



Commercial
Airplane
Group

767

Service Bulletin

Number: 767-27-0201
Date: June 27, 2007
ATA System: 2731

SUBJECT: FLIGHT CONTROLS - Elevator - Repetitive Pogo Check

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Summary

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CONCURRENT REQUIREMENTS

Refer to Paragraph 1.B., Concurrent Requirements.

BACKGROUND

This service bulletin gives instructions to do repetitive pogo checks of the elevator Power Control Actuator (PCA) input rod assemblies. As an alternative to Boeing Alert Service Bulletin 767-27A0169, the incorporation of Boeing Service Bulletin 767-27-0187 to replace or rework elevator PCA bellcranks combined with the repetitive check of the elevator PCA input rod assemblies recommended in this service bulletin and the repetitive check of the elevator PCA rigging recommended in Boeing Service Bulletin 767-27-0203 will prevent continued operation with yielded or failed shear rivets in a bellcrank assembly for the elevator PCA and will also allow for longer inspection intervals. Operators are currently required by the Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2001-04-09 to do the 400 flight-hour repetitive check recommended in Boeing Alert Service Bulletin 767-27A0169.

One operator reported the left elevator drooping during a preflight check. Examination of the elevator control system found sheared rivets in the left-inboard and center PCA bellcrank assemblies. The elevator single hydraulic system check required by a Certification Maintenance Requirement (CMR) may not detect yielded or failed shear rivets in the bellcrank assemblies for the elevator PCA. As a result, the FAA issued AD 2000-17-05 to mandate the accomplishment of the actions specified in Boeing Alert Service Bulletin 767-27A0166, dated August 17, 2000.

Since the issuance of AD 2000-17-05, the FAA has received reports that several 767-200, 767-300, and 767-300F airplanes failed the one-time functional check of the shear rivets required by the AD. As a result, the FAA issued AD 2001-04-09 to mandate the accomplishment of the actions specified in Boeing Alert Service Bulletin 767-27A0169, dated November 21, 2000.

A detailed design review found that the override device incorporated into the input rod assembly of the PCA provides protection against malfunctions and non-normal PCA operation. This design review also found that the shear rivets are not needed. The completion of Boeing Service Bulletin 767-27-0187 to replace or rework elevator PCA bellcranks combined with the repetitive check of the elevator PCA input rod assemblies recommended in this service bulletin and the repetitive check of the elevator PCA rigging recommended in Boeing Service Bulletin 767-27-0203 is an alternative to the 400 flight-hour repetitive check recommended in Boeing Alert Service Bulletin 767-27A0169.

Boeing Service Related Problem (SRP) 767-SRP-27-0128 is related to this service bulletin.

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ACTION (PRR B12901-35S)

Do a pogo check of the input rod assembly on each of the six elevator PCAs.

EFFECTIVITY

767-400ER airplanes. See Service Bulletin Paragraph 1.A.1 for effectivity.

COMPLIANCE

The FAA will possibly release an Airworthiness Directive related to this service bulletin. The Airworthiness Directive will make the compliance tasks and times given in this service bulletin mandatory.

See Service Bulletin Paragraph 1.E. for compliance information.

INDUSTRY SUPPORT INFORMATION

Boeing warranty remedies are not available for the inspection, and/or repair procedures given in this service bulletin.

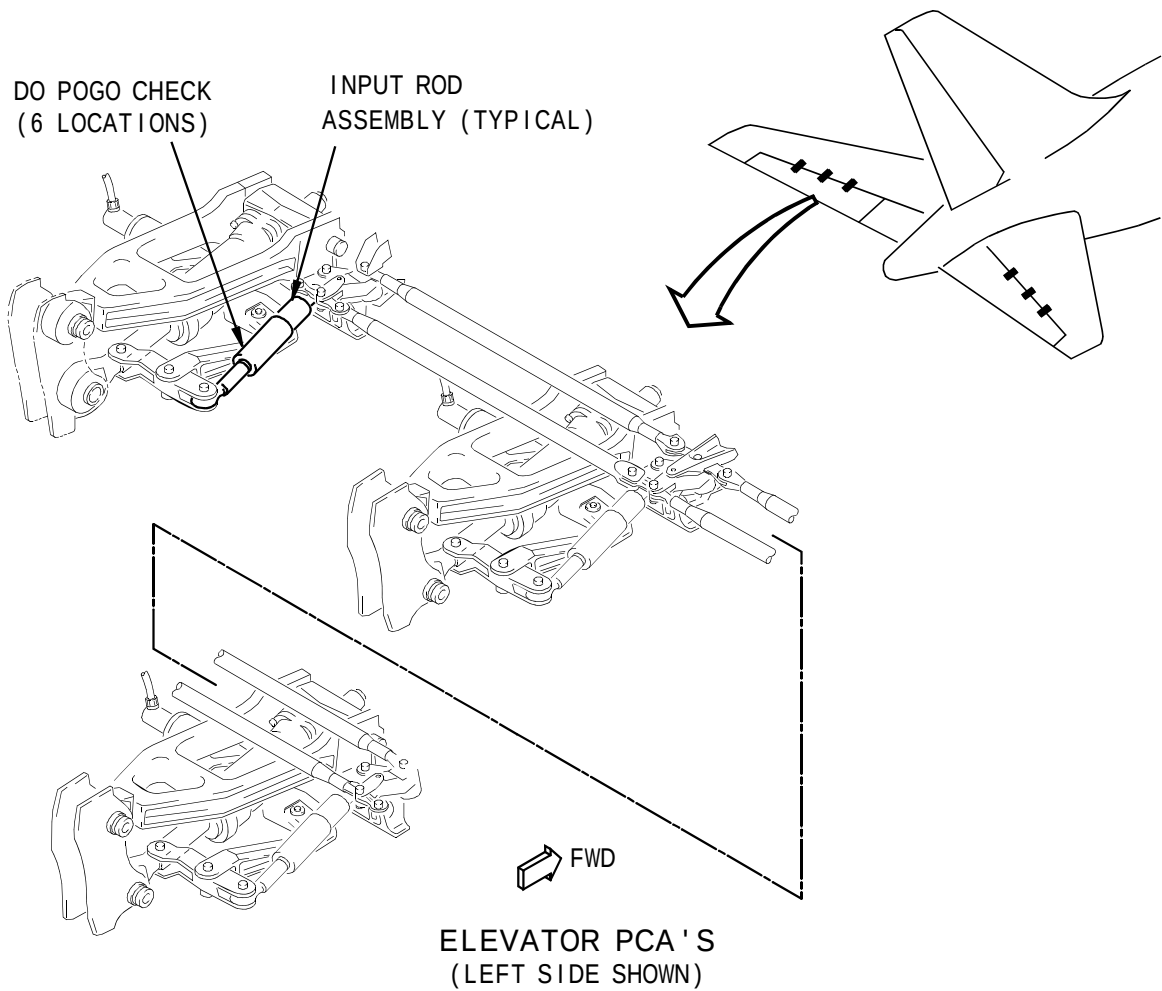
MANPOWER

Total Task Hours	Elapsed Hours
32.0	16.0

MATERIAL INFORMATION

None.

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1. PLANNING INFORMATION

A. Effectivity

1. Airplanes

Refer to Service Bulletin Index Document D624T001 Part 3 for Airplane Variable Number, Line Number, and Serial Number data.

This service bulletin is for the airplanes shown below. Refer to PRR B12901-35S for data about this change.

NOTE: This service bulletin is for the airplanes identified below. The effectivity list shown below is complete for airplanes through line number 878. Airplanes after line number 878 are also affected by this service bulletin. These airplanes will be added to the service bulletin's MyBoeingFleet.com (MBF) "get effectivity" result when they are added to the MBF Fleet Profile Page.

GROUP	CONFIGURATION	DESCRIPTION
1	-	767-400ER airplanes line numbers 1-901 require incorporation of SB 767-27-0187.
2	-	767-400ER airplanes line numbers 902 and on do not require SB 767-27-0187. Intent of SB 767-27-0187 was done in production for these airplanes.

Airplane models:

767-400ER

IDENTIFICATION BY CUSTOMER, CUSTOMER CODE, GROUP AND VARIABLE NUMBER

CONTINENTAL AIRLINES (CAL)

1 VQ071-VQ086

DELTA AIR LINES (DAL)

1 VQ001-VQ021

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IDENTIFICATION BY VARIABLE NUMBER

Variable	Group
VQ001-VQ021	1
VQ071-VQ086	1

2. Spares Affected

None.

B. Concurrent Requirements

The service bulletin listed below must be done before or at the same time as this service bulletin:

Group 1:

Company	Service Bulletin	Description
Boeing	767-27-0187 Original Issue	Elevator Power Control Actuator Bellcrank Replacement

Group 2: None. The changes given in Boeing Service Bulletin 767-27-0187 were made on these airplanes before delivery.

C. Reason

This service bulletin gives instructions to do repetitive pogo checks of the elevator Power Control Actuator (PCA) input rod assemblies. As an alternative to Boeing Alert Service Bulletin 767-27A0169, the incorporation of Boeing Service Bulletin 767-27-0187 to replace or rework elevator PCA bellcranks combined with the repetitive check of the elevator PCA input rod assemblies recommended in this service bulletin and the repetitive check of the elevator PCA rigging recommended in Boeing Service Bulletin 767-27-0203 will prevent continued operation with yielded or failed shear rivets in a bellcrank assembly for the elevator PCA and will also allow for longer inspection intervals. Operators are currently required by the Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2001-04-09 to do the 400 flight-hour repetitive check recommended in Boeing Alert Service Bulletin 767-27A0169.

One operator reported the left elevator drooping during a preflight check. Examination of the elevator control system found sheared rivets in the left-inboard and center PCA bellcrank assemblies. The elevator single hydraulic system check required by a Certification Maintenance Requirement (CMR) may not detect yielded or failed shear rivets in the bellcrank assemblies for the elevator PCA. As a result, the FAA issued AD 2000-17-05 to mandate the accomplishment of the actions specified in Boeing Alert Service Bulletin 767-27A0166, dated August 17, 2000.

Since the issuance of AD 2000-17-05, the FAA has received reports that several 767-200, 767-300, and 767-300F airplanes failed the one-time functional check of the shear rivets required by the AD. As a result, the FAA issued AD 2001-04-09 to mandate the accomplishment of the actions specified in Boeing Alert Service Bulletin 767-27A0169, dated November 21, 2000.

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A detailed design review found that the override device incorporated into the input rod assembly of the PCA provides protection against malfunctions and non-normal PCA operation. This design review also found that the shear rivets are not needed. The completion of Boeing Service Bulletin 767-27-0187 to replace or rework elevator PCA bellcranks combined with the repetitive check of the elevator PCA input rod assemblies recommended in this service bulletin and the repetitive check of the elevator PCA rigging recommended in Boeing Service Bulletin 767-27-0203 is an alternative to the 400 flight-hour repetitive check recommended in Boeing Alert Service Bulletin 767-27A0169.

Boeing Service Related Problem (SRP) 767-SRP-27-0128 is related to this service bulletin.

D. Description

Do a pogo check of the input rod assembly on each of the six elevator PCAs.

E. Compliance

Table 1: Check Operation of the Input Rod Assemblies of the Left and Right Elevator PCA

Condition	Action	Compliance Time (Whichever Occurs Last)			Repeat Interval (Not to Exceed)
		Before 12,000 total flight hours since the date of issuance of the original standard airworthiness certificate or the date of issuance of the original export certificate of airworthiness	Before 12,000 total flight hours since completion of the last pogo check	Within 6,000 flight hours after the date on this service bulletin	
All Airplanes	Do Elevator Pogo Check as given in Accomplishment Instructions 3.B.				12,000 flight hours

The FAA will possibly release an Airworthiness Directive related to this service bulletin. The Airworthiness Directive will make the compliance tasks and times given in this service bulletin mandatory.

F. Approval

This service bulletin was examined by the Federal Aviation Administration (FAA). The changes specified in this service bulletin comply with the applicable regulations and are FAA approved, as well as European Aviation Safety Agency (EASA)/Joint Aviation Authorities (JAA) approved for all EASA/JAA approved airplanes listed in the service bulletin effectivity. This service bulletin and its approval were based on the airplane in its original Boeing delivery configuration or as modified by other approved Boeing changes.

If an airplane has a non-Boeing modification or repair that affects a component or system also affected by this service bulletin, the operator is responsible for obtaining appropriate regulatory agency approval before incorporating this service bulletin.

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This service bulletin has been approved by the FAA. In addition, the Manager of the FAA Seattle Aircraft Certification Office approves the action (i.e. inspection or modification) defined in this service bulletin combined with the actions defined in Boeing Service Bulletins 767-27-0187 and 767-27-0203 as an alternative method of compliance to the requirements of paragraph (a) of AD 2001-04-09. All provisions of AD 2001-04-09 that are not specifically referenced in the above statement remain fully applicable and must be complied with.

G. Manpower

The table below shows an estimate of the task-hours necessary to do the pogo check for each airplane. This estimate is for direct labor only, done by an experienced crew. Adjust the estimate with operator task-hour data if necessary. The estimate does not include lost time. These are some examples of lost time:

- Time to adjust to the workplace
- Time to schedule the work
- Time to examine the work
- Time to find the tools.

Group 1-2:

Work Package Number	Task	Number of Persons	Task-Hours	Elapsed Hours
1	Remove input rod assemblies	2	1.5	0.75
	Check input rod assemblies	2	12.0	6.0
	Install input rod assemblies	2	1.5	0.75
	Adjust input rod assemblies	2	1.0	0.5
TOTAL FOR WORK PACKAGE 1 (a)			16.0	8.0
2	Remove input rod assemblies	2	1.5	0.75
	Check input rod assemblies	2	12.0	6.0
	Install input rod assemblies	2	1.5	0.75
	Adjust input rod assemblies	2	1.0	0.5
TOTAL FOR WORK PACKAGE 2 (a)			16.0	8.0
TOTAL FOR EACH AIRPLANE			32.0	16.0
(a) This is total time to do tasks for all 3 elevator PCAs				

H. Weight and Balance Changes

None.

I. Electrical Load Data

Not changed.

J. References

1. Existing Data:
 - a. Engineering Change Memo PRR B12901-35S
 - b. Service Related Problem (SRP) 767-SRP-27-0128
 - c. 767 Aircraft Maintenance Manual (AMM) 27-31-00, 27-31-07
 - d. 767 Structural Repair Manual (SRM) Chapter 51
 - e. Component Maintenance Manual (CMM) 27-31-64
 - f. Boeing Service Bulletin 767-27A0166
 - g. Boeing Service Bulletin 767-27A0169
 - h. Boeing Service Bulletin 767-27-0187
 - i. Boeing Service Bulletin 767-27-0203
 - j. FAA Airworthiness Directive 2000-17-05
 - k. FAA Airworthiness Directive 2001-04-09
 - l. Boeing Drawing 012W6100
2. Data supplied with this Service Bulletin:

None.
3. Installation Drawings Used in the Preparation of this Service Bulletin:

None.

K. Publications Affected

None.

L. Interchangeability and Intermixability of Parts

Accomplishment of this service bulletin does not affect interchangeability or intermixability of parts.

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2. MATERIAL INFORMATION

A. Material - Price and Availability

None.

B. Industry Support Information

Boeing warranty remedies are not available for the inspection, and/or repair procedures given in this service bulletin.

C. Parts Necessary For Each Airplane

1. Kits/Parts:

None.

2. Parts and Materials Supplied by the Operator:

None.

3. Parts Modified and Reidentified:

None.

4. Parts Removed and Not Replaced:

None.

D. Parts Necessary to Change Spares

None.

E. Special Tooling - Price and Availability

None.

F. Special Tooling Necessary to do this Service Bulletin

No special tools or equipment are necessary to do the change in this service bulletin. But, maintenance and overhaul tools in the manuals given in Paragraph 1.J., References, can be necessary. Examine operator tool supply to make sure all necessary tools are available.

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3. ACCOMPLISHMENT INSTRUCTIONS

A. GENERAL INFORMATION

WARNING: DO NOT SUPPLY HYDRAULIC POWER DURING THE REMOVAL / INSTALLATION OF THE PCA CONTROL ROD. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: KEEP THE WORK AREA, WIRES AND ELECTRICAL BUNDLES CLEAN OF METAL PARTICLES OR CONTAMINATION WHEN YOU USE TOOLS. UNWANTED MATERIAL, METAL PARTICLES OR CONTAMINATION CAUGHT IN WIRE BUNDLES CAN CAUSE DAMAGE TO THE BUNDLES. DAMAGED WIRE BUNDLES CAN CAUSE SPARKS OR OTHER ELECTRICAL DAMAGE.

NOTE:

1. Manual titles are referred to by acronyms. Refer to Paragraph 1.J., References, for definition of the acronyms.
2. Obey all of the warnings and cautions given in the specified manual sections.
3. The work instructions are divided into work packages. Task-Hours and Elapsed-Hours for each package are given in Paragraph 1.G., Manpower. You can do each work package independently. The work instructions for the left and right elevators are the same and both work packages need to be completed before the plane is returned to service.
4. For approved fastener and process material substitutions, refer to 767 Structural Repair Manual, Chapter 51, Alternate fasteners are given in 767 Structural Repair Manual Chapter 51 and Boeing Drawing 012W6100.
5. These work instructions refer to procedures included on other Boeing documents. When the words "refer to" are used and the operator has an accepted alternative procedure, the accepted alternative procedure can be used. When the words "as given in" are included in the instruction, the procedure in the Boeing document must be used.

B. WORK INSTRUCTIONS

WORK PACKAGE 1 - LEFT ELEVATOR POGO CHECK

1. Repeat the following steps for each of the three elevator Power Control Actuators (PCA):
 - a. Remove the elevator PCA input rod assembly. Refer to 767 AMM 27-31-07 as an accepted procedure.
 - b. Do the following functional test on the elevator PCA input rod assembly.
 - (1) Make sure that the load is 42-62 lbs for initial breakout in the extending and collapsing directions.
 - (2) Make sure that the load is 67-97 lbs for travel 0.005 to 0.020 inches from the fully compressed or extended position.

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- (3) Make sure that the deflection is 1.15-1.35 inches in both the fully compressed or extended position at full travel of the elevator PCA input rod assembly.
 - (4) Make sure that all operations are smooth and free from binding.
 - c. Replace or overhaul the elevator PCA input rod assembly if it fails to meet any requirement above. Refer to CMM 27-31-64 as an accepted procedure.
 - d. Install the elevator PCA input rod assembly. Refer to 767 AMM 27-31-07 as an accepted procedure.
2. Adjust the PCA input rod assembly. Refer to 767 AMM 27-31-00 as an accepted procedure.
 3. Put the airplane back to a serviceable condition.

WORK PACKAGE 2 - RIGHT ELEVATOR POGO CHECK

1. Repeat the following steps for each of the three elevator PCAs:
 - a. Remove the elevator PCA input rod assembly. Refer to 767 AMM 27-31-07 as an accepted procedure.
 - b. Do the following functional test on the elevator PCA input rod assembly. Refer to CMM 27-31-64 as an accepted procedure.
 - (1) Make sure that the load is 42-62 lbs for initial breakout in the extending and collapsing directions.
 - (2) Make sure that the load is 67-97 lbs for travel 0.005 to 0.020 inches from the fully compressed or extended position.
 - (3) Make sure that the deflection is 1.15-1.35 inches in both the fully compressed or extended position at full travel of the elevator PCA input rod assembly.
 - (4) Make sure that all operations are smooth and free from binding.
 - c. Replace or overhaul the elevator PCA input rod assembly if it fails to meet any requirement above. Refer to CMM 27-31-64 as an accepted procedure.
 - d. Install the elevator PCA input rod assembly. Refer to 767 AMM 27-31-07 as an accepted procedure.
2. Adjust the PCA input rod assembly. Refer to 767 AMM 27-31-00 as an accepted procedure.
3. Put the airplane back to a serviceable condition.