

A59NM
Revision 9
DASSAULT AVIATION
FALCON 7X
March 28, 2022

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APU Honeywell Model 36-150 (FN)

APU Limits APU is usable for ground operation only.
For other limits refer to the Airplane Flight Manual

Airspeed Limits Unless otherwise stated, speeds are indicated airspeeds

V _{MO}	at sea level	350 kts
V _{MO}	straight line variation up to 10,000 ft.....	370 kts
V _{MO}	from 10,000 ft to 28,000 ft	370 kts
V _{MMO}	from 28,000 to 51,000 ft	0.9

V _A	maneuvering speed	218 kts
V _{FE}	SF1	200 kts
	SF2	190 kts
	SF3	180 kts

Note : Above 20,000 ft, do not establish, nor maintain a configuration with the slats and the flaps extended

V _{LO}	Landing gear operation	200 kts
M _{LO}	0,70
V _{LE}	Landing gear extended	245 kts
M _{LE}	0,75
V _{MCA}	minimum control speed in flight.....	80 kts (CAS)
V _{MCG}	minimum control speed on ground	81.3 kts (CAS)

Maximum Operating Altitude 51,000 ft (15,544 m)

Mean Aerodynamic chord (MAC) And Datum Mean aerodynamic chord (MAC): 131.793 in (3,347.54 mm)
Datum is 25% of mean aerodynamic chord (MAC) 479.646 in (12,183 mm) from the forward end of the aircraft nose cone. 501.646 in (12741 mm) with M1000

Leveling Means Aircraft is leveled in the longitudinal and lateral axis by means of a plumb bob and target in the left main landing gear bay

Weight and CG Limitations

	Weight		FWD limit % MAC	Aft limit % MAC
	Kg	lbs		
Minimum flight - Aft	14,696	32,400	N/A	38.5
Minimum flight - Forward	15,694	34,600	26.0	N/A
Maximum zero fuel	18,597	41,000	19.5	38.5
Maximum landing	28,304	62,400	19.5	37.35
Maximum for aft CG at 38.5 %	25,890	57,076	19.5	38.5
Maximum takeoff	31,751	70,000	19.05	33.65
Maximum ramp	31,842	70,200	19.5	31.5

With modification M1000 installed

	Weight		FWD limit % MAC	Aft limit % MAC
	Kg	lbs		
Minimum flight - Aft	14,696	32,400	N/A	38.5
Minimum flight - Forward	15,694	34,600	26.6	N/A
Maximum zero fuel	18,597	41,000	19.5	38.5
Maximum landing	28,304	62,400	19.5	37.35
Maximum for aft CG at 38.5 %	25,890	57,076	19.5	38.5
Maximum takeoff	33,112	73,000	19.54	27.73
Maximum ramp	33,203	73,200	19.62	27.00

For weight and balance calculation refer to the Falcon 7X Loading Manual (DGT 108840) / Falcon 7X-M1000 Loading Manual (DGT 147688) - (See note 1)

Minimum Crew

2 - Pilot and copilot

Maximum Passenger Seats

19 - limited by emergency exit requirements of Federal Aviation Regulations § 25.807(c). (See note 2)
Ferry flight configuration (0 passenger provisions) is defined by Dassault modifications M0272 and M0163

Maximum Baggage

Baggage compartment: 2004 lb (909 kg), not to exceed 61.4 lb/ft² (300 kg per square meter)

Exits

	Type	Size
1 Passenger door	I	0.800 x 1.72 m /(31.50 x 67.72 in)
1 Emergency exit	III	0.534 x 0.916 m /(21.02 x 36.06 in)

Dimensions

			With Modification M1000
Length	920.47 in	23.38 m	24.46 m
Span	1031.89 in	26.21 m	26.28 m
Height	312.20 in	7.93 m	7.93 m
Gross wing area	761.008 ft ²	70.7 m ²	70.7 m

Fuel Capacity

Numbers in () indicate capacity associated with modification M1000

USABLE FUEL	Liters	kg (*)	US Gallons	lbs (*)
Left circuit	5944/(6359)	4773/(5106)	1570/(1680)	10522/(11257)
Right circuit	5944/(6383)	4773/(5126)	1570/(1686)	10522/(11301)
Center circuit	6154/(7108)	4942/(5708)	1626/(1878)	10896/(12583)
Total usable	18042/(19850)	14488/(15940)	4766/(5244)	31940/(35141)

UNUSABLE FUEL				
Drainable	65/(68)	52/(54)	17/(18)	115/(120)
Undrainable	41/(48)	33/(39)	11/(13)	72/(85)
Total unusable	106/(116)	85/(93)	28/(31)	187/(205)

* assuming a fuel density of 0,803 kg/liter

Oil Capacity

	Liters	kg (**)	US gallons	lbs (**)
Max oil level				
Left engine	7.87	7.67	2.08	16.90
Right engine	7.87	7.67	2.08	16.90
Center engine	7.87	7.67	2.08	16.90
Total	23.61	23.01	6.24	50.70
Min oil level				
Left engine	6.23	6.07	1.64	13.38
Right engine	6.23	6.07	1.64	13.38
Center engine	6.23	6.07	1.64	13.38
Total	18.69	18.21	4.92	40.14

(*) Tank quantities do not include undrainable oil or residual oil in the Accessory Gearbox, oil filter bowl or air-cooled oil cooler (ACOC)

(**) Based on specific gravity of 0.975

Approved Fuel, oils and additives :

Refer to the Airplane Flight Manual.

Control Surface Movements

Elevator	Down 25°	Up 16°
Rudder	Right 29°	Left 29°
Aileron	Up 25°	Down 25°
Flaps	Down 40°	
Airbrakes	Inboard up 50°	
	Outboards up 30°	
Spoilers	up 80°	
Wing slats	Inboard down 20°	
	Median down 35°	
	Outboard down 35°	
Horizontal Stabilizer	Down 12°	Up 2°

Serial Numbers Eligible

Serial numbers 0001 through 0400.

(b) Falcon 8X Definition (Approved June 27, 2016)

The Falcon 8X does not correspond to a model designation. The Falcon 8X is only a commercial designation for stretch version of the Falcon 7X airplanes that incorporates modifications M1000 and M1254 (EASy III) installed at production. This Falcon 7X version incorporates Pratt & Whitney PW307D engines.

M1000 is basic on all Falcon 7X aircraft starting with serial number 0401.

Import Requirements

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

Certification Basis**(a) For Falcon 7X (basic model)**

1. 14 CFR part 25, effective February 1, 1965, including Amendments 25-1 through 25-111 in entirety

2. The following special conditions in accordance with 14 CFR part 11 :

- (a) No. 25-343-SC Pilot Compartment View – Hydrophobic Coatings in Lieu of Windshield Wipers
- (b) No. 25-346-SC Interaction of System and Structure
- (c) No. 25-346-SC Limit Pilot Forces
- (d) No. 25-346-SC High Intensity Radiated Fields (HIRF) Protection
- (e) No. 25-349-SC Side Stick Controllers
- (f) No. 25-349-SC Electronic Flight Control System: Lateral-Directional and Longitudinal Stability and Low Energy Awareness
- (g) No. 25-349-SC Electronic Flight Control System: Flight Control Surface Position Awareness
- (h) No. 25-349-SC Electronic Flight Control System: Flight Characteristics Compliance Via Handling Qualities Rating Method (HQRN)
- (i) No. 25-349-SC Flight Envelope Protection: General Limiting Requirements
- (j) No. 25-349-SC Flight Envelope Protection: High Incidence Protection Function
- (k) No. 25-349-SC Flight Envelope Protection: Normal Load Factor (G) Limiting
- (l) No. 25-349-SC Flight Envelope Protection: Pitch, Roll And High Speed Limiting Functions
- (m) No. 25-350-SC Sudden Engine Stoppage
- (n) No. 25-350-SC Operation Without Normal Electrical Power
- (o) No. 25-350-SC Dive Speed Definition with Speed Protection System
- (p) No. 25-351-SC Design Roll Maneuvering Conditions
- (q) No. 25-410-SC Enhanced Flight Visibility System
- (r) No. 25-711-SC, Non-Rechargeable Lithium Batteries, effective to design changes applied for after January 18, 2018. See the applicability section of this special condition for more information on which design changes must meet it.

NOTE: The FAA Special Conditions referenced above may be accessed at internet location:

[http://www.airweb.faa.gov/Regulatory and Guidance Library/rgSC.nsf/MainFrame?OpenFrameSet](http://www.airweb.faa.gov/Regulatory%20and%20Guidance%20Library/rgSC.nsf/MainFrame?OpenFrameSet)

3. Equivalent Level of Safety Findings according to the provisions of 14 CFR 21.21(b)(1) for the following subjects:

- (a) Section 25.671: Control Systems - General (documented in TAD ELOS Memo TC0030IB-T-A-6)
- (b) Section 25.331(c)(2): Pitch Maneuver Conditions (documented in TAD ELOS Memo TC0030IB-T-A-8)
- (c) Section 25.811(d)(1), (d)(3): Emergency Exit Marking (documented in TAD ELOS Memo TC0030IB-T-C-2)
- (d) Section 25.1305 Powerplant Instruments (documented in TAD ELOS Memo TC0030IB-T-P-5)
- (e) Section 25.933(a)(1)(ii) Reversing Systems (documented in TAD ELOS Memo TC0030IB-T-P-7)
- (f) Section 25.971(a),(b): Fuel Tank Sump (documented in TAD ELOS Memo TC0030IB-T-P-12)
- (g) Section 25.1549(b) – Powerplant and auxiliary power unit instruments (documented in TAD ELOS Memo TC0030IB-T-P-13)
- (h) Section 25.841(b)(6) – Pressurized Cabins (documented in TAD ELOS Memo TC0030IB-T-SE-13)
- (i) Section 25.831(g) - Ventilation (documented in TAD ELOS Memo TC0030IB-T-SE-20)
- (j) Section 25.1459(a)(2) – Flight Recorders (documented in TAD ELOS Memo TC0030IB-T-SE-22)
- (k) Section 25.809(b) - Emergency Exit Arrangement (documented in TAD ELOS Memorandum AT10010IB-T-CI-101)
- (l) Sections 25.809(b) and 25.813(c)(2)(ii) - Emergency Exit Access (documented in TAD ELOS Memorandum AT10010IB-T-CI-101)
- (m) Section 25.813(c)(2) “Emergency Exit Access” (documented in TAD ELOS Memo SP00843IB-T)

NOTE: The FAA Equivalent Level of Safety memos referenced above may be accessed at internet location:

[http://www.airweb.faa.gov/Regulatory and Guidance Library/rgSC.nsf/MainFrame?OpenFrameSet](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgSC.nsf/MainFrame?OpenFrameSet)

4. Exemptions for the following requirement:

- (a) Exemption No. 8792, 14 CFR part 25, Section 25.785(b) Side Facing Sofas
- (b) Exemption No. 9117, 14 CFR part 25, Section 25.901(c) Uncontrolled High Engine Thrust
- (c) Exemption No. 9148, 14 CFR part 25, Section 25.981(a)(3) Fuel Tank Ignition Prevention
- (d) Exemption No. 9506A, 14 CFR part 25, Section 25.813(e) Emergency Exit Access

NOTE: The FAA Exemptions referenced above may be accessed at internet location:
[http://www.airweb.faa.gov/Regulatory and Guidance Library/rgEX.nsf/MainFrame?OpenFrameSet](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgEX.nsf/MainFrame?OpenFrameSet)

5. Optional Design Regulations:

- (a) Ditching Sections 25.801, 25.1411(d), (e), (f), (g) and 25.1415
- (b) Ice Protection Section 25.141

6. Environmental Standards

14 CFR part 36, amendment 36-26.

14 CFR part 34, effective September 10, 1990, including amendment 34-3.

(b) Falcon 7X airplanes incorporating M1000 (Falcon 8X definition)

1) The type certification basis, for the Model Falcon 7X M1000 project (commercially designated as the Model Falcon 8X), is the original certification basis for the Model Falcon 7X shown above, plus the following:

<u>Section No.</u>	<u>Title</u>	<u>Amdt 25-</u>	<u>System/Area</u>
25.21(g)	Proof of Compliance	135	Falcon 7X M1000 airplane in Icing (except 25.105(a), 25.111(c), and 25.121(b)(c))
25.107(c),(g),(h)	Take-off Speeds	121	Falcon 7X M1000 airplane
25.107(e)	Take-off Speeds	135	Falcon 7X M1000 airplane
25.111(c)	Take-off Path	115	Falcon 7X M1000 airplane
25.119	Landing Climb	121	Falcon 7X M1000 airplane
25.121(d)	Climb	121	Falcon 7X M1000 airplane
25.123	En-route flight paths	121	Falcon 7X M1000 airplane
25.125	Landing	121	Falcon 7X M1000 airplane
25.143(c),(e),(f),(g),(h),(i)	General	121	Falcon 7X M1000 airplane
25.143(j)	General	129	Falcon 7X M1000 airplane
25.147(d)	Directional and lateral control	115	Falcon 7X M1000 airplane
25.161(c)	Trim	115	Falcon 7X M1000 airplane
25.207(b),(h),(i)	Stall warning	129	Falcon 7X M1000 airplane
25.207(e),(f),(g)	Stall warning	121	Falcon 7X M1000 airplane
25.237(a)	Wind velocities	121	Falcon 7X M1000 airplane
25.253	High-speed characteristics	135	Falcon 7X M1000 airplane
25.571(a),(b)	Damage-tolerance and fatigue evaluation of structure	132	T34 Section frames 12 to 12bis and frames 28bis to 29
25.613(b),(c),(d),(e),(f)	Material strength properties and	112	T34 Section frames 12 to

	design values		12bis and frames 28bis to 29
25.677(b)	Trim System	115	Horizontal Stabilizer
25.729(a),(b),(e),(f)	Retracting Mechanism	136	Main Landing Gear
25.812(g)	Emergency Lighting	116	Cabin, Winglet
25.812(h)	Emergency Lighting	128	Cabin, Winglet
25.973	Fuel Tank Filler Connection	115	Wing Fuel Tanks
25.1322 <u>(a), (e)</u>	Flight Crew Alerting	131	FalconEye System

2. Noise Standards

14 CFR part 36 as amended by Amendments 36-1 through 36-28.

3. Fuel Venting and Exhaust Emissions Standards

14 CFR Part 34 as amended by Amendments 34-1 through 34-5A.

4. Means of Compliance Issue Papers: In addition to the regulatory basis noted in the preceding sections, the FAA has established certain “means of compliance” in issue papers applicable to the Dassault Falcon 7X M1000 certification program.

The means of compliance issue papers applicable for Falcon 7X initial product, supplemented by the certification bases of all other affected F7X major changes up to the M1000 project time of application, are considered to be applicable for F7X M1000 project. The list of these issue papers is amended by the following means of compliance raised for the specified F7X M1000 project subject areas.

Airframe

IP A-01 Fuel Tanks Emergency Landing Conditions

Cabin Safety

At this time, no new Cabin Safety subjects identified as potential means of compliance

Flight

A Cover IP to CRI B-09 “Landing Distance On Smooth Wet Runways” is to be addressed by FAA

Noise

IP N-01 Noise Level Evaluation Requirement

Propulsion

At this time, no new Propulsion subjects identified as potential means of compliance

Systems & Software

At this time, no new Systems & Software subjects identified as potential means of compliance

Dassault document DGT131264 identifies the complete agreed upon certification basis for the F7X M1000 project

The European Aviation Safety Agency (EASA) originally type certificated this aircraft under its type certificate Number A.155. The FAA validated this product under U.S. Type Certificate Number A59NM issued April 27, 2007.

Type Definition

The type definition is defined by F7TC which is stored in an electronic format under the virtual product management tool ENOVIA/VPM©. The repository of the ENOVIA/VPM© database is located in Dassault Aviation facilities.
(See note 5)

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed on the aircraft for certification. The lists of all equipment as well as optional equipment approved by European Aircraft Safety Agency (EASA) are contained in the F7TC version stored in an electronic format under the virtual product management tool ENOVIA/VPM©.

In addition, the aircraft must be operated in accordance with the FAA approved FALCON 7X Airplane Flight Manual, document DGT 105608.

Service Information

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) are accepted by the FAA and are considered FAA approved.

- Dassault Aviation Service Bulletins, except as noted below,
- Structural repair manuals,
- Vendor manuals referenced in Dassault Aviation service bulletins
- Aircraft flight manuals,
- Repair Instructions.

Additionally, approvals issued by Dassault Aviation under the authority of EASA approved Design Organization DOA EASA.21J.051 are considered FAA approved. These approvals pertain to the type certificate only such as changes to type design, repair/unrepair of damages.

Note: Design changes that are contained in Dassault Aviation Service Bulletins and that are classified as Level 1 Major in accordance with US/France Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA.

FALCON 7X Operating and Service Instructions

The aircraft must be operated according to the EASA approved Airplane Flight Manual DGT 105608 for the basic Falcon 7X. The aircraft must be operated according to the EASA approved Airplane Flight Manual DGT 147681 for the Falcon 7X M1000 airplanes (Falcon 8X).

Instructions for Continued Airworthiness and Airworthiness Limitations, included in FIELD publications, that consist of:

- Airworthiness Limitation Section (Chapter 5-40 reference DGT 107838)
- Maintenance Planning Document (Chapter 5):
 - Reference: DGT 125953 applicable to S/N 001 to S/N 400 (modification M1000 not included)
 - Reference: DGSM 151456 applicable to S/N 401 and up (modification M1000 included)

- Airplane Maintenance Manual
- Fault Isolation Manual
- Illustrated Parts Catalog (part list only)
- Structural Repair Manual (Part 1)
- Wiring Diagram Manual

NOTES

NOTE 1 - Weight and Balance

- (a) - A current weight and balance report must be carried in the aircraft at all times from the moment the aircraft is originally certified.
- (b) - Loading of the aircraft must be accomplished in a manner that always maintains the center of gravity within the specified limits considering crew and passenger movements as well as fuel consumption and transfer.

NOTE 2 - Cabin interior and seating configuration must be approved.

NOTE 3 - Service Life Limits and required Maintenance/Inspections

- (a) Airframe components which are life limited, and associated retirement times, are presented in chapter 5.40.00 of the FALCON 7X Maintenance Manual, approved by EASA, and must be replaced as indicated therein.
- (b) PW307A engine life limits, established for critical rotating components, are published in the approved PW307A Airworthiness limitation manual 30P0422
- (c) Required maintenance and inspections to maintain airworthiness based on involving reliability are presented in chapter 5.40.00 of the FALCON7X Maintenance Manuals approved by EASA.

NOTE 4 - The FALCON 7X has been approved to operate in “Reduced Vertical Separation Minimum” (RVSM) airspace when the airplanes are operated in accordance with Airplane Flight Manual page 1-300-05. Continued airworthiness and operational approval aspects of RVSM must be constructed according to Advisory Circular (AC) 91-RVSM, titled “Approval of Aircraft and Operators for Flight in Airspace Above Flight Level (FL) 290 Where a 1,000 Foot Vertical Separation Minimum is Applied.”

NOTE 5 - The use of electronic technology and alternative methods of data storage for the type definition of the FALCON 7X is managed in accordance with the procedures and documents defined in EASA CRI A-02 and Dassault document 00-113A-02, and is accepted by the FAA.

NOTE 6 - The FAA has concluded that the occurrence of any uncontrollable high thrust failure condition, or any of the associated causal failures listed within Dassault Document DGT-DTC/CER 322496, may endanger the safe operation of an airplane. Consequently, the FAA recommends that operators be encouraged to report such failures in accordance with §§ 121.703(c), 125.409(c), and 135.415(c).

NOTE 7 – An approved change to the AFM and ALS can be released either through a full revision of the manual or through a Change Project (CP) number bearing the same reference as the related manual.

.....END.....