



COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

AUTO SLAT CONTROL VALVE ASSEMBLY

**PART NUMBER
65C26869-2, 65C26870-3**

BOEING PROPRIETARY, CONFIDENTIAL, AND/OR TRADE SECRET

Copyright © 1995 The Boeing Company
Unpublished Work - All Rights Reserved

Boeing claims copyright in each page of this document only to the extent that the page contains copyrightable subject matter. Boeing also claims copyright in this document as a compilation and/or collective work.

This document includes proprietary information owned by The Boeing Company and/or one or more third parties. Treatment of the document and the information it contains is governed by contract with Boeing. For more information, contact The Boeing Company, P.O. Box 3707, Seattle, Washington 98124.

Boeing, the Boeing signature, the Boeing symbol, 707, 717, 727, 737, 747, 757, 767, 777, 787, Dreamliner, BBJ, DC-8, DC-9, DC-10, KC-10, KDC-10, MD-10, MD-11, MD-80, MD-88, MD-90, P-8A, Poseidon and the Boeing livery are all trademarks owned by The Boeing Company; and no trademark license is granted in connection with this document unless provided in writing by Boeing.

PUBLISHED BY BOEING COMMERCIAL AIRPLANES GROUP, SEATTLE, WASHINGTON, USA
A DIVISION OF THE BOEING COMPANY
PAGE DATE: Jul 01/2009

27-81-33

Page 1
Jul 01/2009



COMPONENT MAINTENANCE MANUAL

Revision No. 12
Jul 01/2009

To: All holders of AUTO SLAT CONTROL VALVE ASSEMBLY 27-81-33.

Attached is the current revision to this COMPONENT MAINTENANCE MANUAL

The COMPONENT MAINTENANCE MANUAL is furnished either as a printed manual, on microfilm, or digital products, or any combination of the three. This revision replaces all previous microfilm cartridges or digital products. All microfilm and digital products are reissued with all obsolete data deleted and all updated pages added.

For printed manuals, changes are indicated on the List of Effective Pages (LEP). The pages which are revised will be identified on the LEP by an R (Revised), A (Added), O (Overflow, i.e. changes to the document structure and/or page layout), or D (Deleted). Each page in the LEP is identified by Chapter-Section-Subject number, page number and page date.

Pages replaced or made obsolete by this revision should be removed and destroyed.

ATTENTION

IF YOU RECEIVE PRINTED REVISIONS, PLEASE VERIFY THAT YOU HAVE RECEIVED AND FILED THE PREVIOUS REVISION. BOEING MUST BE NOTIFIED WITHIN 30 DAYS IF YOU HAVE NOT RECEIVED THE PREVIOUS REVISION. REQUESTS FOR REVISIONS OTHER THAN THE PREVIOUS REVISION WILL REQUIRE A COMPLETE MANUAL REPRINT SUBJECT TO REPRINT CHARGES SHOWN IN THE DATA AND SERVICES CATALOG.

27-81-33
TRANSMITTAL LETTER
Page 1
Jul 01/2009

65C26869, 65C26870



COMPONENT MAINTENANCE MANUAL

Location of Change

Description of Change

NO HIGHLIGHTS

27-81-33

HIGHLIGHTS

Page 1

Jul 01/2009



COMPONENT MAINTENANCE MANUAL

Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
TITLE PAGE		27-81-33 CLEANING			
O 1	Jul 01/2009	401	Mar 01/2006		
2	BLANK	402	BLANK		
27-81-33 TRANSMITTAL LETTER		27-81-33 CHECK			
O 1	Jul 01/2009	501	Mar 01/2006		
2	BLANK	502	BLANK		
27-81-33 HIGHLIGHTS		27-81-33 REPAIR - GENERAL			
O 1	Jul 01/2009	601	Mar 01/2006		
2	BLANK	602	BLANK		
27-81-33 EFFECTIVE PAGES		27-81-33 REPAIR 1-1			
1	Jul 01/2009	601	Jul 01/2006		
2	BLANK	602	BLANK		
27-81-33 CONTENTS		27-81-33 REPAIR 2-1			
1	Mar 01/2006	601	Mar 01/2006		
2	BLANK	602	BLANK		
27-81-33 TR AND SB RECORD		27-81-33 ASSEMBLY			
1	Mar 01/2006	701	Jul 01/2008		
2	BLANK	702	Nov 01/2007		
27-81-33 REVISION RECORD		27-81-33 FITS AND CLEARANCES			
1	Mar 01/2006	801	Mar 01/2006		
2	Mar 01/2006	802	BLANK		
27-81-33 RECORD OF TEMPORARY REVISIONS		27-81-33 SPECIAL TOOLS, FIXTURES, AND EQUIPMENT			
1	Mar 01/2006	901	Mar 01/2006		
2	Mar 01/2006	902	BLANK		
27-81-33 INTRODUCTION		27-81-33 ILLUSTRATED PARTS LIST			
1	Mar 01/2009	1001	Nov 01/2008		
2	BLANK	1002	Jul 01/2006		
27-81-33 DESCRIPTION AND OPERATION		1003	Mar 01/2006		
1	Nov 01/2006	1004	Mar 01/2006		
2	BLANK	1005	Mar 01/2006		
27-81-33 TESTING AND FAULT ISOLATION		1006	Mar 01/2006		
101	Jul 01/2008	1007	Mar 01/2006		
102	Nov 01/2007	1008	BLANK		
103	Nov 01/2007				
104	Nov 01/2007				
27-81-33 DISASSEMBLY					
301	Mar 01/2006				
302	BLANK				

A = Added, R = Revised, D = Deleted, O = Overflow

27-81-33

EFFECTIVE PAGES

Page 1

Jul 01/2009

**COMPONENT MAINTENANCE MANUAL****TABLE OF CONTENTS**

<u>Paragraph Title</u>	<u>Page</u>
AUTO SLAT CONTROL VALVE ASSEMBLY - DESCRIPTION AND OPERATION	1
TESTING AND FAULT ISOLATION	101
DISASSEMBLY	301
CLEANING	(Not Applicable)
CHECK	501
REPAIR	601
ASSEMBLY	701
FITS AND CLEARANCES	801
SPECIAL TOOLS, FIXTURES, AND EQUIPMENT	(Not Applicable)
ILLUSTRATED PARTS LIST	1001

27-81-33

CONTENTS

Page 1

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

All temporary revisions to this manual will be accompanied by a cover sheet bearing the temporary revision number. Enter the temporary revision number in numerical order, together with the temporary revision date, the date the temporary revision is inserted and the initials of the person filing. When the temporary revision is incorporated or cancelled, and the pages are removed, enter the date the pages are removed and the initials of the person who removed the temporary revision.

Temporary Revision		Inserted		Removed		Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials	Date	Initials	Number	Date	Date	Initials

27-81-33

RECORD OF TEMPORARY REVISION

Page 1
Mar 01/2006



COMPONENT MAINTENANCE MANUAL

Temporary Revision		Inserted		Removed	
Number	Date	Date	Initials	Date	Initials

Temporary Revision		Inserted		Removed	
Date	Initials	Number	Date	Date	Initials

BOEING PROPRIETARY - Copyright © Unpublished Work - See title page for details



COMPONENT MAINTENANCE MANUAL

INTRODUCTION

1. General

- A. The instructions in this manual supply the data necessary to do the maintenance functions together with the test, fault isolation, repair, and replacement of the defective parts.
- B. This manual is divided into different parts:
 - (1) Title Page
 - (2) Transmittal Letter
 - (3) Highlights
 - (4) List of Effective Pages
 - (5) Table of Contents
 - (6) Temporary Revision & Service Bulletin Record
 - (7) Record of Revisions
 - (8) Record of Temporary Revisions
 - (9) Introduction
 - (10) Procedures & IPL Sections
- C. Components that can be repaired have a different repair number for each specified repair. To find the repair number location of a component, look in the Repair-General procedure at the beginning of the REPAIR section. The Repair-General procedure also has an explanation of the True Position Dimension symbols used.
- D. All dimensions, measures, quantities and weights included are in English units. When metric equivalents are given they will be in the parentheses that follow the English units.
- E. The introduction to the Illustrated Parts List (IPL) shows how the IPL data is used.
- F. Design changes, optional parts, configuration differences and Service Bulletin modifications may cause different part numbers. These part numbers are identified in the IPL with an alphabetical letter which is added to the end of the basic item number. This new item number is referred to as an alpha-variant. Throughout the manual, IPL basic item number references also apply to alpha-variants unless shown differently.
- G. The tool reference numbers found in the individual procedures and in the Special Tools, Fixtures, and Equipment section are used to identify if a tool is a standard tool (STD-XXXX), a commercial tool (COM-XXXX), or a Special Tool (SPL-XXXX). This reference number is also used to distinguish between tools with similar names in the same procedure. These reference numbers are for use in the documentation only. They are not to be used for ordering tools.

27-81-33

INTRODUCTION

Page 1

Mar 01/2009

COMPONENT MAINTENANCE MANUAL

AUTO SLAT CONTROL VALVE ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

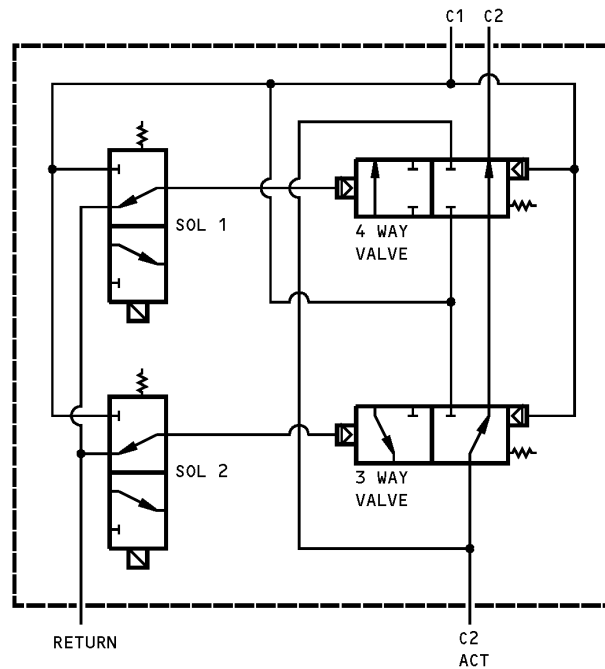
A. The Auto Slat Control Valve Assembly consists of an aluminum housing containing 3-way and 4-way control valve assemblies. A pair of solenoid valves are also mounted on the housing.

2. Operation

A. The solenoid valves direct system pressure to control the positions of the 3-way and 4-way valves (Ref DESCRIPTION AND OPERATION, Figure 1). These valves in turn control actuation of the 737-300 auto slat system.

3. Leading Particulars (Approximate)

- A. Length – 7 inch
- B. Width – 7 inch
- C. Height – 4 inch
- D. Weight – 3 pounds



Valve Assembly Schematic
Figure 1

27-81-33

DESCRIPTION AND OPERATION

Page 1

Nov 01/2006



COMPONENT MAINTENANCE MANUAL

TESTING AND FAULT ISOLATION

1. General

- A. This procedure has the data necessary to do a test of the auto slat control valve assembly outboard after an overhaul or for fault isolation.
- B. Refer to the Standard Overhaul Practice Manual (SOPM) for the SOPM subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Test Equipment and Materials

NOTE: Equivalent substitutes may be used.

- A. Hydraulic test stand capable of providing hydraulic fluid, D00153 at 3000 psi at 10 gal/min and 4500 psi at zero flow.
- B. High-pressure gages to measure 3000 psi (2 required)
- C. Low-pressure gage to measure 200 psi
- D. Variable flow control valve capable of controlling and measuring flows up to 10 gal/min
- E. Plugs or caps to block each port
- F. Measuring beakers – 250 cc (3 required)
- G. Electric power supply to energize solenoids – 28 V dc
- H. Electrical equipment capable of applying up to 1200 volts ac for dielectric test.
 - I. Electrical equipment capable of applying up to 500 volts dc for resistance test.
 - J. Electrical equipment capable of measuring resistance in ohms and megohms.

3. Preparation for Test (TESTING AND FAULT ISOLATION, Figure 101)

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchangeable & intermixable with Type V)

- B. Test setup

- (1) All tests shall be conducted at ambient temperature of 60-100°F, using hydraulic fluid, D00153 at temperature of 80-120°F.
- (2) Pretest solenoid valve assemblies (35) as follows:

NOTE: If solenoid valve assemblies fails any of the following tests, replace assembly.

27-81-33

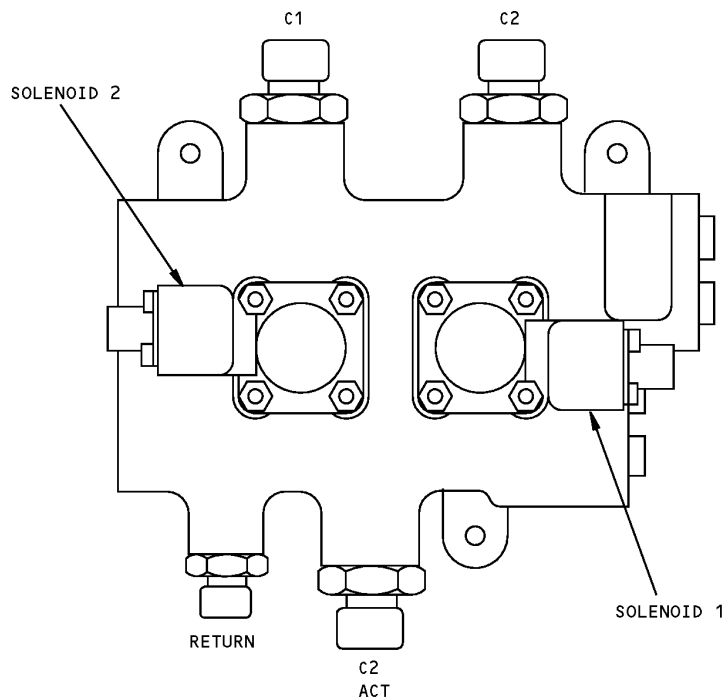
TESTING AND FAULT ISOLATION

Page 101

Jul 01/2008

COMPONENT MAINTENANCE MANUAL

- (a) Dielectric Test – Install jumper wire between pins 1 and 2. For in-service assembly, apply 1200 volts RMS 60 Hz potential between jumpered pins 1 and 2 and case for one minute (apply 1500 volts for new assembly). The voltage shall be applied and removed at a uniform rate of 250-500 volts per second. There shall be no arcing, flash-over, or current leakage in excess of 2 milliamps.
 - (b) Insulation Resistance – Install jumper wire between pins 1 and 2. Then apply 500 volts dc between jumpered pins 1 and 2 and case. The insulation resistance shall not be less than 100 megohms.
 - (c) Coil Resistance – Using standard ohmmeter, measure coil resistance between pins 1 and 2. Resistance shall be 66.5-73.5 ohms.
- (3) Connect test unit port C1 to test stand pressure supply. Connect electric power supply to solenoid valves.
 - (4) Check that hydraulic fluid, D00153 supply is at 80-120 °F.



65C26870-3 VALVE ASSY

Solenoid and Port Identification
Figure 101

27-81-33

TESTING AND FAULT ISOLATION

Page 102

Nov 01/2007



COMPONENT MAINTENANCE MANUAL

4. Control Valve Assembly Tests (TESTING AND FAULT ISOLATION, Figure 101)

NOTE: If test unit fails any of the following tests, refer to TESTING AND FAULT ISOLATION, Table 101, for probable cause and corrective procedures.

A. Perform proof pressure test.

- (1) Block ports C2 and C2 ACT. Open RETURN port to atmosphere. De-energize both solenoid valve assemblies (35, IPL Figure 1).
- (2) Slowly increase pressure at port C1 to 4500 psi and hold for 2 minutes. Check for any sign of external leakage or permanent deformation.
- (3) Reduce pressure at C1 to 3000 psi.
- (4) Energize both solenoids and repeat steps (2) and (3).
- (5) Energize solenoid 1 only and repeat step (2).
- (6) Reduce pressure at C1 to 0 psi.
- (7) Block ports C1, C2, and C2 ACT, and connect RETURN port to pressure supply. De-energize both solenoids.
- (8) Slowly increase pressure at RETURN port to 3000 psi and hold for 2 minutes. Check for any sign of external leakage or permanent deformation.
- (9) Reduce pressure at RETURN port to 0 psi.
- (10) Block ports C1 and C2 ACT. Open RETURN port to atmosphere. De-energize both solenoid valve assemblies.
- (11) Slowly increase pressure at port C2 to 4500 psi and hold for 2 minutes. Check for any sign of external leakage or permanent deformation.
- (12) Reduce pressure at C2 to 0 psi.

B. Check operation.

- (1) Attach high-pressure gages to ports C2 and C2 ACT. Connect RETURN port to test bench return and port C1 to test bench supply. De-energize both solenoid valve assemblies.
- (2) Apply 3000 psi to C1 and check that pressure gages at C2 and C2 ACT read 0 psi.
- (3) Energize solenoid 1. Check that pressure gage at C2 reads 0 psi and gage at C2 ACT reads 3000 psi.
- (4) Energize both solenoids. Check that pressure gage at C2 reads 0 psi and gage at C2 ACT reads 3000 psi.
- (5) De-energize solenoid 1, keeping solenoid 2 energized. Check that pressure gage at C2 reads 0 psi and gage at C2 ACT reads 3000 psi.

C. Check leakage.

NOTE: Leakage rates are to be averaged over a 5 minute period.

- (1) With port C1 still connected to pressure supply, open C2, C2 ACT, and RETURN ports to atmosphere and route to measuring beakers.
- (2) De-energize both solenoids and apply 3000 psi to C1. Check that flow from RETURN does not exceed 20 cc/min and that combined flow from C2 and C2 ACT does not exceed 40 cc/min.

27-81-33

TESTING AND FAULT ISOLATION

Page 103

Nov 01/2007



COMPONENT MAINTENANCE MANUAL

- (3) Block port C2 ACT and energize solenoid 1. Check that flows from C2 and RETURN do not exceed 20 cc/min apiece.
 - (4) Energize both solenoids. Check that flows from C2 and RETURN do not exceed 20 cc/min apiece.
 - (5) Energize solenoid 2 only. Check that flows from C2 and RETURN do not exceed 20 cc/min apiece.
 - (6) Check that there has been no external leakage during any of the preceding tests.
 - (7) Reduce pressure at C1 to 0 psi.
- D. Check pressure drop.
- (1) Open C2 and RETURN ports to atmosphere. Connect port C2 ACT to low-pressure gage and downstream variable flow control valve. Apply 3000 psi to port C1.
 - (2) Energize solenoid 1 and slowly open control valve until flow of 10 gal/min (GPM) is established. Check that pressure drop across the unit does not exceed 200 psi.
 - (3) Energize both solenoids and adjust flow to 10 GPM. Check that pressure drop across the unit does not exceed 150 psi.
 - (4) De-energize solenoid 1, keeping solenoid 2 energized. Adjust flow to 10 GPM and check that pressure drop across the unit does not exceed 200 psi.
 - (5) Connect port C2 to pressure supply and apply 3000 psi to C1 and C2. De-energize both solenoids and slowly open the control valve until flow of 10 GPM is established. Check that pressure drop across the unit does not exceed 200 psi.

5. Post-Test Procedures

- A. Disconnect unit from hydraulic test stand and drain unit of fluid, D00153.
- B. Attach tag indicating date of test and store unit per ASSEMBLY, Paragraph 4..

6. Corrective Procedures (IPL Figure 1)

- A. Refer to TESTING AND FAULT ISOLATION, Table 101 for probable cause and corrective procedure for any test failure.

Table 101: Trouble Shooting Chart

TROUBLE	PROBABLE CAUSE	CORRECTION
External leakage	Defective packings	Replace packings (10, 20, 60, 75) as required
	Defective plugs	Replace plugs (170) and pins (175) as required
	Defective housing	Replace housing assy (160)
Faulty operation (incorrect pressure readings)	Defective solenoids	Replace solenoids (35) as required
Excessive internal leakage	Defective packings	Replace packings (40, 50, 105) as required
	Defective lapped assys	Replace lapped assys (85A, 115A) as required
Excessive pressure drop through unit	Defective lapped assys	Replace lapped assys (85A, 115A) as required

27-81-33

TESTING AND FAULT ISOLATION

Page 104

Nov 01/2007



COMPONENT MAINTENANCE MANUAL

DISASSEMBLY

1. General

- A. Disassemble this component only as necessary to complete fault isolation, determine the serviceability of parts, perform required repairs, and restore the unit to serviceable condition.

2. Parts Replacement (IPL Figure 1)

NOTE: The following parts are recommended for replacement. Unless otherwise noted, actual replacement of parts may be based on in-service experience.

- A. Packings (10, 20, 40, 50, 60, 75, 105, 135)
- B. Back-up rings (45, 55, 65, 80, 110, 140)

3. Disassembly (IPL Figure 1)

CAUTION: LAPPED ASSEMBLIES (85A, 115A) COMPRISE MATCHED SETS OF PARTS. REPLACE ASSEMBLIES AS COMPLETE UNITS OR VALVES MAY NOT OPERATE PROPERLY.

NOTE: Do not remove pins (175) and plugs (170) which seal drilled passages unless they are leaking or obviously defective. Do not remove inserts (165) or nameplate (185) unless replacement is necessary.

- A. Standard industry practices are sufficient for disassembly of this unit.

27-81-33

DISASSEMBLY

Page 301

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

CLEANING

(NOT APPLICABLE)

27-81-33

CLEANING

Page 401

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

CHECK

1. General

- A. This procedure has the data necessary to find defects in the material of the specified parts.
- B. Refer to FITS AND CLEARANCES for the design dimension and wear limits.
- C. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- D. Refer to IPL Figure 1 for item numbers.

2. Check

A. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION
SOPM 20-20-02	PENETRANT METHODS OF INSPECTION

B. Procedure

- (1) Check all parts for obvious defects in accordance with standard industry practices.
- (2) Magnetic particle check the following parts (Ref IPL Figure 1) per SOPM 20-20-01.
 - (a) Sleeve (90, 120)
 - (b) Spool (95A, 100, 125A, 130)
 - (c) Spring seat (145, 155)
 - (d) Spring (150)
- (3) Penetrant check the following parts (Ref IPL Figure 1) per SOPM 20-20-02.
 - (a) Threaded cap (70)
 - (b) Housing (180)
- (4) Check spring (150, IPL Figure 1).
 - (a) Compress spring to 0.53-0.55 inch and check that load is 10.0-12.2 lbs.
 - (b) Compress spring to 0.94-0.96 inch and check that load is 3.2-4.0 lbs.

27-81-33

CHECK

Page 501

Mar 01/2006

**COMPONENT MAINTENANCE MANUAL****REPAIR****1. Content**

- A. Instructions for repair, refinish, and replacement of the specified subassembly parts are included in each REPAIR when applicable:

Table 601:

P/N	NAME	REPAIR
BAC27DHY0303	NAMEPLATE	1-1
–	MISC PARTS REFINISH	2-1

27-81-33

REPAIR - GENERAL

Page 601

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

NAMEPLATE - REPAIR 1-1

BAC27DHY0303

1. General

- A. This procedure has the data necessary to replace the nameplate.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Nameplate Replacement

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00551	Sealant - Fuel Tank	BAC5010, Type 44 (BMS5-44, BMS5-45)
B00571	Coating - Clear Hydraulic Fluid Resistant Topcoat	BAC5710, Type 41

- B. References

Reference	Title
SOPM 20-50-03	BEARING AND BUSHING REPLACEMENT
SOPM 20-50-12	APPLICATION OF ADHESIVES

- C. Procedure

- (1) Remove nameplate (185). Clean and prepare mounting surface per SOPM 20-50-03.
- (2) Steel stamp assembly dash number and serial number on replacement nameplate.
- (3) Bond nameplate to housing assembly (160) with adhesive per SOPM 20-50-12, sealant, A00551.
- (4) Apply clear coating, B00571, over nameplate.

27-81-33

REPAIR 1-1

Page 601

Jul 01/2006



COMPONENT MAINTENANCE MANUAL

MISCELLANEOUS PARTS REFINISH - REPAIR 2-1

1. General

- A. This procedure has the data necessary to refinish the parts which are not given in the specified repairs.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Refinish Details

- A. Procedure
 - (1) Repair of parts listed in REPAIR 2-1, Table 601 consists of restoration of the original finish.

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Cap (70), housing (180)	Al alloy	Sulfuric acid anodize (F-17.03).
Sleeve (90, 120), Spool (95A, 100, 125A, 130)	440C CRES	Passivate (F-17.09).
Spring seat (145, 155)	15-5PH CRES 180-200 ksi	Passivate (F-17.09)
Spring (150)	17-7PH CRES	Passivate (F-17.09)

27-81-33

REPAIR 2-1

Page 601

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

ASSEMBLY

1. General

- A. This procedure has the data necessary to assemble the auto slat control valve assembly.
- B. Refer to the Standard Overhaul Practices Manual (SOPM) for the subjects identified in this procedure.
- C. Refer to IPL Figure 1 for item numbers.

2. Lubrication

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchangeable & intermixable with Type V)

- B. Procedure

- (1) Lubricate all packings and back-up rings with fluid, D00153 or assembly lube prior to installation.
- (2) Lubricate parts of lapped assemblies (85A, 115A, IPL Figure 1) with fluid, D00153 prior to assembly.

3. Assembly (IPL Figure 1)

- A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995~C32

- B. References

Reference	Title
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-50-06	INSTALLATION OF O-RINGS AND TEFLON SEALS

- C. Procedure

- (1) Check lapped assembly (85A, 115A).
 - (a) With sliding surfaces lubricated per ASSEMBLY, Paragraph 2.B.(2), install primary spool (95A, 125A) in sleeve (90, 120). Check that primary spool can free fall by its own weight at each of 3 positions approximately 120 degrees apart.

27-81-33

ASSEMBLY

Page 701

Jul 01/2008



COMPONENT MAINTENANCE MANUAL

- (b) With sliding surfaces lubricated per ASSEMBLY, Paragraph 2.B.(2), install secondary spool (100, 130) in primary spool. Check that secondary spool can free fall by its own weight at each of 3 positions approximately 120 degrees apart. Reverse secondary spool and repeat test.
- (2) Install packings and back-up rings per SOPM 20-50-06.
- (3) Use standard industry practices to complete assembly, plus additional procedures, as follows.
- (4) Tighten caps (70) to 75-100 lb-in.
- (5) Install lockwire, G01048 on screws (30) and caps (70) per SOPM 20-50-02, double-twist method.

4. Storage

A. References

Reference	Title
SOPM 20-44-02	TEMPORARY PROTECTIVE COATINGS

B. Procedure

- (1) Use standard industry practices and information in SOPM 20-44-02 to store this component.

27-81-33

ASSEMBLY

Page 702

Nov 01/2007



COMPONENT MAINTENANCE MANUAL

FITS AND CLEARANCES

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
1	70	Cap	75-100	

* REFER TO SOPM 20-50-01 FOR TORQUE VALUES OF STANDARD FASTENERS.

Torque Table
Figure 801

27-81-33
FITS AND CLEARANCES
Page 801
Mar 01/2006



COMPONENT MAINTENANCE MANUAL

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

(NOT APPLICABLE)

27-81-33

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

Page 901

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

ILLUSTRATED PARTS LIST

1. Introduction

- A. The Illustrated Parts List (IPL) contains an illustration and a list of component parts you can repair or replace. The Illustrated Parts Catalog (IPC) shows how to use the Boeing part number system.
- B. This shows how parts are related: The relation of each item to its next higher assembly (NHA) is shown in the NOMENCLATURE column. Use the indenture system that follows:

1	2	3	4	5	6	7
.	Assembly					
.	Attaching parts for assembly					
.	.	Detail parts for assembly				
.	.	Subassembly				
.	.	Attaching parts for subassembly				
.	.	.	Detail parts for subassembly			
.	.	.	Sub-subassembly			
.	.	.	Attaching parts for subassembly			
.	.	.	.	Details parts for sub-subassembly		
						Detail Installation Parts (Included only if installation parts may be sent to the shop as part of assembly)

- C. Each top assembly is given one use code letter (A, B, C, etc.) in the USAGE CODE column. All subsequent component parts in the list can have one or more of the use code letters to show effectivity to top assemblies. A component part without a use code applies to all top assemblies.
- D. An alphabetical letter is added after the item number for optional parts, parts changed by a Service Bulletin, configuration differences (except left-handed and right-handed parts), last engineering releases, and parts added between item numbers in a sequence. The alphabetical letter will not be shown on the illustration for equivalent parts of the same part number.
- E. Color-coded parts are identified with a single digit alpha following the dash number or with "SP" suffix. If the "SP" suffix is used, it represents consolidation of all color codes applicable for a given usage which are not separately listed. Orders for color-coded parts should include the registry number of the airplane for which the parts are ordered.
- F. If a part number is 15 characters long but will not fit in the part number column, the part number will be displayed with a "~" at the end of the line and will be continued on the next line. The "~" denotes that the part number continues on the next line.
- G. Parts changed by a Service Bulletin are shown by PRE SB XXXX and POST SB XXXX added to the NOMENCLATURE column.
- (1) When a new top assembly is added by a Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the top assembly level only. The configuration differences at the detail part level are shown by use code letters.
- (2) When the top assembly part number is not changed by the Service Bulletin, PRE SB XXXX and POST SB XXXX will be added at the detail level.
- H. Interchangeable Parts

27-81-33

ILLUSTRATED PARTS LIST

Page 1001

Nov 01/2008



COMPONENT MAINTENANCE MANUAL

Optional
(OPT)

The part is optional to and interchangeable with other parts that have the same item number.

Replaces, Replaced by and not interchangeable with
(REPLACES, REPLACED BY AND NOT INTCHG/W)

The part replaces and is not interchangeable with the initial part.

Replaces, Replaced by
(REPLACES, REPLACED BY)

The part replaces and is interchangeable with, or is an alternative to, the initial part.

27-81-33

ILLUSTRATED PARTS LIST

Page 1002

Jul 01/2006



COMPONENT MAINTENANCE MANUAL

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
10-62062-2		1	35	2
65C26869-2		1	25A	1
65C26870-3		1	1A	RF
65C26881-1		1	160	1
65C26881-2		1	180	1
69-74305-1		1	120	1
69-74306-2		1	125A	1
69-74307-1		1	100	1
		1	130	1
69-74308-3		1	155A	2
69-74308-4		1	145A	2
69-74311-3		1	115A	1
69-74312-1		1	150	2
69-74422-1		1	90	1
69-74423-2		1	95A	1
69-74424-1		1	70	2
69-74426-2		1	85A	1
BAC27DHY0303		1	185	1
BACP20AX12		1	170	2
BACP20AX12P		1	175	2
BACR12BM010		1	45	4
BACR12BM011		1	55	4
BACR12BM113		1	65	4
BACR12BM210		1	110	10
		1	140	8
BACR12BM216		1	80	4
MS21209F1-20		1	165	8
MS21902-8		1	5	3
MS21902D6		1	15	1
NAS1351-3H8P		1	30A	8
NAS1611-010		1	40	2
NAS1611-011		1	50	2
NAS1611-113		1	60	2
NAS1611-210		1	105	5

27-81-33

ILLUSTRATED PARTS LIST

Page 1003

Mar 01/2006

**COMPONENT MAINTENANCE MANUAL**

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		1	135	4
NAS1611-216		1	75	2
NAS1612-6		1	20	1
NAS1612-8		1	10	3

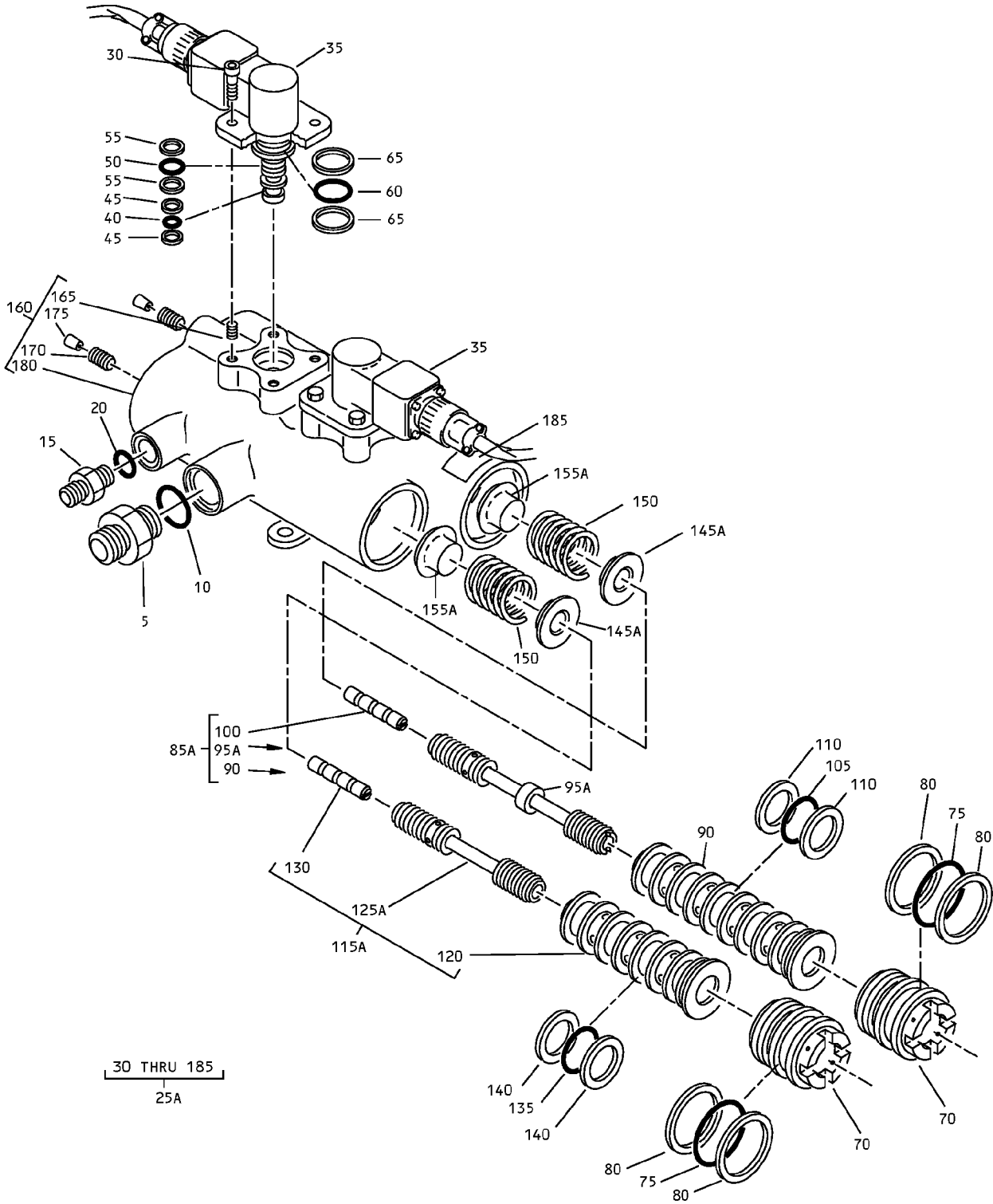
27-81-33

ILLUSTRATED PARTS LIST

Page 1004

Mar 01/2006

COMPONENT MAINTENANCE MANUAL



Auto Slat Control Valve Assembly
IPL Figure 1

27-81-33

ILLUSTRATED PARTS LIST

Page 1005

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
-1	65C26870-2										
-1A	65C26870-3										RF
5	MS21902-8										3
10	NAS1612-8										3
15	MS21902D6										1
20	NAS1612-6										1
25	65C26869-1										
25A	65C26869-2										1
30	NAS1351-3H6P										
30A	NAS1351-3H8P										8
35	10-62062-2										2
40	NAS1611-010										2
45	BACR12BM010										4
50	NAS1611-011										2
55	BACR12BM011										4
60	NAS1611-113										2
65	BACR12BM113										4
70	69-74424-1										2
75	NAS1611-216										2
80	BACR12BM216										4
85	69-74426-1										
85A	69-74426-2										1
90	69-74422-1										1
95	69-74423-1										
95A	69-74423-2										1
100	69-74307-1										1
105	NAS1611-210										5
110	BACR12BM210										10
115	69-74311-1										
115A	69-74311-3										1

-Item not Illustrated

27-81-33

ILLUSTRATED PARTS LIST

Page 1006

Mar 01/2006



COMPONENT MAINTENANCE MANUAL

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE							USAGE CODE	UNITS PER ASSY
			1	2	3	4	5	6	7		
1-											
120	69-74305-1										1
125	69-74306-1										
125A	69-74306-2										1
130	69-74307-1										1
135	NAS1611-210										4
140	BACR12BM210										8
145	69-74308-2										
145A	69-74308-4										2
150	69-74312-1										2
155	69-74308-1										
155A	69-74308-3										2
160	65C26881-1										1
165	MS21209F1-20										8
170	BACP20AX12										2
175	BACP20AX12P										2
180	65C26881-2										1
185	BAC27DHY0303										1

-Item not Illustrated