

**ENGINE CONTROLS - INSPECTION/CHECK****1. General**

- A. This section has the inspections and checks necessary to keep the engine controls in a serviceable condition.

**TASK 76-10-00-720****2. Engine Controls Functional Check****A. General**

- (1) This task gives the procedures to do a functional check of the engine controls.

**B. Special Tools**

- (1) MIL-L-7870 lubricant, or equivalent.

**C. Access**

- (1) None

**D. Do a Engine Power Lever Detailed Inspection (Refer to, Figure 601).**

- (1) Examine the power control cable from the power lever to the cam box input lever for security of installation, wear, corrosion, routing, evidence of damage, and deterioration.
  - (a) Examine the cable for security at the firewall jam nut.
  - (b) Examine all cable attach brackets for condition and security.
- (2) Examine the rubber seals at the end of the flex cable for condition, security, and deterioration.
- (3) Disconnect the rod end from the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
  - (a) Wipe the rod end clean using a clean lint-free cloth.
  - (b) Examine the rod end bearing for condition, corrosion, pitting, security, and freedom of movement.
  - (c) Lubricate the rod end ball with MIL-L-7870 oil or an equivalent.
- (4) Examine the lever arm for condition and security.
- (5) Connect the rod end to the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
- (6) Examine the rod end clevis at the engine power control lever for condition, security, and freedom of movement.
- (7) Adjust the friction lock to ON.
  - (a) Examine the control for positive locking action.
- (8) Adjust the friction lock OFF.
  - (a) Move the control from the IDLE position to the FULL POWER position.
  - (b) Make sure that there is freedom of operation.

**E. Do a Fuel Condition Control Lever Detailed Inspection. For illustrations of the fuel condition control lever (Refer to Figure 601).**

- (1) Examine the control cable from the cockpit lever to the governor lever for security of installation, wear, corrosion, routing, evidence of damage, and deterioration.
  - (a) Examine the cable for security at the firewall jam nut.
  - (b) Examine all cable attach brackets for condition and security.
- (2) Examine the rubber seals at the end of the flex cable for condition, security, and deterioration.
- (3) Disconnect the rod end from the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
  - (a) Wipe the rod end clean using a clean lint-free cloth.
  - (b) Examine the rod end bearing for condition, corrosion, pitting, security, and freedom of movement.
  - (c) Lubricate the rod end ball with MIL-L-7870 oil or an equivalent.
- (4) Examine the lever arm for condition and security.
- (5) Connect the rod end to the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
- (6) Examine the rod end clevis at the fuel condition control lever for condition, security, and freedom of movement.
- (7) Adjust the friction lock to ON.
  - (a) Examine the control for positive locking action.

- (8) Adjust the friction lock OFF.
  - (a) Move the control from the CUTOFF position to the HIGH IDLE position.
  - (b) Make sure that there is freedom of operation.
  - (c) Make sure that the lever on the fuel control contacts the HIGH IDLE stop.
- F. Propeller Speed Control Lever Detailed Inspection. (Refer to, Figure 601).
  - (1) Examine the propeller speed control cable from the cockpit lever to the governor lever for security of installation, wear, corrosion, routing, evidence of damage, and deterioration.
    - (a) Examine the cable for security at the firewall jam nut.
    - (b) Examine all cable attach brackets for condition and security.
  - (2) Examine the rubber seals at the end of the flex cable for condition, security, and deterioration.
  - (3) Disconnect the rod end from the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
    - (a) Wipe the rod end clean using a clean lint-free cloth.
    - (b) Examine the rod end bearing for condition, corrosion, pitting, security, and freedom of movement.
    - (c) Lubricate the rod end ball with MIL-L-7870 oil or an equivalent.
  - (4) Connect the rod end to the lever arm. Refer to Quadrant Assembly and Controls - Maintenance Practices.
  - (5) Examine the rod end clevis at the cable connection to the propeller speed control lever for condition, security, and freedom of movement.
  - (6) Adjust the friction lock to ON.
    - (a) Examine the control for positive locking action.
  - (7) Adjust the friction lock OFF.
    - (a) Move the control from the FEATHER position to the HIGH RPM position.
    - (b) Make sure that there is freedom of operation.
    - (c) Make sure that the lever arm contacts the HIGH RPM stop.
- G. Do a Functional Check of the Engine Power Control Lever.
  - (1) Start the engine. Refer to the Model 208 Pilot's Operating Handbook and Approved Airplane Flight Manual.
  - (2) Operate the engine at IDLE for five minutes to let the temperatures stabilize.
  - (3) Put the propeller speed control lever to the MAX forward position.
  - (4) Move the power control lever from IDLE, then slowly aft to the REVERSE position.
  - (5) Make sure that the propeller RPM increases to peak, then decreases 10 RPM to 50 RPM before the gas generator (Ng) begins to increase from idle.
  - (6) Complete the following adjustment if necessary:
    - (a) If necessary, do the Power Control Lever Reverse Gas Generator (Ng) Pickup Adjustment. Refer to Engine Control Rigging - Adjustment/Test.
    - (b) If necessary, do the Propeller Speed Control Lever Adjustment. Refer to Engine Control Rigging - Adjustment/Test.
- H. Do a Functional Check of the Fuel Condition Control Lever.
  - (1) Make sure that the engine temperature is stabilized.
  - (2) Make sure that the power control lever is at IDLE.
  - (3) Make sure that the fuel condition control lever is at LOW IDLE.
  - (4) Put the generator switch to the ON position.
    - (a) Adjust the electrical load to 40 Amperes.
  - (5) Put the BLEED AIR HEAT switch to the ON position.
  - (6) Turn the CABIN HEAT TEMP control knob to the full HOT position.
  - (7) Make sure that the Ng is from 52 percent to 55 percent.
    - (a) If the Ng is not at the specified range, do the Fuel Control Lower Idle Adjustment. Refer to Engine Control

Rigging - Adjustment/Test.

- (8) Put the fuel condition control lever to the HIGH IDLE position.
- (9) Make sure that the Ng is from 64 percent to 66 percent.
  - (a) If the Ng is not at the specified range, do the Fuel Control High Idle Adjustment. Refer to Engine Control Rigging - Adjustment/Test.
- (10) Move the fuel condition control lever to the LOW IDLE position.
- (11) Move the power lever to the IDLE position.
- (12) Move the propeller speed control lever to the MIN RPM position.
- (13) Shut down the engine. Refer to the Model 208 Pilot's Operating Handbook and Approved Flight Manual.

I. Restore Access

- (1) None

**END OF TASK**

Figure 601 : Sheet 1 : PT6A-114/PT6A-114A Engine Cable Installation

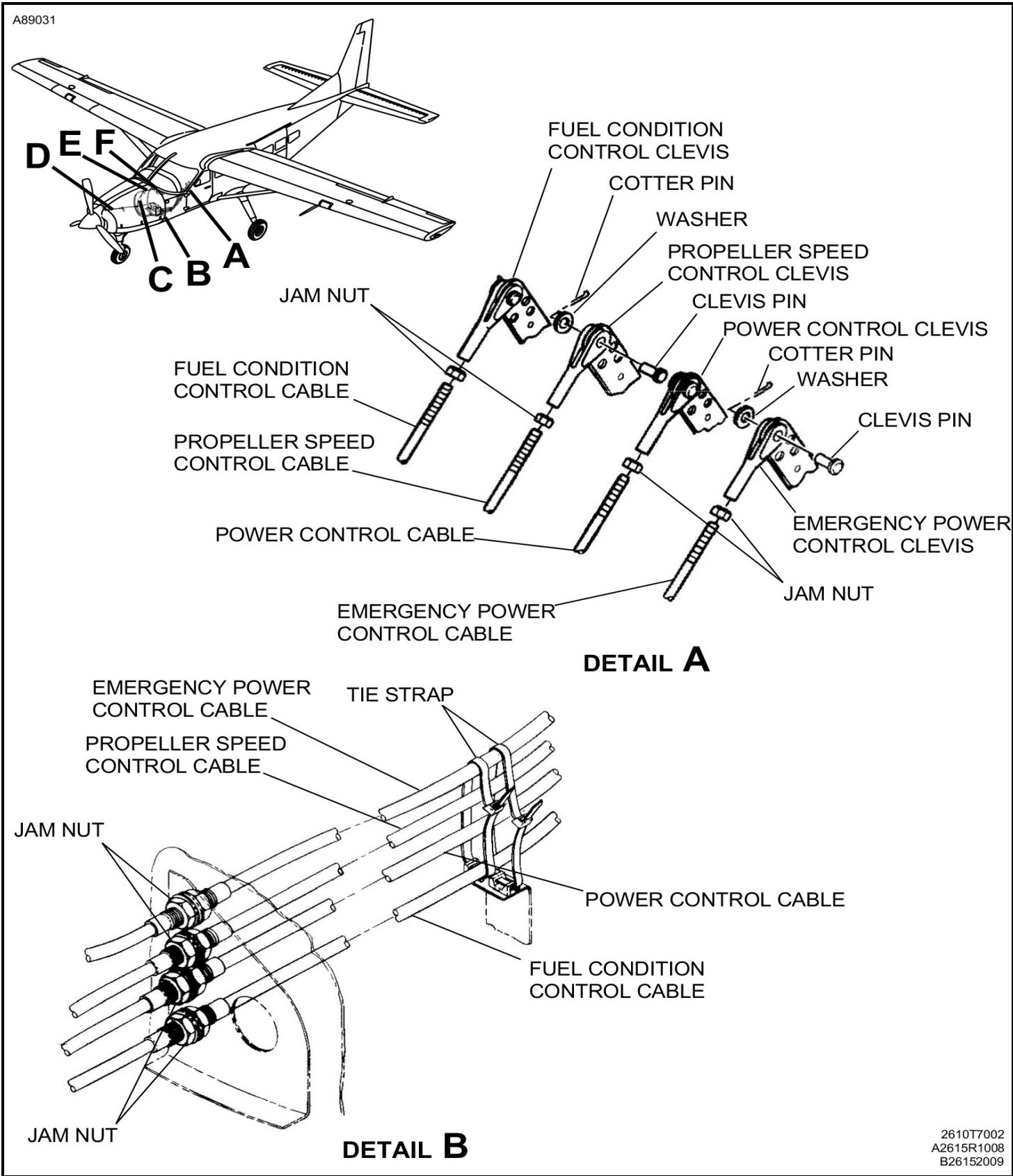
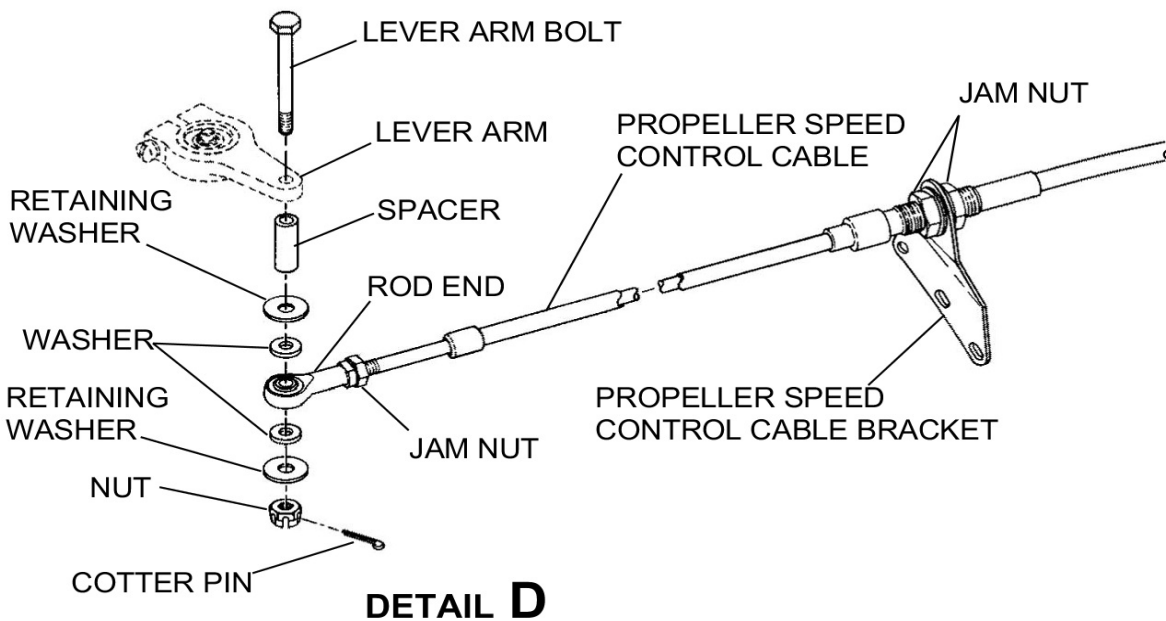
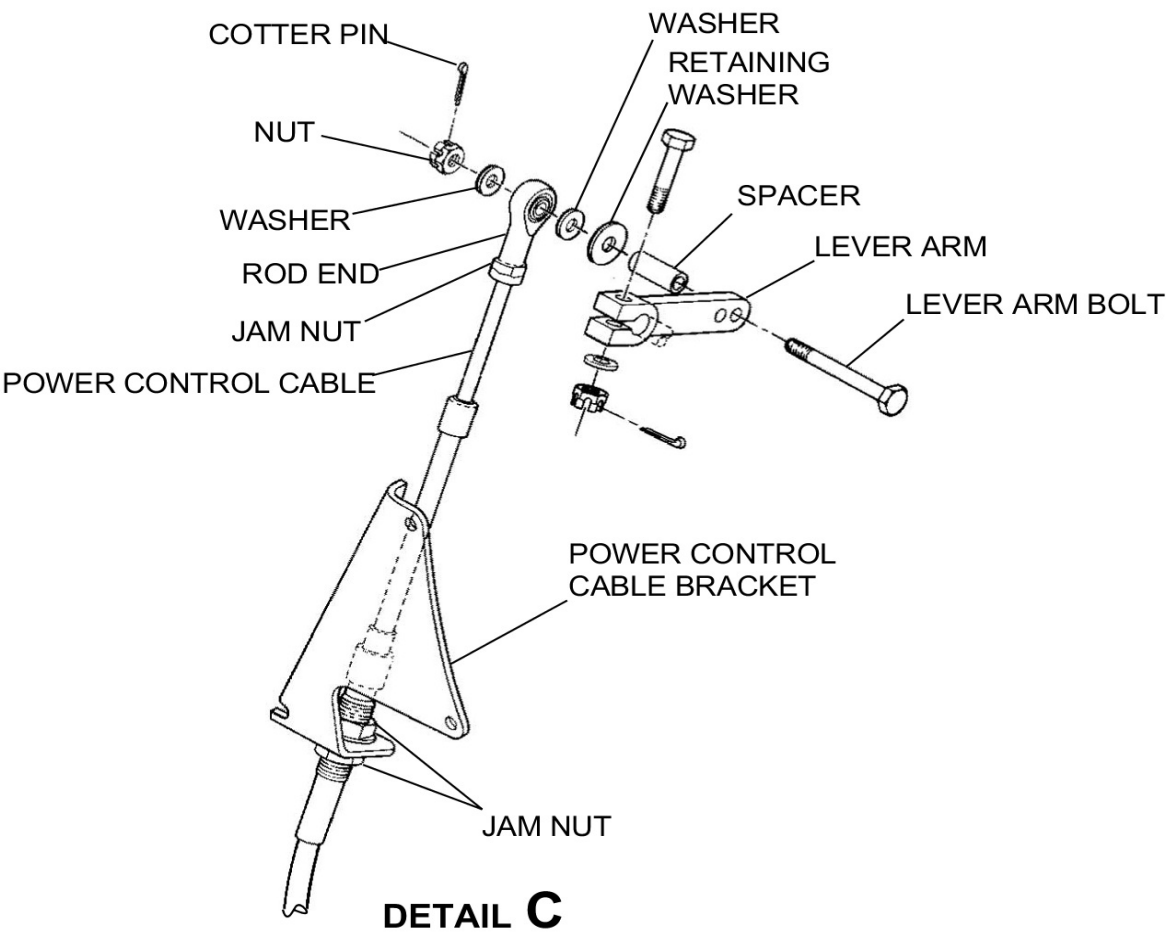


Figure 601 : Sheet 2 : PT6A-114/PT6A-114A Engine Cable Installation

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Figure 601 : Sheet 3 : PT6A-114/PT6A-114A Engine Cable Installation

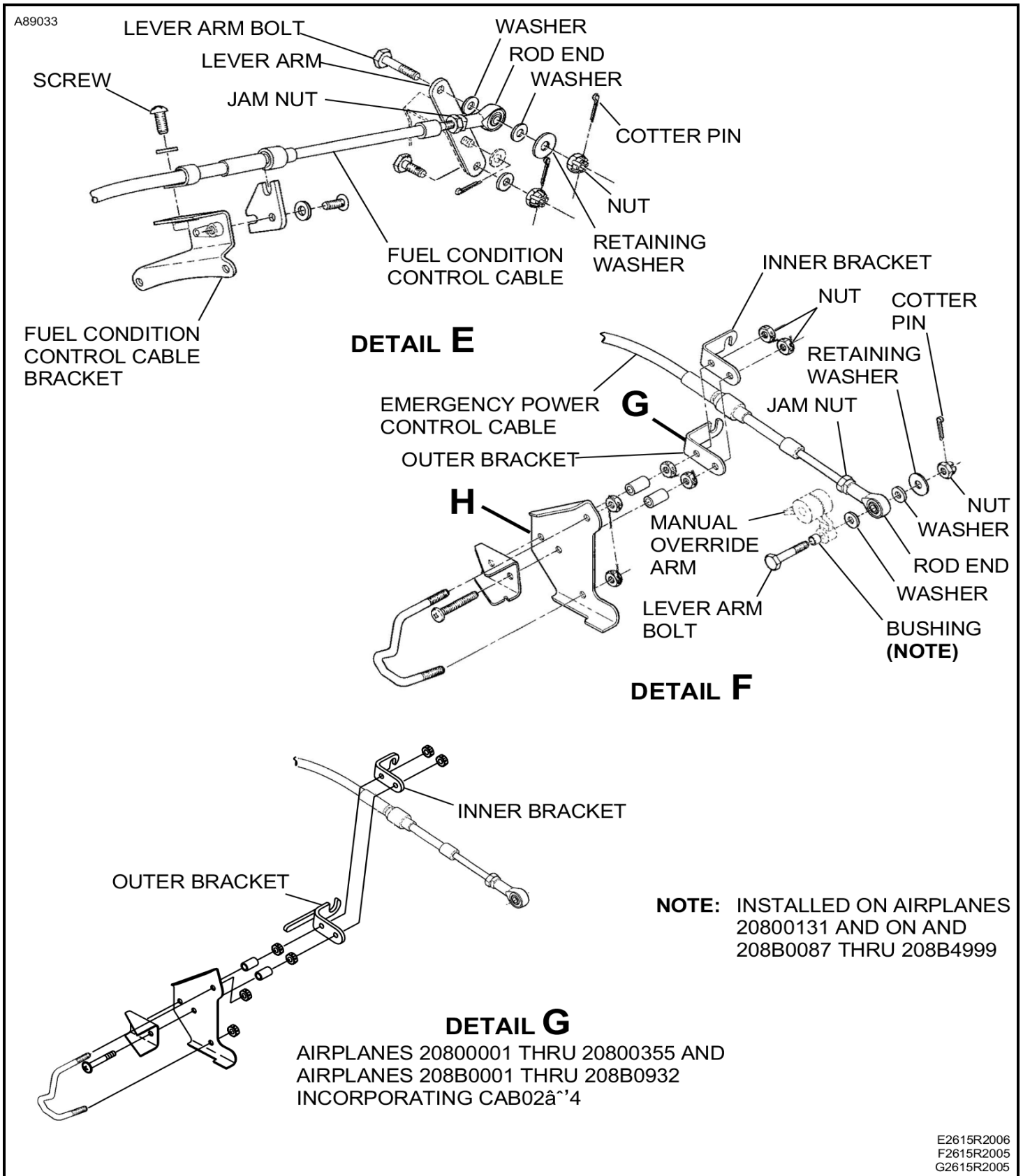
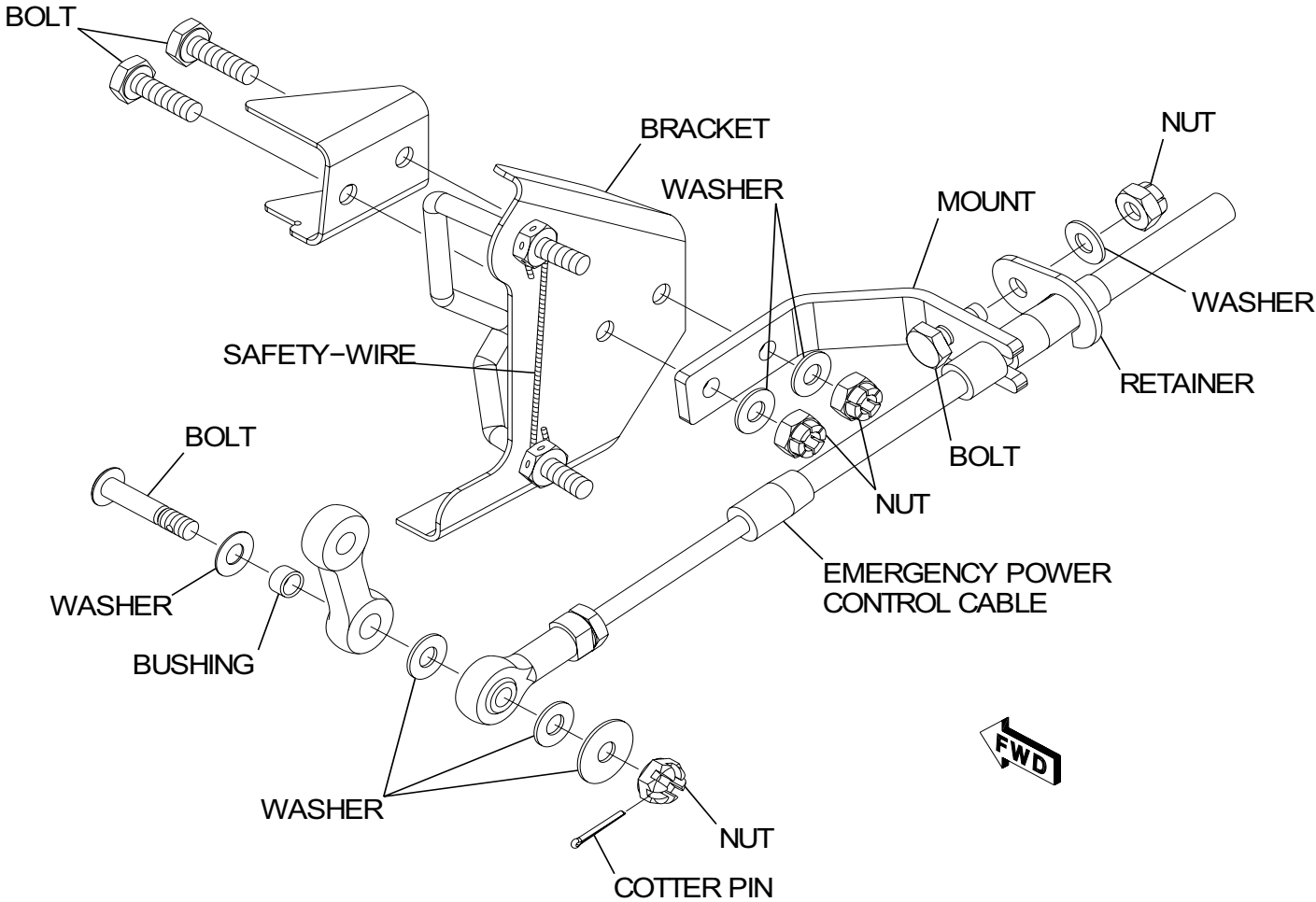


Figure 601 : Sheet 4 : PT6A-114/PT6A-114A Engine Cable Installation

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## DETAIL H

AIRPLANES 20800396 AND ON AND  
AIRPLANES 208B1171 THRU 208B4999

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