

OPTIONAL SERVICE BULLETIN NO. DAC1-27-04 REV. 1
SUPERSEDES DAC1-27-04 REV. 0

I TECHNICAL DETAILS

I.1 Category

Optional.

I.2 Airplanes Affected

Type: DA 20-C1

S/N: C0002 to C0647

NOTE: if this service bulletin is incorporated, the latest revision of Service Bulletin No. DAC1-33-07 - Installation of Dimming Module, must also be incorporated.

I.3 Date of Effectivity

10-January-2020

I.4 Time of Compliance

At owner's discretion.

I.5 Subject

This service bulletin allows the installation of the Diamond Aircraft flap control module unit and microswitch tray.

ATA code: 2700.

I.6 Reason

This change was implemented due to the White Wire flap control module no longer being available.

I.7 Concurrent Documents

None.

I.8 Approval

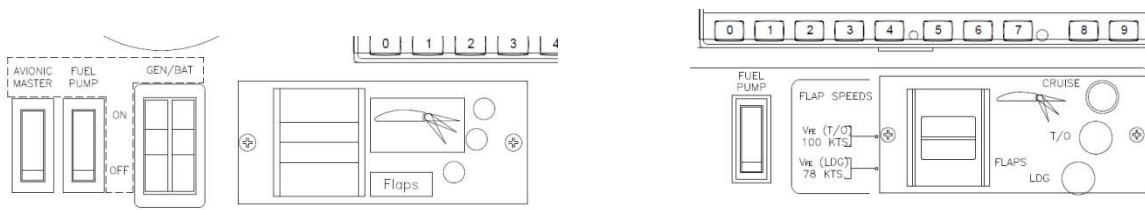
The technical content of this document is approved as part of the type design.

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I.9 Accomplishment/Instructions - Installation

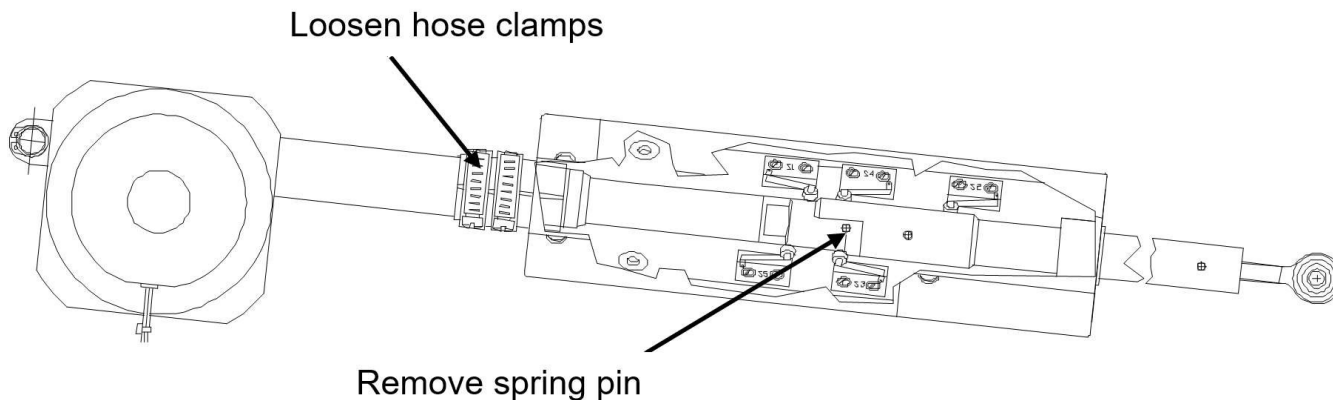
1. Pull the battery circuit breaker located on the right side of the instrument panel.
2. Disconnect the aircraft battery as per AMM Chapter 24-31-00.
3. Remove the instrument panel cover as per AMM Chapter 25-10-00.
4. Remove the flap controller from the instrument panel. The controller on non-G500 equipped aircraft is shown below on the left; the controller on G500 equipped aircraft is shown on the right.



5. Plug the flap controller connector on the instrument panel harness into the Diamond Aircraft flap controller (P/N 22-2753-20-00SB), and install it into the same location as the previous controller. Use the supplied hardware.

NOTE: serial numbers C0002 through C0144 may have a circular connector on the previously installed controller. If so, install the retrofit harness (P/N 22-3914-10-00).

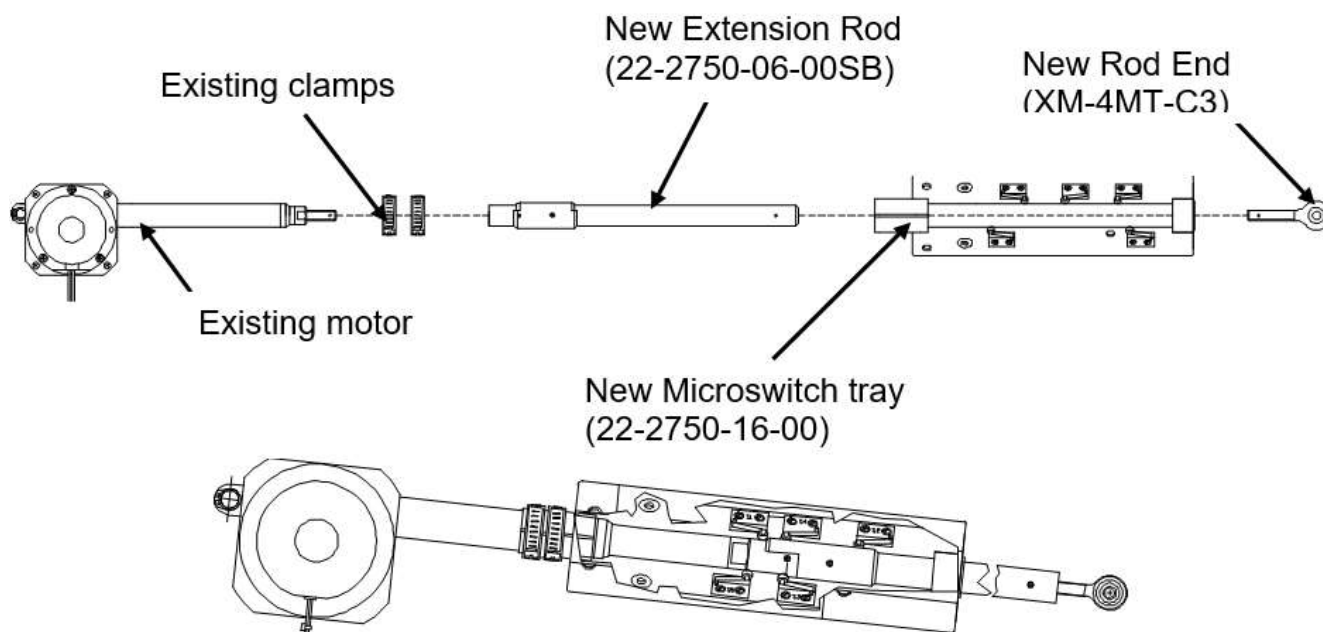
6. Remove the flap actuator as per AMM Chapter 27-50-00. If the optional flap actuator assembly is ordered, proceed to step 14.
7. Remove the spring pin shown below and loosen the hose clamps. Remove the microswitch tray and rod assembly from the flap motor.



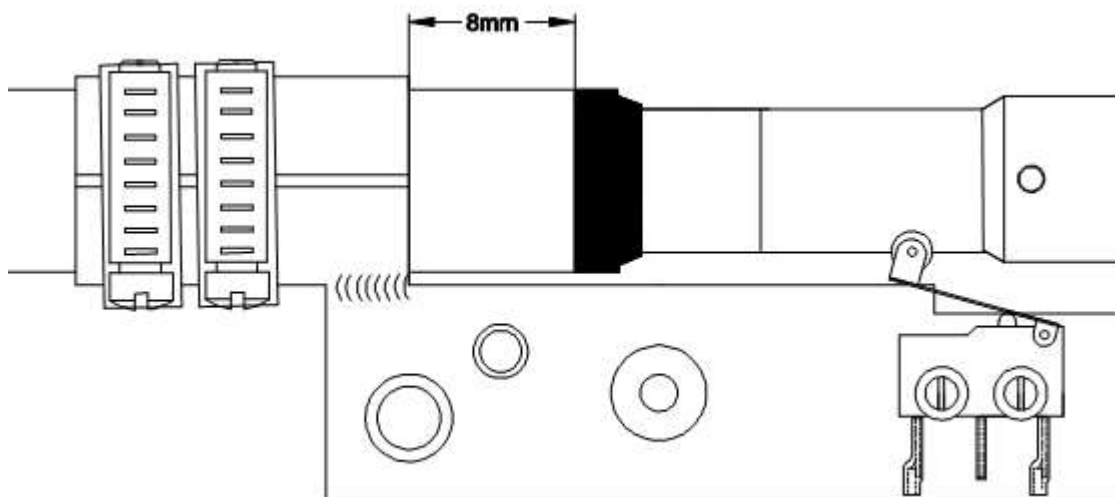
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8. Assemble the flap actuator as shown below. Use the new supplied parts. Install and secure the hardware with Loctite 222.

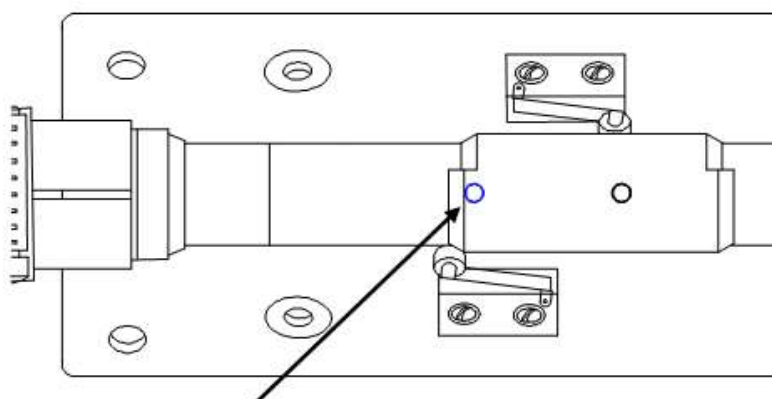


9. Position the microswitch tray approximately 8 mm from the edge of the actuator seal.



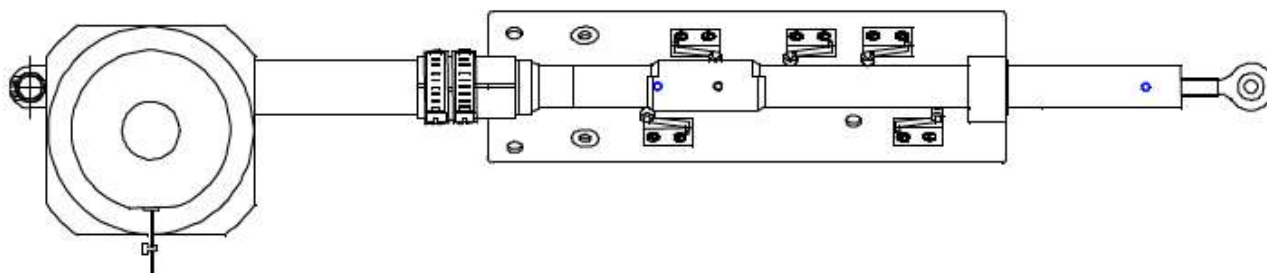
10. Install the extension rod onto the motor end. Align the pilot hole in the extension rod with the existing hole in the motor end. Verify that the extension rod has reached proper engagement. Open the pilot hole on the extension rod with a 1/8" drill bit as shown below.

NOTE: take care not to bend the switch plates at the weld joints when drilling.

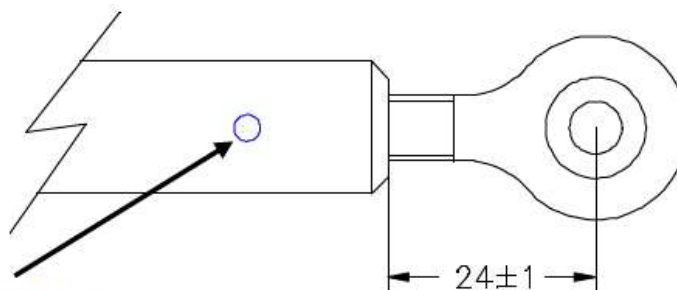


Drill through motor end
with 1/8" drill bit.

11. Position the rod end as shown below, and drill through the extension rod hole and rod end with a 1/8" drill bit.

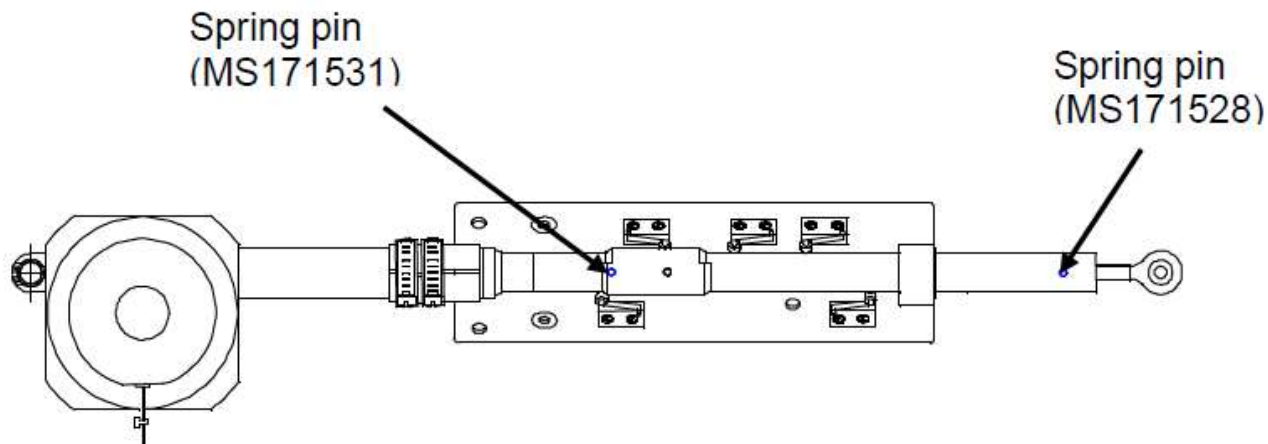


NOTE: take care not to bend the switch plates at the weld joints when drilling.



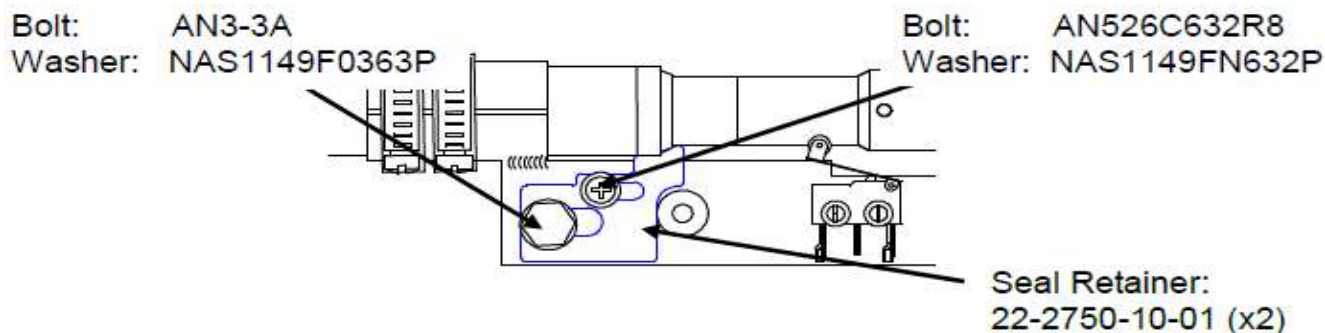
Drill through rod end
with 1/8" drill bit.

12. Install the spring pins into the extension rod as shown below.



NOTE: take care not to bend the switch plates at the weld joints when drilling.

13. Install seal retainers using supplied hardware on both microswitch plates. Install and secure hardware with Loctite 222.

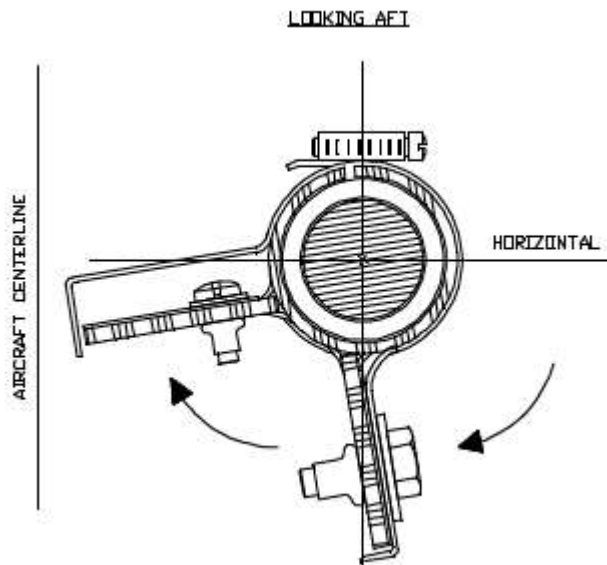


14. Install flap actuation into the aircraft as per AMM Chapter 27-50-00. Use the new (supplied) nuts.
15. Swap pinouts of fuselage harness connector (J2750-03):
- A. Wire 27503B16 goes to pin 2.
 - B. Wire 27502B16 goes to pin 3.
 - C. Cap and stow pin 1.
16. Connect the aircraft battery as per AMM chapter 24-31-00.
17. Push in the battery circuit breaker and turn the electrical master switch on.
18. Confirm that each flap position is within the range stated in AMM Chapter 27-50-00. If not, adjust the appropriate microswitches accordingly.

19. While the flaps are in the T/O or landing configuration, apply a load on the flap by pulling up to simulate a drag force on the flap. Check if dual lights remain on. Adjust the microswitches if dual lights are observed.

I.10 Accomplishments/Instructions - Testing

20. Confirm on the aircraft's ammeter that the load drops when the flap actuator comes to rest after each cycle of the flap positions. If the load remains high, check the following:
- A. If in the landing position, adjust the LDG limit microswitch.
 - B. If in the cruise position, adjust the microswitch tray. This may also require adjustment of the other switches afterwards.
21. Install flap actuator shield (P/N 22-2750-06-02) using the supplied hardware (bolt: AN3-4A, washer: NAS1149F0363P). Install and secure hardware with Loctite 222.
22. Loosen the hose clamps and rotate the microswitch tray so that the short side of the cam can only be engaged by the plate with three microswitches. Tighten the clamps.



23. Clean the work area and inspect for foreign objects.
24. Make a logbook entry that this service bulletin has been incorporated.

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I.11 Mass (Weight) and CG

Make the following adjustments to weight and balance:

Items Removed		Items Installed	
Description	Weight	Description	Weight
White Wire flap controller	0.23 kg (0.51 lb)	Diamond Aircraft flap controller	0.215 kg (0.47 lb)

I.12 Electrical Load Data

No change.

II PLANNING INFORMATION

II.1 Material and Availability

Quantity	Part Number	Description
1	22-2753-20-00SB	SB flap controller module
2	MS35214-16	Machine screw
2	22-2750-10-01	Seal retainer, flap actuator
1	22-2750-06-00SB	Rod extension flap actuator
1	XM-4MT-C3	Rod end bearing
2	AN526C632R8	Screw
2	NAS1149FN632P	Washer, flat
2	AN3-3A	Bolt, hex
3	AN3-4A	Bolt, hex
5	NAS1149F0363P	Washer, flat
1	22-2750-06-02	Shield, limit switch, flap actuator
1	22-2750-16-00	Microswitch tray
1	MS171531	Spring pin
1	MS171528	Spring pin
2	MS21044N4	Nut, hex, self-locking

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Material may be ordered as kit DAC1-27-04AMK0. Optionally, a complete flap motor assembly 22-2750-10-00 can be ordered.

NOTE: serial numbers C0002 through C0144 may require a flap controller retrofit harness, P/N 22-3914-10-00. The harness is required if the currently installed flap controller has a circular connector.

II.2 Special Tools

None.

II.3 Labour Effort

Approximately 3 hours to install and setup flap actuator.

This estimate is for direct labour performed by a technician and it does not include setup, planning, familiarization, cure time, part fabrication, or tool acquisition.

II.4 Credit

None.

II.5 Reference Documents

DA 20-C1 Airplane Maintenance Manual, Doc. No. DA201-C1, latest effective issue.

DA 20-C1 Airplane Flight Manual, Doc. No. DA202-C1, latest effective issue.

III REMARKS

1. All work must be done by a certified aircraft service station, or a certified aircraft maintenance mechanic.
2. All work, in particular that which is not especially described in this service bulletin, must be done in accordance with the referenced Maintenance Manual.
3. Completion of all work must be recorded in the logbook.
4. In case of doubt, contact Diamond Aircraft Industries.

To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service bulletin if it is not incorporated.

If you no longer own the aircraft to which this service bulletin applies, please forward it to the current owner, and send the name of the current owner to Diamond Aircraft at the address below.

Diamond Aircraft Industries Inc. 1560 Crumlin Sideroad, London, Ontario, Canada N5V 1S2

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**EXECUTION REPORT TO
SERVICE BULLETIN
DAC1-27-04 REV. 1**

AIRPLANE DATA

Airplane Serial Number	_____
Airplane Registration	_____
Airplane Operator	_____
Hours of Operation Airplane (TSN)	_____
Typical operation of airplane	private, club, training, other: _____

MAINTENANCE DATA:

Date of work	_____
Work carried out by	_____ _____
Date	_____ _____

_____ Name	_____ Signature
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Please e-mail the completed form to Techpubs@diamondair.com