
Remove: Pgs. 0-4, 0-5, 0-6, 0-10**Insert: Pgs. 0-4, 0-5, 0-6, 0-10**

Change:

- (1) **Revised** the List of Effective Pages and the Record of Revisions to include the Revision 22 information.

Remove: Pgs. 2-4, 2-7, 2-17**Insert: Pgs. 2-4, 2-7, 2-17**

Change:

- (1) Add Preflight Idle Mixture Rise limitation and note regarding recommended flight idle speed.
- (2) Add "Stalls (except whip stalls) approved for aircraft NOT equipped with altitude compensating fuel system. Stalls NOT approved for aircraft with altitude compensating fuel system"
- (3) Add "Spinning (with Wing Flaps UP) approved for aircraft NOT equipped with altitude compensating fuel system. Spinning NOT approved for aircraft equipped with altitude compensating fuel system."
- (4) Add "Intentional Side Slips, except as required for cross wind landings, NOT approved for aircraft equipped with altitude compensating fuel system."
- (5) Add placard " Intentional spins, stalls and side slips, except as required for landing, prohibited. Recommended flight idle speed 1400 RPM, where practical".

Remove: Pgs. 4-14, 4-20**Insert: Pgs. 4-14, 4-20**

Change:

- (1) Add Preflight Mixture Rise Procedure.
- (2) Add Note regarding minimum flight idle for aircraft with altitude compensating fuel systems.

Remove: Pg. 5-20**Insert: Pg. 5-20**

Change:

- (1) Add note regarding increased landing distance for aircraft with 1000 RPM idle speed.

Remove: Pg. S4-4, S4-12, S4-13**Insert: S4-4, S4-12, S4-13**

Change:

- (1) Add "Stalls (except whip stalls) approved for aircraft NOT equipped with altitude compensating fuel system. Stalls NOT approved for aircraft with altitude compensating fuel system"
 - (2) Add "Spinning NOT approved for aircraft equipped with altitude compensating fuel system."
 - (3) Add "Intentional Side Slips, except as required for cross wind landings, NOT approved for aircraft equipped with altitude compensating fuel system."
 - (4) Add note regarding increased landing distance for aircraft with 1000 RPM idle speed.
 - (5) Chapter 6 title moved to following page.
-



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	1-4	March 10, 1999	DOT-appr 3-16	December 19, 1997	
	1-5	August 9, 2001	DOT-appr 3-17	December 19, 1997	
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	1-8	April 23, 2002		DOT-appr 4-2	April 23, 2002
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NOTE

It is only necessary to maintain those supplements which pertain to optional equipment that may be installed in your airplane.

Refer to Page 9-2 for index of supplements.

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TR-1	0-10, 2-5	October 2, 2007	W. Jupp Chief, Flight Test For Director, Aircraft Certification Transport Canada
Rev 22	0-4, 0-5, 0-6, 0-10, 2-4, 2-7, 2-17, 4-14, 4-20, 5-20, S4-4, S4-12, S4-13	<i>Nov 2, 2007</i>	 W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada

(g) Cylinder Head Temperature

Maximum : 460 °F (238 °C)
 Minimum : 240 °F (115 °C) takeoff and descent

(h) Fuel Specifications

Approved Fuel Grades : AVGAS 100LL or 100

(i) Oil Grades

: Reference TCM IO-240-B operator and installation manual (form X30620) or TCM specification MHS-24. Refer to Chap. 1, Section 1.9.1 Lubricant, Table 1.

(j) Preflight Idle Mixture Rise

: 50 RPM or more for aircraft equipped with altitude compensating fuel system.

NOTE

Recommended minimum flight idle speed 1400 RPM, where practical, for aircraft equipped with altitude compensating fuel system.

2.4.2 Propellers**HOFFMANN**

- (a) Propeller Manufacturer** : Hoffmann Propeller, Rosenheim/Germany
- (b) Propeller Type** : Fixed Pitch HO-14HM-175-157
- (c) Propeller Diameter** : 68.9 inch (1750mm)
- (d) Propeller Pitch (at 3/4 radius)** : 61.8 inch (1570mm)

SENENICH

- (a) Propeller Manufacturer** : Sensenich Propeller, Plant City/Florida
- (b) Propeller Type** : Fixed Pitch W69EK7-63, W69EK7-63G or W69EK-63
- (c) Propeller Diameter** : 69.0 inch (1752mm)
- (d) Propeller Pitch (at 3/4 radius)** : 62.8 inch (1595mm)

2.9 APPROVED MANEUVERS

This airplane is certified in the UTILITY Category in accordance with Canadian Airworthiness Manual Chapter 523-VLA.

Permissible Utility Category Maneuvers:

- a) All normal flight maneuvers
- b) Stalls (except whip stalls) approved for aircraft NOT equipped with altitude compensating fuel system.
Stalls NOT approved for aircraft with altitude compensating fuel system.
- c) Lazy Eight's Entry speed: 116 KIAS
Chandelles: Entry speed: 116 KIAS
Steep turns in which the angle of bank does not exceed 60°
- d) Spinning (with Wing Flaps UP) approved for aircraft NOT equipped with altitude compensating fuel system.
Spinning NOT approved for aircraft equipped with altitude compensating fuel system.
- e) Intentional Side Slips, except as required for cross wind landings, NOT approved for aircraft equipped with altitude compensating fuel system.

NOTE

Aerobatics are prohibited.

2.10 MANEUVERING LOAD FACTORS

Table of structural maximum permissible load factors:

	at v_A :	at v_{NE} :	with flaps in T/O or LDG position
Positive	+ 4.4	+ 4.4	+ 2.0
Negative	- 2.2	- 2.2	0

WARNING

Exceeding the maximum load factors will result in overstressing of the airplane. Simultaneous full deflection of more than one control surface can result in overstressing of the structure, even at speeds below the maneuvering speed.

53. On the Instrument Panel.

For Idle Power Operation:

1. Fuel Pump	ON
2. Mixture	FULL RICH
3. Throttle	IDLE

54. Adjacent to the flap controller.

V_{FE} (T/O) 100 KTS.
 V_{FE} (LDG) 78 KTS.

55. On the instrument panel

if equipped with altitude compensating fuel pump.

THIS AIRCRAFT IS EQUIPPED
WITH AN ALTITUDE
COMPENSATING FUEL SYSTEM.
SEE AFM CHAPTER 4 & 7
FOR OPERATING INSTRUCTIONS

56. On the instrument panel

if equipped with altitude compensating fuel pump.

INTENTIONAL SPINS, STALLS AND
SIDE SLIPS (EXCEPT AS REQUIRED
FOR LANDING) PROHIBITED.
RECOMMENDED FLIGHT IDLE SPEED
1400 RPM, WHERE PRACTICAL

4.4.6. Before Take-off (Engine Run-up)

NOTE

For OAT's less than -5° F (-20° C) turn cabin heat on for at least 10 minutes prior to take-off.

1.	Brakes	apply
2.	Safety Belts	fastened
3.	Canopy	closed and locked
4.	Canopy Unlock Warning Light	OFF
5.	Fuel Pressure	check
6.	Fuel Shut-off Valve	check OPEN
7.	Fuel Quantity Indicator	check
8.	Fuel Prime	check OFF
9.	Fuel Pump	check ON
10.	Trim	NEUTRAL
11.	Flight Controls	free
12.	Oil Temp.	75° minimum
13.	Oil Pressure	30-60 psi
14.	Mixture	FULL RICH
15.	Throttle	1700 RPM
16.	Magneto Check	Cycle L - BOTH - R - BOTH (RPM drop: 25-150 RPM) (Max. RPM difference (L/R): 50 RPM)
17.	Mixture	check
18.	Alt. Load	check
19.	Vacuum Gauge	within green range
20.	Throttle	IDLE
21.	Mixture	Move slowly toward lean cut off (RPM increase > 50 RPM) (only aircraft with altitude compensating fuel system)
22.	Mixture	FULL RICH
23.	Circuit Breakers	check pressed IN
24.	Wing Flaps	T/O
25.	Parking Brake	release

4.4.17. Idle Power Operations

NOTE

Turn fuel pump on for all low throttle operations, including taxiing and all flight operations when engine speed could fall below 1000 RPM (eg. stalls, spins, descents, landings, etc.)

- | | | |
|----|-----------|-----------|
| 1. | Fuel Pump | ON |
| 2. | Mixture | FULL RICH |
| 3. | Throttle | IDLE |

NOTE

For aircraft equipped with altitude compensating fuel systems, minimum recommended flight idle is 1400 RPM, where practical.

5.3.11. Landing Distance

- Conditions:
- Throttle: Idle
 - Maximum T/O Weight
 - Approach Speed 52 KIAS
 - Level Runway, paved
 - Wing Flaps in Landing position (LDG)
 - Standard Setting, MSL

Landing distance over a 50 ft (15 m) obstacle: approx. 1280 ft (390m)

Landing roll distance: approx. 580 ft (177m)

Figure 5.11: Landing and Rolling Distances for Heights Above MSL

Height above MSL	ft. (m)	0 (0)	1000 (305)	2000 (610)	3000 (915)	4000 (1220)	5000 (1524)	6000 (1829)	7000 (2134)
Landing Distance	ft.	1280	1305	1332	1360	1388	1418	1449	1481
	(m)	390	398	406	414	423	432	442	451
Landing Roll Distance	ft.	581	598	616	635	654	674	695	716
	(m)	177	182	188	193	199	205	212	225

NOTE

Poor maintenance condition of the airplane, deviation from the given procedures as well as unfavorable outside conditions (i. e. high temperature, rain, unfavorable wind conditions, slippery runway) could increase the landing distance considerably.

NOTE

Aircraft with ground idle speed set to 1000 RPM, landing distance increased approx. 5% and ground roll increased approx. 7%

5.4 Noise Data

Noise Measurement Method	Hoffmann Propeller HO-14HM-175-157	Sensenich Propeller W69EK-63	Maximum Allowable
FAR36 Appendix G	69.3 dBA	71.4 dBA	75 dBA
ICAO Annex 16, Appendix 6	73.7 dBA	74.1 dBA	79.1 dBA

5.3.11. Landing Distance

- Conditions:
- Throttle: Idle
 - Maximum T/O Weight
 - Approach Speed 55 KIAS
 - Level Runway, paved
 - Wing Flaps in Landing position (LDG)
 - Standard Setting, MSL

Landing distance over a 50 ft (15 m) obstacle: approx. 1360 ft (414m)

Landing roll distance: approx. 661 ft (201m)

Figure 5.11: Landing and Rolling Distances for Heights Above MSL

Height above MSL	ft.	0	1000	2000	3000	4000	5000	6000	7000
	(m)	(0)	(305)	(610)	(914)	(1219)	(1524)	(1829)	(2134)
Landing Distance	ft.	1360	1387	1417	1447	1478	1511	1545	1580
	(m)	415	423	432	441	450	461	471	482
Landing Roll Distance	ft.	661	680	701	722	744	767	791	815
	(m)	201	207	214	220	227	234	241	248

NOTE

Poor maintenance condition of the airplane, deviation from the given procedures as well as unfavorable outside conditions (i. e. high temperature, rain, unfavorable wind conditions, slippery runway) could increase the landing distance considerably.

NOTE

Aircraft with ground idle speed set to 1000 RPM, landing distance increased approx. 5% and ground roll increased approx. 7%

5.4 Noise Data

Noise Measurement Method	Noise Value	Maximum Allowable
FAR36 Appendix G	71.7 dBA	75.7 dBA
ICAO Annex 16, Appendix 6	74.4 dBA	80.1 dBA

NOTE		
THIS SUPPLEMENT IS APPLICABLE ONLY TO THOSE AIRCRAFT WHICH ARE REGISTERED IN THE UNITED STATES OF AMERICA OR CANADA.		
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6. WEIGHT AND BALANCE

Model: DA20-C1 Serial Number: _____ Registration _____

Data with reference to the Type Certificate Data Sheet and the Flight Manual.

Reference Datum: Leading edge of wing at root rib.

Horizontal reference line: Wedge 1000:55.84, 2000mm (78.7 in) aft of the step in the fuselage at the canopy edge.

Equipment list - dated: _____ Cause for Weighing: _____

Weight and Balance Calculations

Weight Condition:

Include brake fluid, engine oil and Unusable fuel (Type 2 system, 2 liters unusable, 3.18 lbs/1.44 Kg)

Finding Empty Weight:

Finding Arm: (Measured)

Support	Gross ([kg]) (lbs)	Tare ([kg]) (lbs)	Net Weight ([kg]) (lbs)	Lever Arm ([m]) (in)
Front G ₁				X ₁ =
Rear G _{2LH}				X _{2LH} =
Rear G _{2RH}				X _{2RH} =
EMPTY WEIGHT (G)				

Finding Empty - Weight Center of Gravity (X_{CG}):

Empty Weight CG Formula:

$$X_{CG} = \frac{G_{2LH} (X_1 + X_{2LH}) + G_{2RH} (X_1 + X_{2RH})}{G_1 + G_{2LH} + G_{2RH}} - X_1 = \underline{\hspace{2cm}}$$

Finding Empty - Weight Moment

Empty-weight Moment (M) = Empty Weight (G) x Empty-weight CG (X_{CG}) =

(Positive results indicate, that CG is located aft of RD) _____

Finding Maximum Permitted Useful Load:

Maximum Weight [kg] (lbs)	800 kg/1764 lbs
Empty Weight [kg] (lbs)	
Maximum useful Load [kg] (lbs)	

Empty Weight (G): ([kg]) (lbs)		Empty-weight Moment (M): ([kg·m]) (in·lbs)	
Place / Date	Authorizing Stamp	Authorizing Signature	

Figure 6.3. Weighing Report

NOTE

THIS SUPPLEMENT IS APPLICABLE ONLY TO THOSE AIRCRAFT WHICH ARE REGISTERED IN THE UNITED STATES OF AMERICA OR CANADA.