

Docket No.: SA-510  
Exhibit No.: 9H

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

FAA Service Difficulty Report (SDR) Data  
Rudder Control System Discrepancies  
January 1, 1986 through December 1, 1994  
Boeing 727, 737, 747, 757, 767

## FEDERAL AVIATION ADMINISTRATION

Service Difficulty Data

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

PREPARED FOR: DON KURLE

CONTROL NUMBER: 12019401

		YEAR									
MONTH			86	87	88	89	90	91	92	93	94
C16	Total										
01	3	2	-	-	-	-	-	-	-	1	-
02	3	-	-	-	-	-	1	-	2	-	-
03	5	-	1	1	-	-	-	-	3	-	-
04	2	-	2	-	-	-	-	-	-	-	-
05	8	1	-	3	1	-	1	1	1	-	1
06	4	1	-	1	1	1	1	-	-	-	-
07	4	-	1	1	-	-	-	-	1	1	-
08	9	1	1	1	1	1	-	1	2	2	-
09	10	1	1	1	1	1	3	2	-	-	1
10	4	-	1	-	2	-	-	-	1	-	-
11	1	-	-	1	-	-	-	-	-	-	-
12	5	1	-	2	1	1	1	-	-	-	-
SUBTOTALS -----	58	7	7	7	11	7	6	4	10	4	2
TOTALS -----	58	7	7	7	11	7	6	4	10	4	2

END OF REPORT

Records selected: 58

Run Date: 01-Dec-94

# FEDERAL AVIATION ADMINISTRATION

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## Service Difficulty Report Data

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019406

NUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											
920UP	BOEING			CABLE	DAMAGED	INSP/MAINT	39602	OTHER		NONE	
IPXA	727180C				STATION 328	4/25/90	39602				
2720	19873			SO 01	SO019086539		90060400266	NM			
DURING D-CHECK, MAINTENANCE FOUND THAT RUDDER CABLE-RA AT STATION 328 WAS ARCED BY ELECTRICAL CORD. A NEW SECTION OF CABLE WAS SPLICED IN IAW BMM 27-60-61. TOTAL CYCLES 27,963.											
935UP	BOEING			CLEVIS LUG	GOUGED	INSP/MAINT	0	OTHER		NONE	
IPXA	7271A7C			65727889	RUDDER PCU	5/6/90	0				
2720	20143			SO	UPS24190		92051900234	NM			
DURING THE 'C' CHECK INSPECTION, MAINTENANCE FOUND THE LOWER RUDDER PCU UPPER CLEVIS LUG GOUGED BY THE PCU ROD END. THE PCU WAS REMOVED, REPAIRED, AND INSTALLED IAW MM CHAPTERS 27-20-0, 27-20-01, AND 27-20-111.											
357QS	BOEING			PRESSURE SWITC	LEAKING	CLIMB	38882	FLUID LOSS		UNSCHED LANDING	
RYNA	72721			90G37	RUDDER	7/4/91	38882				
2720	19259			CE 07	CE079199400		91083000222	NM			
DAY - AFTER TAKEOFF, UPON GEAR RETRACTION, A-SYSTEM HYDRAULIC FLUID DROPPED TO 1 GALLON. 2 MINUTES LATER WENT TO ZERO. AIRCRAFT RETURNED TO DAY, LANDED WITHOUT INCIDENT. REMOVED AND REPLACED LEAKING PRESSURE SWITCH AT LOWER RUDDER POWERPACK. AIRCRAFT TOTAL TIME 38,882. TOTAL CYCLES 41,084.											
895N	BOEING			TRANSFER VALV	RUPTURED	CRUISE	40203	FLUID LOSS		UNSCHED LANDING	
PAIA	727214			75130	VERTICAL FIN	8/3/86	40203	AFFECT SYSTEMS			
2720	20168			SO 05	SO668683965		86090500087	NM			
ATL - FLIGHT 94 MADE AN UNSCHEDULED LANDING AT ATL DUE TO A HYDRAULIC LEAK. FOUND A-HYDRAULIC SYSTEM RUDDER AUTO PILOT TRANSFER VALVE LEAKING. REPLACED TRANSFER VALVE.											
7069U	BOEING			LOCK PLATE	WORN	LANDING	57150	OTHER		NONE	
UALA	72722			6F105851	RUDDER PEDAL	3/31/89	57150				
2720	19082			NM 03	GL238980116		89050500012	NM			
FLIGHT CREW REPORTED ON LANDING, FIRST OFFICERS RUDDER PEDALS WENT FULL FORWARD. S/D - REPLACED LOCKPLATE AND KNOB SPRING ON 1ST OFFICERS RUDDER PEDAL LOCK.											
7004U	BOEING		PARKERHANFIN	VALVE	LEAKING	CRUISE	0	FLUID LOSS		NONE	
UALA	72722			596005007	RUDDER PCU	9/14/89	0	AFFECT SYSTEMS			
2720	18296			NM	WP038998589		89100600071	NM			
ORD - FLIGHT 665 - FLIGHT CREW REPORTED LOSS OF A-HYDRAULIC SYSTEM FLUID AND PRESSURE. REPLACED LOAD LIMITING CONTROL VALVE AND PACKING ON LOWER RUDDER POWER CONTROL ASSEMBLY.											

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OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO		
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION		
283AT	BOEING			POWER UNIT	FAULTY	CRUISE	0	FLT CONT AFFECTED	OTHER
AMTA	72722				RUDDER	12/28/91	0		
2720	19150			GL 11	92ZZZY795		92030300144 NM		
IND - FLIGHT 116 - AIRCRAFT ABRUPTLY ROLLED AND YAWED LEFT TO RIGHT WITH AUTOPILOT ON OR OFF. THIS OCCURRED FIVE TIMES IN APPROXIMATELY 30 TO 40 MINUTES. THERE WERE NO FURTHER OCCURRENCES FOR THE REST OF THE DURATION OF THE TRIP (1 PLUS 30). REMOVED AND REPLACED LOWER RUDDER POWER UNIT JAW MM 27-20-41. OPS CHECKS GOOD, NO LEAKS NOTED. AIRCRAFT WAS IN CRUISE AT TIME OF FAILURE.									
7630U	BOEING			LINE	LEAKING	CRUISE	43955	FLT CONT AFFECTED	DEACTIVATE SYST/CIRC
UALA	727222			BACH5R0300DUN	RUDDER PCU	2/22/87	43955	FLUID LOSS	
2720	19903			NM 03	WP038773056		87030600032 NM	AFFECT SYSTEMS	
ORD - FLIGHT CREW REPORTED A-HYDRAULIC SYSTEM QUANTITY DECREASED TO ZERO. PUMPS TURNED OFF WHILE PRESSURE STILL NORMAL. S/D - REPLACED THE UPPER RUDDER POWER CONTROL UNIT RETURN LINE ACCOUNT LEAKING.									
7621U	BOEING			SOCKET	SMOKING	CLIMB	43906	SMOKE	UNSCHE LANDING
UALA	727222			0541011016	COCKPIT	3/19/87	43906		
2720	19538			NM	WP038774244		87040300062 NM		
FLIGHT CREW REPORTED RUDDER LOAD LIMITER LIGHT SOCKET EMITTED SMOKE INTO COCKPIT WHILE CLIMBING THROUGH FL 260. RETURNED TO SFO. REPLACED RUDDER LOAD LIMITER LIGHT PANEL.									
7626U	BOEING			CAP	CRACKED	CLIMB	0	FLUID LOSS	NONE
UALA	727222			59123	RUDDER PCU	1/8/90	0	AFFECT SYSTEMS	
2720	19899			NM	WP039073649		90020200023 NM		
ORD - FLIGHT 0604 - ON CLIMBOUT OF ORD, THE B-HYDRAULIC SYSTEM FLUID WENT VERY QUICKLY TO ZERO QUANTITY ON THE BRAKE SYSTEM. PRESSURE REMAINED NORMAL. S/D - FOUND CAP ON UPPER RUDDER POWER UNIT CRACKED. REPLACED CAP.									
7466U	BOEING			FITTING	LOOSE	CRUISE	0	FLUID LOSS	OTHER
UALA	727222				RUDDER PCU	8/28/90	0	AFFECT SYSTEMS	
2720	21920			NM	WP039096210		90090700018 NM		
OAK - FLIGHT 969 - LANDED OAK UNDER AMBER ALERT DUE TO LOSS OF A-SYSTEM HYDRAULICS. S/D - FOUND LOOSE FITTING ON LOWER RUDDER PCU. TIGHTENED FITTING AND REPLACED CASE DRAIN FILTER. LEAK CHECKED SYSTEM, SYSTEM CHECKED GOOD.									
885AA	BOEING			VALVE	DEFECTIVE	CLIMB	0	WARNING INDICATION	UNSCHE LANDING
AALA	727223			22280710	UPPER RUDDER	11/27/92	0	FLUID LOSS	
2720	21524			SW 07	93ZZZY171		93010800350 NM		
MIA - FLIGHT T0596 - AFTER TAKEOFF, NOTED SLOW LEAK IN SYSTEM B-HYDRAULICS. ACCOMPLISHED ABNORMAL PROCEDURE AND RETURNED MIA, LANDING WITHOUT INCIDENT. REPLACED UPPER RUDDER BOOST PACKAGE TRANSFER VALVE. SERVICED SYSTEM-A AND SYSTEM-B HYDRAULICS. ACCOMPLISHED LEAK CHECK WITH NO DEFECT FOUND. SYSTEM GROUND CHECKED NORMAL OPERATION.									

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OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											

69739	BOEING			SEAL	LEAKING	APPROACH	50611	FLUID LOSS		OTHER	
CALA	727224				RUDDER	3/25/91	50611	WARNING INDICATION			
2720	20667			SW 09	SW099188459		91052400241	NM			
IAH - FLIGHT 585 - THE A-SYSTEM HYDRAULIC QUANTITY WENT TO ZERO ON APPROACH INTO IAH AND WAS ACCOMPANIED BY ILLUMINATION OF THE NR 1 ENGINE A-SYSTEM HYDRAULIC PUMP LIGHT. ABNORMAL PROCEDURES WERE FOLLOWED AND AIRCRAFT LANDED WITHOUT INCIDENT. MAINTENANCE FOUND THE LOWER RUDDER PCU YAW DAMPER SOLENOID LEAKING AT THE SEAL ASSEMBLY. THE SEAL ASSEMBLY AT THE SOLENOID WAS REPLACED AND LEAK CHECK WAS GOOD.											

8834E	BOEING			VALVE	DEFECTIVE	CRUISE	0	VIBRATION/BUFFET		NONE	
EALA	727225			596005003	TAIL	7/12/86	0	FLT CONT AFFECTED			
2720	20153			SO 19	SO658683276		86081800029	NM			
MCI-FLIGHT 308 7/12/86. AIRCRAFT EXPERIENCED RUDDER VIBRATION IN FLIGHT. REPLACED LOWER RUDDER CONTROL VALVE.											

355PA	BOEING			POWER PACK	MALFUNCTION	CLIMB	52717	FLT CONT AFFECTED		OTHER	
PAAA	727225			1060503	RUDDER	8/11/91	0				
2720	20625			EA 16	91ZZZX10411		91091300021	NM			
FLT 796/11. FIFTEEN (15) MINUTES AFTER TAKEOFF, CREW EXPERIENCED HARD RUDDER INPUTS. CREW TURNED OFF SYSTEM B, AND YAW DAMPERS. THREE (3) MINUTES LATER CREW EXPERIENCED ANOTHER RUDDER INPUT, TURNED OFF SYSTEM A AND YAW DAMPERS. UPON LANDING, MAINTENANCE REPLACED UPPER AND LOWER RUDDER POWER PACKS, OPS CHECK OK. SINCE THIS MAINTENANCE ACTION ITEM HAS NOT BEEN REPEATED.											

8855E	BOEING			POWER UNIT, LW	MALFUNCTIONED	CRUISE	0	FLT CONT AFFECTED		UNSCHE LANDING	
EMAA	727225			591005013	VERT STAB	6/14/92	0				
2720	20617			SW 17	92ZZZW6428		92080300004	NM			
AT CRUISE, AN ERRONEOUS RUDDER INPUT OCCURRED. AIRCRAFT ENTERED LEFT BANK AND MOMENTARILY LOCKED LEFT RUDDER. AUTOPILOT WAS DISENGAGED AND AIRCRAFT WAS RETRIMMED. REPLACED RUDDER LOWER POWER CONTROL UNIT. GROUND OPERATION CHECKED OK. PRECAUTIONARY TEST FLIGHT.											

453BN	BOEING			FILTER CAP	SPLIT	CRUISE	0	FLT CONT AFFECTED		EMER. DESCENT	
BNFA	727227			401605682	FEEL COMPUTER	3/19/87	0	AFFECT SYSTEMS			
2720	21394			SW 33	SW338774196		87040300014	NM			
MCI - DURING CRUISE, THERE WAS A COMPLETE LOSS OF HYDRAULIC FLUID. AIRCRAFT HAD TO MAKE AN EMERGENCY DESCENT. FOUND SPLIT FILTER CAP IN RUDDER FEEL COMPUTER. INSTALLED FILTER CAP. LEAK CHECKED OK, OPERATIONS CHECK NORMAL.											

76753	BOEING			SWITCH SEAL	LEAKING	CRUISE	0	WARNING INDICATION		OTHER	
CALA	727227			69201841	RUDDER ACTUATOR	7/6/93	0	FLUID LOSS			
2720	21249			SW 09	CAL931087		93082500132	NM	OVER TEMP		
IAH - FLIGHT 0659 - THE B-SYSTEM NR 2 PUMP OVERHEAT LIGHT ILLUMINATED AND ALL FLUID WAS LOST, FOLLOWED BY THE NR 1 PUMP OVERHEAT LIGHT ILLUMINATING WHILE IN-FLIGHT. BOTH PUMPS WERE TURNED OFF IAW THE CHECK LIST. BOTH WERE TURNED ON WITH GROUND INTERCONNECT OPEN AND THE SYSTEM PRESSURIZED. MAINTENANCE FOUND THE UPPER RUDDER ACTUATOR SWITCH LEAKING AT THE SEAL. THE SWITCH SEAL WAS REMOVED AND REPLACED AND OPERATIONAL AND LEAK CHECKS WERE GOOD. (Y)											

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OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO		
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION		
76753	BOEING			PWR CONTL UNI	LEAKING	INSP/MAINT	46742	OTHER	NONE
CALA	727227			591005009	RUDDER	7/20/93	0		
2720	21249		1867	SW 09	CAL931133		93082700013	NM	
PBI - FLT 0283 - THE B-SYSTEM HYDRAULIC QUANTITY AND PRESSURE WENT TO ZERO WHILE EN ROUTE TO PBI FROM EWR. THE AIRCRAFT LANDED AT PBI WITHOUT INCIDENT. MAINTENANCE FOUND THE UPPER RUDDER PCU LEAKING. THE UPPER RUDDER PCU WAS REMOVED AND REPLACED AND LEAK CHECK AFTER HYDRAULIC SYSTEM SERVICING WAS GOOD. (W)									
108FE	BOEING			CASTING	CRACKED	INSP/MAINT	0	OTHER	NONE
FDEA	72722C			652180510	NR 1 ENG STRUT	8/7/89	0		
2720	19204			SO 03	SO038970832		89101600044	NM	
DAL - RUDDER TRIM, LOWER CONTROL CASTING HAS 1 INCH CRACK AT AFT OUTBOARD END BY SPRING. REPLACED CASTING PER MM 27-20-0.									
428EX	BOEING			POWERPACK	BLOWN OUT	CLIMB	0	FLUID LOSS	UNSCHEDED LANDING
RYNA	72722C			108734	LOWER RUDDER	3/5/92	0	WARNING INDICATION	
2720	19097			CE 07	92ZZZY1630		92032700234	NM	
OKC - AFTER TAKEOFF, DURING CLIMB, AIRCRAFT EXPERIENCED SYSTEM-A HYDRAULIC FAILURE. AIRCRAFT RETURNED TO OKC, LANDED WITHOUT FURTHER INCIDENT. INSPECTION REVEALED STOP ON LOWER RUDDER POWERPACK BLOWN OUT. MAINTENANCE REMOVED AND REPLACED LOWER RUDDER POWERPACK. TOTAL CYCLES 34868.									
936FT	BOEING			PLATE	LEAKING	CRUISE	0	WARNING INDICATION	DEACTIVATE SYST/CIRC
FTLA	72723			591671		9/29/87	0	FLUID LOSS	
2720	19836			WP 23	WP108790036		87103000117	NM	
CREW REPORTED DURING CRUISE LOW HYDRAULIC QUANTITY ON SYSTEM-A. SHUT PUMPS OFF AT 1.8 GALLONS. ACCOMPLISHED ABNORMAL AND EMERGENCY PROCEDURES. LANDED WITHOUT INCIDENT. MAINTENANCE REPLACED PACKING ON LOAD LIMITER RELIEF VALVE AT LOWER RUDDER POWER PACK PER MM 27-20-41. OPS CHECK SATISFACTORY. NO LEAKS FOUND. ALSO ACCOMPLISHED PRECAUTIONARY GEAR SWING AND ALTERNATE GEAR SWING. BOTH CHECKS WERE NORMAL. AIRCRAFT RETURNED TO SERVICE.									
879UM	BOEING			STANDBY RUD A	OUT OF RIG	INSP/MAINT	0	OTHER	NONE
	727230				RUDDER	7/13/92	0		
2720	20562			SO 04	92ZZZY5238		92080700082	NM	
IN FLIGHT CHECK OF FLIGHT CONTROLS WITH A-SYSTEM PRESSURE TO RUDDER OFF. EXCESSIVE LEFT RUDDER INPUTS NOTED. WITH BOTH SYSTEMS PRESSURIZED. NO FLIGHT DIFFICULTIES NOTED. FOUND STANDBY RUDDER ACTUATOR REQUIRED RIGGING. RIGGED AS PER MM-27-20-51. NOTE, NO OTHER MAINTENANCE TO RUDDER SYSTEM WAS ACCOMPLISHED THIS SERVICE.									
12306	BOEING			SEAL PLATE	LEAKING	APPROACH	0	FLUID LOSS	OTHER
TWAA	727231			591671	LWR RUDDER PCU	5/11/88	0	AFFECT SYSTEMS	
2720	19563			CE 05	CE638880867		88052300017	NM	
STL - FLIGHT 495 - DURING APPROACH, LANDING GEAR WAS MANUALLY EXTENDED DUE TO LOSS OF A-HYDRAULIC SYSTEM. FOUND LOW PRESSURE SWITCH SEAL PLATE LEAKING ON LOWER RUDDER CONTROL. REPLACED SEAL PLATE. OP CHECKS NORMAL. CHECK C-2A 5/4/88 MCI.									

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Run Date: 01-Dec-94

## FEDERAL AVIATION ADMINISTRATION

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ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
504DA	BOEING			LIGHT	SHORTED	CRUISE	0	SMOKE		DEACTIVATE SYST/CIRC	
DALA	727232			85190	F/E PANEL	7/25/88	0				
2720	21306			SO 11	SO678887479		88081500098 NM				
CVG - DURING CRUISE, RUDDER LOAD LIMITER WARNING LIGHT SHORTED STARTING SMOKE AND SOME SPARKS ON BACKSIDE OF FLIGHT ENGINEERS PANEL. REPLACED RUDDER LIMITER LIGHT ASSEMBLY.											
519PE	BOEING			VALVE	LEAKING	CRUISE	23314	FLUID LOSS		UNCHED LANDING	
CALA	727232			596005003	RUDDER	11/24/91	23314	WARNING INDICATION			
2720	20642			SW 09	92ZZZW1370		92021100025 NM				
AIRCRAFT WAS RETURNED TO EWR AFTER THE "A" SYSTEM HYDRAULIC FLUID QUANTITY DROPPED TO ZERO ACCOMPANIED BY ILLUMINATION OF HYDRAULIC LOW PRESSURE LIGHTS 1 AND 2. AIRCRAFT LANDED WITHOUT FURTHER INCIDENT. MAINTENANCE FOUND THE ENGAGE SOLENOID (SHUTOFF) VALVE ON THE YAW DAMPER RUDDER POWER CONTROL UNIT LEAKING. THE ENGAGE SOLENOID VALVE WAS REMOVED AND REPLACED.											
519PE	BOEING			ENGAGE SOL VA	LEAKING	CRUISE	0	WARNING INDICATION		UNCHED LANDING	
CALA	727232			596005003	RUDDER	11/24/91	0				
2720	20642			SW	92ZZZZ2928		92020300203 NM				
PHL, FLT NR 0455. AIRCRAFT WAS RETURNED TO EWR AFTER THE "A" SYSTEM HYDRAULIC FLUID QUANTITY DROPPED TO ZERO ACCOMPANIED BY ILLUMINATION OF HYDRAULIC LOW PRESSURE LIGHTS 1 AND 2. AIRCRAFT LANDED WITHOUT FURTHER INCIDENT. MAINTENANCE FOUND THE ENGAGE SOLENOID (SHUTOFF) VALVE ON THE YAW DAMPER RUDDER POWER CONTROL UNIT LEAKING. THE ENGAGE SOLENOID VALVE WAS REMOVED AND REPLACED.											
420DA	BOEING			BASE	SHROTED	CRUISE	42075	FLAME		ACTIVATE FIRE EXT.	
DALA	727232			0541011016	COCKPIT	4/26/94	0				
2720	21273			SO 11	94ZZZZ839		94052300393 NM				
PHX - DURING CRUISE, THE WARNING LIGHT BASE FOR THE RUDDER LOAD LIMITER CAUGHT ON FIRE, DUE TO AND ELECTRICAL SHORT. FLIGHT CREW EXTINGUISHED FIRE USING HALON FIRE BOTTLE. REPLACED BASE ASSEMBLY FOR RETURN TO SERVICE.											
18786	BOEING			SEAL PLATE	LEAKING	CRUISE	0	FLUID LOSS		OTHER	
CALA	727232			69201851	RUDDER	8/20/94	0	WARNING INDICATION			
2720	20641			SW 09	CAL940766		94091200200 NM				
SFO - FLT 0677 - THE B-SYSTEM HYDRAULIC QUANTITY AND PRESSURE DROPPED TO ZERO IN-FLIGHT. THE PRECAUTIONARY MEASURES FOR HYDRAULIC LOSS WERE FOLLOWED AND THE AIRCRAFT LANDED WITHOUT INCIDENT. MAINTENANCE FOUND SEAL PLATE LEAKING ON UPPER RUDDER PCU LOAD LIMITING RELIEF VALVE. THE SEAL WAS REPLACED AND LEAK AND OPERATIONAL CHECKS WERE GOOD. (X)											
8116N	BOEING			VALVE	INOP	CRUISE	0	VIBRATION/BUFFET		NONE	
EALA	72725			10608131	AFT FUSELAGE	12/26/85	0	FLT CONT AFFECTED			
2720	18267			SO 19	SO658670969		86011700083 NM				
RUDDER FLUTTERS ON B SYS (SHAKES ACFT). REPLACED RUDDER TRANSFER VALVE.											

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152FE	BOEING			FITTING	CRACKED	INSP/MAINT	0	OTHER		NONE	
FDEA	72725			6516859	LOWER RUDDER	5/31/88	0				
2720	18285			SO 03	SO638884851		88071800065	NM			
LIS - IN HEAVY MAINTENANCE DURING INSPECTION OF THE LOWER RUDDER ACTUATOR SUPPORT FITTING IAW SB 55-50. CRACKS WERE FOUND AT BOTH LUGS OF THE POWER UNIT ATTACH POINT. THE LOWER RUDDER ACTUATOR SUPPORT FITTING WAS REPLACED BY P/N 65-23338-9.											
264US	BOEING			CONNECTOR	DIRTY	TAXI/GRND HDL	0	FALSE WARNING		RETURN TO BLOCK	
IXKA	727251				RUDDER CONTL	6/7/93	0				
2720	19983			EA 25	IXKA0000037		93072200173	NM			
EWR - TAXI OUT, RUDDER SYSTEM 'A' LIGHT WOULD NOT EXTINGUISH WITH HYDRAULIC POWER. FOUND SYSTEM 'A' RUDDER HYDRAULIC SHUT OFF VALVE CLOSED. CLEANED AND RESEATED CANNON PLUG. OPS CHECK OK PER MM 27-20-00. (Z)											
145FE	BOEING			FITTING	CRACKED	INSP/MAINT	59128	OTHER		NONE	
	72727C			651748210	UPPER RUDDER TAB	5/7/90	59128				
2720	19109			SW 07	SW079096810		90091200077	NM			
UPPER AND LOWER CLEVIS LUG FOR CONTROL RODS CRACKED, REPLACED FITTING PER SRM 51-10-1.											
712RC	BOEING				DEFLECTED	TAKEOFF	0	FLT CONT AFFECTED		DUMP FUEL	
REPA	7272S7				LWR RUDDER	12/26/85	0			UNSCHED LANDING	
2720	22020			GL 01	GL348671673		86013100019	NM			
FLIGHT RETURNED AFTER TAKEOFF DUE TO LOWER RUDDER DEFLECTED 1 - 1 1/2 UNITS. DUMPED FUEL DUE OVERWEIGHT FOR LANDING. PERFORMED YAW DAMPER CHECK. INSPECTED COMPLETE RUDDER SYS FOR OPERATION. UNABLE TO DUPLICATE. ALL INDICATIONS NORMAL. TEST HOP OK.											
724JE	BOEING			TRANSFER VALV	DEFECTIVE	CLIMB	0	FLT CONT AFFECTED		UNSCHED LANDING	
EISA	72730C			75130	LWR RUDDER PCU	2/19/88	0				
2720	19793		5681A	SW 07	SW608874818		88030400139	NM			
MCI - DURING CLIMB, FLIGHT 394 RETURNED TO MCI BECAUSE OF SUSPECTED LOSS OF UPPER YAW DAMPER. MAINTENANCE REPLACED THE LOWER YAW DAMPER AND LOWER RUDDER PCU TRANSFER VALVE.											
210NE	BOEING			FITTING	CRACKED	INSP/MAINT	0	OTHER		NONE	
EISA	72731			65233372	UPPER RUDDER	11/22/88	0				
2720	18903			SW	SW078899201		88123000060	NM			
DURING SCHEDULED C-CHECK. FOUND UPPER RUDDER ACTUATOR ATTACH LUG CRACKED ON FRONT SPAR OF UPPER RUDDER. REPLACED FITTING.											
463US	BOEING			LIMITER	DEFECTIVE	CRUISE	0	WARNING INDICATION		UNSCHED LANDING	
NWAA	72751				FUSELAGE	10/19/86	0				
2720	18799			GL 01	GL348689888		86120800047	NM			
PHX - FLIGHT 784, AIRCRAFT DIVERTED TO MSP ON FLIGHT TO MKE WHEN HYDRAULIC SYSTEM OVERHEAT LIGHT CAME ON. LOWER RUDDER LOAD LIMITER INOPERATIVE. REMOVED AND REPLACED RUDDER LOAD LIMITER. FUNCTIONAL CHECK OK.											



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## FEDERAL AVIATION ADMINISTRATION

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## Service Difficulty Report Data

PREPARED FOR: DON KURLE

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF JANUARY 1, 1986 TO PRESENT  
SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE  
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287AT	BOEING			CABLE	OUT OF RIG	CLIMB	0	FLT CONT AFFECTED	UNCHED LANDING
AMTA	72751				RUDDER	4/16/88	0	AFFECT SYSTEMS	
2720	18805			GL 31	GL318882925		88062000083 NM		
IN CLIMB, LOWER RUDDER YAW DAMP INOPERATIVE AND SPLIT RUDDER INDICATION. RETURNED TO IND. FOUND RUDDER SYSTEM OUT OF RIG. RIGGED SYSTEM ACCORDING TO MM									

913UP	BOEING			BOLT	MISSING	TAXI/GRND HDL.	0	FLT CONT AFFECTED	RETURN TO BLOCK
IPXA	72762C			SALPT832	LOWER RUDDER PC	8/5/89	0		
2720	19245			SO 01	SO018993901		89082800205 NM		
FLIGHT UN1722 - MADE A BLOCK TURNBACK DUE TO NO MOVEMENT OF THE LOWER RUDDER. THE LOWER RUDDER WAS FOUND LOCKED TO THE RIGHT WITH HYDRAULIC POWER ON. FURTHER INVESTIGATION REVEALED A BOLT MISSING FROM THE LOWER PCU EXTERNAL LINK ASSEMBLY. THE PCU WAS REPLACED AS A PRECAUTIONARY MEASURE.									

727ZV	BOEING			UNION	CRACKED	CRUISE	0	FLUID LOSS	NONE
KTA	72795			NAS1G126	RUD ACTUATOR	8/16/91	0		
2720	19249			EA 27	91222X10421		91091300031 NM		
"B" SYSTEM HYDRAULIC QUANTITY DROPPED TO .5 GALLONS. FLIGHT CONTINUED TO DEW WITHOUT INCIDENT. FOUND BOTH PRESSURE AND RETURN UNIONS LEAKING ON RUDDER ACTUATOR. REPLACED UNIONS. LEAK CHECKED NORMAL.									

707DH	BOEING			CASTING	CRACKED	INSP/MAINT	0	OTHER	NONE
DHLA	72722			65174827	RUDDER TAB ROD	4/14/92	0		
2721	18321			SO 01	9222ZY5044		92073100192 NM		
DURING G-CHECK, CASTING CRACKED. UPPER RUDDER TAB ATTACH POINT TO UPPER TAB ROD. REPLACED CASTING AS PER SRM 51-10-1, PARAGRAPH 4.									

8844E	BOEING			TRIM KNOB	INDEX OFF	CRUISE	0	FLT CONT AFFECTED	OTHER
EALA	727225					6/5/86	0		
2721	20442			SO 19	SO658680732		86063000165 NM		
MSY, FLT 532/6/5/86, ENROUTE MIA-MSY LEVEL FLIGHT REQUIRED 2.5 UNITS ALERON TRIM AND 1.23 UNITS OF RUDDER TRIM. FOUND RUDDER TRIM KNOB INCORRECTLY INDEXED. RUDDER DEFLECTION APPROX 18 DEGS WITH O-RUDDER TRIM INDICATED. REINDEXED TRIM KNOB.									

111FE	BOEING			FITTING	CRACKED	INSP/MAINT	0	OTHER	NONE
FDEA	72722C			651748210	UPPER RUDDER TAB	7/28/87	0		
2721	19805			SO 03	SO638784989		87082800092 NM		
DAL - DURING ROUTINE CHECK, FOUND THE LOWER EAR OF THE UPPER ROD ATTACH FITTING CRACKED ON FRONT SPAR OF THE UPPER RUDDER TAB. CORRECTIVE ACTION - REPLACED FITTING ASSEMBLY ON UPPER RUDDER TAB.									

101FE	BOEING			ATTACH LUGS	CRACKED	INSP/MAINT	0	OTHER	NONE
	72722C			65624351	LWR RUDDER TAB	4/19/88	0		
2721	19197			SW 07	SW608880569		88051900021 NM		
LOWER RUDDER TAB, ROD END ATTACH FITTING UPPER THREE ATTACH LUGS CRACKED. 50 INCH. REMOVED TAB AND INSTALLED NEW FITTING PER SRM 51-10-1.									

## FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

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PREPARED FOR: DON KURLE

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REMARKS											

101FE	BOEING			ATTACH FITTING	CRACKED	INSP/MAINT	0	OTHER		NONE	
FDEA	72722C			65624351	RUDDER TAB	4/19/88	0				
2721	19197			SO 03	SO638880860		88052300010	NM			
DAL - DURING INSPECTION OF THE LOWER RUDDER TAB, THE ROD END ATTACH FITTING UPPER THREE ATTACH LUGS WERE CRACKED (.50 INCH CRACKS). REMOVED TAB AND INSTALLED NEW FITTING PER SRM 51-10-1											

108FE	BOEING			CASTING	CRACKED	INSP/MAINT	42170	OTHER		NONE	
	72722C			652180510	RUDDER TRIM	8/7/89	42170				
2721	19204			SW 07	SW078995936		89091400056	NM			
RUDDER TRIM, LOWER CONTROL CASTING HAS A 1 INCH CRACK AT AFT OUTBOARD END BY SPRING. REPLACED CASTING PER MM 27-20-0.											

118FE	BOEING			FITTING	CRACKED	INSP/MAINT	0	OTHER		NONE	
FDEA	72725C			65727362	LWR RUDDER CNTR	7/20/88	0				
2721	19300			SO 03	SO638889696		88090600081	NM			
DURING HEAVY MAINTENANCE, FOUND .50 INCH CRACK ON LOWER RUDDER TAB CONTROL ROD CASTING, TWO LOCATIONS. ATTACH BOLT AREA. REMOVED AND REPLACED LOWER RUDDER CONTROL TAB PER MM 27-20-1.											

206FE	BOEING			ROD ASSEMBLY	BEARING WORN	INSP/MAINT	0	OTHER		NONE	
FDEA	7272S2F			691579813	LOWER TAB UPPER	11/9/90	0				
2721	22928			SO	SO039060534		90123100058	NM			
LOWER RUDDER TAB UPPER PUSHROD, UPPER ATTACH POINT ROD END WORN AND ATTACH FITTING DAMAGED. BEARING LOOSENEED FROM ROD END CAUSING ROD END TO WEAR INTO FITTING P/N 65-21820-4. REPLACED FITTING PER SRM 51-10-1, AND REPLACED ROD ASSEMBLY PER MM 27-20-1.											

436EX	BOEING			CONTROL MECH	LACK OF LUBE	DESCENT	0	OTHER		NONE	
RYNA	72751C				RUDDER TRIM	9/15/92	0				
2721	19289			CE 07	92ZZZY6853		92100700096	NM			
MSP - EN ROUTE, CREW REPORTED THAT FLAPS WOULD NOT GO INTO 5 DEGREE DETENT. ALSO, CREW REPORTED THAT RUDDER TRIM WAS BINDING AND HARD TO MOVE. INSPECTED AND LUBED RUDDER TRIM SYSTEM AT PEDESTAL. INSPECTED FLAP SYSTEM AND CABLES AND TORQUE TUBES. NO DEFECTS NOTED. PERFORMED OPERATIONAL CHECK OF RUDDER TRIM AND FLAPS IAW 727 MM. OPS CHECK NORMAL ON GROUND.											

7071U	BOEING		PARKER/HANFIN	ACTUATOR	CRACKED	CRUISE	0	FLUID LOSS		OTHER	
UALA	72722		591005009		RUDDER	10/24/88	0	AFFECT SYSTEMS			
2722	19084			NM 03	WP038895469		88111400013	NM			
LOST B-SYSTEM HYDRAULICS EN ROUTE FROM IAD TO SAV AND LANDED UNDER AMBER ALERT. S/D - REPLACED RUDDER POWER UNIT. CRACKED AND LEAKING.											

40482	BOEING			PCU	LEAKING	APPROACH	0	FLUID LOSS		OTHER	
CALA	72722			591005015	RUDDER	8/2/90	0	AFFECT SYSTEMS			
2722	18330		2657	SW 09	SW099096313		90090700121	NM			
IAH - FLIGHT 1064 - AIRCRAFT LOST B-SYSTEM HYDRAULIC FLUID IN FLIGHT. MAINTENANCE FOUND THE UPPER RUDDER POWER CONTROL UNIT (PCU) LEAKING. THE UPPER RUDDER POWER CONTROL UNIT WAS REPLACED.											

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Service Difficulty Report Data

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

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885AA	BOEING		PARKERHANTIN	BOOST PACK	LEAKING	CRUISE	0	FLUID LOSS	OTHER
AALA	727223			591005013	RUDDER	12/4/89	0	AFFECT SYSTEMS	
2722	21524			SW 07	SW078980084		89122900274 NM		

LGA - FLIGHT TO500 - EN ROUTE ORD-LGA, HYDRAULIC SYSTEM-A PRESSURE WENT TO ZERO IN FLIGHT. ALL PROCEDURES COMPLIED WITH FOR OPERATING MANUAL. AIRCRAFT AND AIRCRAFT LANDED LGA WITHOUT INCIDENT. AIRCRAFT MET ON RUNWAY, GEAR WAS PINNED AND TOWED TO GATE. REPLACED LOWER RUDDER HYDRAULIC BOOST PACKAGE. LEAK AND OPERATIONAL CHECKS NORMAL.

429EX	BOEING				LEAKING	CRUISE	0	FLUID LOSS	OTHER
IASA	72722C				RUDDER PWR PACK	7/22/87	0	SMOKE	
2722	19100		WP 03	SO668786925			87092100118 NM	AFFECT SYSTEMS	

FUMES FROM RIGHT PACK WHEN RUNNING ON NR 3 BLEED. INSPECTED NR 3 ENGINE, BLEED DUCTS FOUND OK. FOUND HYDRAULIC LEAK ON RUDDER PACKAGE AND DRIPPING ON NR 3 ENGINE DUCTING AND ENTERING AIR CONDITIONING SYSTEM. REPAIRED HYDRAULIC LEAK.

717DH	BOEING		PCU	BLOWN PLUG	TAKEOFF	0	FLUID LOSS	UNSCHED LANDING
DHLA	72723		591005013	LOWER RUDDER	1/28/92	0	WARNING INDICATION	
2722	19389		SO 01	92ZZZY823		92030500113 NM	FLT CONT AFFECTED	

AT TAKEOFF, A-HYDRAULIC SYSTEM QUANTITY WENT TO ZERO DURING FLAP RETRACTION, NR 1 PUMP LOW-PRESSURE LIGHT ILLUMINATED FIRST. PRESSURE REMAINED AT 3000 PSI WITH NR 2 PUMP FOR ONE MINUTE, NR 2 LIGHT CAME ON AND PRESSURE WENT TO ZERO, RETURNED TO BLOCKS. REPLACED LOWER RUDDER PCU IAW BOEING MM 27-20-141. LEAK CHECK OK.

12303	BOEING				LEAKING	CRUISE	0	FLUID LOSS	UNSCHED LANDING
TWAA	727231		591005009		LOWER RUDDER	6/27/87	0	FLT CONT AFFECTED	
2722	19560		CE 05	CE638783144			87073100198 NM		

FLIGHT 181 - LAX - MADE UNSCHEDULED LANDING ACCOUNT LOSS OF A-SYSTEM HYDRAULIC FLUID. FOUND HYDRAULIC LEAK AT LOWER RUDDER BOOST PACKAGE. CHANGED LOWER RUDDER POWER CONTROL UNIT PN 59100-5009. ALSO CHANGED BOTH ENGINE DRIVEN HYDRAULIC PUMPS AND CASE DRAIN FILTERS PRECAUTIONARY. OPS CHECK NORMAL.

543DA	BOEING		POWERPACK	NORMAL	CLIMB	15699	OTHER	UNSCHED LANDING
DALA	727232		591005015	UPPER	4/17/86	4101		
2722	22392		SO 11	SO678677009		86050200035 NM		

TPA - DURING CLIMB OUT WHILE PASSING 10,000 FT AT 210 KNOTS, THE FLIGHT CREW REPORTED AN ERRATIC OPERATION OF THE RUDDERYAW DAMPNER (LARGE RUDDER INPUT). THE AIRPLANE RETURNED TO TPA. MAINTENANCE REPLACED THE UPPER RUDDER CONTROL POWER PAC K ALONG WITH THE RETURN FILTER, PRESSURE FILTERS, AND CASE DRAINS. PERFORMED LEAK CHECK AND YAW DAMPNER GROUND TEST. OPERATIONAL CHECKS WERE NORMAL AND THE AIRPLANE WAS RETURNED TO SERVICE. S/D-THE UPPER RUDDER POWER PACK WHICH WAS REMOVED FROM N543DA WAS CHECKED IN THE SHOP AND NO DISCREPANCIES WERE FOUND WHICH COULD HAVE CAUSED THE RUDDER INPUT DURING CRUISE. OPERATIONS SUBSEQUENT TO FLIGHT NR 586 HAVE BEEN NORMAL.

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Service Difficulty Report Data

BOEING 727 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

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REMARKS											

134FE	BOEING			ACTUATOR	LEAKING	TAKEOFF	0	FLUID LOSS		UNSHED LANDING	
FDEA	72725C		591005009		RUDDER	5/27/89	0	AFFECT SYSTEMS			
2722	19852			SO 03	SO038986345		89062600262 NM				
IAD - FLIGHT 796 - SYSTEM-A HYDRAULIC QUANTITY WENT TO 2 GALLONS ON TAKEOFF ROLL AND STABILIZED AT 2 GALLONS. B-HYDRAULIC QUANTITY WENT TO 1 GALLON. AIRCRAFT RETURNED TO IAD AND LANDED WITHOUT INCIDENT. MAINTENANCE FOUND THE UPPER RUDDER POWER CONTROL UNIT LEAKING. THE POWER CONTROL UNIT WAS REPLACED PER MM 27-20-141. OPERATIONAL, LEAK, AND RIG CHECKS WERE GOOD. AIRCRAFT WAS RELEASED FOR SERVICE.											

853TW	BOEING			SEAL	LEAKING	NOT REPORTED	0	FLUID LOSS		UNSHED LANDING	
TWAA	72731			0712611	PCU	11/20/88	0	WARNING INDICATION			
2722	18572			CE 05	CE038898264		88121600072 NM				
MCI - FLIGHT 523 - RETURNED FROM FLIGHT DUE TO A-SYSTEM HYDRAULIC FLUID LOSS AND RUDDER LOAD LIMITER LIGHT ON. FOUND LOWER RUDDER POWER CONTROL UNIT SEAL ASSEMBLY LEAKING. REPLACED SEAL, OPS CHECKS NORMAL.											

NUMBER OF RECORDS: 58

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Service Difficulty DataBOEING 737 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

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CONTROL NUMBER: 12019402

MONTH C16	Total	YEAR											
		86	87	88	90	91	92	93	94				
01	4	-	1	1	-	-	1	1	-				
02	3	1	-	1	-	-	1	-	-				
03	6	1	1	2	1	-	-	1	-				
05	1	-	-	-	-	1	-	-	-				
06	2	-	-	-	1	-	1	-	-				
07	3	-	-	-	-	2	1	-	-				
08	4	-	-	1	-	-	2	1	-				
09	2	-	-	-	-	-	1	-	1				
10	2	-	-	1	-	-	1	-	-				
11	1	-	-	-	-	-	-	1	-				
12	2	-	-	1	-	1	-	-	-				
SUBTOTALS	30	2	2	7	2	4	8	4	1				
TOTALS	30	2	2	7	2	4	8	4	1				
END OF REPORT													

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Records selected: 30

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REMARKS											

807N	BOEING			PACKING	DEFECTIVE	CRUISE	13131	FLUID LOSS		UNCHED LANDING	
PAJA	737201			NAS1611211	RUD PCU	2/20/88	13131				
2720	22866			SO 05	SO668875412		88031400034	NM			
GSO - FLIGHT 214 - EN ROUTE TO LGA. LOST B-SYSTEM HYDRAULIC QUANTITY. FLIGHT DIVERTED TO GSO AND LANDED WITHOUT INCIDENT. REPLACED PACKING ON PLUG IN RUDDER POWER UNIT. LEAK CHECKED NORMAL PER MM. AIRCRAFT RETURNED TO SERVICE.											

769N	BOEING			VALVE	LEAKING	CLIMB	24217	FLT CONT AFFECTED		UNCHED LANDING	
PAJA	737201			10608131	RUDDER PCU	7/14/88	24217				
2720	21816			SO	SO668887314		88081200034	NM			
DAY - FLIGHT 386 - ON CLIMBOUT, WHEN AUTOPILOT ENGAGED, RUDDER KICKED TO THE LEFT, WITH AUTOPILOT OFF, RUDDER MOVED ON ITS OWN. FLIGHT RETURNED TO DAY AND LANDED WITHOUT INCIDENT. REPLACED B-RUDDER PCU TRANSFER VALVE PER MM. AIRCRAFT RETURNED TO SERVICE.											

237US	BOEING			PWR CONTL UNI	LEAKING	CRUISE	27610	FLUID LOSS		UNCHED LANDING	
USAA	737201			65451606	STATION 1064	5/12/91	27610				
2720	22353			EA 19	EA199192969		91070300055	NM			
CLT - FLIGHT 694 - FLIGHT EN ROUTE MCO TO BOS WHEN B-SYSTEM HYDRAULIC QUANTITY LOW LIGHT ILLUMINATED, WITH SLOWLY DECREASING A-SYSTEM QUANTITY. SHORTLY AFTER B-PUMP LOW-PRESSURE LIGHTS ILLUMINATED. FLIGHT DIVERTED TO CLT AND LANDED WITHOUT INCIDENT. MAINTENANCE FOUND RUDDER PCU LEAKING. REPLACED AND RIGGED RUDDER PCU PER MM 27-21-91.											

9010U	BOEING			SEAL	TORN	CLIMB	0	OTHER		OTHER	
UALA	737222			6552490523	LWR RT VERT FIN	2/9/86	0				
2720	19048			NM 03	WP038673365		86030300038	NM			
ORD - FLIGHT CREW REPORTED KNOCKING FELT ON RUDDER PEDALS BEFORE, DURING AND AFTER FLAP RETRACTION. KNOCKING DISAPPEARED DURING DESCENT UPON RETURN TO ORD. FOUND SEAL ON LOWER RIGHT SIDE OF VERTICAL FIN TO RUDDER TORN. REPLACED SEAL ALSO ADJUSTED AFT LAVATORY SERVICE DOOR TO BE FLUSH WITH FUSELAGE. ACCOMPLISHED VISUAL INSPECTION OF FLIGHT CONTROLS AND APU MOUNTS. FOUND NORMAL. AIRCRAFT RETURNED TO SERVICE AND NO FURTHER REPORTS OF THIS NATURE TO DATE.											

9068U	BOEING		MOOG	SERVO VALVE	DEFECTIVE	CRUISE	0	FLT CONT AFFECTED		OTHER	
UALA	737222			MR2722831528		6/13/91	0			UNCHED LANDING	
2720	19949			WP 29	WP299195021		91072200193	NM			
ORD - FLIGHT 0721 - AIRCRAFT WANTED TO ROLL TO THE RIGHT. TOOK ALMOST FULL LEFT AILERON TO HOLD LEVEL WINGS. RETURNED TO ORD ON AMBER ALERT. S/D - THE TRANSFER VALVE WAS FOUND TO BE DEFECTIVE. TOTAL CYCLES 47,819.											

306DL	BOEING			VALVE	INOPERATIVE	CLIMB	0	VIBRATION/BUFFET		UNCHED LANDING	
DALA	737232			277780001	RUDDER POWERPAC	5/29/92	0				
2720	23078			SO 11	92ZZZZ4581		92071400146	NM			
DFW - FLIGHT 672 - ON DEPARTURE, AIRCRAFT BEGAN TO SHAKE VIOLENTLY. DECLARED EMERGENCY AND RETURNED TO DFW. REPLACED YAW DAMP COUPLER. S/D - REPLACED RUDDER TRANSFER (EHV) VALVE.											

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ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO OPERATOR	CONTROL NO	FAA REPORT NO.	REGION		
REMARKS									

242WA	BOEING			BOLT	MISSING	TAXI/GRND HDL	0	FLT CONT AFFECTED	RETURN TO BLOCK
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WALA 737247

2720 23516

ABQ - RETURNED TO BLOCKS AFTER TAXIING OUT BECAUSE RUDDER PEDALS HAD NO CONTROL OF RUDDER. INSPECTED RUDDER CONTROL SYSTEM AND FOUND BOLT MISSING THAT CONNECTS RUDDER BOOST PACK TO OUTPUT QUADRANT. REPLACED MISSING BOLT AND NUT AND SYSTEM OPERATION CHECKED OK. REFER TO IPC 27-20-0, FIG 50A, ITEMS 40 AND 55. THE MANUFACTURER HAS BEEN ADVISED AND A FLEET CHECK OF THIS ITEM IS UNDERWAY.

238US BOEING

USAA 737296

2720 22398

JAX - FLT 1004 - AFTER TAKEOFF, AIRCRAFT LOST B-SYSTEM HYDRAULICS. FLIGHT RETURNED TO JAX AND LANDED WITHOUT INCIDENT. MAINTENANCE REPLACED RUDDER PCU IAW MM 27-20-91A.

70724 BOEING

TSAA 737297

2720 21740

HNL - FLIGHT 223 - EN ROUTE, THE AIRCRAFT B-HYDRAULIC SYSTEM LOW QUANTITY LIGHT CAME ON FOLLOWED BY THE B-SYSTEM LOW PRESSURE INDICATION. THE FLUID QUANTITY WENT DOWN TO 1.3 GALLONS. THE FLIGHT CREW DECLARED AN INFLIGHT EMERGENCY AND CONTINUED TO HNL FOR AN UNEVENTFUL LANDING. MAINTENANCE REPLACED THE RUDDER PCU, THE NR 1 B-SYSTEM HYDRAULIC PUMP AND REPLACED THE A-SYSTEM AND B-SYSTEM CASE DRAIN FILTERS. THE LINES WERE FLUSHED AND THE SYSTEM RESERVICED. THE SYSTEM LEAK AND OPERATIONALLY CHECKED GOOD AND THE AIRCRAFT WAS RETURNED TO SERVICE.

70724 BOEING

TSAA 737297

2720 21740

FLT 223, EN ROUTE TO HNL, THE AIRCRAFT "B" HYDRAULIC SYSTEM LOW QUANTITY LIGHT CAME ON FOLLOWED BY THE "B" SYSTEM LOW PRESSURE INDICATION. THE FLUID QUANTITY WENT DOWN TO 1.3 GALLONS. THE FLIGHT CREW DECLARED AN IN-FLIGHT EMERGENCY AND CONTINUED TO HNL FOR AN ENEVENTFUL LANDING. MAINTENANCE REPLACED THE RUDDER PCU, THE NR 1 "B" SYSTEM HYDRAULIC PUMP AND REPLACED THE "A" AND "B" SYSTEM CASE DRAIN FILTERS. THE LINES WERE FLUSHED AND THE SYSTEM RESERVICED. THE SYSTEM LEAK AND OPERATIONALLY CHECKED GOOD AND THE AIRCRAFT WAS RETURNED TO SERVICE.

309UA BOEING

UALA 737322

2720 23670

SEA - FLT 750 - ON TAXI OUT, WHEN RUDDER CONTROL CHECKED, RIGHT RUDDER WAS BINDING. S/D - RUDDER PCU SERVO CONTROL VALVE RETENTION SPRING NUT WAS FOUND TO BE UNDER TORQUED. WHICH ALLOWED THE VALVE TO POSITION SO THAT THE EXTEND AND RETRACT PRESSURES EQUALIZED. CAUSING A HYDRAULIC LOCK IN THE RUDDER CONTROL SYSTEM. OVERHAULED POWER CONTROL UNIT AND OPERATIONALLY CHECKED NORMAL.

## FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

BOEING 737 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019407

NNUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				

343UA	BOEING			TRIM INDICATO	DEFECTIVE	CRUISE	0	FALSE WARNING		OTHER	
UALA	737322			10166N01N00	RUDDER	2/25/93	0				
2720	24247			WP 29	93ZZZY2096			93032300134	NM		
SEA - FLIGHT 1714 - RUDDER TRIM INDICATES OFF TRIM CONDITION 5 OR 10 DEGREES WITH A CORRESPONDING RUDDER INPUT (UNCOMMANDED). IT MOVED TO FULL SCALE RIGHT TRIM (UNCOMMANDED). S/D - RUDDER TRIM INDICATOR TESTED GOOD IN HOUSE. INDICATOR MOTOR WAS CHANGED DUE TO CHRONIC HISTORY IN THE INDICATOR.											

47332	BOEING			TRANSFER VALV	LEAKING	CRUISE	0	FLUID LOSS		OTHER	
CALA	7373T0			75130	RUDDER PWR UNIT	8/18/94	0	WARNING INDICATION			
2720	23570			SW 09	CAL940759			94091200195	NM		
EWR - FLT 1515 - THE NR 2 ENGINE HYDRAULIC PUMP LOW PRESSURE LIGHT ILLUMINATED AND THE B-SYSTEM HYDRAULIC QUANTITY DROPPED TO JUST ABOVE ONE-QUARTER WHILE IN-FLIGHT. THE NR 2 PUMP WAS TURNED AND THE AIRCRAFT LANDED WITHOUT INCIDENT. MAINTENANCE FOUND SYSTEM ROLL ACTUATOR TRANSFER VALVE LEAKING. THE TRANSFER VALVE WAS REMOVED AND REPLACED AND OPERATIONAL AND LEAK CHECKS WERE GOOD. (X)											

442US	BOEING			RUDDER	VIBRATION	CLIMB	0	VIBRATION/BUFFET		UNSCHE D LANDING	
USAA	7374B7				RIGHT	7/3/93	0				
2720	24841			EA 19	USAA931432			93082500059	NM		
MIA - FLT 122 - FLIGHT EN ROUTE NAS TO TPA WHEN CREW NOTED EXCESS VIBRATION ON RUDDER PEDALS. FLIGHT DIVERTED TO MIA AND LANDED WITHOUT INCIDENT. MAINTENANCE LUBED NR 2 ENGINE FAN BLADES. REPLACED RT ELEVATOR TAB HINGE BEARING BOLTS, RT RAM INLET DOOR BUSHINGS, LUBED LT AND RT ELEVATOR TAB HINGES, CURTAINS, AND TRAILING EDGE FLAPS. (W)											

926UA	BOEING			POWER CONT L	MALFUNCTIONED	INSP/MAINT	0	FLT CONT AFFECTED		NONE	
UALA	737522			MR2726422	RUDDER	8/4/92	0				
2720	26648			WP 29	92ZZZW7252			92090100028	WP		
SFO - FLIGHT 904 - RUDDER SEEMS TO BE BINDING. SLOW TO RESPOND TO ANY INPUTS EITHER MANUALLY OR FROM AUTOPILOT. S/D - RUDDER POWER CONTROL UNIT WAS CHANGED AS A PRECAUTION. UNIT IS CURRENTLY UNDERGOING TESTING. NO PROBLEMS FOUND ON AIRCRAFT.											

926UA	BOEING		PARKERHANFIN	CONTROL UNIT	BINDING	INSP/MAINT	0	FLT CONT AFFECTED		NONE	
UALA	737522			MR2726422	RUDDER	8/4/92	0				
2720	26648			WP	92ZZZW8282			92100800023	WP		
SFO - FLT 904 - RUDDER SEEMS TO BE BINDING. SLOW TO RESPOND TO ANY INPUTS EITHER MANUALLY OR FROM AUTO PILOT. RUDDER POWER CONTROL UNIT WAS CHANGED AS A PRECAUTION. UNIT IS CURRENTLY UNDERGOING TESTING. NO PROBLEMS FOUND ON AIRCRAFT. UNIT WAS TESTED BY SHOP AND NO PROBLEMS WERE FOUND.											

926UA	BOEING			CONTROL SYSTE	SLOW	INSP/MAINT	0	OTHER		NONE	
UALA	737522				RUDDER	8/4/92	0				
2720	26648			WP	92ZZZY5547			92081700119	WP		
SFO - FLIGHT 904 - RUDDER SEEMS TO BE BINDING. SLOW TO RESPOND TO ANY INPUTS EITHER MANUALLY OR FROM AUTOPILOT.											



## FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

BOEING 737 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019407

NNUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	REC'DO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											

941UA	BOEING	GE		CIRCUIT BREAKER	TRIPPED	TAKEOFF	0	NO TEST		ABORTED TAKEOFF	
UALA	737522	CFM56*			COCKPIT	10/21/93	0				

2720 26676 WP 29 93UAL737124 93110800134 WP

NO RUDDER PEDAL STEERING ON TAKEOFF ROLL. AT 40 OR 50 KNOTS THE TAKEOFF WAS ABORTED. RESET CIRCUIT BREAKER. CHECKS OK.

301UA	BOEING			SWITCH	MALFUNCTIONED	NOT REPORTED	0	WARNING INDICATION	OTHER	
UALA	737322			308503		2/8/90	0			

2721 23642 NM 03 WP039077096 90030900047 NM

DEN - FLIGHT 396 - OLR SENT RUNAWAY RUDDER TRIM. S/D - COULD NOT DUPLICATE. REPLACED RUDDER TRIM SWITCH AS PRECAUTIONARY. NO FURTHER DISCREPANCIES NOTED.

904UA	BOEING			SWITCH	MALFUNCTIONED	NOT REPORTED	935	FLT CONT AFFECTED	NONE	
UALA	737522			308504	RUDDER TRIM	4/27/91	935			

2721 25004 WP 29 WP299187366 91051600017 WP

MCI - FLIGHT 0548 - RUDDER TRIM WENT TO FULL RIGHT RUDDER WITHOUT PILOTS INPUT AFTER A SMALL RUDDER TRIM INPUT. S/D - REPLACED RUDDER TRIM SWITCH AND ADJUSTED CLEARANCE ON KNOB.

4951W	BOEING			PCU	LEAKING	TAXI/GRND HDL	29243	WARNING INDICATION	RETURN TO BLOCK	
ACLA	737210C			6544861	VERTICAL STAB	2/22/87	29243	FLUID LOSS		

2722 21066 WP 27 WP148773920 87033000015 NM AFFECT SYSTEMS

SEA - ON PUSH BACK, A-SYSTEM HYDRAULIC PRESSURE WENT TO ZERO IMMEDIATELY FOLLOWED BY B-SYSTEM LOW PRESSURE LIGHT COMING ON. AIRCRAFT RETURNED TO BLOCKS. MAINTENANCE INITIALLY OBSERVED HYDRAULIC FLUID RUNNING FROM TAIL SECTION. UPON FURTHER INVESTIGATION, FOUND RUDDER PCU LEAKING. REPLACED PCU. LEAK CHECKED GOOD. AIRCRAFT RETURNED TO SERVICE.

9019U	BOEING			SEAL	LEAKING	CLIMB	39374	FLUID LOSS	UNSHED LANDING	
UALA	737222	65448614			RUDD ACTUATOR	10/7/88	39374			

2722 19057 NM 03 WP038894205 88102800036 NM

B-SYSTEM HYDRAULIC FLUID LOSS, RETURNED TO FIELD. S/D - REPLACED RUDDER POWER UNIT.

14237	BOEING			ACTUATOR	BROKEN FITTING	CLIMB	0	FLUID LOSS	UNSHED LANDING	
CALA	737222			65448613	RUDDER	12/29/91	0	WARNING INDICATION		

2722 19945 SW 09 92ZZZY569 92022400172 NM

DEN - FLIGHT 0832 - AIRCRAFT WAS RETURNED TO DEN AFTER LOSING THE B-SYSTEM HYDRAULIC FLUID QUANTITY AND PRESSURE. THE SYSTEM LOSS WAS ACCOMPANIED BY ILLUMINATION OF THE LOW QUANTITY AND PRESSURE LIGHTS. AIRCRAFT LANDED WITHOUT FURTHER INCIDENT. MAINTENANCE FOUND A FITTING ON THE RUDDER CONTROL ACTUATOR BROKEN. THE RUDDER CONTROL ACTUATOR WAS REMOVED AND REPLACED AND SUBSEQUENT LEAK AND OPERATIONAL CHECKS WERE GOOD.

## FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

BOEING 737 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

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OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO			
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION			

189AW	BOEING			RUDDER PCU	BROKEN CAP	CLIMB	0	FLUID LOSS		UNSCHED LANDING
AWXA	737277			65948617F	LOWER FORWARD	1/21/88	14712	WARNING INDICATION		
2722	22656			WP 07	WP078873652		88021200207 NM	AFFECT SYSTEMS		
PHOENIX - 5 MINUTES AFTER DEPARTURE. B-HYDRAULIC LOW QUANTITY LIGHT ILLUMINATED FOLLOWED 5 MINUTES LATER WITH BOTH NR 1 AND NR 2 B-PUMP LOW PRESSURE LIGHTS ILLUMINATING. HYDRAULIC QUANTITY WENT TO 1 GALLON. FOUND LOWER FORWARD CAP FOR YAW DAMPER ACTUATOR ASSEMBLY ON RUDDER PCU HAD BROKEN. HYDRAULIC SYSTEM SERVICED, REMOVED AND REPLACED PCU. OPERATIONS CHECKED GOOD. RETURNED AIRCRAFT TO SERVICE.										

182AW	BOEING			PCU	FAILED	CLIMB	0	FLT CONT AFFECTED		UNSCHED LANDING
AWXA	737277		65448615	65448615	RUDDER	11/29/88	18509			
2722	22649			WP 28	WP078899147		88123000006 NM			
PHX-LAX - FLIGHT 33 - RETURNED DUE TO A HARD LEFT BANK WITH AUTOPILOT IN CWS. REMOVED AND REPLACED RUDDER PCU. S/D - INSPECTION AND OVERHAUL PERFORMED ON REMOVED ACTUATOR. NORMAL WEAR FOUND DURING TEARDOWN. NO DEFECTS NOTED THAT WOULD HAVE CAUSED THE INCIDENT. AIRCRAFT HAS HAD NO FURTHER REPORTS OF PROBLEMS OF THIS NATURE.										

28SW	BOEING			PCU	LEAKING	TAXI/GRND HDL	0	FLUID LOSS		RETURN TO BLOCK
SWAA	7372114			6844615	RUDDER	1/24/86	10104	WARNING INDICATION		
2722	21339			SW 33	SW338672756		86022100076 NM	AFFECT SYSTEMS		
AUS - DURING TAXI, BOTH A SYSTEM HYDRAULIC LOW PRESSURE LIGHTS ILLUMINATED. A SYSTEM QUANTITY WAS 1 GALLON AND FALLING. RETURNED TO GATE. MAINTENANCE REMOVED AND REPLACED RUDDER PCU FOR LEAKAGE. FUNCTIONALLY CHECKED OK AND RETURNED A/C TO SERVICE.										

64SW	BOEING			PCU	LEAKING	CLIMB	26144	FLUID LOSS		UNSCHED LANDING
SWAA	7372114			65448618	TAIL	12/21/87	26144	AFFECT SYSTEMS		
2722	22062			SW	SW608870514		88010800028 NM			
PHX - RETURN AFTER TAKEOFF, FLIGHT 961, DUE TO B-SYSTEM PRESSURE AND QUANTITY LOW. AIRCRAFT LANDED WITHOUT INCIDENT. REPLACED LEAKING RUDDER POWER CONTROL UNIT. OPERATION AND LEAK CHECK NORMAL.										

394UA	BOEING			POWER CONTL U	FAILED	INSP/MAINT	0	OTHER		NONE
UALA	737322			65448619	TAIL INTERIOR	7/16/92	0			
2722	24669			WP 29	92ZZZY5586		92081800128 NM			
ORD - FLIGHT 0678 - WHEN CHECKING LEFT RUDDER ON THE GROUND, IT LOCKED AT APPROXIMATELY 25 PERCENT INPUT. S/D - REPLACED RUDDER PCU PER MM 27-21-91. PCU PISTON INTERMITTENTLY RETRACTS WHEN BOTH FULL EXTEND YAW DAMPER COMMAND AND MANUAL FULL PISTON EXTEND COMMAND APPLIED. SERVO VALVE OVERSTROKING DUE TO INEFFECTIVE SECONDARY SLIDE SUMMING LEVER. EXTERNAL STOP FOUND TO BE CAUSE OF ACTUATOR REVERSAL.										

379AU	BOEING			RUDDER PCU	INOPERATIVE	TAKEOFF	0	VIBRATION/BUFFET		UNSCHED LANDING
USAA	7373B7			65448619		2/22/88	0			
2722	23385			EA 19	EA198875362		88031100175 NM			
BDL - AFTER TAKEOFF BDL, RUDDER PEDAL VIBRATION AT APPROXIMATELY 1000 FEET WITH THE GEAR UP. LEVELED AIRCRAFT AT 3000 FEET AND TURNED. VIBRATION STOPPED. AIRCRAFT RETURNED TO BDL WHERE LANDING WAS ACCOMPLISHED WITHOUT INCIDENT. MAINTENANCE REPLACED THE RUDDER POWER CONTROL UNIT. OPERATIONAL CHECK OK. AIRCRAFT RELEASED FOR SERVICE.										

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Run Date: 01-Dec-94

# FEDERAL AVIATION ADMINISTRATION

Page: 6

## Service Difficulty Report Data

BOEING 737 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

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Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019407

NNUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											

316SW	BOEING			PCU	INTERMITTENT	CRUISE	5783	FLT CONT	AFFECTED	UNSCHE	LANDING
SWAA	7373H4			65448619		4/29/90	5783				
2722	23338		1774A	SW 07	SW079086609		90060500036	NM			
ABQ - FLIGHT 965 - IN CRUISE, AIRCRAFT YAWED TWICE AND REQUIRED LEFT RUDDER TO FLY COORDINATED. DIVERTED TO LAS AND MADE UNEVENTFUL LANDING. INSPECTED, SERVICED AND BLED RUDDER POWER CONTROL UNIT. RUDDER SYSTEM OPERATIONAL CHECKED OK PER MM. SUBSEQUENT TEST FLIGHT INDICATE NO ANOMALIES. AIRCRAFT RETURNED TO SERVICE.											

NUMBER OF RECORDS: 30

Run Date: 01-Dec-94

FEDERAL AVIATION ADMINISTRATION  
Service Difficulty Data

Page: 1

BOEING 747 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

PREPARED FOR: DON KURL

CONTROL NUMBER: 12019403

MONTH C16	YEAR	
	Total	
02	1	1
04	1	1
05	2	-
10	1	1
SUBTOTALS	5	3
TOTALS	5	3
END OF REPORT		

20

Records selected: 5

Run Date: 01-Dec-94

## FEDERAL AVIATION ADMINISTRATION

Page: 1

Service Difficulty Report Data

BOEING 747 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019408

NUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECD	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											

605US	BOEING			AMPLIFIER, RUD	INOPERATIVE	TAKEOFF	42804	WARNING INDICATION	ABORTED TAKEOFF		
NWAA	747151			69050006	FUSELAGE	2/26/92	405				
2720	19782			GL 01	9203416605		92022800159 NM				
DURING TAKEOFF, THE RUDDER RATIO LIGHT ILLUMINATED. TAKEOFF WAS ABORTED AND THE AIRCRAFT RETURNED TO GATE. REPLACED LOWER RUDDER RATIO CHANGER AMPLIFIER, OPERATIONAL CHECK OK.											

602US	BOEING			CHANGER	MAJFUNCTION	CLIMB	0	WARNING INDICATION	UNSCHE LANDING		
NWAA	747151			6013E	VERTICAL STAB.	10/1/92	0				
2720	19779			GL	9234116602		92100700123 NM				
DURING CLIMB, THE RUDDER RATIO LIGHT ILLUMINATED AS FLAPS RETRACTED TO ZERO. LIGHT WOULD NOT ILLUMINATE WITH FLAPS EXTENDED. AIRCRAFT DIVERTED TO MSP AND LANDED WITHOUT FURTHER INCIDENT. MAINTENANCE FOUND RUDDER RATIO CONTROL CHANGER DEFECTIVE. REPLACED CHANGER AND PERFORMED LEAK CHECK. UNIT TESTED NORMAL.											

639FE	BOEING			POWERPACK	MALFUNCTIONED	CLIMB	0	FLT CONT AFFECTED	UNSCHE LANDING		
FDEA	747245F			3822000	RUDDER	3/21/92	0				
2720	21650			SO 03	92ZZZY2183		92041600109 NM				
JFK - FLIGHT 2080 - AFTER TAKEOFF AND DURING FLAP RETRACTION, AIRCRAFT REQUIRED MORE AILERON TRIM FROM 3 UNITS OF RIGHT RUDDER TO FLAPS CLEAN AND 10 UNITS ON RIGHT RUDDER. AS AIRCRAFT CLIMBED TO FL 23,000 FEET, THERE WAS AN ABRUPT YAW LEFT. TRIM WAS REMOVED AND RUDDER POSITION RETURNED TO NORMAL. RETURNED TO JFK AND LANDED NORMALLY. S/D - MAINTENANCE REPLACED THE UPPER RUDDER POWERPACK PER MM 27-21-16, ITEM 6 ABCDEFHIJ AND K. ADJUSTED LOWER RUDDER POWER PACKAGE PER 27-21-16. RUDDERS CHECK GOOD IN LOW AND HIGH SPEED MODE.											

803FT	BOEING			ACTUATOR	STUCK EXTENDED	CLIMB	59022	WARNING INDICATION	UNSCHE LANDING		
FTLA	747132			60130005	UPPER RUDDER	4/11/89	59022	VIBRATION/BUFFET			
2722	19897	0240768		WP 23	WP238982223		89052200305 NM				
SFO - AIR TURNBACK TO SFO DUE TO RUDDER RATIO LIGHT ON WITH ACCOMPANYING MODERATE VIBRATION. LEFT BODY GEAR DOOR LIGHT CAME ON. RECYCLED GEAR AND LIGHT WENT OUT AND VIBRATION DISAPPEARED. REPLACED UPPER RUDDER RATIO ACTUATOR. REPAIRED LEAK IN AUXILIARY NR 1 PITOT SYSTEM NEAR PITOT PROBE. PITOT LEAK CHECKS OK AND RUDDER RATIO CHECKS OK PER MM 27-21-13, PAGES 401-404.											

804T	BOEING			RETAINER	LEAKING	TAKEOFF	5838	FLUID LOSS	OTHER		
FTLA	747132			3822033	UPPER RUDDER PCU	4/19/89	5838	AFFECT SYSTEMS			
2722	20246			WP	WP238981898		89051900152 NM				
NRT - LOST ALL HYDRAULIC QUANTITY FROM NR 1 SYSTEM ON TAKEOFF AT OSA. WENT TO ALT PROCEDURES. REPLACED NR 1 HYDRAULIC PUMP P/N 350880-7, 2 CASE DRAIN FILTERS P/N 7553276. ALSO, REPLACED RETAINER P/N 3822033 AND FILTER ELEMENT P/N 7553575 IN UPPER RUDDER PACKAGE. LEAK CHECK OK PER MM 29-11-10.											

NUMBER OF RECORDS: 5

Run Date: 01-Dec-94

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Data

BOEING 757 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

CONTROL NUMBER: 12019404

PREPARED FOR: DON KURLLE

YEAR

MONTH C16	YEAR						
	Total	88	90	91	92	93	94
01	1	-	-	1	-	-	-
02	1	-	-	-	-	-	1
05	1	-	-	-	1	-	-
06	1	-	-	-	-	1	-
08	3	1	-	2	-	-	-
09	1	-	-	-	-	-	1
10	2	-	-	-	2	-	-
12	1	-	1	-	-	-	-
SUBTOTALS	11	1	1	3	3	1	2
TOTALS	11	1	1	3	3	1	2
END OF REPORT							

22

Records selected: 11

Run Date: 01-Dec-94

## FEDERAL AVIATION ADMINISTRATION

Page: 1

Service Difficulty Report Data

BOEING 757 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

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CONTROL NUMBER: 12019409

NUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											
750AT	BOEING			BEARING	FROZEN	INSP/MAINT	0	OTHER		NONE	
AMTA	757212			MS21439106G	RUDDER PEDAL	6/20/91	0				
2720	23126			GL 11	GL119196973		91080800254	NM			
MCO - ON PREFLIGHT, FOUND RUDDER PEDALS ROUGH BINDING. FROZEN BEARING ON AFT QUADRANT, FULL CENTERING AND TRIM MECHANISM. REPLACED BEARING. AIRCRAFT TOTAL TIME 12,564.6.											
507UA	BOEING			BOLT	MISSING	INSP/MAINT	2798	OTHER		NONE	
UALA	757222			NAS6304U17	LT RUDDER PEDAL	12/11/90	2798				
2720	24743			WP 29	WP299172027		91011800185	NM			
DEN - FLIGHT 0695 - FIRST OFFICER LEFT RUDDER PEDAL LOOSE. FIRST OFFICER LEFT UPPER WHEEL BRAKE ACTUATING LINKAGE ATTACH BOLT WAS MISSING. FOUND BOLTS IN OTHER RUDDER PEDALS LOOSE. REPLACED MISSING BOLTS AND SECURED LOOSE BOLTS.											
534UA	BOEING			PEDAL	BINDING	LANDING	0	FLT CONT AFFECTED		OTHER	
UALA	757222				RUD PEDAL SHIELD	7/3/91	0				
2720	25129			WP	WP299196556		91080500225	NM			
LAX - FLIGHT 0635 - PER THE CREWS VERBAL DESCRIPTION TO THE MECHANIC, ON LANDING ROLLOUT THE RUDDER PEDALS LOCKED UP AND THE CREW WERE UNABLE TO MOVE THEM UNLESS BOTH CREW MEMBERS USED FULL FORCE. THEN THE RUDDER PEDALS WERE FREED UP. S/D - INSPECTION OF THE FIRST OFFICERS RUDDER PEDAL SHIELD ON THE INBOARD SIDE SHOWED IMPROPER CLEARANCE BETWEEN IT AND THE RUDDER PEDAL. THE SHIELD WAS SHAVED TO PROVIDE PROPER CLEARANCE.											
574UA	BOEING	PWA		CONTROLS	STIFF	LANDING	0	FLT CONT AFFECTED		OTHER	
UALA	757222	PW2037			RUDDER	2/8/94	0				
2720	26686			WP	94UAL757008		94021000176	NM			
UPON LANDING THE RUDDERS BECAME DIFFICULT TO MOVE. REQUIRED EXCESSIVE FORCE TO BREAK LOOSE.											
566UA	BOEING	PWA		PEDALS	BINDING	TAXI/GRND HDL	0	OTHER		OTHER	
UALA	757222	PW2037			RUDDER CONTROL	9/27/94	0				
2720	26670			WP	94UAL757049		94093000437	NM			
RUDDER PEDALS ARE BOUND AND WILL NOT MOVE. OCCURRED AFTER LANDING AND WHILE TAXIING OFF OF RUNWAY. TILLER HAD TO BE USED FOR TAXIING. MECHANIC FOUND RIGHT UPPER PEDAL SHEET METAL CUTOUT BINDING PEDALS. MATERIAL WAS REMOVED TO PROVIDE 0.2 INCH CLEARANCE.											
504EA	BOEING			MODULE	MALFUNCTIONING	CLIMB	0	FLT CONT AFFECTED		UNSCHED LANDING	
EALA	757225			285T0014104	E/E COMPARTMENT	11/4/90	0	WARNING INDICATION			
2720	22194			SO 19	SO199057995		90121000058	NM			
ATL - FLIGHT 77 - DURING CLIMB, LEFT HYDRAULIC SYSTEM PRESSURE MESSAGE, RUDDER RATIO MESSAGE, AND FLAPS AND GEAR UP CAUTION LIGHTS ILLUMINATED. A SEVERE JOLT WAS ALSO FELT IN THE RUDDER. LANDED WITHOUT INCIDENT. FOUND RUDDER RATIO CHANGER MODULE MALFUNCTIONING. REPLACED RUDDER RATIO CHANGER MODULE. SIMULATED 10,000 FEET AND PERFORMED OPERATIONAL CHECK.											

Run Date: 01-Dec-94

## FEDERAL AVIATION ADMINISTRATION

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Service Difficulty Report Data

BOEING 757 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES

FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 12019409

NUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				

503US	BOEING			RUDDER CHANG	OUT OF ADJUST	DESCENT	0	FLT CONT AFFECTED	NONE		
NWAA	757251					7/8/88	0				
2720	23192			GL 01	GL348886834		88080800031	NM			
DTW - FLIGHT 578 - DURING DESCENT AT IDLE POWER (310 IAS). REQUIRED 13 UNITS OF LEFT TRIM. AT 250 IAS. REQUIRED 9 UNITS OF LEFT RUDDER TRIM. ADJUSTED RUDDER CHANGER AND POWER CONTROL ACTUATORS PER MM 27-21-00, PAGES 532-541.											

527US	BOEING			CONTROL UNIT	MAFUNCTIONED	CLIMB	15506	WARNING INDICATION	NONE		
NWAA	757251			285T0014104	RUDDER CONTROL	5/5/92	15506	FLT CONT AFFECTED			
2720	23842			GL	9212105527		92051300154	NM			
DURING CLIMB AT APPROXIMATELY 14,000 FEET, 290 KNOTS WITH AUTOPILOT OFF, THE AIRCRAFT HAD A NOTICEABLE (NOT SEVERE) ROLL TO THE RIGHT. THE RUDDER RATIO EICAS MESSAGE APPEARED BUT WITHIN 20 SECONDS THE FLIGHT CONTROLS RETURNED TO NORMAL AND THE EICAS MESSAGE CANCELLED. REPLACED RUDDER CONTROL UNIT. SYSTEM CHECKED NORMAL.											

512US	BOEING			CONTROL PANEL	FAILED	CRUISE	0	FLT CONT AFFECTED	NONE		
NWAA	757251				RUDDER TRIM	10/12/92	0				
2721	23200			GL	9235255512		92101600164	NM			
DURING FLIGHT, THE RUDDER TRIM FAILED TO TRIM IN EITHER DIRECTION. CYCLED THE RUDDER TRIM CIRCUIT BREAKER AND TRIM RETURNED. REPLACED RUDDER POSITION INDICATOR AND THE RUDDER/AILERON TRIM CONTROL PANEL. OPERATIONAL CHECK OK.											

757AT	BOEING			ACTUATOR	FAILED	CRUISE	0	WARNING INDICATION	NONE		
AMTA	757212				RUDDER	7/10/92	0				
2722	23127			GL 11	92ZZZW8535		92101900037	NM			
MCO - FLT 391 - RUDDER RATIO MESSAGE ON EICAS FLASHES FOR THREE SECONDS AND OVERHEAD LIGHT ON. REMOVED AND REPLACED RUDDER RATIO ACTUATOR.											

531UA	BOEING	PWA		ACTUATOR	FAILED	CRUISE	0	WARNING INDICATION	NONE		
UALA	757222	PW2037			RUDDER	6/16/93	0				
2722	25042			WP 29	93UAL757060		93062800309	NM			
EICAS MESSAGE 'RUDDER RATIO' DISPLAYED IN FLIGHT. ACCOMPLISHED EG3510 AND LM1044. REPLACED RUDDER RATIO ACTUATOR AND LEFT HYDRAULIC PRESSURE SWITCH.											

NUMBER OF RECORDS: 11



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Run Date: 01-Dec-94

## FEDERAL AVIATION ADMINISTRATION

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Service Difficulty DataBOEING 767 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT

PREPARED FOR: DON KURLE

CONTROL NUMBER: 12019405

	MONTH		YEAR	
	C16	Total	90	91
	03	1	-	1
	08	1	-	1
	11	1	1	-
	12	1	1	-
SUBTOTALS	-----	4	2	2
TOTALS	-----	4	2	2

END OF REPORT

Records selected: 4

Run Date: 01-Dec-94

# FEDERAL AVIATION ADMINISTRATION

Page: 1

## Service Difficulty Report Data

BOEING 767 GROUP, RUDDER CONTROL SYSTEM DISCREPANCIES  
FOR THE PERIOD OF: JANUARY 1, 1986 TO PRESENT  
SORTED BY: ATA CODE, AIRCRAFT MODEL, AND DIFFICULTY DATE

PREPARED FOR: DON KURLE

This Report Derives from Unverified Information Submitted By the  
Aviation Community without FAA review for Accuracy

CONTROL NUMBER: 120194010

NNUM	ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	STAGE OPS	T TIME	NATURE	CONDITION	PRECAUTION	PROC
OPCD	ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	DIFF-DATE	TSO				
ATA	ACFT SERIAL	ENGINE SERIAL	COMP SERIAL	RECDO	OPERATOR CONTROL NO	FAA REPORT NO.	REGION				
REMARKS											
602UA	BOEING			RATIO MODULE	INTERMITTENT	CRUISE	0		WARNING INDICATION	OTHER	
UALA	767222			4819010		10/23/90	0				
2720	21863			WP 29	WP039054600		90110900060	NM			
ORD - FLIGHT 129 - RUDDER RATIO LIGHT ILLUMINATED IN FLIGHT. EICAS MESSAGE RUDDER RATIO DISPLAYED. S/D - REPLACED RUDDER RATIO CHANGER MODULE, OPS CHECK OK.											
308AA	BOEING			BUSHING	WORN OVERSIZE	INSP/MAINT	24668		OTHER		NONE
AALA	767223			251T32113	VERT STABILIZER	10/26/90	24668				
2720	22314			SW 07	SW079060470		90122800200	NM			
TUL - DURING MBV-5, FOUND LOOSE BUSHING IN THE VERTICAL STABILIZER RUDDER FEEL AND TRIM MECHANISM OFFSET TORQUE TUBE. BORE DIAMETER WAS 0.500 INCH WHICH WAS LARGER THAN PRINT DIMENSION OF 0.4375 INCH. REPLACED BUSHING PER ECO 9196.											
607UA	BOEING		PARKERHANFIN	ACTUATOR	LEAKING	INSP/MAINT	29885		FLUID LOSS		NONE
UALA	767222		28	2829001009	RUDDER	3/1/91	29885				
2722	21868			WP 29	WP299180256		91032200019	NM			
IAD - FLIGHT 0918 - HYDRAULIC LEAK BOTTOM OF RUDDER RUNNING A/T FLOWING AROUND APU COWL AND DRIPPING ON GROUND. S/D - REPLACED RUDDER PCA PER MM 27-21-02. TOTAL CYCLES 10,550.											
611UA	BOEING		PARKERHANFIN	ACTUATOR	LEAKING	INSP/MAINT	0		FLUID LOSS		NONE
UALA	767222		2829001009		RUDDER	6/25/91	0				
2722	21872			WP	WP299195900		91080100005	NM			
IAD - FLIGHT 0921 - LOWER RUDDER ACTUATOR LEAKING FROM FORWARD END OF ACTUATOR HOUSING. S/D - FROM AMIS DATED 06/27/91, REPLACED ACTUATOR PER MM 27-21-20. OPS CHECKED NORMAL.											

NUMBER OF RECORDS: 4