

FALCON 20



MAINTENANCE MANUAL CHAPTER 5-40 AIRWORTHINESS LIMITATIONS

ORIGINAL: NOVEMBER 1986
REVISION 18: OCTOBER 2018

Copyright © 1986 by Dassault Aviation.
All rights reserved. No part of this work may be reproduced or copied
in any form or by any means without written permission
of Dassault Aviation.

CHAPTER 5-40

CONTENTS

TITLE PAGE

10/2018 Reference DGT 131028

05-40: AIRWORTHINESS LIMITATIONS (Reference DGT 131028)

05-40-00 NOTE TO USERS
CHAPTER 5
SECTION 5-40

10/2018 Reference DGT 131028

05-40-00 AIRWORTHINESS LIMITATIONS

10/2018 Reference DGT 131028

FALCON 20

MAINTENANCE MANUAL

AIRWORTHINESS LIMITATIONS

CHAPTER 5-40-00, REVISION No. 18

NOTE TO USERS

Please find enclosed revision No. 18 of Chapter 5-40-00.

Main modifications and corrections contained in this revision are listed hereafter.

ATA 100 No.	REMARKS
<u>Chapter 5-40-00</u>	
Page 1	– New approval date of revision 18
Page 2	– EASA approval
Page 8	– Deletion of operations
Page 9	– Deletion of NOTE (3) linked to two operations
Page 10	– Deletion of NOTE (3)

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

AIRWORTHINESS LIMITATIONS

This section contains instructions pertaining to Airworthiness.

These instructions must be imperatively observed by operators.

With respect to the airworthiness of the aircraft, this section is subject to approval by the European Aviation Safety Agency (EASA).

For U.S. Registered aircraft, the Airworthiness Limitations section is EASA approved on behalf of FAA and specifies maintenance required under paragraphs 43.16 and 91.409 of the Federal Aviation Regulations, unless an alternative program has been FAA approved.

PAGES No.	REVISION	EFFECTIVITY
5-40-00 Page 1	Revision 18	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 2	Revision 18	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 3	Revision 16	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 4	Revision 16	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 5	Revision 16	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 6	Revision 16	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 7	Revision 16	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 8	Revision 18	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 9	Revision 18	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)
5-40-00 Page 10	Revision 18	AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Approved by EASA

Date of approval

of the original edition : November 21, 1986

Revision 1: March 26, 1987

Revision 2: June 3, 1987

Revision 3: April 15, 1988

Revision 4: July 13, 1989

Revision 5: April 26, 1991

Revision 6: February 23, 1996

Revision 7: October 3, 1996

Revision 8: April 3, 1998

Revision 9: December 23, 1999

Revision 10: September 23, 2002

Revision 11: September 23, 2002

Revision 12: February 10, 2003

Revision 13: EASA approved under EASA reference 05782 on July 31, 2007.

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Reference DGT 131028

Rev. Date: 10/2018

5-40-00

Page 1

AIRWORTHINESS LIMITATIONS

Revision 14: This revision 14 is the compilation of the following EASA approved changes, with no further technical change:

- TR002 approved by EASA under change reference M2974.
- CP003 approved by EASA under change reference M2979.

The technical content of this revision is approved under DOA EASA.21J.05 authority by reference R5010. This approval means that the revision has been prepared exclusively with already EASA approved data and is released under DOA procedures.

Effective date of this revision: February 28, 2011.

Revision 15: This revision 15 supersedes:

- the document F20 DMD 11755 section chapter 5-40-00,
- the document F20GF (S/N 397) DMD 33075 section chapter 5-40-00. This version is approved by EASA under reference M2964.

Effective date of this revision: January 30, 2013.

Revision 16: This revision 16 contains the following EASA approved change, with no further technical change:

- CP007 approved by EASA under change reference M2980.
- CP008 approved by EASA under change reference M7022.

The technical content of this revision is approved under DOA EASA.21J.05 authority by reference R5038. This approval means that the revision has been prepared exclusively with already EASA approved data and is released under DOA procedures.

Effective date of this revision: March 15, 2017.

Revision 17: This revision 17 is the integration of the following EASA approved change, with no further technical change:

- CH5-40-CP0001-CPAS approved by EASA under change reference M7035.

The technical content of this revision is approved under DOA EASA.21J.05 authority by reference R5041. This approval means that the revision has been prepared exclusively with already EASA approved data and is released under DOA procedures.

Effective date of this revision: November 29, 2017.

Revision 18: This revision 18 is the integration of the following EASA approved change, with no further technical change:

- CH5-40-CP0012-CPAS approved by EASA.

The technical content of this revision is approved under DOA EASA.21J.05 authority by reference R5043. This approval means that the revision has been prepared exclusively with already EASA approved data and is released under DOA procedures.

Effective date of this revision: January 1st, 2019.

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

GENERAL

Section 5-40 is divided into two paragraphs:

A – 5-40-00 Airframe components with limited service life (“SAFE LIFE”).

B – 5-40-00 Mandatory maintenance operations.

IMPORTANT: These instructions must be complied with mandatorily by the operators.

Failure to comply with these instructions will lead to the immediate suspension of the Airworthiness certificate.

The mandatory nature of these instructions does not in any way reduce the importance of the other tasks, listed in the Recommended Maintenance Program, which must be carried out in agreement with the National Airworthiness Authorities.

The mandatory maintenance operation time limits given in section 5-40 correspond to results obtained from computations.

In order to reduce down time due to scheduled maintenance, these mandatory maintenance operations are also listed in section 5-10 or 5-20 but with time limits corresponding to aircraft inspections (A, B, Z, C) or expressed in number of flights.

An operation required in section 5-40 may not necessarily be carried out, provided it was previously performed during an inspection required in sections 5-10 or 5-20.

To facilitate scheduling of maintenance operations expressed in “FLIGHTS”, a flight is considered as equivalent to landing except for some specific operation conditions (training aircraft, maritime patrol aircrafts, etc.), see 5-00-00, paragraph 4. E.

If an operator installs a secondhand main structural part (example: landing gear), he must note on the aircraft logbook the number of flights or landings accumulated by this part since manufacturing. He must ensure that, during operation, the service life limit of this part, indicated in chapter 5-40, will not be exceeded.

Airworthiness limitations specific to F20GF are covered by the supplement of the Maintenance Manual DFS--DE-05-F2-A1, Section 5-40-00 DFS.

Updating of section 5-40-00

When a new maintenance operation is derived from a revision of chapter 5 section 5-40-00, this operation must be carried out when the time at which it is scheduled falls due, unless otherwise specified in the “MAXIMUM TIME LIMIT” column.

When the aircraft inspection have two limits (i.e., 12 years or 7500 flights) the due time will be which ever is reached the first.

A – Airframe components with limited service life (“SAFE LIFE”)

The airframe components with limited service life are given in the table below.

This list refers only to installations designed or approved by DASSAULT AVIATION and incorporated in the aircraft type design. Other changes such as STCs, PMA or any major change, not approved by the airplane manufacturer, or change of the type of operation, which may have an impact on the airframe components service life, are not included in this document.

COMPONENT IDENTIFICATION	PART NUMBER	LIMITED SERVICE LIFE	REMARKS
32 LANDING GEAR/ BRAKES <u>FALCON 20</u> Nose landing gear leg comprising :	A23659-XX A10-23659-XX A11-23659-XX A23659033-XX A23659023-XX		
- Magnesium barrel	C48884-9 C48884-10 C1-48884	20 000 landings 20 000 landings 20 000 landings	See NOTE (1) (A/C with SB 535)
or			
- Aluminum barrel	D49432-1	40 000 landings	See NOTE (1) (A/C with SB 535)
- Rocker	C1-48723 C2-48723	40 000 landings 40 000 landings	
- Rotating tube	C48705 C1-48705	40 000 landings 40 000 landings	See NOTE (1) (A/C with SB 535)
Telescopic bar	A23717 A23717-1 (SB 435) A23717-22	33 000 landings 40 000 landings 20 000 landings	
Shock absorber	A23660-XXX A23660002-XXX A23660023-XXX	40 000 landings 40 000 landings 40 000 landings	

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Reference DGT 131028

Rev. Date: 10/2016

5-40-00

Page 4

COMPONENT IDENTIFICATION	PART NUMBER	LIMITED SERVICE LIFE	REMARKS
32 LANDING GEAR/ BRAKES (cont'd)			
<u>FALCON 20</u>			
Main landing gear leg	A23663-XXX (L/H) A23664-XXX (R/H) A10-23663-XXX (L/H) A10-23664-XXX (R/H) A23663023-XXX (L/H) A23664023-XXX (R/H)	40 000 landings 40 000 landings 40 000 landings 40 000 landings 36 000 landings 36 000 landings	See NOTE (2) (Aircraft with SB 535)
Shock absorber	A23709-XXX (L/H) A23710-XXX (R/H) A23709023-XXX (L/H) A23710023-XXX (R/H)	40 000 landings 40 000 landings 36 000 landings 36 000 landings	
Main landing gear actuator	A23721-XXX (L/H) A23722-XXX (R/H)	40 000 landings 36 000 landings 40 000 landings 36 000 landings	See NOTE (3)
<u>FALCON 20GF</u> (S/N 397)			
- Leg	MESSIER A10-23659-12 or A11-23659-12	20 000 landings	
- Telescopic bar	A23717-1-2-A	20 000 landings	
- Nose landing gear aluminum barrel	GA58306	20 000 landings	NOTE (4)
- Rotating tube	GA58112-4 GA58113	20 000 landings 20 000 landings	NOTE (4)

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

COMPONENT IDENTIFICATION	PART NUMBER	LIMITED SERVICE LIFE	REMARKS
<p>54 STUBS NACELLES</p> <ul style="list-style-type: none"> - Engine front mounts (S/N 397) • Fittings, mast side: fittings • Attachment hardware • Bolt (2 + 2) 	<p>AMD-BA</p> <p>MY202471001G03(G) MY202491001G03(D)</p> <p>MY2024710510G03(G) MY2024910510G03(D)</p> <p>NAS1309-17D</p>	<p>20 000 flights</p>	<p>NOTE (5)</p>

NOTE (1): One landing on an unpaved runway corresponds to:

- 1.5 landings on a paved runway for the barrel,
- 4 landings on a paved runway for the rotating tube.

NOTE (2): One landing on an unpaved runway corresponds to 2 landings on a paved runway for the main landing gear.

NOTE (3): The limited service life is 40,000 landings if the main landing gear actuator was not previously installed on F200 A/C. Otherwise, the limited service life is 36,000 landings.

NOTE (4): One landing on an unpaved runway (Aircraft with M3032) corresponds to:

- 1.5 landings on a paved runway for the barrel,
- 8 landings on a paved runway for the rotating tube.

NOTE (5): M3035 not applied.

B – Mandatory maintenance operations

DESCRIPTION OF OPERATION	MM REFERENCE	MAXIMUM TIME LIMIT	
		THRESHOLD	REPEAT INTERVAL
21 AIR CONDITIONING <ul style="list-style-type: none"> – Operational test of cabin pressurization in manual mode, A/C with SEMCA pressurization and equipped with pressurization controller P/N 22201E102500 – Check of overpressure tightness <ul style="list-style-type: none"> • Main regulating valve • Emergency regulating valve – Check of overpressure relief valve static pressure lines 	21-31-50 21-31-10 21-31-10 21-31-10	1250 hours 1250 hours (**) 1250 hours (**) 7500 hours (**) (**) NOTE (5)	
25 EQUIPMENT AND FURNISHINGS <ul style="list-style-type: none"> – Visual inspection of buckle spring of Anjou Aéronautique safety belts, extensions and restraint systems type 343 and 343-1 using Anjou Aéronautique Service Bulletin No. 343-1-25-01 and No. 343-25-02 			18 months (*) see CN 2002-105 (AB) and CN 2002-104 (AB)
26 FIRE INSPECTION <ul style="list-style-type: none"> – Fire detection box <ul style="list-style-type: none"> • 189W diode integrity (Aircraft S/N 397) – Functional test of the fire detectors (operation of detection pressure switch) (Aircraft S/N 397) 	26-10-02 167.0	5000 hours NOTE (4) 5600 hours	
27 FLIGHT CONTROLS <ul style="list-style-type: none"> – Tail plane relay box – Functional test of resetting relay and contactors – Operational test of tail plane control levers – Functional test of the non-return valves of the servo-actuator (Aircraft S/N 397) – Functional test of steering anti-gust valve (Aircraft S/N 397) 	27-40-30 234.0 (S/N 397) 27-40-40 229.0 (S/N 397) CMM 27-09-04 CMM 27-35-11 CMM 27-24-30	5000 hours 5000 hours 10000 hours or 10 years 10000 hours or 10 years	

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Reference DGT 131028

Rev. Date: 10/2016

5-40-00

Page 7

DESCRIPTION OF OPERATION	MM REFERENCE	MAXIMUM TIME LIMIT	
		THRESHOLD	REPEAT INTERVAL
28 FUEL			
<ul style="list-style-type: none"> - Removal/Installation of removable center section panel for corrosion inspection if: <ul style="list-style-type: none"> - SB 354 not complied with. - No inspection performed in the past 12 years. - Removal/installation of removable wing panels for corrosion inspection if: <ul style="list-style-type: none"> - SB 499 not complied with. - No inspection performed in the past 12 years. 	28-00	M.C.I. NOTE (1)	12 years
	28-00	M.C.I. NOTE (1)	12 years
32 LANDING GEAR/BRAKES			
<ul style="list-style-type: none"> - Check for absence of friction points in the door uplock flexible connecting control rods. 	32-00-6		330 hours
<ul style="list-style-type: none"> - Control and indicating switches. Voltage drop measurement (Before SB 531). 	32-30-00		1230 hours
51 STRUCTURE			
<ul style="list-style-type: none"> - Detailed anti-corrosion inspection - Renewal of the protection plan by means of preventive and curative anti-corrosion treatment. 	51-00-00	M.C.I. NOTE (1)	12 years
52 DOORS			
<ul style="list-style-type: none"> - Unlocking test from inside of window emergency exit, RH and LH (EASA Airworthiness Directive No. 2006-0156) 	52-20-1		24 months
<ul style="list-style-type: none"> - Functional test of passenger/crew door warning system 	52-70-1		800 hours
53 FUSELAGE			
<ul style="list-style-type: none"> - Structural inspection - Frame 33 inspection/check 	53-10-0	5000FC	5000FC
<ul style="list-style-type: none"> - Non-destructive test (ultrasound) of window frame vertical posts on windows secured with screws 	53-30-07	M.C.I. NOTE (1)	6 years

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Reference DGT 131028

Rev. Date: 10/2018

5-40-00

Page 8

DESCRIPTION OF OPERATION	MM REFERENCE	MAXIMUM TIME LIMIT	
		THRESHOLD	REPEAT INTERVAL
53 FUSELAGE (CONT'D)			
– Removal/Installation of trim for visual inspection of flight compartment glass panel frames	53-30-14	6 years	6 years
– Eddy-current check of windshield frame lower recesses	53-30-15	M.C.I. NOTE (1)	12 years
– Stringer and reinforcement/skin interfaces spot welded between frames 33 and 40 <ul style="list-style-type: none"> • Check for absence of corrosion using Eddy Current inspection method (Aircraft S/N 3 to 384 and 392) 	53-30-4	M.C.I. NOTE (1)	12 years
– Stringer and reinforcement/skin interfaces spot welded between frames 0 to 33 <ul style="list-style-type: none"> • Check for absence of corrosion using Eddy Current inspection method (Aircraft S/N 3 to 384 and 392) 	53-30-40	M.C.I. NOTE (1)	12 years
– Inspection and check of fillets (French D.G.A.C. Airworthiness Directive No. 96-092-021 (B))	53-50-0-3D	A inspection	
55 STABILIZER			
– Movable tail plane. Inspection for corrosion and protection <ul style="list-style-type: none"> • Endoscope inspection and spraying • Visual inspection of forward and aft spars and angle brakets 	55-10-40	M.C.I. NOTE (1)	12 years
– Stiffeners/skin panels interfaces spot welded on fin <ul style="list-style-type: none"> • Check for absence of corrosion using Eddy Current inspection method (Aircraft S/N 3 to 384 and 392) 	55-30-10	M.C.I. NOTE (1)	12 years
– Removal/Installation of horizontal and vertical stabilizers (M.C.I.) for <ul style="list-style-type: none"> • Checking fittings and bores • Detailed corrosion inspection • Anti-corrosion protection of fittings • Installing a new fin hinge pin (SB 711) • Detailed corrosion inspection on: <ul style="list-style-type: none"> – the drive tubes of elevators coupling – the inner drive tubes of each elevator 	55-50-00	M.C.I. NOTE (1)	12 years

EFFECTIVITY : AIRCRAFT WITHOUT SB No. 730 (S.S.I.P.)

Reference DGT 131028

Rev. Date: 10/2018

5-40-00

Page 9

DESCRIPTION OF OPERATION	MM REFERENCE	MAXIMUM TIME LIMIT	
		THRESHOLD	REPEAT INTERVAL
55 STABILIZER (CONT'D) – Non-destructive test of fitting lugs: – A – Eddy currents on: • Horizontal stabilizer hinges (on horizontal stabilizer side) • Fuselage stub-to-vertical stabilizer rear connection (on vertical stabilizer side) – B – Ultrasonic on: • All fuselage stub/fin/horizontal stabilizer fittings (stabilizers installed)	55-50-03 55-50-01 NOTE (2)	M.C.I. NOTE (1)	12 years or 7500 flights
76 ENGINE CONTROLS – Functional tests of fuel and hydraulic shut-off valves (check for non-jamming in “open” position)	76-20-01 929.0 (S/N 397)	10000 hours	

NOTE (1): Tolerance: to avoid aircraft down time for logistic reasons, the manufacturer authorizes exceptionally a maximum tolerance of plus 6 months on the repeat interval of the Major Corrosion Inspection (M.C.I., 12 years). No tolerance can be granted for the first M.C.I. at 24 years.

NOTE (2): The recommended repeat interval for operation 55-50-01 (stabilizers installed) is:
 – For A/C without SB 711: “every 4 years”
 – For A/C with SB 711: C inspection
 See also Chapter 5-10-00.

NOTE (4): Only EASA approved.

NOTE (5): This task must be performed on components. The value of the interval given for each component considers its cumulated presence on one or several aircraft. Unless specified (landings for example), the unit of the interval is expressed in measurable aircraft level figures (aircraft flight hours, aircraft cycles or age) and not in component operating time.