COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

LEADING EDGE SLAT HYDRAULIC ACTUATOR ASSEMBLY

PART NUMBER

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BOEING®

COMPONENT MAINTENANCE MANUAL

Revision No. 43
Jul 01/2009

To: All holders of LEADING EDGE SLAT HYDRAULIC ACTUATOR ASSEMBLY 27-81-47.

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.

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Location of Change	Description of Change
27-81-47	
REPAIR 9-1	Changed consumable from ''lubricant, D50081'' to ''solid film lubricant, D50081''
SPECIAL TOOLS FIXTURES AND EQUIPMENT	Changed the data in the Tool Supplier Information table.
	Added the Commercial Tools table.
	Added the Special Tools table.
	Added the Tool Supplier Information table.
	Changed the data in the Special Tools table.

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

Subject/Page	Date	Subject/Page	Date	Subject/Page	Date
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1009	Mar 01/2006				
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		PRR 33597	MAR 05/85
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		PRR 34397	JUN 05/88
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All revisions to this manual will be accompanied by transmittal sheet bearing the revision number. Enter the revision number in numerical order, together with the revision date, the date filed and the initials of the person filing.

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Number	Date	Date	Initials	Number	Date	Date	Initials

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Number	Date	Date	Initials

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COMPONENT MAINTENANCE MANUAL

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Temporary Revision		Inserted		Removed	
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Temporary Revision		Inserted		Removed	
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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.

LEADING EDGE SLAT HYDRAULIC ACTUATOR ASSEMBLY - DESCRIPTION AND OPERATION

1. Description

A. The actuator assembly is a double acting hydraulic actuator used for extending and retracting the leading edge slat.

B. An outer piston assembly attaches to the transfer tube which contains the inner piston. A bearing retains the outer piston in the housing assembly. A rod end with reed switch is attached to the inner piston.

C. A lock stud assembly, four lock segments and a lock piston housed inside the inner piston form a lock mechanism to prevent inadvertent extension of the actuator.

D. Hydraulic pressure is applied thru the manifold assembly and blocking valve assembly both mounted to the housing assembly.

2. Operation

A. During normal operation, hydraulic pressure for system B is present at P (system pressure) port which connects to the retract side of the actuator at all times to prevent inadvertent extension. The hydraulic pressure from port P also shifts system B blocking valve slide and connects port C1 to the extend side of the inner piston and port C2 to the extend side of the outer piston.

B. To extend the actuator to the intermediate position, hydraulic pressure is applied to port C1 while port P is still pressurized. Hydraulic pressure thru port C1 extends the inner piston and keeps lock segments from engaging to the lock stud. The inner piston stops when the intermediate position is reached.

C. With 3000 psi hydraulic pressure still applied to P and C1 ports and the actuator is in intermediate position, hydraulic pressure applied to C2 port will cause the actuator to extend to fully extended position.

D. Removing hydraulic pressure from ports C1 and C2 while port P is still pressurized will cause the actuator to retract to fully retracted position.

E. In alternate extension mode, hydraulic pressure is applied to ALT port. The pressure shifts the slide, the alternate system blocking valve and connects ALT port to the extension side of the actuator. The actuator then extends to fully extended position. The actuator can only be retracted to the mid-extend or retract position by the use of System B blocking valve.

F. The magnetically activated circuit in the lock indicator assembly opens when the piston is fully retracted and closes when the piston is in any other position.

3. Leading Particulars (Approximate)

A. Length – 14-15 inches (retracted)

(1) 20-21 inches (extended)

(2) 23-25 inches (fully extended)

B. Height – 6 inches

C. Width – 6 inches

D. Weight – 9 pounds (dry)

E. Operating Medium – BMS 3-11 hydraulic fluid, fluid, D00153

F. Operating Pressure – 3000 psig

G. Proof Pressure – 4500 psig

TESTING AND FAULT ISOLATION

1. General

A. This procedure has the data necessary to do a test of the leading edge slat hydraulic actuator assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subject identified in this procedure.

C. Refer to IPL Figure 1, IPL Figure 2 and IPL Figure 3 for the item numbers.

2. Equipments

NOTE: Equivalent substitutes may be used.

A. Hydraulic test stand capable of supplying fluid, D00153, at a variable pressure up to 5450 psi.

3. Test Procedures

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-5376	Test Block Leading Edge Actuator (Part #: C27021-1, Supplier: 81205)
SPL-5380	Test Fixture, LE Slat Actuator Tool (Part #: C27027-14, Supplier: 81205)
SPL-5410	Test Block (Part #: C27059-1, Supplier: 81205) (Opt Part #: F65-0-2123, Supplier: 92003)
SPL-5411	Test Fixture (Part #: C27027-14, Supplier: 81205) (Opt Part #: F65-0-3229, Supplier: 92003)
SPL-5412	Test Block (Part #: C27021-1, Supplier: 81205) (Opt Part #: F65-0-3243, Supplier: 92003)
STD-5490	Lamp - Test, 28-volts DC

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

C. Test Blocking Valve Assembly

NOTE: The blocking valve assembly test may be omitted providing the blocking valve is tested as a part of the actuator assembly in TESTING AND FAULT ISOLATION, Paragraph 3.D.(13) below.

NOTE: Units which meet the "in-service" limits may be returned to service without overhaul. Test limits for units in-service are identical for overhauled or new units unless otherwise specified.

(1) Mount Test Block, SPL-5410 onto blocking valve assembly and test the unit in the following sequence. See TESTING AND FAULT ISOLATION, Figure 101 for port locations.

CAUTION: DO NOT APPLY COMPRESSED AIR TO UNIT AT ANY TIME.

(2) Proof pressure test

(a) System B blocking valve

1) Plug C1 Pressure-Out, C2 Pressure-Out, System B Pressure-Out and Standby System Pressure-In ports.

2) Apply 5350-5450 psi hydraulic pressures to C1 Pressure-In, C2 Pressure-In and System B Pressure-In ports for 3 minutes. Reduce pressure to 1-5 psi for 2 minutes then increase pressure back to 5350-5450 psi for 5 minutes.

3) Check that there is no external leakage, permanent deformation or damage.

(b) Standby system blocking valve

1) Plug all ports except Standby System Pressure-In port. Orient assembly with standby spring vent hole downward to aid in leak detection.

2) Apply 5350-5450 psi hydraulic pressure to Standby System Pressure-In port for 5 minutes. Reduce pressure to 1-5 psi and hold for 2 minutes then increase pressure back up to 5350-5450 psi for 5 minutes.

3) Check that there is no external leakage, permanent deformation or damage.

(3) Test System B blocking valve.

(a) Cracking pressure test

1) With System B Pressure-Out port vented into a suitable container and 45 psi hydraulic pressure applied at the Standby System Pressure-In port, apply a gradually increasing pressure to System B Pressure-In port.

2) Check that flows out at System B Pressure-Out port when the applied pressure is 1900-2200 psi. Note the actual applied pressure at which flow begins.

(b) Reset pressure test

1) With System B Pressure-Out port vented into a suitable container, apply 2950-3050 psi to System B Pressure-In port. Gradually reduce the applied pressure.

2) Check that flow from System B Pressure-Out port stops when the applied pressure is greater than 1650 psi.

(c) Leakage test

1) Apply 950-1050 psi pressure to System B Pressure-Out port with all other ports open.

2) Check that the total flow from all the open ports does not exceed the following limits: 5 cc/min for new or overhauled unit 10 cc/min for in-service unit

(d) Flow rate test

1) With one of the Pressure-Out ports vented into a suitable container and all other Pressure-Out ports plugged, apply 2950-3050 psi pressure to System B Pressure-In, C1 Pressure-In and C2 Pressure-In ports. Measure the rate of flow of from the vented port. Check that rate of flow is not less than 1.70 cu in./second.

2) Repeat test at each Pressure-Out port.

(4) Test Standby System blocking valve

(a) Cracking pressure test

1) Plug C1 Pressure-Out and C2 Pressure-Out ports.

2) With System B Pressure-Out port vented into a suitable container, apply a gradually increasing pressure to Standby System Pressure-In port.

3) Check that flows out of System B Pressure-Out port when the applied pressure is 1400-1700 psi. Note the actual applied pressure when flow begins.

(b) Reset pressure test

1) With System B Pressure-Out port vented into a suitable container, apply 2950-3050 psi to the Standby System Pressure-In port and gradually reduce the applied pressure.

2) Check that flow from System B Pressure-Out port stops when the applied pressure is no less than 1100 psi.

(c) Leakage test

1) Apply 1700-1800 psi pressure to C2 Pressure-Out port with C1 Pressure-Out port plugged and all other ports open.

2) Check that total flow from all other open ports does not exceed the following limits: 5 cc/minute for new or overhauled unit 10 cc/minute for in-service unit

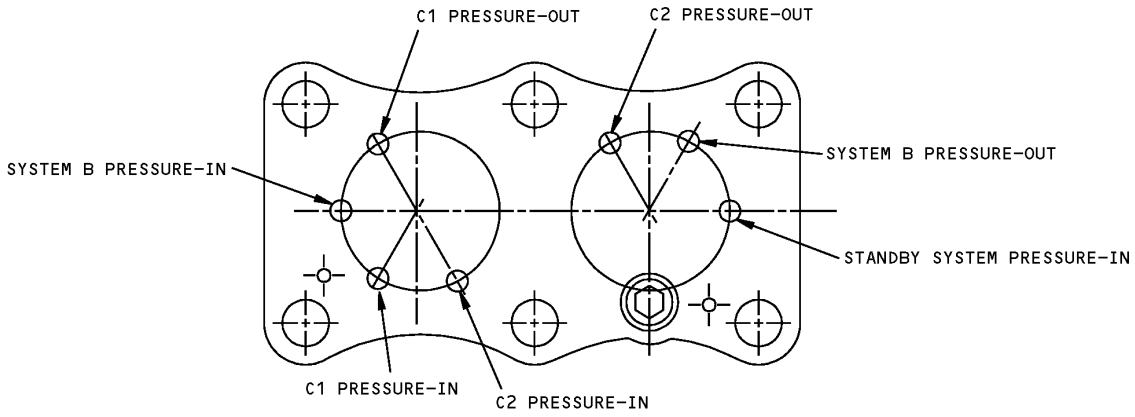
3) Apply 650-700 psi pressure to C1 Pressure-Out port with C2 Pressure-Out port plugged and all other ports open.

4) Check that total flow from all other open ports does not exceed the following limits: 5 cc/minute for a new or overhauled unit 10 cc/minute for in-service unit

(d) Flow rate test

1) With one of the Pressure-Out ports vented to a suitable container and all other Pressure-Out ports plugged, apply 2950-3050 psi pressure to Standby System Pressure-In port and measure the rate of flow of the from the vented port. Check that the rate of flow is not less than 0.3 cubic in./second.

2) Repeat test at each Pressure-Out port.



Blocking Valve Port Locations
Figure 101

D. Test Actuator Assembly (IPL Figure 2)

CAUTION: DO NOT PRESSURIZE PORT C2 WITHOUT PRESSURIZING PORT C1 EXCEPT WHEN REQUIRED BY TEST PROCEDURE OR DAMAGE TO STUD ASSEMBLY (365) WILL RESULT. DO NOT APPLY COMPRESSED AIR TO UNIT AT ANY TIME. DO NOT CYCLE UNIT AT PROOF PRESSURE (4500 PSI).

(1) Mount unit in the test fixture test fixture, SPL-5411 (per manufacturer's instructions) or in test fixture Test Fixture, SPL-5380. See TESTING AND FAULT ISOLATION, Table 101 for actuator pressurizing sequence to obtain specified piston position.

Table 101: Port Pressurizing Sequence

SEQUENCE	PRESSURE APPLIED AT PORT				ACTUATOR PISTON POSITION
	PRESS	C1	C2	ALT	
NORMAL OPERATION					
(1)	3000	0	0	0	FULLY RETRACTED
(2)	3000	3000	0	0	INTERMEDIATE
(3)	3000	3000	3000	0	EXTENDED
ALTERNATE OPERATION					
(1)	0	0	0	3000	FULL EXTEND
(2)	3000	0	0	0	FULL RETRACT

(2) Proof pressure test

(a) Cycle unit through a minimum of 2 normal extend/retract cycles and stop at fully extended actuator.

CAUTION: FAILURE TO EXTEND/RETRACT THE ACTUATOR THROUGH AT LEAST 2 FULL CYCLES MAY CAUSE DAMAGE TO THE LOCKING MECHANISM.

(b) Increase pressure at ports P, C1 and C2 to 4500 psig and hold the pressure for 2 minutes. Check that there is no external leakage or permanent deformation.

(c) Open ports P, C1 and C2 to atmosphere and slowly apply and increase pressure at ALT port to 4500 psig and hold the pressure for 2 minutes. Check that there is no external leakage or permanent set.

(3) External leakage test

(a) On assemblies that have a reed switch (65-44760-5, -7, -8, -10 thru 15, -33 thru -35; 65C38059-5, -7, -8, -10 thru -15) connect light switch to the actuator and cycle unit for 25 normal operational cycles. Observe that test lamp, STD-5490 goes OFF when both pistons are fully retracted and comes ON for all other positions.

(b) On assemblies that do not have a reed switch (65-44760-22 thru -27; 65C36408-5, -7, -8, -10 thru -12; 65C38058-5, -7, -8, -10 thru -15, 22 thru -24) cycle the unit for 25 normal operational cycles. Observe that the lock indicator slide (157) shall not be visible through the view hole in rod assembly (112), when both pistons are fully retracted and is visible at other positions.

(c) Check that leakage from either piston rod end seal does not exceed 2 drops per seal per 25 cycles.

(4) Actuation time check

(a) Actuate unit through each operating sequence and check that elapsed times from when pressure is applied until operation is complete are as shown in TESTING AND FAULT ISOLATION, Table 102.

Table 102: Operating Time

OPERATING SEQUENCE	ALLOWABLE OPERATING TIME (SECONDS)		
	65-44760-5,-10, -13,-22, -25,-33 65C36408-5,-10 65C38058-5,-10, -13,-22 65C38059-5, -10,-13	**65-44760-7, -11, -14,-23, -26,-34 65C36408-7,-11 65C38058-7,-11, -14,-23 65C38059-7, -11,-14**	**65-44760-8,-12, -15,-24,-27,-35 65C36408-8,-12 65C38058-8,-12, -15,-24 65C38059-8,-12,-15**
Retract to Intermediate	4.6-6.1	4.6-6.1	4.6-6.1
Intermediate to Extend	1.2-2.4	1.4-2.6	1.4-2.6
Extend to Intermediate	1.6-2.6	1.8-2.8	1.8-2.8
Intermediate to Retract	4.7-6.2	4.7-6.2	4.7-6.2

(b) Actuate unit through alternate extend cycle and check that elapsed time from application of pressure to completion of cycle are as follows:

Table 103:

ASSEMBLY	ALLOWABLE TIME (SECONDS)
65-44760-5, -10, -13, -22, -25, -33	45-58
65-44760-7, -11, -14, -23, -26, -34	49-58
65-44760-8, -12, -15, -24, -27, -35	49-58
65C36408-5, -10	45-58
65C36408-7, -11	49-58
65C36408-8, -12	49-58
65C38058-5, -10, -13, -22	45-58
65C38058-7, -11, -14, -24	49-58
65C38058-8, -12, -15, -23	49-58
65C38059-5, -10, -13	45-58
65C38059-7, -11, -15	49-58
65C38059-8, -12, -14	49-58

(5) Internal leakage test

(a) Position actuator in fully retracted position and open ports C1, C2 and ALT to atmosphere.

(b) Apply 3000 psi pressure to port P and check that total leakage from ports C1, C2 and ALT does not exceed 15 cc/minute after a 1 minute waiting period.

(c) Position actuator in an intermediate position and open ports C2 and ALT to atmosphere.

(d) Maintain 3000 psi pressure at ports P and C1 and check that total leakage from ports C2 and ALT does not exceed 15 cc/minute after a 1 minute waiting period.

(6) Remove blocking valve assembly from the actuator and install test block Test Block, SPL-5412 (per manufacturer's instructions) or test block Test Block, SPL-5376.

(7) Length check

(a) Pressurize the actuator to positions indicated and measure the distance between centerline of bearings in the rod end assembly and housing assembly (TESTING AND FAULT ISOLATION, Table 104).

Table 104: Bearing Center Distance

ACTUATOR POSITION	LENGTH REQUIREMENTS (INCHES)		
	65-44760-5, -10, -13, -22, -25, -33 65C36408-5, -10 65C38058-5, -10, -13, -22 65C38059-5, -10, -13	**65-44760-8, -12, -15, -24, -27, -35 65C36408-8, -12 65C38058-8, -12, -15, -24 65C38059-8, -12, -15**	**65-44760-7, -11, -14, -23, -26, -34 65C36408-7, -11 65C38058-7, -11, -14, -23 65C38059-7, -11, -14**
Retracted	14.086-14.160	14.756-14.830	15.003-15.077
Lock Engaged *[1]	14.669-14.831	15.339-15.501	15.586-15.748
Intermediate	19.933-19.953	20.853-20.873	21.100-21.120
FULL EXTEND FOR:			

Table 104: Bearing Center Distance (Continued)

ACTUATOR POSITION	LENGTH REQUIREMENTS (INCHES)		
	65-44760-5, -10, -13, -22, -25, -33 65C36408-5, -10 65C38058-5, -10, -13, -22 65C38059-5, -10, -13	**65-44760-8, -12, -15, -24, -27, -35 65C36408-8, -12 65C38058-8, -12, -15, -24 65C38059-8, -12, -15**	**65-44760-7, -11, -14, -23, -26, -34 65C36408-7, -11 65C38058-7, -11, -14, -23 65C38059-7, -11, -14**
65-44760-5,-10	23.123-23.203	———	———
65C36408-5,-10,	23.123-23.203	———	———
65C38058-5,-10	23.123-23.203		
65C38059-5,-10	23.123-23.203		
65-44760-13,-22, -25,-33	22.970-23.050	———	———
65C38058-13,-22	22.970-23.050		
65C38059-13	22.970-23.050		
65-44760-8,-12	———	24.429-24.509	———
65C36408-8,-12	———	24.429-24.509	———
65C38058-8,-12		24.429-24.509	
65C38059-8,-12		24.429-24.509	
65-44760-15,-24, -27,-35	———	24.276-24.356	———
65C38058-15,-24		24.276-24.356	
65C38059-15		24.276-24.356	
65-44760-7,-11	———	———	24.770-24.850
65C36408-7,-11	———	———	24.770-24.850
65C38058-7,-11			24.770-24.850
65C38059-7,-11			24.770-24.850
65-44760-14,-23, -26,-34	———	———	24.617-24.697
65C38058-14,-23			24.617-24.697
65C38059-14			24.617-24.697

*[1] Starting with actuator in retracted position, open all ports to atmosphere and apply tensile load to rod end assembly to extend inner piston until lock engagement stops piston. Optional: Open ports P, C2, and ALT to atmosphere and slowly increase hydraulic pressure at port C1 to extend piston and engage lock.

(b) Loosen nut (100, IPL Figure 2) and adjust rod end assembly (110) as required to obtain indicated length. Retighten nut (100) to 950-1000 lb-ins.

(8) Seal friction test

(a) Fully extend the actuator per TESTING AND FAULT ISOLATION, Table 101.

(b) Connect ports P and C1 to pressure source and open ports C2 and ALT to atmosphere. Apply and increase pressure at P and C1 just sufficient to retract outer piston. Check that pressure required to retract outer piston does not exceed 40 psi.

(c) Depressurize ports P and C1 and open C1 to atmosphere. Apply and increase pressure at P just sufficient to retract inner piston. Check that pressure required to retract inner piston is less than 30 psi.

(9) Lock proof load test

(a) Pressure actuator to fully retracted position per TESTING AND FAULT ISOLATION, Table 101 and open ports P, C1 and ALT to atmosphere.

(b) Apply pressure to port C2 and slowly increase pressure (do not exceed 275 psi) to extend inner and outer pistons until lock is engaged (pistons stop extending).

(c) Increase pressure to 275 psi and check that piston does not extend beyond an additional amount of 0.020 inch.

(10) Lock operating pressure test for 65-44760-5, -7, -8, -10 thru -15, -33 thru -35; 65C38059-5, -7, -8, -10 thru -15 assemblies.

(a) Connect test lamp, STD-5490 to connector (140, 465). Open ports C1, C2 and ALT to atmosphere and pressurize port P to 3000 psi to retract the piston. Check that test lamp, STD-5490 goes OFF.

(b) Connect port C1 to pressure source. Apply pressure at port C1 while maintaining 2950-3050 psi at port P. Slowly increase pressure at port C1 until light comes ON. Check that the pressure at port C1 when light comes ON does not exceed 600 psi.

(c) Slowly reduce pressure at port C1 until light goes OFF. Check that the pressure at port C1 when the light goes OFF is not less than 150 psi.

(11) Lock operating pressure test for 65-44760-22, -23, -24, -25, -26, -27; 65C36408-5, -7, -8, -10, -11 and -12; 65C38058-5, -7, -8, -10 thru -15, 22 thru -24 assemblies

(a) Open ports C1, C2 and ALT to atmosphere and pressurize port P to 3000 psi to fully retract pistons.

(b) Lock indicator slide (157) shall not be visible in rod end assembly (112) view hole.

(c) Connect port C1 to pressure source. Maintaining 3000 psi at port P, slowly increase pressure port C1 until slide (157) extends to cover view hole. Check that the pressure at port C1 when the slide covers the view hole does not exceed 600 psi.

(d) Slowly reduce the pressure at port C1 until the slide retracts from the view hole. Check that the pressure at port C1 when the slide retracts is not less than 150 psi.

NOTE: If the blocking valve was previously tested in 2. above, the following test may be omitted.

(12) After the test is completed, install blocking valve assembly and lockwire the rod end assembly using lockwire, G01048 per ASSEMBLY.

(13) Blocking Valve Function Test

(a) Cracking Pressure, B System

1) Apply 2950-3050 psi at port P and 40-50 psi to the Alt port, then extend the actuator fully by pressurizing C1 then C2. Decrease the pressure at port P to zero, then stop pressure to C1 and C2.

2) Open ports C1 and C2 to return and maintain 40-50 psi to the Alt port, then gradually apply pressure to port P until the actuator starts to retract, note the pressure when movement starts.

3) Check that the actuator starts to retract between 1900-2200 psi.

(b) Reset Pressure, B System

1) Apply 2950-3050 psi at port P and 40-50 psi to the Alt port, then extend the actuator fully by pressurizing C1, then C2.

2) Decrease the pressure at ports C1, then C2 to zero, and while the actuator retracts, decrease the pressure at port P until piston movement stops. Piston movement must stop before the piston reaches the fully retracted position, and note the pressure when movement stops.

3) Check that the piston movement stops when the pressure at port P is more than 1650 psi.

(c) Cracking Pressure, Standby System

1) Open ports C1 and C2 to return and apply 2950-3050 psi to port P.

2) Gradually increase pressure to port ALT until the actuator starts to extend, and note the pressure when movement starts.

3) Check that the pressure at port ALT necessary to start and maintain extension is between 1400-1700 psi.

(d) Reset Pressure, Standby System

1) With 2950-3050 psi applied at port P, increase the pressure at port ALT to 1950-2050 psi and allow the actuator to fully extend.

2) Gradually decrease the pressure at port ALT until the actuator starts to retract, and note the pressure when movement starts.

3) Check that the pressure at port ALT necessary to start and maintain retraction is less than 1100 psi.

DISASSEMBLY

1. **General**

   A. This procedure has the data necessary to disassemble the leading edge slat hydraulic actuator assembly.

   B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subject identified in this procedure.

   C. Refer to for the item numbers.

2. **Parts Replacement**

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

   A. All packings, seals and backup rings

   B. Lockwire (205, IPL Figure 2)

   C. Locking tab (265)

   D. Lockwasher (355)

3. **Disassemble Actuator Assembly (IPL Figure 1)**

   A. Use standard industry practices to disassemble actuator assembly.

   NOTE: Do not disassemble bracket assembly (55) unless necessary for repair or replacement.

4. **Disassemble Actuator Assembly**

   A. Tools/Equipment

   NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-5375	LE Slat Actuator Lock Washer Tab Bending Tool (Part #: C27019-1, Supplier: 81205) (Opt Part #: F80-0-1874, Supplier: 92003) (Opt Part #: F80-0-1875, Supplier: 92003)
SPL-5377	Holding Fixture, LE Slat Actuator (Part #: C27023-1, Supplier: 81205)
SPL-5378	Adapter - Torque Wrench (Part #: C27024-1, Supplier: 81205)
SPL-5427	Holding Fixture (Part #: C27023-1, Supplier: 81205) (Opt Part #: F80-0-2791, Supplier: 92003)
SPL-5428	Holding Fixture - Piston, L.E. Slat Actuator (Part #: F80263-1, Supplier: 81205) (Opt Part #: F80-0-2792, Supplier: 92003)
SPL-5429	Holding Fixture (Part #: F80-0-2847, Supplier: 92003)
SPL-5438	Adapter - Torque Wrench (Part #: F80259-3, Supplier: 81205)

Reference	Description
SPL-5439	Piloted Spanner Wrench (Part #: F80260-7, Supplier: 81205)
SPL-5440	Holding Fixture - Piston, LE Slat Actuator (Part #: F80263-1, Supplier: 81205)
SPL-5441	Adapter - Torque Wrench (Part #: C27024-1, Supplier: 81205) (Opt Part #: F80-4-67, Supplier: 92003)
SPL-5442	Piloted Spanner Wrench (Part #: F80260-7, Supplier: 81205) (Opt Part #: F80-4-68, Supplier: 92003)

B. References

Reference	Title
SOPM 20-50-04	INSTALLATION OF PERMANENT PINS AND PLUGS IN DRILL PASSAGES

C. Procedure (IPL Figure 2)

(1) Remove unions (5), fitting assembly (10) and packing (25).

(2) Remove restrictor (15) from fitting (20), if required per SOPM 20-50-04.

(3) Remove screws (35,40), gasket plate (45) and blocking valve assembly (30). Refer to DISASSEMBLY, Paragraph 5.B.(1) for diassembly instructions of blocking valve assembly.

(4) Remove screws (55), washers (60), nut (65), bushing (70), manifold assembly (50) and gasket plate (95).

NOTE: Do not disassemble manifold assembly unless necessary for repair or replacement.

(5) Restrain inner piston (345) and loosen nut (100 or 102). Unscrew rod end assembly (110, 112 or 435) from inner piston (345) and remove nut (100 or 102) and lock (105) from rod end assembly (110, 112 or 435).

(6) Do not remove lock indicator assembly (165 or 490) or slide (157) unless necessary for replacement. If required, remove lock indicator as follows:

(a) Rotate sleeve (145, 147 or 470) approximately 90 degrees and remove sleeve (145, 147 or 470), bushing (168), and spring (150, 167 or 475). Remove magnet seat (155 and 480) and separate magnet (160, 480) from magnet seat (155, 480). Unscrew slide retainer (162) from sleeve (147) and remove spring (152) and slide (157). Store new or serviceable magnet (160, 480) carefully to prevent loss of magnetic field. Store magnets individually in shock-absorbing, non-magnetic container and away from other magnetic material.

(b) Cut wire between sleeve (125, 130, 450 and 455) and rod end assembly (110, 435) and remove lock indicator assembly (165 and 490), spring (170 and 495) and sleeve (175, 500) from rod end assembly (110 and 435).

NOTE: Do not remove bearing (115 or 116) from rod end (120, 121 or 445) unless necessary for repair or replacement.

(7) Remove outer piston assembly (210) and associated parts.

(a) Secure assembly in Holding Fixture, SPL-5427 or Holding Fixture, SPL-5377.

NOTE: Holding Fixture, SPL-5427 or Holding Fixture, SPL-5377 is to be used only when blocking valve assembly (30) has been removed. If blocking valve assembly is still attached, use Holding Fixture, SPL-5377 together with torque wrench adapter, SPL-5378 or use holding fixture, SPL-5429.

(b) Check that inner piston (345) extends beyond locked position (TESTING AND FAULT ISOLATION).

(c) Unscrew bearing (180) using torque wrench adapter, SPL-5441 or torque wrench adapter, SPL-5378. Remove bearing (180) and outer piston assembly (210) and associated parts.

(d) Separate bearing (180) from outer piston assembly (210).

(8) Remove scraper (185), seal (190), packing (195) and backup rings (200) from bearing (180).

(9) Remove lockwire (205) from groove in outer piston assembly (210) and transfer tube (240).

(10) Restrain outer piston assembly (210) in holding fixture, SPL-5428, or Holding Fixture, SPL-5440; unscrew transfer tube (240) from outer piston assembly. Remove outer piston assembly.

(11) Remove seal (225, 235) and scraper (230) from outer piston assembly (210).

(12) Separate transfer tube (240) from inner piston (345). Remove packings (245,255) and backup rings (250,260) from transfer tube (240).

(13) Straighten locking tab (265). Restrain inner piston (345) and remove end nut (270) using Piloted Spanner Wrench, SPL-5442 or Piloted Spanner Wrench, SPL-5439. Discard locking tab (265).

(14) Remove lock retainer (275), lock segments (280) and lock piston (285), spring washer (310) and spring (315) from inner piston assembly (340).

CAUTION: LOCK SEGMENTS (280) ARE MATCHED PARTS AND MUST BE KEPT TOGETHER TO ENSURE PROPER OPERATON AFTER ASSEMBLY.

(15) Remove spring (315) and spring washer (310) from lock piston (285). Separate lock piston (285), lock segments (280) and lock retainer (275). Keep and tag lock segments together as a matched set.

(16) Remove keys (290), stop (295), volute spring (300) and spring guide (305) from lock piston (285).

(17) Remove support tube (320) from inner piston (345). Remove packings (325,335) and backup rings (330,340) from support tube.

(18) Remove seal (350) from inner piston (345).

(19) Restrain housing assembly (390) in Holding Fixture, SPL-5427 or Holding Fixture, SPL-5440. Straighten tab of lockwasher (355) using tab bending tool F80-0-1874, F80-0-1875 or Tab Bending Tool, SPL-5375. Remove internal nut (360) using adapter F80-0-1552-14 or torque wrench adapter, SPL-5438 and remove stud assembly (365) from housing assembly (390).

(20) Remove packing (380) and backup rings (385) from stud assembly (365).

NOTE: Do not disassemble stud assembly (365) or housing assembly (390) or remove strap (425) and nameplate (420) unless necessary for repair or replacement.

5. Disassemble Blocking Valve Assembly

A. References

Reference	Title
SOPM 20-50-04	INSTALLATION OF PERMANENT PINS AND PLUGS IN DRILL PASSAGES

B. Procedure (IPL Figure 3)

(1) Remove cap (5), stop (20), shim (25) and springs (30,35) from housing assembly (100). Remove packing (10) and backup rings (15) from cap (5).

NOTE: Note thickness of shim (25) to facilitate assembly.

(2) Remove cap (40), shim (45), spring (50) from housing assembly (100).

NOTE: Note thickness of shim (45) to facilitate assembly.

CAUTION: SLIDE (130) IS A MATCHED PRECISION PART. HANDLE SLIDE WITH EXTREME CARE TO AVOID DAMAGE.

(3) Remove slide (130) and remove packing (55) and backup ring (60) from slide (130). Reinstall slide (130).

CAUTION: HOUSING ASSY (100) IS A PRECISION PART. AVOID UNNECESSARY HANDLING.

(4) Remove plug (65), packing (70) and backup ring (75) from housing assembly (100).

CAUTION: CARE SHOULD BE TAKEN WHEN HANDLING MATCHED SETS (130, 145) AND (135, 150) TO MAKE SURE THEY ARE NOT MISMATCHED OR DAMAGED.

(5) Remove jet (115) if required per SOPM 20-50-04. Restrain slides (130, 135) to prevent axial movement during handling.

(NOT APPLICABLE)

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 subject identified in this procedure.

D. Refer to IPL Figure 1, IPL Figure 2 and IPL Figure 3 for the item numbers.

2. Check

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

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

B. References

Reference	Title
SOPM 20-20-01	MAGNETIC PARTICLE INSPECTION

C. Procedure

(1) Check all parts for obvious defects in accordance with standard industry practtices.

(2) Magnetic particle check the following parts per SOPM 20-20-01.

(a) IPL Figure 2

1) Nuts (100,102,270,360)
2) Rod end (120, 121, 445)
3) Sleeve (145, 470)
4) Pistons (220,285,345)
5) Retainer (275)
6) Segment (280)
7) Keys (290)
8) Stud (375)
9) Transfer tube (240)

(b) IPL Figure 3

1) Caps (5,40)
2) Stop (20)
3) Plug (65)

4) Slides (130,135)

5) Housing (165)

(3) Penetrant check the following parts per SOPM 20-20-01.

(a) IPL Figure 2

1) Manifold (90)

2) Springs (150, 152, 167, 170, 300, 315, 475)

3) Magnet seat (155, 480)

4) Bearing (180,215)

5) Support tube (320)

6) Sleeve (147)

7) Slide (157)

8) Side Retainer (162)

(b) Springs (30,35,50, IPL Figure 3)

(4) Check springs per CHECK, Table 501.

Table 501: Spring Check Data

ITEM NO., IPL FIG.	TEST LENGTH (INCHES)	LOAD (LBS)
IPL Figure 2		
150,475	0.71-0.79 0.595-0.605	0.895-0.905 1.05-1.16
152	0.659-0.669 0.959-0.969	3.84-3.91 0.34-0.42
167	0.945-0.955 1.725-1.735	2.26-2.76 0.51-0.63
170,495	1.393-1.407 0.896-0.904	2.85-3.15 4.28-4.72
300 *[1]	1.73 2.57	5.5-8.91 2.0-4.18
315	1.849-1.851	52-64
IPL Figure 3		
30	1.634-1.644 1.254-1.264	26.70-29.50 57.67-63.73
35	1.530-1.540 1.150-1.160	13.27-14.67 28.69-31.71
50	1.569-1.571 1.239-1.241	27.6-30.4 122.1-134.9

*[1] FORCE MAY BE CHECKED WITH SPRING SUBMERGED IN fluid, D00153.

(5) Check that magnet (160, 485, IPL Figure 2) flux density is 64-66 gauss with test probe on centerline and 0.268-0.272 inch from face of magnet.

(6) Check lock indicator assembly (165, 490, IPL Figure 2) switch actuating limits.

(a) Place magnet similar to magnet (160, 485) in magnet tool (CHECK, Figure 501). Check that magnet tool flux density is 60-70 gauss with test probe on centerline and 0.268-0.272 inch from face of magnet tool.

(b) Place magnet in magnet tool on switch centerline. Make sure that centerlines of magnet tool and switch are aligned to 0.004 inch.

(c) Move magnet in tool toward lock indicator assembly (165, 490) until magnet is flush with face of switch (CHECK, Figure 502). Check that switch has closed.

NOTE: Switch closure may be confirmed using volt-ohmmeter on X1000 resistance scale, or equivalent indicator, that provides not more than 100 milliamps current through switch.

(d) Move magnet tool gradually away from face of switch until switch opens. Check distance at this position per CHECK, Figure 502.

(e) Move tool magnet gradually toward switch until switch closes. Check distance at this position per CHECK, Figure 502.

(f) Continue to move tool magnet toward switch and then past nominal switch face surface for secondary actuation limit. Check that switch remains closed to dimension shown per CHECK, Figure 502.

(7) Inspect the rod ends (120, 121, and 445, IPL Figure 2)

NOTE: This inspection is specified by SB 737-27A1243.

(a) Visually inspect rod ends (120, 121 and 445) for signs of vibro-engraving (vibro-engraving is any identification that is etched, scraped or cut into the material of the part).

(b) If no evidence of vibro-engraving is found, then no further inspection or rework is required.

(c) If evidence of vibro-engraving is found on the rod ends (120, 121 and 445), inspect the rod ends for cracks using 10x magnification minimum.

(d) If cracks are found, then discard the rod end and replace it.

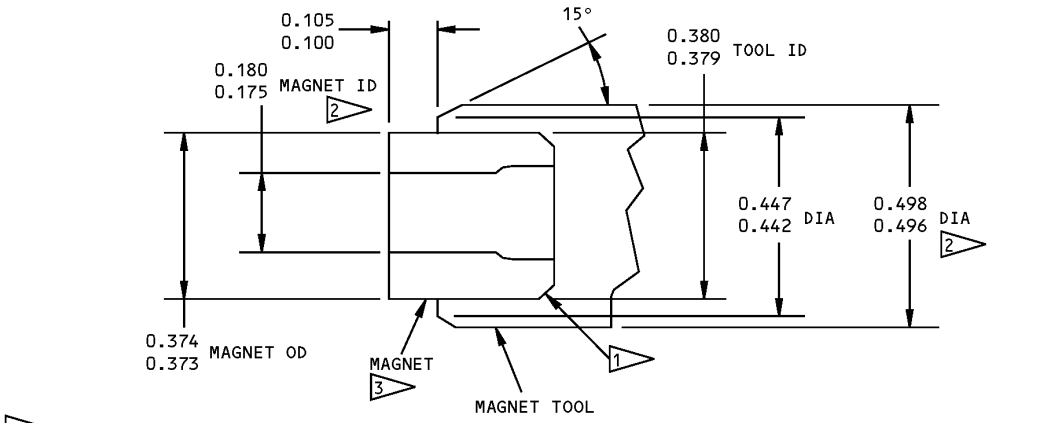
(e) If no cracks are found, then refer to REPAIR 9-1 for repair instructions.

CAUTION: DO NOT REMOVE THE SLEEVES (145, 150) FROM HOUSING (165) UNLESS REPLACEMENT IS NECESSARY.

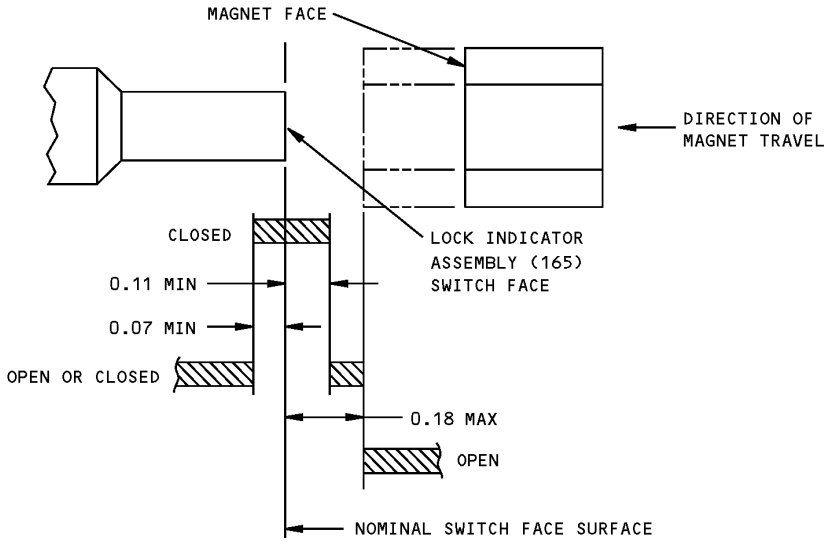
(8) Check valve slides (130, 135, IPL Figure 3) and sleeves (145, 150, IPL Figure 3) without ring, (60, IPL Figure 3) and packing (55, IPL Figure 3), as matched assemblies.

(a) Lubricate slide and sleeve thoroughly with fluid, D00153 at room temperature and assemble.

(b) Turn assembly on end. Slide must move freely under its own weight through sleeve at each of three angular positions spaced approximately 120 degrees apart.



Checking Tool
Figure 501



LOCK INDICATOR ASSEMBLY (165,490)

ALL DIMENSIONS ARE IN INCHES

Switch Actuating Limits
Figure 502

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
65-44529	PISTON-LOCK	1-1
65-44752	HOUSING	2-1
65-44757	PISTON-INNER	3-1
65-44758	STUD-LOCK	4-1
65-44764	PISTON	5-1
65-44767	BEARING	6-1
69-54553	STOP	7-1
69-73482	SLEEVE	8-1
69-73485	ROD END	9-1
- - -	MISC PARTS REFINISH	10-1
69-35852 69-35879	SLEEVE	11-1

2. **Standard Practices**

   A. Refer to the following standard practices as applicable, for details of procedures in individual repairs.
   - SOPM 20-30-02 Stripping of Protective Finishes
   - SOPM 20-30-03 General Cleaning Procedures
   - SOPM 20-41-01 Decoding Table for Boeing Finish Codes
   - SOPM 20-41-02 Application of Chemical and Solvent Resistant Finishes
   - SOPM 20-42-03 Hard Chrome Plating
   - SOPM 20-42-05 Bright Cadmium Plating
   - SOPM 20-43-01 Chromic Acid Anodizing

3. **Materials**

   NOTE: Equivalent substitutes may be used.

   A. Enamel – BMS 10-60, BAC702, white gloss coating, C50050

   B. Primer – BMS 10-11, Type 1 primer, C00259

4. **Dimensioning Symbols**

   A. Standard True Position Dimensioning Symbols used in the applicable repair procedures are shown in REPAIR-GENERAL, Figure 601.

—	STRAIGHTNESS
▱	FLATNESS
⊥	PERPENDICULARITY (OR SQUARENESS)
//	PARALLELISM
○	ROUNDNESS
⌭	CYLINDRICITY
⌒	PROFILE OF A LINE
⌓	PROFILE OF A SURFACE
◎	CONCENTRICITY
⌯	SYMMETRY
∠	ANGULARITY
↗	RUNOUT
↗↗	TOTAL RUNOUT
⌴	COUNTERBORE OR SPOTFACE
⌵	COUNTERSINK
⌖	THEORETICAL EXACT POSITION OF A FEATURE (TRUE POSITION)
∅	DIAMETER
S ∅	SPHERICAL DIAMETER
R	RADIUS
SR	SPHERICAL RADIUS
()	REFERENCE
BASIC (BSC) OR [DIM]	A THEORETICALLY EXACT DIMENSION USED TO DESCRIBE SIZE, SHAPE OR LOCATION OF A FEATURE. FROM THIS FEATURE PERMISSIBLE VARIATIONS ARE ESTABLISHED BY TOLERANCES ON OTHER DIMENSIONS OR NOTES.
[-A-]	DATUM
Ⓜ	MAXIMUM MATERIAL CONDITION (MMC)
Ⓛ	LEAST MATERIAL CONDITION (LMC)
Ⓢ	REGARDLESS OF FEATURE SIZE (RFS)
Ⓟ	PROJECTED TOLERANCE ZONE
FIM	FULL INDICATOR MOVEMENT

EXAMPLES

— | 0.002	STRAIGHT WITHIN 0.002
⊥ | 0.002 | B	PERPENDICULAR TO DATUM B WITHIN 0.002
// | 0.002 | A	PARALLEL TO DATUM A WITHIN 0.002
○ | 0.002	ROUND WITHIN 0.002
⌭ | 0.010	CYLINDRICAL SURFACE MUST LIE BETWEEN TWO CONCENTRIC CYLINDERS, ONE OF WHICH HAS A RADIUS 0.010 INCH GREATER THAN THE OTHER
⌒ | 0.006 | A	EACH LINE ELEMENT OF THE SURFACE AT ANY CROSS SECTION MUST LIE BETWEEN TWO PROFILE BOUNDARIES 0.006 INCH APART RELATIVE TO DATUM A
⌓ | 0.020 | A	SURFACES MUST LIE WITHIN PARALLEL BOUNDARIES 0.020 INCH APART AND EQUALLY DISPOSED ABOUT TRUE PROFILE
◎ | ∅ 0.0005 | C	CONCENTRIC TO DATUM C WITHIN 0.0005 DIAMETER
⌯ | 0.010 | A	SYMMETRICAL WITH DATUM A WITHIN 0.010
∠ | 0.005 | A	ANGULAR TOLERANCE 0.005 WITH DATUM A
⌖ | ∅ 0.002 Ⓢ | B	LOCATED AT TRUE POSITION WITHIN 0.002 DIA RELATIVE TO DATUM B, REGARDLESS OF FEATURE SIZE
⊥ | ∅ 0.010 Ⓜ | A 0.510 Ⓟ	AXIS IS TOTALLY WITHIN A CYLINDER OF 0.010 INCH DIAMETER, PERPENDICULAR TO DATUM A, AND EXTENDING 0.510 INCH ABOVE DATUM A, MAXIUM MATERIAL CONDITION
[2.000] OR 2.000 BSC	THEORETICALLY EXACT DIMENSION IS 2.000

True Position Dimensioning Symbols
Figure 601

LOCK PISTON - REPAIR 1-1

65-44529–2, –3

1. General

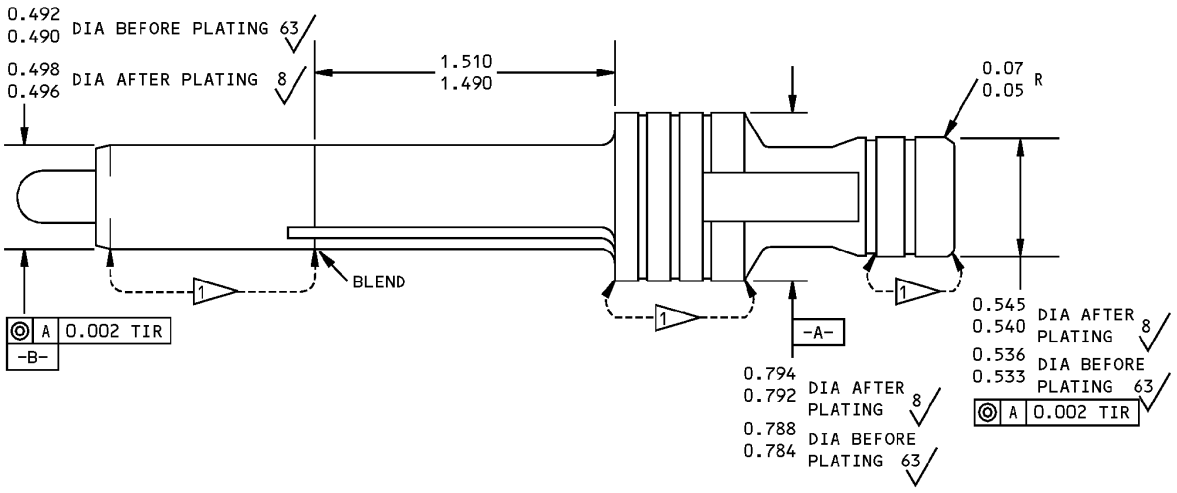
A. This procedure has the data necessary to repair and refinish the lock piston.

B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 1-1, Figure 601 .



REFINISH

PASSIVATE (F-17.09) EXCEPT CHROME PLATE SURFACES NOTED BY 1

1 CHROME PLATE (F-15.03) SINGLE PLATING THICKNESS 0.004-0.009 ON INDICATED SURFACES. NO PLATING ALLOWED IN GROOVES

63 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES 0.005-0.010 R

MATERIAL: 15-5PH (OPT: 17-4PH) CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Lock Piston Refinish
Figure 601

HOUSING - REPAIR 2-1

65-44752–1, –2, –3

1. General

A. This procedure has the data necessary to repair and refinish the housing.

B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

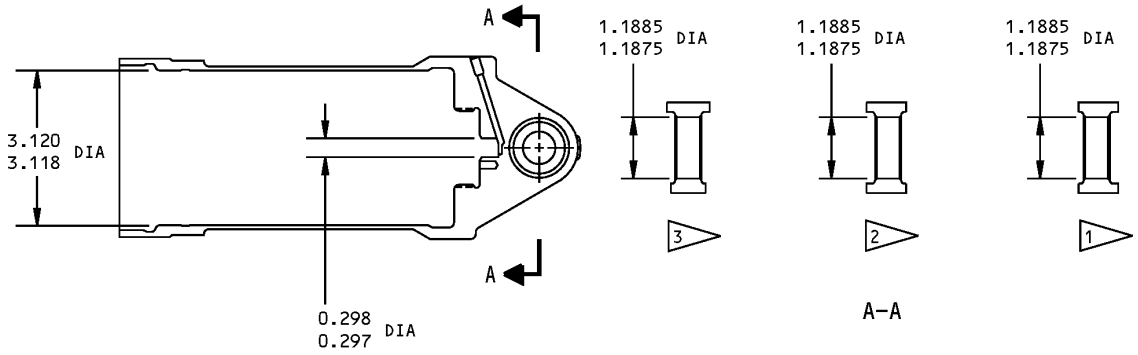
2. Bearing Replacement

A. Remove the bearing.

B. Install replacement bearing per SOPM 20-50-03.

3. Refinish

A. Housing – Passivate (F-17.09) all over. Material: 15-5PH CRES, 180-200 ksi.



REFINISH

PASSIVATE (F-17.09) ALL OVER

1 65-44752-4 HOUSING USED ON 6544752-1 ASSEMBLY

2 65-44752-5 HOUSING USED ON 6544752-2 ASSEMBLY

3 65-44752-6 HOUSING USED ON 6544752-3 ASSEMBLY

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

BREAK ALL SHARP EDGES

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Housing Repair
Figure 601

INNER PISTON - REPAIR 3-1

65-44757–1, –2

1. General

A. This procedure has the data necessary to repair and refinish the housing.

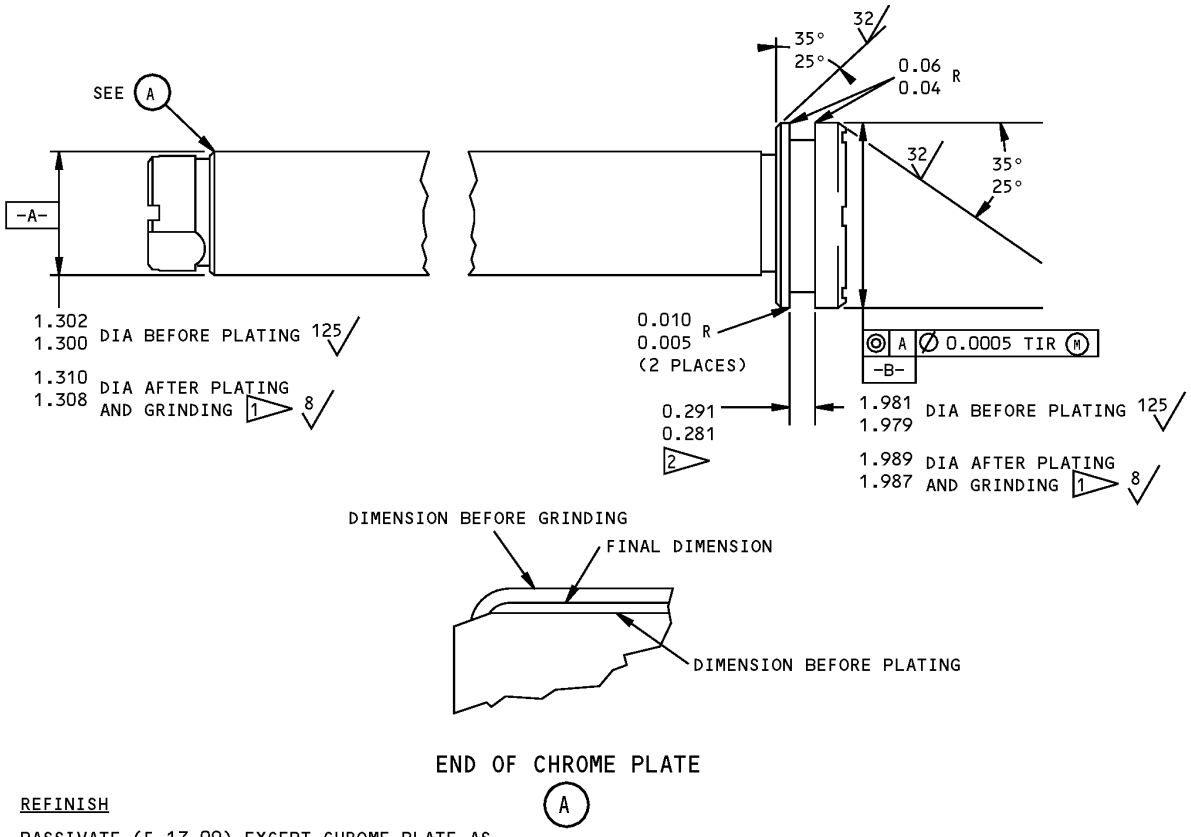
B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 3-1, Figure 601



Inner Piston Refinish
Figure 601

LOCK STUD - REPAIR 4-1

65-44758–1

1. General

A. This procedure has the data necessary to repair and refinish the lock stud.

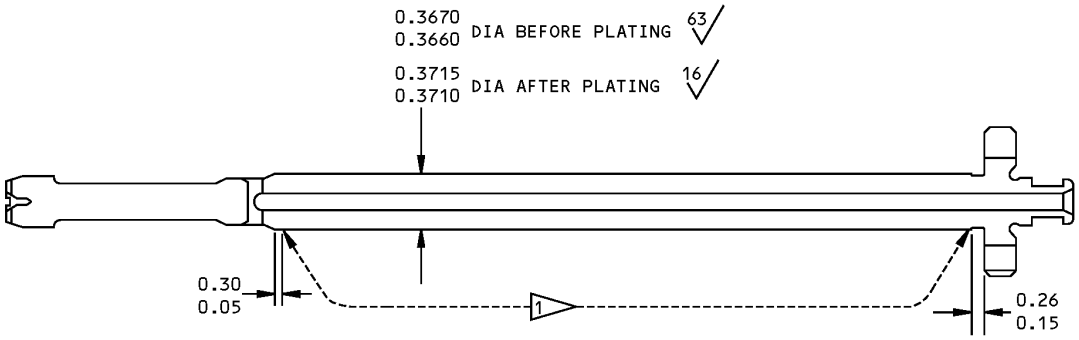
B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 4-1, Figure 601.



REFINISH

CHROME PLATE (F-15.04) SINGLE PLATING THICKNESS 0.004-0.006 AND VAPOR BLAST TO REMOVE HEAT TREAT SCALE AND DISCOLORATION SURFACES INDICATED BY 1 . NO FINISH (F-25.01) ALL OTHER SURFACES

MATERIAL: 4340M STEEL, 275-300 KSI

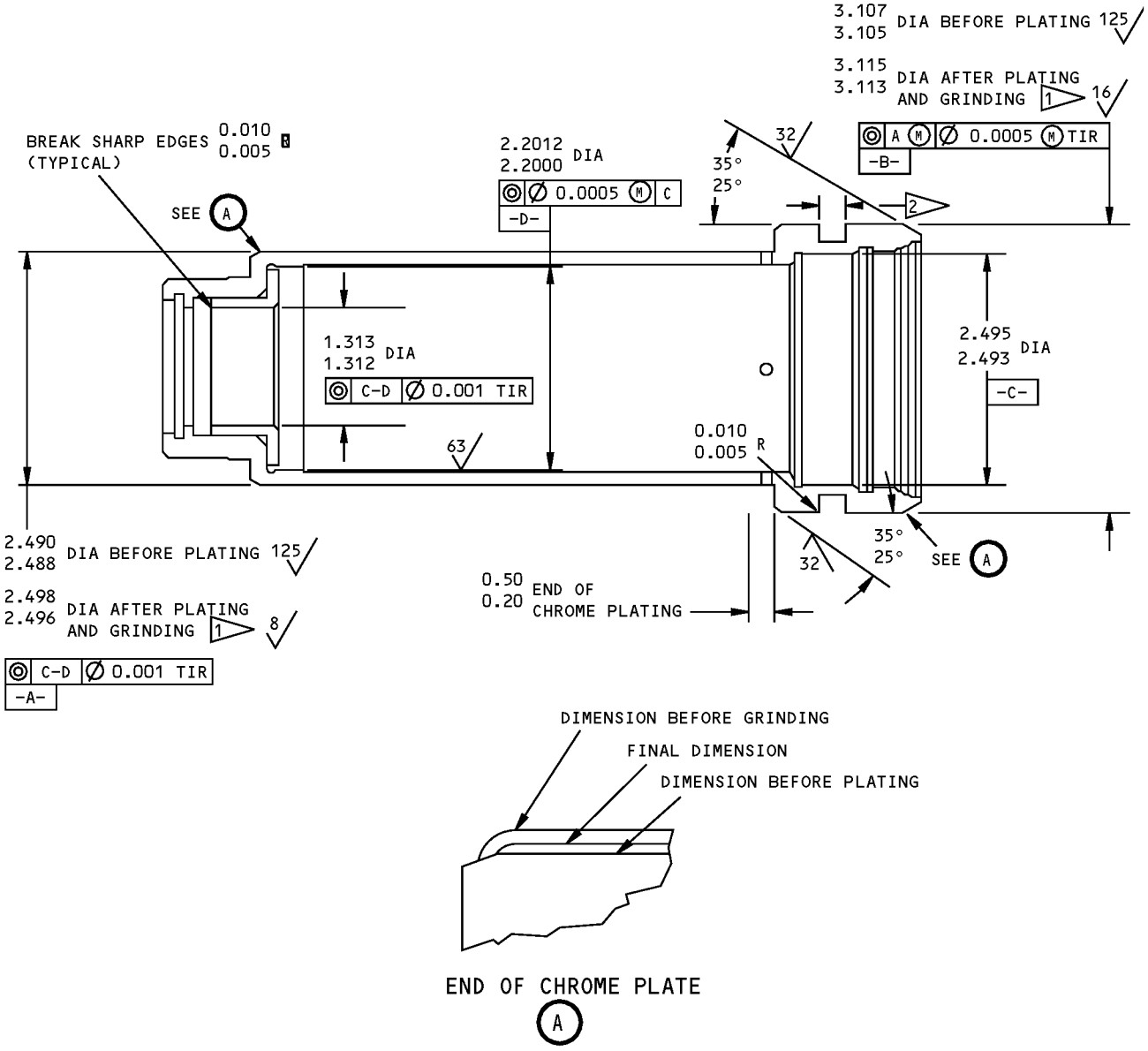
ALL DIMENSIONS ARE IN INCHES

Lock Stud Refinish
Figure 601

OUTER PISTON - REPAIR 5-1

65-44764–1

1. **General**
   A. This procedure has the data necessary to repair and refinish the outer piston.
   B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.
   C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.
   D. Refer tolPL Figure 2 for the item numbers.
2. **Bearing (215) Replacement (REPAIR 5-1, Figure 601)**
   A. Remove bearing.
   B. Install replacement bearing and machine to dimension shown.
3. **Refinish**
   A. For repair of surfaces which may only require stripping and restoration of original finish, refer to REFINISH instruction, REPAIR 5-1, Figure 601.



REFINISH

PISTON (220) -- PASSIVATE (F-17.09) EXCEPT CHROME PLATE SURFACES INDICATED BY 1.

1 CHROME PLATE (F-15.03) SINGLE PLATING THICKNESS 0.003 MINIMUM AFTER PLATING AND GRINDING

2 NO PLATING ALLOWED IN GROOVE

125 ALL MACHINED SURFACES UNLESS SHOWN DIFFERENTLY

MATERIAL: 15-5PH CRES, 180-200 KSI

ALL DIMENSIONS ARE IN INCHES

Outer Piston Repair
Figure 601

BEARING - REPAIR 6-1

65-44767THRU–1, –6

1. General

A. This procedure has the data necessary to repair and refinish the bearing.

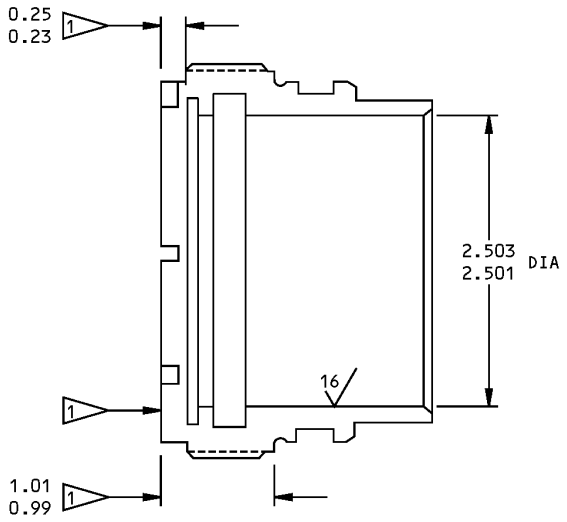
B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 6-1, Figure 601.



REFINISH

CADMIUM PLATE (F-15.06) AREA INDICATED BY 1

MATERIAL: AL-NI-BR PER AMS 4640

ALL DIMENSIONS ARE IN INCHES

Bearing Refinish
Figure 601

STOP - REPAIR 7-1

69-54553–1

1. General

A. This procedure has the data necessary to repair and refinish the stop.

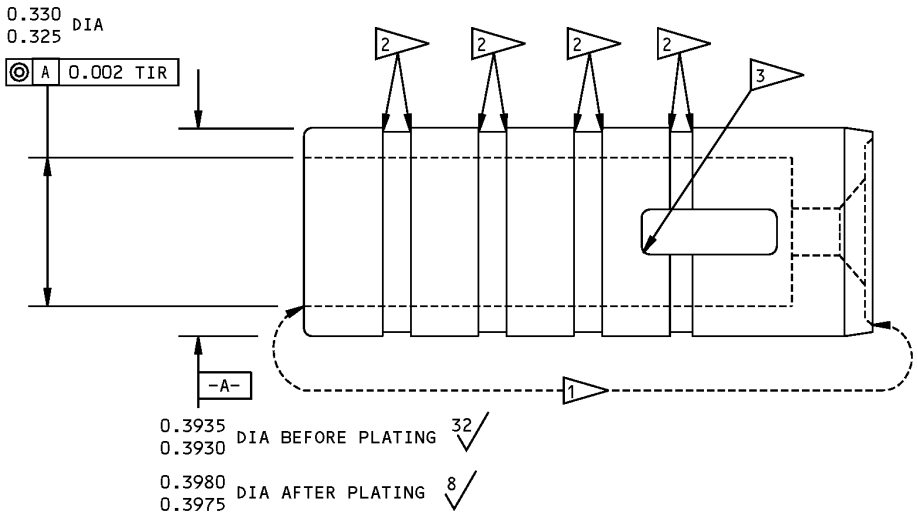
B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 7-1, Figure 601.



REFINISH

CHROME PLATE (F-15.04) AREA INDICATED BY 1 .

1 NO FINISH (F-25.01) ALL OVER SURFACES

2 NO PLATING ALLOWED IN CORNER RADIUS OF GROOVES

3 NO PLATING ALLOWED IN CORNER RADIUS OF SLOTS

MATERIAL: 4340M STEEL, 275-300 KSI

ALL DIMENSIONS ARE IN INCHES

Stop Refinish
Figure 601

SLEEVE - REPAIR 8-1

69-73482–1

1. General

A. This procedure has the data necessary to repair and refinish the sleeve.

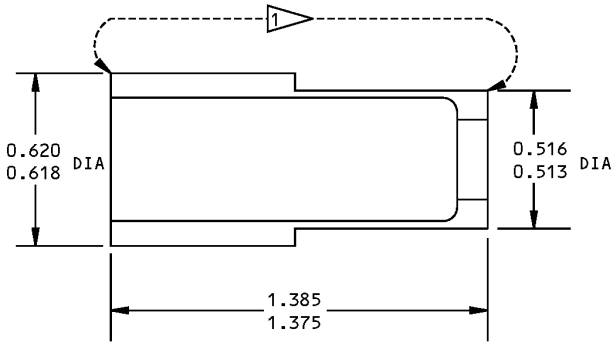
B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Plating Repair

A. Repair consists of stripping and restoration of original finish. Refer to Refinish instructions in REPAIR 8-1, Figure 601



REFINISH

PASSIVATE (F-17.09) ALL OVER EXCEPT CHROME PLATE AS INDICATED BY 1

1 CHROME PLATE (F-15.03) INDICATED SURFACE. SINGLE PLATING THICKNESS 0.0003-0.0007. HAND HONE OR LAP WITH 600 GRIT ALUMINUM OXIDE ABRASIVE AS REQUIRED

MATERIAL: 15-5PH CRES, 170-190 KSI

ALL DIMENSIONS ARE IN INCHES

Sleeve Refinish
Figure 601

ROD END - REPAIR 9-1

69-73485–3, –5, –7, –9

1. General

A. This procedure has the data necessary to repair and refinish the rod end.

B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

E. General repair details

(1) Material: 15-5PH CRES, 170-190 ksi

(a) 180-200 ksi

2. Bearing Replacement

A. Remove bearing.

B. Install replacement bearing with grease and roller swage bearing per SOPM 20-50-03.

3. Refinish

A. Rod end (69-73485-4, -6, -8) – Passivate (F-17.09) all over except apply dry film solid film lubricant, D50081 per SOPM 20-50-08, method 3 (F-19.10) on threads only.

B. Rod end (69-73485-10) – Passivate (F-17.25) all over, except apply dry film solid film lubricant, D50081 per SOPM 20-50-08, method 3 (F-19.10) on threads only.

4. Repair

A. Repair of vibro-engraved rod ends (120, 121, and 445, IPL Figure 2)

(1) Option 1 - Rework the rod end

(a) Remove the vibro-engraved part number by hand polishing. Use 180 grit emery paper, followed by a final polish with 320 grit or finer emery paper to obtain a smooth, polished surface finish. Remove the minimum amount of material required to remove the vibro-engraving. The polished surface shall be smooth and free of any abnormal surface shape changes.

(b) Part mark the rod end using rubber-stamp method, and apply a skydrol and abrasion resistant, clear coat finish coating, B00571 as specified by SOPM 20-50-10.

(2) Option 2 - Send the rod end assemblies to the vendor they were received from for repair or replacement.

MISCELLANEOUS PARTS REFINISH - REPAIR 10-1

1. Miscellaneous Parts Refinish

A. Repair of parts listed in REPAIR 10-1, Table 601 consists of restoration of the original finish.

Table 601: Refinish Details

IPL FIG. & ITEM	MATERIAL	FINISH
Fig. 1		
Tube assemblies (35C,40C,45B,45C, 50B)	Steel	Apply primer, C00259 (F-20.02) and enamel coating, C50069 (F-21.03) on external surfaces only.
Tube assembly (45E)	Steel	Apply primer, C00259 (F-20.03).
Tube assemblies (35,35A,35B,35D,40, 40A,40B,45,45A,45D, 45F,50,50A)	Steel	Passivate (F-17.09). Then apply primer, C00259 (F-20.02) and enamel coating, C50069 (F-21.03) on external surfaces only.
Bracket assemblies (55)		Apply enamel coating, C50050 (SRF-14.9812) all over.
Brackets (65,75,80)	Al alloy	Chromic acid anodize and apply primer, C00259 (F-18.13) all over.
Fig. 2		
Fitting (20)	304, 316 or 347 CRES	Passivate (F-17.09).
Manifold assembly (50)	Al alloy	Chromic acid or sulphuric acid anodize (F-17.05).
Nut (100,102)	15-5PH CRES, 170-190 KSI	Passivate (F-17.09).
Spring (170)	17-7PH CRES	Passivate (F-17.09).
Tube (240)	15-5PH CRES, 180-200 KSI	Passivate (F-17.09) all over. Apply lubricant, D00113 (F-19.10) on threads.
Spring (300)	15-5PH CRES, 220-240 KSI	Passivate (F-8.07).
Washer (310)	305 CRES, 150-200 KSI	Passivate (F-8.07).
Fig. 3		
Cap (5), stop (20)	17-4PH CRES, 170-190 KSI	Passivate (F-8.07).
Springs (30,35)	Elgiloy	Nickel plate (F-1.801) 0.0003-0.0005 in. thick all over.
Spring (50)	Chrome silicon wire	Cadmium plate (F-1.1923) all over.
Plug (65)	17-4PH CRES	Passivate (F-8.07).
Slide (130), Sleeve (145)	440C CRES	Passivate (F-17.09).
Slide (135), Sleeve (150)	Nitralloy 135	Passivate (F-25.01).

Table 601: Refinish Details (Continued)

IPL FIG. & ITEM	MATERIAL	FINISH
Housing (165)	15-5PH CRES, 170-190 KSI	Passivate (F-17.09).

BLOCKING VALVE SLEEVES - REPAIR 11-1

69-35852–1, 69-35879–2

1. General

A. This procedure has the data necessary to repair blocking valve sleeves.

B. Refer to REPAIR-GENERAL, Paragraph 2. for the Standard Overhaul Practices Manual (SOPM) subjects identified in this procedure.

C. Refer to REPAIR-GENERAL, Paragraph 3. for the description of the consumable codes identified in this procedure.

D. Refer to IPL Figure 1 for the item numbers.

2. Blocking Valve Sleeve Replacement

NOTE: This repair includes procedures for replacing sleeves (145 and 150, IPL Figure 3). For repair of surfaces which may only require stripping and restoration of original finish, refer to REPAIR 10-1.

A. Remove sleeves (145, 150, IPL Figure 3).

B. Clean cavity in housing (165) and check for defects.

C. Hone OD of new sleeves for interference fit of 0.0004-0.0008 inch with housing (165).

D. Bake housing (165) in oven at 450-500°F for 1 hour.

E. Install sleeves (145, 150, IPL Figure 3) in housing (165). Allow to cool slowly to room temperature.

F. Hone ID of sleeve (150) until slide (135) is a tight sliding fit in sleeve (150).

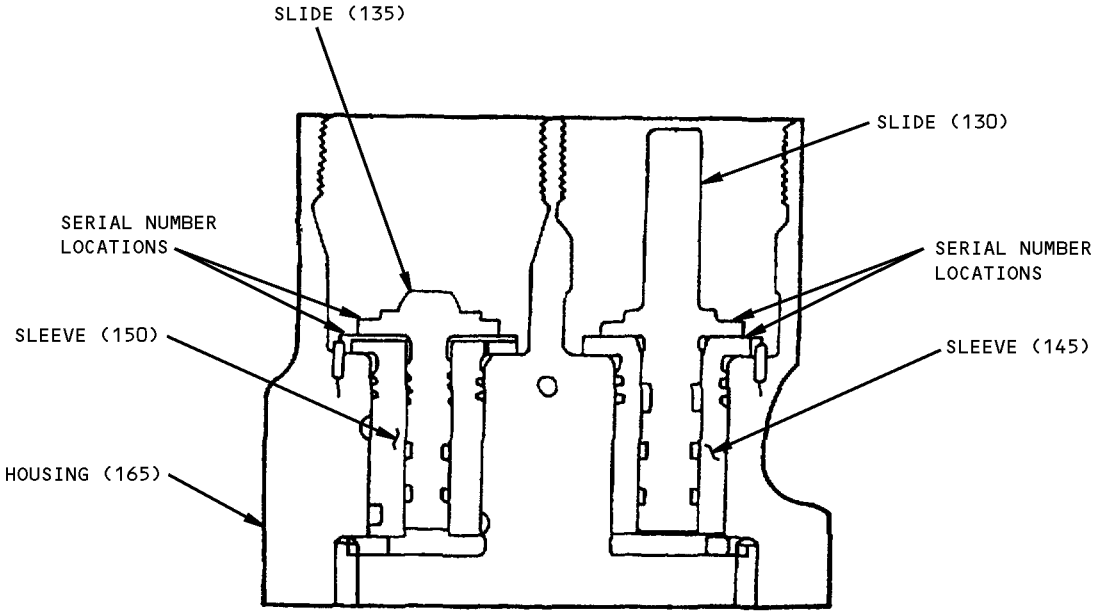
G. Lap mating surfaces of slide (135) and sleeve (150) to a surface finish of 4 microinches or better with clearance which will keep leakage within limits per TESTING AND FAULT ISOLATION.

H. Test slide and sleeve fit per CHECK, Paragraph 2.C.(8).

I. Fit slide (130) into sleeve (145) in accordance with preceding steps REPAIR 11-1, Paragraph 2.F., REPAIR 11-1, Paragraph 2.G., REPAIR 11-1, Paragraph 2.H..

CAUTION: EACH OF THESE SETS ARE PRECISION MATCHED. PARTS MUST BE KEPT TOGETHER TO MAINTAIN PROPER FIT.

J. Electro-etch or vibro engrave serial numbers on each set per SOPM 20-50-10 and REPAIR 11-1, Figure 601.



ITEM NUMBERS REFER TO IPL FIG. 3

Blocking Valve Slide and Sleeve Serial Number Locations
Figure 601

ASSEMBLY

1. General

A. This procedure has the data necessary to assemble the asemble the leading edge slat hydraulic actuator assembly.

B. Refer to the Standard Overhaul Practices Manual (SOPM) for the SOPM subject identified in this procedure.

C. Refer to IPL Figure 1, IPL Figure 2 and IPL Figure 3 for the item numbers.

2. Assemble Blocking Valve Assembly

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜ able & intermixable with Type V)
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995˜ C32

B. References

Reference	Title
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-60-03	LUBRICANTS

C. Procedure IPL Figure 3

CAUTION: HOUSING ASSEMBLY (100) CONTAINS PRECISION MATCHED PARTS. AVOID UNNECESSARY HANDLING.

NOTE: For lubricants, refer to SOPM 20-60-03.

(1) Lightly lubricate packing (70) and backup ring (75) with fluid, D00153 and install packing and backup ring on plug (65). Install plug on housing assembly (100).

(2) Remove slide (130) from housing assembly (100). Lightly lubricate packing (55) and backup ring (60) with fluid, D00153 and install on slide. Reinstall slide (130) in housing assembly (100).

(3) Install spring (50), shim (45) and retainer cap (40) on housing assembly (100). Tighten retainer cap to 150-180 lb-in.

NOTE: Use shim thickness as noted during disassembly.

(4) Lightly lubricate packing (10) and backup ring (15) with fluid, D00153 and install on retainer cap (5). Install spring (30,35), shim (25), stop (20) and retainer cap (5) on housing assembly (100). Tighten retainer cap to 150-180 lb-in.

NOTE: Use shim thickness as noted during disassembly.

(5) Test blocking valve assembly per Testing and Trouble Shooting.

(6) Lockwire retainer caps (5, 40) with lockwire, G01048 using double twist method per SOPM 20-50-02.

3. Assemble Actuator Assembly

A. Tools/Equipment

NOTE: Equivalent substitutes may be used.

Reference	Description
SPL-5375	LE Slat Actuator Lock Washer Tab Bending Tool (Part #: C27019-1, Supplier: 81205) (Opt Part #: F80-0-1874, Supplier: 92003) (Opt Part #: F80-0-1875, Supplier: 92003)
SPL-5377	Holding Fixture, LE Slat Actuator (Part #: C27023-1, Supplier: 81205)
SPL-5378	Adapter - Torque Wrench (Part #: C27024-1, Supplier: 81205)
SPL-5427	Holding Fixture (Part #: C27023-1, Supplier: 81205) (Opt Part #: F80-0-2791, Supplier: 92003)
SPL-5428	Holding Fixture - Piston, L.E. Slat Actuator (Part #: F80263-1, Supplier: 81205) (Opt Part #: F80-0-2792, Supplier: 92003)
SPL-5438	Adapter - Torque Wrench (Part #: F80259-3, Supplier: 81205)
SPL-5439	Piloted Spanner Wrench (Part #: F80260-7, Supplier: 81205)
SPL-5440	Holding Fixture - Piston, LE Slat Actuator (Part #: F80263-1, Supplier: 81205)
SPL-5441	Adapter - Torque Wrench (Part #: C27024-1, Supplier: 81205) (Opt Part #: F80-4-67, Supplier: 92003)
SPL-5442	Piloted Spanner Wrench (Part #: F80260-7, Supplier: 81205) (Opt Part #: F80-4-68, Supplier: 92003)
STD-5490	Lamp - Test, 28-volts DC

B. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
A00551	Sealant - Fuel Tank	BAC5010, Type 44 (BMS5-44, BMS5-45)
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic, Erosion Arresting, Fire Resistant	BMS3-11 Type IV (interchange˜able & intermixable with Type V)
D50025	Grease - PAG No. 2 Lithium Based - BATCO X8401-2	
G01048	Lockwire - Corrosion Resistant Steel (0.032 In. Dia.)	NASM20995˜C32
G01148	Sleeve - Insulation, Electrical, Heat Shrinkable - RT-876	

C. References

Reference	Title
SOPM 20-30-03	GENERAL CLEANING PROCEDURES
SOPM 20-50-02	INSTALLATION OF SAFETYING DEVICES
SOPM 20-60-03	LUBRICANTS
SOPM 20-60-04	MISCELLANEOUS MATERIALS

D. Procedure IPL Figure 2

NOTE: For lubricants, refer to SOPM 20-60-03. For miscellaneous materials, refer to SOPM 20-60-04.

NOTE: Refer to REPAIR 2-1 and ASSEMBLY, Figure 701 for identification of actuator assembly housings 65-44752-1, -2, -3.

(1) For assembles 65-44760-5, -7, -8, -10 thru -15, -33, -34, -35; 65C38059-5, -7, -8, -10 thru -15 assemble lock indicator assembly (165, 490), if required, as follows:

(a) Install sleeve (175, 500) and spring (170) in rod end assembly (110, 435).

(b) Install lock indicator assembly (165, 490) in rod end assembly (110, 435) with lead wire of lock indicator assembly thru the top of rod end assembly.

(c) Install magnet (160, 485) in magnet seat (155, 480). Install magnet seat in sleeve (145, 470) and install spring (150, 475).

(d) Insert sleeve (145, 470) past flats in rod end assembly (110, 435) and rotate sleeve 90 degrees for retention.

(e) Cut a piece of AMS-DTL-23053/5 Class 1 heat shrink tubing into a 4-inch length; slip tubing over lead wire and position next to rod end assembly (110, 435) (ASSEMBLY, Figure 701).

NOTE: The following heat shrinkable tubing is optional to AMS-DTL-23053/5 Class 1: RT-876 sleeve, G01148, MIL-DTL-23053/5 Class 1, MIL-I-23053/5 Class 1, Plastronic PLF 100, Raychem MIL-LT, or Raychem Versafit.

(f) Strip outer jacket of lead wire to within 4.5 inches of rod end assembly (110, 435). Cut braided shielding at a sufficient distance from end of jacket to allow folding the shielding over and covering sleeve (130, 455).

(g) Slide sleeve (130, 455) over shielding and fold shielding back over OD of sleeve.

(h) Strip insulation from wire (135, 460) for 0.5 inch and double back the wire on itself making a wire end 0.25 inch long.

(i) Lay the prepared end of wire (135, 460) on top of the folded shielding with the prepared end pointed away from rod end assembly (110, 435).

(j) Position sleeve (125, 450) over the prepared end of wire (135, 460) and centered over sleeve (130, 455).

(k) Hexagonal swage sleeve (125, 450) and cover with AMS-DTL-23053/5 Class 1 tubing.

(l) Cover wire from lock indicator assembly (165, 490) and wire (135, 460) with AMS-DTL-23053/5 Class 1 tubing. Connect wire (135, 460) to pin 1 of connector (140, 465); connect wire from lock indicator assembly (165, 490) to pin 2 (ASSEMBLY, Figure 702).

(m) Make sure the lock indicator switch (165, 490) and associated components operate as follows:

1) Attach a 28v dc test lamp, STD-5490, wiring, and electrical connector to the connector (140, 465).

NOTE: The resistance of the test circuit must limit the current through the actuation switch to 0.10 amps maximum.

2) Push in the sleeve (145, 470) 0.45-0.55 inch and hold.

3) Push in the magnet seat (155, 480) 0.050-0.090 inch from the extended (seated) position. Make sure the light stays off.

4) Push in the magnet seat (155, 480) 0.190-0.230 inch from the extended position. Make sure the light comes on.

5) Release the magnet seat (155, 480). Make sure the light goes off.

6) Release the sleeve (145, 470).

(2) For assemblies 65-44760-22, -23, -24, -25, -26, and -27; 65C36408-5, -7, 8, -10, -11 and -12; 65C38058-5, -7, -8, -10 thru -15, -22 thru -24 assemble components as follows:

(a) Apply a light coat of grease, D00013 on slide retainer (162), sleeve (147) and slide (157).

(b) Assemble slide (157) and spring (152) into slide retainer (162).

(c) Assemble slide retainer (162) into sleeve (147) and tighten to 70-80 pound-inches.

(d) Assemble spring (167) between slide retainer (162) and sleeve (147).

(e) For 65-44760-25, -26, and -27 only, assemble bushing (168) over slide (157).

(f) Insert sleeve (147) past flats in rod end assembly (112) and rotate sleeve 90 degrees for retention.

(3) Assemble lock stud assembly (365) in housing assembly (390).

(a) Lightly lubricate packing (380) and backup rings (385) with fluid, D00153 and install on stud assembly (365).

(b) Restrain housing assembly (390) in Holding Fixture, SPL-5427 or Holding Fixture, SPL-5377.

(c) Install lock stud assembly (365) in housing assembly (390) and install lockwasher (355) and nut (360). Using torque wrench adapter, SPL-5438, tighten nut (360) to 650-750 pound-inches. Bend tab of lockwasher (355) into slot of nut (360) using Tab Bending Tool, SPL-5375 to ensure positive locking.

(4) Assemble lock piston (285) in inner piston (345).

(a) Lightly lubricate packings (325,335) and backup rings (330,340) with fluid, D00153 and install on support tube (320).

(b) Install spring guide (305) in volute spring (300) and install volute spring in segment stop (295).

(c) Install segment stop (295) in lock piston (285) and install keys (290) in slot of lock piston. Install washer (310) and spring (315) on lock piston.

CAUTION: LOCK SEGMENTS (280) ARE MATCHED PRECISION PARTS. HANDLE WITH EXTREME CARE TO AVOID DAMAGE TO PARTS.

(d) Slide lock retainer (275) on lock piston (285) and install lock segments (280) thru slots in lock piston. Insert lock piston with attached parts into support tube (320).

(e) Install support tube (320) in inner piston (345). Install nut (270) and tighten to 400-650 lb-in. using Piloted Spanner Wrench, SPL-5442 or Piloted Spanner Wrench, SPL-5439, to align one slot in inner piston with one slot in nut. Remove nut and place locking tab (265) in slot in nut which is in alignment. Retighten nut 400-650 lb-in. using Piloted Spanner Wrench, SPL-5442 or Piloted Spanner Wrench, SPL-5439, and line up the slots. Bend locking tab into slot of inner piston (345).

(5) Lightly lubricate seal (350) with fluid, D00153 and install on inner piston (345).

(6) Lightly lubricate packings (245, 255) and backup rings (250, 260) with fluid, D00153 and install on transfer tube (240).

(7) Install inner piston (345) in transfer tube (240).

(8) Lightly lubricate seal (235) with fluid, D00153 and install in piston assembly (210). Install scraper (230) on piston assembly (210).

(9) Slide outer piston assembly (210) over inner piston (345) and install on transfer tube (240). Restrain outer piston assembly (210) in holding fixture, SPL-5428 or Holding Fixture, SPL-5440 and tighten transfer tube (240) to 1200-1500 lb-in. Align groove in outer piston assembly and transfer tube. Feed entire length of lockwire (205) in the groove. Crooked end of lockwire (205) must not extend beyond periphery of piston assembly (210) (SOPM 20-50-02).

(10) Install outer piston assembly (210) in housing assembly (390).

(a) Lightly lubricate seal (225) with fluid, D00153 and install seal on outer piston assembly (210).

(b) Lightly lubricate packing (195), backup rings (200) and seal (190), with fluid, D00153. Install scraper (185), seal (190), packing (195) and backup rings (200) on bearing (180).

(c) Slide bearing (180) on outer piston assembly (210).

(d) Secure housing assembly (190) in Holding Fixture, SPL-5427 or Holding Fixture, SPL-5377.

(e) With inner piston (345) fully extended, thread bearing (180) with outer piston assembly (210) into housing assembly (390) to obtain an engagement of approximately two threads. Apply a light coating of BATCO X8401-2 grease, D50025 to exposed male threads of bearing (180). Tighten bearing (180) to 1500-1800 pound-inches using torque wrench adapter, SPL-5441 or torque wrench adapter, SPL-5378. Wipe excess BATCO X8401-2 grease, D50025 from bearing (180) using clean cloth.

(11) Position gasket plate (95) and manifold assembly (50) on housing assembly (390) and install screw (55), washers (60), nut (65) and bushing (70). Tighten nut to 18-25 pound-inches.

(12) Position blocking valve assembly (30) and gasket plate (45) on manifold assembly (50); lubricate threads with grease, D00013 and secure with screws (35,40). Tighten screws to 60-80 pound-inches.

(13) Thread nut (100 or 102) with lock (105) onto rod end assembly (110, 112, 435) to obtain an engagement of approximately two threads. Apply a light coating of BATCO X8401-2 grease, D50025 to exposed male threads of rod end assembly (110, 112, 435). Thread nut (100 or 102) and lock (105) completely onto rod end assembly (110, 112, 435).

(14) With outer piston assembly (210) bottomed in housing assembly (390) and inner piston (345) fully extended, thread rod end assembly (110, 435) into inner piston (345) to obtain an engagement of approximately two threads. Reapply a light coating of BATCO X8401-2 grease, D50025 to exposed male threads of rod end assembly (110, 112, 435). Install rod end assembly (110, 112, 435) in inner piston (345) and adjust the length between centerline of bearings in rod end assembly (110, 112, 435) and housing assembly (390) to the following:

Table 701:

Actuator Assembly	Length
On 65-44760-5,-10,-13,-22,-25,-33; 65C36408-5,-10; 65C38058-5, -10, -13, -22; 65C38059-5, -10, -13:	19.933-19.953 inches;
On 65-44760-8,-12,-15,-24,-27,-35; 65C36408-8,-12; 65C38058-8, -12, -15, -24; 65C38059-8, -12, -15:	20.853-20.873 inches;
On 65-44760-7,-11,-14,-23,-26,-34; 65C36408-7,-11; 65C38058-7, -11, -14, -23; 65C38059-7, -11, -14:	21.100-21.120 inches.

Tighten nut (100 or 102) to 950-1000 lb-in. to secure rod end assembly. Wipe excess BATCO X8401-2 grease, D50025 from rod end assembly (110, 112, 435), inner piston (345), and nut (100 or 102) using clean cloth.

(15) Lightly lubricate packings (25) with fluid, D00153 and install packings on unions (5) and fitting assembly (10). Install unions (5) and fitting assembly (10) on manifold assembly (50).

(16) Test unit per Testing and Trouble Shooting.

(17) Clean the following surfaces using a cloth wetted with solvent, and fillet seal with sealant, A00551:

(a) Between nut (100 or 102) and rod end assembly (110, 112, 435).

(b) Between nut (100 or 102) and inner piston (345)

(c) Between bearing (180) and housing assembly (390)

(d) Holes for screws (40) in housing assembly (390) (4 places)

(e) Between retainer caps (5 and 40, IPL Figure 3) and housing (165, 490, IPL Figure 3).

(18) Apply sealant, A00551 around lead wire on rod end assembly (110, 435). Clean surfaces which will contact sealant per SOPM 20-30-03. Hold wire perpendicular to rod end assembly during application and curing of sealant.

(19) Allow sealant, A00551 to cure. Check that sealant has bonded to surfaces.

(20) Lockwire the following parts with lockwire, G01048 using double-twist method per SOPM 20-50-02:

(a) Nut (100 or 102) and lock (105)

(b) Bearing (180) and housing assembly (390)

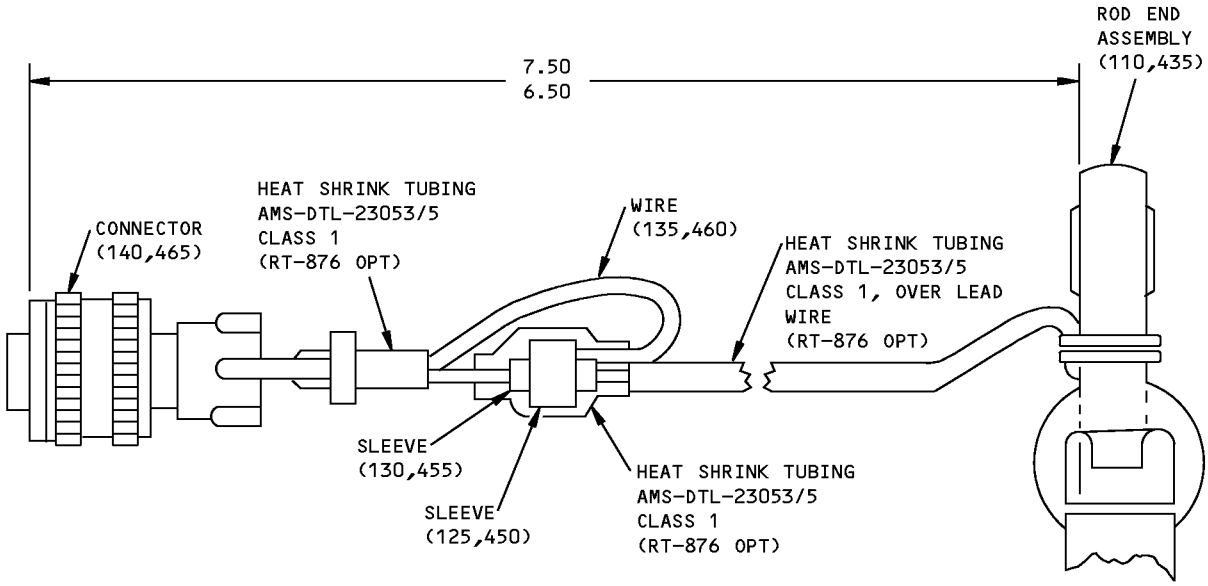
(c) Screws (35,40)

4. Assemble Actuator Assembly (IPL Figure 1)

A. Procedure

(1) Use standard industry practices to assemble the actuator assembly.

(2) Ensure that minimum gap between clamp (25) and each tube assembly (35,40,45 or 50) is 0.025 inch after clampup.

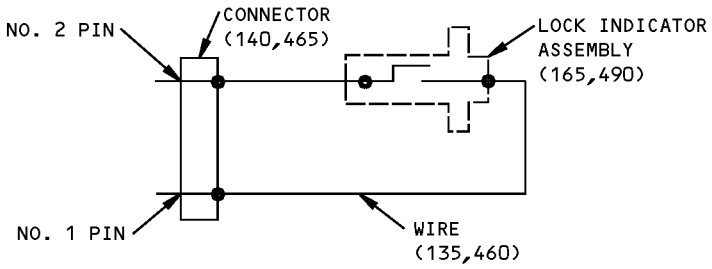


ALL ITEM NUMBERS REFER TO IPL FIG. 2

ALL DIMENSIONS ARE IN INCHES

E07856 S0004995439_V2

Switch and Wire Details
Figure 701



Lock Indicator Wiring Diagram
Figure 702

5. Storage

A. Consumable Materials

NOTE: Equivalent substitutes may be used.

Reference	Description	Specification
G50218	Strap - Plastic, Adjustable, Self-locking, 27.5 inches long	BACS38K6

B. References

Reference	Title
SOPM 20-60-04	MISCELLANEOUS MATERIALS

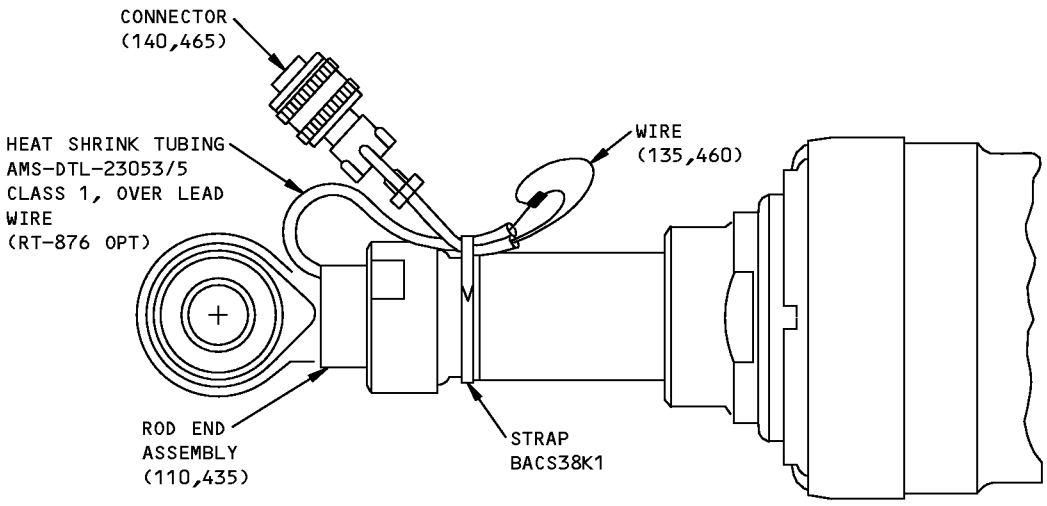
C. Procedure

NOTE: For miscellaneous materials, refer to SOPM 20-60-04.

(1) Use standard industry practices and the following information to store this component.

(2) Use self-locking adjustable plastic strap, G50218 to secure wire (135, 460, IPL Figure 2) and connector (140, 465) to actuator approximately as shown (ASSEMBLY, Figure 703).

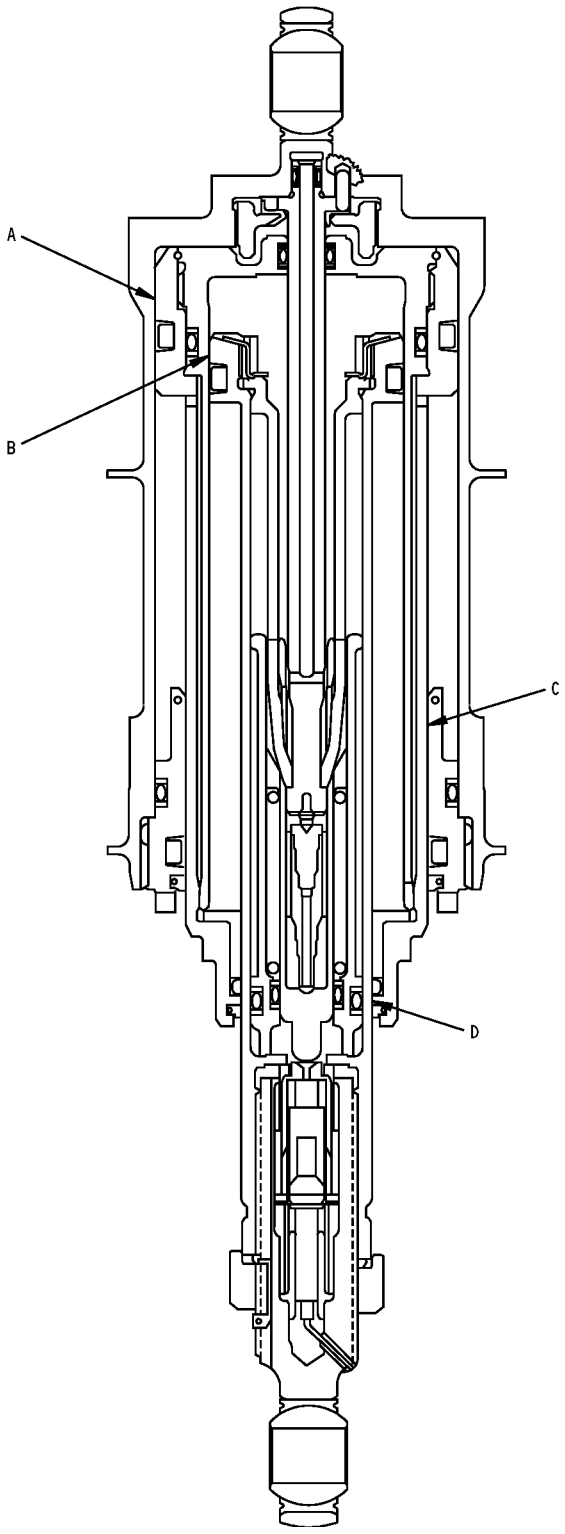
NOTE: Use strap for storage purposes only. Strap is to be removed before actuator installation.



216608 S0004995441_V2

Actuator Storage
Figure 703

FITS AND CLEARANCES



Fits and Clearances
Figure 801 (Sheet 1 of 2)

Ref Letter Fig.801	Mating Item No. IPL Fig.2	Design Dimension				Service Wear Limit		
		Dimension		Assembly Clearance *[1]		Dimension		Maximum Clearance
		Min	Max	Min	Max	Min	Max	
A	ID 415 OD 220	3.118 3.113	3.120 3.115	0.003	0.007	3.111	3.122	0.007
B	ID 240 OD 345	1.992 1.987	1.994 1.989	0.003	0.007	1.985	1.996	0.007
C	ID 180 OD 220	2.501 2.496	2.503 2.498	0.003	0.007	2.496	2.503	0.007
D	ID 220 OD 345	1.312 1.308	1.313 1.310	0.002	0.005	1.308	1.313	0.005

Fits and Clearances
Figure 801 (Sheet 2 of 2)

REF IPL		NAME	TORQUE*	
FIG. NO.	ITEM NO.		POUND-INCHES	POUND-FEET
2	35,40	Screw	60-80	
2	65	Nut	18-25	
2	100	Nut	950-1000	
2	162	Slide Retainer	70-80	
2	180	Bearing	1500-1800	
2	240	Tube	1200-1500	
2	270	Nut	400-650	
2	360	Nut	650-750	
3	5,40	Cap	150-180	

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

227993 S0004995445_V2

Torque Table
Figure 802

SPECIAL TOOLS, FIXTURES, AND EQUIPMENT

1. General

A. This section lists the special tools, fixtures, and equipment necessary for maintenance.

NOTE: Equivalent substitutes may be used.

Special Tools

Reference	Description	Part Number	Supplier
SPL-5375	LE Slat Actuator Lock Washer Tab Bending Tool	C27019-1	81205
		Opt: F80-0-1874	92003
		Opt: F80-0-1875	92003
SPL-5376	Test Block Leading Edge Actuator	C27021-1	81205
SPL-5377	Holding Fixture, LE Slat Actuator	C27023-1	81205
SPL-5378	Adapter - Torque Wrench	C27024-1	81205
SPL-5380	Test Fixture, LE Slat Actuator Tool	C27027-14	81205
SPL-5410	Test Block	C27059-1	81205
		Opt: F65-0-2123	92003
SPL-5411	Test Fixture	C27027-14	81205
		Opt: F65-0-3229	92003
SPL-5412	Test Block	C27021-1	81205
		Opt: F65-0-3243	92003
SPL-5427	Holding Fixture	C27023-1	81205
		Opt: F80-0-2791	92003
SPL-5428	Holding Fixture - Piston, L.E. Slat Actuator	F80263-1	81205
		Opt: F80-0-2792	92003
SPL-5429	Holding Fixture	F80-0-2847	92003
SPL-5438	Adapter - Torque Wrench	F80259-3	81205
SPL-5439	Piloted Spanner Wrench	F80260-7	81205
SPL-5440	Holding Fixture - Piston, LE Slat Actuator	F80263-1	81205
SPL-5441	Adapter - Torque Wrench	C27024-1	81205
		Opt: F80-4-67	92003
SPL-5442	Piloted Spanner Wrench	F80260-7	81205
		Opt: F80-4-68	92003

Tool Supplier Information

CAGE Code	Supplier Name	Supplier Address
81205	THE BOEING COMPANY	17930 INTERNATIONAL BLVD. SOUTH SEATAC, WA 98188-4321 Telephone: 206-662-6650 Facsimile: 206-662-7145
92003	PARKER-HANNIFIN CORP. - AEROSPACE GROUP HEADQUARTERS	14300 ALTON PARKWAY P. O. BOX C-19510 IRVINE, CA 92618-1898 Telephone: 949-833-3000 Facsimile: 949-851-3277 www.parker.com

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

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.

VENDOR CODES

Code	Name
92555	LEE COMPANY 2 PETTIPAUG ROAD PO BOX 424 WESTBROOK, CONNECTICUT 06498-1543
97820	BUSAK AND SHAMBAN INC BEARING DIV 711 MITCHELL ROAD PO BOX 665 NEWBURY PARK, CALIFORNIA 91320-2214 FORMERLY IN CULVER CITY, CALIF; FORMERLY SHAMBAN W S & CO

NUMERICAL INDEX

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
65-44529-2		2	285	1
65-44529-3		2	285A	1
65-44654-3008		1	35	1
65-44654-3009		1	40	1
65-44654-3010		1	45	1
65-44654-3011		1	50	1
65-44654-3012		1	35B	1
65-44654-3013		1	40A	1
65-44654-3014		1	35A	1
65-44654-3015		1	50A	1
65-44654-3016		1	45A	1
65-44654-3017		1	40B	1
65-44654-3018		1	45B	1
65-44654-3019		1	35C	1
65-44654-3020		1	50B	1
65-44654-3021		1	40C	1
65-44654-3022		1	45C	1
65-44654-3023		1	45D	1
		1	50C	1
65-44654-3024		1	45E	1
65-44654-3025		1	35D	1
65-44654-3026		1	45F	1
65-44725-101		1	1G	RF
65-44725-102		1	2G	RF
65-44725-103		1	3G	RF
65-44725-104		1	4F	RF
65-44725-105		1	5G	RF
65-44725-45		1	1	RF
65-44725-47		1	3	RF
65-44725-48		1	4	RF
65-44725-50		1	1A	RF
65-44725-52		1	3A	RF
65-44725-54		1	2A	RF
65-44725-55		1	5A	RF

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
65-44725-57		1	1B	RF
65-44725-58		1	2B	RF
65-44725-59		1	3B	RF
65-44725-60		1	4A	RF
65-44725-61		1	5B	RF
65-44725-62		1	1C	RF
65-44725-63		1	2C	RF
65-44725-64		1	3C	RF
65-44725-65		1	4B	RF
65-44725-76		1	5C	RF
65-44725-77		1	5D	RF
65-44725-79		1	5E	RF
65-44725-85		1	1D	RF
65-44725-86		1	2D	RF
65-44725-87		1	3D	RF
65-44725-88		1	4C	RF
65-44725-89		1	5F	RF
65-44725-90		1	1E	RF
65-44725-91		1	2E	RF
65-44725-92		1	3E	RF
65-44725-93		1	4D	RF
65-44725-94		1	5G	RF
65-44725-95		1	1F	RF
65-44725-96		1	2F	RF
65-44725-97		1	3F	RF
65-44725-98		1	4E	RF
65-44725-99		1	5H	RF
65-44741-8		2	30	1
		3	1	RF
65-44742-10		3	155	1
65-44742-11		3	165	1
65-44752-1		2	390	1
65-44752-2		2	390A	1
65-44752-3		2	390B	1
65-44752-4		2	415	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
65-44752-5		2	415A	1
65-44752-6		2	415B	1
65-44754-1		2	275	1
65-44757-1		2	345	1
65-44757-2		2	345A	1
65-44758-1		2	365	1
65-44758-2		2	375	1
65-44760-10		1	85D	1
		2	1D	RF
65-44760-11		1	85E	1
		2	1E	RF
65-44760-12		1	85F	1
		2	1F	RF
65-44760-13		1	85G	1
		2	1G	RF
65-44760-14		1	85H	1
		2	1H	RF
65-44760-15		1	85J	1
		2	1J	RF
65-44760-22		1	85K	1
		1	85U	1
		2	1K	RF
65-44760-23		1	85L	1
		1	85V	1
		2	1L	RF
65-44760-24		1	85M	1
		1	85W	1
		2	1M	RF
65-44760-25		1	85X	1
		2	1U	RF
65-44760-26		1	85Y	1
		2	1V	RF
65-44760-27		1	85Z	1
		2	1W	RF
65-44760-28		2	430	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	430A	1
65-44760-33		1	86X	1
		2	2U	RF
65-44760-34		1	86Y	1
		2	2V	RF
65-44760-35		1	86Z	1
		2	2W	RF
65-44760-4		2	135	1
		2	460	1
65-44760-5		1	85	1
		2	1	RF
65-44760-7		1	85B	1
		2	1B	RF
65-44760-8		1	85C	1
		2	1C	RF
65-44760-9		2	4A	RF
65-44764-1		2	210	1
65-44764-2		2	220	1
65-44767-1		2	180	1
65-44767-2		2	180A	1
65-44767-3		2	180B	1
65-44767-4		2	180C	1
65-44767-5		2	180D	1
65-44767-6		2	180E	1
65-44768-1		2	240	1
65-44778-1		2	320	1
65-44778-2		2	320A	1
65-44784-1		2	165	1
		2	490	1
65-44784-6		2	165A	1
		2	490A	1
65-44785-1		2	50	1
65-44785-2		2	90	1
65-44844-1		2	280	1
65-56687-25		3	100	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
65-56687-26		3	125	1
65-56687-27		3	140	1
65C36408-10		1	85R	1
		2	1R	RF
65C36408-11		1	85S	1
		2	1S	RF
65C36408-12		1	85T	1
		2	1T	RF
65C36408-5		1	85N	1
		2	1N	RF
65C36408-7		1	85P	1
		2	1P	RF
65C36408-8		1	85Q	1
		2	1Q	RF
65C38058-10		1	86D	1
		2	2A	RF
65C38058-11		1	86E	1
		2	2B	RF
65C38058-12		1	86F	1
		2	2C	RF
65C38058-13		1	86U	1
		2	2R	RF
65C38058-14		1	86V	1
		2	2S	RF
65C38058-15		1	86W	1
		2	2T	RF
65C38058-22		1	86G	1
		2	2D	RF
65C38058-23		1	86H	1
		2	2E	RF
65C38058-24		1	86J	1
		2	2F	RF
65C38058-5		1	86A	1
		2	1X	RF
65C38058-7		1	86B	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	1Y	RF
65C38058-8		1	86C	1
		2	1Z	RF
65C38059-10		1	86N	1
		2	2K	RF
65C38059-11		1	86P	1
		2	2L	RF
65C38059-12		1	86Q	1
		2	2M	RF
65C38059-13		1	86R	1
		2	2N	RF
65C38059-14		1	86S	1
		2	2P	RF
65C38059-15		1	86T	1
		2	2Q	RF
65C38059-5		1	86K	1
		2	2G	RF
65C38059-7		1	86L	1
		2	2H	RF
65C38059-8		1	86M	1
		2	2J	RF
66-22833-3		2	205	1
69-35587-7		2	425	1
69-35784-1		3	45A	1
69-35836-1		3	65	1
69-35852-1		3	145	1
69-35854-1		3	130	1
69-35860-2		3	40	1
69-35861-1		3	50	1
69-35863-2		1	30	4
69-35863-3		1	25	4
69-35879-2		3	150	1
69-35880-2		3	135	1
69-35883-1		3	20	1
69-35884-1		3	5	1

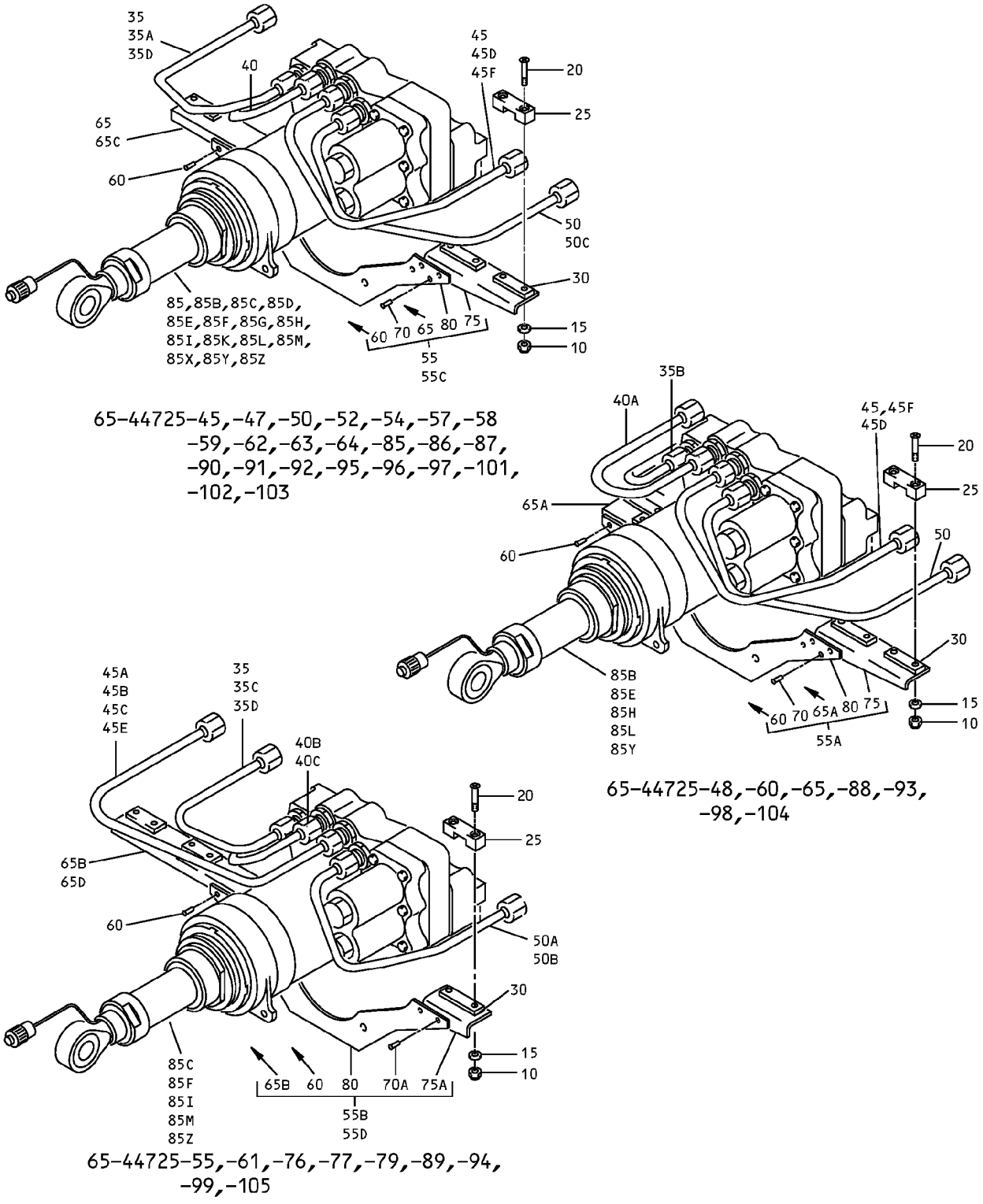
PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
69-35885-2		3	25	1
69-35900-1		3	45	1
69-35944-1		3	30	1
69-35945-1		3	35	1
69-54513-2		2	360	1
69-54514-2		2	355	1
69-54517-1		2	315	1
69-54521-2		2	370	1
69-54529-1		2	310	1
69-54551-1		2	160	1
		2	485	1
69-54553-1		2	295	1
69-54554-1		2	300	1
69-54557-1		2	290	2
69-54565-1		2	305	1
69-66648-1		3	30A	1
69-73413-1		2	168	1
69-73480-1		2	155	1
		2	480	1
69-73481-1		2	175	1
		2	500	1
69-73482-1		2	145	1
		2	470	1
69-73483-1		2	100	1
69-73483-2		2	102	1
69-73484-1		2	215	1
69-73485-10		2	120B	1
		2	121A	1
		2	121B	1
		2	445	1
69-73485-3		2	110A	1
69-73485-4		2	120A	1
69-73485-5		2	110	1
69-73485-6		2	120	1
69-73485-7		2	112	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
69-73485-8		2	121	1
69-73485-9		2	110B	1
		2	112A	1
		2	112B	1
		2	435	1
69-73486-1		2	265	1
69-73489-1		2	270	1
69-73490-1		2	70	1
69-73492-1		2	10	1
69-73492-2		2	20	1
69-73493-1		2	150	1
		2	475	1
69-73494-1		2	95	1
69-73495-1		2	170	1
		2	495	1
69-73496-1		2	45	1
69-73969-10		1	75A	1
69-73969-11		1	65	1
69-73969-12		1	65B	1
69-73969-13		1	65D	1
69-73969-6		1	65C	1
69-73969-8		1	75	1
69-73969-9		1	65A	1
69-73970-1		1	80	1
69-73977-5		1	55C	1
69-73977-6		1	55A	1
69-73977-7		1	55B	1
69-73977-8		1	55	1
69-73977-9		1	55D	1
69-78199-1		2	157	1
69-78199-2		2	157A	1
69-78199-3		2	157B	1
69-78201-1		2	162	1
69-78233-1		2	167	1
69-78235-1		2	147	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
69-78248-1		2	152	1
AN960C10L		2	60	2
AN960C3L		3	85	2
AN960PD10L		1	15	8
BAC27DHY0349		2	420A	1
BAC27DHY214		3	95	1
BAC27DHY272		2	420	1
BAC27DHY360		2	420B	1
BAC27DHY364		3	90	1
BAC27DHY407		2	420C	1
		2	420D	1
BAC27DHY408		2	420E	1
BACB30LU3-8		1	20	8
BACC45FT8C2P		2	140	1
		2	465	1
BACN10JC3CM		2	65	1
BACN12A3MW		3	93	1
BACP20AX12		3	110	4
BACP20AX12D		2	80	6
BACP20AX12DP		2	85	6
BACP20AX12P		3	105	4
BACP20AX15		2	405	4
BACP20AX15P		2	410	4
BACR15BB6D		1	60	4
		1	70	4
		1	70A	2
BACS13S080B		2	130	1
		2	455	1
BACS13S149C		2	125	1
		2	450	1
BACS34A14A		2	230	1
BACS34A25A		2	185	1
JEHA1872600L		2	15	1
JETX0510110AB		3	115	1
MS14103-10		2	115	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
		2	116	1
		2	395	1
		2	440	1
MS16555-601		3	160	4
MS16555-604		2	400A	2
		3	120A	2
MS16562-192		2	400	2
		3	120	2
MS20470DD3-18		3	80	1
MS21042L3		1	10	8
MS21209F4-15		2	75	2
MS21902J4		2	5	3
MS27595-228		2	250	2
MS27595-233		2	200	2
MS28774-008		2	385	2
MS28774-110		2	260	2
MS28774-112		2	340	2
MS28774-212		2	330	2
MS28782-1		3	75	1
MS28782-4		3	60	1
NAS1351C4H16		2	35	2
NAS1351C4H36		2	40	4
NAS1351N4H16		2	35A	2
NAS1351N4H36		2	40A	4
NAS1611-006		3	70	1
NAS1611-008		2	380	1
NAS1611-009		3	55	1
NAS1611-110		2	255	1
NAS1611-112		2	335	1
NAS1611-119		3	10	1
NAS1611-212		2	325	1
NAS1611-228		2	245	1
NAS1611-233		2	195	1
NAS1612-4		2	25	4
NAS1802-3-14		2	55	1

PART NUMBER	AIRLINE PART NUMBER	FIGURE	ITEM	UNITS PER ASSEMBLY
NAS559-6		2	105	1
S11109-119		3	15	2
S12766-006		3	75A	1
S30772-326H99		2	350	1
S30772-326H99N		2	350A	1
S30772-335H99		2	225	1
S30772-335H99N		2	225A	1
S30775-219H99		2	235	1
S30775-333H99		2	190	1



Leading Edge Slat Actuator Assembly
IPL Figure 1

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–1	65-44725-45		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	A	RF
–1A	65-44725-50		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	F	RF
–1B	65-44725-57		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	H	RF
–1C	65-44725-62		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	M	RF
–1D	65-44725-85		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	S	RF
–1E	65-44725-90		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	Y	RF
–1F	65-44725-95		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	Z	RF
–1G	65-44725-101		ACTUATOR ASSY-LE SLAT NO. 1 AND 6	IA	RF
–2	65-44725-46		DELETED		
–2A	65-44725-54		ACTUATOR ASSY-LE SLAT NO. 2	B	RF
–2B	65-44725-58		ACTUATOR ASSY-LE SLAT NO. 2	I	RF
–2C	65-44725-63		ACTUATOR ASSY-LE SLAT NO. 2	N	RF
–2D	65-44725-86		ACTUATOR ASSY-LE SLAT NO. 2	T	RF
–2E	65-44725-91		ACTUATOR ASSY-LE SLAT NO. 2	AA	RF
–2F	65-44725-96		ACTUATOR ASSY-LE SLAT NO. 2	BA	RF
–2G	65-44725-102		ACTUATOR ASSY-LE SLAT NO. 2	JA	RF
–3	65-44725-47		ACTUATOR ASSY-LE SLAT NO. 3	C	RF
–3A	65-44725-52		ACTUATOR ASSY-LE SLAT NO. 3	G	RF
–3B	65-44725-59		ACTUATOR ASSY-LE SLAT NO. 3	J	RF
–3C	65-44725-64		ACTUATOR ASSY-LE SLAT NO. 3	O	RF
–3D	65-44725-87		ACTUATOR ASSY-LE SLAT NO. 3	U	RF
–3E	65-44725-92		ACTUATOR ASSY-LE SLAT NO. 3	CA	RF
–3F	65-44725-97		ACTUATOR ASSY-LE SLAT NO. 3	DA	RF
–3G	65-44725-103		ACTUATOR ASSY-LE SLAT NO. 3	KA	RF
–4	65-44725-48		ACTUATOR ASSY-LE SLAT NO. 4	D	RF
–4A	65-44725-60		ACTUATOR ASSY-LE SLAT NO. 4	K	RF
–4B	65-44725-65		ACTUATOR ASSY-LE SLAT NO. 4	P	RF
–4C	65-44725-88		ACTUATOR ASSY-LE SLAT NO. 4	V	RF
–4D	65-44725-93		ACTUATOR ASSY-LE SLAT NO. 4	EA	RF
–4E	65-44725-98		ACTUATOR ASSY-LE SLAT NO. 4	FA	RF
–4F	65-44725-104		ACTUATOR ASSY-LE SLAT NO. 4	LA	RF

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
–5	65-44725-49		DELETED		
–5A	65-44725-55		ACTUATOR ASSY-LE SLAT NO. 5	E	RF
–5B	65-44725-61		ACTUATOR ASSY-LE SLAT NO. 5	L	RF
–5C	65-44725-76		ACTUATOR ASSY-LE SLAT NO. 5	Q	RF
–5D	65-44725-77		ACTUATOR ASSY-LE SLAT NO. 5	R	RF
–5E	65-44725-79		ACTUATOR ASSY-LE SLAT NO. 5	W	RF
–5F	65-44725-89		ACTUATOR ASSY-LE SLAT NO. 5	X	RF
–5G	65-44725-94		ACTUATOR ASSY-LE SLAT NO. 5	GA	RF
–5H	65-44725-99		ACTUATOR ASSY-LE SLAT NO. 5	HA	RF
–5G	65-44725-105		ACTUATOR ASSY-LE SLAT NO. 5	MA	RF
10	MS21042L3		. NUT		8
15	AN960PD10L		. WASHER		8
20	BACB30LU3-8		. BOLT		8
25	69-35863-3		. CLAMP HALF		4
30	69-35863-2		. CLAMP PLATE		4
35	65-44654-3008		. TUBE ASSY	A, B, E, F, H, I, L, M, N, Q-T, X	1
35A	65-44654-3014		. TUBE ASSY	C, G, J, O, U, CA, DA, KA	1
35B	65-44654-3012		. TUBE ASSY	D, K, P, V, EA, FA, LA	1
35C	65-44654-3019		. TUBE ASSY	W	1
35D	65-44654-3025		. TUBE ASSY	Y-BA, GA, HA, IA, JA, MA	1
40	65-44654-3009		. TUBE ASSY	A, B, C, F-J, M, N, O, S-U, Y-DA, IA-KA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
40A	65-44654-3013		. TUBE ASSY	D, K, P, V, EA, FA, LA	1
40B	65-44654-3017		. TUBE ASSY	E, L, Q, R, X, GA, HA, MA	1
40C	65-44654-3021		. TUBE ASSY	W	1
45	65-44654-3010		. TUBE ASSY	A-D,F-K,M-P,S-V	1
45A	65-44654-3016		. TUBE ASSY	E, L, Q, R	1
45B	65-44654-3018		. TUBE ASSY	Q	1
45C	65-44654-3022		. TUBE ASSY	W	1
45D	65-44654-3023		. TUBE ASSY	V, Y-FA, IA-LA	1
45E	65-44654-3024		. TUBE ASSY	X, GA, HA, MA	1
45F	65-44654-3026		. TUBE ASSY	Y-FA, IA-LA	1
50	65-44654-3011		. TUBE ASSY	A-D, F-K, M-P	1
50A	65-44654-3015		. TUBE ASSY	E, L, Q, R, X, GA, HA, MA	1
50B	65-44654-3020		. TUBE ASSY	W	1
50C	65-44654-3023		. TUBE ASSY	S, T, U	1
55	69-73977-8		. BRACKET ASSY	, B, F-J, M, N, O, S-U, Y-DA, IA-KA	1
55A	69-73977-6		. BRACKET ASSY	D, K, P, V, EA, FA, LA	1
55B	69-73977-7		. BRACKET ASSY	E, L	1
55C	69-73977-5		. BRACKET ASSY	A, C	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
55D	69-73977-9		. BRACKET ASSY	Q, R, X, W, GA, HA, MA	1
60	BACR15BB6D		. . RIVET		4
65	69-73969-11		. . BRACKET-SUPPORT	B, F-J, M, N, O, S-U, Y-DA, IA-KA	1
65A	69-73969-9		. . BRACKET-SUPPORT	D, K, P, V, EA, FA, LA	1
65B	69-73969-12		. . BRACKET-SUPPORT	E, L	1
65C	69-73969-6		. . BRACKET-SUPPORT	A, C	1
65D	69-73969-13		. . BRACKET-SUPPORT	Q, R, X, W, GA, HA, MA	1
70	BACR15BB6D		. . RIVET	A-D, F-K, M-P, S-V, Y-FA, IA-LA	4
70A	BACR15BB6D		. . RIVET	E, L, Q, R, X, W, MA	2
75	69-73969-8		. . BRACKET-SUPPORT	A-D, F-K, M-P, S-V, DA-FA, IA-LA	1
75A	69-73969-10		. . BRACKET-SUPPORT	E, L, Q, R, X, W, GA, HA, MA	1
80	69-73970-1		. . BRACKET		1
85	65-44760-5		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	A, F	1
85A	65-44760-6		DELETED		

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
85B	65-44760-7		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	C, D, G	1
85C	65-44760-8		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	B, E	1
85D	65-44760-10		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	H	1
85E	65-44760-11		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	J, K	1
85F	65-44760-12		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	I, L, R, W	1
85G	65-44760-13		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (PRE ALERT SB 737-27A1211R1) (PRE ALERT SB 737-27A1211R2) (OPT ITEM 86X) (FOR DETAILS SEE FIG. 2)	M, S, Y	1
85H	65-44760-14		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (PRE ALERT SB 737-27A1211R1) (PRE ALERT SB 737-27A1211R2) (OPT ITEM 86Y) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1
85J	65-44760-15		. ACTUATOR ASSY (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211) (PRE ALERT SB 737-27A1211R1) (PRE ALERT SB 737-27A1211R2) (OPT ITEM 86Z) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
85K	65-44760-22		. ACTUATOR ASSY (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	Z	1
85L	65-44760-23		. ACTUATOR ASSY (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	DA, FA	1
85M	65-44760-24		. ACTUATOR ASSY (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	BA, HA	1
85N	65C36408-5		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	A, F	1
85P	65C36408-7		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	C, D, G	1
85Q	65C36408-8		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	B, E	1
85R	65C36408-10		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	H	1
85S	65C36408-11		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	J, K	1
85T	65C36408-12		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	I, L, R, W	1
85U	65-44760-22		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	M, S, Y	1
85V	65-44760-23		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
85W	65-44760-24		. ACTUATOR ASSY (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1
85X	65-44760-25		. ACTUATOR ASSY (FOR DETAILS SEE FIG. 2)	IA	1
85Y	65-44760-26		. ACTUATOR ASSY (FOR DETAILS SEE FIG. 2)	KA, LA	1
85Z	65-44760-27		. ACTUATOR ASSY (FOR DETAILS SEE FIG. 2)	JA, MA	1
86A	65C38058-5		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	A, F	1
86B	65C38058-7		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	C, D, G	1
86C	65C38058-8		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	B, E	1
86D	65C38058-10		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	H	1
86E	65C38058-11		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	J, K	1
86F	65C38058-12		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	I, L, R, W	1
86G	65C38058-22		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	M, S, Y	1
86H	65C38058-23		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1
86J	65C38058-24		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1
86K	65C38059-5		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	A, F	1

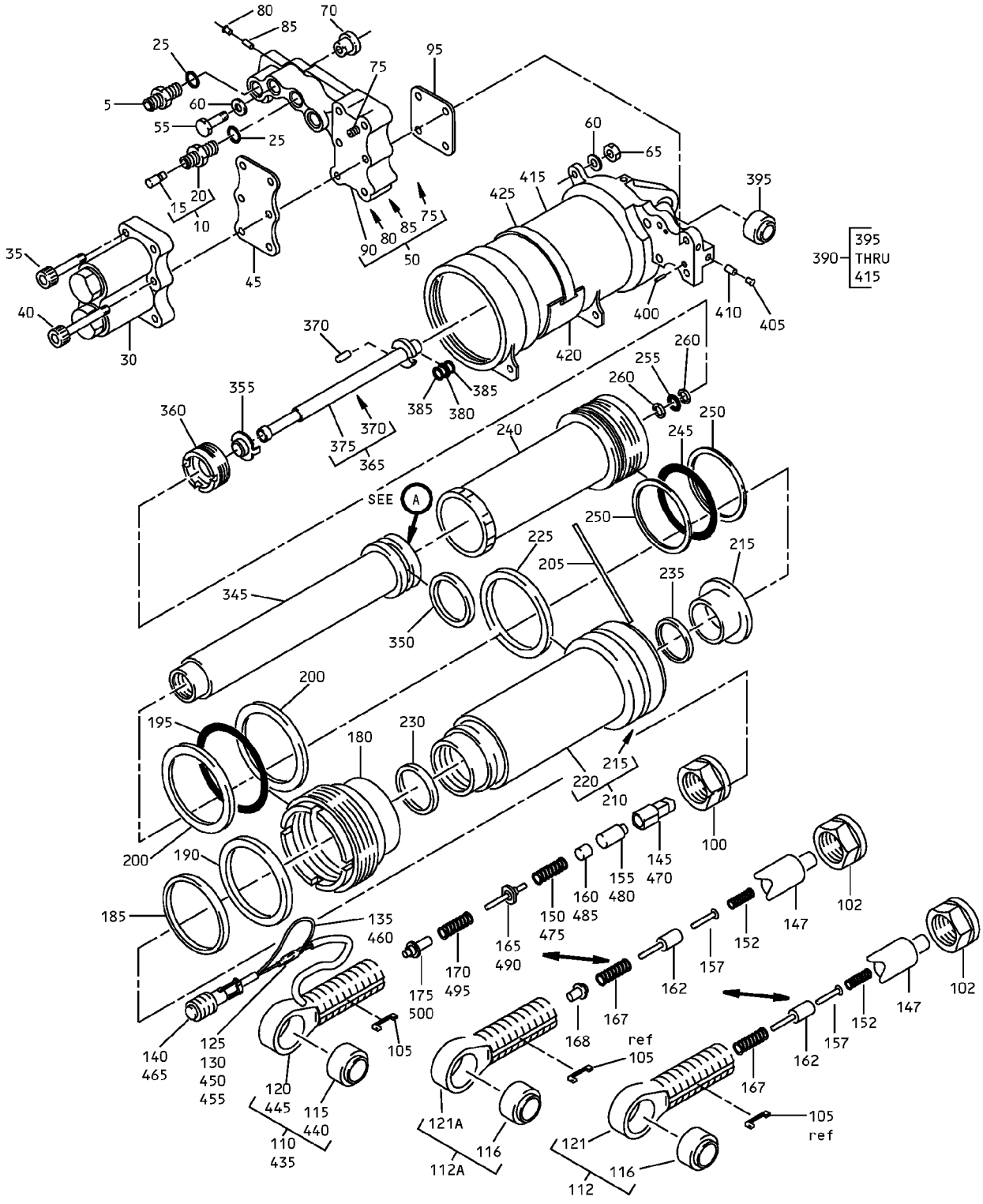
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
86L	65C38059-7		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	C, D, G	1
86M	65C38059-8		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	B, E	1
86N	65C38059-10		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	H	1
86P	65C38059-11		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	J, K	1
86Q	65C38059-12		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	I, L, R, W	1
86R	65C38059-13		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	M, S, Y	1
86S	65C38059-14		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1
86T	65C38059-15		. ACTUATOR ASSY (POST ALERT SB 737-27A1211) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1
86U	65C38058-13		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2) (FOR DETAILS SEE FIG. 2)	M, S, Y	1
86V	65C38058-14		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1
86W	65C38058-15		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1
86X	65-44760-33		. ACTUATOR ASSY (OPT ITEM 85G) (FOR DETAILS SEE FIG. 2)	M, S, Y	1

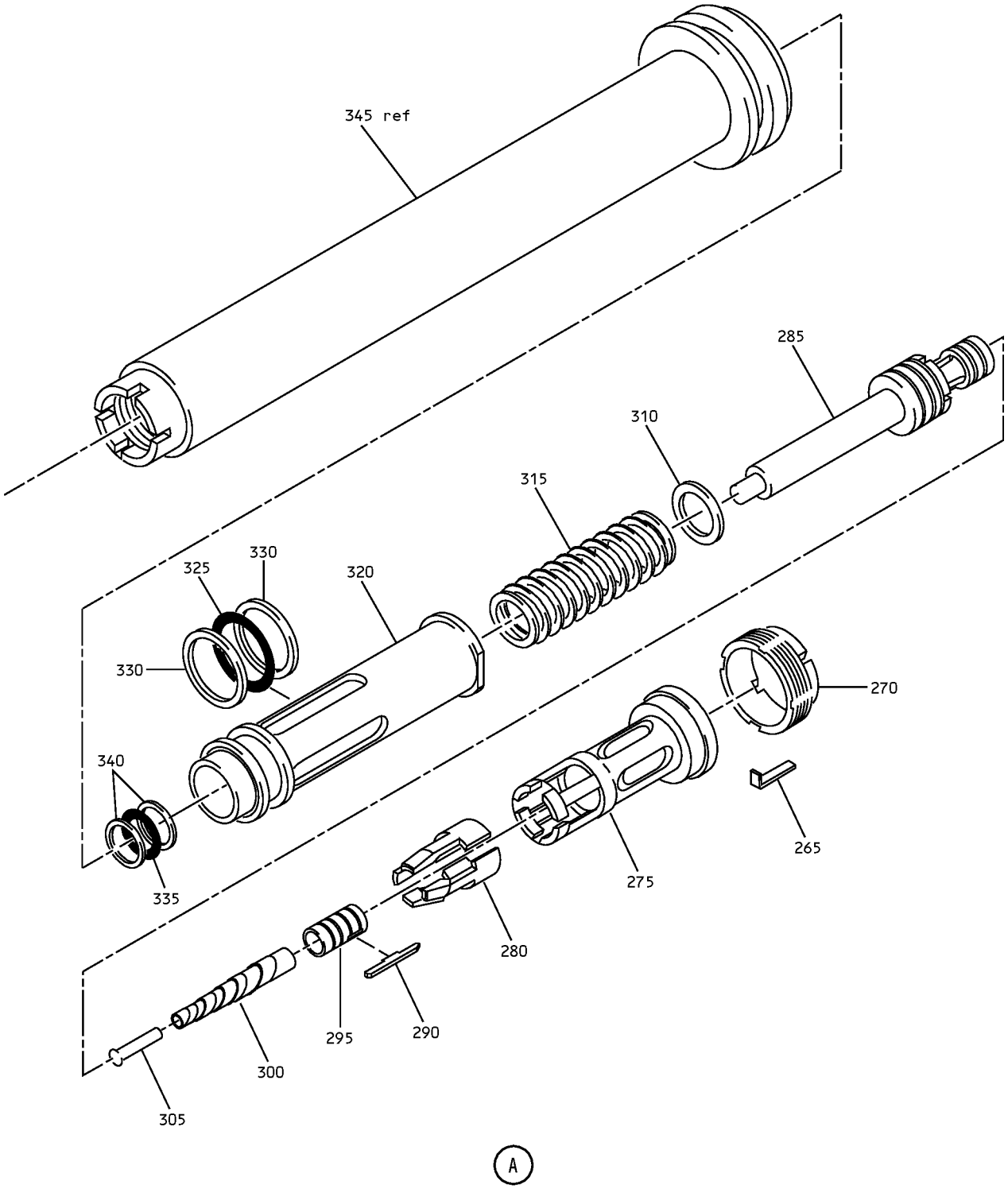
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
1–					
86Y	65-44760-34		. ACTUATOR ASSY (OPT ITEM 85H) (FOR DETAILS SEE FIG. 2)	O, P, U, V, CA, EA	1
86Z	65-44760-35		. ACTUATOR ASSY (OPT ITEM 85J) (FOR DETAILS SEE FIG. 2)	N, Q, T, X, AA, GA	1

–Item not Illustrated



Leading Edge Slat Hydraulic Actuator Assembly
IPL Figure 2 (Sheet 1 of 2)



Leading Edge Slat Hydraulic Actuator Assembly
IPL Figure 2 (Sheet 2 of 2)

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–1	65-44760-5		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	A	RF
–1A	65-44760-6		DELETED		
–1B	65-44760-7		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	C	RF
–1C	65-44760-8		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	B	RF
–1D	65-44760-10		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	D	RF
–1E	65-44760-11		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	E	RF
–1F	65-44760-12		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE ALERT SB 737-27A1211)	F	RF
–1G	65-44760-13		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE SB 737-27A1211, R1,R2)	G	RF
–1H	65-44760-14		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE SB 737-27A1211, R1,R2)	H	RF
–1J	65-44760-15		ACTUATOR ASSY-LE SLAT HYDRAULIC (PRE SB 737-27-1174) (PRE SB 737-27A1211, R1,R2)	I	RF
–1K	65-44760-22		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	J	RF
–1L	65-44760-23		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	K	RF
–1M	65-44760-24		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	L	RF

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–1N	65C36408-5		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	M	RF
–1P	65C36408-7		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	N	RF
–1Q	65C36408-8		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	O	RF
–1R	65C36408-10		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	P	RF
–1S	65C36408-11		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	Q	RF
–1T	65C36408-12		ACTUATOR ASSY-LE SLAT HYDRAULIC (POST SB 737-27-1174) (PRE ALERT SB 737-27A1211)	R	RF
–1U	65-44760-25		ACTUATOR ASSY-LE SLAT HYDRAULIC	S	RF
–1V	65-44760-26		ACTUATOR ASSY-LE SLAT HYDRAULIC	T	RF
–1W	65-44760-27		ACTUATOR ASSY-LE SLAT HYDRAULIC	U	RF
–1X	65C38058-5		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	V	RF
–1Y	65C38058-7		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	W	RF
–1Z	65C38058-8		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	X	RF
–2A	65C38058-10		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	Y	RF
–2B	65C38058-11		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	Z	RF
–2C	65C38058-12		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	AA	RF
–2D	65C38058-22		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	BA	RF
–2E	65C38058-23		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	CA	RF
–2F	65C38058-24		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	DA	RF

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–2G	65C38059-5		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	EA	RF
–2H	65C38059-7		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	FA	RF
–2J	65C38059-8		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	GA	RF
–2K	65C38059-10		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	HA	RF
–2L	65C38059-11		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	IA	RF
–2M	65C38059-12		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	JA	RF
–2N	65C38059-13		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	KA	RF
–2P	65C38059-14		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	LA	RF
–2Q	65C38059-15		. ACTUATOR ASSY (POST ALERT SB 737-27A1211)	MA	RF
2R	65C38058-13		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2)	NA	RF
2S	65C38058-14		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2)	OA	RF
2T	65C38058-15		. ACTUATOR ASSY (POST ALERT SB 737-27A1211R1) (POST ALERT SB 737-27A1211R2)	PA	RF
2U	65-44760-33		. ACTUATOR ASSY	QA	RF
2V	65-44760-34		. ACTUATOR ASSY	RA	RF
2W	65-44760-35		. ACTUATOR ASSY	SA	RF
–4A	65-44760-9		SPARES ASSY-ROD END AND SWITCH (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)		
–4B	65-44760-28		DELETED		
5	MS21902J4		. UNION		3
10	69-73492-1		. FITTING ASSY-ORIFICE		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
15	JEHA1872600L		. . RESTRICTOR (V92555)		1
20	69-73492-2		. . FITTING		1
25	NAS1612-4		. PACKING		4
30	65-44741-8		. VALVE ASSY-BLOCKING (FOR DETAILS SEE FIG. 3)		1
			ATTACHING PARTS		
35	NAS1351C4H16		. SCREW	A, B, C, M, N, O, V-X, EA-GA	2
–35A	NAS1351N4H16		. SCREW	D-L, P-U, Y-DA, HA-SA	2
40	NAS1351C4H36		. SCREW	A, B, C, M, N, O, V-X, EA-GA	4
–40A	NAS1351N4H36		. SCREW	D-L, P-U, Y-DA, HA-SA	4
45	69-73496-1		. PLATE-GASKET		1
			- - - - - - - * - - - - - - -		
50	65-44785-1		. MANIFOLD ASSY		1
			ATTACHING PARTS		
55	NAS1802-3-14		. SCREW		1
60	AN960C10L		. WASHER		2
65	BACN10JC3CM		. NUT		1
70	69-73490-1		. BUSHING		1
			- - - - - - - * - - - - - - -		
75	MS21209F4-15		. . INSERT		2
80	BACP20AX12D		. . PLUG		6
85	BACP20AX12DP		. . PIN		6
90	65-44785-2		. . MANIFOLD		1
95	69-73494-1		. PLATE-GASKET		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
100	69-73483-1		. NUT	A-I, EA-MA, QA-SA	1
102	69-73483-2		. NUT	J-DA, NA-PA	1
105	NAS559-6		. LOCK		1
110	69-73485-5		. ROD END ASSY (PRE ALERT SB 737-27A1243) (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I	1
–110A	69-73485-3		. ROD END ASSY (OPT ITEM 110) (PRE ALERT SB 737-27A1243)	A-I	1
–110B	69-73485-9		. ROD END ASSY (PRE ALERT SB 737-27A1243)	EA-MA	
–112	69-73485-7		. ROD END ASSY (PRE ALERT SB 737-27A1243)	J-R	1
–112A	69-73485-9		. ROD END ASSY	S-DA, NA-SA	1
–112B	69-73485-9		. ROD END ASSY (POST ALERT SB 737-27A1243)	J-R	1
115	MS14103-10		. . BEARING (PRE ALERT SB 737-27A1243) (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA	1
116	MS14103-10		. . BEARING	J-DA, NA-SA	1
120	69-73485-6		. . ROD END (USED ON ITEM 110) (PRE ALERT SB 737-27A1243) (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I	1
–120A	69-73485-4		. . ROD END (USED ON ITEM 110A) (PRE ALERT SB 737-27A1243)	A-I	1
–120B	69-73485-10		. . ROD END (PRE ALERT SB 737-27A1243)	EA-MA	

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
121	69-73485-8		. . ROD END (PRE ALERT SB 737-27A1243)	J-R	1
–121A	69-73485-10		. . ROD END	S-DA, NA-SA	1
–121B	69-73485-10		. . ROD END (POST ALERT SB 737-27A1243)	J-R	1
125	BACS13S149C		. SLEEVE (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
130	BACS13S080B		. SLEEVE (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
135	65-44760-4		. WIRE (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
140	BACC45FT8C2P		. CONNECTOR (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
145	69-73482-1		. SLEEVE (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
147	69-78235-1		. SLEEVE	J-DA, NA-PA	1
150	69-73493-1		. SPRING (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
152	69-78248-1		. SPRING	J-DA, NA-PA	1
155	69-73480-1		. SEAT-MAGNET (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
157	69-78199-1		. SLIDE	J, M, P, S, V, Y, BA, NA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–157A	69-78199-2		. SLIDE	K, N, Q, T, W, Z, CA, OA	1
–157B	69-78199-3		. SLIDE	L, O, R, U, X, AA, DA, PA	1
160	69-54551-1		. MAGNET (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
162	69-78201-1		. RETAINER, SLIDE	J-DA, NA-PA	1
165	65-44784-1		. INDICATOR ASSY-LOCK (OPT ITEM 165A) (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
–165A	65-44784-6		. INDICATOR ASSY-LOCK (PREFERED) (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
167	69-78233-1		. SPRING	J-DA, NA-PA	1
168	69-73413-1		. BUSHING	S-DA, NA-PA	1
170	69-73495-1		. SPRING (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
175	69-73481-1		. SLEEVE (COMPONENTS OF ROD END AND SWITCH SPARES ASSEMBLY 65-44760-9)	A-I, EA-MA, QA-SA	1
180	65-44767-1		. BEARING	A, D, M, P, V, Y, EA, HA	1
–180A	65-44767-2		. BEARING	C, E, N, Q, W, Z, FA, IA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–180B	65-44767-3		. BEARING	B, F, O, R, X, AA, GA, JA	1
–180C	65-44767-4		. BEARING	G, J, S, BA, KA, NA, QA	1
–180D	65-44767-5		. BEARING	H, K, T, CA, LA, OA, RA	1
–180E	65-44767-6		. BEARING	I, L, U, DA, MA, PA, SA	1
185	BACS34A25A		. SCRAPER		1
190	S30775-333H99		. SEAL (V97820)		1
195	NAS1611-233		. PACKING		1
200	MS27595-233		. RING-BACKUP		2
205	66-22833-3		. WIRE-LOCK		1
210	65-44764-1		. PISTON ASSY-OUTER		1
215	69-73484-1		. . BEARING		1
220	65-44764-2		. . PISTON		1
225	S30772-335H99		. SEAL (V97820) (REPLACED BY ITEM 225A)		1
–225A	S30772-335H99N		. SEAL (V97820) (REPLACES ITEM 225)		1
230	BACS34A14A		. SCRAPER		1
235	S30775-219H99		. SEAL (V97820)		1
240	65-44768-1		. TUBE-TRANSFER		1
245	NAS1611-228		. PACKING		1
250	MS27595-228		. RING-BACKUP		2
255	NAS1611-110		. PACKING		1
260	MS28774-110		. RING-BACKUP		2
265	69-73486-1		. TAB-LOCKING		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
270	69-73489-1		. NUT-END		1
275	65-44754-1		. RETAINER-LOCK		1
280	65-44844-1		. SEGMENT-LOCK (MATCHED SET)		1
285	65-44529-2		. PISTON-LOCK	A, D, G, J, M, P, S, V, Y, BA, EA, HA, KA, NA, QA	1
–285A	65-44529-3		. PISTON-LOCK	B, C, E, F, H, I, K, L, N, O, Q, R, T, U, X, Z, AA, CA, DA, FA, GA, IA, JA, LA, MA, OA, PA, RA, SA	1
290	69-54557-1		. KEY		2
295	69-54553-1		. STOP-SEGMENT		1
300	69-54554-1		. SPRING-VOLUTE		1
305	69-54565-1		. GUIDE-SPRING		1
310	69-54529-1		. WASHER-SPRING		1
315	69-54517-1		. SPRING		1
320	65-44778-1		. TUBE-SUPPORT	A, D, G, J, M, P, S, V, Y, BA, EA, HA, KA, NA, QA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–320A	65-44778-2		. TUBE-SUPPORT	B, C, E, F, H, I, K, L, N, O, Q, R, T, U, W, XZ, AA, CA, DA, FA, GA, IA, JA, LA, MA, OA, PA, RA, SA	1
325	NAS1611-212		. PACKING		1
330	MS28774-212		. RING-BACKUP		2
335	NAS1611-112		. PACKING		1
340	MS28774-112		. RING-BACKUP		2
345	65-44757-1		. PISTON-INNER	A, D, G, J, M, P, S, V, Y, BA, EA, HA, KA, NA, QA	1
–345A	65-44757-2		. PISTON-INNER	B, C, E, F, H, I, K, L, N, O, Q, R, T, U, W, X, Z, AA, CA, DA, FA, GA, IA, JA, LA, MA, OA, PA, RA, SA	1
350	S30772-326H99		. SEAL (V97820) (REPLACED BY ITEM 350A)		1
–350A	S30772-326H99N		. SEAL (V97820) (REPLACES ITEM 350)		1
355	69-54514-2		. WASHER-LOCK		1
360	69-54513-2		. NUT-INTERNAL		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
365	65-44758-1		. STUD ASSY-LOCK		1
370	69-54521-2		. . PIN-LOCKING		1
375	65-44758-2		. . STUD		1
380	NAS1611-008		. PACKING		1
385	MS28774-008		. RING-BACKUP		2
390	65-44752-1		. HOUSING ASSY	A, D, G, J, M, P, S, V, Y, BA, EA, HA, KA, NA, QA	1
–390A	65-44752-2		. HOUSING ASSY	B, F, I, L, O, R, U, X, AA, DA, GA, JA, MA, PA, SA	1
–390B	65-44752-3		. HOUSING ASSY	C, E, H, K, N, Q, T, W, Z, CA, FA, IA, LA, OA, RA	1
395	MS14103-10		. . BEARING		1
400	MS16562-192		. . PIN-SPRING		2
–400A	MS16555-604		. . PIN-DOWEL (OPT ITEM 400)		2
405	BACP20AX15		. . PLUG		4
410	BACP20AX15P		. . PIN		4
415	65-44752-4		. . HOUSING	A, D, G, J, M, P, S, V, Y, BA, EA, HA, KA, NA, QA	1

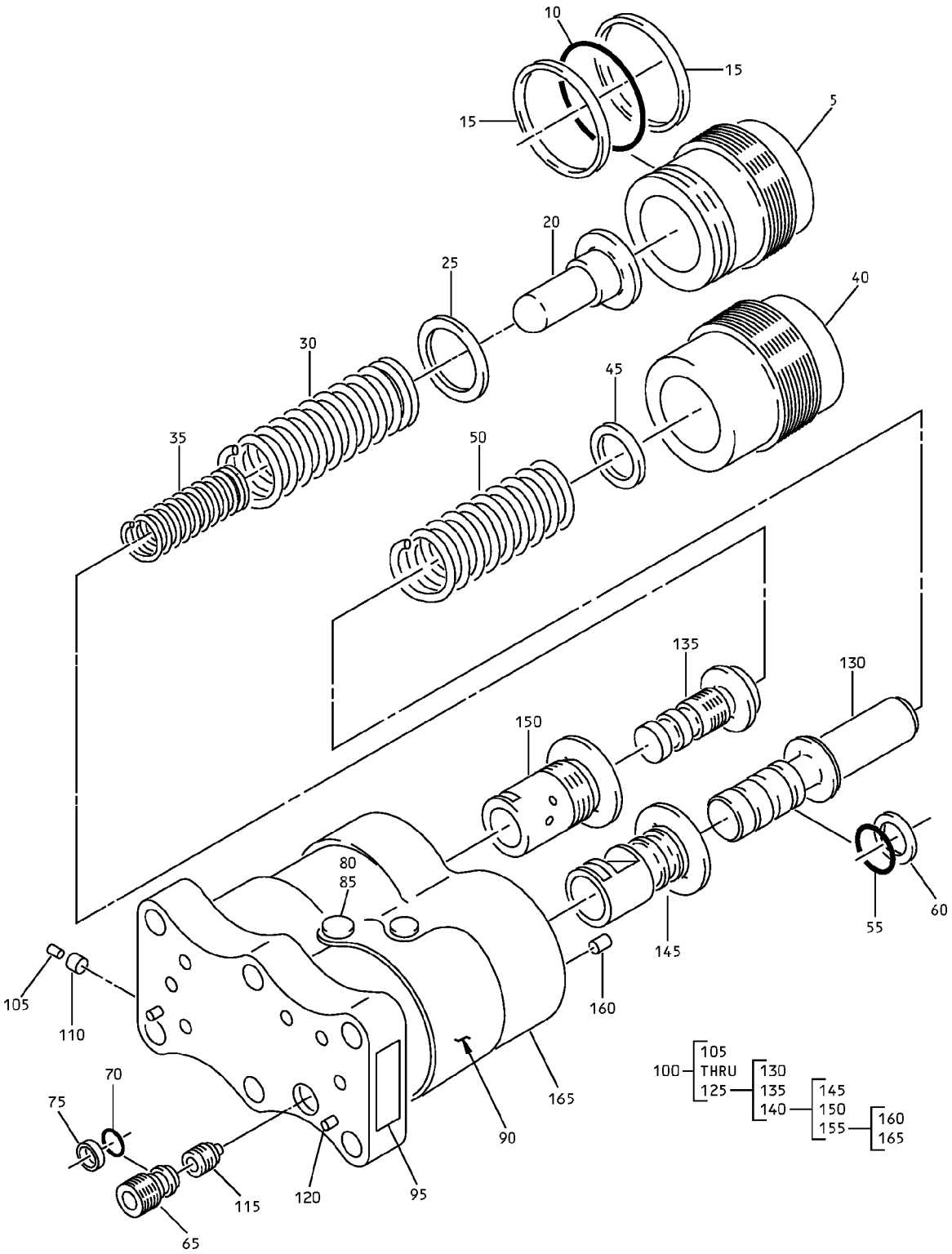
–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
–415A	65-44752-5		. . HOUSING	B, F, I, L, O, R, U, X, AA, DA, GA, JA, MA, PA, SA	1
–415B	65-44752-6		. . HOUSING	C, E, H, K, N, Q, T, W, Z, CA, FA, IA, LA, OA, RA	1
420	BAC27DHY272		. NAMEPLATE (OPT ITEM 420A) (PRE ALERT SB 737-27A1211)	A-L, S, T, U, QA-SA	1
–420A	BAC27DHY0349		. NAMEPLATE (OPT ITEM 420) (PRE ALERT SB 737-27A1211)	A-L, S, T, U, QA-SA	1
–420B	BAC27DHY360		. NAMEPLATE (PRE ALERT SB 737-27A1211)	M-R, V-AA	1
–420C	BAC27DHY407		. NAMEPLATE	NA-PA	1
–420D	BAC27DHY407		. NAMEPLATE (POST ALERT SB 737-27A1211)	A-DA	1
–420E	BAC27DHY408		. NAMEPLATE (POST ALERT SB 737-27A1211)	EA-MA	1
425	69-35587-7		. STRAP		1
–430	65-44760-28		. ROD END AND SWITCH ASSY (POST ALERT SB 737-27A1243)	A-I	1
–430A	65-44760-28		. ROD END AND SWITCH ASSY (POST ALERT SB 737-27A1243)	EA-MA	1
435	69-73485-9		. . ROD END ASSY (POST ALERT SB 737-27A1243)	A-I, EA-MA	1
440	MS14103-10		. . . BEARING (POST ALERT SB 737-27A1243)	A-I, EA-MA	1
445	69-73485-10		. . . ROD END (POST ALERT SB 737-27A1243)	A-I, EA-MA	1
450	BACS13S149C		. . SLEEVE	A-I, EA-MA	1
455	BACS13S080B		. . SLEEVE	A-I, EA-MA	1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
2–					
460	65-44760-4		. . WIRE	A-I, EA-MA	1
465	BACC45FT8C2P		. . CONNECTOR	A-I, EA-MA	1
470	69-73482-1		. . SLEEVE	A-I, EA-MA	1
475	69-73493-1		. . SPRING	A-I, EA-MA	1
480	69-73480-1		. . SEAT MAGNET	A-I, EA-MA	1
485	69-54551-1		. . MAGNET	A-I, EA-MA	1
490	65-44784-1		. . INDICATOR ASSY-LOCK (OPT ITEM 490A)	A-I, EA-MA	1
–490A	65-44784-6		. . INDICATOR ASSY-LOCK (OPT ITEM 490)	A-I, EA-MA	1
495	69-73495-1		. . SPRING	A-I, EA-MA	1
500	69-73481-1		. . SLEEVE	A-I, EA-MA	1

–Item not Illustrated



Blocking Valve Assembly
IPL Figure 3

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
3–					
–1	65-44741-8		VALVE ASSY-BLOCKING		RF
5	69-35884-1		. CAP-RETAINER		1
10	NAS1611-119		. PACKING		1
15	S11109-119		. RING-BACKUP (V97820)		2
20	69-35883-1		. STOP		1
25	69-35885-2		. SHIM		1
30	69-35944-1		. SPRING-OUTER (OPT ITEM 30A)		1
–30A	69-66648-1		. SPRING-OUTER (OPT ITEM 30)		1
35	69-35945-1		. SPRING-INNER		1
40	69-35860-2		. CAP-RETAINER		1
45	69-35900-1		. SHIM		1
45A	69-35784-1		. SHIM (OPT ITEM 45)		1
50	69-35861-1		. SPRING		1
55	NAS1611-009		. PACKING		1
60	MS28782-4		. RING-BACKUP		1
65	69-35836-1		. PLUG		1
70	NAS1611-006		. PACKING		1
75	MS28782-1		. RING-BACKUP		1
–75A	S12766-006		. RING-BACKUP (V97820) (OPT ITEM 75)		1
80	MS20470DD3-18		. RIVET (ITEM 90 USED WITH ITEMS 80, 85) (ITEM 93 USED WITH ITEMS 80, 85)		1
85	AN960C3L		. WASHER (ITEM 90 USED WITH ITEMS 80, 85) (ITEM 93 USED WITH ITEMS 80, 85)		2
90	BAC27DHY364		. NAMEPLATE (ITEM 90 USED WITH ITEMS 80, 85) (OPT ITEMS 93, 95)		1

–Item not Illustrated

FIG/ ITEM	PART NUMBER	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USAGE CODE	UNITS PER ASSY
3–					
93	BACN12A3MW		. NAMEPLATE (ITEM 93 USED WITH ITEMS 80, 85) (OPT ITEMS 90, 95)		1
95	BAC27DHY214		. NAMEPLATE (OPT ITEMS 90, 93)		1
100	65-56687-25		. HOUSING ASSY		1
105	BACP20AX12P		. . PIN		4
110	BACP20AX12		. . PLUG		4
115	JETX0510110AB		. . JET (V92555)		1
120	MS16562-192		. . PIN-DOWEL		2
–120A	MS16555-604		. . PIN-DOWEL		2
125	65-56687-26		. . HOUSING ASSY		1
130	69-35854-1		. . . SLIDE		1
135	69-35880-2		. . . SLIDE		1
140	65-56687-27		. . . HOUSING ASSY		1
145	69-35852-1		. . . . SLEEVE		1
150	69-35879-2		. . . . SLEEVE		1
155	65-44742-10		. . . . HOUSING ASSY		1
160	MS16555-601		. . . . . PIN-DOWEL		4
165	65-44742-11		. . . . . HOUSING		1

–Item not Illustrated