

AFMS 1080

**AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR THE CESSNA MODEL 414A CHANCELLOR
MODIFIED IN ACCORDANCE WITH STC SA09105SC**

*Installation of
RAM Series VII Engines,
RAM Winglets,
RAM Vortex Generators,
and any of the following propeller models:
Hartzell PHC-C3YF-2UF/FC7663D-2Q
Hartzell PHC-C3YF-2UF/FC7663DB-2Q
McCauley 3AF32C93/82NC-6.0 to -7.0
McCauley 3AF32C505/82NEA-6.0 to -7.0
McCauley 3AF32C515/82NLA-4.0*

AIRCRAFT REGISTRATION NUMBER: _____

Copy Submitted to NTSB

AIRCRAFT SERIAL NUMBER: _____

11/8/2019

This supplement is FAA approved and must be attached to the FAA-approved Airplane Flight Manual when the aircraft has been modified in accordance with STC SA09105SC. The information contained in this document supplements or supersedes the Airplane Flight Manual only in those areas listed herein. For limitations, procedures, and performance not contained in this supplement, consult the Airplane Flight Manual.

Approved _____

for

A. J. Merrill, Manager
Special Certification Office

Date: September 25, 1995

Revised: FEB 08 1996

RAM
AIRCRAFT CORPORATION
P. O. BOX 5219 - WACO, TEXAS 76708
817 / 752 - 8381

Revision B

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NOTE: For information not contained in this supplement, see the Airplane Flight Manual or the Information Manual for the Cessna Model 414A.

SECTION 1 GENERAL

ENGINES

Teledyne Continental Motors TSIO-520-NB modified by RAM Aircraft Corporation to increase takeoff power to 335 hp and maximum continuous power to 325 hp.

PROPELLERS

The propeller models listed below are approved for installation and operation in addition to the propeller models originally approved for the Cessna Model 414A:

- ♦ McCauley Model 3AF32C515/82NLA -4.0 to -5.5
- ♦ Hartzell PHC-C3YF-2UF/FC7663D-2Q
- ♦ Hartzell PHC-C3YF-2UF/FC7663DB-2Q

MAXIMUM CERTIFICATED WEIGHTS

Maximum Takeoff Weight 7087 lbs

SPECIFIC LOADINGS

Wing Loading 31.39 lbs/ft²

Power Loading 10.58 lbs/hp

SECTION 2 LIMITATIONS

AIRSPEED LIMITATIONS TABLE

SPEED	KIAS	KCAS	REMARKS
Maneuvering Speed V_A (knots)	151	146	Do not make abrupt control movements above this speed.
Max. Flap Extended Speed V_{FE} (knots) 15° 45°	171 140	175 145	Do not exceed this speed with the given flap setting.
Max. Gear Operating Speed V_{LO} (knots)	178	175	Do not extend or retract landing gear above this speed.
Max. Gear Extended Speed V_{LE} (knots)	178	175	Do not exceed this speed with landing gear extended.
Air Minimum Control Speed V_{MCa} (knots)	72	72	This is the minimum flight speed at which the airplane is directionally controllable with one engine inoperative and with a 5° bank towards the operative engine.
One Engine Inoperative Best Rate of Climb Speed V_{Yse} (knots)	112	108	This speed delivers the greatest gain in altitude in the shortest possible time with one engine inoperative at sea level, standard day conditions, and 7087 lbs weight.
Never Exceed Speed V_{NE} (knots)	230	232	Do not exceed this speed in any operation.
Max. Structural Cruising Speed V_{NO} (knots)	201	200	Do not exceed this speed except in smooth air and then only with caution.

AIRSPEED INDICATOR TABLE

MARKING	KIAS VALUE OR RANGE	SIGNIFICANCE
Red Radial	72	Air minimum control speed.
White Arc	72 to 140	Operating speed range with 45° wing flaps. Lower limit is maximum weight stalling speed in landing configuration. Upper limit is maximum speed permissible with wing flaps extended 45°.
Green Arc	71 to 201	Normal operating range. Lower limit is maximum weight stalling speed with flaps and landing gear retracted. Upper limit is maximum structural cruising speed.
Blue Radial	112	One engine inoperative best rate-of-climb speed at sea level standard day conditions and 7087 lbs weight.
Yellow Arc	201 to 230	Caution range. Operations must be conducted with caution and only in smooth air.
Red Radial	230	Maximum speed for all operations.

STALL SPEEDS**CONDITIONS:**Throttles - ZERO THRUST at $1.1V_{S1}$ **NOTE:**

Maximum altitude loss during a conventional stall is approximately 550 ft.

WEIGHT lbs	CONFIGURATION		ANGLE OF BANK							
			0°		20°		40°		60°	
			FLAPS	GEAR	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
7087	0°	Up			71	71	73	73	82	81
	15°	Down			75	71	78	73	85	81
	45°	Down			72	66	73	68	79	75
6750	0°	Up			69	69	71	71	80	79
	15°	Down			74	69	76	71	84	79
	45°	Down			70	64	72	66	77	73
6200	0°	Up			66	66	68	68	75	75
	15°	Down			70	66	72	68	80	75
	45°	Down			69	62	70	64	76	71
5700	0°	Up			64	64	66	66	73	73
	15°	Down			68	64	70	66	78	73
	45°	Down			66	59	68	61	73	67
5200	0°	Up			61	61	63	63	70	70
	15°	Down			65	61	67	63	75	70
	45°	Down			65	57	66	59	71	65