Foreløbig redegørelse i anledning af havarier med Dash-8 Q400 9. og 12. september 2007

Bilag til redegørelsens kap. 6

Statens Luftfartsvæsen
Oktober 2007

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Bilag 10B	Goodrich SCR 086-07 rev NC 120907
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Bilag 27	OPS-udv krav til næsestel 270907
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Bilag 28	OPS-udv krav om NLG insp 270907
Bilag 29	Bombardier RD84-32-059 Issue 5 200907
Bilag 30	AOM 243

Bilag 30A	Bombardier RD84-32-059 Issue 4 140907
Bilag 30B	Goodrich SCR 086-07 rev C 140907
Bilag 31	AOM 245
Bilag 32	AOM 247
Bilag 32A	AOM 247, RD84-32-063 Issue 1
Bilag 32B	AOM 247, Goodrich SCR 091-07 rev NC
Bilag 33	AOM 250
Bilag 33A	Bombardier RD84-32-059 Issue 5 200907
Bilag 33B	Goodrich SCR 086-07 rev D 200907

Bilag 1

Aircraft Accident Notification Report
SK1209/09SEP2007

Occurrence

Information	Specification/Description
Date	09 Sept 2007
Time	1410 UTC
Location	AAL-EKYT Aalborg- Denmark Longtitude: 9, 59, 0 E Latitude: 57, 6, 0 N Elevation: 10 ft
Last point of departure	CPH-EKCH (Copenhagen) Off block 1220 UTC Airborne 1232 UTC
Point of Intended Landing	AAL-EKYT TD 1357 UTC
Flight number	SK1209
Radio Call sign	Scandinavian 1209
Type of operations	Commercial
Phase of operation	Landing
Flight level	N/A
Description of the occurrence	Right main landing gear collapsed during touchdown, veered off runway after touchdown.
Fire	Yes
Other	5 passengers light injured.

Aircraft Information

Information	Specification/Description
Manufacture	Bombardier Aerospace Inc.
Model	DHC-8-402
Registration	LNRDK Ingrid Viking
Serial number	MSN 4025
Year of manufacture	Date of acceptance 07 OCT 2000 Registered in Norway 11 Oct 2000
Cert. of Airworthiness, exp, date	31 DEC 2007
Total time	Flight Hours: 12141.37 Hrs Cycles: 14795 Eng LH since new: 10253,37 FH 9087 FC Eng RH Since new: 10626.37 FH 12814 FC
Time since last maintenance and type of maintenance	L-Check 2007 09 09 A1 och A2 2007 07 07

Engine(s) type and model	PW 150A
Propeller(s)/rotor(s), manufacture and type	Dowty Aerospace Propellers - R408/6-123-F/1
Total time since last maintenance	LH Engine PN 3121627-01 SN PCE-FA0136 TSI = 1329,37 FH TSI = 1497 FC TSN = 11927,03 FH TSN = 9087 FC TSMinor = 10253,37 FH TSMinor = 9087 FC TSO = 10253,37 FH TSO = 9087 FC LH Engine PN 3121627-01 SN PCE-FA0006 TSI = 1329,37 FH TSI = 1497 FC TSN = 10626,37 FH TSN = 12814 FC TSMinor = 1653,37 FH TSMinor = 1847 FC TSO = 10626,37 FH TSO = 12814 FC
Landing Gear	NLG PN 47200-15 SN MAL0011 LH MLG PN 46100-29 SN MA0057 RH MLG PN 46100-29 SN MA0023
Time since last maintenance	NLG TSI = 347,03 FH TSI = 414 FC TSN = 11927,03 FH TSN = 15078 FC TSO = 11927,03 FH TSO = 15078 FC LH MLG TSI = 12141,37 FH TSI = 14795 FC TSN = 12141,37 FH TSN = 14795 FC TSO = 12141,37 FH TSO = 14795 FC RH MLG TSI = 12141,37 FH TSI = 14795 FC TSN = 12141,37 FH TSN = 14795 FC TSO = 12141,37 FH TSO = 14795 FC

Insurance company	AON Aviation
Insurance company's address	8 Devonshire Square London-UK
Insurance company's phone number	+44 207 623 55 00
Delivery date	30 Nov 2006 Valid until Midnight 30th November 2007
Certificate of Airworthiness	Number N/A Validity 31 Dec 2007
Owner	Name 19902034090 Eagle Laesing Co Ltd Address 1-1 Hitotsubashi 2-chome Chiyoda-ku, Tokyo, Japan Attn: Telephone Fax
Operator	Scandinavian Airlines System SE 19587 Stockholm, Sweden +46 8 797 00 00
Damage to Aircraft	LDG collapsed
Fire	Yes
Total number of persons onboard	73
Crew	2/2
Passengers	69 total (66 adults + 3 children) Includes 3 passive crew
Infants	Nil

Flight crew details

Commander	
Nationality	Danish
Name	AREVAD OLE 22058

Co-Pilot	
Nationality	Danish
Name	LOVING JAKOB 25498

Other Flight crew	
1. Nationality	Danish
Name	JENSEN JORGEN ELI 22510
Rank	AS
2. Nationality	Swedish
Name	ANDERSSON MARIA 25239
Rank	AH

Passive crew

Other Flight crew	
1. Nationality	Danish
Name	CHRISTIANSEN TEIT 26285
Rank	AP

2. Nationality	Danish
Name	HANSEN J PETER R 23484
Rank	ASG
3. Nationality	Danish
Name	BECK SUSANNE 27900
Rank	AHG

Flight crew personal information

Flight crew	CDR	Co-pilot	As	AH
Age	61 1946-04-02	37 1970-01-03	37 1970-04-14	30 1976-11-10
Gender	Male	Male	Male	Female
Experience all types total	16.107	1.766	3.980	3.939
Experience all types last six MTHS	315	379	307	260
Experience all types last 24 hrs	1,5 Incl. SK1209	2,5 Incl. SK1209	3,5 Incl. SK1209	4 Incl. SK1209
Experience this aircraft last six MTHS	315	373		
Experience this aircraft last 24 hrs	1,5	1,5	4	4
Duty time last week	34 Hours	35 Hours	28 Hours	30,5 Hurs
Duty time last 24 hrs	0	10 Hours	10 Hours	8 hours
Rest period before duty	37 Hours	17:50 Hours	14 Hours	16 Hours

Weather details at time of occurance

Information		Specification/Description
Wind	Direction	290
	Velocity	08kt
Gust	Direction	
	Velocity	
Turbulence	None/Light	None
	Moderate/severe	
Visibility	Visibility (m) RVR	9999
Temperature	Dew point OAT	18/09
Pressure	QNH	1014
Clouds	Type amount Height	few038 bkn250
Precipitation	None/Rain Drizzle/Snow RASN/Hail	NONE
Intensity	Light/Showers Moderate/Severe	N/A
Icing	None/Light	NONE
Light conditions	Daylight	Yes
General weather in the area	VMC IMC	

SA091350 EKYT 29008kt 260v320 9999 FEW038 BKN250 18/09 Q1014

FC 091221 EKYT 33007kt 9999 FEW035 SCT250 BECMG 1618 27010KT BKN020

NPH Scandinavian Flight Operations	NPH Scandinavian Technical Operations	NPH Scandinavian Ground Operations	NPH Crew Training
Stockholm 09 Sept 2007	Stockholm 09 Sept 2007	Stockholm 09 Sept 2007	Stockholm 09 Sept 2007
Ola Reinholdt	Geir Steiro	Tomas Linden	Torben Løvetofte

Bilag 2

BOMBARDIER

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Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL: 416-375-4000

Bombardier Q400

All Operator Message No. 235

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 09 September 2007

ATA: 0000 MODEL: Q400

SUBJECT: In-Service Incident – Right Main Landing Gear Collapse after Landing

REFERENCE: Preliminary information provided by Operator to Bombardier

The following message is being sent to all Bombardier Aerospace Regional Aircraft Q400 Operators and Bombardier Aerospace Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This All Operator Message is being issued to advise Operators of an incident that has recently occurred on a Dash 8 Q400 aircraft. Following normal touchdown, the right main landing gear collapsed, the aircraft departed the right side of the runway and came to rest on the right wing and nacelle. There was a post-occurrence that was extinguished by airport Crash Fire Rescue. There were some minor injuries reported.

Bombardier Aerospace, Air Safety will plan to dispatch to the scene and assist the local Aircraft Accident Investigation Board during their investigation.

Pending completion of the investigation by authorities, Bombardier cannot comment on either the circumstances surrounding this accident, or speculate as to possible causes. However, this is the first incident on the Q400 where the main landing gear has collapsed, following a landing. Operators will be updated, once further details become available.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk, and Martin Elliott, Director, In-Service Engineering Systems & Technical Support, Bombardier Aerospace Regional Aircraft.

Bilag 3

Airworthiness Directives
Compliance Status
Airframe / Appliance / Engine / Propeller / APU

LN-RRW
Model: B737-800
TT A/C: 4417 H
TC A/C: 2136 C
Date from:
Mfg Date:
Line/Cust No:
MSN: 32277

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
Example and explanations							
FAA-2001-10-14/737 08JUN2001		**Subject:** TO FIND AND FIX INCORRECT INSTALLATION OF THE RELEASE PIN IN THE GENERATOR FIRING MECHANISM OF THE CHEMICAL OXYGEN GENERATOR **Compliance:** WITHIN 90 DAYS AFTER THE EFFECTIVE DATE REPETITIVE INSPECTION, REF MR 3522013 (STK LETTER 2001-0430-1072) NOTE: MR 3522013(REPETITIVE),AMM UPDATED,MOVEX RECEIV. INSP INFO IN EFFECT		B737 3522000103 B737 35020	 09FEB2006	 03AUG2007	**Related AD:** SLV-2001-185-767(D)/737
	(a)(b)	**Subject:** Inspection of chemical oxygen generator **Compliance:** Within 90 D from effective date of AD. Thereafter repeat inspection each 18 M (ref STK Letter 2001-0430-1072).	BOEING-737.35-1077	EO-B737-350007 B737 3522000103 B737 35020	N/A 09FEB2006	 03AUG2007	**Applicability:** 737-600, -700, line nr 1 through 784
①	②	③	④	⑤	⑥		⑦

① AD-number and effective date.
② Paragraph and sub-paragraph in the AD.
③ A brief description about the subject of the AD.
④ Referenced document (Manufacturer's Service Bulletins etc.) in the AD.
⑤ SAS issued documents related to the AD. Modifications and Inspections (one time and first repetitive) are always carried out via an EO. Additional repetitive inspections can be accomplished by the EO being repetitive or be included in the Maintenance Program (in such a case they are carried out via a Maintenance Task, i.e. B737 35020).
⑥ Accomplishment status. Terminating Actions are given by date of accomplishment. Repetitive actions are given data for the last time performed and the next due according to the requirement.
⑦ The remark field contains information such as compliance data, repetitive interval, airplane applicability and AD-supersede information.

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
							AIRFRAME
FAA-74-08-09:R2/Q400 29JUL1996		**Subject:** New placards, No smoking announcement, new ashtrays and fire prevention in lavatories. Inspect waste cpmpartment door each 1000 H **Compliance:** Before accumulation of any time in service for new A/C and insp each 1000 flight hours					
	(a)	**Subject:** Install placards. **Compliance:** Within 60 days after August 6, 1974 (the effective date of AD 74-08-09, amendment 39-1917), or before the accumulation of any time in service on a new production aircraft after delivery, whichever occurs later.					**Applicability:** All **Remarks:** As per type design.
	(c)	**Subject:** Install a self-contained, removable ashtrays. **Compliance:** Within 180 days after August 6, 1974, or before the accumulation of any time in service on a new production aircraft, whichever occurs later					**Applicability:** All **Remarks:** As per type design.
	(e)	**Subject:** Inspect all lavatory paper and linen waste receptacle enclosure access doors and disposal doors for proper operation, fit, sealing, and latching for the containment of possible trash fires. **Compliance:** Within 30 days after August 6, 1974, and thereafter at intervals not to exceed 1,000 H since last inspection.		Q400 651 Q400 254000-201	8788 FH	11288 FH	**Applicability:** All **Remarks:** Re. Bombardier MRB task 254000-201 at 5A The Q400 MRB is approved by Transport Canada/FAA/JAA, and the SAS Q400 Maintenance Program, based upon the MRB was approved by STK on 03FEB-2000.
LFV-2853/Q400 23MAR1998		**Subject:** Periodic functional control of emergency exit doors **Compliance:** See action note					**Action Taken:** NOT APPLIC **Action Note:** Periodic FUC of emergency exit door handles covered by MRB 52-21-00-XXX, 52-22-00-XXX, 52-23-00-XXX and others
LTN-2000-071A/Q400 15NOV2000		**Subject:** VHF FM interference immunity requirements for ILS/LLZ/VOR and VHF/COMradio equipment, as described in JAR OPS 1/ JAR OPS 3 **Compliance:** 01jan01					**Action Taken:** NOT APPLIC **Action Note:** Q400 Meets the requirements as per design **Related AD:** SLV-2000-112-430:R2
LTN-2000-074/Q400 20NOV2000		**Subject:** Kontroll av transponder reported altitude 05dec00 **Compliance:** See CAA AD 002-12-99 Rev.1, which this LTN/LDP is based upon					**Action Taken:** NOT APPLIC **Action Note:** SAS Q400 do not use Gilham Format for altitud data to the ATC transponder. (Airdata are supplied via 429-buses) **Related AD:** CAA-002-12-99:R1
LTN-2003-066/Q400 19SEP2003		**Subject:** DOORS - Change flight compartment door **Compliance:** 01nov03 NOTE: KTO-255079 (Ensure Operational procedures in JAR-OPS-1.1255(c). KTO-255097(Ensure compliance of		EO-Q400-250072 EO-Q400-250074 EO-Q400-250075	02NOV2003 18SEP2003 31OCT2003		**Related AD:** JAR-OPS-1.1255

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		AFM supplement). MTO-255067 (installation) The "Q400 2510000005" Inspects cockpit door support structure and attaching hardware for fatigue cracking check the door hinge blocks and dead bolt assy for damage, wear and cracking		Q400 2510000005 Q400 C1-CHECK	7874 FH	12874 FH	
SLV-2000-230-434:R1/Q400 05OCT2000		**Subject:** ATC tests and inspections IAW FAA PART 43 APP.F amendment 43-31 **Compliance:** See AD paragraph 1-3 05dec00					**Related AD:** LTN-2000-074 **AD Supersedes:** SLV-2000-230-434/Q400
	1	**Subject:** Initial Test of transponder parameters iaw FAA Part 43, Appendix F, Amdt 43-31 paragraph a) through j) **Compliance:** 05DEC2000		EO-Q400-340007	07OCT2000		
	2	**Subject:** Repetitive inspection. of transponder parameters iaw FAA Part 43, Appendix F, Amdt 43-31 paragraph a) through j) **Compliance:** 2 year interval.		Q400 443A Q400 3454000001		26MAY2007	
	3	**Subject:** Terminating action is to have the check incorporated into the Maintenance Program					**Remarks:** MR3454001 incorporated
SLV-2000-264-435:R1/Q400 05OCT2000		**Subject:** Barometric altitude system, incl reporting part of transponder, inspection and test IAW FAA PART 43 APP. E amendment 43-31 **Compliance:** 05dec00					**AD Supersedes:** SLV-2000-264-435/Q400
	1 thru 3	**Subject:** Test of Barometric parameters iaw FAA Part 43, Appendix E, Amdt 43-31, less paragraph (b)(v), (c) and (d). **Compliance:** 05DEC2000 or at delivery then at 2 year interval.		EO-Q400-340011 Q400 567 Q400 341100-202	06OCT2000 10036 FH	10636 FH	**Remarks:** Terminating action is to have the check incorporated into the Maintenance Program
SLV-2005-466/Q400 04NOV2005		**Subject:** Fire Containment requirements for galley equipment **Compliance:** 2005-11-05. This Cancells the SLV-98-298-406:R1/Q400 as per 04NOV05 NOTE: Removal of waste cart and ship to CPHTP-C for modification. MTO-254375 (Installation of modified waste cart)		EO-Q400-250024	08MAR2001		**AD Supersedes:** SLV-98-298-406:R1/Q400
TCA-CF-2001-14 04MAY2001		**Subject:** Fuel tank lightnig protection **Compliance:** See AD paragraphs					**Related AD:** SLV-2001-122-123
	A	**Subject:** Fuel Tank Vent Line - addition of Teflon tube for insulation, this to improve lightning strike protection. **Compliance:** 120 days after Eff.Date	BOMBARDIER-SB84-28-02	EO-Q400-280003	10APR2001		
	B	**Subject:** Retrofit of Fuel Probes 1, 2 and 5. **Compliance:** Latest 4000 Hrs after Eff.Date	BOMBARDIER-SB84-28-01	EO-Q400-280002	10APR2001		**Remarks:** ModSum 4-113192.
TCA-CF-2001-		**Subject:** Main LDG procedure					**Related AD:** SLV-2002-235-128 FAA-2004-14-15

Airworthiness Directives
Compliance Status
Airframe / Appliance / Engine / Propeller / APU

LN-RDK
Model: Q400
TT A/C: 10457 H **Mfg Date:** 07OCT2000
TC A/C: 12914 C
Date from: **MSN:** 4025

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
16:R1 11JUL2002		**Compliance:** Se AD paragraphs					**AD Supersedes:** TCA-CF-2001-16
	A	**Subject:** Replace the L/H and R/H main landing gear downlock proximity sensors with improved version by incorporating retrofit **Compliance:** Prior to 31 December 2002,	BOMBARDIER-SB84-32-09 BOMBARDIER-SB84-32-09	EO-COMP-320001 EO-Q400-320009	N/A 20JUN2002		**Remarks:** ModSum 4& 8209;113331
	B	**Subject:** With either production Modsum 4& 8209;113330 or retrofit Modsum 4- 113331 incorporated, the procedures previously added by Airworthiness Directive CF-2001-16, to Section 4.21 of the Aircraft Flight Manual, PSM 1& 8209;84& 8209;1A (Models 400, 401, & 402), are no longer required and are to be removed **Compliance:** When MTO 321246B are performed on all a/c, latest 30DEC2002	BOMBARDIER-SB84-32-09	EO-Q400-320027	09AUG2002		**Remarks:** The AFM amendment was added to the AFM and Crew informed iaw MTO 321240 with ref to AD TCA-CF-2001-16 with deadline 18MAY2001
	C	**Subject:** Inform all flight crews of this change to the AFM **Compliance:** When MTO 321246B are performed on all a/c, latest 30DEC2002	BOMBARDIER-SB84-32-09	EO-Q400-320027	09AUG2002		
	D	**Subject:** Accomplishment of paragraphs A, B, and C is considered terminating action to this directive **Compliance:** Ref Part A, B and C					
TCA-CF-2001-23 20JUL2001		**Subject:** Revision of maintenance requirements for AFT pax door stops and AFT baggage door stops due to fatigue issues **Compliance:** Within 30 days after effective date of this AD		EO-Q400-510001	10JUL2001		
	Note			Q400 558-2 Q400 523004F101 Q400 558-2-T Q400 523004F101 Q400 570 Q400 521004F101 Q400 570-T Q400 521004F101 Q400 618 Q400 532061F101 Q400 618-T Q400 532061F101	12743 FC	12993 FC INACTIVE 18194 FC INACTIVE 18194 FC	**Applicability:** Those MR"s has been terminated due to modifications, ref MPD Temp Rev ALI-34 of 30MAR2004. 5230024 replaced by 5230025. Ref MTO 520405 5210024 replaced by 5210025. Ref MTO 520400 5320059 is terminated. Ref MTO 530953 5320057 replaced by 5320186. Ref MTO 530916 & 530953
TCA-CF-2001-44 28DEC2001		**Subject:** Spoiler lift dump valve, inspection for PN and replacement of named SN's **Compliance:** See AD paragraphs 13feb02					**Related AD:** FAA-2004-16-13
	1.A	**Subject:** Determine through a visual inspection of the aircraft, the serial number of the four spoiler lift dump valves (Part Number 395800-	BOMBARDIER-SB84-27-12	EO-Q400-270014	02OCT2001		**Applicability:** If the serial number of any spoiler lift dump valve is in the range from 5164 through 5264 or from 5267 through 5279 (below referred to as the

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		1005) installed in each aircraft **Compliance:** Within 45 days after effective date.					suspect range), perform paragraph 1.B before further flight.
	1.B (i), (ii), (iii)	**Subject:** (i) Replace the suspect spoiler lift dump valve with a valve that has a S/N that is outside the suspect range; or, (ii) Replace the suspect spoiler lift dump valve with a valve that has had the manufacturing defect corrected. Valves which have had the defect corrected are identified with S/N that includes the suffix "A" (e.g. S/N 5164A); or, (iii) Advise flight crew of Accelerate-Stop and Landing Distance performance penalty below and incorporate this performance change in the AFM. **Compliance:** If a suspected spoiler lift dump valve is found; before further flight	BOMBARDIER-SB84-27-12	EO-Q400-270015	N/A		**Remarks:** Part 3 of MTO 270925; Amend operational restrictions to aircraft LN-RDT/4038 iaw AD Note TCA-CF-2001-44 Part 1.B.iii Part 4 of MTO 270925; Upon completion of Spoiler Lift Dump Valve replacement, remove Operational Restrictions set forth above.
	2	**Subject:** Replace all spoiler lift dump valves that have a serial number in the range from 5164 through 5264 or from 5267 through 5279 that have not yet been replaced in accordance with paragraphs 1.B (i) or (ii) above. Concurrently, remove the amendment to the AFM that was inserted in accordance with paragraph 1.B (iii) of this directive. **Compliance:** Within 6 months after the effective date of this AD	BOMBARDIER-SB84-27-12	EO-Q400-270015	N/A		
	3	**Subject:** Do not install spoiler lift dump valves with a serial number that is in the suspect range on any aircraft unless the manufacturing defect has been corrected. These corrected valves are identified with a serial number that includes the suffix "A" (e.g. S/N 5164A) **Compliance:** As of the effective date of this AD.	PARKER-395800-27-229	EO-COMP-270003	N/A		**Remarks:** Valves are to be sent to Parker Aerospace for modification and checked upon arrival to SAS. This ensures that no S/N in the range are allowed to enter store.
TCA-CF-2002-07 04MAR2002		**Subject:** FWD engine mounts assembly **Compliance:** See AD paragraphs		EO-COMP-710002R01	N/A		**Related AD:** FAA-2002-07
	1	**Subject:** Perform a visual inspection to determine the part number and the configuration for the four (4) forward engine mount assemblies in accordance with Bombardier Alert Service Bulletin A84-71-06 Rev A or later revisions. **Compliance:** Within 100 flight cycles after the effective date of this AD	BOMBARDIER-SB84-71-06	EO-COMP-710002 EO-Q400-710003 EO-Q400-710006	96042-09 0321:28FEB2002 96042-10 2758:26MAR2002 96042-09 0222:02MAR2002 29NOV2001 12MAR2002		**Remarks:** KTO-710373 was issued prior to AD KTO-710382 checks spares
	2	**Subject:** Any engine mount assemblies found cracked are to be replaced with the production engine mount assemblies (P/N 96042-09) prior to further flight.	BOMBARDIER-SB84-71-06	EO-Q400-710003 EO-Q400-710006	29NOV2001 12MAR2002		**Remarks:** KTO-710373 was issued prior to AD

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		Compliance: Before further flight					
	3	**Subject:** Installation of all four forward engine mounts with the production engine mount assemblies (P/N 96042-09) terminates the repetitive inspection requirements of this directive	BOMBARDIER-SB84-71-06	EO-Q400-710003 EO-Q400-710006	29NOV2001 12MAR2002		**Remarks:** KTO-710373 was issued prior to AD
	4	**Subject:** As of the effective date of this directive, pre-production engine mount assembly (P/N 96042-07) shall not be installed on any aircraft as replacement. Replacement of pre-production engine mount assembly may be achieved either by direct replacement with the -09 configuration or by the rework of the -07 assembly in accordance with Part B of the Accomplishment Instructions of the above-mentioned Alert Service Bulletin. **Compliance:** Before 04MAR2002		EO-COMP-710002	96042-09 0321:28FEB2002 96042-10 2758:26MAR2002 96042-09 0222:02MAR2002		**Remarks:** KTO-710382 checks spares
TCA-CF-2002-13:R2 17JUN2005		**Subject:** MLG uplock assembly **Compliance:** PART I: MTO-321287 EFFDATE 2005-06-17 PART II:MTO-321288 EFFDATE 2005-06-17 NOTE: R2 provides alt insp requirement for 46500-5, ilo lifelimit as per R1Introduction PN 46500-7 is considered TERMINATING ACTION					**Related AD:** SLV-2005-226 **AD Supersedes:** TCA-CF-2002-13:R1
	Info	**Subject:** Modifications: **Compliance:** At shopvisit					**Applicability:** P/N 46500-3 **Remarks:** Modification of P/N 46500-3 to 46500-5
	Info 2	**Subject:** Modification: **Compliance:** At Shopvisit	BOMBARDIER-SB84-32-29	EO-COMP-320003	46500-7 MAL-0002:20SEP2004		**Applicability:** P/N 46500-3 and 46500-5 **Remarks:** Modification of P/N 46500-3 and 46500-5 to 46500-7
	Part I	**Subject:** Amend AFM 1-84-1A section 4-21-1 Advice crew **Compliance:** Within 3 days from effective date.		EO-Q400-320017	06FEB2002		**Applicability:** MSN 4001 and subsequent.
	Part II A.1	**Subject:** Replace Uplock unit **Compliance:** Before accumulating 2500H or 3000C whichever comes first. For uplock unit above those limitation, within 14 days from effective date.	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** MSN 4001 and subsequent with Uolock Assembly P/N 46500-3 and 46500-5.
	Part II A.2	**Subject:** Replace Uplock unit **Compliance:** At 2500H/3000C interval	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** MSN 4001 and subsequent with Uolock Assembly P/N 46500-3 and 46500-5. **Remarks:** KN 843224 demand; CBB: 3000 & HBB: 2500 PN 46500-3 shall be replaced.
	Part II B.1	**Subject:** Insp Uplock Roller iaw A84-32-15 **Compliance:** Within 30 days from effective date.	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** MSN 4001 and subsequent.
	Part II B.2	**Subject:** Replace Uplock Roller not having inner friction liner with P/N 46575-1 **Compliance:** Within 30 days from effective date.	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** MSN 4001 and subsequent.

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
	Part II C	**Subject:** Part II C Inspection of P/N 46500-5 Up-lock Assemblies:					
	Part II C.1	**Subject:** Inspection of P/N 46500-5 Up-lock Assemblies: Inspect the surface of the up-lock latch lower jaw for the presence of a wear groove and measure the wear groove depth to a 0.001 inch accuracy in accordance with DHC-8 Series 400 AMM, PSM 1-84-2, Task 32-31-21-220-801. If the groove depth exceeds 0.007 inches, replace the up-lock assembly with a new or overhauled P/N 46500-7 up-lock assembly as per instructions given in Chapter 32-31-21 of the AMM PSM 1-84-2. **Compliance:** Prior to the up-lock assembly accumulating 2500 hours air time or 3000 flight cycles, whichever occurs first; and thereafter, at intervals not exceeding 400 hours air time or 480 flight cycles, whichever occurs first.	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** 1st inspection iaw KTO 321288, then iaw KN 843224 demand / P601 **Remarks:** P601 entry: P/N 46500-7 has no replacement limit or repetitive Inspection Requirement - AD-CF-2002-13R2
	Part II C.2	**Subject:** Inspect the up-lock roller, P/N 46575-1, to ensure that it rotates freely. If the uplock roller does not rotate freely, replace the up-lock roller with a roller of the same part number, as per instructions given in Chapter 32-31-21 of the AMM PSM 1-84-2. **Compliance:** Prior to the up-lock assembly accumulating 2500 hours air time or 3000 flight cycles, whichever occurs first; and thereafter, at intervals not exceeding 400 hours air time or 480 flight cycles, whichever occurs first.	BOMBARDIER-SB84-32-15	EO-Q400-320018	28FEB2002		**Applicability:** 1st inspection iaw KTO 321288, then iaw KN 843224 demand / P601 **Remarks:** P601 entry: P/N 46500-7 has no replacement limit or repetitive Inspection Requirement - AD-CF-2002-13R2
	Part III	**Subject:** Terminating Action. Replacement of both left and right up-lock assemblies with P/N 46500-7 up-lock assemblies terminates the Part I Air Operator Action and Part II Maintenance Action of this directive. **Compliance:** No deadline	BOMBARDIER-SB84-32-29	EO-COMP-320003	46500-7 MAL-0002:20SEP2004		**Applicability:** All A/C **Remarks:** TO 321387 marked with a date (completed) or N/A indicates that a P/N 46500-7 is installed.
TCA-CF-2002-15 15MAR2002		**Subject:** Aileron/Rudder Trim panel, rework of wireing at rudder switch and special inspection for chafe damages (MODSUM 4-126256) **Compliance:** Part A & B: MTO-270952 and 270967 12jun02					
	A.	**Subject:** Modify the wiring for the rudder trim switch (2722-S2) by incorporating Modsum 4-126256. **Compliance:** Within 90 days from effective date.	BOMBARDIER-SB84-27-13 BOMBARDIER-SB84-27-13	EO-Q400-270018 EO-Q400-270023	27JAN2002 10APR2002		**Applicability:** Aircraft S/N 4005, 4006, 4008 through 4016, 4018 through 4058. **Remarks:** The Aileron/Rudder Trim Panel changes P/N when the panel have been reworked. The rework of the panel was done with reference to initial issue of the referred Service Bulletin. To fulfill all aspects of the referred AD Note, it is necessary to reidentify the panel using a separate Technical Order (MTO-270967). KN 842766 created

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
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	B.	**Subject:** Visually inspect all wiring on the back of the aileron/rudder trim control panel (P/N 82410608& 8209:001, -003 or -005) for chafing. **Compliance:** Within 90 days from effective date. Replace any chafed wires before further flight.	BOMBARDIER-SB84-27-13	EO-Q400-270018	27JAN2002		**Applicability:** Aircraft S/N 4005, 4006, 4008 through 4016, 4018 through 4058.
TCA-CF-2002-25 31MAY2002		**Subject:** Modification of auto (PART A) and manual (PART B) pitch trim control due to posibility for loss of A/P pitch trim **Compliance:** PART A; AUTOTRIM: SEE MTO-220297/220298 - LATEST 30JUL02 PART B; MANUAL TRIM; SEE MTO-270961/270960 - LATEST 30JAN03					**Related AD:** SLV-2002-166-126
	Part A	**Subject:** Upgrade of Flight Guidance Module FGM (V600) KN 842207 replaced with new KN 842208 **Compliance:** 30JUL-2002	THALES-C12429A-22-003 BOMBARDIER-SB84-22-04	EO-COMP-220001 EO-Q400-220003	N/A 04FEB2002		**Remarks:** For interim procedure, ref SL DH8-400-SL-22-001D (08NOV01).
	Part B	**Subject:** Upgrade of Flight Control Electronic Control Unit FCECU KN 842701 replaced with new KN 842765 **Compliance:** 30JAN-2003	PARKER-398500-27-235 BOMBARDIER-SB84-27-14	EO-COMP-270004 EO-Q400-270020	N/A 20JAN2003		**Remarks:** For interim procedure, ref SL DH8-400-SL--003 (22MAY01)
TCA-CF-2003-28 09JAN2003		**Subject:** Fusulage bottom skin and NO 2 VHF antenna suport structure, inspection and rework **Compliance:** PART 1; perf., PART 2; see MTO-531005, PART 3; KTO-531100 + MR5320025PART 4; MTO-531075 / 531005 / 531104 - see TO'S for details					**Related AD:** SLV-2003-368-124
	Part 1	**Subject:** Check records to determine if Bombardier-IS4Q-5300001 or Bombardier-RD8/4-53-317 has been carried out **Compliance:** FOR AIRCRAFT WITH 1.450 hrs or less - INITIAL COMPLIANCE Prior to exceeding 1.900 hours air time Greater than 1.450 but less than or equal to 2.200 - Within 300 hours air time after the effective date of this directive Greater than 2.200 but less than or equal to 3.000 - Within 150 hours air time after the effective date of this directive Greater than 3.000 - Within 50 hours air time after the effective date of this directive					
	Part 2	**Subject:** If Bombardier-IS4Q-5300001 or Bombardier-RD8/4-53-317 has been carried out, carry out TERMINATING ACTION FOR INSP as per Part 4 **Compliance:** as per Part 4					
	Part 3 (a)	**Subject:** If neither Bombardier-IS4Q-5300001 nor Bombardier-RD8/4-53-317 has been carried		EO-Q400-530034	09MAR2003		

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		out, carry out DVI of External Surface **Compliance:** Prior to further flight, following the Part 1, i.e. latest 50 hrs after 09JAN04					
	Part 3 (b)	**Subject:** If neither Bombardier-IS4Q-5300001 nor Bombardier-RD8/4-53-317 has been carried out, carry out DVI of Support Cleats **Compliance:** IF RD8/4-53-328 is performed: 500 hrs IF RD8/4-53-328 is NOT performed: 200 hrs		EO-Q400-530034 Q400 5320000205	09MAR2003		**Remarks:** For pre-MTO 531005 or RD 8/4-53-317 and pre-MTO 531075 aircraft do the following: Perform inspections per TCA-CF-2003-28, item 3. For pre-MTO 531005 or RD 8/4-53-317 and post-MTO 531075 aircraft do the following: Perform inspection per Bombardier Recommended Alternate Means of Compliance (AMOC) dated 07JAN04, item (a). **********NOTE ********** Task "Q400 5320000205" (MOPS 5320000205) is made passive as EO-Q400-530027 (MTO531005) and EO-400-530031 (MTO531075) is fully performed on all Aircraft on 13DEC-2004 resp 28FEB-2005. /LP
	Part 4	**Subject:** Terminating action for insp. **Compliance:** Latest 4000 hrs after 09JAN04	BOMBARDIER-IS4Q-5300001 BOMBARDIER-SB84-53-32 BOMBARDIER-SB84-53-32	EO-Q400-530027 EO-Q400-530031 EO-Q400-530035	09MAR2003 22JUL2004 N/A		**Remarks:** 531005A; Bombardier-IS4Q-5300001 531075A; Reinforcement with Angles Cleats and Stiffener 531104A; check records to determine if pre- or post-SB84-53-32 RevA has been done.If not perf. Eddy Current Insp per SB84-53-32 Rev A
TCA-CF-2004-07 28MAY2004		**Subject:** Fuel and hydraulic tubes chafing **Compliance:** Part 1 latest 500 hrs after EFFDATE. EFFDATE is 2004-05-28 Part 2 latest 4000 hrs after EFFDATE. EFFDATE is 2004-05-28					**Related AD:** FAA-2005-18-17
	Part 1	**Subject:** Install Bombardier Modsum 4-113438 (modified fairlead plate assemblies). **Compliance:** 500 hrs after Eff.date	BOMBARDIER-SYD-84-28-002 BOMBARDIER-SYD-84-29-006	EO-Q400-280004 EO-Q400-290009	24JAN2003 24JAN2003		**Applicability:** Aircraft Pre-SYD 84-28-002, Issue 1 and SYD 84 29 006, Issue 1. Not effective as TO 280306 and 290310 already was fully performed before effctive date of AD.
	Part 2	**Subject:** Install Bombardier Modsum 4-113438 (modified fairlead plate assemblies). **Compliance:** 4.000 hrs after Eff.date	BOMBARDIER-SB84-54-09	EO-Q400-540014	19JUL2004		**Applicability:** Aircraft Post-SYD 84-28-002, Issue 1 and SYD 84 29 006, Issue 1 (TO 280306 resp 290310)
TCA-CF-2004-11 13AUG2004		**Subject:** Special inspection and modification of flight control outboard flap front fittings at flap track NO 4 and NO 5 **Compliance:** Inspection within 400 HRS followed by repetitive inspection interval of 800 HRS. Modification within 4000 HRS. *All calc. after 2004-08-13					**Related AD:** SLV-2004-233 FAA-2005-11-11
	A	**Subject:** Carry out an inspection of the flap track Number 4 front fittings on both the left and right outboard flap assemblies iaw Part I of the Bombardier Alert Service Bulletin (ASB) A84-57-06, Revision B, dated 9 March 2004, or later revision. Prior incorporation of RD8/4-57-228 in combination with either RD8/4-57-173 or RD8/4-57-180 or RD8/4-57-226 satisfies the requirements of paragraph A. Insp. performed in accordance with previous issues of ASB A84	BOMBARDIER-AOM-109 BOMBARDIER-RD8/4-57-226 BOMBARDIER-RD8/4-57-228	EO-Q400-570009	13FEB2004		**Applicability:** All Paragraphs, DHC-8, Models 400, 401 and 402, Serial Numbers 4001, and 4003 hrough 4093. **Remarks:** If any fitting lug is found to be damaged due to fouling with a flap track or any fitting is found to be loose or any blind fastener is found to be non-conforming, prior to further flight, carry out repair in accordance with respectively paragraph of the above-noted Bombardier ASB.

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
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		57 06 satisfy the requirements of paragraph A. **Compliance:** Within 400 hrs after eff.date					
	B	**Subject:** At any flap track Number 4 front fitting location WHERE RD8/4-57-173, RD8/4 57 180 or RD8/4-57-226 HAS NOT BEEN incorporated, repeat the inspection of Paragraphs A **Compliance:** at intervals not to exceed 800 hrs	BOMBARDIER-AOM-109 BOMBARDIER-RD8/4-57-226 BOMBARDIER-RD8/4-57-228	EO-Q400-570009 Q400 2750000004	13FEB2004		
	C	**Subject:** Carry out an inspection of the flap track Number 5 front fittings on both the left and right outboard flap assemblies iaw Part II of the Bombardier ASB A84-57-06, Revision B, dated 9 March 2004, or later revisions. At any flap track Number 5 front fitting location, prior incorporation of Bombardier ModSum IS4Q5750002 satisfies the requirements of paragraph C Inspections performed in accordance with previous issues of ASB A84-57- 06 satisfy the requirements of paragraph C **Compliance:** Within 400 hours air time after eff.date	BOMBARDIER-AOM-108 BOMBARDIER-IS4Q-5750002	EO-Q400-570008	13FEB2004		**Remarks:** If any fitting is found to be loose or if the gap between any fitting and the front spar web exceeds 0.002 inches or any blind fastener is found to be non-conforming , prior to further flight, carry out repair in accordance with the applicable paragraph Bombardier ASB.
	D	**Subject:** At any flap track Number 5 front fitting location WHERE Bombardier ModSum IS4Q5750002 HAS NOT BEEN incorporated, repeat the inspection of Paragraphs C **Compliance:** At intervals not to exceed 800 hrs	BOMBARDIER-AOM-108 BOMBARDIER-IS4Q-5750002	EO-Q400-570008 Q400 2750000003	13FEB2004		
	E.1	**Subject:** Modify the attachment of the flap track Number 4 front fittings on both LH and RH Outboard Flap Assemblies, iaw Bombardier RD8/4-57-226, Issue 1, or later **Compliance:** Within 4,000 hours air time after eff.date	BOMBARDIER-RD8/4-57-226 BOMBARDIER-RD8/4-57-228 BOMBARDIER-SB84-57-06	EO-Q400-570011	27FEB2004		**Remarks:** Terminating action for Part B **AMOC:** Aircraft that have already incorporated RD 8/4-57-173 or RD 8/4 57 180 at flap track Number 4 fitting location, do not require the incorporation of RD 8/4-57-226 at those fitting locations.
	E.2	**Subject:** Modify the attachment of the flap track Number 5 front fittings on both LH and RH Outboard Flap Assemblies iaw Bombardier. IS4Q5750002 **Compliance:** Within 4,000 hours air time after eff.date	BOMBARDIER-AOM-108 BOMBARDIER-IS4Q-5750002 BOMBARDIER-RD8/4-57-220 BOMBARDIER-SB84-57-06	EO-Q400-570010	22JUL2004		**Remarks:** Terminating action for Part D
TCA-CF-2005-07 08APR2005		**Subject:** Horizontal Stabilizer Attachment Fittings Bolt Torque Check, Shim Inspection and Modification **Compliance:** Part A; Within 4000 hrs after effectivity date EFFDATE= 2005-04-08 Part B; Within 8000 hrs after effectivity date EFFDATE= 2005-04-08					**Related AD:** SLV-2005-146 FAA-2005-26-05

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
	A.1.	**Subject:** Within 4000 hours air time after the effective date of this directive, carry out an inspection of the laminated shims at the horizontal stabilizer to vertical stabilizer forward attachment fittings and perform a breakaway torque check of the six attachment bolts at the front spar, mid-spar and rear spar attachment fittings, in acc. with Part A of Bombardier SB84-55-02, Rev. A, dated 12 Jan 2005, or later rev. **Compliance:** 4000 hrs after Eff. Date	BOMBARDIER-SB84-55-02	EO-Q400-550002	22JUL2004		**Remarks:** Notes to the AD paragraph. Note 1 Prior accomplishment of the actions required by paragraphs A.1 to A.3 of this directive in accordance with the original issue of Bombardier SB 84-55-02 satisfy the requirements of those paragraphs. Note 2 Prior incorporation of Bombardier Repair Drawings RD8/4-55-083, RD8/4-55-084, RD8/4-55-089, RD8/4-55-090, RD8/4-55-093, RD8/4-55-094, RD8/4-55-106, RD8/4-55-110 or RD8/4-55-138 satisfy the requirements of paragraph A.1o A.3 of this directive.
	A.2/3.	**Subject:** 2. If any laminated shim is cracked, damaged or extruded from the horizontal stabilizer to the vertical stabilizer forward attachment fitting interface, prior to further flight, replace acc the mentioned Bombardier SB. 3. If any of the six attachment bolt breakaway torque value is outside the range specified in the above-mentioned Bombardier SB, prior to further flight, replace acc the mentioned Bombardier SB. **Compliance:** If required					
	B.1	**Subject:** If not already accomplished as required in paragraph A.2 of this directive, within 8000 hours air time after the effective date of this directive, replace the laminated shims at both left and right of the horizontal stabilizer to vertical stabilizer forward attachment fittings with solid shims. Part B of the Accomplishment Instructions of Bombardier SB 84-55-02, Revision A, dated 12 January 2005, or later rev. **Compliance:** 8000 hrs after Eff. Date	BOMBARDIER-SB84-55-02	EO-Q400-550002	22JUL2004		**Remarks:** Notes to the AD paragraph. Note1 Prior replacement of laminated shims in accordance with the original issue of Bombardier SB 84-55-02 satisfy the requirements of paragraph B.1 of this directive. Note 2 Prior incorporation of Bombardier Repair Drawings RD 8/4-55-083, RD 8/4-55-084, RD 8/4-55-089, RD 8/4-55-090, RD 8/4-55-093, RD 8/4-55-094, RD 8/4-55-106, RD 8/4-55-110 or RD 8/4-55-138 satisfy the requirements of paragraph B.1 of this directive.
TCA-CF-2005-08R1 27APR2005		**Subject:** Corrosion of Fuel Access Panel Attachment Anchor Nut. Inspection, sealing and terminating action **Compliance:** Part A: within 6 months after EFFDATE; OR Part B: within 6 months after EFFDATE, OR Part C: within 9 months after EFFDATE NOTE: No change in effectivity or compliance compaired to original issue					**Related AD:** SLV-2005-363 FAA-2006-07-16 **AD Supersedes:** TCA-CF-2005-08
	Note						**Remarks:** Part A and Part B is alternative initial action to be followed by the Terminating action law Part C
	Part A. para. a	**Subject:** Inspect all domed anchor nuts at all centre wing upper fuel access panel attachment locations in the wet bay area for signs of corrosion or perforation and replace all perforated or corroded anchor nuts with new anchor nuts of the same part number prior to further flight. Bombardier SB84-57-11, dated 25 February 2005, or later, provides approved	BOMBARDIER-SB84-57-11	EO-Q400-570015	N/A		**Applicability:** MSN 4001, 4003 thru 4115, unless SB Bombardier-SB84-57-12 / MTO 570706 or the Terminating Action (SB Bombardier-SB84-57-10 / MTO 570704) initially is done. **Remarks:** Para. b.; Within 24 months after accomplishing the requirements of Part A, paragraph a, replace all domed anchor nuts at all centre wing upper fuel access panel attachment locations in the

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
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		instructions. **Compliance:** 6 months from EFF.Date					wet bay area with corrosion resistant steel anchor nuts in accordance with Part C of this directive.
	Part B. para. a	**Subject:** Inspect all domed anchor nuts at all centre wing upper fuel access panel attachment locations in the wet bay area for perforation. Replace all perforated anchor nuts with new anchor nuts of the same part number and install pre-cured sealant domes over all anchor nut domes. Bombardier SB84-57-12, dated 11 March 2005, or later, provides approved instructions. **Compliance:** 6 months from EFF.Date	BOMBARDIER-SB84-57-12	EO-Q400-570016	07JUL2005		**Applicability:** MSN 4001, 4003 thru 4115, unless SB Bombardier-SB84-57-11 / MTO 570705 or the Terminating Action (SB Bombardier-SB84-57-10 / MTO 570704) initially is done. **Remarks:** Para. b.; Within 48 months after accomplishing the requirements of Part B, paragraph a, replace all domed anchor nuts at all centre wing upper fuel access panel attachment locations in the wet bay area with corrosion resistant steel anchor nuts in accordance with Part C of this directive.
	Part C. para a.	**Subject:** Replace all domed anchor nuts at all centre wing upper fuel access panel attachment locations in the wet bay area with corrosion resistant steel anchor nuts in accordance with Bombardier SB84-57-10 Revision A, dated 14 March 2005, or later revisions. **Compliance:** If done as stand-alone 9 months from EFFDATE If Part A is done; 12 months after it"s performance date. If Part B is done; 24 months after it"s performance date.	BOMBARDIER-SB84-57-10	EO-Q400-570014	OPEN	06JUL2009	**Remarks:** TO Data to be updated individually on each aircraft, if Planned Date exceeds 27JAN-2006, i.e. Part A or B is done.
TCA-CF-2005-14R1 05JUN2006		**Subject:** Special inspection of fire extinguishing system electrical connectorsat fire bottles, and installation of Lanyard iaw SB84-26-07A or later **Compliance:** Part A: within 14 days after 19MAY-2005 (EFF.DATE) of orignal AD Part B: within 5000 Hrs after EFF.DATE of this revision NOTE: Part A performed iaw KTO 260399/260400	BOMBARDIER-SB84-26-07 BOMBARDIER-SB84-26-07	EO-Q400-260011R01 EO-Q400-260011R02	N/A OPEN		**AD Supersedes:** TCA-CF-2005-14
	A 1 and 2	**Subject:** 1. Within 14 days after the effective date of this directive, carry out an inspection of the electrical connectors on the forward and aft baggage compartment, APU and engine nacelle fire botties, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin (SB) A84-26-06, dated 12 May 2005, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. 2. Correct any deficiencies before the next flight. **Compliance:** Inspection within 14 days after effective date of this directive. Correction of deficiencies (if any) before the next flight.	BOMBARDIER-AOM-158 BOMBARDIER-SB84-26-06 BOMBARDIER-SB84-26-06	EO-Q400-260008 EO-Q400-260009	13MAY2005 25MAY2005		**Applicability:** MSN 4001 through 4107 **Remarks:** Note: The Bombardier Aircraft Maintenance Manual PSM 1-84-2 has been amended to clarify the instructions for connection of fire bottle electrical connectors. Temporary Revisions (TR) 26-017 through 26-027 were issued accordingly. KTO-260399 (Inspection and correction of deficiencies) started based on All Operators Message 158. KTO-260400 (Operationell check)
	B	**Subject:** Install/modify lanyards, mounts and clamps to the forward and aft baggage compartment, APU and engine nacelle fire extinguishing systems by incorporating Modsum 4-109941. Bombardier Service Bulletin 84-26-07, Revision A, dated 21 February 2006, or later revisions approved by the Chief,	BOMBARDIER-SB84-26-07	EO-Q400-260011	N/A		**Applicability:** MSN 4001 through 4107 **Remarks:** Previous incorporation of Modsum 4-109941, in accordance with the Accomplishment Instructions in the original issue of Bombardier Service Bulletin 84-26-07, dated 15 June 2005, meets the requirements of this part (Part B of this directive).

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
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		Continuing Airworthiness, Transport Canada, provides approved instructions for incorporating Modsum 4-109941. **Compliance:** Within 5000 hours air time after the effective date of this revision.					
TCA-CF-2005-15 17JUN2005		**Subject:** Pitot static contamination **Compliance:** 2005-07-16 NOTE: MR 3411004/3411006 + 3412004/3412006 already done at 1000h/24m since 08MAr-2004. (MR 3411001/3412001 added of practical reasons)					**Related AD:** SLV-2005-207
	A	**Subject:** Cleaning of Pitot Static Probe Drain Hole Initially, within 30 days after the effective date of this directive and thereafter at intervals not to exceed 70 hours air time, clean the drain hole of all the pitot static probes in accordance with Dash 8 Q400 Aircraft Maintenance Manual (AMM), PSM 1-84-2, Task 20-00-40-170-801 and as follows:					
	A.1.	**Subject:** Con"t from " A" a. Clean the drain holes in accordance with paragraph 4.B., Procedure 2, sub-paragraph (1) to (3) of the above noted AMM task. b. After cleaning, examine the drain hole for blockage in accordance with Paragraph 4.A., Procedure 1 of the above noted AMM task. c. If the drain hole of any pitot static probe is blocked, repeat the cleaning and examination procedure of Paragraph A.1.a and A.1.b of this directive on the affected pitot static probe. **Compliance:** 17JUL-2005		EO-Q400-340037 Q400 L-CHECK Q400 3411000004 Q400 3412000004	09JUN2005 10453 FH	10503 FH	**Applicability:** All Q400 **Remarks:** Prevoius the drains was cleaned with 1000 H interval
	B	**Subject:** Cleaning of Pitot Lines Initially, within 30 days after the effective date of this directive and thereafter at intervals not to exceed 600 hours air time, clean the pitot lines in accordance with Dash 8 Q400 AMM, PSM 1-84-2, Task 34-11-00-170-801. **Compliance:** 17JUL-2005		EO-Q400-340037 Q400 567 Q400 341100-201 Q400 341100-204 Q400 341201-201 Q400 341201-204	09JUN2005 10036 FH	10636 FH	**Applicability:** All Q400 **Remarks:** Previous the Pitot Lines was cleaned with 24 months interval MR 3411001/3412001 added as they are on same J/C as the 3411006/3412006
	Comment						**Remarks:** SAS statistic does not support the low AD time limits
TCA-CF-2005-37 31OCT2005		**Subject:** Special Inspection and Rectification for Cracks In Outer Wing Fuel Access Panels 524AT (left wing) and 624AT (right wing) **Compliance:** PART A: Within 400H after 2005-10-31.PART B: Repetitive insp. each 1200H. PART C; Terminating action within 6000H after initial inspection	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13 BOMBARDIER-SB84-57-13 BOMBARDIER-SB84-57-13 BOMBARDIER-	EO-Q400-570019R01 EO-Q400-570020R01 EO-Q400-570020R02 EO-Q400-570020R03	OPEN OPEN OPEN OPEN	14876 FH	**Related AD:** SLV-2005-449

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
			SB84-57-13				
	A.1	**Subject:** Within 400 hours air time after the effective date of this directive, carry out an ultrasonic inspection for cracks of the outer wing fuel access panels, P/N 85714230-001, on both left and right wing, in accordance with Accomplishment Instructions of Bombardier Service Bulletin 84-57-13, dated 17 August 2005, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. **Compliance:** Within 400 hrs after 31OCT-05	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13	EO-Q400-570019	19JAN2006		**Applicability:** Applicable to all **Remarks:** INITIAL Inspection
	A.2	**Subject:** If any access panel is cracked, perform one of the following prior to further flight: **Compliance:** All cracked panels must have A.2 (a) OR A.2(b) OR A.2(c) done prior to further flight					**Applicability:** All aircraftt but only if panels are found cracked.
	A.2(a)	**Subject:** Replace cracked panel with either panel, P/N 85714230-003 or 85714230- 005.	BOMBARDIER-SB84-57-13	EO-Q400-570020	N/A		**Remarks:** Note this a terminating action for the repetitive inspection
	A.2(b)	**Subject:** Incorporate temporary repair in accordance with Bombardier Repair Drawing, RD 8/4-57-451. Subsequently, replace the repaired panel within 1000 hours air time from time of incorporation of RD 8/4-57-451. **Compliance:** Note that the panel must be replaced within 1000 hrs	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13	EO-Q400-570019	19JAN2006		**Remarks:** A complaint card must be issued if a panel is repaired, this to control replacement after 1000 hrs.
	A.2(c)	**Subject:** Replace the cracked panel with a new panel P/N 85714230-001. Ensure that the replacement panel has no crack, by carrying out an ultrasonic inspection for cracks in accordance with Accomplishment Instructions of the above-noted Bombardier Service Bulletin	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13	EO-Q400-570019	19JAN2006		**Remarks:** Note that this is NOT an terminating action. Inspection program must continue as per MR
	A.3	**Subject:** If the inspection required in paragraph A.1 of this directive reveals no crack, or if a cracked access panel is replaced in accordance with paragraph A.2.(c) of this directive; prior to further flight, conduct an ultrasonic inspection of the outer wing fuel access panels, P/N 85714230-001, to determine the presence of a radius in the seal groove, in accordance with Accomplishment Instructions of the above-noted Bombardier Service Bulletin.	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13	EO-Q400-570019	19JAN2006		
	B	**Subject:** Repeat Inspection for Cracks of Outer Wing Fuel Access Panels. **Compliance:** First repetitive inspection within 1200 hrs calculated from the time KTO 570746 (Initial inspection) is completed. Thereafter with	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13	EO-Q400-570019 Q400 687	19JAN2006 10036 FH	11236 FH	**Applicability:** All Fuel Access Panels with pre-MTO570747 status (i.e. PN 85714230-001) **Remarks:** Note that if a panel is repaired iaw Bombardier Repair Drawing, RD 8/4-57-451, the repaired panel must be replace within 1000 hours air

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		1200 hrs intervals		Q400 5720009909			time from time of incorporation of RD 8/4-57-451.
	B.1	**Subject:** If no crack is found on P/N 85714230-001 outer wing fuel access panel, and a radius is present in the seal groove at all locations, carry out repetitive detailed visual inspections of the external surface of the panel for any sign of cracking, in accordance with accomplishment instructions of the above-noted Bombardier Service Bulletin; at intervals not exceeding 1200 hours air time. **Compliance:** All panels must have DVI inspection iaw SB84-57-13 Notice that NDT is not required		Q400 687 Q400 5720009909	10036 FH	11236 FH	
	B.2	**Subject:** If no crack is found on P/N 85714230-001 outer wing fuel access panel, and a radius is not present at any of the locations noted for inspection, repeat the ultrasonic inspection for cracks in accordance with paragraph A.1 and A.2 of this directive, at intervals not exceeding 1200 hours air time. **Compliance:** All panels must have both DVI and NDT inspection iaw SB84-57-13		Q400 687 Q400 5720009909	10036 FH	11236 FH	
	C	**Subject:** Terminating Action.					
	C.1	**Subject:** Within 6000 hours air time after the initial inspection required by this directive, replace the left and right outer wing fuel access panels, P/N 85714230-001, with either P/N 85714230-003 or 85714230-005 panel. **Compliance:** Within 6.000 hrs from compliance of KTO 570746	BOMBARDIER-RD8/4-57-451 BOMBARDIER-SB84-57-13 BOMBARDIER-SB84-57-13	EO-Q400-570019 EO-Q400-570020	19JAN2006 N/A		**Applicability:** All
TCA-CF-2005-39 22DEC2005		**Subject:** Check for Incorrect Rivets Installed at Control Column Torque Tube **Compliance:** Within 5500 flthrs after Effective Date, that is 2005-12-22	BOMBARDIER-SB84-27-24 BOMBARDIER-SB84-27-24	EO-Q400-270044 EO-Q400-270044R01	N/A OPEN	 14280 FH	**Related AD:** SLV-2005-485
TCA-CF-2006-05 28APR2006		**Subject:** Breake Control Cable Fouling on Camlock Fastener, Special Inspection Inspection for damage and filament box provisioning **Compliance:** Inspect within 12 months iaw SB part 3.B(1) and thereafter, within 24months after initial inspection, rework iaw SB part 3.B (5) NOTE: It has been decided to do the complete work in one step					**Related AD:** SLV-2006-115
	(a)	**Subject:** Perform a visual inspection of the outboard brake control cable, P/N 83200551-001, for fouling/damage. **Compliance:** Within 12 months of the effective date of this directive,	BOMBARDIER-SB84-53-37	EO-Q400-530038	OPEN	27APR2007	**Applicability:** All Q400

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
	(b)	**Subject:** If damage to any cable is found, replace the brake control cable and rework the cable cover and, if applicable, manufacture/install the offset plate assembly. **Compliance:** If fault is found; Complete the cable replacement and modifications before further flight.					**Applicability:** All Q400
	(c)	**Subject:** If no damage to the cable assembly is found during the visual inspection, rework the cable cover and, if applicable, manufacture/install the offset plate assembly, within 24 months of the date of the inspection. **Compliance:** Formally within 24 months after initial Inspection iaw (a).	BOMBARDIER-SB84-53-37	EO-Q400-530038	OPEN	27APR2007	**Applicability:** All Q400 **Remarks:** It has been decided to do the complete inspection and modification at once
							APPLIANCE
FAA-2001-15-17/Q400 20AUG2001		**Subject:** ROCKWELL COLLINS- Modify the altitude encoder inputs of the CTL-92 transponder control panels, P/N 622-6523-204, -205, -206, -207 & -208 **Compliance:** See AD					**Action Taken:** NOT APPLIC **Action Note:** Collins CTL-92 not used in SAS Q400
FAA-2002-06-06/Q400 03MAY2002		**Subject:** ROCKWELL COLLINS - Prevent erroneous altitude resolutions from causing a reduction in intended TCAS change 7 minimum separation margines **Compliance:** See AD					**Action Taken:** NOT APPLIC **Action Note:** Collins TDR-94 and TDR-94D Mode S transponders not used in SAS Q400
FAA-2002-21-01/Q400 27NOV2002		**Subject:** REPLACE WIRING ON TEMERATURE LIMITER **Compliance:** AT NEXT REPAIR, MAINTENANCE OR DESCALING (REMOVAL), NEXT A/C DOWNTIMETHAT ALLOWS FOR WIRING-REPL. OR LATEST WITHIN 1 YEAR FROM EFFDATE	BRITAXSELL-E33-4-007SB BRITAXSELL-E33-4-007SB	EO-COMP-380001 EO-Q400-380002	62203-001-007 00-05-0009:22DEC2000 26DEC2000		**Related AD:** LBA-2000-379/Q400 LBA-2000-379:R2/Q400 **AD Supersedes:** FAA-2001-10-13/Q400
CAA-AD-003-09-2000 01NOV2000		**Subject:** Propeller electronic controller unit removal **Compliance:** See AD Paragraphs					
	(a thru c)	**Subject:** Identify Original S/N to be Batch 1 or Batch 2. Remove as per "Compliance" **Compliance:** All the units identified in Batch 1 must be removed from the aircraft in not more than one calendar month from receipt of this service bulletin. If two units from Batch 1 are installed on a single aircraft, one of the units must be removed in not more than one calendar week from receipt of this service bulletin. All the units identified in Batch 2 must be removed from the aircraft in not more than one calendar year from receipt of this service bulletin.	DOWTYROTOL-D8400-61-23	EO-Q400-610001	12OCT2000		

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
	(d)	**Subject:** Modify Unit **Compliance:** Units identified in Batches 1 and 2 may be installed again when this service bulletin (Mod. Strike 2 standard) has been included.	DOWTYROTOL-D8400-61-23	EO-COMP-610001	N/A		
LBA-2000-379:R2/Q400 11JAN2001		**Subject:** BRITAX SELL - Inspection/ replacement of remote Water Boiler/ Cofee maker **Compliance:** 1) Inspect within 50 FH after effdate of AD 2) Replace effected wires at next C-check					**Related AD:** RLD-BLA-2000-139:R2, SLV-2000-336-436:R1 **AD Supersedes:** LBA-2000-379/Q400
	1	**Subject:** Inspection of terminal contact pins for signs of overheating and electrical arcing. **Compliance:** Within the next 50 FH from issue date of KTO (2000-12-15)	BRITAXSELL-E33-4-007SB	EO-Q400-380002	26DEC2000		
	2	**Subject:** Replacement of wires. **Compliance:** First shop visit but latest 31DEC2001.	BRITAXSELL-E33-4-007SB	EO-COMP-380001	62203-001-007 00-05-0009:22DEC2000		
SLV-2003-066-480/Q400 11FEB2003		**Subject:** HONEYWELL - Model MST 67A mode transponder series. Replacement to eliminate corruption in the PI field in mode S format DF=11 **Compliance:** 31mar03 NOTE: Excemption to 30APR2003. Ref STK-2003-088A-1072	HONEYWELL-MST-67A-SW2	EO-COMP-340001 EO-Q400-340032	N/A 29MAR2003		**Related AD:** RLD-BLA-2003-036, LTN-2003-029 CAA-001-01-2003
TCA-CF-2006-08 31MAY2006		**Subject:** Amendment of AFM, PSM 1-84-1A, by inserting Temp. Admendment No 13 and Crew Advice, Regarding Hyd. System Pwr Transfer Unit Overspeed **Compliance:** NOTE: The action is purely on Operational Matters; Amendment to AFM and Information to the Crew					
	1	**Subject:** Amend all AFM, PSM 1-84-1A, by inserting Temporary Amendment (TA) No. 13, dated 14 July 2005, or later approved changes to this AFM temporary amendment. **Compliance:** 14 JUN-2006		EO-Q400-290023	01JUN2006		**Applicability:** All AFM controlled by SAS
	2	**Subject:** Advise all flight crew of the changes introduced by the AFM temporary amendment. **Compliance:** 14 JUN-2006		EO-Q400-290023	01JUN2006		**Applicability:** All flightcrew qualified for Q400 duty
	3	**Subject:** Amend all SAS OMB/Q400 accordingly **Compliance:** 14 JUN-2006		EO-Q400-290023	01JUN2006		**Applicability:** All SAS OMB/Q400
	3.0	**Subject:** Amend all SAS Q400 QRH accordingly. **Compliance:** 14 June 2006		EO-Q400-290023	01JUN2006		**Applicability:** All Q400 QRH"s
	3.1	**Subject:** Check of incorporation of revision to QRH Page 12.3 ref KTO 290367A **Compliance:** Latest 14 June 2006		EO-Q400-290024	02JUN2006		**Applicability:** All Q400"s

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
	4	**Subject:** In a signed IOC or Letter forwarded to CPHMR-Z/Niels-Anders Nielsen, confirm that paragraph 1, 2 and 3 is fully performed. This must be accompanied with documents showing the exact wording for paragraph 2 and 3. (ref a STK Audit) **Compliance:** Highly Desirable; No later than 12 JUNE-2006 (to allow time for signing off this KTO)		EO-Q400-290023	01JUN2006		**Remarks:** Note that the letter and accompanied documents may be forwarded via E-mail provided they are scanned documents showing a signature.
	5	**Subject:** After receipt of the signed letter, CPHMR will inform CPHMT-P that the KTO shall be signed off as fully completed. **Compliance:** 14 JUN-2006		EO-Q400-290023	01JUN2006		**Applicability:** All Q400
							ENGINES: **PN/SN ORG: 3121627-01 / PCE-FA0136 (LH)** **PN/SN ORG: 3121627-01 / PCE-FA0228 (RH)**
CAA-AD-007-05-2000 10AUG2000		**Subject:** Propeller - High crosswind operation life limitation **Compliance:** Mandatory if A/C is operated in X-wind as described NOTE: Revision of AOM OM-B.1.8.6.6 is based upon information given in SB DOWTYROTOL-D8400-61-21					
TCA-CF-2006-06 08MAY2006		**Subject:** Engine Exhaust Shroud V-band Couplings, Inspection for Mfg Date (earlier than Aug-02), and possible replacement **Compliance:** Within 5.000 flthrs after Eff.Date					**Related AD:** SLV-2006-086
	Corrective Action	**Subject:** Carry out an inspection and replacement (as required) of the V-band clamps to ensure a proper gap, in accordance with Bombardier SB 84-78-01, Revision A, dated 15 September 2005, or its later revisions approved by the Chief, Continuing Airworthiness, Aircraft Certification Branch, Transport Canada. **Compliance:** Within 5000 flight hours after the effective date of this directive.	BOMBARDIER-SB84-78-01	EO-Q400-780001R01	OPEN	14481 FH	**Applicability:** All Q400 **Remarks:** Prior inspection and replacement of the V-band clamps (before the effective date of this directive) in accordance with the original issue of SB 84-78-01, satisfies the requirements of this directive.
							APU
FAA-2004-24-03/Q400 03JAN2005		**Subject:** Fuel filter by pass button, installation of a bracket to prevent protrusion and possible fuel leakage **Compliance:** 500 Hrs Time-In-Service or within 6 months from effective date 2005-01-03					
	(f)	**Subject:** Install a bracket onto the fuel filter housing assembly on APU Model T-62T-46C12. Use 2.A through 2.D of the Accomplishment Instructions of Hamilton Sundstrand Alert Service Bulletin (ASB) No. ASB-4503067-49-9, dated December 2, 2003, to install the bracket.	HAM.SUND-SB4503067-49-9	EO-COMP-490001	4503067A SP-E984509:18FEB2004		**Applicability:** All APU **Remarks:** Previous credit is allowed for brackets installed using Hamilton Sundstrand ASB No. ASB-4503067-49-9, dated December 2, 2003, before the effective date of this AD.

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		Compliance: Within 500 hours time-in-service or 6 months after the effective date of this AD, whichever occurs earlier, unless the actions have already been done.					
							ARQ
SLV-AIC-A-12/02/Q400 05DEC2002		**Subject:** Carriage & Operation of SSR Mode S Airborne Equipment in European Airspace, Transitional Arrangements. Namely Elementary Surveillance SSR **Compliance:** 2007-03-31 iaw latest from Eurocontrol. For exemption see AIC A 13/04 NOTE: This AIC regulates the danish airspace, for other countries see resp regulations	BOMBARDIER-SB84-34-52 BOMBARDIER-SB84-34-54 BOMBARDIER-IS4Q3450000 BOMBARDIER-SB84-34-53	EO-Q400-340035 EO-Q400-340036	22JUL2004 05JUN2005		
SLV-2002-114-125:R1 09APR2002		**Subject:** DEMANDED STATUS OF AD-NOTES AT TIME OF APPLYING/RENEWAL OF DANISH AIRWORTHINESS CERTIFICATE **Compliance:** AT TIME OF APPLYING/RENEWAL OF DANISH AIRWORTHINESS CERTIFICATE		EO-Q400-150002	29JUL2002		**AD Supersedes:** SLV-2002-114-125
TCA-CF-2004-19 20OCT2004		**Subject:** ALI-37; Incorp. Rev. Structural Inspection Tasks. ALI-28;Incorp. Rev Safe Lifelimits for Orifice Support Tube, Upper Bearing, Piston Plug **Compliance:** 2004-10-20 NOTE: KN affected 844259, 844260, 844261					**Related AD:** SLV-2004-357, FAA-2005-12-15
	1.	**Subject:** Incorporating the revised structural inspection tasks, 712001F102 and 712003F102 respectively as introduced by Temporary Revision, ALI-37 of Airworthiness Limitations Items (ALI) of the DHC-8-400 Maintenance Requirements Manual, PSM 1-84-7 **Compliance:** Within 30 days after the effective date of this directive		EO-Q400-710015 Q400 712001F102 Q400 712003F102	26OCT2004		**Applicability:** DHC-8 Aircraft, Models 400, 401 and 402, serial numbers 4001, and 4003 through 4094. **Remarks:** KTO-710422 to describe and ensure compliance
	2.	**Subject:** Incorporating the revised safe life limits for the Orifice Support Tube, P/N 46117-1, Upper Bearing, P/N 46114-1, and Piston Plug, P/N 46137-1, as introduced by Temporary Revision, ALI -28 of Airworthiness Limitations Items (ALI) of the DHC-8-400 Maintenance Requirements Manual, PSM 1-84-7. **Compliance:** Within 30 days after the effective date of this directive		EO-Q400-710015	26OCT2004		**Applicability:** DHC-8 Aircraft, Models 400, 401 and 402, serial numbers 4001, and 4003 through 4094. **Remarks:** KTO-710422 to describe and ensure compliance. P/N 46117-1 (MOPS P601 "CBL set to 13311" 06OCT2004) P/N 46114-1 (MOPS P601 "CBL set to 22032" 06OCT2004) P/N 46137-1 (MOPS P601 "CBL set to 22032" 06OCT2004) Demanded interval 14500 C (P/N 46117-1) and 24000 C (P/N 46114-1 and 46137-1) multiplied with HGW factor 0,918 due to ModSum 4-308807. Referred "ALI-28" has been replaced by later "ALI"s.
TCA-CF-2006-10 15JUN2006		**Subject:** Airworthiness limitation Items, Mandatory Incorporation of ALI-53 andALI-54					
	1	**Subject:** Incorporating the additional structural inspection tasks, 532065F101, 532065F102,		EO-Q400-050001	19JUN2006		**Applicability:** Maintenance Requirement Affected in MOPS and in AuRA. Incorporation signed off on each

Airworthiness Directives
Compliance Status
Airframe / Appliance / Engine / Propeller / APU

LN-RDK
Model: Q400
TT A/C: 10457 H **Mfg Date:** 07OCT2000
TC A/C: 12914 C
Date from: **MSN:** 4025

AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
		532066F101, 532066F102 for Post Modsum 4-113458. 532066F103, 532067F101, 532067F102, 532067F103, 532068F101, 532068F102, 532069F101, 532069F102, 532069F103, 532070F101, 532070F102, 532071F101, 532072F101, 532072F102, 532073F101 and 532073F102 respectively as introduced by Temporary Revision, ALI-53 of Airworthiness Limitations Items (ALI) of the DHC-8-400 Maintenance Re-quirements Manual, PSM 1-84-7 **Compliance:** Latest 12AUG-2006					individual Q400
	2	**Subject:** Incorporating the revised structural task 521003F101 Revision, ALI -54 of Airworthiness Limitations Items Maintenance Requirements Manual, PSM 1-84-7. **Compliance:** Latest 12AUG-2006		EO-Q400-050001	19JUN2006		**Applicability:** Maintenance Requirement Affected in MOPS and in AuRA. Incorporation signed off on each individual Q400
	3	**Subject:** When incorporation is done, MR-Z to inform PSD/Q400, that in turn will initiate that this TO will be signed off in the Maintenance System MOPS and AuRA. **Compliance:** Latest 12AUG-2006					**Remarks:** When this paragraph has been done, it is indirectly indicated with a sign off of para. 1 and 2.

Created 02NOV2006

Last page of list

Airworthiness Directives
Compliance Status
Airframe / Appliance / Engines / APU

LN-RDK
Model: Q400 **Mfg Date:**
TT A/C: 10596 H
TC A/C: 13070 C **MSN:** 4025

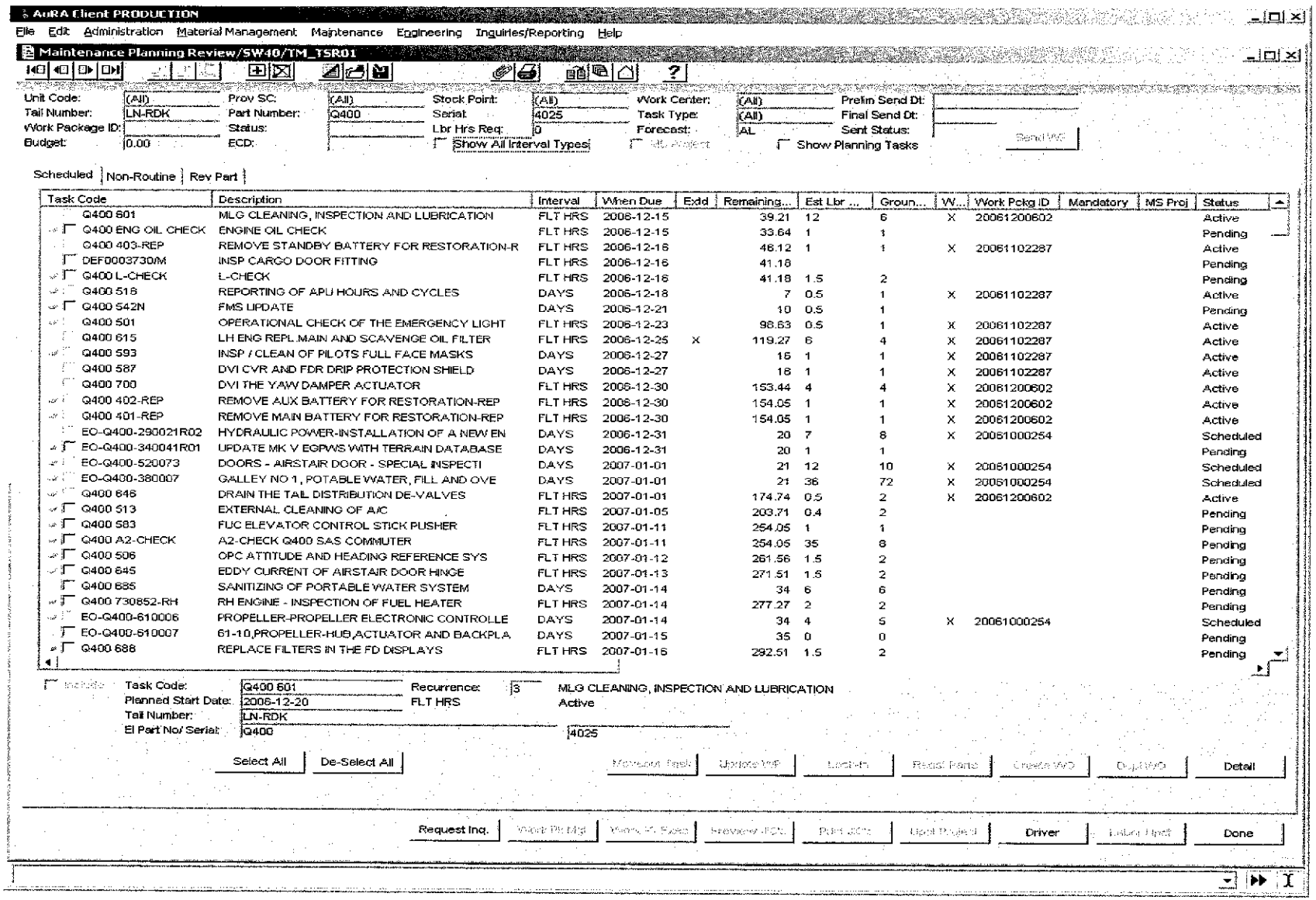
AD-Number		Subject / Compliance	Method of Compliance		Accompl. Status		Additional Information
Effective Date	Para & Sub		External Ref	Action Ref	Complied	Next Due	
EASA-2006-0334/Q400 14NOV2006		**Subject:** COMMUNICATIONS - THALES COMMUNICATIONS VHF DATA RADIO - MODIFICATION **Compliance:** Valid for SAS Q400 fleet without amendment 3 (SB EVR716-23-015)					

The preview was created 23NOV2006

Back Refresh Print Info

LN-RDK 11 December 2006

Jan Svensson
Inspector
Luftfartsstyrelsen



Bilag 4

BOMBARDIER

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123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
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TEL: +1-416-375-4000

Bombardier Q400

All Operator Message No. 236A

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 11 September 2007

ATA: 3210 MODEL: Q400

SUBJECT: Update - In-service Incident – Right Main Landing Gear Collapse After Landing

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing

The following message is being sent to all Bombardier Q400 Operators and Bombardier Aerospace Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being re-issued to clarify compliance time and actions requested.

All Operator Message 235 was previously issued to advise Operators of an incident in which the right hand main landing gear collapsed following landing. A Bombardier / Goodrich team has been dispatched to the site to support the ongoing investigation, along with the Transportation Safety Board of Canada.

Although there have been no findings to-date, we have conducted a preliminary engineering review of the limited information available at this time. Based on this review, Operators may wish to consider performing the following interim actions on a one time basis:

Safety Reminder: Insert the MLG Lock Pin and ensure it fits freely (Refer to Ramp Service Manual Chapter 2 page 45) prior to doing any work in the landing gear area including the recommended tasks below.

Within the next 100 flight hours it is recommended to complete the following tasks on a one time basis:

- Clean and perform a General Visual Inspection (GVI) of the MLG stabilizer stay hinge points for general condition and security

- Clean and inspect (GVI) the MLG stabilizer stay – brace for general condition and security

At the next 'A'-Check it is recommended to pay special attention to the following task:

- Lubricate all MLG Stabilizer Stay hinge points and ensure joints freely accept grease (Refer to AMM TASK 12-20-01-640-803) as per the 'A' check. Special attention should be directed to the joints marked on the illustration below, on both sides of the stay brace.

Operators will be advised as the investigation progresses and further information becomes available.

Figure 1: Inspection Areas

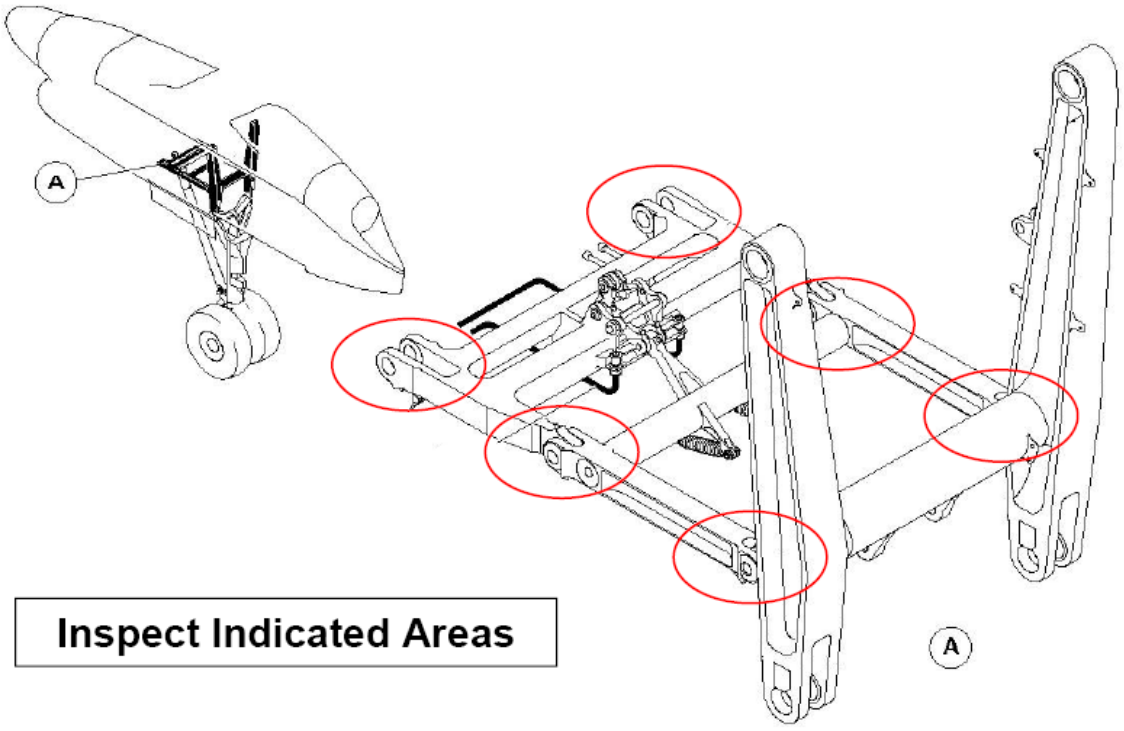
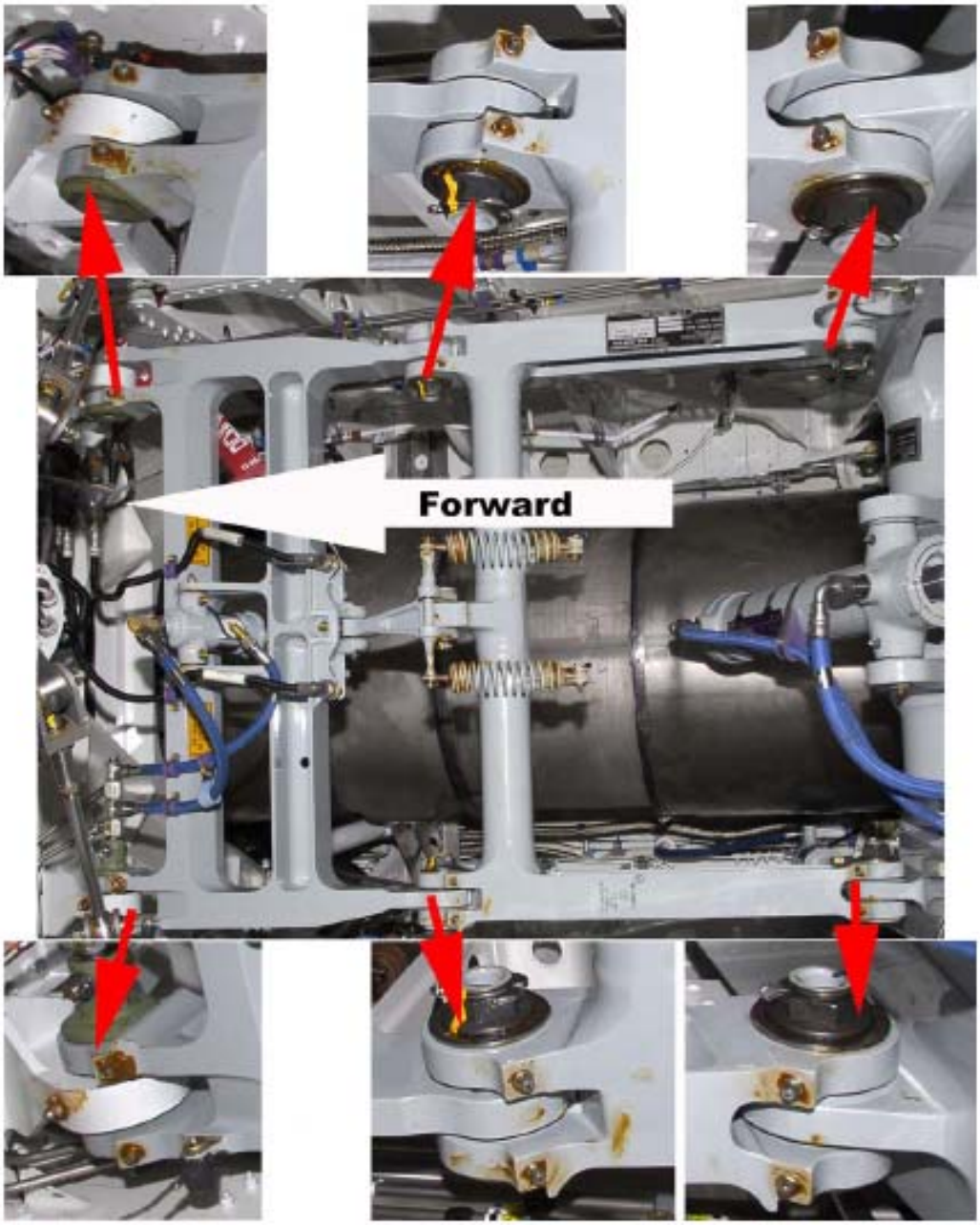


Figure 2: Inspection Area Pictures



Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com.

Barry Wilkins, Principal Engineer, In-Service Engineering & Technical Support, and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Aerospace.

Bilag 5

Aircraft Accident Notification Report
SK2748/11SEP2007

Occurrence

Information	Specification/Description
Date	11 Sept 2007
Time	2235 UTC
Location	VNO-EYVI Vilnius- Lithuania Longtitude: 25, 17, 16 E Latitude: 54,38,13 N Elevation: 646 ft
Last point of departure	CPH-EKCH (Copenhagen) Off block 1945 UTC Airborne 1952 UTC
Point of Intended Landing	PLQ-EYPA Palanga Airport
Flight number	SK2748
Radio Call sign	Scandinavian 2748
Type of operations	Commercial
Phase of operation	Landing VNO-EYVI TD 2236 UTC
Flight level	N/A
Description of the occurrence	Diversion to Vilnius due to malfunction LDG. Right main landing gear collapsed after touchdown.
Fire	No
Other	No injuries reported.

Aircraft Information

Information	Specification/Description
Manufacture	Bombardier Aerospace Inc.
Model	DHC-8-403 76 Seats
Registration	LNRDS Göte Viking
Serial number	MSN 4035
Year of manufacture	31 JAN 2001 Date of acceptance 02 FEB 2001
Cert. of Airworthiness, exp, date	31 MAR 2008
Total time / cycles	FH 11366,55 FC 14224
Time since last maintenance and type of maintenance	Last Minor Check L-Check 2007-09-06 at 11337,78 FH Last Major Check A1 & A2 2007-06-25 at 10908,49 FH

Engine(s) type and model	PW150A / 4580 SHP
Propeller(s)/rotor(s), manufacture and type	Dowty Aerospace Propellers - R408/6-123-F/1
Total time / cycles	Eng LH PN 3121627-01 SN PCE-FA0027 TSN FH 9958,14 TSN FC 12449 TSI FH 998,14 TSI FC 1102 TSO FH 9958,14 TSO FC 12449 TSM FH 998,14 TSM FC 1102 Eng RH PN 3121627-01 SN PCE-FA0232 TSN FH 3827,55 TSN FC 4738 TSI FH 1196,55 TSI FC 1322 TSO FH 3827,55 TSO FC 4738 TSM FH 3827,55 TSM FC 4738 Propeller LH PN 697070003 SN DAP0061 TSN FH 11553,24 TSN FC 13411 TSI FH 1555,34 TSI FC 1712 TSO FH 1555,34 TSO FC 1712 TSM FH 1555,34 TSM FC 1712 Propeller RH 697070003 SN DAP0110 TSN FH 10521,63 TSN FC 1583 TSI FH 843,63 TSI FC 943 TSO FH 1382,63 TSO FC 1583 TSM FH 1382,63 TSM FC 1583

Landing Gear	NLG PN 47200-15 SN MA0043 TSN FH 11366,55 TSN FC 14224 TSI FH 11366,55 TSI FC 14224 LH MLG PN 46100-29 SN MA0081 TSN FH 11366,55 TSN FC 14224 TSI FH 11366,55 TSI FC 14224 TSO FH 11366,55 TSO FC 14224 TSM FH 11366,55 TSM FC 14224 RH MLG PN 46100-29 SN MA0079 TSN FH 11366,55 TSN FC 14224 TSI FH 11366,55 TSI FC 14224 TSO FH 11366,55 TSO FC 14224 TSM FH 11366,55 TSM FC 14224

Insurance company	AON Aviation
Insurance company's address	8 Devonshire Square London-UK
Insurance company's phone number	+44 207 623 55 00
Exp. date	Issued 30 Nov 2006 Valid until Midnight 30th November 2007
Certificate of Airworthiness	Number N/A Validity 31 MAR 2008
Owner	Aviator Ltd Ugland House P.O Box 309 Georg Town, Grand Cayman British West Indies
Operator	Scandinavian Airlines System SE 19587 Stockholm, Sweden +46 8 797 00 00
Damage to Aircraft	LDG collapsed
Fire	No
Total number of persons onboard	51 adults + 1 infant
Crew	2/2
Passengers	47 adults + 1 infant
Infants	1

Flight crew personal information

Commander	
Nationality	NO
Name	Ramberg, Arild
Empno Rank	23208 FC

Co-Pilot	
Nationality	NO
Name	Larsen, Trond R
Empno Rank	24621 FC

Other Flight crew	
1. Nationality	SE
Name	Rodrigo, Kurt Luna
Rank Empno	AH 23528
2. Nationality	SE
Name	Svensson, Linda
Rank Empno	AH 23528

Flight crew	CDR	Co-pilot	AH 1	AH 2
Age	51 1956-07-19	52 1995-03-24	30 1977-03-05	25 1982-06-30
Gender	M	M	M	F
Experience all types total	7928	4674	2306	605
Experience all types last 6 MTHS	291	262	206	364
Experience all types last 24 hrs	6,22	7,02	2,52	21,17
Experience this aircraft last 6 MTHS	291	262		
Experience this aircraft last 24 hrs	6,22	7,02	5,27	11,45
Duty time last week	43,2	31,55	27,99	32,25
Duty time last 24 hrs	9,40	12,24	2,52	16,10
Rest period before duty	97,09	101,43	27,51	19,13

Weather details at time of occurance

EYVI local weather 11SEP at 22:30 UTC

Information		Specification/Description
Wind	Direction	Variable
	Velocity	1 kts
Gust	Direction	None
	Velocity	
Turbulence	None/Light	None
	Moderate/severe	
Visibility	Visibility (m) RVR	2900 m in mist/fog patches -
Temperature	Dew point OAT	10 9
Pressure	QNH	1015
Clouds	Type amount Height	Bkn 4900 ft Ovc 5600 ft
Precipitation	None/Rain Drizzle/Snow RASN/Hail	None
Intensity	Light/Showers Moderate/Severe	
Icing	None/Light	None
Light conditions	Daylight	Night
General weather in the area	VMC IMC	Mist

Other information

SAS DHC-Q400 fleet was grounded by NPH Technical Operations, Geir Steiro, at 2213 UTC.

NPH Scandinavian Flight Operations	NPH Scandinavian Technical Operations	NPH Scandinavian Ground Operations	NPH Crew Training
Stockholm 12 Sept 2007	Stockholm 12 Sept 2007	Stockholm 12 Sept 2007	Stockholm 12 Sept 2007
Ola Reinholdt	Geir Steiro	Tomas Linden	FOR Torben Løvetofte

Bilag 6

OPS-utvalget

De skandinaviska luftfartsmyndigheternas samarbetsorgan för flygsäkerhetsfrågor

STK DET SKANDINAVISKE TILSYNSKONTOR
DENMARK NORWAY SWEDEN

2007-09-12

STK 2007-0280-1

Accountable manager
John Dueholm
Scandinavian Airlines System
Denmark-Norway-Sweden
STODA

Kopia:
STOOM
STOOG
STOOF
STODO-X
STODG

Midlertidig inddragelse af luftdygtighedsbeviser på luftfartøjer af typen Bombardier DHC8-Q400 .

Dette brev bekræfter OPS-utvalgets beslutning om, med øjeblikkelig virkning, at inddrage luftdygtighedsbeviserne på samtlige luftfartøjer af ovennævnte type opereret af SAS, eller udlejet af SAS til anden luftfartsvirksomhed med fortsat registrering på dansk, norsk eller svensk register.
Ovennævnte er i overensstemmelse med hvad der blev meddelt SAS kl. ca. 02:00 dags dato via telefon af undertegnede.

Beslutningen er truffet på baggrund af havari med luftfartøjet LN-RDK den 9. september 2007 i Aalborg, samt havariet med LN-RDS den 11.september 2007 i Vilnius, hvor højre hovedunderstel i begge tilfælde kollapsede under landing.

Luftdygtighedsbeviserne inddrages med hjemmel i Kommissionsforordning 1702/2003 Part 21, §21B330, idet luftfartøjstypen på baggrund af de indtrufne havarier ikke overholder kravene i forordningens §21A181(a)1.

OPS-Udvalget meddeler SAS når luftdygtighedsbeviserne igen kan udleveres.

Inddragelsen omfatter følgende luftfartøjsindivider:
LN-RDA, LN-RDB, LN-RDC, LN-RDD, LN-RDE, LN-RDF, LN-RDG, LN-RDH, LN-RDI, LN-RDJ, LN-RDL, LN-RDM, LN-RDO, LN-RDP, LN-RDQ, LN-RDR, LN-RDT, OY-KCD, OY-KCE, OY-KCF og OY-KCG.

På vägnarna av luftfartsmyndigheterna i Danmark, Norge och Sverige.

Kurt Lykstoft Larsen

STK - Det Skandinaviske Tilsynskontor
Luftfartsstyrelsen
SE-601 73 NORRKÖPING
Visiting address: Bergkällavägen 32
SOLLENTUNA, Sweden

Phone
+ 46 (0)11 41 52100

E-mail: stk@luftfartsstyrelsen.se
SITA CODE BMAZVSK

Facsimile
+ 46 (0)11 41 52490

Bilag 7

Civil Aviation Administration - Denmark
Statens Luftfartsvæsen

European Aviation Safety Agency
Postfach 10 12 53
D-50452 Köln
Germany

Attention: Certification Director Dr. Norbert Lohl.

Date:	Our ref.:	Contact person:
12. September 2007		Per Veingberg
Your letter of:	Deres ref.:	Direct no.:

Subject: Bombardier Dash 8 Q400 aircraft, Main Landing Gear collapse.

Please be advised, that for the above type of aircraft, on 9. September 2007 i Aalborg, Denmark, and on 11. September 2007 in Vilnius Lithuania, 2 identical accidents has occurred, where RH Main Landing Gear collapsed during landing, with the result, that the aircraft RH wing contacted the runway, and the aircraft crashed.

In both cases, no persons were seriously harmed.

The aircrafts were both operated by Scandinavian Airlines Systems (SAS).

For the accident in Denmark, the Danish Air Accident Investigation Board is investigating the accident, assisted by the Norwegian Air Accident Board, the Canadian Air Accident Board and the manufacturer Bombardier.

Further SAS together with Bombardier, surveyed by the Civil Aviation Authorities in Denmark, Norway and Sweden, are performing an internal investigation to state the cause of the failure of the Main Landing Gear.

At the moment, Bombardier Dash 8 Q400 aircrafts on register in Denmark, Norway and Sweden are temporarily grounded by rewoking the individual Certificate of Airworthiness.

We do not know very much about the cause of the Gear collapse, however preliminary investigations seems to indicate a problem (possible fracture) of components in the upper part of the Gear downlock overcentering machanism.

Transport- og Energiministeriet
Luftfartshuset
Box 744
Ellebjergvej 50
2450 København SV
Phone 36 18 60 00
Fax 36 18 60 01
Office hours 09.00-15.30
Fridag 09.00-15.00
E-mail: dcaa@slv.dk
Homepage: www.slv.dk
CVR: 55569517
EAN: 5798000893412

We have enclosed relevant documents for Your information, and expect Transport Canada/Bombardier to contact you soon about the matter.

For further information, please do not hesitate to contact me as stated above, mobile phone +4540930330 or e-mail peve@slv.dk.

Yours sincerely

Per Veingberg
Technical Director

Enclosure: SAS AAN Report LN-RDK
SAS AAN Report LN-RDS
Bombardier, SAS inspection document
Bombardier AOM 235
Bombardier AOM 237

Bilag 8

Preliminary engineering analysis 11/9 16.00 hrs

Q400 LN-RDK

Accident Aalborg Sept. 9, 2007

An analysis is performed of engineering data

- The purpose of the analysis is to map and possibly identify items which may have impacted on the accident, in order to have a background for further course of action
- The analysis will not and can not conclude or speculate on the cause of the accident
- The analysis will only assess the available data and see if it is justifiable and reasonable to perform a fleet inspection based on the result of the analysis

The following has been analysed:

- DTR data has been checked for repeated malfunctions of ATA 32
- All reliability data for the aircraft individual and the fleet is being analysed. Preliminary analysis concluded for 2007.
- All non-routine work related to RDK the last year has been/is being analysed.

Preliminary results of the analysis

- **Two instances of non-routine work the last three months involved the R/H MLG on RDK**
  - June 3rd: Rod end R/H mlg loose in piston end
  - August 14th: RH down lock spring replaced
- **Feedback from STOOF**
  - Sept 6th: RH MLG down lock spring broken (uncertain if it is on RDK)

Rod end R/H mlg loose in piston end

- Will have to be investigated further, the problem was fixed and the aircraft was released again and has flewn 3 months since.
- Pictures showed the actuator rod eye end ripped loose from rod. Most likely caused by forces at the accident. No data available regarding the piston end, but it appears as if the actuator was in normal position before the accident.
- Limited inspection of the actuator judged not to be an effective measure.

RH down lock spring

- Analysis of the system shows that it is a redundant system (2 down-lock springs) and the spring is only holding the brace in the locked position. RDK never locked the brace. The locked position is normally held by the lock actuator and the spring is the redundant system in case of loss of hydraulic pressure. Preliminary inspection of RDK indicated that the springs were intakt and correctly installed.
- Based on this it is **not likely** that an inspection of the down lock spring would have a preventive effect on the fault experienced on RDK and it is not considered an effective measure

Assessment of pictures from the accident site

- Pictures revealed great damage to the aircraft, most damage appears to come from forces at the accident.
- MLG suffered severe damage with broken links, ruptured downlock torque tube, actuator eye end ripped off etc.
- Impossible to assess from the pictures if damage caused the accident or was caused by it.

Conclusion from preliminary analysis

- No trend or problem area related to the MLG collapse could be identified, either on the individual A/C or the fleet as a whole.
- Pictures revealed only indications that the problem started with the mechanical function of the MLG.

Recommended action

- After conferring with Bombardier and Goodrich it was concluded that a precautionary measure should be performed even though the data was not conclusive
- General inspection of the MLG mechanical components (normal MPD insp.) and a detailed inspection and lubrication of the MLG down-lock brace is the recommended action

Bilag 9

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL: +1-416-375-4000

Bombardier Q400

All Operator Message No. 237A

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 12 September 2007

ATA: 3210 MODEL: Q400

SUBJECT: In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Q400 Operators and Bombardier Aerospace Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

Original issue of this AOM has been superceded by Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com.

Alisa Turk, Manager Technical Help Desk, and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Aerospace.

Bilag 10A

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION: **1**	4 SHEET: **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. NC.

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. NC and inspecting affected parts for any signs of corrosion or wear.

No corrosion or wear damage is allowed.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. NC.

The details of this procedure are covered by **RD 8/4-32-059** section 1.

Sheet 1 Issue 1
Sheet 2 Issue 1

10 ISSUE	1				
11 DATE	12-Sep-07				
12 PREPARED BY	A. Vinitsky				
13 STRESS	N/A				
16 DESIGN AUTHORITY	M. BABIN				
14	N/A				
15	N/A				
17 DAO AUTHORITY	DAO #224 13 Sept 07.				

18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 93-0-02

[ ] N/A ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

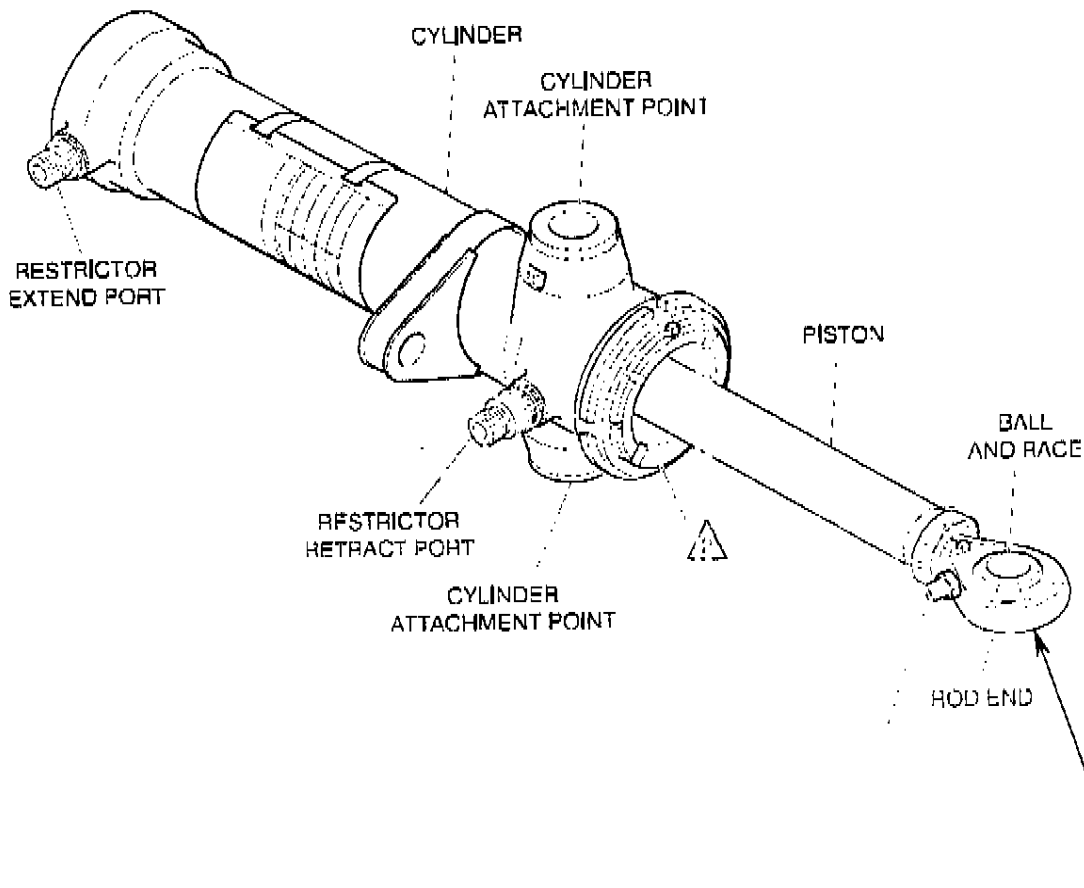
0 1383-27 REV 1993-07

BOMBARDIER

REPAIR DRAWING (RD)

10 ISSUE	1				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. NC

Inspect affected parts for any signs of corrosion or wear.

No corrosion or wear damage is allowed.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. NC

Bilag 10B

PRINT DATE 09/12/07 TIME 7:39 PM

GOODRICH

SERVICE CONCESSION REQUEST

SCR NUMBER	REV	PROG
SCR 086-07	NC	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

INDICATE IF **A.O.G.** ☒

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

LIMITED FLIGHT REQUESTED

YES ☐ NO ☒

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE FC OR FH LIMITATION:

FC*_____ FH*_____

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | X

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☐
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☐
LIMITED SERVICE	☐
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☐
REPLACE PART	☐

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR RAISED BY: B. WEBER

DATE RAISED: 2007/09/12

PROBLEM DESCRIPTION

ITEM	
1	THERE HAVE BEEN 2 INSTANCES OF SEPARATION OF ROD END P/N P3A2750 AND PISTON P/N 46570-1/-3. INSPECTION OF THREAD CONDITION REQUIRED INACCORDANCE TO TRANSPORT CANADA AIRWORTHINESS DIRECTIVE.

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

SEE SHEET 2 AND SUBS FOR MORE INFORMATION

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	**A.O.G.**
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1	1. WITH ACTUATOR INSTALLED ON AIRCRAFT, REMOVE LOCKWIRE AND BACK OFF JAM NUT AS REQUIRED TO DISENGAGE LOCKING FEATURE. 2. DISASSEMBLE AS REQUIRED, REMOVE ACTUATOR ROD END PIN P/N 46460-1 FROM MAIN LANDING GEAR SHOCK STRUT ASSEMBLY 3. FULLY COMPRESS PISTON (ACTIVATE LANDING GEAR ALTERANTE EXTENSION DOOR TO PORT LANDING GEAR HYDRAULICS TO RETURN). 4. SECURE PISTON, AND REMOVE ROD END FROM PISTON. 5. IF ROD END P/N P3A2750 DOES NOT EASILY BACK OUT OF PISTON, REMOVE RETRACT ACTUATOR P/N 46550-7/-9 FROM GEAR ASSEMBLY. - REPLACE WITH NEW OR REFURBISHED RETRACT ACTUATOR P/N 46550-7/-9 WHICH HAS INCORPORATED CIC PER DWG 46550, E.O.3NC1 (REF.TO BOMBARDIER AMM) - IF ACTUATOR DOES NOT HAVE CIC INCORPORATED SEE SECTION A OF THIS SCR. 6. IF ROD END P/N P3A2750 BACKS OUT OF PISTON EASILY, COMPLETELY REMOVE ROD END AND CONTINUE WITH OPERATIONS 6 THRU 16. 7. VISUALLY INSPECT ROD END P/N P3A2750 FOR EVIDENCE OF CORROSION CONTAMINATION IN THREADS. 8. VISUALLY INPSECT PISTON P/N 46570-1/-3 THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF CORROSION AND/OR DAMAGE AND/OR PITTING (REF. VIEW A, PAGE 3). 9. IF CORROSION IS FOUND IN THREADED AREA OF PISTON P/N 46570-1 REMOVE AND REPLACE ACTUATOR ASSEMBLY P/N 46550-7/-9, IN ACCORDANCE WITH BOMBARDIER AMM REQUIREMENTS 10. IF NO CORROSION IS FOUND, COAT ACTUATOR THREADS AND THREAD RELIEF AND ROD END THREADS, WITH CIC MASTINOX 6865K. 11. RE-INSTALL ROD END INTO PISTON 12. MECHANICALLY REMOVE ACTUATOR FROM YOKE ASSEMBLY (NOTE: HYDRAULIC DISCONNECTION NOT REQUIRED). 13. USING TOOL NUMBER CG 56806, ADJUST ROD END RETRACTED LENGTH AS REQUIRED (REF. SCR PAGE 4), TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540. - OPTIONAL PROCEDURE FOR RIGGING ACTUATOR LENGTH: RIG ACTUATOR TO NOMINAL RETRACTED LENGTH PER TOOL DRAWING AT-SCR 086-07(REF. DIM 4.286 INCH), AND TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540. - NOTE: IF OPTIONAL PROCEDURE IS USED, GEAR SWINGS ARE REQUIRED (2 POWERED CYCLES AND 1 ALTERNATE RELEASE TO VERIFY FUNCTIONAL CAPABILITY).

DISPOSITION AUTHORIZATION				
	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEER	S.HEALEY	S.Healey	9/12/2007	
STRESS				
OTHER (SPECIFY)				DATE:

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

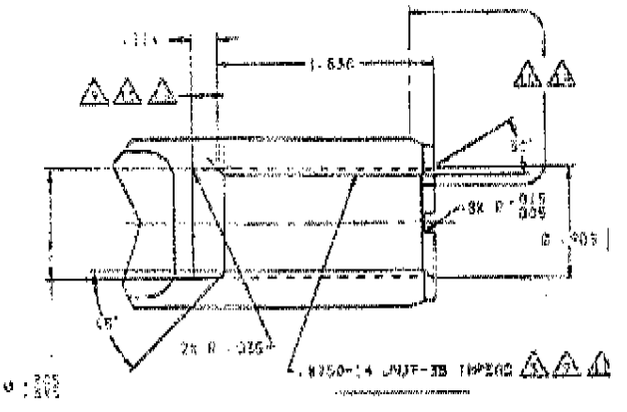
ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

14. RE-INSTALL ACTUATOR ONTO YOKE ASSEMBLY.
15. EXTEND PISTON AND RE-ATTACH TO SHOCK STRUT ASSEMBLY USING PIN P/N 46460-1, AND TORQUE IN ACCORDANCE AMM REQUIREMENTS.
16. COMPLETE OPERATIONAL AND/OR FUCNTIONAL CHECKS OF LANDING GEAR SYSTEM AS REQUIRED IN STEP 13 TO RETURN THE AIRCRAFT TO SERVICE.

SECTION A - APPLICABLE TO EXISTING ACTUATORS ASSEMBLED WITHOUT MASTINOX.

1. DISASSEMBLE AS REQUIRED TO REMOVE ROD END P/N P3A2750 FROM ACTUATOR ASSEMBLY PER CMM REQUIREMENTS.
2. INSPECT - ENSURE NO EVIDENCE OF CORROSION ON ACTUATOR PISTON THREADS OR ROD END THREADS.
3. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CIC MASTINOX 6865K.
4. RE-INSTALL ROD END ONTO ACTUATOR ASSEMBLY.
5. ADJUST ACTUATOR RETRACTED LENGTH USING TOOL CG 56806 REQUIREMENTS OR IN ACCORDANCE WITH CMM REQUIREMENTS.
6. TORQUE JAM NUT TO 660-980 IN-LBS AND SAFETY LOCKWIRE PER MS 33540.
7. COMPLETE PER UNIT CMM REQUIREMENTS (NOTE: FULL ACCEPTANCE TEST NOT REQUIRED).

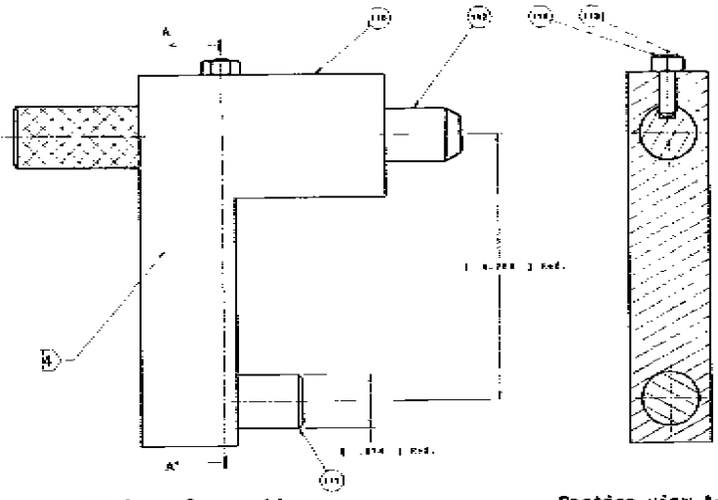


VIEW A

DISPOSITION AUTHORIZATION				
	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	S.HEALEY		9/12/2007	
STRESS				
OTHER (SPECIFY)				DATE:

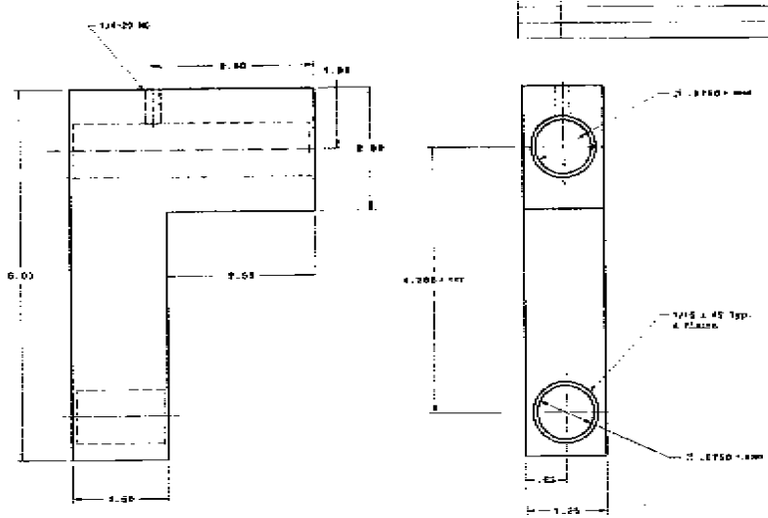
Revisions

Rev	Description	Drawn	Date

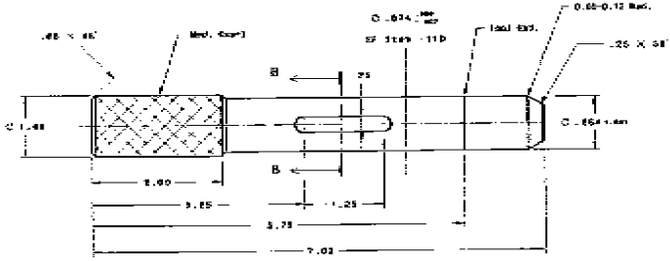


-101 General assembly

Section view A-A

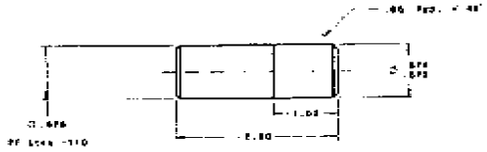


-110 Setting Tool Body



-112 Pin for rod end

Section view B-B



-111 Pin for actuator trunnion

1 Do not scale drawing.
2 For dimensions not shown refer to Catia Model in this file.
3 Unless specified use standard Bolt and Dowel construction.
4 Stamp on : Goodrich Tool Master: CG-56808
Part Number: 46660-2,5,7,8
5 final acceptance of Tool required after tool Proving.

Qty	Part Number	Type	Nomenclature	Revision
1	CG-56808 (-110 Setting Tool - Body)	Part	-110 SETTING TOOL - Body	1 1/4 x 1 1/2 - Aluminum Bar or Equi.
1	CG-56809 (-111 Pin for actuator trunnion)	Part	-111 Pin for actuator trunnion	Ø 1.0 x 2.5 - Steel
1	CG-56810 (-112 Pin for rod end)	Part	(-112) Pin for rod end	Ø 1.0 x 3.0 - Steel
1	CG-56811 (-113 Hexagon nut 1/4-28)	Part	-113 Hexagon nut 1/4-28	Hexagon nut 1/4-28
1	CG-56812 (-114 Hexagon Socket Flat Point Set Screw 1/4-28)	Part	-114 Hexagon Socket Flat Point Set Screw 1/4-28	Hexagon Socket Flat Point Set Screw 1/4-28

GOODRICH

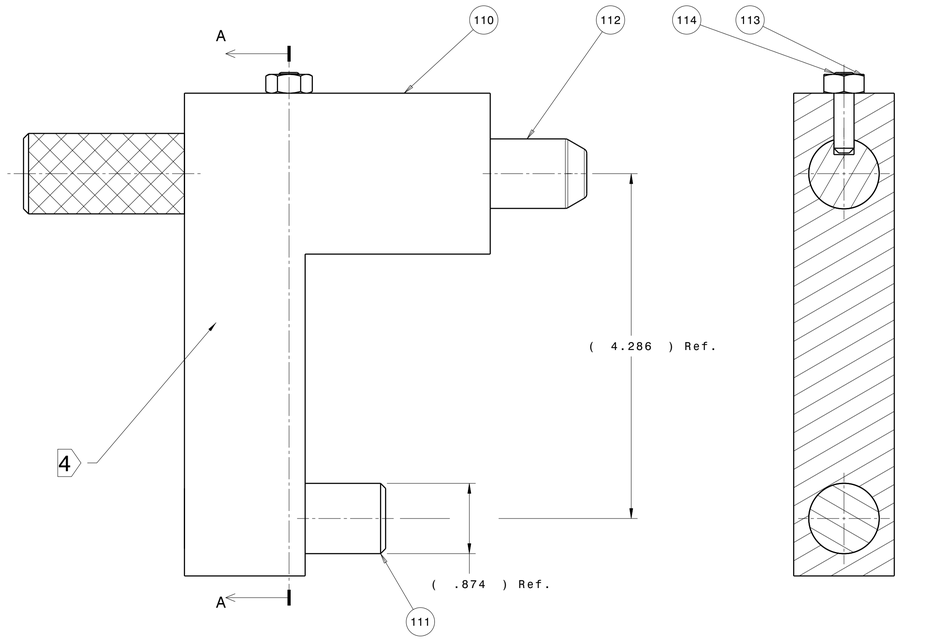
Setting Tool - Retract Actuator, MLG

02121 CG-56808

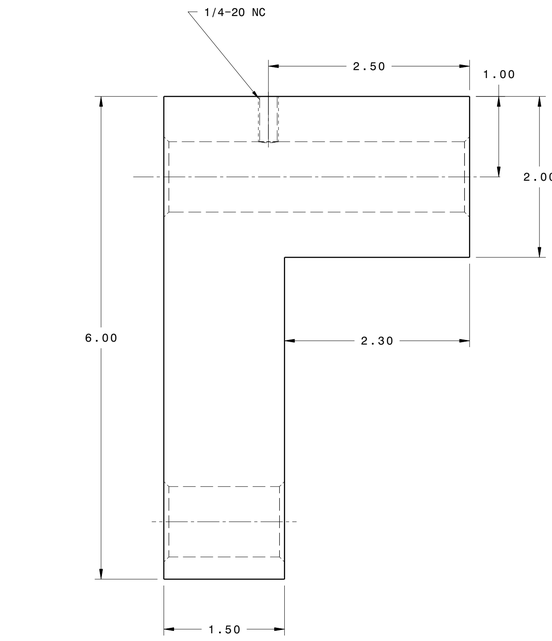
Bilag 10C

Revisions

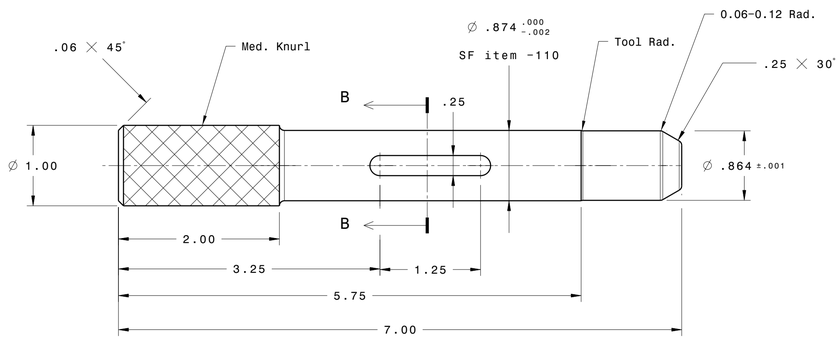
Rev	Description	Drawn	Date



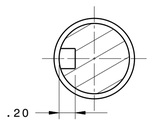
-101 General assembly



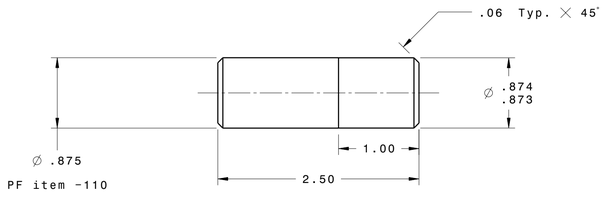
-110 Setting Tool Body



-112 Pin for rod end



Section view B-B



-111 Pin for actuator trunnion

1 Do not scale drawing.
2 For Dimensions not shown refer to Catia Model in this file.
3 Unless specified use standard Bolt and Dowel construction.
4 Stamp on : Goodrich Tool Number: CG-56806
Part Number: 46550-3,5,7,9
5 Final acceptance of Tool required after Tool Proving.

Bill of Material: CG-56806 (-101 General assembly)

Quantity	Part Number	Type	Nomenclature	Revision
1	CG-56806 (-110 Setting tool - body)	Part	-110 Setting tool - body	1 1/4 x 4 x 6 - Aluminum 6061 or Equil.
1	CG-56806 (-111 Pin for actuator trunnion)	Part	-111 Pin for actuator trunnion	Ø 1.0 x 2.5 - Steel
1	CG-56806 (-112 Pin for rod end)	Part	(-112 Pin for rod end)	Ø 1.0 x 7.0 - Steel
1	CG-56806 (-113 Hexagon nut 1-4-20)	Part	-113 Hexagon nut 1/4-20	Hexagon nut 1/4-20
1	CG-56806 (-114 Hexagon Socket Flat Point Set Screw 1-4-20)	Part	-114 Hexagon Socket Flat Point Set Screw 1-4-20	Hexagon Socket Flat Point Set Screw 1-4-20

DIMENSIONING & TOLERANCING PER ANSI Y14.5M-

UNLESS OTHERWISE SPECIFIED
DECIMALS .XX ± .030
DECIMALS .XXX ± .010
BREAK SHARP EDGES .005 - .010
SURFACE TEXTURE 125 PER ANSI B46.1-1985
ANGLES ± 0°30' ✓ CHAMFERS: ± 5°
(APPLIES TO UNDIMENSIONED RIGHT (90°) ANGLES AND ANY OTHER UNTOLERANCED ANGLES)
DIMENSIONS TO BE MET BEFORE PLATING
MACHINED DIAMETERS TO BE CONCENTRIC WITHIN .010 TIR
MACHINED SURFACES TO BE STRAIGHT, FLAT, PERPENDICULAR OR PARALLEL WITHIN .010 IN 10.000 INCHES, NOT TO EXCEED .050 TOTAL

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

Aircraft	Dash 8 - 400
Project #	130
Drawn	A.M.
Date	September 12, 2007

GOODRICH Landing Gear
Goodrich Corporation

DRAWING TITLE
Setting Tool - Retract Actuator, MLG

SIZE	CAGE CODE	DRAWING NO.	REV
	02121	CG-56806	

SCALE: None | WT CALC | SHEET 1 OF 1

Bilag 11

OPS-utvalget

De skandinaviska luftfartsmyndigheternas samarbetsorgan för flygsäkerhetsfrågor

STK DET SKANDINAVISKE TILSYNSKONTOR
DENMARK NORWAY SWEDEN

2007-09-13

STK 2007-0280-1

Accountable manager
John Dueholm
Scandinavian Airlines System
Denmark-Norway-Sweden
STODA

Kopia:
STOOM
STOOG
STOOF
STODO-X
STODG

Tilladelse til færgeflyvning af luftfartøjer af typen Bombardier DHC8-Q400.

Med henvisning til OPS-udvalgets brev af 12. september 2007, som midlertidigt inddrager luftdygtighedsbeviset på en række angivne luftfartøjsindivider af ovennævnte type, meddeles herved tilladelse til færgeflyvning af luftfartøjerne i relevant omfang, med begrundelse som anført i, samt i overensstemmelse med retningslinierne fastsat i EASA Emergency Airworthiness Directive AD No:2007-0252-E dateret 13. september 2007.

Tilladelsen omfatter i relevant omfang følgende luftfartøjsindivider:
LN-RDA, LN-RDB, LN-RDC, LN-RDD, LN-RDE, LN-RDF, LN-RDG, LN-RDH, LN-RDI, LN-RDJ, LN-RDL, LN-RDM, LN-RDO, LN-RDP, LN-RDQ, LN-RDR, LN-RDT, OY-KCD, OY-KCE, OY-KCF og OY-KCG.

På vegne af luftfartsmyndighederne i Danmark, Norge och Sverige.

K. Lykstoft Larsen

Kurt Lykstoft Larsen

STK - Det Skandinaviske Tilsynskontor
Luftfartsstyrelsen
SE-601 73 NORRKÖPING
Visiting address: Bergkällavägen 32
SOLLENTUNA, Sweden

Phone
+ 46 (0)11 41 52100

E-mail: stk@luftfartsstyrelsen.se
SITA CODE BMAZVSK

Facsimile
+ 46 (0)11 41 52490

Bilag 12

Foreløbig status for undersøgelser af havari med LN-RDK d. 9. september 2007

Flyvningens historie

Havariet vedrørte et luftfartøj i rutefart fra Københavns Lufthavn Kastrup til Aalborg Lufthavn.

Flyvningen fra København til anflyvningen af Aalborg var normal.

Under anflyvningen til Aalborg blev betjeningshåndtaget for landingsstellet aktiveret. Efter udløbet af sekvensen for sænkning af landingsstellet viste cockpitindikatorerne for landingsstel to grønne og et rødt lys. De to grønne lys viste, at venstre landingsstel og næsestel var sænket og låst. Det røde lys viste, at det højre landingsstel ikke var låst.

Landingen blev afbrudt.

En alternativ procedure for sænkning af landingsstellet blev foretaget. Også derefter viste cockpitindikatorerne, at højre landingsstel ikke var låst.

En visuel inspektion af landingsstel blev foretaget.

Besætningen forberedte dernæst luftfartøjet og passagerne på en nødlanding.

Luftfartøjet blev landet først på venstre landingsstel og umiddelbart efter på højre landingsstel, som kollapsede.

Luftfartøjet skred ud mod højre og kom til standsning i sikkerhedszonen ved siden af landingsbanen, hvilende på den nederste del af flykroppen og vingetippen.

Luftfartøjet blev væsentligt skadet, og nogle passagerer fik mindre skader

Havariet indtraf i dagslys under visuelle meteorologiske betingelser (VMC).

Havarikommissionen for Civil Luftfart og Jernbane
Langebjergvænget 21
DK-4000 Roskilde

CVR:

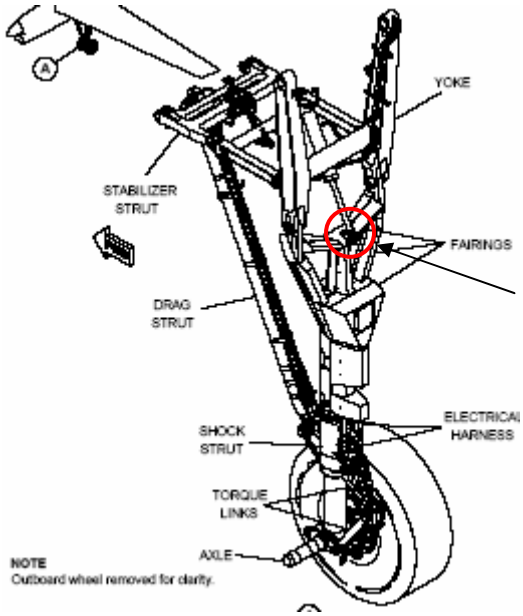
Telefon +45 38 71 10 66
Telefax +45 33 38 14 22

te@havarikommissionen.dk
uheld@havarikommissionen.dk
www.havarikommissionen.dk

Tekniske undersøgelser

De tekniske undersøgelser har været koncentreret om det højre landingsstel. En skitsefigur heraf er vist nedenfor.

Under undersøgelserne blev det afdækket, at landingsstelsaktuatorens øjebolt var separeret fra aktuatorens stempel.



Main landing gear retraction/extension actuator øjebolt

Landingsstellets aktuator, øjebolt og afstivningsstabilisator blev demonteret fra luftfartøjet for videre undersøgelse på et laboratorium.

En undersøgelse af aktuatorstemplets indre gevind blotlagde tilstedeværelsen af korrosion, som har svækket materialet og ledte til separationen af øjebolten fra aktuatorstemplet. Denne separation var hovedfaktoren ledende til understellets kollaps.

Myndighederne er blevet informeret om situationen og har udsendt et luftdygtighedsdirektiv, der kræver umiddelbart handling fra operatørerne.

Videre forløb

Havarikommissionen mener gennem de foreløbige undersøgelser at have fastslået årsagen til det indtrufne havari. Havarikommissionens undersøgelser fortsætter med henblik på at afdække yderligere faktorer i forbindelse med havariet.

Bilag 12A

Reg. No K06-07

LIETUVOS RESPUBLIKOS SUSISIEKIMO MINISTERIJOS
ORLAIVIŲ AVARIJŲ BEI INCIDENTŲ TYRIMŲ VADOVAS
MINISTRY OF TRANSPORT AND COMMUNICATIONS
OF THE REPUBLIC OF LITHUANIA
CHIEF INVESTIGATOR OF AIRCRAFT ACCIDENT AND INCIDENT

PRELIMINARY ACCIDENT REPORT

Aircraft	DHC-8-402
Manufacturer	Bombardier Aerospace Inc.
State of Registry	Norway
Registration	LN-RDS Göte Viking
Operator	SAS
Date/Time	11 September 2007, 22.35 UTC
Position of occurrence	Vilnius Airport, Lithuania
Persons on board	52
Injuries	Nil
Damage	Substantial

The accident investigation commission appointed by the Chief Investigator of Aircraft Accident and Incident is presently conducting an investigation into an accident concerning aircraft DHC-8-402 LN-RDS. The Chief Investigator acts as the Investigator in Charge. The information presented in this report is preliminary.

History of flight

The aircraft was operating a scheduled passenger flight No SK2748 from Copenhagen Airport Kastrup (EKCH) to Palanga Airport (EYPA) in Lithuania. The flight from EKCH till the approach to EYPA was normal. At the altitude of 2000 FT the landing gear was selected Down. When the gear extension was completed, the indication of the status of the landing gear on the Landing Gear Control Panel, according to the crew witness, showed abnormal situation: Red Right Main Gear (RMLG) Light On, indicating RMLG not down and locked and Amber Right Main Gear Door (RMLGD) Light ON, indicating RMLGD not closed. A go around was initiated and Landing Gear selected Up. After Landing Gear Up selection Amber RMLGD light and Red RMLG Light were remaining ON. The crew made a decision to fly to Vilnius (EYVI). During this time passengers were briefed about the situation and reseated away from the propellers. Prior to land at Vilnius Airport, landing gear alternate extension was performed, but unsafe position of RMLG was still indicated. On final approach to Vilnius, the right engine was feathered. Landing was performed on the left side of the runway. Shortly after touchdown the RMLG collapsed. The left engine was shut down. The aircraft rolled off the runway and came to a stand about 40 m to the right at 1150 m distance from the threshold. The aircraft was substantially damaged, no injuries were reported.

Findings

The examination of the Right Main Landing Gear showed separation of the retraction actuator rod end from its piston rod and two broken hinge lugs of the forward stabilizer brace assembly (see Appendix, Figure 1, Figure 2).
The examination of the piston rod and rod end in the laboratory indicated that the threaded connection between retraction actuator piston rod and rod end had suffered corrosion. Deterioration of the threads resulted in separation of the connection.
The examination of the fracture surfaces of the broken forward stabilizer hinge lugs revealed that the fractures were fresh, without any sign of previous cracks. It seems that the disintegration of the stabilizer was secondary damage caused by the separation of the actuator rod.

Recommendations

Transport Canada, the regulatory authority of the state of manufacturer, has issued an emergency Airworthiness Directive for all DHC-8-400 operators concerning further operation of this type of aircraft.

The investigation is ongoing.

Appendix

Figure 1: View of separated rod end.

Figure 2: View of broken stabilizer brace assembly.

Bilag 13

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TEL 416-375-4000

Bombardier Q400

All Operator Message No. 238

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 12 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: Transport Canada Airworthiness Directive CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 237 In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

Transport Canada has recently issued Airworthiness Directive (AD) No. CF-2007-20. A copy of the AD follows, and is provided to all Bombardier Q400 Operators, as advisory information only.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Michel Babin, Manager, In-Service Engineering Systems and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to ***Canadian Aviation Regulation*** **(CAR) 593**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

URGENT URGENT URGENT URGENT URGENT URGENT URGENT URGENT URGENT

TRANSPORT CANADA EMERGENCY AIRWORTHINESS DIRECTIVE
PLEASE FORWARD IMMEDIATELY TO THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF YOUR AIRCRAFT

Number: **CF--2007-20**

Subject: **DHC-8-400 Main Landing Gear**

Effective: Immediately upon received.

Applicability: Bombardier Inc. DHC-8 aircraft, Models 400, 401 and 402, serial numbers 003 and subsequent.

Compliance: As indicated below.

Background: Two recent cases of main landing gear collapse have been reported. Main landing gear collapse may result in unsafe landing of the aircraft.

Corrective Actions:

A. General Visual Inspection of the Main Landing Gear System:

For all aircraft, before further flight, perform a general visual inspection of the left hand and right hand main landing gear system in accordance with Bombardier DHC-8 Series 400 Maintenance Requirements Manual (PSM 1-84-7), Part 1 (Maintenance Review Board Report), tasks Z700-03E (left hand) and Z700-04E (right hand). Rectify any discrepancy found prior to further flight.

B. General Visual Inspection of the Main Landing Gear Retract Actuator Jam Nut:

For all aircraft, before further flight, perform a general visual inspection of the left hand and right hand main landing gear retract actuator jam nut to ensure the wire lock is in place and the nut is secured. If the wire lock is not in place or the jam nut is not secured, accomplish Bombardier Repair Drawing (RD) 8/4-32-059 prior to further flight.

C. Detailed Visual Inspection of the Main Landing Gear Retract Actuator:

1. For aircraft main landing gear retract actuator (p/n 46550-7 or 46550-9) that have accumulated 8,000 or more landings or in service for more than 4 years since new, whichever occurs first, perform detailed visual inspection in

accordance with Bombardier RD 8/4-32-059 before further flight.

2. For aircraft main landing gear retract actuator (p/n 46550-7 or 46550-9) that have accumulated between 4,000 to 7,999 landings or in service between 2 to 4 years since new, whichever occurs first, perform detailed visual inspection in accordance with RD 8/4-32-059 within 500 flight hours after the effective date of this directive.

D. Reporting Requirement:

Within 7 days after each inspection, report any discrepancies found during any of the above inspections to Bombardier Technical Help Desk.

E. Ferry Flight:

To permit the ferry of an aircraft to a location where the inspection requirements of this directive can be accomplished, adhere to the following procedures and limitations:

Flight Crew Limitations and Procedures:

1. Ferry Flight with gear extended and pinned.
2. Landing to be conducted at a minimum descent rate.
3. Minimize braking on landing.
4. Flight to be conducted per Aircraft Operating Manual (AOM) Section 4.8.
5. Essential crew only on board.
6. Flight in known or forecast icing condition is prohibited.

Maintenance Procedures:

1. Inspect the left hand and right hand main landing gear retract actuator jam nut to ensure the wire lock is in place and the nut is secure.
2. Perform the general visual inspections as defined in accordance with Bombardier All Operators Message No. 236 Rev A or later revisions.
3. If items 1 and 2 results are satisfactory, insert main landing gear ground lock pins and lockwire in place.
4. Ensure the nose landing gear ground lock is engaged.

Authorization: For Minister of Transport, Infrastructure and Communities

B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Anthony Wan, Continuing Airworthiness, Ottawa, telephone 613-952-4410, facsimile 613-996-9178 or e-mail wana@tc.gc.ca or any Transport Canada Centre.

Bilag 14

BOMBARDIER

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Bombardier Q400

All Operator Message No. 239

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 12 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-059 Revision 1 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 237, In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing
/D/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-059 Issue 1 required for initial compliance to Transport Canada Airworthiness Directive (AD) No. CF-2007-20.

Issue 1 of the RD provides inspection and return to service instructions for actuator piston rods with no damage or corrosion. Issue 2 of the RD will contain corrosion, damage limits and

applicable repair procedures. Issue 2, is expected to be released on Thursday, 13 Sep 2007 (GMT -5) after it has received Transport Canada approval.

Tooling is required for the replacement of the rod end of the actuator. Tooling is expected to be available by close of normal business, Thursday, 13 Sep 2007 (GMT -5). Operators are requested to send No Charge Purchase Orders to Goodrich for tooling, as detailed below.

Goodrich Tool Number P/N CG-56806
Goodrich Contact:
David Jacobsen: Email:david.jacobsen@goodrich.com
Phone: 905-825-1515 x 3408
Fax: 905-825-1582

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 15

BOMBARDIER

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TEL416-375-4000

Bombardier Q400

All Operator Message No. 240

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 13 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-059 Revision 2 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 237, In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing
/D/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/E/ AOM 239 RD 8/4-32-059 Revision 1 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-059 Issue 2 required for compliance to Transport Canada Airworthiness Directive (AD) No. CF-2007-20.

Issue 2 of RD 8/4-32-059 contains damage limits and a repair procedure for the Main Landing Gear retraction actuator piston that has been approved by Transport Canada. Issue 2 has been attached. Salvage drawing S2116 will be released shortly.

Operators having complied with Issue 1 of RD 8/4-32-059 with no findings are not required to repeat the inspections specified in Issue 2.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.gseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 16

BOMBARDIER

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TEL416-375-4000

Bombardier Q400

All Operator Message No. 241A

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 14 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-059 Revision 3 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 237, In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing
/D/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/E/ AOM 239 RD 8/4-32-059 Revision 1 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/E/ AOM 240 RD 8/4-32-059 Revision 2 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-059 Issue 3 required for compliance to Transport Canada Airworthiness Directive (AD) No. CF-2007-20.

Issue 3 of RD 8/4-32-059 contains a temporary repair procedure for the Main Landing Gear retraction actuator piston utilizing a dowel pin solution. Issue 3 has been attached.

Purchase orders for the pins are to be submitted to Goodrich Landing Gear.

Operators having complied with Issue 1 of RD 8/4-32-059 with no findings are not required to repeat the inspections specified in Issue 2 or Issue 3.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Rev A: Added clarification for Operators having complied with Issue 1 of RD.

Bilag 17

BOMBARDIER

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TEL : 416-375-4000

Bombardier Q400

All Operator Message No. 242B

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 19 Sep 2007

ATA: 3210 MODEL: Q400

SUBJECT: Purchasing information for AD CF-2007-20 related spare parts

REFERENCE: /A/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/B/ AOM 241A, RD 8/4-32-059 Revision 3 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Aerospace Regional Aircraft Q400 Operators and Bombardier Aerospace Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and purchasing departments.

DISCUSSION:

This AOM is being issued to advise Operators where to procure parts associated with Transport Canada Airworthiness Directive (AD) No CF-2007-20, and Repair Drawing (RD) 8/4 32-059.

The following parts are to be procured through Bombardier Aerospace AOG:

Description	Part Number(s)
Assembly, Rod End	P3A2750
Retraction Actuator Assembly MLG	46550-9
Piston (PRFD)	46570-3
Scraper	R2301-220S041
Seal, Dynamic Rod	7220FT-954-P4
Seal, Static Piston Head	7145MT-954-P4

Description	Part Number(s)
Nut Gland	46572-5
Nut, Jam	NAS509-14
Seal, Dynamic, Piston Head	7332MT-954-P4
Nut, Jam	NAS1423-14
Nut, Jam	46563-3
Ring, Damper	46571-3
Locking Device	NAS1193K14CP (for aircraft post SB 84-32-35)

Please forward your Purchase Orders to:
Bombardier AOG
Fax: (416) 375 3231
Tel: (416) 375 3910
E-mail: aog@aero.bombardier.com

The following parts are to be procured through Goodrich Landing Gear:

Description	Part Number(s)	
Pin	S2117-101	
Helicoil	MS124704	
Tap	STI7814H3P	(Goodrich approved alternate PN 8193-14)
Insertion Tool	HIT7814	(Goodrich approved alternate PN 535-14)
Inspection Tool	CG-56806	

Please forward your Purchase Orders to:
David Jacobsen
Fax: (905) 825 1583
Tel: (905) 825 1515 x 3408
E- Email: david.jacobsen@goodrich.com

Please direct responses and inquiries to Bombardier Aerospace Regional Aircraft Field Service Representative or the Spares AOG Desk in Toronto at telephone (416) 375-3910 or facsimile (416) 375-3231 or e-mail: aog@aero.bombardier.com

Bill Molloy, Director, Customer Services, and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Aerospace Regional Aircraft.

Rev A - PN typos and description of PN's corrected to reflect CMM nomenclature description
Rev B – Added Goodrich approved alternate part numbers for tap and insertion tool

Bilag 18

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION **1**	4 SHEET **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. ~~NC~~ A (2).

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~NC~~ A (2) and inspecting affected parts for any signs of corrosion or wear.

No corrosion or wear damage is allowed, EXCEPT AS PERMITTED IN SCR 086-07 REV. A (2).

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~NC~~ A (2).

The details of this procedure are covered by **RD 8/4-32-059** section 1.

Sheet 1 Issue 2
Sheet 2 Issue 2

AT ISS. 2: SCR REF. CHANGED TO REV. A, WAS REV. NC

10 ISSUE	1	2			
11 DATE	12-Sep-07	13-SEP-07			
12 PREPARED BY	A. Vinitsky	A. VINITSKY			
13 STRESS	N/A				
16 DESIGN AUTHORITY	M. SABIN	M. SABIN			
14	N/A				
15	N/A				
17 DAO AUTHORITY	14 Sept 2007				

18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 99-01-02

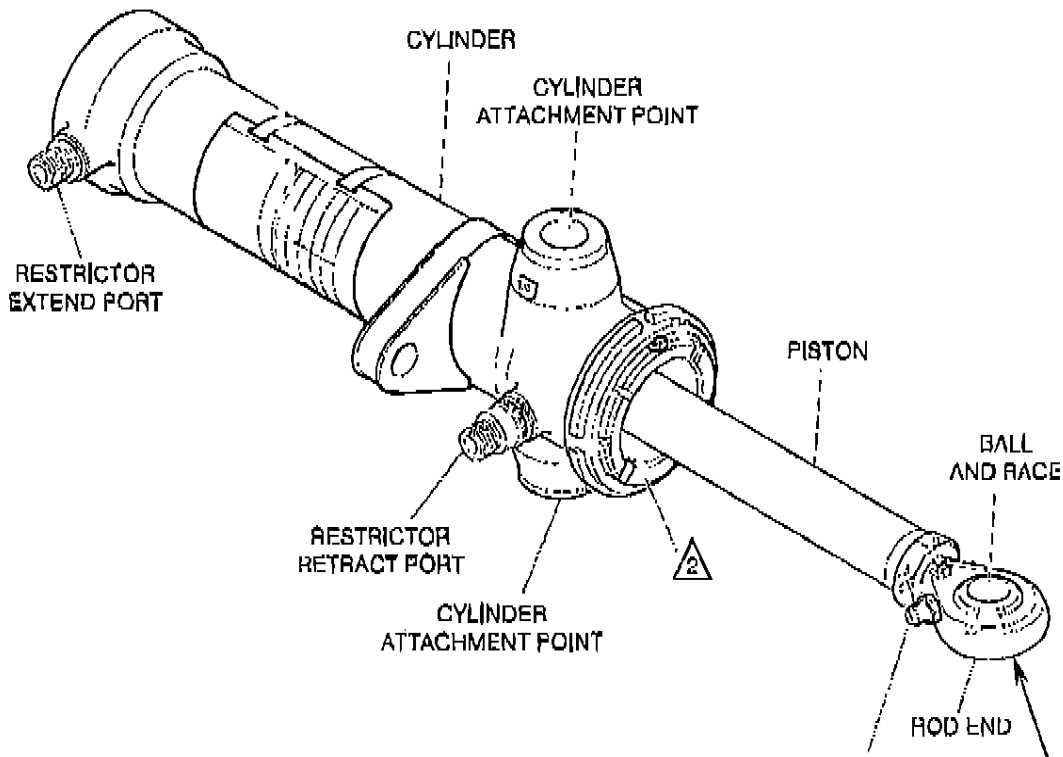
[ ] DA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

BOMBARDIER

REPAIR DRAWING (RD)

10 ISSUE					2 RD NUMBER	3 SECTION	4 SHEET
	1	2			8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~NC~~ A.

Inspect affected parts for any signs of corrosion or wear.

(2) No corrosion or wear damage is allowed, EXCEPT AS NOTED IN SCR 086-07 REV. A.
Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~NC~~ A.

Bilag 19

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION: **1**	4 SHEET: **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. ~~NC~~ ~~A~~ (2) (3) B

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~NC~~ ~~A~~ (3) B (2) and inspecting affected parts for any signs of corrosion or wear.

No corrosion or wear damage is allowed, EXCEPT AS PERMITTED IN SCR 086-07 REV. B (2) (3)

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~NC~~ ~~A~~ (2) B (3)

The details of this procedure are covered by **RD 8/4-32-059 section 1.**

Sheet 1 Issue ~~1~~ 2 3
Sheet 2 Issue ~~1~~ 2 3

AT ISS. 2: SCR REF CHANGED TO REV. A, WAS REV. NC

10 ISSUE	1	2	3		
11 DATE	12-Sep-07	13-SEP-07	13-SEP-07		
12 PREPARED BY	A. Vinitsky	A. VINITSKY	A. TURK		
13 STRESS	N/A				
16 DESIGN AUTHORITY	M. BABIN	M. BABIN	M. BABIN		
14	N/A				
15	N/A				
17 DAO AUTHORITY	14 Sept 2007	#289 #924	SEPT 14/07 #959		

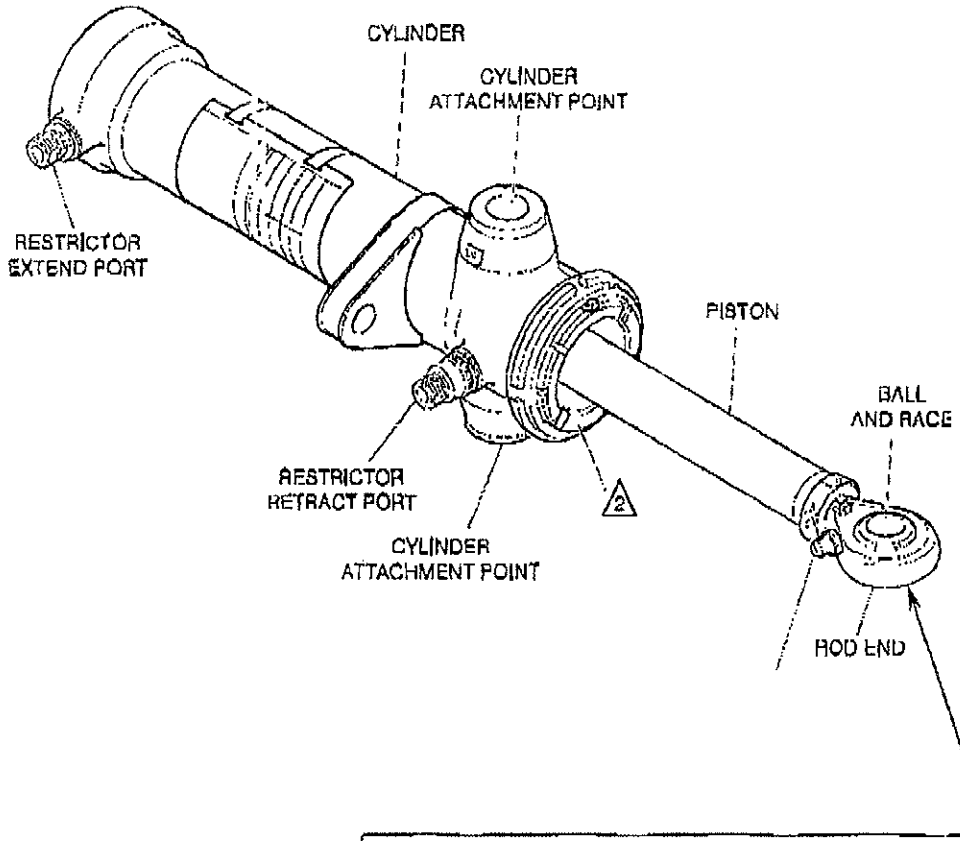
18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 95-11-02 [ ] BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

BOMBARDIER

REPAIR DRAWING (RD)

10 ISSUE	1	2	3		2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~BC A~~ B

Inspect affected parts for any signs of corrosion or wear.

(2) No corrosion or wear damage is allowed, EXCEPT AS NOTED IN SCR 086-07 REV. ~~A~~ B

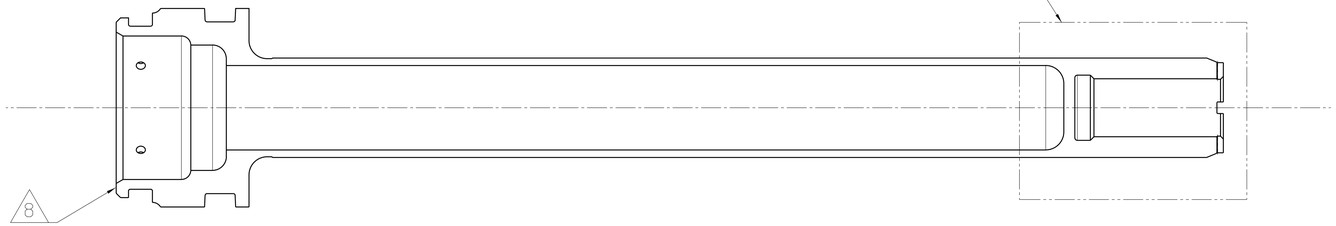
(3) Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~BC A~~ B

Bilag 20

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
NC	INITIAL RELEASE.	SEE GLG PDM	

1. MACHINE DISCREPANT THREAD AND OPEN BORE TO REMOVE ALL DAMAGE, CORROSION ETC, AS SHOWN ON FIGURE 1. DO NOT EXCEED MAX REWORK SPAN AS SHOWN.
2. INSPECT REWORK DIAMETER TO ENSURE ALL DAMAGE AND CORROSION ARE REMOVED.
3. MACHINE THREAD AS SHOWN ON FIGURE 2, PER NASM33537, FOR STANDARD HELICOIL INSERT .875-14UNJF-3B, P/N MS124704 PER NASM124704.
4. DEBURR AND BREAK ALL SHARP EDGES AT REWORKED AREA.
5. MAGNETIC PARTICLE INSPECT REWORKED AREA PER ASTM E1444. DEFECTS NOT TO EXCEED MIL-STD-1907 GRADE "A" LIMITS.
6. PRIOR TO ASSEMBLY, LIBERALLY APPLY CIC MASTINOX 685bK OR CORBAN 27L ALL OVER THREADS/MATING SURFACES. INSTALL HELICAL COIL INSERT .875-14UNJF-3B P/N MS124704 AS SHOWN ON FIGURE 3. INSTALL PER NASM33537. ENSURE TANG IS REMOVED AFTER INSTALLATION.
7. COMPLETE RETRACT ACTUATOR ASSY PER CMM 32-31-0b REQUIREMENTS. PRIOR TO ASSY, APPLY CIC MASTINOX 685bK OR CORBAN 27L TO MATING THREADS OF HELICAL COIL INSERT AND PISTON ROD END. WIPE OFF ANY EXCESS AFTER ASSEMBLY.
8. RUBBER STAMP "S2116" ON PISTON END FACE AS SHOWN.

SEE FIGURES 1, 2 AND 3 FOR BORE RREPARATION AND HELICAL COIL INSTALLATION



(REFERENCE DRAWING 46570 SECTION A-A)

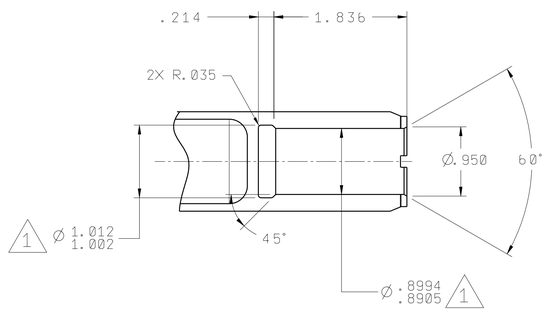


FIGURE 1

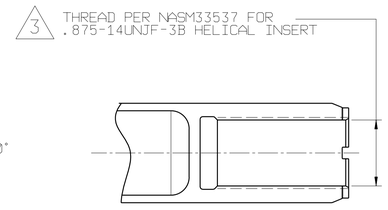


FIGURE 2

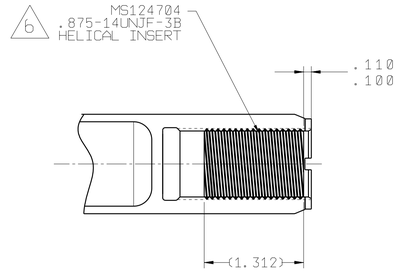


FIGURE 3

SALVAGE FOR 46570 PISTON.

DESIGNED AND ENGINEERED BY GOODRICH AEROSPACE CANADA LTD., OAKVILLE, ONTARIO

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DECIMALS: .XX ±.030 .XXX ±.010
ANGLES: ± 0°30'
DIM & TOL PER ASME Y14.5-1994
THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING
CONTACT(S):

SEE GOODRICH LANDING GEAR PDM SYSTEM FOR SIGNATURE AUTHORITY AND RELEASE STATUS.
THIS COPY IS UNCONTROLLED UNLESS RELEASE STATUS AND DATE ARE STAMPED BY PDM SYSTEM.

GOODRICH Landing Gear
Goodrich Corporation

DRAWING TITLE
PISTON, RETRACT ACTUATOR ASSEMBLY, MLG

SIZE	CAGE CODE	DRAWING NO	REV
D	02121	S2116	NC

SCALE NONE | WT CALC | SHEET 1 OF 1

DWG NO S2116 SH 1 REV NC

Bilag 21

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
NC	INITIAL RELEASE.	SEE GLG PIM	

1. PRIOR TO INSTALLATION OF ROD END, APPLY CORROSION INHIBITING COMPOUND (CIC) MASTINOX 6856K OR CORBAN 27L TO PISTON THREAD/THREAD RELIEF AND ROD END.
2. RE-INSTALL ROD END ONTO PISTON (REF: CMM 32-31-06).
3. MASK AS REQUIRED.
4. LAYOUT LOCATION OF HOLE (TOP AND BOTTOM).
5. MASK .450" DIAMETER AREA AROUND CENTER OF ENTRY AND EXIT (TOP & BOTTOM) LOCATION AS SHOWN ON DRAWING.
6. USING SOFT BACKED ABRASIVES, REMOVE CHROME PLATING WITHIN MASKED AREA. USE LOW SPEED TO ENSURE NO BURNING OF SUBSTRATE. REPEAT ON BOTTOM SIDE.
7. CENTER DRILL AND OPEN HOLE, REAM TO SIZE PER DRAWING DIMENSIONS. ENSURE NO BURNING OF SUBSTRATE.
8. DEBURR EDGES.
9. INSPECT.
10. FLUORESCENT PENETRANT INSPECT REWORKED AREAS PER CMM 32-31-06.

△11 PRIOR TO INSTALLATION OF PIN, APPLY CIC TO HOLE.

△12 INSTALL DOWEL PIN BY SHRINK FIT METHOD USING LIQUID NITROGEN. ENSURE BOTH ENDS OF DOWEL ARE .000" - .008" BELOW CHROME SURFACE OF PISTON.

△13 POINT STAKE PISTON TO RETAIN DOWEL PIN AT 4 EQUIL-SPACED LOCATIONS BOTH ENDS.

14. INSPECT SURFACE OF PISTON TO VERIFY DOWEL DOES NOT PROTRUDE PAST CHROME SURFACE.

△15 APPLY EC2216 (3M) OR HYSOL EA934 DYNAMOLD DMS-4-828 OR EQUIVALENT. BUFF TO ENSURE ADHESIVE CONFORMS TO PISTON PROFILE.

16 RUBBER STAMP S2117 ON CYLINDER.

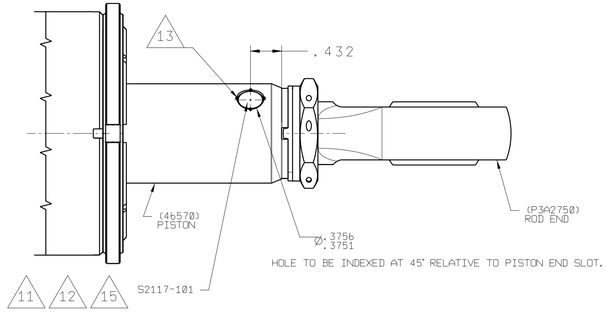


FIGURE 1

(REFERENCE DRAWING 46550 ZN F5)

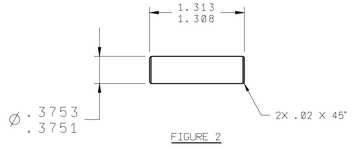


FIGURE 2

-101 DOWEL PIN MAKE FROM 300M PER AMS6419 OR 6417 HEAT TREATED TO 280-305 KSI PER AMS2759/2 HRC 52-56.

- MANUFACTURE PIN PER FIGURE 2.
- NITAL ETCH AS PER CMM.
- STRESS RELIEF PIN AT 525° ± 25°F FOR 4 HOURS.
- MAGNETIC PARTICLE INSPECT PIN PER CMM.

FOR 46550 RETRACT ACTUATOR ASSEMBLY

DWG NO S2117 SH 1 REV NC

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DECIMALS: .XX ±.030 .XXX ±.010
ANGLES: ± 0°30'
DIM & TOL PER ASME Y14.5-1994
THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING
CONTACT(S):

SEE GOODRICH LANDING GEAR PDM SYSTEM FOR SIGNATURE AUTHORITY AND RELEASE STATUS.
THIS COPY IS UNCONTROLLED UNLESS RELEASE STATUS AND DATE ARE STAMPED BY PDM SYSTEM.

GOODRICH Landing Gear
Goodrich Corporation

DRAWING TITLE
REWORK FOR RETRACT ACTUATOR ASSEMBLY, MLG

SIZE	CAGE CODE	DRAWING NO	REV
D	02121	S2117	NC

SCALE NONE | WT CALC | SHEET 1 OF 1

Bilag 22

PRINT DATE 09/13/07 TIME 9:37 PM

GOODRICH

SERVICE CONCESSION REQUEST

SCR NUMBER	REV	PROG
SCR 086-07	A	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

INDICATE IF

A.O.G. ➤➤ ☒ ➤➤

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

LIMITED FLIGHT REQUESTED

YES ☒ **NO** ☐

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* 1000 OR 6 MONTHS

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☐
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☒
LIMITED SERVICE	☒
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☒
REPLACE PART	☒

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR RAISED BY: B WEBER

DATE RAISED: 2007/09/12

ITEM	PROBLEM DESCRIPTION
1	THERE HAVE BEEN 2 INSTANCES OF SEPARATION OF ROD END P/N P3A2750 AND PISTON P/N 46570-1/-3. INSPECTION OF THREAD CONDITION REQUIRED IN ACCORDANCE TO TRANSPORT CANADA AIRWORTHINESS DIRECTIVE (CF-2007-20).

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

➤➤ SEE SHEET 2 AND SUBS FOR MORE INFORMATION ➤➤

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS					INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			➤➤☒◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1	1. SHUT DOWN HYDRAULIC SYSTEM 2 2. WITH ACTUATOR INSTALLED ON AIRCRAFT, REMOVE LOCK WIRE AND BACK OFF JAM NUT AS REQUIRED TO DISENGAGE LOCKING FEATURE. 3. DISASSEMBLE AS REQUIRED, REMOVE ACTUATOR ROD END PIN (P/N 46160-1) FROM MAIN LANDING GEAR SHOCK STRUT ASSEMBLY 4. FULLY COMPRESS PISTON 5. SECURE PISTON, AND REMOVE ROD END FROM PISTON. 6. IF ROD END (P/N P3A2750) DOES NOT EASILY BACK OUT OF PISTON WITHOUT BINDING AND WITH THE USE OF A STRAP WRENCH, REMOVE RETRACT ACTUATOR P/N 46550-7/-9 FROM GEAR ASSEMBLY. - REPLACE WITH NEW OR REFURBISHED RETRACT ACTUATOR P/N 46550-7/-9 IN ACCORDANCE WITH BOMBARDIER AMM. REPLACEMENT ACTUATOR TO HAVE INCORPORATED CORROSION INHIBITING COMPOUND (CIC). - IF ACTUATOR DOES NOT HAVE CORROSION INHIBITING COMPOUND (CIC) WITHIN 500 FC OF INITIAL INSPECTION, INCORPORATED SEE **SECTION A** OF THIS SCR. 7. IF ROD END (P/N P3A2750) BACKS OUT OF PISTON WITHOUT BINDING, COMPLETELY REMOVE ROD END AND CONTINUE WITH OPERATIONS 8 THRU 16. 8. WIRE BRUSH WITH SOLVENT TO CLEAN THREADED AREAS OF PISTON AND ROD. 9. VISUALLY INSPECT ROD END (P/N P3A2750) FOR EVIDENCE OF CORROSION CONTAMINATION IN THREADS UNDER ADEQUATE LIGHTING CONDITIONS. - IF ANY EVIDENCE OF PITTING CORROSION IS FOUND ON ROD END THEN DISCARD THE ROD END.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEER	RAMAN MALIK		2007/09/13	
STRESS	A. NORTH		2007/09/13	
OTHER (SPECIFY)	M. PERRELLA		2007/09/13	DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			➤➤☒➤➤

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

10. VISUALLY INSPECT PISTON (P/N 46570-1/-3) THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF CORROSION AND/OR DAMAGE AND/OR PITTING (REF. FIGURE 1), USING A SMALL MIRROR UNDER ADEQUATE LIGHTING CONDITIONS. INSPECT WITH 10 X MAGNIFICATION MIRROR UNDER ADEQUATE LIGHTING CONDITIONS WITHIN **500 FC**
    - IF CORROSION IS FOUND IN THREADED AREA OF PISTON P/N 46570-1/-3 PERFORM REWORK IN ACCORDANCE WITH **SECTION B** OF THIS SCR
    - IF NO CORROSION IS FOUND CONTINUE WITH REMAINING OPERATIONS

11. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CORROSION INHIBITING COMPOUND MASTINOX 6856K OR CORBAN 27L WITHIN 500 FC OF INITIAL INSPECTION.

12. RE-INSTALL ROD END AND JAM NUT INTO PISTON ASSY

13. DISASSEMBLE AS REQUIRED TO REMOVE ACTUATOR FROM YOKE ASSEMBLY (NOTE: HYDRAULIC DISCONNECTION NOT REQUIRED).

14. USING TOOL NUMBER CG 56806, ADJUST ROD END RETRACTED LENGTH AS REQUIRED, TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540,
    - OPTIONAL PROCEDURE FOR RIGGING ACTUATOR LENGTH: RIG ACTUATOR TO NOMINAL RETRACTED LENGTH PER TOOL DRAWING (REF DIM 4.286 INCH) AND TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS33540.
    - NOTE: IF OPTIONAL PROCEDURE IS USED, GEAR SWINGS ARE REQUIRED (2 POWDERED CYCLES AND 1 ALTERNATE RELEASE TO VERIFY FUNCTIONAL CAPABILITY).

15. RE-INSTALL ACTUATOR ONTO YOKE ASSEMBLY.

16. EXTEND PISTON AND RE-ATTACH TO SHOCK STRUT ASSEMBLY USING PIN P/N 46160-1, AND TORQUE IN ACCORDANCE AMM REQUIREMENTS.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SECTION A – APPLICABLE TO EXISTING ACTUATORS ASSEMBLED WITHOUT CIC

1. DISASSEMBLE AS REQUIRED TO REMOVE ROD END P/N P3A2750 FROM ACTUATOR ASSEMBLY.
2. INSPECT - ENSURE NO EVIDENCE OF CORROSION ON ACTUATOR PISTON THREADS OR ROD END THREADS.
3. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CIC MASTINOX 6856K OR CORBAN 27L, AND RE-INSTALL ROD END ONTO ACTUATOR ASSEMBLY.
4. ADJUST ACTUATOR RETRACTED LENGTH USING TOOL CG 56806 REQUIREMENTS OR IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS. OPTIONAL PROCEDURE PER STEP 13, ABOVE, IS ALSO ACCEPTABLE
5. TORQUE JAM NUT TO 660-980 IN-LBS AND SAFETY LOCKWIRE PER MS 33540.

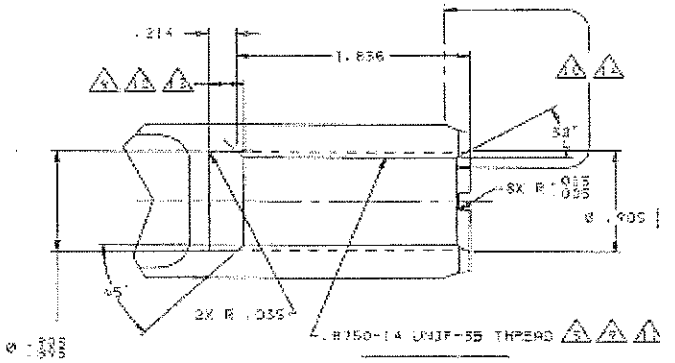


FIGURE 1

DISPOSITION AUTHORIZATION				
	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	RAMAN MALIK		2007/09/13	
STRESS	A. NORTH		2007/09/13	
OTHER (SPECIFY)	M. PERRELLA		2007/09/13	DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			➤➤☒◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SECTION B

1. MASK AS REQUIRED TO PROTECT ACTUATOR HOUSING, GLAND AREA, AND EXPOSED CHROME OF PISTON FROM F.O.D CONTAMINATION AND DAMAGE DURING THE FOLLOWING REWORK.
2. CHASE PISTON THREADS AND THREAD RELIEF AREA TO REMOVE CORROSION PRODUCTS TO THE GREATEST POSSIBLE EXTENT USING THREAD COMB AND/OR STAINLESS STEEL WIRE BRUSH.
3. INSPECT THE ENTIRE PROFILE OF THREADS OVER THE FULL SPAN OF THREADS (REF. 1.836 DIM, FIGURE 1) AND THE RELIEF GROOVE IN PISTON USING SMALL MIRROR (10X MAGNIFICATION) UNDER ADEQUATE LIGHTING CONDITIONS.
4. **ACCEPTANCE CRITIERIA**
   A) LIGHT SURFACE CORROSION (NO PITTING) OVER THE ENTIRE THREADED LENGTH WITH AT LEAST FIVE CONSECUTIVE FULL UNDAMAGED THREADS WITHIN THE ENGAGED THREAD LENGTH (REF FIGURE 2) IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. RETRACT ACTUATOR TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**.
   B) EVIDENCE OF MODERATE TO SEVERE PITTING CORROSION BEYOND CRITERIA STATED IN A). MUST BE REPAIRED PER SALVAGE DRAWING S2116 OR REPLACED.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

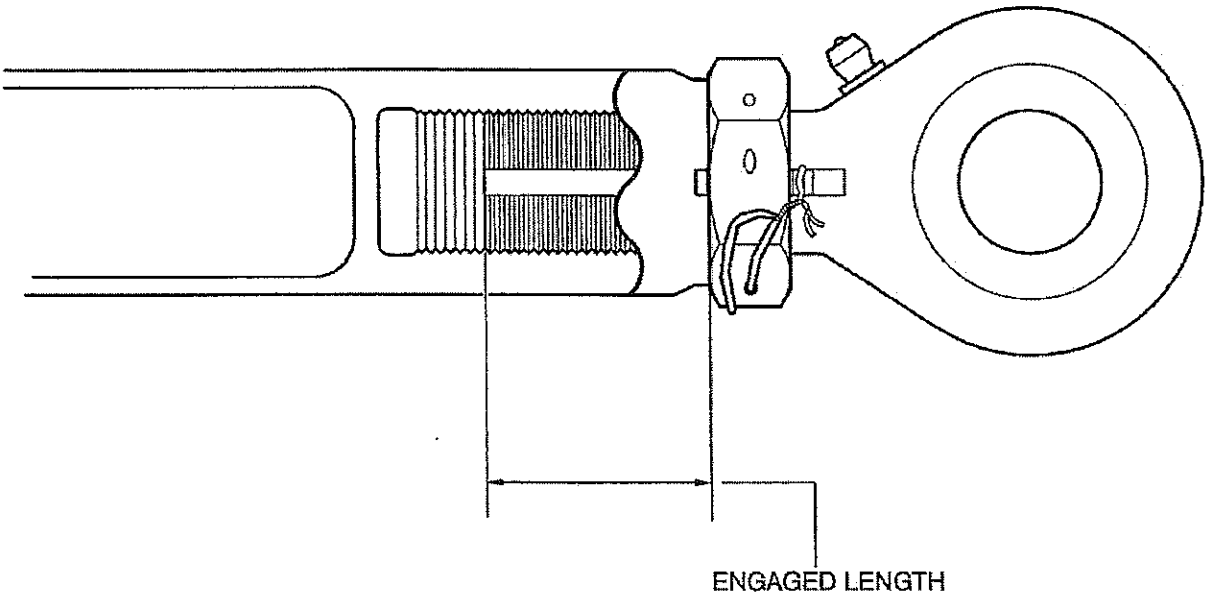


FIGURE 2

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	A	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SUGGESTED LIST OF CIC SUPPLIERS:

CORBAN 27L http://www.zipchem.com/locations.aspx

MASTINOX 6856K http://www.ppg.com/prc-desoto/main.asp?img=crt&contLvl=mansites

DEFINITIONS

SURFACE CORROSION : a uniform loss of metal due to corrosion

PITTING CORROSION : a localized attack which results in a depression or a pit

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

Bilag 23

PRINT DATE 09/14/07 TIME 12:13 AM

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

INDICATE IF A.O.G. ➤➤ ☒ ◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

LIMITED FLIGHT REQUESTED

YES ☒ **NO** ☐

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* 1000 OR 6 MONTHS

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☐
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☒
LIMITED SERVICE	☒
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☒
REPLACE PART	☒

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR RAISED BY: B WEBER

DATE RAISED: 2007/09/12

ITEM	PROBLEM DESCRIPTION
1	THERE HAVE BEEN 2 INSTANCES OF SEPARATION OF ROD END P/N P3A2750 AND PISTON P/N 46570-1/-3. INSPECTION OF THREAD CONDITION REQUIRED IN ACCORDANCE TO TRANSPORT CANADA AIRWORTHINESS DIRECTIVE (CF-2007-20).

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

➤➤ **SEE SHEET 2 AND SUBS FOR MORE INFORMATION** ◄◄

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

ITEM — CONTINUATION SHEET / INSTRUCTIONS

1

1. SHUT DOWN HYDRAULIC SYSTEM 2
2. WITH ACTUATOR INSTALLED ON AIRCRAFT, REMOVE LOCK WIRE AND BACK OFF JAM NUT AS REQUIRED TO DISENGAGE LOCKING FEATURE.
3. DISASSEMBLE AS REQUIRED, REMOVE ACTUATOR ROD END PIN (P/N 46160-1) FROM MAIN LANDING GEAR SHOCK STRUT ASSEMBLY
4. FULLY COMPRESS PISTON
5. SECURE PISTON, AND REMOVE ROD END FROM PISTON.
6. IF ROD END (P/N P3A2750) DOES NOT EASILY BACK OUT OF PISTON WITHOUT BINDING AND WITH THE USE OF A STRAP WRENCH, REMOVE RETRACT ACTUATOR P/N 46550-7/-9 FROM GEAR ASSEMBLY.
   - REPLACE WITH NEW OR REFURBISHED RETRACT ACTUATOR P/N 46550-7/-9 IN ACCORDANCE WITH BOMBARDIER AMM. REPLACEMENT ACTUATOR TO HAVE INCORPORATED CORROSION INHIBITING COMPOUND (CIC).
   - IF ACTUATOR DOES NOT HAVE CORROSION INHIBITING COMPOUND (CIC) WITHIN 500 FC OF INITIAL INSPECTION, INCORPORATED SEE **SECTION A** OF THIS SCR.
7. IF ROD END (P/N P3A2750) BACKS OUT OF PISTON WITHOUT BINDING, COMPLETELY REMOVE ROD END AND CONTINUE WITH OPERATIONS 8 THRU 16.
8. WIRE BRUSH WITH SOLVENT TO CLEAN THREADED AREAS OF PISTON AND ROD.
9. VISUALLY INSPECT ROD END (P/N P3A2750) FOR EVIDENCE OF CORROSION CONTAMINATION IN THREADS UNDER ADEQUATE LIGHTING CONDITIONS.
   - IF ANY EVIDENCE OF PITTING CORROSION IS FOUND ON ROD END THEN DISCARD THE ROD END.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEER	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

10. VISUALLY INSPECT PISTON (P/N 46570-1/-3) THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF CORROSION AND/OR DAMAGE AND/OR PITTING (REF. FIGURE 1), USING A SMALL MIRROR UNDER ADEQUATE LIGHTING CONDITIONS. INSPECT WITH 10 X MAGNIFICATION MIRROR UNDER ADEQUATE LIGHTING CONDITIONS WITHIN **500 FC**
    - IF CORROSION IS FOUND IN THREADED AREA OF PISTON P/N 46570-1/-3 PERFORM REWORK IN ACCORDANCE WITH **SECTION B** OF THIS SCR
    - IF NO CORROSION IS FOUND CONTINUE WITH REMAINING OPERATIONS

11. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CORROSION INHIBITING COMPOUND MASTINOX 6856K OR CORBAN 27L WITHIN 500 FC OF INITIAL INSPECTION.

12. RE-INSTALL ROD END AND JAM NUT INTO PISTON ASSY

13. DISASSEMBLE AS REQUIRED TO REMOVE ACTUATOR FROM YOKE ASSEMBLY (NOTE: HYDRAULIC DISCONNECTION NOT REQUIRED).

14. USING TOOL NUMBER CG 56806, ADJUST ROD END RETRACTED LENGTH AS REQUIRED, TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540. (FOR DOWEL PIN SOLUTION PER DRAWING S2117, PRIOR TO RIGGING THE ACTUATOR LUBRICATE THE PISTON IN AREA ADJACENT TO THE ROD END WITH SKYDROL)

    - OPTIONAL PROCEDURE FOR RIGGING ACTUATOR LENGTH: RIG ACTUATOR TO NOMINAL RETRACTED LENGTH PER TOOL DRAWING (REF DIM 4.286 INCH) AND TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS33540.
    - NOTE: IF OPTIONAL PROCEDURE IS USED, GEAR SWINGS ARE REQUIRED (2 POWDERED CYCLES AND 1 ALTERNATE RELEASE TO VERIFY FUNCTIONAL CAPABILITY).

15. RE-INSTALL ACTUATOR ONTO YOKE ASSEMBLY.

16. EXTEND PISTON AND RE-ATTACH TO SHOCK STRUT ASSEMBLY USING PIN P/N 46160-1, AND TORQUE IN ACCORDANCE AMM REQUIREMENTS.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

INDICATE IF **A.O.G.**

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SECTION A – APPLICABLE TO EXISTING ACTUATORS ASSEMBLED WITHOUT CIC

1. DISASSEMBLE AS REQUIRED TO REMOVE ROD END P/N P3A2750 FROM ACTUATOR ASSEMBLY.
2. INSPECT - ENSURE NO EVIDENCE OF CORROSION ON ACTUATOR PISTON THREADS OR ROD END THREADS.
3. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CIC MASTINOX 6856K OR CORBAN 27L, AND RE-INSTALL ROD END ONTO ACTUATOR ASSEMBLY.
4. ADJUST ACTUATOR RETRACTED LENGTH USING TOOL CG 56806 REQUIREMENTS OR IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS. OPTIONAL PROCEDURE PER STEP 13, ABOVE, IS ALSO ACCEPTABLE
5. TORQUE JAM NUT TO 660-980 IN-LBS AND SAFETY LOCKWIRE PER MS 33540.

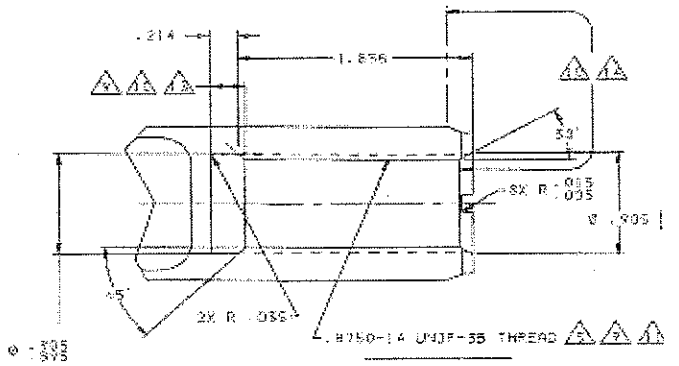


FIGURE 1

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS					INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
ANY	ALL	4001 AND SUB			➤➤☒◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SECTION B

1. MASK AS REQUIRED TO PROTECT ACTUATOR HOUSING, GLAND AREA, AND EXPOSED CHROME OF PISTON FROM F.O.D CONTAMINATION AND DAMAGE DURING THE FOLLOWING REWORK.
2. CHASE PISTON THREADS AND THREAD RELIEF AREA TO REMOVE CORROSION PRODUCTS TO THE GREATEST POSSIBLE EXTENT USING THREAD COMB AND/OR STAINLESS STEEL WIRE BRUSH.
3. INSPECT THE ENTIRE PROFILE OF THREADS OVER THE FULL SPAN OF THREADS (REF. 1.836 DIM, FIGURE 1) AND THE RELIEF GROOVE IN PISTON USING SMALL MIRROR (10X MAGNIFICATION) UNDER ADEQUATE LIGHTING CONDITIONS.
4. **ACCEPTANCE CRITERIA/REWORK OPTIONS**

A) LIGHT SURFACE CORROSION (NO PITTING) OVER THE ENTIRE THREADED LENGTH WITH AT LEAST FIVE CONSECUTIVE FULL UNDAMAGED THREADS WITHIN THE ENGAGED THREAD LENGTH (REF FIGURE 2) IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**

B) EVIDENCE OF MODERATE PITTING CORROSION CAN BE REWORKED:

a. TO DWG S2116 (HELICOIL SOLUTION). HELICOIL REWORK IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE.
b. TO DWG S2117 (DOWEL PIN SOLUTION) PROVIDED THAT ~~AN ESTIMATED~~ HALF OF THE ENGAGED THREAD VOLUME (I.E. AT LEAST THE EQUIVALENT OF 7 THREADS) REMAIN. DOWEL PIN REWORK IS ACCEPTABLE FOR **500 FC OR 3 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. **DAILY VISUAL INSPECTION** OF PIN TO ENSURE RETENTION AND ACTUATOR EXTERNAL LEAKAGE IS ALSO REQUIRED
c. REPLACED

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	RAMAN MALIK		2007/09/13	
STRESS	A. NORTH		2007/09/13	
OTHER (SPECIFY)	M. PERRELLA		2007/09/13	DATE: Sept 13, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			☒

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

OTHER (SPECIFY)	M. PERRELLA		2007/09/13	DATE:
				Page 6 of 7

INSTRUCTIONS / CONTINUATION SHEET

FOR OPTIONS a) AND b), THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**.

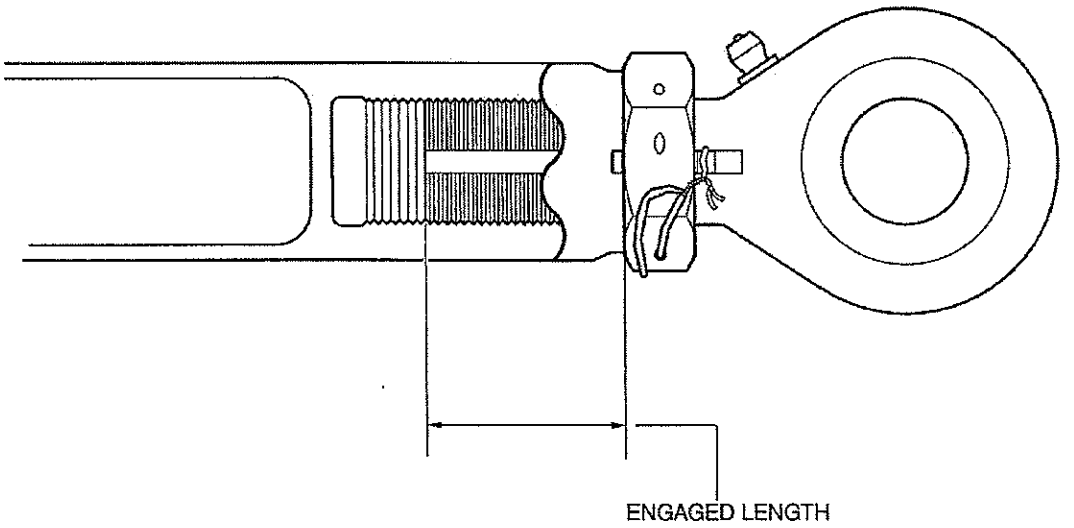


FIGURE 2

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	RAMAN MALIK		2007/09/13	
STRESS	A. NORTH		2007/09/13	
OTHER (SPECIFY)	M. PERRELLA		2007/09/13	DATE: Sept 13, 2007
				Page 6 of 7

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	B	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
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ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SUGGESTED LIST OF CIC SUPPLIERS:

CORBAN 27L http://www.zipchem.com/locations.aspx

MASTINOX 6856K http://www.ppg.com/prc-desoto/main.asp?img=crt&contLvl=mansites

DEFINITIONS

SURFACE CORROSION : a uniform loss of metal due to corrosion

PITTING CORROSION : a localized attack which results in a depression or a pit

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/13
STRESS	A. NORTH		2007/09/13
OTHER (SPECIFY)	M. PERRELLA		2007/09/13

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 13, 2007

Bilag 24

OPS-utvalget

De skandinaviska luftfartsmyndigheternas samarbetsorgan för flygsäkerhetsfrågor

STK DET SKANDINAVISKE TILSYNSKONTOR
DENMARK NORWAY SWEDEN

2007-09-20 STK 2007-0280-3

Accountable manager
John Dueholm
Scandinavian Airlines System
Denmark-Norway-Sweden
STODA

Kopia:
STOOM
STOOG
STOOF
STODO-X
STODG

Genaktivering af luftdygtighedsbeviser på luftfartøjer af typen Bombardier DHC8-Q400.

Der henvisning til OPS-udvalgets brev af 12. september 2007, som midlertidigt inddrager luftdygtighedsbeviset på en række angivne luftfartøjsindivider af ovennævnte type opereret af SAS.

I brev af 13. september 2007 har OPS-udvalgt meddelt tilladelse til færgeflyvning af de pågældende luftfartøjer.

I fortsættelse heraf skal OPS-udvalget meddele, at luftdygtighedsbeviserne vil blive genaktiveret pr. individ forudsat at følgende betingelser er dokumenteret opfyldt:

1. EASA EAD No:2007-0252-E dateret 13. september 2007, eller senere godkendte udgave, er udført og eventuelle fejl og anmærkninger er udbedret. Arbejdet skal være udført i overensstemmelse med fabrikantens og myndighedernes senest udarbejdede retningslinier herom, idet der henvises til TC AD note Nr. CF-2007-20 af 12. september 2007, eller senere godkendte udgave, med tilhørende forskrifter.
2. Main Landing Gear Retract Actuator (p/n 46550-7/-9) er udskiftet med en fabriksny actuator, eller en actuator, hvor der er installeret fabriksnyt Piston (p/n 46570-1/-3) i overensstemmelse med fabrikantens forskrifter. Rework i h.t. Goodrich tegning S2116 eller S2117 accepteres således ikke.
3. På alle actuatorer skal der være installeret en ny Rod End (p/n P3A2750).
4. Ovennævnte punkt 1, 2 og 3 er gældende for højre såvel som venstre sides landingsstelinstallation.
5. Der skal foretages fuld funktionsprøve på udfældning og indfældning af landingsstellene i henhold til fabrikantens forskrifter, for normal såvel som alternativ udfældningsmetode. Dette skal også foretages uanset om Goodrich Setting Tool CG-56806 anvendes til evt. justering af Rod End (p/n P3A2750).

STK - Det Skandinaviske Tilsynskontor
Luftfartsstyrelsen
SE-601 73 NORRKÖPING
Visiting address: Bergkällavägen 32
SOLLENTUNA, Sweden

Phone
+ 46 (0)11 41 52100

E-mail: stk@luftfartsstyrelsen.se
SITA CODE BMAZVSK

Facsimile
+ 46 (0)11 41 52490

6. Det skal dokumenteres overfor STK, ved særskilt liste eller notat, at luftfartøjet opfylder gældende krav til relevante AD notes for landingsstelinstallationen.
7. Der må ikke forefindes henstående anmærkninger eller henstående vedligeholdelsesopgaver på landingsstelinstallationen.

Ved fremsendelse til STK af at fornøden dokumentation for opfyldelse af ovennævnte vilkår, vil STK herefter meddele fornyet aktivering af luftdygtighedsbeviset for det pågældende luftfartøj .

Ovennævnte er gældende for følgende luftfartøjsindivider:
LN-RDA, LN-RDB, LN-RDC, LN-RDD, LN-RDE, LN-RDF, LN-RDG, LN-RDH, LN-RDI, LN-RDJ, LN-RDL, LN-RDM, LN-RDO, LN-RDP, LN-RDQ, LN-RDR, LN-RDT, OY-KCD, OY-KCE, OY-KCF og OY-KCG.

I det omfang de 2 havarerede luftfartøjer LN-RDK og LN-RDS igen sættes i drift, er kravene ligeledes gældende for disse luftfartøjer.

På vegne af luftfartsmyndighederne i Danmark, Norge och Sverige.

Karl-Eik Mårtensson
för Kurt Lykstoft Larsen
Ordförande OPS-utvalget

Bilag 25

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL: 416-375-4000

Bombardier Q400

All Operator Message No. 248

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 21 September 2007

ATA: 0000 MODEL: Q400

SUBJECT: In-Service Incident – Aircraft Landed with Nose Landing Gear Retracted

The following message is being sent to all Bombardier Aerospace Regional Aircraft Q400 Operators and Bombardier Aerospace Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This All Operator Message is being issued to advise Operators of an incident that has occurred on a Dash 8 Q400 aircraft. Bombardier Aerospace received preliminary reports of a Q400 having landed with the Nose Landing Gear Retracted. There were no reported injuries to the passengers or crew.

This incident is unrelated to recent Q400 Main Landing Gear malfunctions.

Bombardier Aerospace, and Goodrich have dispatched representatives to the scene. Operators will be informed of any recommended actions.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk, and Martin Elliott, Director, In-Service Engineering Systems & Technical Support, Bombardier Aerospace Regional Aircraft.

Bilag 26

BOMBARDIER

123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL: 416-375-4000

Bombardier Q400

All Operator Message No. 249B

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 24 September 2007

ATA: 3220 MODEL: Q400

SUBJECT: Inspection Recommendations Following In-Service Incident – Aircraft Landed with Nose Landing Gear Retracted

REFERENCE: AOM 248 - In-Service Incident – Aircraft Landed with Nose Landing Gear Retracted
SCR 101-07 Rev B– Inspection of Nose Landing Gear (NLG) forward door spring RD 8/4-32-064- Rework instructions for trimming the lower edge of the Nose Landing Gear Door Mechanism Debris guard, P/N 83220012, to remove / prevent chafe damage with the spring assembly

The following message is being sent to all Bombardier Aerospace Regional Aircraft Q400 Operators and Bombardier Aerospace Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being re-issued with Revision B of the SCR 101-07, which clarifies the requirements for Liquid Penetrant Inspection and to notify Operators of the release of RD 8/4-32-064 for modification of the debris shield.

All Operator Message 248 was previously issued to advise Operators of an incident in which the Nose Landing Gear failed to extend. A Bombardier / Goodrich team has been dispatched to the site to support the ongoing investigation. Based on the preliminary investigation results, Operators are recommended to inspect the NLG forward door spring as described in Service Concession Request (SCR) 101-07 Rev B.

Operators are requested to provide results of the SCR inspection to the Technical Help Desk at facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com, using the attached spreadsheet template.

Operators will be advised as the investigation progresses and further information becomes available.

RD 8/4-32-064 is being issued to allow Operators to trim the debris shield to eliminate the possibility of chaffing between the debris shield and the NLG forward door spring. It is recommended that Operators incorporate the RD as soon as practical.

Please direct responses and inquiries the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk, and Martin Elliott, Director, In-Service Engineering Systems & Technical Support, Bombardier Aerospace Regional Aircraft.

Bilag 27

OPS-utvalget

De skandinaviska luftfartsmyndigheternas samarbetsorgan för flygsäkerhetsfrågor

STK DET SKANDINAVISKE TILSYNSKONTOR
DENMARK NORWAY SWEDEN

2007-09-27 STK 2007-0280-4

Accountable manager
John Dueholm
Scandinavian Airlines System
Denmark-Norway-Sweden
STODA

Kopia:
STOOM
STOOG
STOOF
STODO-X
STODG

Krævet inspektion af næse landingsstellet på luftfartøjer af typen Bombardier DHC8-Q400.

I fortsættelse af OPS-udvalgets brev af 20. september 2007 vedrørende betingelserne for genaktivering af luftdygtighedsbeviserne for SAS opererede luftfartøjer af ovennævnte type, kræves inspektion af næsestellet som anført i Bombardier AOM249B eller senere godkendte udgave udført før videre flyvning.

Kravet skal ses i lyset af havariet med et tysk registreret luftfartøj af samme type den 21. september 2007 i München, og har således ingen relation til havarierne i Aalborg og Vilnius, hvor højre hovedunderstel kollapsede.

På vegne af luftfartsmyndighederne i Danmark, Norge och Sverige.

Karl Eik Mårtensson
pp Kurt Lykstoft Larsen
Ordförande OPS-utvalget

STK - Det Skandinaviske Tilsynskontor
Luftfartsstyrelsen
SE-601 73 NORRKÖPING
Visiting address: Bergkällavägen 32
SOLLENTUNA, Sweden

Phone
+ 46 (0)11 41 52100

E-mail: stk@luftfartsstyrelsen.se
SITA CODE BMAZVSK

Facsimile
+ 46 (0)11 41 52490

Bilag 27A

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Rework instructions for trimming the lower edge of the Nose Landing Gear Door Mechanism Debris Guard, P/N 83220012, to remove / prevent chafe damage with the spring assembly	**8/4-32-064**	
	3 SECTION	4 SHEET
	1	1

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400 Models 401 / 402**	**S/N All**

9 DESCRIPTION

The following sheets provide rework instructions for trimming the lower edge of the Nose Landing Gear Door Mechanism Debris Guard, P/N 83220012, to remove / prevent chafe damage with the spring assembly.

The repair involves trimming the lower edge of the debris guard to the maximum limits defined herein, inspecting the reworked edges for any signs of delamination - none permitted, applying epoxy adhesive to re-seal the edge of the panel and re-protecting the reworked areas.

After completion of the repair the debris guard is to be re-installed and the nose landing gear mechanism is to be inspected to ensure that there is no fouling of the spring assembly with the debris guard through the full range of motion.

The details of this repair are covered by **RD 8/4-32-064**, Section 1:

Sheet 1, Issue 1

Sheet 2, Issue 1

Sheet 3, Issue 1

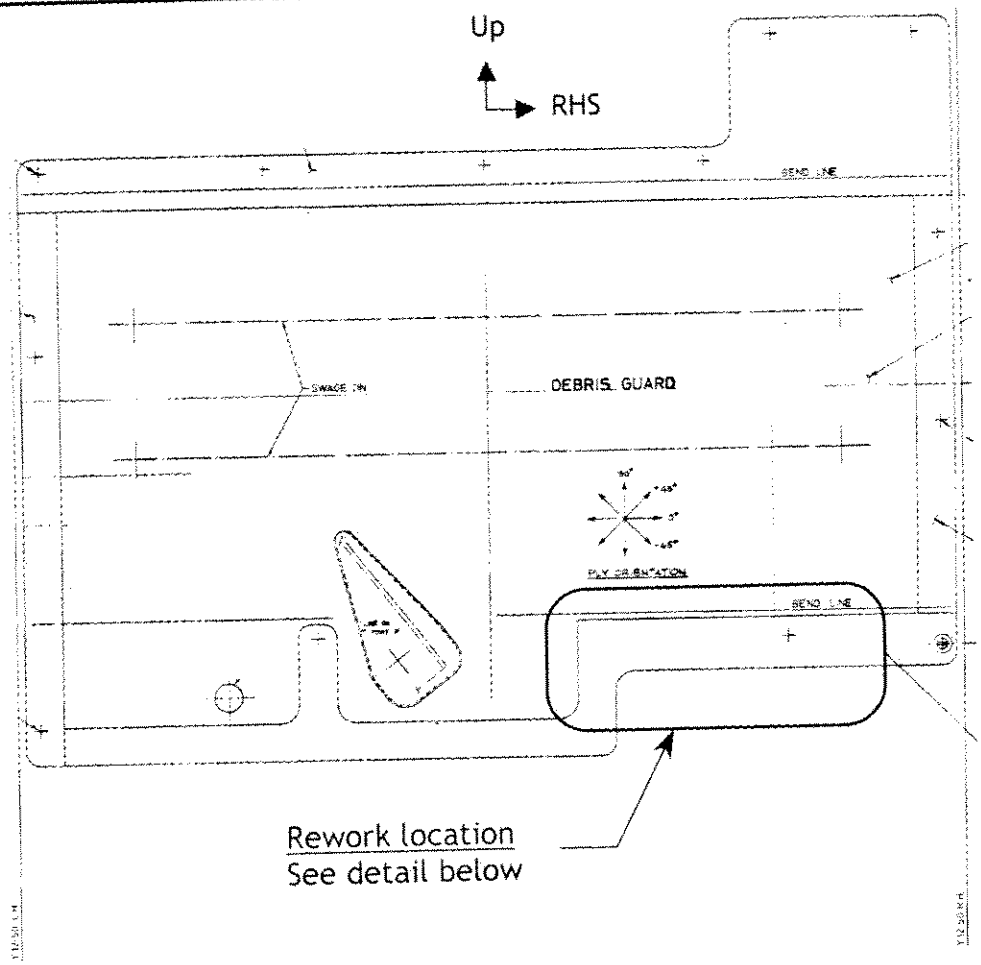
10 ISSUE	1				
11 DATE	Sep. 24, '07				
12 PREPARED BY	P. Bois-Grossiant				
13 STRESS	R. Mobilio				
16 DESIGN AUTHORITY	R. Mobilio				
14	N/A				
15	N/A				
17 DAO AUTHORITY	[signature] 339 24th SEPT. 2007				

18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE [illegible]

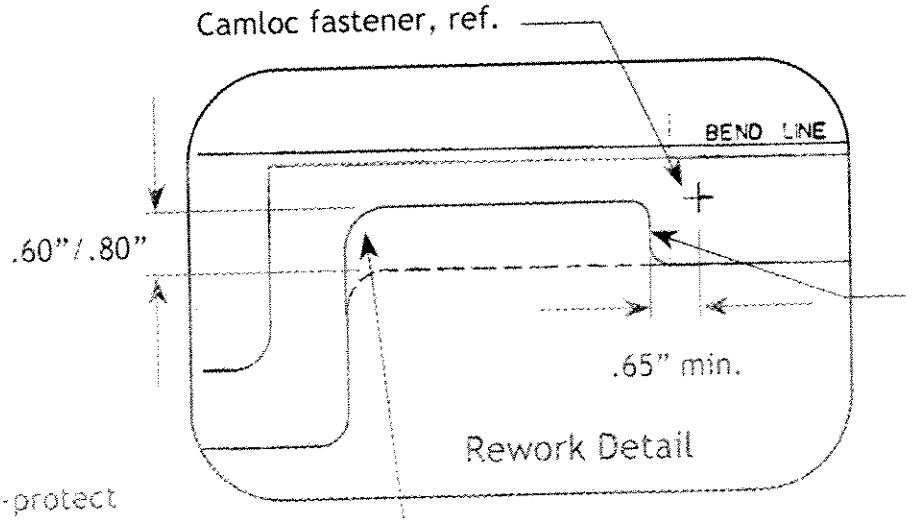
[ ] [illegible]

[illegible]

10 ISSUE	1				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-064	1	2



View looking fwd on debris guard showing location of rework



Re-profile lower edge of debris guard to the maximum dimensions shown.
Use .25" min. corner radii unless otherwise noted.
Note: A smaller cutout may be used providing that it is sufficient to remove all of the chafe damage and alleviate any fouling condition.

Re-protect reworked edges per the repair instructions.

Maintain original corner radius at this location (0.5" ref.)

10 ISSUE	1				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-064	1	3

Repair Instructions

1. Re-profile the lower edge of the nose landing gear door mechanism debris guard, P/N 83220012, as shown on Sheet 2.

   Maintain maximum cutout dimensions and minimum distance to the adjacent Camloc as shown on Sheet 2. Ensure that all chafe damage is removed by the cutout.

   Note: In lieu of the maximum cutout shown on Sheet 2 a smaller cutout may be used provided that the min. corner radii and distance from the Camloc is maintained and that all of the damage has been removed.

2. Perform a detailed visual inspection of the edge of the debris guard to ensure that the reworked area is free of delamination - no delamination permitted.

3. Apply epoxy adhesive, ref. Table 2, Item 13 or 14, per generic RD 8/4-51-030, along the edge of the cutout to re-seal the edge of the debris guard. Allow epoxy adhesive to cure fully and sand lightly as required to obtain a smooth edge.

4. Apply polyurethane enamel in accordance with the instructions of the DASH 8 Structural Repair Manual, PSM 1-84-3, Chapter 51-25-15.

5. Re-install debris guard in accordance with the original engineering drawings or per the applicable task in the aircraft maintenance manual.

6. Inspect the nose landing gear mechanism to ensure that there is no fouling of the spring assembly with the debris guard through the full range of motion.

Bilag 27B

GOODRICH

SERVICE CONCESSION REQUEST

SCR NUMBER	REV	PROG
SCR 101-07	B	2131

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
2007/09/21	ALL	N/A	N/A	N/A

INDICATE IF **A.O.G.** ☐

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	47840	LINKAGE ASSEMBLY, FORWARD DOORS, NLG	N/A		
PART ⇨	47844-1	SPRING ASSEMBLY	N/A		

LIMITED FLIGHT REQUESTED

YES ☒ **NO** ☐

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* 250 FH*_____

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☒

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☐	BRAKING	☐
NLG	☒	STEERING	☐
WLG	☐	RET / EXT	☒
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☐
LIMITED SERVICE	☒
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☐
REPLACE PART	☒

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

UNKNWN

SCR RAISED BY S.HEALEY

DATE RAISED September 23, 2007

PROBLEM DESCRIPTION

ITEM	
1.	NLG FORWAD DOOR SPRING P/N 47844-1 MAY FAIL AND SEPARATE FROM MOUNTINGS PRESENTING A F.O.D ISSUE FOR THE NLG. SEE SHEET 4 FOR LOCATION INFORMATION.

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☒

SEE SHEET 2 AND SUBS FOR MORE INFORMATION

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 101-07	B	2131

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
2007/09/21	ALL	N/A	N/A	N/A	➤➤ ☐ ➤➤

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	47840	LINKAGE ASSEMBLY, FORWARD DOORS, NLG	N/A		
PART ⇨	47844-1	SPRING ASSEMBLY	N/A		

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1.	THIS INSPECTION APPLIES TO ALL AIRCRAFT ON A ONE TIME BASIS AS FOLLOWS, AND SHALL REMAIN EFFECTIVE UNTIL NOTICE OF TERMINATION IS PROVIDED BY GOODRICH AND/OR BOMBARDIER. - AIRCRAFT HAVING LESS THAN **5,000 A/C FC** SHALL BE INSPECTED WITHIN **500 A/C FC**. - AIRCRAFT HAVING BETWEEN **5,000 TO 10,000 FC** SHALL BE INSPECTED WITHIN **300 FC**. - AIRCRAFT HAVING OVER **10,000 FC** SHALL BE INSPECTED WITHIN **100 FC**. 1. WITH GROUND LOCK ENGAGED AND NLG FWD DOOR GROUND LOCK PIN INSTALLED REMOVE SPRING P/N 47844-1 FROM AIRCRAFT (REF. BOMBARDIER AMM). 2. INSPECT SPRING RETAINERS P/N 47845-1 FOR EVIDENCE OF DAMAGE, AND ENSURE THAT SPRING WIRE IS TIGHTLY WOUND AROUND RETAINER. 3. VISUALLY INSPECT SPRING P/N 47844-1 FOR EVIDENCE OF DAMAGE (NICKS, DENTS SCRATCHES, CHAFING) TO THE SURFACE OF THE WIRE. INSPECTION TO COVER BOTH OUTSIDE AND INSIDE SURFACE OF SPRING. - IF VISUAL INSPECTION SHOWS EVDIENCE OF DAMAGE THEN PERFORM LPI (REF. OPER #4) IN CRITICAL AREAS AND AREAS OF DAMAGE. - IF VISUAL INSPECTION IS NEGATIVE FOR EVIDENCE OF DAMAGE PERFORM LPI (REF.OPER #4) IN CRITICAL AREAS ONLY. 4. LIQUID PENETRANT INSPECT CRITICAL AREAS AND AREAS OF DAMAGE (REF. OPER #3) PER ASTM E-1417, TYPE 1, SENSITVITY LEVEL 3. DEFECTS NOT TO EXCEED MIL-STD-1907, GRADE 'A' LIMITS. - IF DEFECTS ARE FOUND DURING THIS INSPECTION DISCARD SPRING ASSEMBLY.

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEER	S.HEALEY		2007/09/24	
STRESS	N/A			DATE: Sept 24, 2007
OTHER (SPECIFY)	M.PERRELLA		2007/09/24	
				Page 2 of 5

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 101-07	B	2131

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
2007/09/21	ALL	N/A	N/A	N/A

INDICATE IF **A.O.G.**

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	47840	LINKAGE ASSEMBLY, FORWARD DOORS, NLG	N/A		
PART ⇨	47844-1	SPRING ASSEMBLY	N/A		

INSTRUCTIONS / CONTINUATION SHEET

5. IF DAMAGE IS IDENTIFIED IN OPER #3, AND PART MEETS ACCEPTANCE CRITERIA OF OPER #4 (LPI), LIGHTLY POLISH AREAS SHOWING EVDIENCE OF SCRATCHES OR CHAFE DAMAGE AS REQUIRED TO JUST REMOVE ALL SHARP EDGES, NO POWER TOOLS PERMITTED.
   - DO NOT DEEPEN
   - MAX DEPTH OFDAMAGE NOT TO EXCEED .006 INCH.
   - IF MAX DEPTH EXCEEDED DISCARD PART.

6. ENGINEERING EVALUATION SHOWS ANY/ALL SPRINGS REWORKED IN ACCORDANCE WITH OPERATION 7, AND/OR HAVING LONGITUDINAL PLAY BETWEEN THE RETAINER AND SPRING ARE ACCEPTABLE FOR **250 A/C FC** OF CONTINUED SERVICE. WHEN FLIGHT CYCLE ALLOWANCE IS EXHAUSTED, DISCARD SPRING ASSEMBLY.

7. REASSEMBLE FWD DOOR LINKAGE WITH NEW OR SERVICABLE SPRING P/N 47844-1, AND RIG ACCORDING TO BOMBARDIER AMM PROCEDURES.

8. PERFORM ANY/ALL RETURN TO SERVICE ACTIONS IN ACCORDANCE WITH BOMBARDIER AMM.

NOTE: FURTHER INFORMATION REGARDING REPEAT INSPECTIONS OF THE NLG FORWARD DOOR SPRING ASSEMBLY TO FOLLOW IN A FURTHER REVISION OF THIS DOCUMENT, AS/IF REQUIRED.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/24
STRESS	N/A		
OTHER (SPECIFY)	M.PERRELLA		2007/09/24

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 24, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 101-07	B	2131

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
2007/09/21	ALL	N/A	N/A	N/A

INDICATE IF A.O.G. ☐

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	47840	LINKAGE ASSEMBLY, FORWARD DOORS, NLG	N/A		
PART ⇨	47844-1	SPRING ASSEMBLY	N/A		

INSTRUCTIONS / CONTINUATION SHEET

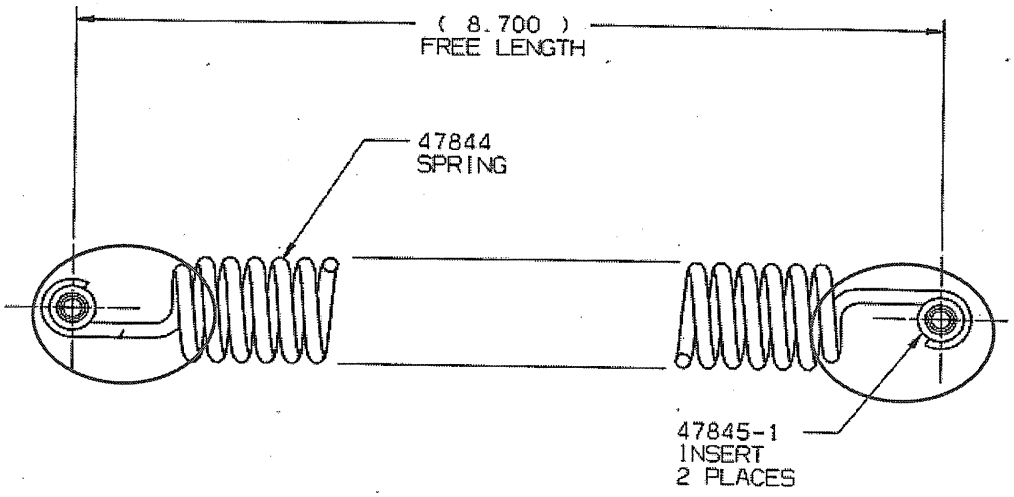


FIGURE 1.

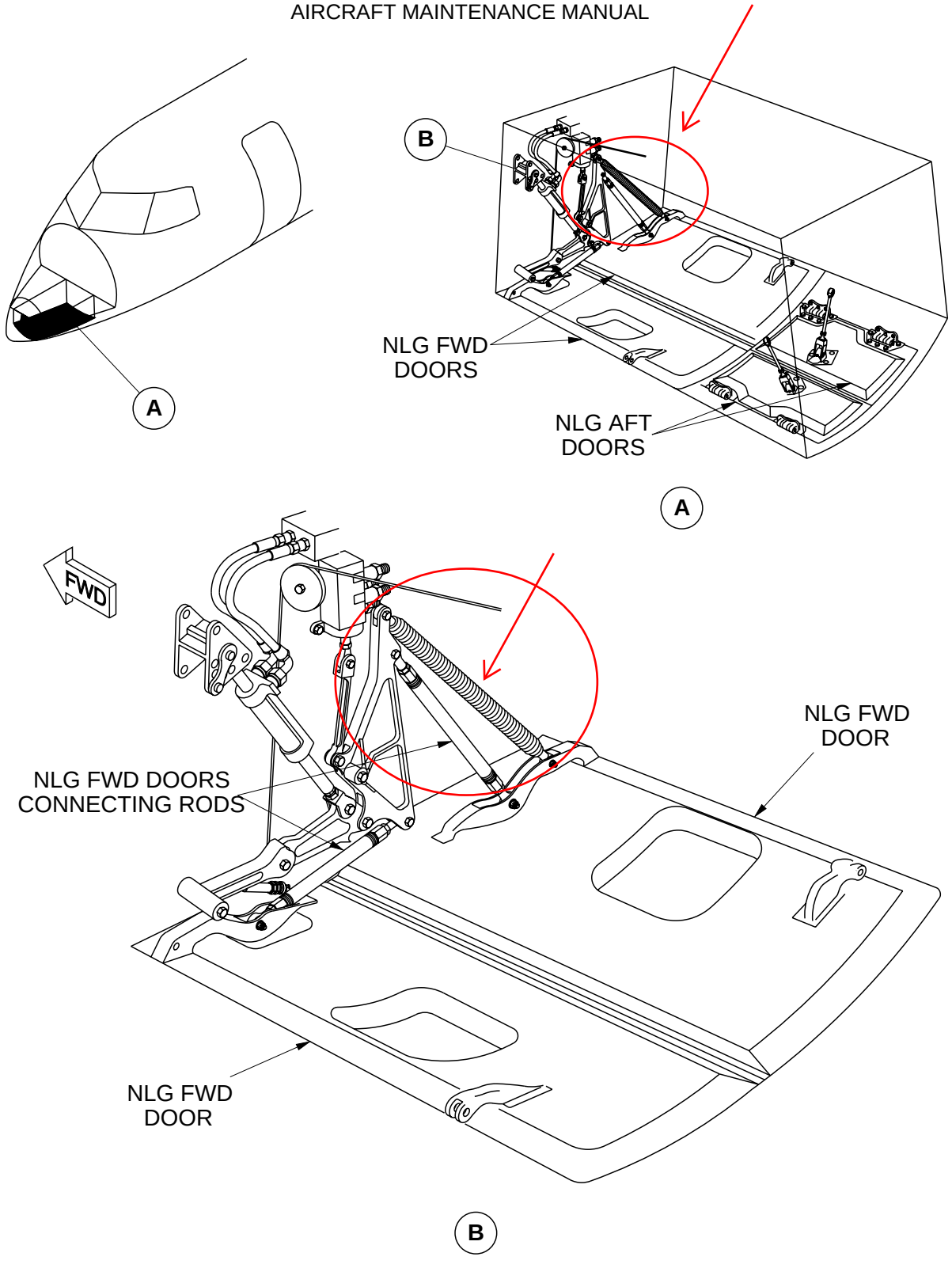
CRITICAL AREAS FOR VISUAL INSPECTION AND LIQUID PENETRANT INSPECTION ARE HIGHLIGHTED ABOVE.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/24
STRESS	N/A		
OTHER (SPECIFY)	M.PERRELLA		2007/09/24

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 24, 2007



Nose Landing Gear Doors – Component Location

Figure 101 (Sheet 1 of 2)

Bilag 28

OPS-utvalget

De skandinaviska luftfartsmyndigheternas samarbetsorgan för flygsäkerhetsfrågor

STK DET SKANDINAVISKE TILSYNSKONTOR
DENMARK NORWAY SWEDEN

2007-09-27 STK 2007-0280-4

Accountable manager
John Dueholm
Scandinavian Airlines System
Denmark-Norway-Sweden
STODA

Kopia:
STOOM
STOOG
STOOF
STODO-X
STODG

Krævet inspektion af næse landingsstellet på luftfartøjer af typen Bombardier DHC8-Q400.

I fortsættelse af OPS-udvalgets brev af 20. september 2007 vedrørende betingelserne for genaktivering af luftdygtighedsbeviserne for SAS opererede luftfartøjer af ovennævnte type, kræves inspektion af næsestellet som anført i Bombardier AOM249B eller senere godkendte udgave udført før videre flyvning.

Kravet skal ses i lyset af havariet med et tysk registreret luftfartøj af samme type den 21. september 2007 i München, og har således ingen relation til havarierne i Aalborg og Vilnius, hvor højre hovedunderstel kollapsede.

På vegne af luftfartsmyndighederne i Danmark, Norge och Sverige.

Karl Eik Mårtensson
pp Kurt Lykstoft Larsen
Ordförande OPS-utvalget

STK - Det Skandinaviske Tilsynskontor
Luftfartsstyrelsen
SE-601 73 NORRKÖPING
Visiting address: Bergkällavägen 32
SOLLENTUNA, Sweden

Phone
+ 46 (0)11 41 52100

E-mail: stk@luftfartsstyrelsen.se
SITA CODE BMAZVSK

Facsimile
+ 46 (0)11 41 52490

Bilag 29

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION: **1**	4 SHEET: **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This page re-written at Issue #5.-SCR086-07 raised to Rev. D

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. D.

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. D and inspecting affected parts for any signs of corrosion or wear.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. D.

The details of this procedure are covered by **RD 8/4-32-059** section 1.

Sheet 1 Issue 5
Sheet 2 Issue 5

At SCR 086-07 Rev D: Rework for Freeze fit Pin in SCR now deleted-Ref. Dwg S2117-deleted.
New Inspection criteria added for reworked Actuators (excluding those repaired by Section B)
Page 1,2 raised to Issue # 5.

10 ISSUE	**5**				
11 DATE	**20-Sep-07**				
12 PREPARED BY	**D. Devogel**				
13 STRESS					
16 DESIGN AUTHORITY	#233 20 SEP 2007				
14					
15 DAO AUTHORITY	#233 SEP 2007				
17 DAO AUTHORITY	#233 20 SEP 2007				

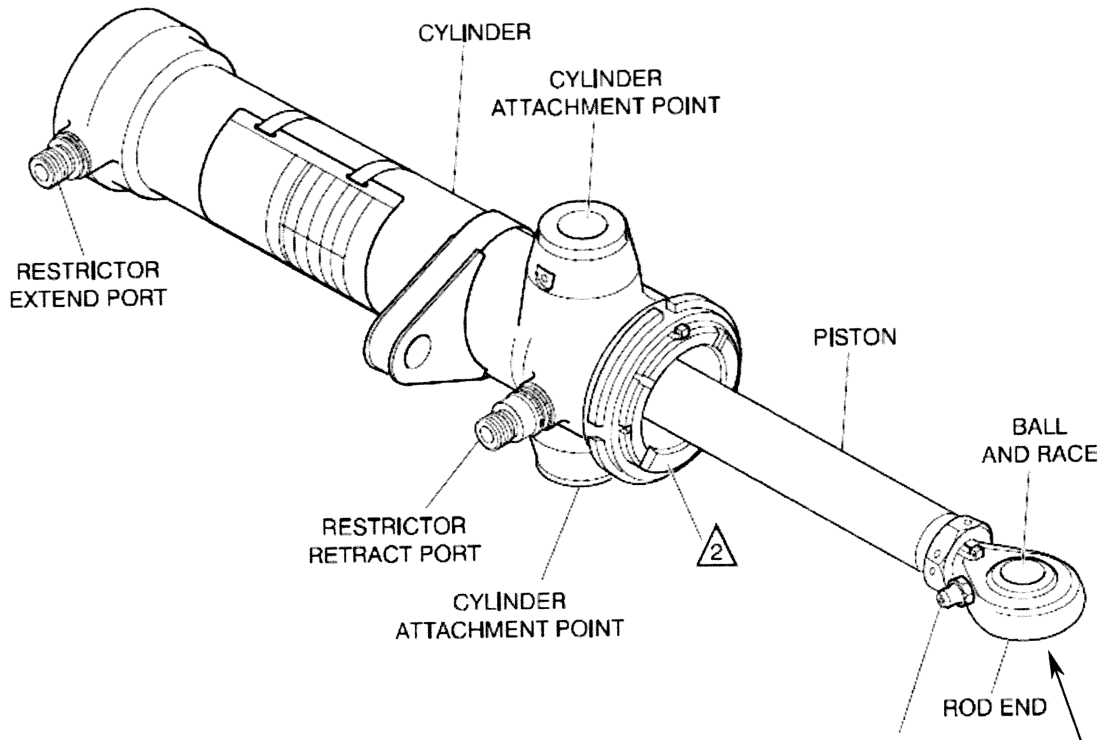
18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 93-Q-02

[ ] BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

D.3363-27 REV 1999-07

10 ISSUE	5				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. D

Inspect affected parts for any signs of corrosion or wear.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. D

At Issue # 5: SCR086-07 Raised to Rev D from C

Bilag 30

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL416-375-4000

Bombardier Q400

All Operator Message No. 243

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 14 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-059 Revision 4 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ AOM 242 RD 8/4-32-059 Revision 3 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-059 Issue 4 required for compliance to Transport Canada Airworthiness Directive (AD) No. CF-2007-20.

Issue 4 of RD 8/4-32-059 is being revised with clarifications as requested by TC in item 10 on page 3, and 4B) On page 5.

Operators having complied with Issue 1 of RD 8/4-32-059 with no findings are not required to repeat the inspections specified in Issue 2, 3 or 4.

Please direct responses and inquiries to the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 30A

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION: **1**	4 SHEET: **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. ~~NC~~ ~~A~~ ~~B~~ C

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~NC~~ and inspecting affected parts for any signs of corrosion or wear.

No corrosion or wear damage is allowed, EXCEPT AS PERMITTED IN SCR 086-07 REV. ~~B~~ C

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~NC~~ ~~A~~ ~~B~~ C

The details of this procedure are covered by RD 8/4-32-059 section 1.

Sheet 1 Issue ~~1~~ 2 ~~3~~ 4
Sheet 2 Issue ~~1~~ 2 ~~3~~ 4

AT ISS. 2: SCR REF. CHANGED TO REV. A, WAS REV. NC

10 ISSUE	1	2	3	4	
11 DATE	12-Sep-07	13-SEP-07	13-SEP-07	14-Sep-07	
12 PREPARED BY	A. Vinitsky	A. VINITSKY	A. TURK	A. Turk	
13 STRESS	N/A	S. Smith	S. Smith	S. Smith	
16 DESIGN AUTHORITY	M. BABIN	M. BABIN	M. BABIN	A. Turk	
14	N/A				
15	N/A				
17 DAO AUTHORITY	14 Sept 2007	S. Smith SEPT 14/07 G. Houghton SEPT 14/07	SEPT 14/07	SEP 14/07	

18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 99-41-02

[ ] BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

D.3383-27 REV 1999-07

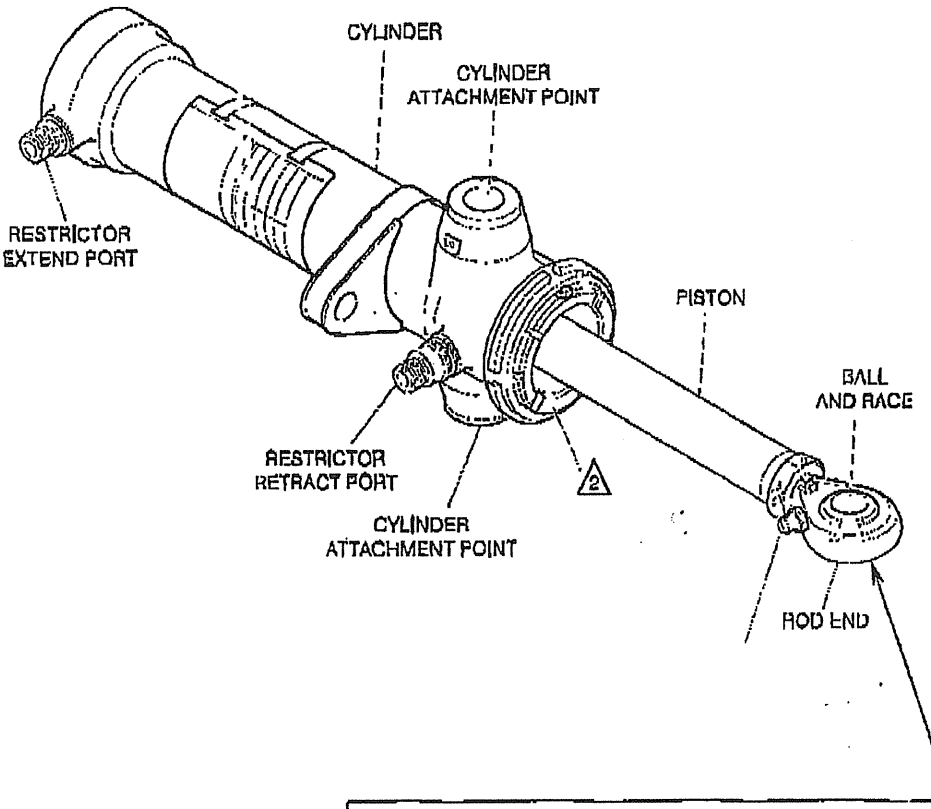
BT0214-11 MW REV 2006-08

BOMBARDIER

REPAIR DRAWING (RD)

10 ISSUE	1	2	3	4	2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. ~~A~~ ~~B~~ C

Inspect affected parts for any signs of corrosion or wear.

(2) No corrosion or wear damage is allowed, EXCEPT AS NOTED IN SCR 086-07 REV. ~~A~~ ~~B~~ C

(3) Provided the components are free of any damage

(4) re-assemble retraction actuator in accordance with SCR 086-07 rev. ~~A~~ ~~B~~ C

Bilag 30B

PRINT DATE 09/14/07 TIME 4:22 PM

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G. ☒
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

LIMITED FLIGHT REQUESTED

YES ☒ **NO** ☐

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* 1000 OR 6 MONTHS

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY	
IN-SERVICE PROBLEM	☒

AFFECTED SYSTEM			
MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☐
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY	
NORMAL USE AFTER REPAIR	☒
LIMITED SERVICE	☒
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☒
REPLACE PART	☒

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR RAISED BY	DATE RAISED
B WEBER	2007/09/12

ITEM	PROBLEM DESCRIPTION
1	THERE HAVE BEEN 2 INSTANCES OF SEPARATION OF ROD END P/N P3A2750 AND PISTON P/N 46570-1/-3. INSPECTION OF THREAD CONDITION REQUIRED IN ACCORDANCE TO TRANSPORT CANADA AIRWORTHINESS DIRECTIVE (CF-2007-20).

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

➤➤**SEE SHEET 2 AND SUBS FOR MORE INFORMATION**➤➤

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1	1. SHUT DOWN HYDRAULIC SYSTEM 2 2. WITH ACTUATOR INSTALLED ON AIRCRAFT, REMOVE LOCK WIRE AND BACK OFF JAM NUT AS REQUIRED TO DISENGAGE LOCKING FEATURE. 3. DISASSEMBLE AS REQUIRED, REMOVE ACTUATOR ROD END PIN (P/N 46160-1) FROM MAIN LANDING GEAR SHOCK STRUT ASSEMBLY 4. FULLY COMPRESS PISTON 5. SECURE PISTON, AND REMOVE ROD END FROM PISTON. 6. IF ROD END (P/N P3A2750) DOES NOT EASILY BACK OUT OF PISTON WITHOUT BINDING AND WITH THE USE OF A STRAP WRENCH, REMOVE RETRACT ACTUATOR P/N 46550-7/-9 FROM GEAR ASSEMBLY. - REPLACE WITH NEW OR REFURBISHED RETRACT ACTUATOR P/N 46550-7/-9 IN ACCORDANCE WITH BOMBARDIER AMM. REPLACEMENT ACTUATOR TO HAVE INCORPORATED CORROSION INHIBITING COMPOUND (CIC). - IF ACTUATOR DOES NOT HAVE CORROSION INHIBITING COMPOUND (CIC) WITHIN 500 FC OF INITIAL INSPECTION, INCORPORATED SEE **SECTION A** OF THIS SCR. 7. IF ROD END (P/N P3A2750) BACKS OUT OF PISTON WITHOUT BINDING, COMPLETELY REMOVE ROD END AND CONTINUE WITH OPERATIONS 8 THRU 16. 8. WIRE BRUSH WITH SOLVENT TO CLEAN THREADED AREAS OF PISTON AND ROD. 9. VISUALLY INSPECT ROD END (P/N P3A2750) FOR EVIDENCE OF CORROSION CONTAMINATION IN THREADS UNDER ADEQUATE LIGHTING CONDITIONS. - IF ANY EVIDENCE OF PITTING CORROSION IS FOUND ON ROD END THEN DISCARD THE ROD END.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEER	RAMAN MALIK		2007/09/14	
STRESS	A. NORTH		2007/09/14	
OTHER (SPECIFY)	M. PERRELLA		2007/09/14	DATE: Sept 14, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

10. VISUALLY INSPECT PISTON (P/N 46570-1/-3) THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF CORROSION AND/OR DAMAGE AND/OR PITTING (REF. FIGURE 1), USING 10X MAGNIFICATION MIRROR OR BORESCOPE UNDER ADEQUATE LIGHTING CONDITIONS.
    - IF CORROSION IS FOUND IN THREADED AREA OF PISTON P/N 46570-1/-3 PERFORM REWORK IN ACCORDANCE WITH **SECTION B** OF THIS SCR
    - IF NO CORROSION IS FOUND CONTINUE WITH REMAINING OPERATIONS

    IF THE INITIAL VISUAL INSPECTION IS DONE WITHOUT USING 10X MAGNIFICATION PER THE REVISION *NC* OF THIS SCR, A ONE TIME DEFERRAL MAY BE GRANTED FOR UP TO **500 FC**.

11. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CORROSION INHIBITING COMPOUND MASTINOX 6856K OR CORBAN 27L WITHIN 500 FC OF INITIAL INSPECTION.

12. RE-INSTALL ROD END AND JAM NUT INTO PISTON ASSY

13. DISASSEMBLE AS REQUIRED TO REMOVE ACTUATOR FROM YOKE ASSEMBLY (NOTE: HYDRAULIC DISCONNECTION NOT REQUIRED).

14. USING TOOL NUMBER CG 56806, ADJUST ROD END RETRACTED LENGTH AS REQUIRED, TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540. (FOR DOWEL PIN SOLUTION PER DRAWING S2117, PRIOR TO RIGGING THE ACTUATOR LUBRICATE THE PISTON IN AREA ADJACENT TO THE ROD END WITH SKYDROL)

    - OPTIONAL PROCEDURE FOR RIGGING ACTUATOR LENGTH: RIG ACTUATOR TO NOMINAL RETRACTED LENGTH PER TOOL DRAWING (REF DIM 4.286 INCH) AND TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS33540.
    - NOTE: IF OPTIONAL PROCEDURE IS USED, GEAR SWINGS ARE REQUIRED (2 POWDERED CYCLES AND 1 ALTERNATE RELEASE TO VERIFY FUNCTIONAL CAPABILITY).

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/14
STRESS	A. NORTH		2007/09/14
OTHER (SPECIFY)	M. PERRELLA		2007/09/14

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 14, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

15. RE-INSTALL ACTUATOR ONTO YOKE ASSEMBLY.

16. EXTEND PISTON AND RE-ATTACH TO SHOCK STRUT ASSEMBLY USING PIN P/N 46160-1, AND TORQUE IN ACCORDANCE AMM REQUIREMENTS.

SECTION A – APPLICABLE TO EXISTING ACTUATORS ASSEMBLED WITHOUT CIC

1. DISASSEMBLE AS REQUIRED TO REMOVE ROD END P/N P3A2750 FROM ACTUATOR ASSEMBLY.

2. INSPECT - ENSURE NO EVIDENCE OF CORROSION ON ACTUATOR PISTON THREADS OR ROD END THREADS.

3. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CIC MASTINOX 6856K OR CORBAN 27L, AND RE-INSTALL ROD END ONTO ACTUATOR ASSEMBLY.

4. ADJUST ACTUATOR RETRACTED LENGTH USING TOOL CG 56806 REQUIREMENTS OR IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS. OPTIONAL PROCEDURE PER STEP 13, ABOVE, IS ALSO ACCEPTABLE

5. TORQUE JAM NUT TO 660-980 IN-LBS AND SAFETY LOCKWIRE PER MS 33540.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/14
STRESS	A. NORTH		2007/09/14
OTHER (SPECIFY)	M. PERRELLA		2007/09/14

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 14, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

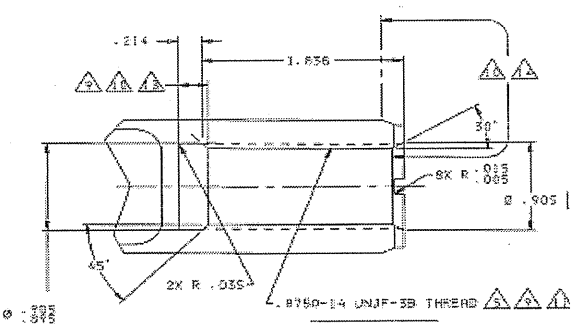


FIGURE 1

SECTION B

1. MASK AS REQUIRED TO PROTECT ACTUATOR HOUSING, GLAND AREA, AND EXPOSED CHROME OF PISTON FROM F.O.D CONTAMINATION AND DAMAGE DURING THE FOLLOWING REWORK.
2. CHASE PISTON THREADS AND THREAD RELIEF AREA TO REMOVE CORROSION PRODUCTS TO THE GREATEST POSSIBLE EXTENT USING THREAD COMB AND/OR STAINLESS STEEL WIRE BRUSH.
3. INSPECT THE ENTIRE PROFILE OF THREADS OVER THE FULL SPAN OF THREADS (REF. 1.836 DIM, FIGURE 1) AND THE RELIEF GROOVE IN PISTON USING 10X MAGNIFICATION MIRROR OR BORESCOPE UNDER ADEQUATE LIGHTING CONDITIONS.
4. **ACCEPTANCE CRITERIA/REWORK OPTIONS**

A) LIGHT SURFACE CORROSION (NO PITTING) OVER THE ENTIRE THREADED LENGTH WITH AT LEAST FIVE CONSECUTIVE FULL UNDAMAGED THREADS WITHIN THE ENGAGED THREAD LENGTH (REF FIGURE 2) IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/14
STRESS	A. NORTH		2007/09/14
OTHER (SPECIFY)	M. PERRELLA		2007/09/14

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 14, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

B) EVIDENCE OF MODERATE PITTING CORROSION CAN BE REWORKED: (REF FIG 2)

a. TO DWG S2116 (HELICOIL SOLUTION). HELICOIL REWORK IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE.
b. TO DWG S2117 (DOWEL PIN SOLUTION) PROVIDED THAT AN ESTIMATED HALF OF THE ENGAGED THREAD VOLUME (I.E. AT LEAST THE EQUIVALENT OF 7 THREADS) REMAIN. DOWEL PIN REWORK IS ACCEPTABLE FOR **500 FC OR 3 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. **DAILY VISUAL INSPECTION** OF PIN TO ENSURE RETENTION AND ACTUATOR EXTERNAL LEAKAGE IS ALSO REQUIRED
c. REPLACED

FOR OPTIONS a) AND b), THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**.

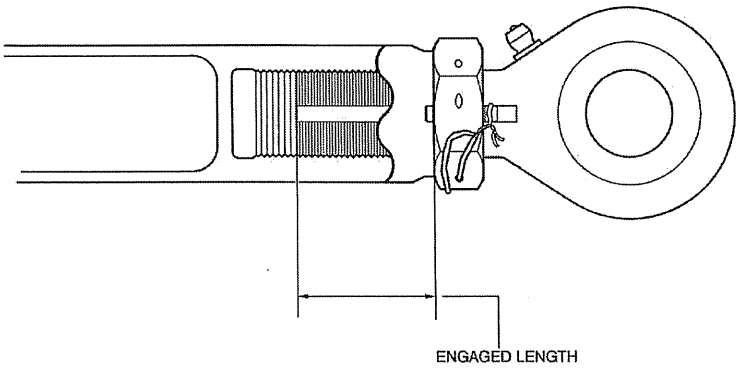


FIGURE 2

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/14
STRESS	A. NORTH		2007/09/14
OTHER (SPECIFY)	M. PERRELLA		2007/09/14

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 14, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	C	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SUGGESTED LIST OF CIC SUPPLIERS:

CORBAN 27L http://www.zipchem.com/locations.aspx

MASTINOX 6856K http://www.ppg.com/prc-desoto/main.asp?img=crt&contLvl=mansites

DEFINITIONS

SURFACE CORROSION : a uniform loss of metal due to corrosion

PITTING CORROSION : a localized attack which results in a depression or a pit

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	RAMAN MALIK		2007/09/14
STRESS	A. NORTH		2007/09/14
OTHER (SPECIFY)	M. PERRELLA		2007/09/14

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 14, 2007

Bilag 31

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL: 416-375-4000

Bombardier Q400

All Operator Message No. 245

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 19 SEP 07

ATA: 3200 MODEL: Q400

SUBJECT: Airworthiness Directive CF-2007-20 Reporting Requirements

REFERENCE: /A/ AOM 235, In-service Incident – Right Main Landing Gear Collapse After Landing
/B/ AOM 236A, Update - In-service Incident – Right Main Landing Gear Collapse After Landing
/C/ AOM 237, In-service Incident – Second Occurrence of Right Main Landing Gear Collapse After Landing
/D/ AOM 238, Transport Canada Airworthiness Directive (AD) CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/E/ AOM 239 RD 8/4-32-059 Revision 1 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/F/ AOM 240 RD 8/4-32-059 Revision 2 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

The following message is being sent to all Bombardier Aerospace Regional Aircraft Q400 Operators and Bombardier Aerospace Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to provide Operators with a reporting template that will assist them in meeting the reporting requirements of Airworthiness Directive CF-2007-20 paragraph “D”. “Within 7 days after each inspection, report any discrepancies found during any of the inspections to Bombardier Technical Help Desk”. Using this template will ensure that Bombardier receives the information necessary to manage subsequent activities related to this Airworthiness Directive.

Operators are requested to complete the attached survey or spreadsheet in detail by providing all information and selecting all applicable boxes. E mail or fax the completed survey or spreadsheet to thd.qseries@aero.bombardier.com or Facsimile +1-416-375-4539. Please ensure the information is submitted for all actuators either installed, held as spare or deemed unserviceable.

Please direct responses and inquiries to your Bombardier Aerospace Regional Aircraft Field Service Representative or the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com.

Michel Babin, Manager, In Service Engineering Systems and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 32

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL416-375-4000

Bombardier Q400

All Operator Message No. 247

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 20 Sep 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-063 Issue 1, Repair for Corrosion Found on Retraction Actuators p/n 46550-7 or 46550-9 Cylinder and Gland Nut.

REFERENCE: /A/ AOM 238 Transport Canada Airworthiness Directive CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/D/ Goodrich Service Concession Request SCR091-07

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-063, Issue 1. The RD and SCR are being issued to aid operators who find corrosion in this area during the General Visual Inspection (GVI) called out in section A of Airworthiness Directive (AD) No. CF-2007-20.

RD 8/4-32-063 and SCR091-07 are not mandatory, and may be accomplished at Operators discretion.

Please direct responses and inquiries to your Bombardier Regional Aircraft Field Service Representative or the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 32A

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 Cylinder and Gland Nut.	**8/4-32-063**	
	3 SECTION **1**	4 SHEET **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Series 400 Models 400, 401 and 402**

9 DESCRIPTION

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 cylinder and gland nut.

This RD is to be accomplished in conjunction with Goodrich SCR 091-07 rev. NC.

The procedure involves removing the actuator cylinder gland nut of the retraction actuator assembly in accordance with SCR 091-07 rev. NC and inspecting affected parts for any signs of corrosion or wear.

Provided the components are free of any damage except as permitted by SCR 091-07 rev NC.

Re-assemble retraction actuator in accordance with SCR 091-07 rev. NC.

The details of this procedure are covered by **RD 8/4-32-063** section 1.

Sheet 1 Issue 1
Sheet 2 Issue 1

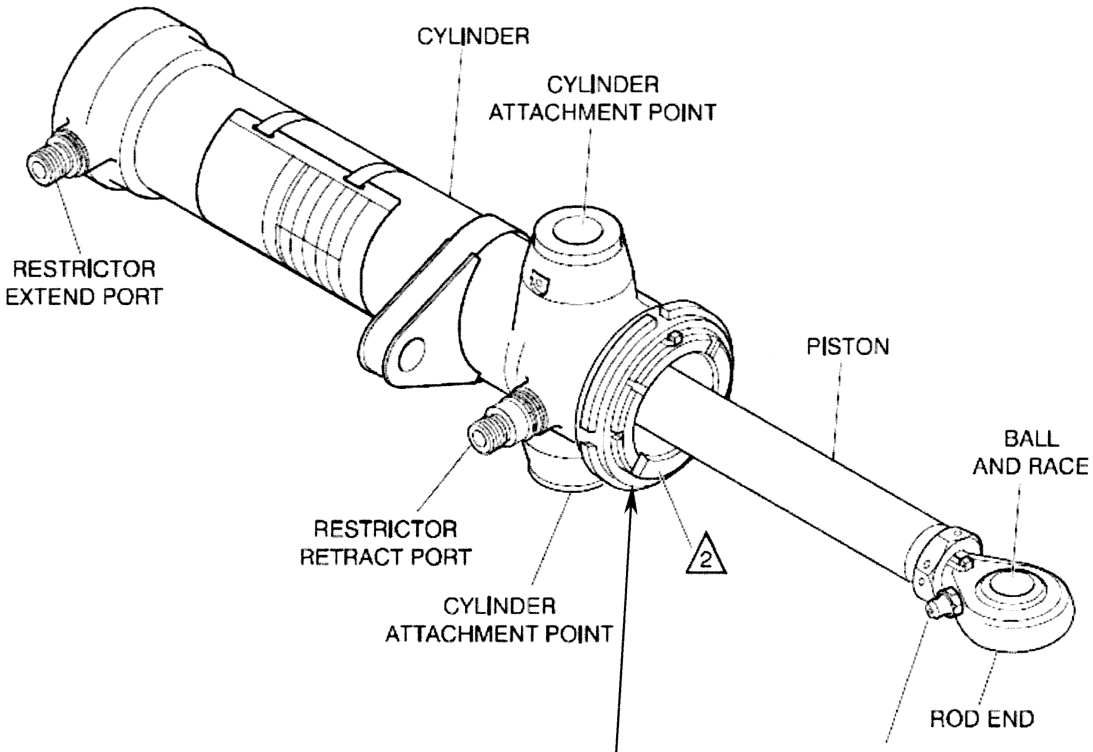
10 ISSUE	1				
11 DATE	20-Sep-07				
12 PREPARED BY	D. De Vogel				
13 STRESS	E. [signature]				
16 DESIGN AUTHORITY	M. Bégin				
14					
15					
17 DAO AUTHORITY	[signature] #233 A.G. Wallace #[illegible] E. Smith #[illegible] 20 Sep 2007.				

18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 93-Q-02

[ ] BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

10 ISSUE	1				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 091-07 rev. NC

Inspect cylinder P/N 4655-1 for evidence of corrosion on Gland Nut threads.

Inspect Gland Nut P/N 46572-5 for evidence of corrosion on threads.

Provided the components are free of any damage/corrosion, re-assemble retraction actuator in accordance with SCR 091-07 rev. NC

Bilag 32B

PRINT DATE 09/20/07 TIME 4:30 PM

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
2007/09/18	ALL	DASH 8Q400	NA	NA

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

LIMITED FLIGHT REQUESTED

YES ☐ **NO** ☒

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* _____ FH* _____

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☒
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☒
LIMITED SERVICE	☐
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☐
REPLACE PART	☐

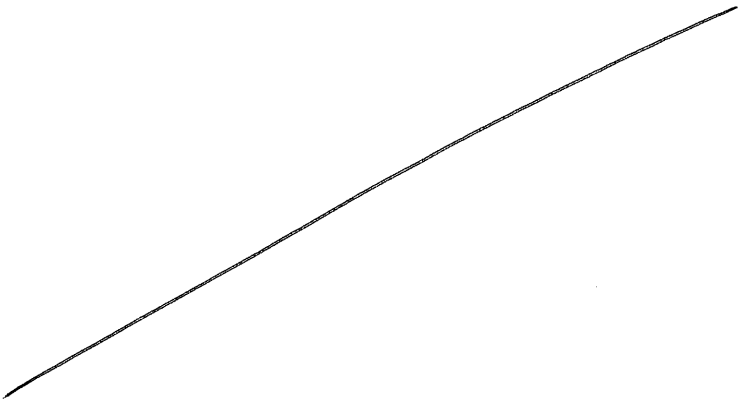
PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR086-07

SCR RAISED BY: B. HAYHURST

DATE RAISED: 2007/09/18

ITEM	PROBLEM DESCRIPTION
1.	CYLINDER PN 46551-1 HAS EVIDENCE OF CORROSION ON GLAND NUT THREADS.
2.	GLAND NUT P/N 46572-5 HAS EVIDENCE OF CORROSION ON THREADS.



REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

➤➤SEE SHEET 2 AND SUBS FOR MORE INFORMATION➤➤

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
2007/09/18	ALL	DASH 8Q400	NA	NA	

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1. 2.	**ACTUATOR DISASSEMBLY AND REASSEMBLY**

1. DISASSEMBLE AS REQUIRED TO REMOVE PISTON AND GLAND NUT FROM CYLINDER ASSEMBLY IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS.
2. REMOVE ALL SEALS FROM GLAND NUT AND PISTON HEAD AND DISCARD.
3. PERFORM INSPECTION AND REWORK OF ACTUATOR CYLINDER P/N 46551-1 IN ACCORDANCE WITH **PART 1** OF THIS SCR.
4. PERFORM INSPECTION AND REWORK OF GLAND NUT P/N 46572-5 IN ACCORDANCE WITH **PART 2** OF THIS SCR.
5. PRIOR TO REASSEMBLY OF UNIT COAT CYLINDER P/N 46551-1 THREADS AND GLAND NUT P/N 46572-5 THREADS WITH A LIBERAL COATING OF MASTINOX 6856K **ONLY**.
6. REASSEMBLE UNIT IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS
7. INSPECT – CHECK GLAND NUT FOR EVIDENCE OF BACKLASH ONCE JAM NUT IS INSTALLED AND FULLY TORQUED.
   - NO BACKLASH IS ALLOWED
   - IF BACKLASH FOUND CONTACT GOODRICH FOR FURTHER INSTRUCTIONS
8. PERFORM COMPLETE ACCEPTANCE TEST PER CMM 32-31-06 REQUIREMENTS
9. NOTE: IT IS ACCEPTABLE TO USE TOOL CG 56806 TO SET THE RETRACTED STROKE LENGTH IN LIEU OF CMM SPECIFIED TOOLING.
10. APPLY A BEAD OF AMS 8802 OR MIL-PRF-81733 SEALANT TO JAM NUT/GLAND NUT INTERFACE AS WELL AS JAM NUT/CYLINDER INTERFACE, ENSURING THAT ALL KEYWAY SLOTS ARE FILLED (REF. FIGURE 1)
11. COMPLETE UNIT IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS.

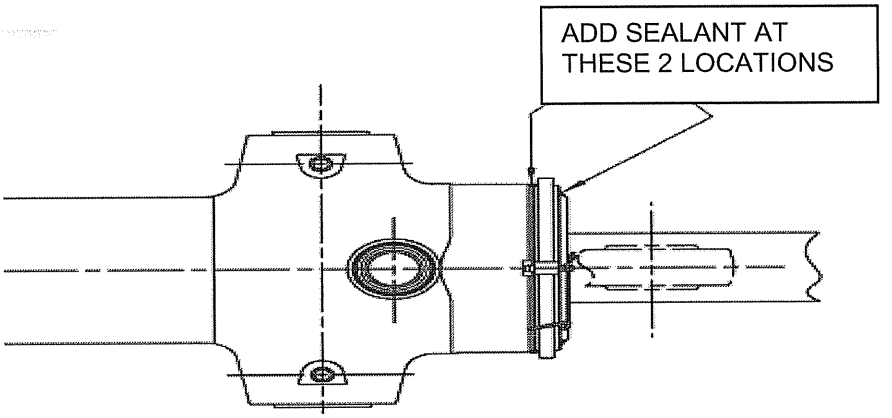


FIGURE 1

DISPOSITION AUTHORIZATION				
	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEER	S.HEALEY		2007/09/20	
STRESS	A.NORTH		2007/09/20	
OTHER (SPECIFY)	M.PERRELLA		2007/09/20	DATE: Sept 20, 2007
				Page 2 of 7

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
2007/09/18	ALL	DASH 8Q400	NA	NA	☐

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

INSTRUCTIONS / CONTINUATION SHEET

1.

PART 1 – FOR CYLINDERS WITH EVIDENCE OF CORROSION IN GLAND NUT THREADS

1. CLEAN THREADS USING A STAINLESS STEEL WIRE BRUSH AND SOLVENT, TO REMOVE ALL F.O.D AND CORROSION BY PRODUCTS
2. VISUALLY INSPECT THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF PITTING AND DAMAGE TO THE THREAD FORM USING 10 X MAGNIFICATION
3. IF THREADS ARE FOUND WITH ***LIGHT SURFACE CORROSION ONLY*** (I.E. NO PITTING OR THREAD FORM DAMAGE) PROCEED WITH OPERATIONS 5 THRU 10 UNDER PART 1 OF THIS SCR
4. IF THREADS ARE FOUND TO HAVE PITTING OR DAMAGE TO THE THREAD FORM THEN CONTINUE WITH **SECTION A** OF THIS SCR.
5. LIGHTLY CHASE THREADS USING A WIRE BRUSH OR THREAD COMB AS REQUIRED TO REMOVE ALL EVIDENCE OF CORROSION.
6. LIGHTLY POLISH THREAD RELIEF AREA AND ADJACENT CHAMFER AS/IF REQUIRED TO REMOVE ALL EVIDENCE OF CORROSION.
7. INSPECT – ENSURE ALL EVDIENCE OF CORROSION HAS BEEN REMOVED (NO PITTING) AND THAT THREAD FORM REMAINS UNDAMAGED, USING 10 X MAGNIFICATION.
8. SOLVENT CLEAN REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS
9. TOUCH UP BRUSH CAD PLATE REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS (REF. FIGURE 2).
10. COMPLETE PART PER CMM 32-31-06 REQUIREMENTS, AND RETURN TO PAGE 2 OF THIS SCR AND COMPLETE REASSEMBLY PER OPERATIONS 5 THRU 10.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/20
STRESS	A.NORTH		2007/09/20
OTHER (SPECIFY)	M.PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
2007/09/18	ALL	DASH 8Q400	NA	NA	➤➤ ☐ ◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

INSTRUCTIONS / CONTINUATION SHEET

1.

SECTION A – CYLINDERS REQUIRING REWORK TO THREADS

1. MASK AS REQUIRED TO PROTECT CYLINDER INSIDE DIAMETER, AND EXTERIOR FROM F.O.D CONTAMINATION OR DAMAGE DURING THE FOLLOWING REWORK STEPS.
2. CHASE DISCREPANT THREADS USING A THREAD COMB OR EQUIVALENT TO REMOVE ALL EVIDENCE OF CORROSION FROM THREAD FORM.
3. DEBURR/BLEND AS/IF REQUIRED TO REMOVE ALL EVIDENCE OF PITTING AND/OR DAMAGE FROM THREADS AND THREAD RELIEF AREAS
4. INSPECT – USING 10 X MAGNIFICATION ENSURE ALL EVIDENCE OF PITTING AND/OR DAMAGE HAS BEEN REMOVED.
   - IF EVIDENCE OF PITTING OR DAMAGE STILL REMAINS THEN PERFORM OPTIONAL REWORKS A OR B TO COMPLETELY REMOVE DAMAGE.
   - IF ALL EVIDENCE OF PITTING AND/OR DAMAGE HAS BEEN REMOVED ENSURE THREADS AND THREAD RELIEF AREA CONFORM TO THE FOLLOWING;

   ACCEPTANCE CRITERIA

   I) AN OVERSIZE CONDITION OF NO MORE THAN .002 INCH ON MAJOR, MINOR AND PITCH DIAMETERS IS PERMISSIBLE.

   II) AREAS OF MISSING THREADS MAY ACCOUNT FOR NO MORE THAN 10% OF THE TOTAL THREADED AREA.

   III) BLENDED DEPRESSIONS IN THREAD RELIEF AREA MAY NOT EXCEED .005 INCH IN DEPTH.

   - IF CRITERIA I) AND/OR II) ARE NOT SATISFIED THEN CONTINUE WITH OPTIONAL REWORKS A OR B.

5. MAGNETIC PARTICLE INSPECT REWORKED AREAS PER ASTM E-1417. DEFECTS NOT TO EXCEED MIL-STD-1907, GRADE 'A' LIMITS
6. MASK AS REQUIRED TO PROTECT THREADS AND LOCALLY SHOT PEEN REWORKED THREAD RELIEF AREAS PER MIL-R-81841, USING HARD SHOT (HRC 55-65), SHOT SIZE 170-280, INTENSITY .010-.014A, COVERAGE 200%.
7. SOLVENT CLEAN REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS
8. BRUSH CAD PLATE REWORKED AREAS PER MIL-STD-867 AND CMM REQUIREMENTS, USING LHE SOLUTION (REF. FIGURE 2)
9. RETURN TO SHEET 2 OF THIS SCR, AND COMPLETE REASSEMBLY PER OPERATIONS 5 THRU 10.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/20
STRESS	A.NORTH		2007/09/20
OTHER (SPECIFY)	M.PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
2007/09/18	ALL	DASH 8Q400	NA	NA	☐

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

INSTRUCTIONS / CONTINUATION SHEET

1. **OPTIONAL REWORK A**

1. DISASSEMBLE PART AS REQUIRED TO REMOVE ALL BUSHINGS AND RESTRICTOR FITTINGS PER CMM 32-31-06 REQUIREMENTS
2. REMOVE PAINT AND PRIMER PER CMM 32-31-06 REQUIREMENTS
3. STRIP CADMIUM PLATING FROM ALL OVER PARTS
4. SET UP PART ON MACHINE AND USING SINGLE POINT TOOLING, CHASE THREADS TO REMOVE .010 INCH FROM ALL OVER THREAD FORM AND THREAD RELIEF AREA, USING MINIMUM FEEDS AND SPEEDS.
5. SOLVENT CLEAN REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS
6. INSPECT – ENSURE ALL EVIDENCE OF CORROSION AND THREAD DAMAGE HAS BEEN REMOVED USING 10 X MAGNIFICATION
   – ENSURE REWORKED THREADS CONFORM TO THE FOLLOWING REQUIREMENTS;
   i. THREAD MAJOR DIA 3.0200, MINOR DIA 2.9389/2.9489, PITCH DIA 2.9659/2.9721
   ii. AREAS OF MISSING THREADS MAY ACCOUNT FOR NO MORE THAN 10% OF THE TOTAL THREADED AREA.
7. BRUSH ETCH INSPECT REWORKED AREAS PER MIL-STD-867
8. MAGNETIC PARTICLE INSPECT REWORKED AREAS PER ASTM E-1417. DEFECTS NOT TO EXCEED MIL-STD-1907, GRADE 'A' LIMITS
9. MASK AS REQUIRED TO PROTECT THREADS AND LOCALLY SHOT PEEN THREAD RELIEF PER MIL-R-81841, USING HARD SHOT (HRC 55-65), SHOT SIZE 170-280, INTENSITY .010-.014A, COVERAGE 200%.
10. MASK AS REQD AND ELECTROLESS NICKEL PLATE REWORKED AREAS (THREAD AND THREAD RELIEF ONLY) PER AMS 2404, TO A THICKNESS OF .002 TO .0025 INCH.
11. BAKE PART AT 375+/-25 DEG F FOR 23 HRS.
12. INSPECT – ENSURE FULL COVERAGE OF THREADS INCLUDING THREAD ROOTS, AND NO EVIDENCE OF PITTING IN NICKEL PLATED AREA
13. MASK AS REQD AND CADMIUM PLATE PART PER CMM 32-31-06 REQUIREMENTS
14. BAKE PART AT 375+/-25 DEG F FOR 8 HRS
15. MAGNETIC PARTICLE INSPECT REWORKED AREAS PER ASTM E-1417. DEFECTS NOT TO EXCEED MIL-STD-1907, GRADE 'A' LIMITS
16. MASK AS REQD AND APPLY PRIMER IN ACCORDANCE WITH CMM REQUIREMENTS.
17. MASK AS REQUIRED AND INSTALL BUSHINGS PER CMM 32-31-06 REQUIREMENTS
18. MASK AS REQD AND APPLY TOP COAT IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS
19. REASSEMBLE PART WITH RESTRICTOR FITTINGS PER CMM 32-31-06 REQUIREMENTS
20. RETURN TO SCR PAGE 2, AND COMPLETE REASSEMBLY PER OPERATIONS 5 THRU 10.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	S.HEALEY		2007/09/20	
STRESS	A.NORTH		2007/09/20	
OTHER (SPECIFY)	M.PERRELLA		2007/09/20	DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
2007/09/18	ALL	DASH 8Q400	NA	NA	☐

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

INSTRUCTIONS / CONTINUATION SHEET

OPTIONAL REWORK B

1. CREATE 1/16 O/S CYLINDER THREADS AND SPECIAL GLAND NUT IN ACCORDANCE WITH DRAWING S211X
2. RETURN TO PAGE 2 OF THIS SCR AND COMPLETE REASSEMBLY PER OPERATIONS 5 THRU 10.

PART 2 – GLAND NUTS REQUIRING REWORK TO THREADS

2.

1. CHASE DISCREPANT THREADS USING A THREAD COMB OR EQUIVALENT TO REMOVE ALL EVIDENCE OF CORROSION FROM THREAD FORM.
2. DEBURR/BLEND AS/IF REQUIRED TO REMOVE ALL EVDIENCE OF PITTING AND/OR DAMAGE FROM THREADS AND THREAD RELIEF AREAS
3. SOLVENT CLEAN REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS
4. INSPECT – USING 10 X MAGNIFICATION ENSURE ALL EVIDENCE OF PITTING AND/OR DAMAGE HAS BEEN REMOVED.
   - IF ALL EVIDENCE OF PITTING AND/OR DAMAGE HAS BEEN REMOVED ENSURE THREADS AND THREAD RELIEF AREA CONFORM TO THE FOLLOWING;

   ACCEPTANCE CRITERIA

   I) AN UNDERSIZE CONDITION OF NO MORE THAN .002 INCH ON MAJOR, MINOR AND PITCH DIAMETERS, IS PERMISSIBLE

   II) AREAS OF MISSING THREADS MAY ACCOUNT FOR NO MORE THAN 10% OF THE TOTAL THREADED AREA.

   III) IF THE ABOVE CRITERIA ARE NOT SATISFIED THEN DISCARD GLAND NUT.
5. LIQUID PENETRANT INSPECT REWORKED AREAS PER ASTM E-1417, TYPE I, SENSITIVITY LEVEL 3. DEFECTS NOT TO EXCEED MIL-STD-1907, GRADE 'A' LIMITS.
6. SOLVENT CLEAN REWORKED AREAS PER CMM 32-31-06 REQUIREMENTS
7. BRUSH ALODINE REWORKED AREAS PER MIL-C-5541, TYPE I, AND CMM 32-31-06 REQUIREMENTS
8. COMPLETE PART PER CMM 32-31-06 REQUIREMENTS, AND RETURN TO PAGE 2 OF THIS SCR AND COMPLETE REASSEMBLY PER OPERATIONS 5 THRU 10.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/20
STRESS	A.NORTH		2007/09/20
OTHER (SPECIFY)	M.PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR091-07	NC	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
2007/09/18	ALL	DASH 8Q400	NA	NA

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	MLG RETRACTION ACTUATOR	NA	NA	NA
PART ⇨	46551-1 46572-3/-5	CYLINDER GLAND NUT	ALL	NA	NA

INSTRUCTIONS / CONTINUATION SHEET

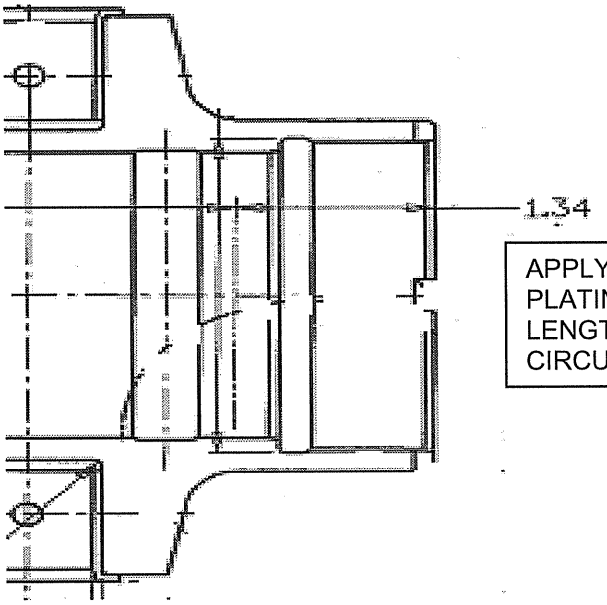


FIGURE 2

DISPOSITION AUTHORIZATION				
	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)	AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY
ENGINEERING	S.HEALEY		2007/09/20	
STRESS	A.NORTH		2007/09/20	
OTHER (SPECIFY)	M.PERRELLA		2007/09/20	DATE: Sept 20, 2007

Bilag 33

BOMBARDIER

AEROSPACE
Bombardier Inc.
123 Garratt Blvd.
Toronto, Ontario M3K 1Y5
www.aero.bombardier.com
TEL 416-375-4000

Bombardier Q400

All Operator Message No. 250

ATTN: Director/Manager of: Maintenance
Engineering
Quality Control
Flight Operations
Procurement/Spares

DATE: 01 OCT 07

ATA: 3210 MODEL: Q400

SUBJECT: RD 8/4-32-059 Issue 5 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear

REFERENCE: /A/ Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/B/ AOM 243 RD 8/4-32-059 Issue 4 for Transport Canada AD CF-2007-20 Issued Against DHC-8-400 Main Landing Gear
/C/ RD 8/4-32-059 Issue 5 for Inspection Procedure for actuators p/n 46550-7 or 46550-9 rod end
/D/ Goodrich Service Concession Request SCR086-07 Rev D Retraction Actuator Rework

The following message is being sent to all Bombardier Q400 Operators and Bombardier Regional Aircraft Field Service Representatives.

This message contains information requiring attention and/or action. Please ensure timely and appropriate distribution within maintenance and flight operations departments.

DISCUSSION:

This AOM is being issued to inform Operators of the release of Repair Drawing (RD) 8/4-32-059 Issue 5 required for compliance to Transport Canada Airworthiness Directive (AD) No. CF-2007-20. Issue 5 of (RD) 8/4-32-059 is being revised to clarify the initial visual inspection done without using the 10 X magnification, add repeat inspection criteria and remove the dowel pin rework.

Operators having complied with Issue 1 of RD 8/4-32-059 with no findings are not required to repeat the inspections specified in Issue 2, 3 or 4. However prior to reaching 500 FC, inspection of the threads is required using 10X magnification following instructions in RD 8/4-32-059 issue 5.

Please direct responses and inquiries to your Bombardier Regional Aircraft Field Service Representative or the Technical Help Desk in Toronto at telephone (416) 375-4000 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com

Alisa Turk, Manager, Technical Help Desk and Martin Elliott, Director, In-Service Engineering & Technical Support, Bombardier Regional Aircraft.

Bilag 33A

BOMBARDIER

REPAIR DRAWING (RD)

1 TITLE	2 RD NUMBER	
Inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.	**8/4-32-059**	
	3 SECTION: **1**	4 SHEET: **1**

5 PRIME DESIGN ACTIVITY	6 ADDITIONAL LIMITATIONS	7 SERIES	8 APPLICABILITY
BOMBARDIER INC., DOWNSVIEW 71867	**NONE**	**DHC-8-400**	**Models 400, 401 and 402**

9 DESCRIPTION

This page re-written at Issue #5.-SCR086-07 raised to Rev. D

This RD defines an inspection procedure for retraction actuators p/n 46550-7 or 46550-9 rod end.

This RD is to be accomplished in conjunction with Goodrich SCR 086-07 rev. D.

The procedure involves removing the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. D and inspecting affected parts for any signs of corrosion or wear.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. D.

The details of this procedure are covered by **RD 8/4-32-059** section 1.

Sheet 1 Issue 5
Sheet 2 Issue 5

At SCR 086-07 Rev D: Rework for Freeze fit Pin in SCR now deleted-Ref. Dwg S2117-deleted.
New Inspection criteria added for reworked Actuators (excluding those repaired by Section B)
Page 1,2 raised to Issue # 5.

10 ISSUE	**5**				
11 DATE	**20-Sep-07**				
12 PREPARED BY	**D. Devogel**				
13 STRESS					
16 DESIGN AUTHORITY	#233 20 SEP 2007				
14					
15 DAO AUTHORITY	#233 SEP 2007				
17 DAO AUTHORITY	#233 20 SEP 2007				

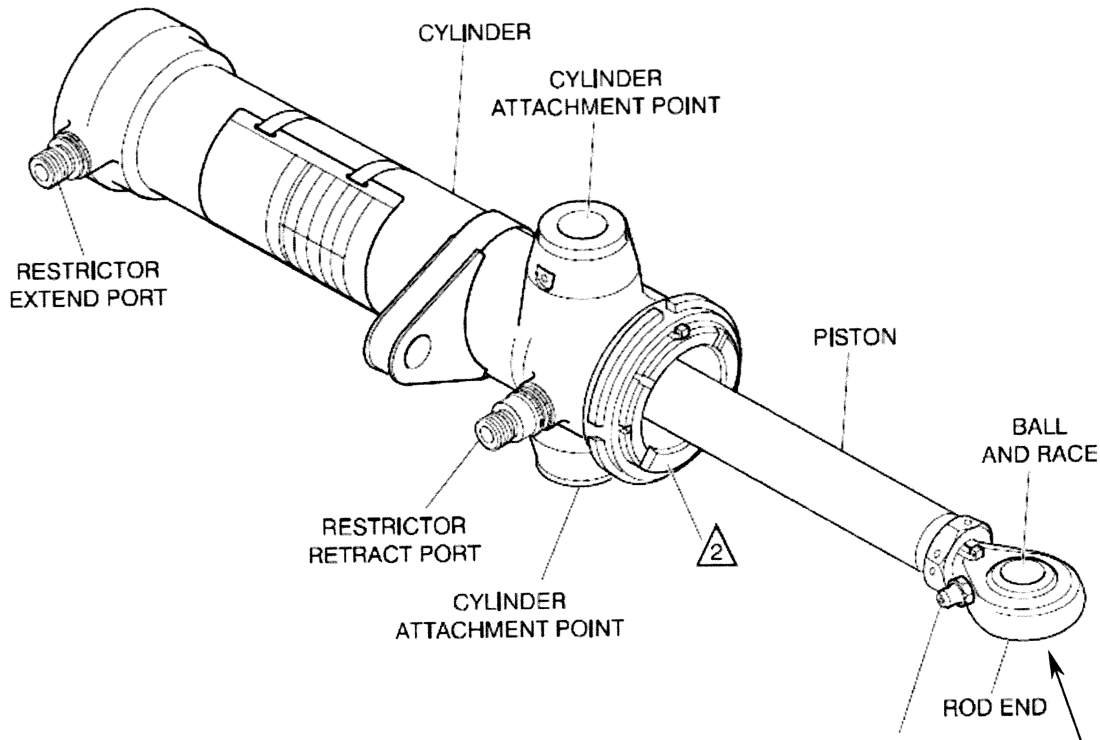
18 [X] THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE DESIGN AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION DAO NO. 93-Q-02

[ ] BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

D.3363-27 REV 1999-07

10 ISSUE	5				2 RD NUMBER	3 SECTION	4 SHEET
					8/4-32-059	1	2

Retraction actuator assembly p/n 46550-7/-9



Remove the rod end of the retraction actuator assembly in accordance with SCR 086-07 rev. D

Inspect affected parts for any signs of corrosion or wear.

Provided the components are free of any damage re-assemble retraction actuator in accordance with SCR 086-07 rev. D

At Issue # 5: SCR086-07 Raised to Rev D from C

Bilag 33B

PRINT DATE 09/20/07 TIME 12:38 PM

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN
ANY	ALL	4001 AND SUB		

INDICATE IF A.O.G. ➤➤☒◄◄

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

LIMITED FLIGHT REQUESTED

YES ☒ **NO** ☐

(IF YES, AUTHORIZED ENGINEER SIGNATURE REQUIRED)

INDICATE **FC** OR **FH** LIMITATION:

FC* 1000 OR 6 MONTHS

*WHICH EVER COMES FIRST

IF ONLY FC IS SPECIFIED INDICATE FH NOT RELEVANT ☐

OR SPECIFY LIMITATION IN TERMS OF AIRCRAFT CHECKS:

A ☐ | C ☐ | L ☐ | x

REQUEST CATEGORY

IN-SERVICE PROBLEM ☒

AFFECTED SYSTEM

MLG	☒	BRAKING	☐
NLG	☐	STEERING	☐
WLG	☐	RET / EXT	☒
BLG	☐	DRESSINGS	☐
FLTC	☐	OTHER	☐

DISPOSITION SUMMARY

NORMAL USE AFTER REPAIR	☐
LIMITED SERVICE	☒
TEMPORARY REPAIR	☐
REMOVE & REPAIR	☒
REPLACE PART	☒

PREVIOUS CONCESSIONS GRANTED FOR THIS SERIAL NUMBER COMPONENT

SCR RAISED BY: B WEBER

DATE RAISED: 2007/09/12

ITEM	PROBLEM DESCRIPTION
1	THERE HAVE BEEN 2 INSTANCES OF SEPARATION OF ROD END P/N P3A2750 AND PISTON P/N 46570-1/-3. INSPECTION OF THREAD CONDITION REQUIRED IN ACCORDANCE TO TRANSPORT CANADA AIRWORTHINESS DIRECTIVE (CF-2007-20).

REPORTED CAUSE OF PROBLEM:

ADDITIONAL INFORMATION ATTACHED ☐

➤➤SEE SHEET 2 AND SUBS FOR MORE INFORMATION◄◄

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS				INDICATE IF A.O.G.
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

ITEM	CONTINUATION SHEET / INSTRUCTIONS
1	

1. SHUT DOWN HYDRAULIC SYSTEM 2
2. WITH ACTUATOR INSTALLED ON AIRCRAFT, REMOVE LOCK WIRE AND BACK OFF JAM NUT AS REQUIRED TO DISENGAGE LOCKING FEATURE.
3. DISASSEMBLE AS REQUIRED, REMOVE ACTUATOR ROD END PIN (P/N 46160-1) FROM MAIN LANDING GEAR SHOCK STRUT ASSEMBLY
4. FULLY COMPRESS PISTON
5. SECURE PISTON, AND REMOVE ROD END FROM PISTON.
6. IF ROD END (P/N P3A2750) DOES NOT EASILY BACK OUT OF PISTON WITHOUT BINDING AND WITH THE USE OF A STRAP WRENCH, REMOVE RETRACT ACTUATOR P/N 46550-7/-9 FROM GEAR ASSEMBLY.
   - REPLACE WITH NEW OR SERVICABLE RETRACT ACTUATOR P/N 46550-7/-9 IN ACCORDANCE WITH BOMBARDIER AMM. REPLACEMENT ACTUATOR SHALL HAVE CORROSION INHIBITING COMPOUND (CIC) INCORPORATED.
   - IF THE REPLACEMENT ACTUATOR DOES NOT HAVE CORROSION INHIBITING COMPOUND (CIC) APPLIED TO THE PISTON ROD/ROD END THREADS, IT MUST BE INCORPORATED WITHIN **500 FC** OF INITIAL INSPECTION, SEE **SECTION A** OF THIS SCR FOR INSTRUCTIONS.
7. IF ROD END (P/N P3A2750) BACKS OUT OF PISTON WITHOUT BINDING, COMPLETELY REMOVE ROD END AND CONTINUE WITH OPERATIONS 8 THRU 16.
8. WIRE BRUSH WITH SOLVENT TO CLEAN THREADED AREAS OF PISTON AND ROD.
9. VISUALLY INSPECT ROD END (P/N P3A2750) FOR EVIDENCE OF CORROSION CONTAMINATION IN THREADS UNDER ADEQUATE LIGHTING CONDITIONS.
   - IF ANY EVIDENCE OF PITTING CORROSION IS FOUND ON ROD END THEN DISCARD THE ROD END.

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEER	S.HEALEY		2007/09/20
STRESS	A. NORTH		2007/09/20
OTHER (SPECIFY)	M. PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			☒

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

10. VISUALLY INSPECT PISTON (P/N 46570-1/-3) THREADS AND THREAD RELIEF AREA FOR EVIDENCE OF CORROSION AND/OR DAMAGE AND/OR PITTING (REF. FIGURE 1), USING BORESCOPE OR 10X MAGNIFICATION MIRROR UNDER ADEQUATE LIGHTING CONDITIONS.
    - IF CORROSION IS FOUND IN THREADED AREA OF PISTON P/N 46570-1/-3 PERFORM REWORK IN ACCORDANCE WITH **SECTION B** OF THIS SCR
    - IF NO CORROSION IS FOUND CONTINUE WITH REMAINING OPERATIONS

    IF THE INITIAL VISUAL INSPECTION IS DONE WITHOUT USING BORESCOPE OR 10X MAGNIFICATION MIRROR PER THE REVISION *NC* OF THIS SCR, A ONE TIME DEFERRAL FOR UP TO **500 FC** IS PERMISSIBLE TO COMPLETE THE ABOVE INSPECTION (REF. OPERATION 10).

11. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CORROSION INHIBITING COMPOUND MASTINOX 6856K OR CORBAN 27L WITHIN 500 FC OF INITIAL INSPECTION.

12. RE-INSTALL ROD END AND JAM NUT INTO PISTON ASSY

13. DISASSEMBLE AS REQUIRED TO REMOVE ACTUATOR FROM YOKE ASSEMBLY (NOTE: HYDRAULIC DISCONNECTION NOT REQUIRED).

14. USING TOOL NUMBER CG 56806, ADJUST ROD END RETRACTED LENGTH AS REQUIRED, TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS 33540.

    - OPTIONAL PROCEDURE FOR RIGGING ACTUATOR LENGTH: RIG ACTUATOR TO NOMINAL RETRACTED LENGTH PER TOOL DRAWING (REF DIM 4.286 INCH) AND TORQUE JAM NUT TO 660-980 IN-LBS, SAFETY LOCK WIRE PER MS33540.
    - NOTE: IF OPTIONAL PROCEDURE IS USED, GEAR SWINGS ARE REQUIRED (2 POWDERED CYCLES AND 1 ALTERNATE RELEASE TO VERIFY FUNCTIONAL CAPABILITY).

DISPOSITION AUTHORIZATION

	NAME (PRINT)	SIGNATURE	DATE(Y/M/D)
ENGINEERING	S.HEALEY		2007/09/20
STRESS	A. NORTH		2007/09/20
OTHER (SPECIFY)	M. PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			☒

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

15. RE-INSTALL ACTUATOR ONTO YOKE ASSEMBLY.
16. EXTEND PISTON AND RE-ATTACH TO SHOCK STRUT ASSEMBLY USING PIN P/N 46160-1, AND TORQUE IN ACCORDANCE AMM REQUIREMENTS.

SECTION A – APPLICABLE TO EXISTING ACTUATORS ASSEMBLED WITHOUT CIC

1. DISASSEMBLE AS REQUIRED TO REMOVE ROD END P/N P3A2750 FROM ACTUATOR ASSEMBLY.
2. INSPECT - ENSURE NO EVIDENCE OF CORROSION ON ACTUATOR PISTON THREADS OR ROD END THREADS.
3. COAT ACTUATOR THREADS AND THREAD RELIEF AS WELL AS ROD END THREADS, WITH CIC MASTINOX 6856K OR CORBAN 27L, AND RE-INSTALL ROD END ONTO ACTUATOR ASSEMBLY.
4. ADJUST ACTUATOR RETRACTED LENGTH USING TOOL CG 56806 REQUIREMENTS OR IN ACCORDANCE WITH CMM 32-31-06 REQUIREMENTS. OPTIONAL PROCEDURE PER STEP 13, ABOVE, IS ALSO ACCEPTABLE
5. TORQUE JAM NUT TO 660-980 IN-LBS AND SAFETY LOCKWIRE PER MS 33540.

REPEAT INSPECTION CRITERIA

THESE INSPECTION CRITERIA SHALL APPLY TO ALL ACTUATORS EXCEPT THOSE REWORKED PER **SECTION B** OF THIS SCR.
THESE CRITERIA SHALL REMAIN IN EFFECT UNTIL TERMINATION OF THE AIRWORTHINESS DIRECTIVE (CF-2007-20).

1. INSPECT RETRACT ACTUATOR TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **250 FC**. OR ONCE EVERY MONTH WHICH EVER OCCURS FIRST
   A) IF JAM NUT IS FOUND LOOSE RE-TORQUE TO 660-980 INB-LBS AND SAFETY LOCKWIRE PER MS 33540.

2. INSPECT RETRACT ACTUATOR PISTON AND ROD END ASSEMBLY IN ACCORDANCE WITH THIS SCR OPERATIONS 1 THRU 16 ONCE EVERY **2000 FC** OR ONCE PER CALENDAR YEAR WHICH EVER OCCURS FIRST.

DISPOSITION AUTHORIZATION

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STRESS	A. NORTH		2007/09/20
OTHER (SPECIFY)	M. PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
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AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

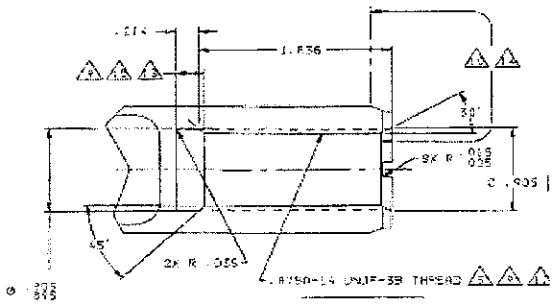

FIGURE 1

SECTION B

1. MASK AS REQUIRED TO PROTECT ACTUATOR HOUSING, GLAND AREA, AND EXPOSED CHROME OF PISTON FROM F.O.D CONTAMINATION AND DAMAGE DURING THE FOLLOWING REWORK.
2. CHASE PISTON THREADS AND THREAD RELIEF AREA TO REMOVE CORROSION PRODUCTS TO THE GREATEST POSSIBLE EXTENT USING THREAD COMB AND/OR STAINLESS STEEL WIRE BRUSH.
3. INSPECT THE ENTIRE PROFILE OF THREADS OVER THE FULL SPAN OF THREADS (REF. 1.836 DIM, FIGURE 1) AND THE RELIEF GROOVE IN PISTON USING 10X MAGNIFICATION MIRROR OR BORESCOPE UNDER ADEQUATE LIGHTING CONDITIONS.
4. **ACCEPTANCE CRITERIA/REWORK OPTIONS**

   A) LIGHT SURFACE CORROSION (NO PITTING) OVER THE ENTIRE THREADED LENGTH WITH AT LEAST FIVE CONSECUTIVE FULL UNDAMAGED THREADS WITHIN THE ENGAGED THREAD LENGTH (REF FIGURE 2) IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE. THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**

DISPOSITION AUTHORIZATION

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OTHER (SPECIFY)	M. PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

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GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS

EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	INDICATE IF A.O.G.
ANY	ALL	4001 AND SUB			

ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

B) EVIDENCE OF MODERATE PITTING CORROSION CAN BE REWORKED: (REF FIG 2)

a. TO DWG S2116 (HELICOIL SOLUTION). HELICOIL REWORK IS ACCEPTABLE FOR **1000 FC OR 6 MONTHS** (WHICH EVER OCCURS FIRST) OF CONTINUED SERVICE.
b. REPLACED

FOR OPTION a) THE RETRACT ACTUATOR IS TO BE INSPECTED TO ENSURE JAM NUT IS SECURE AND WIRE LOCK IS IN PLACE EVERY **100 FC**.

IF JAM NUT IS FOUND LOOSE DURING FLIGHT CYCLE ALLOWANCES GRANTED BY THE CRITERIA IN 4A) OR 4 B), RE-TORQUE JAM NUT TO 660-980 INB-LBS AND SAFETY LOCKWIRE PER MS 33540.

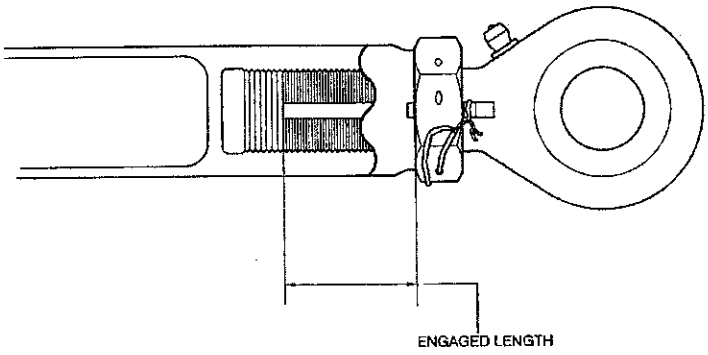

FIGURE 2

DISPOSITION AUTHORIZATION

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ENGINEERING	S.HEALEY		2007/09/20
STRESS	A. NORTH		2007/09/20
OTHER (SPECIFY)	M. PERRELLA		2007/09/20

AUTHORIZED ENGINEER OR HIGHER ENGINEERING AUTHORITY

DATE: Sept 20, 2007

GOODRICH	SERVICE CONCESSION REQUEST	SCR NUMBER	REV	PROG
		SCR 086-07	D	2130

AIRCRAFT DETAILS				INDICATE IF
EVENT DATE (Y/M/D)	AIRLINE	A/C S/N	TSN	CSN	A.O.G.
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ITEM	PART NO.	NAME	S/N	TSN	CSN
N.H.A ⇨					
N.H.A ⇨	46550-7/-9	RETRACTION ACTUATOR	ALL		
PART ⇨	46570-1/-3	PISTON	ALL		

INSTRUCTIONS / CONTINUATION SHEET

SUGGESTED LIST OF CIC SUPPLIERS:

CORBAN 27L http://www.zipchem.com/locations.aspx

MASTINOX 6856K http://www.ppg.com/prc-desoto/main.asp?img=crt&contLvl=mansites

DEFINITIONS

SURFACE CORROSION : a uniform loss of metal due to corrosion

PITTING CORROSION : a localized attack which results in a depression or a pit

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STRESS	A. NORTH		2007/09/20	
OTHER (SPECIFY)	M. PERRELLA		2007/09/20	DATE: Sept 20, 2007
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