TO: ALL HOLDERS OF AUXILIARY POWER UNIT COOLING AIR VALVE ASSEMBLY OVERHAUL MANUAL, 49-50-02

REVISION NO. 4, DATED JUN 1/96

HIGHLIGHTS

DESCRIPTION OF CHANGE	TOPICS AFFECTED												
	D&O	D/Assy	Cleaning	Insp/Chk	Repair	Assy	F/C	Test	T/Shooting	S/Tools	Storage	IPL	L/Overhaul
Incorporated SB 737-49-1107 which replaces APU cooling air shutoff valve assembly												X	

AUXILIARY POWER UNIT COOLING AIR VALVE ASSEMBLY

49-50-02

BOEING P/N 65-68935-1, thru -5, -7

AIRLINE P/N

THE FOLLOWING DIRECTIVES APPLY TO THIS SUBJECT

BOEING SERVICE BULLETIN	BOEING TEMPORARY REVISION	OTHER DIRECTIVES	DATE DIRECTIVE INCORPORATED INTO TEXT
		PRR 31753	Dec 25/72
		PRR 31846	Dec 25/72
		PRR 31846-1	Dec 25/72
		PRR 31846-2	Dec 25/72
		PRR 32730R	Jul 5/79
49-1036		PRR 32730	Jul 5/79
737-49-1107		PRR 35005-86	Jun 1/96

LIST OF EFFECTIVE PAGES

* Indicates pages revised, added or deleted in latest revision
F Indicates foldout pages - print one side only

PAGE	DATE	PAGE	DATE	PAGE	DATE
49-50-02					
* T-1	Jun 1/96				
T-2	BLANK				
* LEP-1	Jun 1/96				
LEP-2	BLANK				
T/C-1	Dec 25/72				
T/C-2	BLANK				
1	Jul 5/79				
2	Dec 1/95				
3	Dec 25/72				
4	Dec 1/95				
* 5	Jun 1/96				
6	Dec 1/95				

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AUXILIARY POWER UNIT COOLING AIR VALVE ASSEMBLY

1. DESCRIPTION AND OPERATION

A. Description

(1) The APU cooling air valve consists of a housing, movable vane, and related linkage. A pneumatically operated actuator is linked to the vane to position the valve in open or closed position.

B. Operation

(1) When approximately 8 psi is applied to the pneumatic actuator it moves the vane to the open position. When there is no air pressure present, a spring within the actuator holds vane in closed position.

NOTE: Special instructions for Disassembly, Cleaning, Testing, Trouble Shooting, Storage and Special Tools are not required. Standard aircraft shop practices are sufficient for these procedures during overhaul of this component.

2. INSPECTION/CHECK

NOTE: Use standard shop procedures for examination and check of parts.

A. Fluorescent penetrant check body (49) per 20-20-02, Penetrant Methods of Inspection.

3. REPAIR

NOTE: Use standard shop procedures for general repair of parts.

A. Repair

(1) Repair bearing surfaces of shaft (37, figure 2).

(a) Machine surfaces minimum amount necessary to remove defects. Do not exceed minimum diameter of 0.480 inch for diameter mating with bushing (41), or 0.230 inch for diameter mating with bushing (43). Material is stainless steel.

(b) Shot-peen reworked surface per 20-10-03 using 0.046-0.078 size shot and 0.0009-0.015 A2 intensity.

(c) Build up reworked surface with hard chrome plate per 20-42-03. Observe 0.06-inch plating runout at edges.

(d) Machine to 32-microinch finish and dimensions (design limits) shown in figure 1.

B. Refinish

NOTE: Refer to 20-30-02 for stripping of protective finishes, and to 20-41-01 for decoding of F and SRF finish symbols and their BAC equivalents.

(l) Link (7), nut (9), arm (23), bracket (29), vane (35), shaft (37) and body (49) -- Apply F-8.07 all over. Material is stainless steel.

C. Replacement

(l) If bushings (41, 43) require replacement, install per 20-50-03, Bearing Installation and Retention.

4. ASSEMBLY

NOTE: Use standard shop procedures to assemble parts, observing the following additional requirements:

A. If vane (35) is replaced, trim to fit to body (49), as required, after assembly to shaft (37).

B. Use washer (15) only if required to adjust vane (35) to seat properly against body (49).

C. Install lockwire by double-twist method as follows:

(1) Lockwire nut (13) to hole in bracket (29).

(2) Lockwire nut (9) to hole in housing of actuator (17).

(3) Lockwire one bolt (25) to hole in bracket (29). Lockwire remaining two bolts (25) together.

(4) Lockwire four bolts (31) together, in pairs.

D. Bolt (25) must not protrude beyond inside wall of body assy (39). Use washers (27, 28) as required to maintain bolt flush to minus 0.03 inch from inside wall.

E. If elbow (17B) is installed, point elbow (17B) away from body assembly (39).

5. FITS AND CLEARANCES

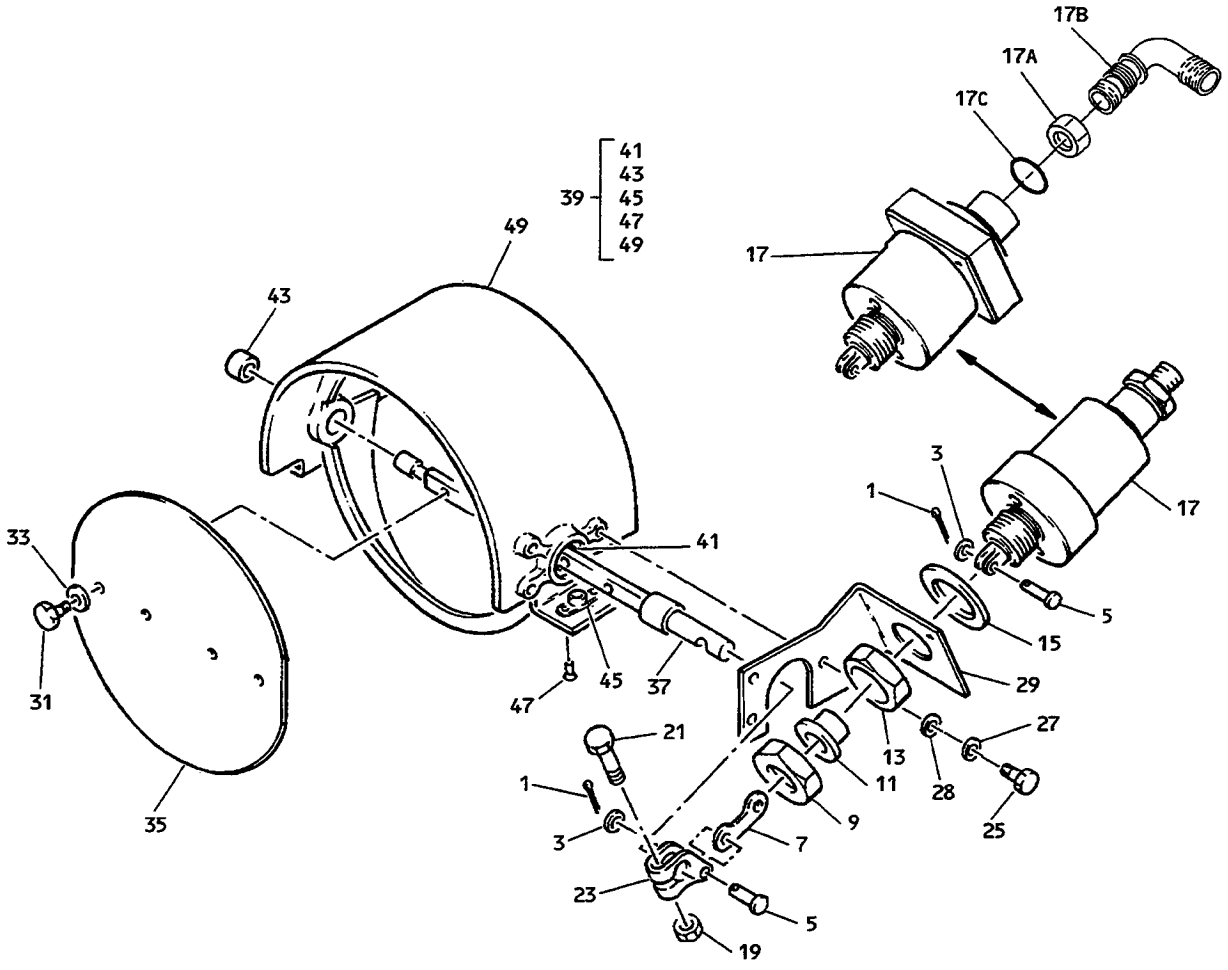
A. The fits and clearances table lists design dimensions and service wear limits for close tolerance parts of the assembly that are subject to wear or corrosion. Unless otherwise specified, parts should be returned to the design dimensions whenever rework is accomplished.

B. Clearances are given to aid assembly of the components. The values given in the Maximum Allowable Clearance column are the maximum permitted to ensure proper functioning of the unit. If assembled parts fail to meet this requirement, one or more of the parts must be rejected. Parts that are rejected should be reworked if within the rework limits given in the Repair procedure; if not within rework limits, the parts should be scrapped. It is recommended that the design clearances be used as the guiding assembly criteria when newly reworked parts are assembled.

		Design Dimensions				Service Wear Limits		
Ref Letter Fig.	Mating Item No. Fig. 2	Dimensions (inches)		Assembly Clearance (inch)		Dimension Limits (inches)		Maximum Allowable Clearance (inch)
		Min	Max	Min	Max	Min	Max	
	ID 41 OD 37	0.501 0.490	0.502 0.500	0.001	0.012	0.483	0.518	0.018
	ID 43 OD 37	0.251 0.240	0.252 0.250	0.001	0.012	0.233	0.268	0.018
	ID 23,7, 17 OD 5	0.127 0.122	0.132 0.124	0.003	0.010	0.112	0.139	0.015

Fits and Clearances
Figure 1

6. ILLUSTRATED PARTS LIST



APU Cooling Air Valve Assembly
Figure 2

F34375

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
2-					
	65-68935-1		VALVE ASSY, APU COOLING AIR	A	RF
	65-68935-2		VALVE ASSY, APU COOLING AIR	B	RF
	65-68935-3		VALVE ASSY, APU COOLING AIR	C	RF
	65-68935-4		VALVE ASSY, APU COOLING AIR	D	RF
	65-68935-5		VALVE ASSY, APU COOLING AIR (PRE SB 737-49-1107)	E	RF
	65-68935-7		VALVE ASSY, APU COOLING AIR (POST SB 737-49-1107)	F	RF
1	MS24665-153		. PIN		2
3	AN960-4		DELETED		
3	NAS1149FN432P		. WASHER		2
5	MS20392-1C11		. PIN		2
7	69-50886-4		. LINK		1
9	69-61702-1		. NUT	A-E	1
11	69-61701-1		. BUSHING	A-D	1
11	69-61701-3		. BUSHING	E	1
13	BACN10DR8J		. NUT	A-E	1
15	AN960C1216		. WASHER	A-E	1
17	65-50949-3		. ACTUATOR ASSY (REF 49-50-01)	A	1
17	65-50949-5		. ACTUATOR ASSY (REF 49-50-01)	BCDE	1
17	602700-2		. ACTUATOR ASSY (OPTIONAL TO P/N 5930660-101)	F	1
17	5930660-101		. ACTUATOR ASSY (OPTIONAL TO P/N 602700-2)	F	1
17A	AN924-4J		. . NUT	F	1
17B	MS21908J4		. . ELBOW	F	1
17C	MS28778-4		. . PACKING	F	1
19	NAS679C3W		. NUT	A-E	1
19	BACN10YR3CD		. NUT	F	1
21	BACB30NE3-10		. BOLT	A-E	1
21	NAS6603-10		. BOLT	F	1
23	69-56435-1		. ARM		1
25	BACB30NE3H2		. BOLT	A-E	3
25	NAS6603H2		. BOLT	F	1
27	AN960C10L		DELETED		
27	NAS1149C0332R		. WASHER		3
28	AN960C10		DELETED		
28	NAS1149C0363R		. WASHER		AR
29	69-56434-1		. BRACKET	A-E	1
29	69-56434-2		. BRACKET	F	1
31	BACB30NE3H1		. BOLT	A-E	4
31	NAS6603H		. BOLT	F	4
33	AN960C10L		DELETED		
33	NAS1149C0332R		. WASHER		4
35	69-56432-1		. VANE		1

FIG. & ITEM NO.	PART NO.	AIRLINE PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	USE CODE	QTY PER ASSY
2-					
37	69-56431-1		. SHAFT	A-E	1
37	69-56431-2		. SHAFT	F	1
39	65-68932-1		. BODY ASSY	AB	1
39	65-68932-4		. BODY ASSY	C	1
39	65-68932-5		. BODY ASSY	DEF	1
41	BACB10D43		. . BUSHING		1
43	BACB10D108		. . BUSHING		1
45	NAS1068A4		. . NUTPLATE (PRE SB 49-1036)	AB	2
47	BACR15CE3M		. . RIVET (PRE SB 49-1036)	AB	4
49	65-68932-2		. . BODY		1