



TB369H-002  
TB369E-002  
TB500N-002

TB369D-002  
TB369F-002  
TB600N-003

# TECHNICAL BULLETIN

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## CYCLIC GRIP MODIFICATION

### 1. PLANNING INFORMATION

**A. Aircraft Affected:**

All MD Helicopters, Inc. (MDHI) 369H, 369HE, 369HM, 369HS, 369D, 369E, 369F/FF, 500N and 600N series helicopters.

**B. Assembly/Components Affected By This Notice:**

Pilot/Co-Pilot Cyclic Grip Assemblies (369D27133 and 369H7833)

**C. Reason:**

To allow operators to install the improved A218-101117-00 cyclic trim switch.

**D. Description:**

Procedures in this Bulletin provide owners and operators with information to install the A218-101117-00 cyclic trim switch. The modifications necessary to install the A218-101117-00 cyclic trim switch may be performed using the instructions and tooling in this Technical Bulletin or the cyclic stick may be sent to the authorized Service Center listed below for modification.

**E. Time of Compliance**

Customer option: at the discretion of the owner/operator.

**F. FAA Approval:**

The technical design aspects of this Bulletin are FAA Approved.

**G. Manpower:**

Three (3) man-hours.

**H. Interchangeability:**

None

**I. Authorized Service Centers:**

Ro-Wing Aviation Inc.  
275 Durley Avenue  
Camarillo Airport  
Camarillo, CA 93010  
Phone: (805) 484-0556  
Fax: (805) 388-9906

**J. Material/Part Availability:**

Commercial sources.

REPLACEMENT PARTS/SUPPLIES/TOOLS			
Nomenclature	Part No.	Qty.	Source
(item1) Switch	A218-101117-00	1	Guardian Electric
(item 2) Solder, tin alloy, rosin core	QQ-S-571 (composition SN60WRP2)	A/R	Commercial



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REPLACEMENT PARTS/SUPPLIES/TOOLS (Cont.)			
Nomenclature	Part No.	Qty.	Source
(item 3) Potting Compound	MIL-S-8802 890	A/R	Coast Proseal, Compton, CA.
	MIL-S-8516 3C-3007 Class II	A/R	Churchill Chemical Corp. L.A. CA.
	PR1422 A 1/2 Type I	A/R	Product Research 2919 Empire Ave. Burbank, CA 91504
	RTV 730 Type I, Class 3	A/R	Dow Corning Midland, MI.
(item 4) Isopropyl Alcohol	TT-I-735	A/R	Commercial
(item 5) Lubricating Oil		A/R	Commercial
(item 6) Tie Strap	MS3367 (size optional)	A/R	Commercial
(item 7) Modification Tool	RBT28477-1	1	Red Barn Machine 4681 Isabelle St. Eugene, OR 97402 (541) 344-9953 FAX: (541)344-3863
(item 8) 1/2 " Drill Press (1000 rpm or less)		1	Commercial
(item 9) Small Hand Drill Motor		1	Commercial
(item 10) Small Tap Handle		1	Commercial
(item 11) Setscrew	AN565D632H4	1	Commercial

**K. Warranty Policy:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4)



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## 2. ACCOMPLISHMENT INSTRUCTIONS

Refer to Figure 1

Refer to the following manuals for cyclic switch removal/installation:

CSP-H-2, Section 7 (369H series)

CSP-HMI-2, Section 67-10-20 (369D/E/FF/500N and 600N)

- (1). Remove cyclic stick from helicopter per CSP-H-2 and CSP-HMI-2.
- (2). Remove clamp and/or tie straps at bottom of cyclic stick assembly.
- (3). Remove pivot pin holding trigger switch (S101). The pin is removed serrated end first while holding the grip in the normal position. Carefully pull switch from grip approximately 2 inches (50.8 mm).
- (4). Remove trim switch cap by pulling cap off.
- (5). Remove potting compound from top of grip assembly exposing the 2 screws securing the trim switch. Remove (2) screws. Carefully remove trim switch (S107).
- (6). Tag, identify and unsolder wires from switch (S107) and hook switch (S4) if installed.
- (7). Remove screw at the base of grip and carefully remove grip from stick feeding wires out.
- (8). Install grip into fixture RBT 28477 (Figure 1, -1). Route wires at the bottom of grip over flat on fixture.
- (9). Install "T" pin (-19) into hole for trigger switch pivot pin to secure the grip to fixture RBT 28477 (-1).
- (10). Install arbor (-11) along with sleeve (-9) into fixture (-1) and tighten set screw. Ensure sleeve (-9) is firm atop fixture (-1) and set screw is against flat. Sleeve (-9) should be approximately 5/16" (0.3125) (7.9375 MM) below top of grip.
- (11). If needed, use a piece of 0.032 (0.8128 MM) safety wire and hook any remaining wire inside the grip assembly and pull the wires down to prevent any damage when modifying the grip.
- (12). Put 1 drop of lubricating oil (item 5) on top of arbor.
- (13). With a 1000 RPM or less drill press (item 8), place the cutter assembly (-7) in the chuck and then slowly feed the cutter into the grip. Release for a moment and feed again until the cutter stops cutting.
- (14). Remove cutter (-7) from drill press and arbor (-11), sleeve (-9) from fixture.
- (15). Install drill guide (-5) on top of grip to cut keyway. Use #22 drill bit at 1000 RPM. Drill 1/2" (0.5) (12.7000 MM) deep, remove drill guide.
- (16). Install a #36 bushing into the fixture (-1). With a small hand drill motor (item 9) drill with a #36 bit through to the 1" (25.40 MM) hole.
- (17). Install bushing #27 in the fixture (-1), and tap by hand a 6/32" thread in grip for set screw.
- (18). Remove grip from fixture (-1).

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- (19). Re-solder wires to new cyclic switch (A218-101117-00) and hook switch (S4) if installed using solder (2).
- (20). Clean grip, wiring and switches with alcohol (item 4).
- (21). Remove identification tags from wires.
- (22). Carefully position switches to their approximate location within the grip.

**NOTE:** Ensure that switches are correctly positioned with any applicable keyway, pin hole, etc., for proper alignment of mating parts.

- (23). Install attaching hardware securing switches onto grip. New trim switch is secured with one set screw (item 11) installed in tapped hole (Step 17). Original two set screw holes are filled with sealing compound (item 3).
- (24). Install trigger and trigger attach pin.
- (25). Install cyclic trim switch cap.
- (26). Reinstall grip on stick tube, pull wiring down through stick and secure with clamp.
- (27). Reinstall cyclic stick per (CSP-H-2) or (CSP-HMI-2).



Cyclic trim actuators should be operated only momentarily to prevent damage to the equipment.

- (28). Check switch operation and wiring continuity.  

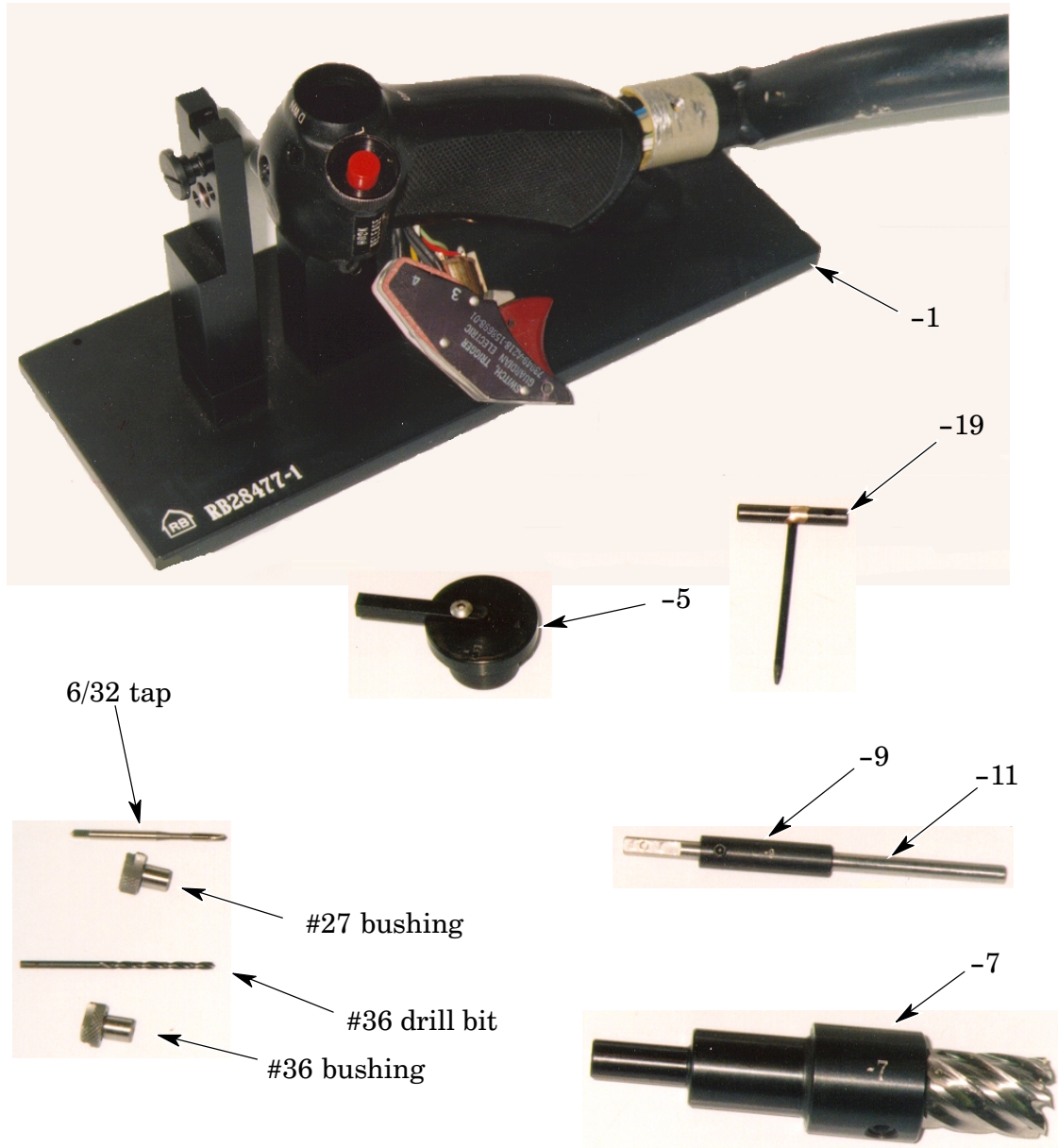
Example: Trim left, cyclic stick should move left. Repeat in all four directions (right, left, forward and aft).
- (29). Apply sealing compound (item 3) to all screw holes and insert holes.
- (30). Secure wiring to stick with nylon straps (item 6) and/or previously removed clamp.
- (31). Record compliance to the Technical Bulletin in the Compliance Record section of the helicopter Log Book.

### **3. POINTS OF CONTACT**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 891-6342. DATAFAX: (480) 891-6782.

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**Figure 1. Grip Shown Installed on Fixture with Associated Tools**