

TITLE

FLIGHT CONTROLS - GARMIN GSM 86 ELEVATOR TRIM MODIFICATION

EFFECTIVITY**MODEL**

525 (M2)

SERIAL NUMBERS

-0685, -0800 thru -1067

The equivalent of this service document has been incorporated on production airplanes -1068 and On.

REASON

The current continuous travel capstan design may cause the elevator trim bridle cable to slip.

DESCRIPTION

This service bulletin provides parts and instructions to remove the current elevator servo mount and elevator trim cables and install an improved design.

COMPLIANCE

OPTIONAL. This service bulletin can be accomplished at the discretion of the owner.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

- 1) The mechanic must complete all of the instructions in the service document, including the intent therein.
- 2) The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
- 3) The mechanic or airplane owner must use the technical data in the service document only as approved and published.
- 4) The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the *Effectivity* section of the document.
- 5) The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

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Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

APPROVAL

Textron Aviation received FAA approval for the technical data in this publication that changes the airplane type design.

FLIGHT CREW OPERATIONS

No Changes

April 30, 2021

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CONSUMABLE MATERIAL

No specialized consumable materials are required to complete this service document.

TOOLING

No specialized tooling is required to complete this service document.

WEIGHT AND BALANCE INFORMATION

Negligible

REFERENCES

Cessna Model 525 (0685 and 0800 and On) Maintenance Manual

Citation Standard Practices Manual

PUBLICATIONS AFFECTED

Cessna Model 525 (0685 and 0800 and On) Maintenance Manual

Cessna Model 525 Illustrated Parts Catalog

ACCOMPLISHMENT INSTRUCTIONS

1. Prepare the airplane for maintenance.
 - A. Make sure that the airplane is electrically grounded.
 - B. Make sure that all switches are in the OFF/NORM position.
 - C. Disconnect electrical power from the airplane.
 - (1) Disconnect the airplane battery.
 - (2) Disconnect external electrical power.
 - D. Attach maintenance warning tags to the battery and external power receptacle that have **"DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS"** written on them.
2. Open the tailcone baggage compartment door.
3. Remove aft baggage compartment panels 321BTC and 321CTC to get access to the elevator trim servo gearbox. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 6, Access Plates and Panels Identification - Description and Operation.)
4. Remove the Garmin GSA 81 Elevator Trim Servo Motor. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 27, Elevator and Tab System Components - Removal/Installation.)
5. Remove the 011-02490-17 GSM 86 Servo Gearbox.
 - A. Remove and discard the MS21256-2 Clips from the MS21251-B2L Turnbuckle that connects the 6361011-12 Aft Elevator Trim Cable Assembly and the 6361012-11 Forward Elevator Trim Cable Assembly. (Refer to the Citation Standard Practices Manual, Chapter 20, Safetying - Maintenance Practices.)
 - (1) Loosen the turnbuckle to release the cable tension.
 - (2) Keep the MS21251-B2L Turnbuckle.
 - B. (On Airplanes -0685 and -0800 thru -0971) Loosen the aft clamp block nuts and discard the 6361010-5 Clamp Block, 6361010-6 Clamp Blocks and three each MS24694-C7 Screws, NAS1149FN816P Washers and MS21044N08 Nuts.
 - (1) Remove and keep the 6361011-12 Elevator Trim Aft Cable Assembly.
 - C. (On Airplanes -0972 thru -1067) Remove and keep the three each MS24667-20 Screws that attach the 6361011-39 and 6361011-40 Clamp Blocks Halves.
 - (1) Remove and keep the 6361011-39 and 6361011-40 Clamp Blocks Halves.

- (2) Remove and keep the 6361011-12 Elevator Trim Aft Cable Assembly.
 - D. (On Airplanes -0685 and -0800 thru -0971) Loosen the forward clamp block nuts and discard the 6361010-5 Clamp Block, 6361010-6 Clamp Blocks and three each MS24694-C7 Screws, NAS1149FN816P Washers and MS21044N08 Nuts.
 - E. (On Airplanes -0972 thru -1067), Remove and keep the three each MS24667-20 and the 6361011-39 and 6361011-40 Clamp Blocks Halves.
 - F. Remove and keep the four each AN3-4A Bolts and the NAS1149F0363P Washers that attach the GSM 86 Servo Gearbox to the bracket assembly.
 - G. Remove the 011-02490-17 GSM 86 Servo Gearbox and the 6361011-11 Forward Elevator Trim Cable Assembly from the airplane.
 - H. Remove and keep the capstan cover screws, washers, capstan cover and five cable guard pins.
 - I. Remove the 6361011-11 Forward Elevator Trim Cable Assembly from the GSM 86 capstan drum.
 - (1) Remove the 6361011-11 Forward Elevator Trim Cable Assembly from the spiral wrap capstan by sliding the cable ball end past the 'retaining' clip while pressing the retaining clip with a flat screwdriver or similar tool.
 - (2) Discard the 6361011-11 Forward Elevator Trim Cable Assembly.
 - J. Reinstall the capstan cover screws, washers, capstan cover and five cable guard pins on the removed 011-02490-17 GSM 86 Servo Gearbox.
6. (Refer to Figure 1, Sheet 1). Install the 011-02490-22 GSM 86 Servo Mount.
- A. Remove and keep the capstan cover screws, washers, capstan cover and five cable guard pins.
 - B. Carefully install the ball ends of the 6361013-19 Upper Elevator Trim Cable Assembly and 6361011-43 Lower Elevator Trim Cable Assembly on the 011-02490-22 GSM 86 Servo Mount.
 - (1) Make sure that the ball is fully seated in the capstan drum.
 - C. Install using the kept cable guard pins in its positions on the 011-02490-22 GSM 86 Servo Mount.
 - (1) (Refer to Figure 1, Sheet 2). Make sure that the cable guard pins are located at B,E,H and L.
 - D. Put the kept capstan cover in its position on the cable guard pins.
 - (1) Install using the kept capstan cover screws and washers but do not tighten.
 - (2) Torque the capstan cover screws from 8 to 12 inch-pounds (0.91 to 1.35 Nm). (Refer to the Citation Standard Practices Manual, Chapter 20, Torque Data - Maintenance Practices.)
 - E. Put the 011-02490-22 GSM 86 Servo Mount and the cable assemblies in their position at the servo mount bracket assembly.
 - F. Install the 011-02490-22 GSM 86 Servo Mount using the kept four each AN3-4A Bolts and the NAS1149F0363P Washers.
 - G. (On Airplane -0685, and Airplanes -0800 thru -0971), Put the 6361013-19 Upper Elevator Trim Cable Assembly and the new 6361011-39 and 6361011-40 Clamp Blocks Halves in its position.

CAUTION: The clamp blocks and the nuts must be installed in the correct position to make sure that they do not catch on the adjacent cables or structure. Damage to the cables or the structure can occur if the clamp blocks or the nuts are not installed in the correct position.

NOTE: (Refer to Figure 1, Sheet 2.) The forward edge of the forward clamp block is 2.83 ± 0.25 inches (71.88 ± 6.35 mm) from the edge of the left aft elevator trim cable terminal.

(1) Install the new three MS24667-20 Screws to attach the 6361011-39 and 6361011-40 Clamp Blocks Halves.

(a) Torque the three MS24667-20 Screws from 30 to 40 inch-pounds (3.39 to 4.51 Nm). Make sure that the clamp blocks do not slip. (Refer to the Citation Standard Practices Manual, Chapter 20, Torque Data - Maintenance Practices.)

H. (On Airplanes -0972 thru -1067), Put the 6361013-19 Upper Elevator Trim Cable Assembly and the kept 6361011-39 and 6361011-40 Clamp Blocks Halves in its position.

NOTE: (Refer to Figure 1, Sheet 2). The forward edge of the forward clamp block is 2.83 ± 0.25 inches (71.88 ± 6.35 mm) from the edge of the left aft elevator trim cable terminal.

(1) Install using the kept three MS24667-20 Screws to attach the 6361011-39 and 6361011-40 Clamp Blocks Halves.

(a) Torque the three MS24667-20 Screws from 30 to 40 inch-pounds (3.39 to 4.51 Nm). Make sure that the clamp blocks do not slip. (Refer to the Citation Standard Practices Manual, Chapter 20, Torque Data - Maintenance Practices.)

I. (On Airplane -0685, and Airplanes -0800 thru -0971), Put the kept 6361011-12 Aft Elevator Trim Cable Assembly and the new 6361011-39 and 6361011-40 Clamp Blocks Halves in its position.

NOTE: (Refer to Figure 1, Sheet 2.) The forward edge of the aft clamp block is 1.68 ± 0.25 inches (42.67 ± 6.35 mm) from the edge of the right aft elevator trim cable terminal.

(1) Install the new three MS24667-20 Screws to attach the 6361011-39 and 6361011-40 Clamp Blocks Halves.

(a) Torque the three MS24667-20 Screws from 30 to 40 inch-pounds (3.39 to 4.51 Nm). Make sure that the clamp blocks do not slip. (Refer to the Citation Standard Practices Manual, Chapter 20, Torque Data - Maintenance Practices.)

J. (On Airplanes -0972 thru -1067), Put the kept 6361011-12 Aft Elevator Trim Cable Assembly and the kept 6361011-39 and 6361011-40 Clamp Blocks Halves in its position.

NOTE: (Refer to Figure 1, Sheet 2) The forward edge of the aft clamp block is 1.68 ± 0.25 inches (42.67 ± 6.35 mm) from the edge of the right aft elevator trim cable terminal.

(1) Install using the kept three MS24667-20 Screws to attach the 6361011-39 and 6361011-40 Clamp Blocks Halves.

(a) Torque the three MS24667-20 Screws from 30 to 40 inch-pounds (3.39 to 4.51 Nm). Make sure that the clamp blocks do not slip. (Refer to the Citation Standard Practices Manual, Chapter 20, Torque Data - Maintenance Practices.)

7. Connect the 6361011-12 Aft Elevator Trim Cable Assembly and the 6361011-43 Lower Elevator Trim Cable Assembly using the kept MS21251-B2L Turnbuckle.

8. Rig the elevator trim cables. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 27, Elevator and Tab System Control Cables - Adjustment/Test.)

9. Install with new MS21256-2 Clips in the kept MS21251-B2L Turnbuckle. (Refer to the Citation Standard Practices Manual, Chapter 20, Safetying - Maintenance Practices.)

10. Install the Garmin GSA 81 Elevator Trim Servo Motor. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 27, Elevator and Tab System Components - Removal/Installation.)

11. Do an elevator and elevator trim tab travel check. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 27, Elevator and Tab System Control Cables - Adjustment/Test.)
12. Install aft baggage compartment panels 321BTC and 321CTC. (Refer to the Model 525 (0685 and 0800 & On) Maintenance Manual, Chapter 6, Access Plates and Panels Identification - Description and Operation.)
13. Close the tailcone baggage compartment door.
14. Remove the maintenance warning tags and connect the airplane battery.
15. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

NOTE: Textron Aviation recommends that compliance with all service documents is reported to a maintenance tracking system provider.

- Complete a record of compliance. (Maintenance Transaction Report, Log Book Entry, or other record of compliance.)
- Put a copy of the completed record of compliance in the airplane logbook.
- Send a copy of the completed record of compliance to the maintenance tracking system provider used.

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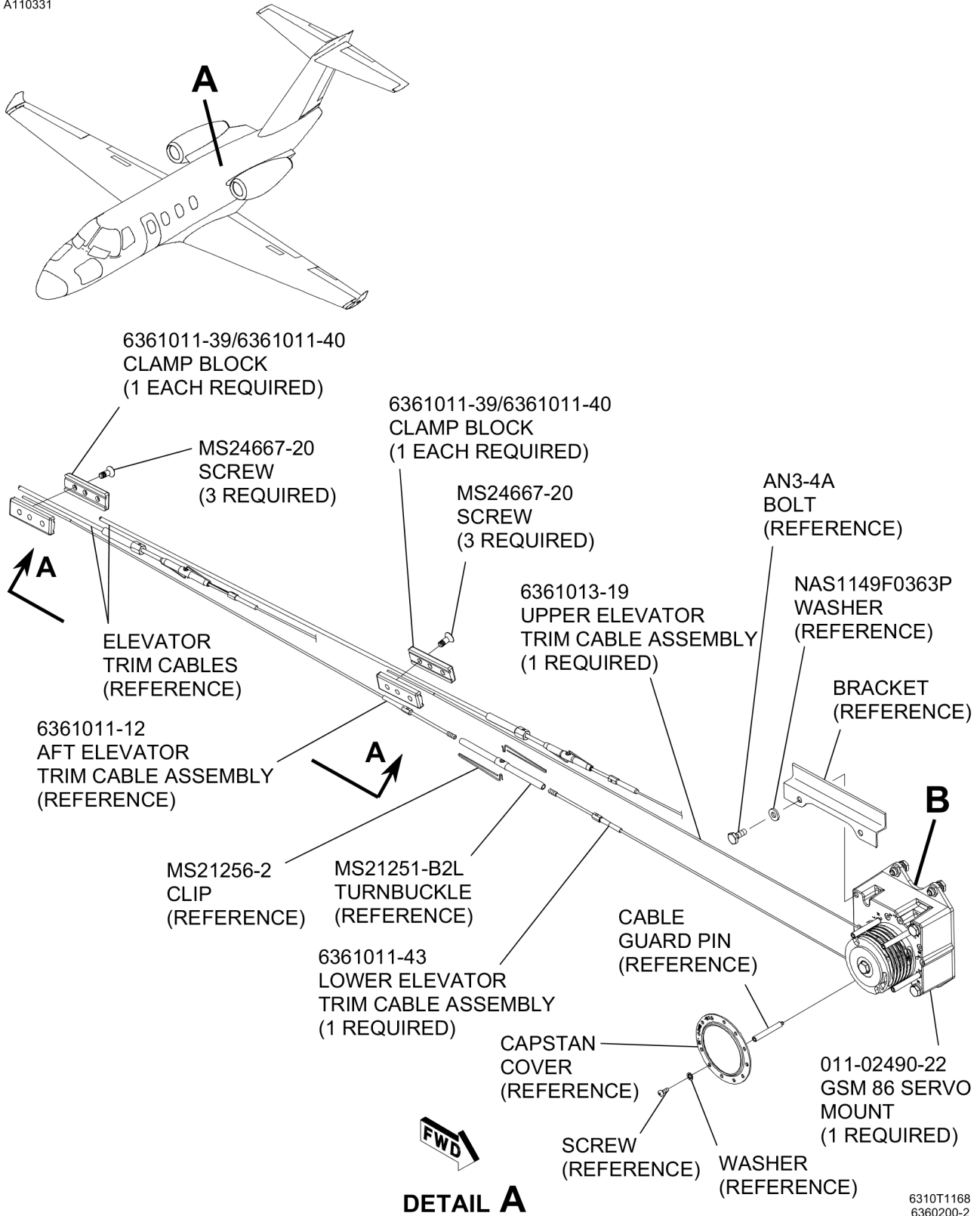
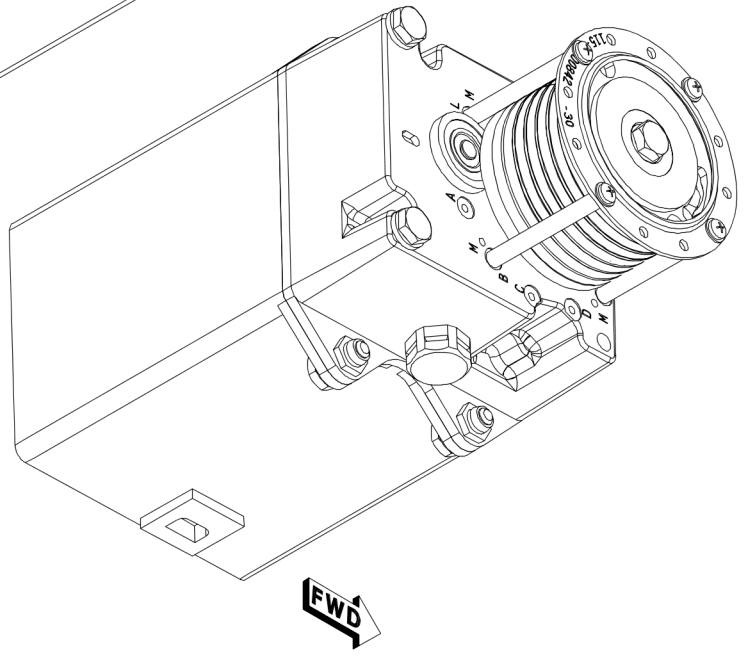
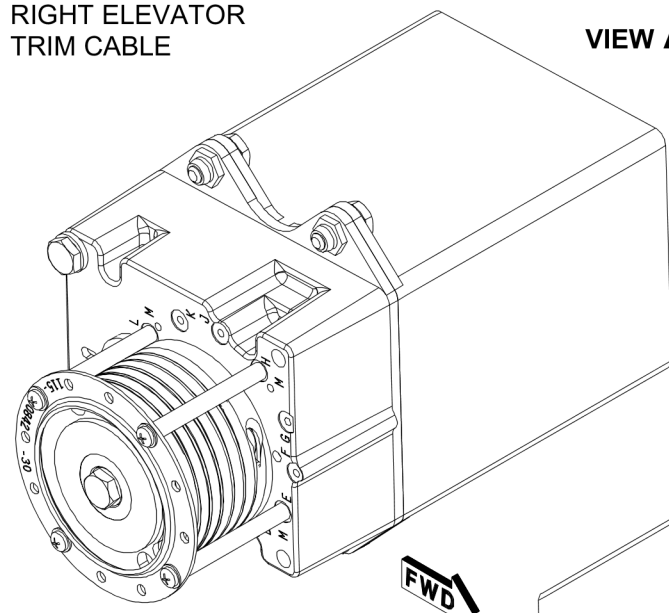
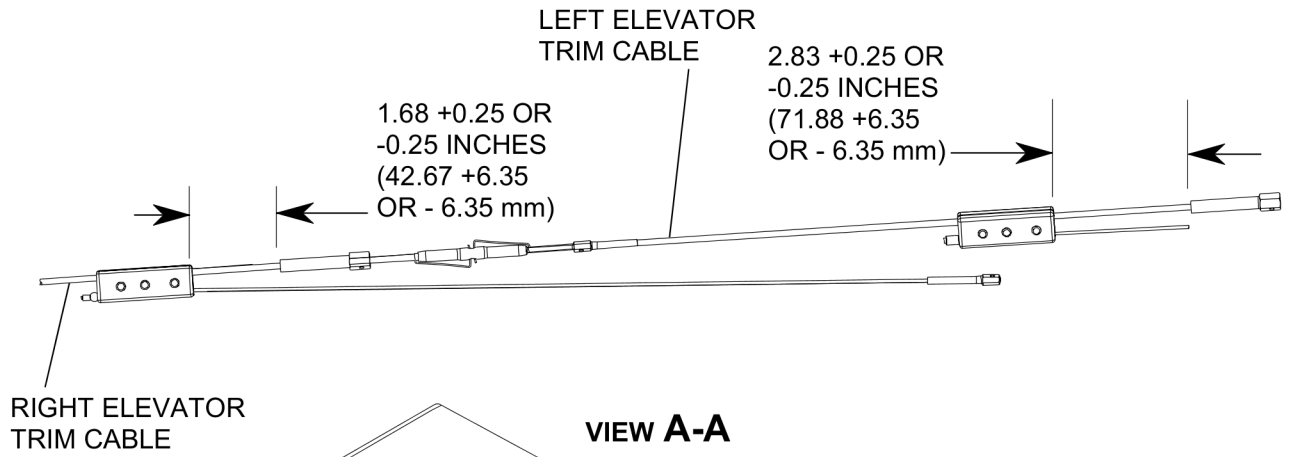


Figure 1. GARMIN GSM 86 ELEVATOR TRIM MODIFICATION (Sheet 1)

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NOTE: THE CABLE GUARD PINS SHOULD BE LOCATED AT B, E, H AND L.

Figure 1. GARMIN GSM 86 ELEVATOR TRIM MODIFICATION (Sheet 2)

6360200-2
B6396323-3

MATERIAL INFORMATION

Order the kit/parts below to install this modification.

NEW P/N	QUANTITY	KEY WORD	OLD P/N	INSTRUCTIONS/ DISPOSITION
SB525-27-25-0	1	Kit , consisting of the following parts:		
MS21256-2	2	Clips	MS21256-2	Discard
011-01028-09	1	Standoff Kit	011-01028-08	Discard
6361011-43	1	Cable Assembly	6361011-11	Discard
6361013-19	1	Cable Assembly		
SB525-27-25	1	Instructions		

In addition to the SB525-27-25-0 kit, airplanes -0685 and -0800 thru -0971 must order the following kit.

NEW P/N	QUANTITY	KEY WORD	OLD P/N	INSTRUCTIONS/ DISPOSITION
SB525-27-25-1	1	Kit , consisting of the following parts:		
MS24667-20	6	Screw	MS24694-C7, NAS1149FN816P, MS21044N08	Discard
6361011-39	2	Clamp Block	6361010-5	Discard
6361011-40	2	Clamp Block	6361010-6	Discard

It will be necessary to order the following part to install this modification.

NEW P/N	QUANTITY	KEY WORD	OLD P/N	INSTRUCTIONS/ DISPOSITION
011-02490-22	1	GSM86 Servo Mount	011-02490-17	Discard

* Please contact Textron Aviation Parts Distribution for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International). Send email to: parts@txtav.com.

Based on availability and lead times, parts may require advanced scheduling.

TITLE

FLIGHT CONTROLS - GARMIN GSM 86 ELEVATOR TRIM MODIFICATION

TO:

Citation M2 Owner

REASON

The current continuous travel capstan design may cause the elevator trim bridle cable to slip.

COMPLIANCE

OPTIONAL. This service bulletin can be accomplished at the discretion of the owner.

LABOR HOURS**WORK PHASE**

Modification

LABOR-HOURS

As Required

MATERIAL AVAILABILITY

Order the kit below to complete this service document.

PART NUMBER	AVAILABILITY	COST
SB525-27-25-0	*	*
SB525-27-25-1	*	*
011-02490-22	*	*

* Please contact Textron Aviation Parts Distribution for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International). Send email to: parts@txtav.com.

Based on availability and lead times, parts may require advanced scheduling.

WARRANTY

None.

NOTE: As a convenience, service documents are now available online to all our customers through a simple, free-of-charge registration process. If you would like to sign up, please visit the Customer Access link at www.txtavsupport.com to register.

