CAM-42

MAY 9 1962

CIVIL AERONAUTICS MANUALS—Volume VII

U. S. Department of Commerce — Civil Aeronautics Administration

Civil Aeronautics Manuals and supplements thereto are issued by the Office of Flight Operations and Airworthiness, Civil Aeronautics Administration, for the guidance of the public and are published in the Federal Register and the Code of Federal Regulations.

Supplement No. 1 — December 1, 1956

SUBJECT: Revisions to Civil Aeronautics Manual 42 dated August 1956.

The purpose of this supplement is (1) to establish en route limitations for the Cessna Model 310 and DeHavilland Dove Series 1A, 2A, 5A, and 6A; and (2) to delete the aircraft designations in the introductory paragraph of section 42.80–6 so that en route limitations may be added or changed without affecting the introductory paragraph.

New material will be indicated by black brackets.

Remove and destroy the following pages:
61 through 64

Insert the following new pages:
61 through 64
72–1 and 72–2

For WILLIAM B. DAVIS,
Director, Office of Flight Operation and Airworthiness.

Attachments.

[42.80–6 *En route limitations on multiengine aircraft with maximum allowable takeoff weight below 12,500 pounds (CAA rules which apply to sec. 42.80).* The following en route limitations data shall be used in determining compliance with section 42.80. These data are presented in tabular and graphic form by aircraft make and model. En route performance data on other aircraft weighing less than 12,500 pounds and operated under section 42.16 will be made available upon application to the Administrator.]

[(Published in 19 F. R. 5660, Sept. 8, 1954, effective Oct. 1, 1954; amended in 21 F. R. 8420, Nov. 3, 1956, effective Dec. 1, 1956.)]

TABLE 1.—*En route limitations*

AERO COMMANDER 520

Weight in pounds [1]	Terrain clearance [2] in feet and climb speed in miles per hour (TIAS)	
	Feet [3]	Miles per hour
5,500	(3, 480)	94. 8
5,000	6, 820	93. 5
4,500	10, 130	92. 4

[1] The maximum permissible weight under secs. 42.16 and 42.82 is 5,420 pounds.
[2] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.
[3] The "terrain clearance" in parenthesis is not usable under secs. 42.16 and 42.82 because the minimum terrain altitude is 4,000 feet under sec. 42.82.

NOTE.—Inoperative propeller windmilling.

BEECH C–18S AND BEECH 18A

Airplane	Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
		Feet	Miles per hour
Beech C–18S	7, 850	6, 200	102. 5
	7, 500	7, 620	98. 7
	7, 000	9, 630	93. 3
Beech 18A	7, 200	4, 760	91. 7
	7, 000	5, 540	90. 8
	6, 500	7, 460	88. 9
	6, 000	9, 400	86. 9

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

BEECH AT–11

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
	Feet	Miles per hour
7,850	6, 200	102. 1
7,500	7, 800	100. 9
7,000	10, 170	99. 2
6,500	12, 500	97. 5

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

NOTE.—Inoperative propeller idling in high pitch. Cowl flaps are closed on inoperative engine. De-icers are not operating.

BEECH D–18C

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
	Feet	Miles per hour
9,000	6, 200	121. 0
8,500	7, 300	120. 0
8,000	8, 450	119. 5
7,500	9, 600	119. 0

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

NOTE.—Inoperative propeller feathered.

TABLE 1.—*En route limitations*—Continued

BEECH D–18S

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)			
	Propeller feathered		Propeller idling	
	Feet	Miles per hour	Feet	Miles per hour
8,750	7,100	103.5		
8,500	7,600	103.5	5,600	104.5
8,000	8,800	102.5	6,700	104.0
7,500	9,900	102.0	7,900	103.0

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

BEECH 50

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
	Feet	Miles per hour
5,500	4,140	96.4
5,000	7,710	94.6
4,500	11,340	92.7

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

NOTE.—Inoperative propeller windmilling.

CESSNA T–50

(WITH LYCOMING R–680–E3 ENGINES AND MAXIMUM GROSS WEIGHT OF 5,700 POUNDS)

Weight [3] in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)			
	6135A–15 propeller		6135A–9 propeller	
	Feet [2]	Miles per hour	Feet [2]	Miles per hour
5,700			(450)	87.4
5,500	(920)	87.2	(1,540)	87.0
5,250	(2,280)	86.6	(2,890)	86.4
5,000	(3,740)	86.0	4,320	85.7
4,750	5,120	85.3	5,730	85.2

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.
[2] The "terrain clearances" in parentheses are not usable under sec. 42.16 and sec. 42.82 because minimum terrain altitude is 4,000 feet under sec. 42.82.
[3] Maximum permissible weights under sec. 42.16 and sec. 42.82 are 4,950 pounds with 6135A–15 propeller; 5,050 pounds with 6135A–9 propeller.

NOTE.—Inoperative propeller windmilling. No leading edge de-icers installed.

GRUMMAN G–21

Weight in pounds [1]	Terrain clearance [2] in feet and climb speed in miles per hour (TIAS)	
	Feet [3]	Miles per hour
7,500	[3] (3,620)	111.5
7,000	4,610	111.1
6,500	5,590	110.6
6,000	6,550	110.1
5,500	7,530	109.6

[1] The maximum permissible weight under secs. 42.16 and 42.82 is 7,310 pounds.
[2] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.
[3] The "terrain clearance" in parenthesis is not usable under secs. 42.16 and 42.82 because the minimum terrain altitude is 4,000 feet under sec. 42.82.

NOTE.—Propeller idling in high pitch. Airplane is equipped with de-icers.

LOCKHEED 10A

Weight in pounds [1]	Terrain clearance [2] in feet and climb speed in miles per hour (TIAS)			
	Propeller feathered		Propeller idling	
	Feet [3]	Miles per hour	Feet [3]	Miles per hour
10,500	(3,600)	93.8		
10,100	4,580	93.6	(3,120)	92.9
10,000	4,820	93.5	(3,350)	92.8
9,500	6,020	93.1	4,660	92.5
9,000	7,200	92.8	5,900	92.1
8,500	8,350	92.4	7,180	91.7
8,000	9,550	92.0	8,420	91.4

[1] The maximum permissible weights under secs. 42.16 and 42.82 are 9,750 pounds with propeller idling, 10,340 pounds with propeller feathered.
[2] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.
[3] The "terrain clearances" in parenthesis are not usable under secs. 42.16 and 42.82 because the minimum terrain altitude is 4,000 feet under sec. 42.82.

TABLE 1.—*En route limitations*—Continued

LOCKHEED 10E

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)			
	Propeller feathered		Propeller idling	
	Feet	Miles per hour	Feet	Miles per hour
10,500	9,000	96	7,500	96.5
10,000	9,600	96	8,100	96.5
9,500	10,200	96	8,600	96.5
9,000	10,700	96	9,200	96.5
8,500	11,300	96	9,750	96.5
8,000	11,900	96	10,350	96.5

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

[CESSNA MODEL 310

(WITH ORIGINAL PROPELLER DIAMETER LIMITS OF 82 INCHES TO 84 INCHES)

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
	Feet	Miles per hour
4,600	6,300	102.0
4,500	6,900	101.8
4,250	8,250	101.4
4,000	9,600	101.0
3,750	10,950	100.6

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

NOTE: Inoperative propeller feathered.]

LOCKHEED 12A

Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (TIAS)	
	Feet	Miles per hour
8,600	6,700	98.5
8,000	7,400	98.5
7,500	7,950	98.5
7,000	8,500	98.5
6,500	9,000	98.5

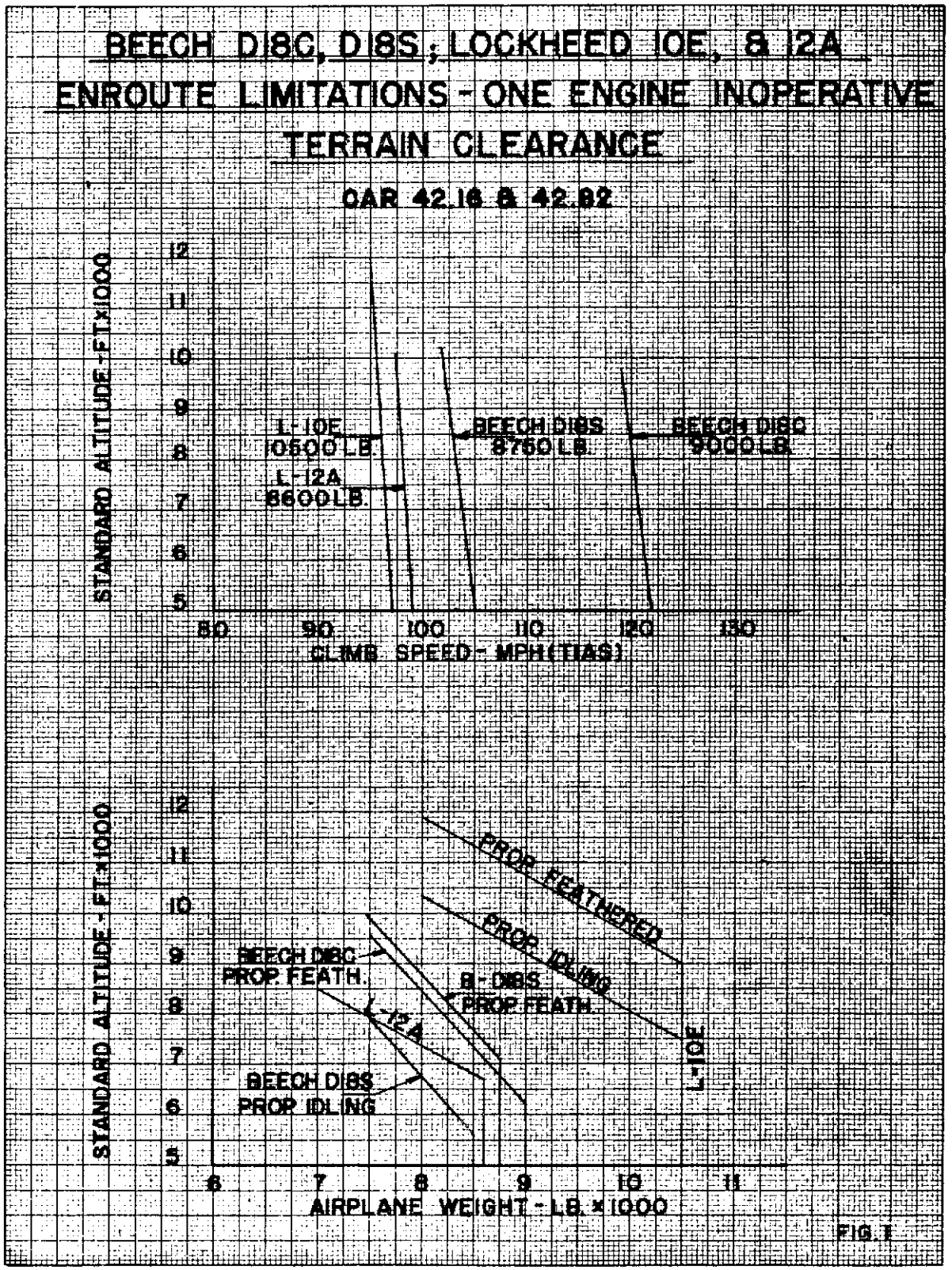
[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

[DE HAVILLAND DOVE SERIES

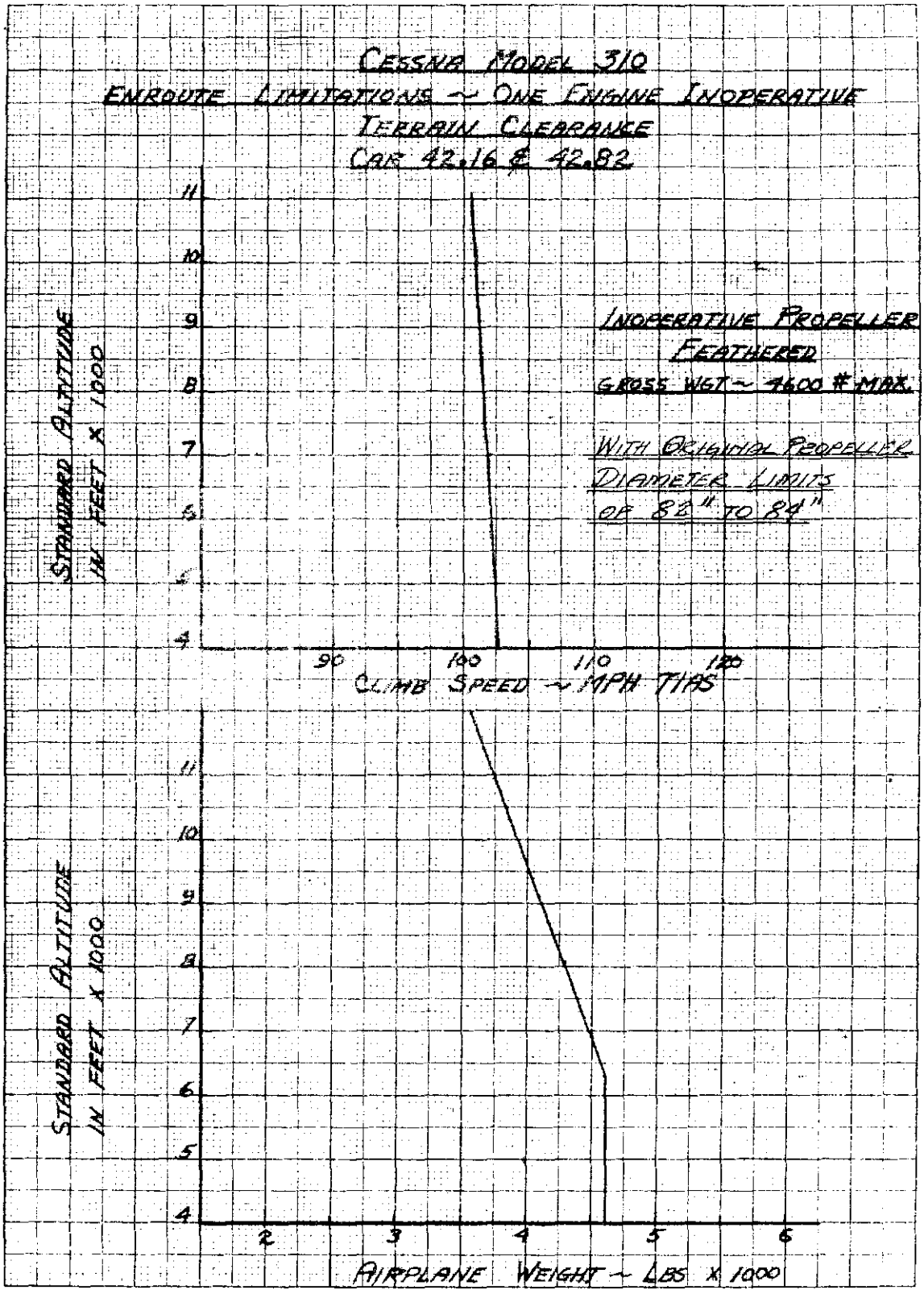
Weight in pounds	Terrain clearance [1] in feet and climb speed in miles per hour (IAS)		
	m. p. h.	Feet	
		1A and 2A Series	5A and 6A Series
8,800	110		5,600
8,500	108	6,600	6,600
8,000	105	8,300	8,300
7,500	102	9,900	9,900

[1] Highest altitude of terrain over which airplane may be operated in compliance with sec. 42.82.

NOTE: Inoperative propeller feathered.]


BEECH D18C, D18S; LOCKHEED 10E, & 12A
ENROUTE LIMITATIONS - ONE ENGINE INOPERATIVE
TERRAIN CLEARANCE
CAR 42.16 & 42.92
STANDARD ALTITUDE - FT.×1000
12
11
10
9
8
7
6
5
L-10E 10500 LB.
L-12A 8600 LB.
BEECH D18S 8750 LB.
BEECH D18C 9000 LB.
80
90
100
110
120
130
CLIMB SPEED - MPH (TIAS)
PROP FEATHERED
PROP IDLING
BEECH D18C PROP FEATH.
L-12A
B-D18S PROP FEATH.
L-10E
BEECH D18S PROP IDLING
6
7
8
9
10
11
AIRPLANE WEIGHT - LB. × 1000
FIG. 1

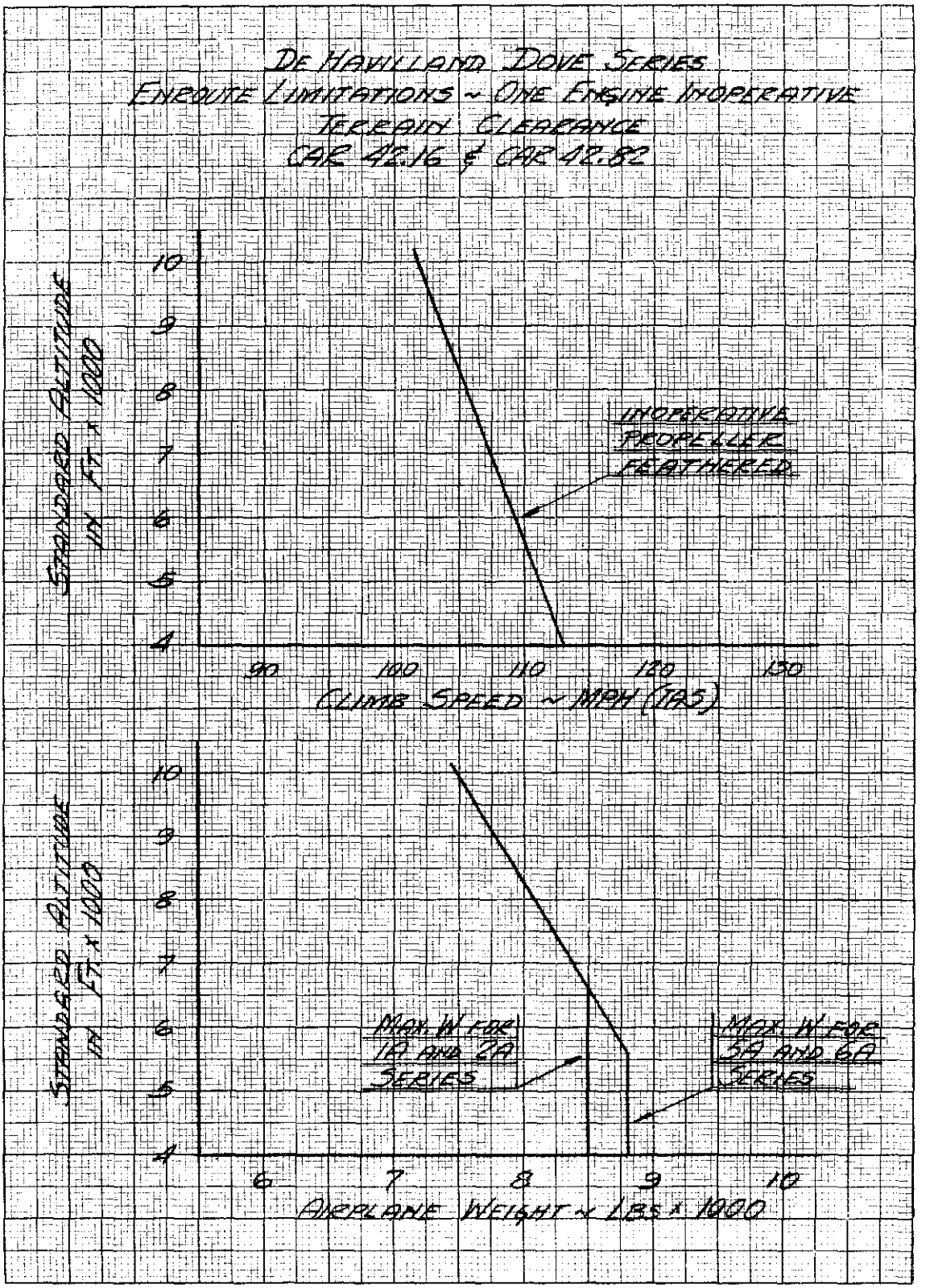
(Rev. 12/1/56)



[Figure 10

(Published in 21 F. R. 8420, Nov. 3, 1956, effective Dec. 1, 1956.)]

. 12/1/56)



[Figure 11

(Published in 21 F. R. 8421, Nov. 3, 1956, effective Dec. 1, 1956.)]