E.L KEINS

Air Plains Services Corp.
P.O. Box 541
Wellington Airport
Wellington, Ks. 67152

FAA Approved
Airplane Flight Manual Supplement

For

Cessna 172P
Serial No. 17274010 and Subsequent
Serial No 17276376 Reg No. N66MA

This Supplement must be attached to the Pilots Operating Handbook and the FAA Approved Airplane Flight Manual when the airplane is modified in accordance with STC SA2196CE which increases max certificated takeoff weight to 2550lbs. The airplane must previously have been modified with STC SA4428SW. The information contained herein supplements or supersedes the basic Manual only in those areas outlined herein. For limitations, procedures and performance information not contained in this supplement, consult the Pilots Operating Handbook and the basic Airplane Flight Manual.

1. GENERAL
2. LIMITATIONS
3. EMERGENCY PROCEDURES
4. NORMAL PROCEDURES
5. PERFORMANCE
6. WEIGHT AND BALANCE

FAA Approved D.L. Sorensen
Manager, Wichita Aircraft
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FAA Central Region,
Wichita, Ks.

Air Plains Services Corp.
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Cessna Model 172P

Log of Revisions

Rev.	Pages Affected	Description	FAA Approved	Date
		Original	G. M. Baker	10/02/87
1	3&4 1-10	Added 0360A4N Changed Company Name	B. L. Sorensen	3/21/90

Cessna Model 172P

SECTION 1. General

The information contained in this Flight Manual Supplement is FAA Approved material, and is applicable to the operation of the airplane in accordance with STC SA2196CE which increases the max. certificated takeoff weight to 2550lbs, when the airplane has previously been modified with STC SA4428SW.

DESCRIPTIVE DATA

PAGE 1-3

ENGINE

Engine Model Number: O-360-A4A,A4M,A4N, A2F & A3A
Engine Type: Normally aspirated, direct drive, air cooled, horizontally opposed, carburetor equipped, four cylinder engine with 360 cu. in. displacement.
Horsepower Rating and Engine Speed: 180 rated BHP at 2700RPM
Maximum Continuous RPM: 2540 RPM

PAGE 1-5

MAXIMUM CERTIFICATED WEIGHTS

Takeoff,	Normal	2550lbs.
	Utility	2100lbs.
Landing,	Normal	2550lbs.
	Utility	2100lbs.

SECTION 2. Limitations

PAGE 2-5 AIRSPEED INDICATOR MARKINGS

Airspeed indicator must be replaced with Cessna P/N C661064-0112 or remarked as follows:

Cessna Model 172P

PAGE 2-5 AIRSPEED INDICATOR MARKINGS,(cont.)

MARKING	KIAS VALUE OR RANGE
White Arc	40-85
Green Arc	50-127
Yellow Arc	127-158
Red Line	158

PAGE 2-4 AIRSPEED LIMITATIONS

VA Maneuvering Speed:

2550 Pounds	105 KIAS
2150 Pounds	95 KIAS
1750 Pounds	85 KIAS

PAGE 2-5 POWER PLANT LIMITATIONS

Engine Model Number: O-360-A4A,A4M,A4N A2F & A3A
Maximum Power: 180 BHP rating
Maximum Continuous RPM: 2540 RPM

PAGE 2-6 WEIGHT LIMITS

Maximum Takeoff Weight,	Normal	2550lbs.
	Utility	2100lbs.
Maximum Landing Weight,	Normal	2550lbs.
	Utility	2100lbs.

PAGE 2-7 CENTER OF GRAVITY LIMITS

NORMAL CATEGORY

Center of Gravity Range:
Forward: 35.0 inches aft of datum at 1950 lbs. or less, with straight line variation to 41.0 inches aft of datum at 2550 lbs.
Aft: 47.3 inches aft of datum at all weights.

Cessna Model 172P

PAGE 2-7 CENTER OF GRAVITY LIMITS,(cont.)

UTILITY CATEGORY

Center of Gravity Range:
Forward: 35.0 inches aft of datum at 1950lbs. or less, with straight line variation to 36.5 inches aft of datum at 2100lbs.
Aft: 40.5 inches aft of datum at all weights.

PAGE 2-8 FLIGHT LOAD FACTORS

NORMAL CATEGORY

Flight Load Factors (Maximum Takeoff Weight - 2550lbs):
Flaps Up.....+3.8g, -1.52g
Flaps Down.....+3.0g

PAGE 2-12 PLACARDS

10. Near airspeed indicator: MANEUVER SPEED - 105 KIAS

SECTION 3. Emergency Procedures

PAGE 3-3 AIRSPEEDS FOR EMERGENCY OPERATION

Engine Failure after Takeoff:
Wing Flaps Up.....70 KIAS
Wing Flaps Down.....65 KIAS
Maneuvering Speed:
2550 lbs.....105 KIAS
2150 lbs.....95 KIAS
1750 lbs.....85 KIAS
Maximum Glide:
2550 lbs.....68 KIAS
2150 lbs.....62 KIAS
1750 lbs.....56 KIAS
Precautionary Landing With Engine Power.....65 KIAS
Landing Without Engine Power:
Wing Flaps Up.....70 KIAS
Wing Flaps Down.....65 KIAS

Cessna Model 172P

PAGE 3-4 ENGINE FAILURES

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

1. Airspeed -- 70 KIAS (flaps UP)
   65 KIAS (flaps DOWN)

PAGE 3-4 ENGINE FAILURE DURING FLIGHT

1. Airspeed -- 75 KIAS

PAGE 3-4 FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

1. Airspeed -- 70 KIAS (flaps UP)
   65 KIAS (flaps DOWN)
5. Wing Flaps -- AS REQUIRED (30 deg recommended

PRECAUTIONARY LANDING WITH ENGINE POWER

2. Airspeed -- 65 KIAS

6. Airspeed -- 65 KIAS

PAGE 3-5 DITCHING

4. Wing Flaps -- 20-30 deg.
NOTE
If no power is available, approach at 70 KIAS with flaps up or at 65 KIAS with 10 deg flaps.

PAGE 3-7 ICING

INADVERTENT ICING ENCOUNTER

11. Approach at 80 to 90 KIAS depending upon the amount of the accumulation.

Cessna Model 172P

SECTION 4. Normal Procedures

PAGE 4-3 NORMAL PROCEDURES

SPEEDS FOR NORMAL OPERATION

Unless otherwise noted, the following speeds are based on a maximum weight of 2550 pounds and may be used for any lesser weight.

Page 4-3

Takeoff
- Normal Climb Out.....75-85 KIAS
- Short Field Takeoff, Flaps 10 deg, Speed at 50 Feet..57 KIAS

Enroute Climb, Flaps Up:
- Normal, Sea Level.....75-85 KIAS
- Normal, 10,000 Feet.....70-80 KIAS
- Best Rate of Climb, Sea Level.....76 KIAS
- Best Rate of Climb, 10,000 Feet.....72 KIAS
- Best Angle of Climb, Sea Level.....62 KIAS
- Best Angle of Climb, 10,000 Feet.....67 KIAS

Landing Approach:
- Normal Approach, Flaps Up.....65-75 KIAS
- Normal Approach, Flaps 30 deg.....60-70 KIAS
- Short Field Approach, Flaps 30 deg.....62 KIAS

Balked Landing:
- Maximum Power, Flaps 20 deg.....60 KIAS

Maximum Recommended Turbulent Air Penetration Speed:
- 2550 Lbs.....105 KIAS
- 2150 Lbs.....95 KIAS
- 1750 Lbs.....85 KIAS

PAGE 4-8 SHORT FIELD TAKEOFF

Climb Speed 57 KIAS(until all obstacles are cleared).

PAGE 4-9 ENROUTE CLIMB
Airspeed -- 75-85 KIAS

Cessna Model 172P

PAGE 4-9 LANDING

NORMAL LANDING

1. Airspeed -- 65-75 KIAS (flaps UP)
2. Wing Flaps -- AS DESIRED (0-10 deg below 110 KIAS, deg. below 85 KIAS).
3. Airspeed -- 60-70 KIAS (flaps DOWN)

PAGE 4-10

SHORT FIELD LANDING

1. Airspeed -- 65-75 KIAS (flaps UP)
3. Airspeed -- 62 KIAS (until flare)

BALKED LANDING

5. Wing Flaps -- 10 deg. (until obstacles are cleared) RETRACT SLOWLY after reaching a altitude and 65 KIAS.

Section 5

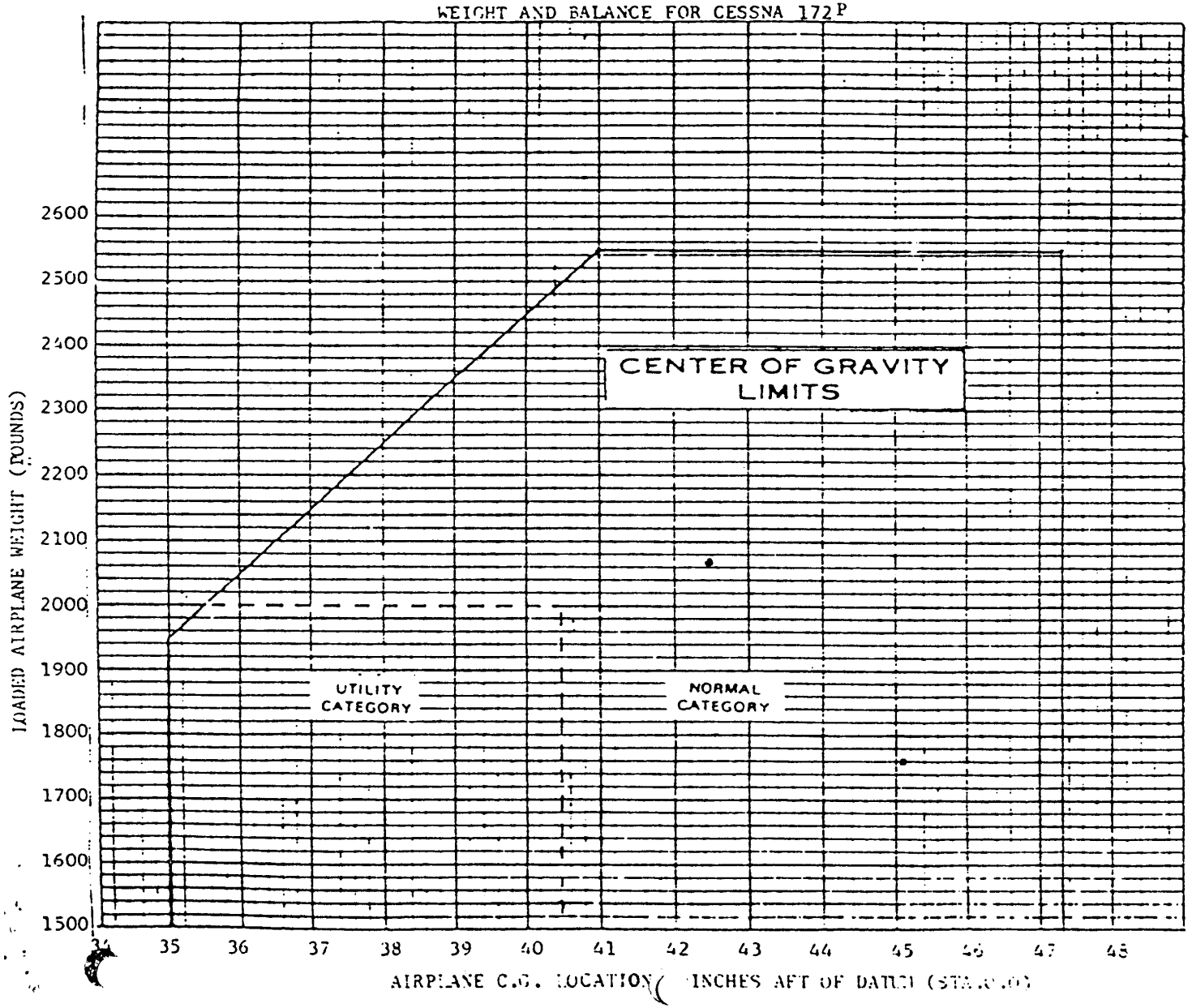
PAGE 5-21 LANDING DISTANCE - SHORT FIELD

NOTES:
4. If a landing with flaps up is necessary, increase approach speed by 9 kias and allow for 35% longer distance.

180HP CESSNA 172 SKYHAWK
CRUISE PERFORMANCE
Standard Temperature

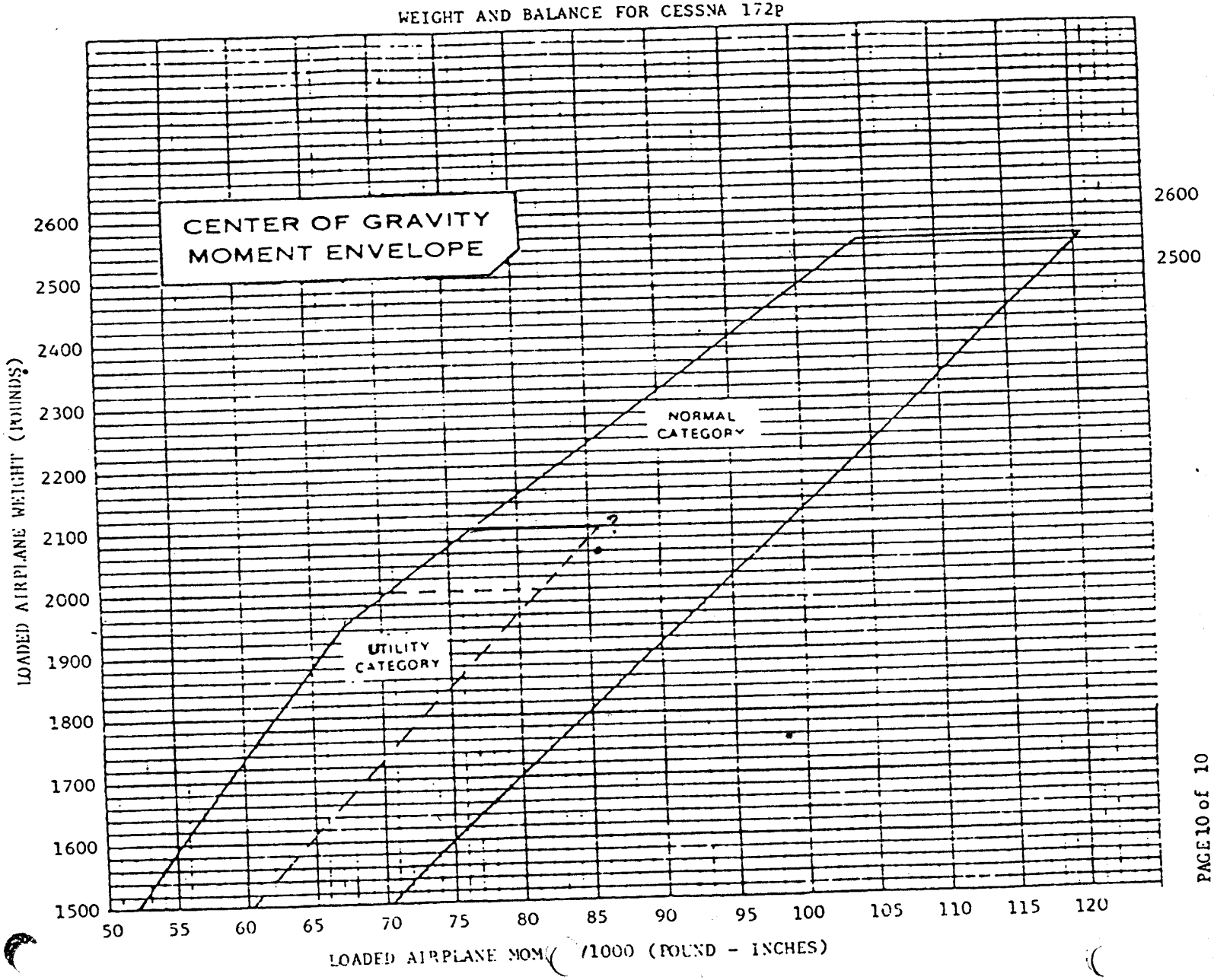
Pressure Altitude Ft.	RPM	% BHP	GPH
2000	2550	76	10.2
	2500	72	9.6
	2400	64	8.7
	2300	58	7.9
	2200	52	7.2
	2100	46	6.6
4000	2600	76	10.2
	2500	68	9.2
	2400	62	8.3
	2300	55	7.6
	2200	49	6.9
	2100	44	6.3
6000	2650	76	10.1
	2500	69	9.2
	2400	62	8.4
	2300	56	7.7
	2200	53	7.3
8000	2700	76	10.1
	2600	69	9.2
	2500	62	8.4
	2400	56	7.7
	2300	53	7.3
	2200	47	6.7
10000	2700	72	9.6
	2600	65	8.8
	2500	59	8.1
	2400	53	7.4
	2300	48	6.8
12000	2650	65	8.8
	2600	62	8.4
	2500	56	7.7
	2400	51	7.1

WEIGHT AND BALANCE FOR CESSNA 172P



FAA Approved: 10/2/87 Revised 3/21/90

WEIGHT AND BALANCE FOR CESSNA 172P



FAA Approved: 10/2/87 Revised 3/21/90

United States of America

Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

PROPRIETORY INFORMATION
Information contained herein in regard to STC SA2196CE is the property of Air Plains Services, Corp. This document or drawing is authorized only to be used on Aircraft N 66MA, S/N 17276376 and no other. Any other use constitutes fraud.
Signed D Z Robinson

Number SA2196CE

This certificate issued to

Air Plains Services Corporation
P. O. Box 541
Wellington Airport
Wellington, KS 67152

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations effective November 1, 1949, plus the amendments listed on Type Certificate Data Sheet.

Original Product — Type Certificate Number: 3A12
Make: Cessna
Model: 172K, 172L, 172M, 172N, and 172P

Description of Type Design Change: 1. 172N and 172P increase gross weight to 2,550 lbs, per Mike Kelley Aircraft, Inc. Drawing GW172861 with an FAA approval date of September 25, 1986, or later. 2. 172L (S/N 17259904 through 17260758 increase gross weight to 2,500 lbs. and 172M (S/N 17260579 through 17267584) increase gross weight to 2,550 lbs. per Air Plains Services Drawings 1728803 (sheet 1) and 1728806-3, and Installation Instructions 1728806-2 with an FAA approval date of July 12, 1988; and Drawing 172861 with an FAA approval date of September 25, 1986, or later.

Limitations and Conditions:

1. Installation of STC SA4428SW must be made prior to incorporation of this modification, except 172N airplanes modified per Item 4 below.
2. Airplane Flight Manual (AFM) Supplement dated September 25, 1986, or October 2, 1987, is required equipment for the 172N Serial Numbers 17271035 through 17274009; and AFM Supplement dated October 2, 1987, is required equipment for the 172P when this modification is installed.

See Continuation Sheet 2 of 2

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: August 1, 1986

Date of issuance: August 6, 1987

Date reissued:

Date amended: 10/2/87; 7/12/88; 5/3/91; 9/9/91; 10/9/91

By direction of the Administrator

Lawrence A. Herron
(Signature)

Lawrence A. Herron, Manager
Wichita Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA Form 8110-2 (10-68)

United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SA2196CE

PROPRIETARY INFORMATIC
Information contained herein in re
to STC SA2196CE is the property c
Plains Services, Corp. This docu
or drawing is authorized only t
used on Aircraft N 66MA
S/N 17276376 and no other. Any c
use constitutes fraud.
Signed S L Robinson

October 9, 1991

Description of Type Design Change, Continued:

3. 172K (S/N 17257162 through 17259223) and 172L (S/N 17259224 through 17259903 (increase gross weight to 2,500 lbs. per Air Plains Drawings 1728803 (sheet 1 and 2) and 1728806-3; and Installation Instruction 1728806-1 with an FAA approval date of July 12, 1988, or later.
4. 172N increase gross weight to 2,400 lbs. (when STC SA4428SW is not installed) per Mike Kelley Aircraft, Inc. Drawing GW1729105-1 and Installation Instructions 1722400-1, both with an FAA approval date of October 9, 1991, or later.

Limitations and Conditions, Continued:

3. Supplemental Airplane Flight Manual dated September 25, 1986, with Revision 2 dated July 6, 1988, is required equipment for the 172N Serial Numbers 17267585 through 17271034 when this modification is installed.
4. Supplemental Airplane Flight Manual dated September 25, 1986, Revision 2 dated July 6, 1988, is required equipment for the 172M Serial Numbers 17265685 through 17267584 when this modification is installed.
5. Supplemental Airplane Flight Manual dated July 6, 1988, is required equipment for the 172M Serial Numbers 17260759 through 17267684 when this modification is installed.
6. Supplemental Airplane Flight Manual dated July 6, 1988, is required equipment for the 172K and 172L Serial Numbers 17257162 through 17260758 when this modification is installed.
7. Supplemental Airplane Flight Manual dated May 3, 1991, is required equipment for the 172N Serial Numbers 17267585 through 17271034 when modified in accordance with item 4 above.
8. Airplane Flight Manual Supplement dated May 3, 1991, is required equipment for the 172N Serial Numbers 17271035 through 17272884 when modified in accordance with item 4 above.
9. Airplane Flight Manual Supplement dated May 3, 1991, is required equipment for the 172N Serial Numbers 17272885 through 17274009 when modified in accordance with item 4 above.
10. This approval should not be extended to other specific airplanes of this model on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the airplane.

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

FAA FORM 8110-2-1 (10-69) *This certificate may be transferred in accordance with FAR 21.47.*

United States of America

Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SA4428SW

This certificate, issued to Air Plains Service Corp.
P.O. Box 541
Wellington Airport
Wellington, KS 67152

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations.

PROPRIETORY INFORMATION

Information contained herein in regard to STC SA4428SW is the property of Air Plains Services Co. This document or drawing is authorized only to be used on aircraft Civil Air 66 MA S/N 7276376 and no other. Any other use constitutes fraud.

Signed S L Robertson

Original Product — Type Certificate Number: 3A12

Make: Cessna

Model: 172H, 172I, 172K, 172L, 172M, 172 N, 172P

Description of Type Design Change: Installation of Lycoming 0-360-A2F,-A3A and 0-360-A4A,-A4M, or -A4N engines and McCauley 1A170/CFA7660 propeller or Lycoming 0-360-A4A,-A4M or-A4N engines and Sensenich 76EM8S propeller in accordance with Drawing 1727601, Sheets 1 through 4, Sheet 4, Rev. C dated July 22, 1981, and Installation Instructions revised January 7, 1980, or Drawing List No. 1727600 dated August 15, 1985, or later "FAA Approved" revisions. Airplane Flight Manual Supplement for Airplane Serial Number 17271035 and on dated August 27, 1985, or later "FAA Approved " revisions is also required.

Limitations and Conditions: Cessna 172I must be placarded: Flight with a pilot only requires 10 pounds of ballast at Station 95 (baggage compartment). Sensenich 76EM8S propeller limited to solid crankshaft Lycoming 0-360-A4 series engines only. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of the other previously approved modifications will introduce no adverse effect upon the airworthiness of that airplane.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: March 18, 1976

Date of issuance: July 24, 1981

Date reissued: June 26, 1984
November 10, 1987

Date amended: August 27, 1985
September 17, 1987, March 21,1990
March 31 1994

By direction of the Administrator

Lloyd L. Edwards *(Signature)*
Manager, Propulsion Branch
Wichita Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA Form 8110-2 (10-68)