend radius.

- (1) Inside the cockpit/cabin area, carefully route throttle control rod end through instrument panel and then place washer and retaining nut over rod end.
- (2) Route throttle control rod end through firewall and position throttle control in instrument panel.
- (3) Secure throttle control in instrument panel by tightening retaining nut against washer and instrument panel.

NOTE: To prevent damage to the instrument panel finish and markings, ensure the control housing does not rotate against the instrument panel during installation.

- (4) In the engine compartment, place washer and retaining nut over throttle control rod end and secure against firewall.
- (5) Attach throttle control rod end to throttle body with bolt, washers, castellated nut and cotter pin.
- (6) Secure throttle control to engine mount with clamp.
- (7) Adjust throttle control as required. Refer to Throttle Control Adjustment/Test.
- (8) Install engine cowling. Refer to [Chapter 71, Cowling - Maintenance Practices](#).

3. Throttle Control Adjustment/Test

- A. Check Throttle Control (Refer to [Figure 201](#)).

- (1) Pull throttle control knob full out and check that idle stop on throttle body is contacted.
- (2) Push throttle control knob full in and check that full power stop on throttle body is contacted.
- (3) Do a check to make sure that the throttle has no less than 0.12-inch (3.18 mm) and no more than 0.25-inch (6.35 mm) cushion at each stop.
- (4) Work throttle control in and out several times to check for binding.

- B. Adjust Throttle Control (Refer to [Figure 201](#)).

- (1) Disconnect throttle control rod end from the throttle body.
- (2) Loosen jam nut and adjust throttle control rod end to obtain desired setting.
- (3) Tighten jam nut.

- (4) Connect throttle control rod end to throttle body.

4. Throttle Control Inspection/Check

A. Inspection of Throttle Control.

- (1) The throttle control attachment to throttle body should be inspected in accordance with time limits established in Chapter 5, Inspection Time Limits. Do a check of the bolt, castellated nut, cotter pin, rod end, and rod end jam nut for security and condition.
- (2) Do a check of the rod end witness hole for proper rod end engagement with the throttle control.
- (3) Do a check to make sure that the throttle control slides smoothly throughout its full range of travel, that it locks securely with the friction lock, and that the throttle arm operates through its full arc of travel.

Figure 201 : Sheet 1 : Throttle Control Installation

