

**TECHNICAL MANUAL
AVIATION UNIT AND INTERMEDIATE
MAINTENANCE MANUAL**

VOLUME 7 OF 9

PART 2 OF 2

**HELICOPTER, ATTACK,
AH-64A APACHE
(NSN 1520-01-106-9519)
(EIC: RHA)**

**CHAPTER 11
FLIGHT CONTROLS
PART 2**

**AUTOMATIC STABILIZATION
EQUIPMENT MAINTENANCE**

**DIRECTIONAL CONTROL SYSTEM
MAINTENANCE**

**FLIGHT CONTROLS RIGGING
MAINTENANCE**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
16 MAY 1994**

CHAPTER 11
FLIGHT CONTROL SYSTEM
PART 2 OF 2

CHAPTER OVERVIEW

Chapter 11 contains the maintenance instructions for the flight control system. Flight control system description, operation, and troubleshooting information is contained in TM 1-1520-238-T.

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SECTION III. AUTOMATIC STABILIZATION EQUIPMENT MAINTENANCE

11.190. AUTOMATIC STABILIZATION EQUIPMENT (ASE) INSPECTION

11.190.1. Description

This task covers: Inspection.

11.190.2. Initial Setup

Tools:

Aircraft mechanic's tool kit (item 376, App H)

References:

TM 55-1500-322-24

Personnel Required:

67R	Attack Helicopter Repairer
67R3F	Attack Helicopter Repairer/Technical Inspector

Equipment Conditions:

<u>Ref</u>	<u>Condition</u>
1.57	Helicopter safed

11.190.3. Inspection

- a. **Check components for damage and mounting security.**
- b. **Check for loose, missing, or damaged mounting hardware.**
- c. **Check wire bundles for chafing, loose mounting, and broken or missing wire ties.**
- d. **Check wiring for cracked, broken, or burned insulation.**
- e. **Check connectors and receptacles for loose attachment.**
- f. **Check switches for cracked or broken knobs and loose mounting.**
- g. **Check LVDT rod ends for play.** None allowed.
- h. **Check LVDTs for nicks, cracks, and gouges.** None allowed.

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11.190. AUTOMATIC STABILIZATION EQUIPMENT (ASE) INSPECTION – continued

i. Bushings and bearings.

NOTE

- Maximum allowable damage limits are given in (TM 55-1500-322-24).
- Replace excessively worn bushing(s) and/or bearing(s) (para 11.4).

(1) Maximum allowable wear limits:

- (a) Radial play with bolt in bushing or bearing inside diameter **0.004 INCH.**
- (b) Radial play with sliding bushing in flanged inside diameter **0.004 INCH.**
- (c) Radial play in ball bearing **0.002 INCH.**
- (d) Radial play of Teflon bearing **0.006 INCH.**
- (e) Radial play in control rod end bearing **0.001 INCH.**
- (f) Axial play in Teflon bearing **0.016 INCH.**
- (g) Axial play in control rod end bearing **0.009 INCH.**

END OF TASK

11.191. ASE PANEL REMOVAL/INSTALLATION

11.191.1. Description

This task covers: Removal. Cleaning. Inspection. Installation.

11.191.2. Initial Setup

Tools:

Electrical tool kit (item 378, App H)
L-style socket head key set (item 187, App H)

Personnel Required:

68X Armament/Electrical System Repairer
68X3F Armament/Electrical System Repairer/
Technical Inspector

References:

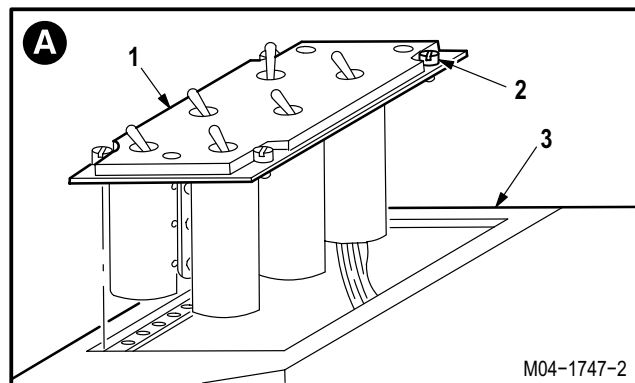
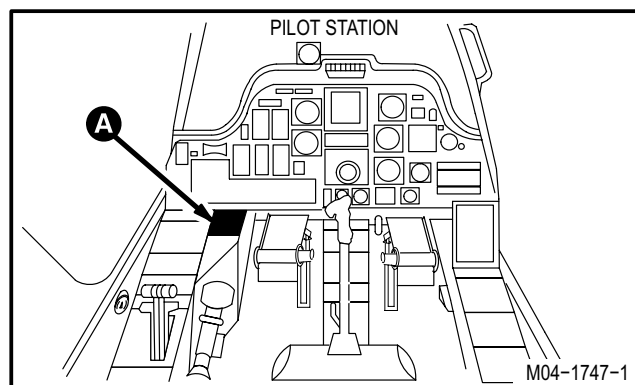
TM 1-1520-238-T

Equipment Conditions:

Ref	Condition
1.57	Helicopter safed

11.191.3. Removal

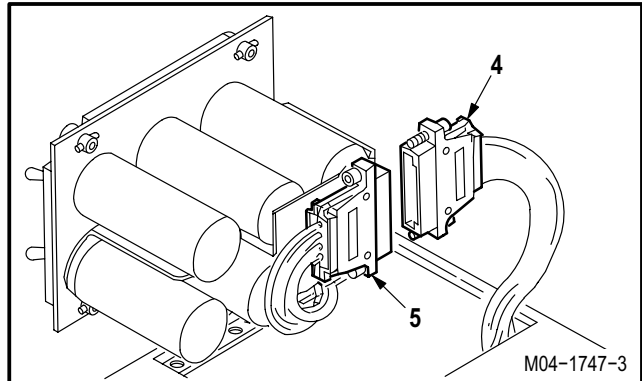
- a. **Enter pilot station** (para 1.56). **Observe all safety precautions.**
- b. **On pilot center circuit breaker panel, open ASE AC, DC, and BUCS circuit breakers.**
- c. **On pilot fire control panel, place PNVS switch in ON position.**
- d. **Remove ASE panel (1).**
 - (1) Unlock four turnlock fasteners (2).
 - (2) Remove panel (1) from console (3).



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11.191. ASE PANEL REMOVAL/INSTALLATION – continued

- e. **Detach connector P170 (4) from receptacle (A137)J1 (5).** Use socket head key set.



11.191.4. Cleaning

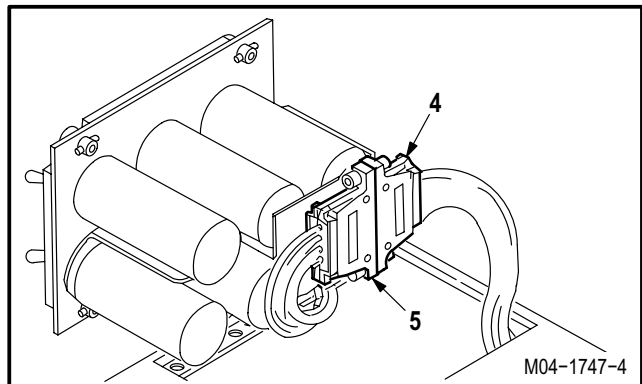
- a. **Wipe removed and attaching parts with a clean rag.**

11.191.5. Inspection

- a. **Check removed and attaching parts for damage** (para 11.190).
- b. **Check removed and attaching parts for corrosion** (para 1.49).

11.191.6. Installation

- a. **Attach connector P170 (4) to receptacle (A137)J1 (5).** Use socket head key set.



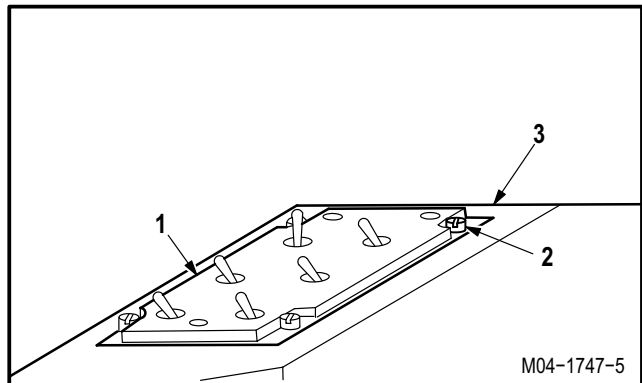
- b. **Install ASE panel (1).**

- (1) Position panel (1) in console (3).
- (2) Lock four turnlock fasteners (2).

- c. **Place PNVS switch in OFF position.**

- d. **Inspect (QA).**

- e. **Perform DASE maintenance operational check** (TM 1-1520-238-T).



END OF TASK

11.192. ASE PANEL LIGHT INDICATING PANEL REMOVAL/INSTALLATION (AVIM)

11.192.1. Description

This task covers: Removal. Cleaning. Inspection. Installation.

11.192.2. Initial Setup**Tools:**

Electrical tool kit (item 378, App H)

Personnel Required:

68X Armament/Electrical System Repairer
 68X3F Armament/Electrical System Repairer/
 Technical Inspector

NOTE

The ASE panel task can be performed on or off aircraft.

11.192.3. Removal

- a. **Remove light indicating panel (A137)DS1 (1) from ASE panel (2).**

- (1) Remove three screws (3).
 (2) Remove panel (1).

11.192.4. Cleaning

- a. **Wipe removed and attaching parts with a clean rag.**

11.192.5. Inspection

- a. **Check removed and attaching parts for damage** (para 11.190).
 b. **Check removed and attaching parts for corrosion** (para 1.49).

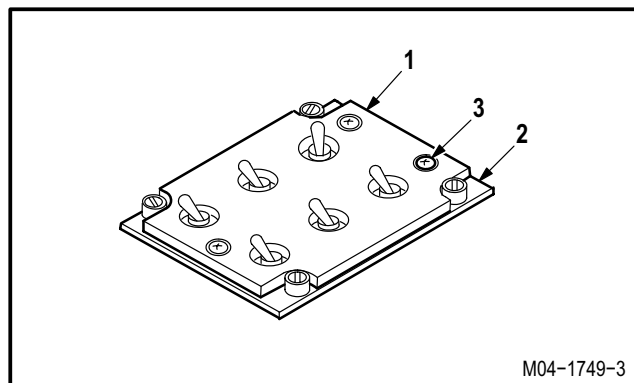
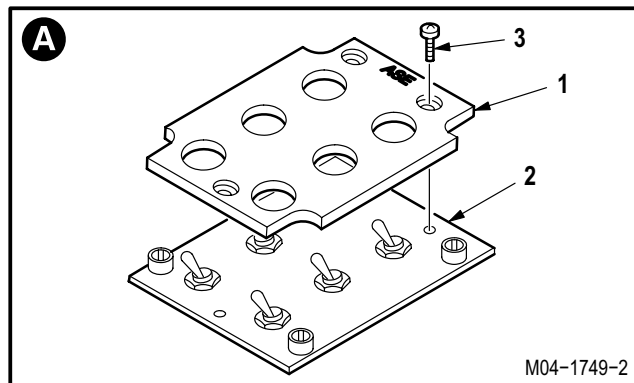
11.192.6. Installation

- a. **Install panel (1) on panel (2).**

- (1) Position panel (1) on panel (2).
 (2) Install three screws (3).

- b. **Inspect (QA).**

END OF TASK



11.193. ASE PANEL SWITCH REPLACEMENT (AVIM)

11.193.1. Description

This task covers: Removal. Cleaning. Inspection. Installation.

11.193.2. Initial Setup

Tools:

Electrical tool kit (item 378, App H)
 Light duty laboratory apron (item 27, App H)
 Chemical protective gloves (item 154, App H)
 Adjustable air filtering respirator (item 262, App H)

Materials/Parts:

Brush (item 34, App F)
 Sealing compound (item 167, App F)

Personnel Required:

68X Armament/Electrical System Repairer
 68X3F Armament/Electrical System Repairer/
 Technical Inspector

Equipment Conditions:

<u>Ref</u>	<u>Condition</u>
11.192	ASE panel light indicating panel removed

NOTE

This task is typical of ASE panel mounted switches. The number of wires attached to each switch will differ.

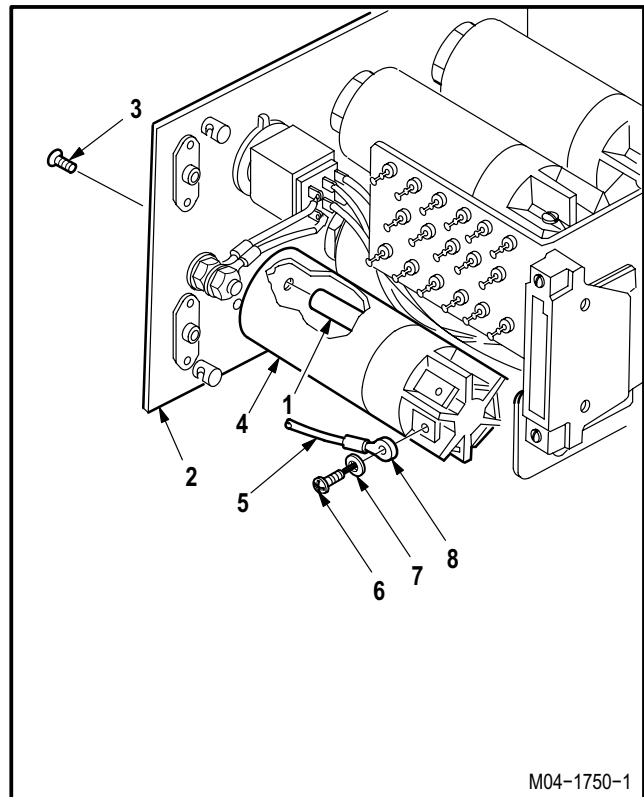
11.193.3. Removal

a. Remove connector and post assembly (1) from ASE panel (2).

- (1) Remove three screws (3).
- (2) Position connector and post assembly (1) so that switch (4) is accessible.

b. Detach wires (5) from switch (4).

- (1) Identify wires (5) on switch (4).
- (2) Remove five screws (6), lockwashers (7), and terminal lugs (8).



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