

# **PART 3**

## **Cessna 172 180HP Conversion**

**C -172P Flight Manual Supplement**

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 maximum certificated takeoff weight to 2550 lbs, when the airplane has previously been modified with STC SA4428SW.

DESCRIPTIVE DATA

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ENGINE

Engine Model Number: 0-360-A4A, A4M, A4N, A2F & A3A  
Engine Type: Normally aspirated, direct drive, air cooled, horizontally opposed, carburetor equipped, four cylinder engine with 360 cubic inches displacement  
Horsepower Rating and Engine Speed: 180 rated BHP at 2700 RPM  
Maximum Continuous RPM: 2540 RPM

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MAXIMUM CERTIFICATED WEIGHTS

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

SECTION 2. Limitations

PAGE 2-5 AIRSPEED INDICATOR MARKINGS

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

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PAGE 2-5 AIRSPEED INDICATOR MARKINGS, (continued)

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 lbs .....	105 KIAS
2150 lbs .....	95 KIAS
1750 lbs .....	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	2550 lbs
Utility	2100 lbs
Maximum Landing Weight, Normal	2550 lbs
Utility	2100 lbs

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.

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PAGE 2-7 CENTER OF GRAVITY LIMITS, (continued)

Center of Gravity Range:

Forward: 35.0 inches aft of datum at 1950 lbs or less, with  
straight line variation to 36.5 inches aft of datum at 2100 lbs.

Aft: 40.5 inches aft of datum at all weights

PAGE 2-8 FLIGHT LOAD FACTORS

NORMAL CATEGORY

Flight Load Factors (Maximum Takeoff Weight – 2550 lbs)

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

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

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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 degrees recommended)

PRECAUTIONARY LANDING WITH ENGINE POWER

2. Airspeed – 65 KIAS
6. Airspeed – 65 KIAS

PAGE 3-5 DITCHING

4. Wing Flaps – 20 – 30 degrees

NOTE:

If no power is available, approach at 70 KIAS with flaps up or at 65 KIAS with 10 degrees flaps

PAGE 3-7 ICING

INADVERTENT ICING ENCOUNTER

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

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SECTION 4. Normal Procedures

PAGE 4-3 NORMAL PROCEDURES

SPEEDS FOR NORMAL OPERATION

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

Takeoff

Normal Climb Out .....	75-85 KIAS
Short Field takeoff, Flaps 10 degrees, 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 degrees .....	60-70 KIAS
Short Field Approach, Flaps 30 degrees .....	62 KIAS
Normal, 10,000 Feet .....	70-80 KIAS

Balked Landing:

Maximum Power, Flaps 20 degrees .....	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 – 75-80 KIAS

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PAGE 4-9 LANDING

NORMAL LANDING

1. Airspeed – 65-75 KIAS (flaps UP)
2. Wing Flaps – AS DESIRED (0-10 degrees below 110 KIAS, 10-30 degrees 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 degrees (until obstacles are cleared)  
RETRACT SLOWLY after reaching a safe  
Altitude and 65 KIAS

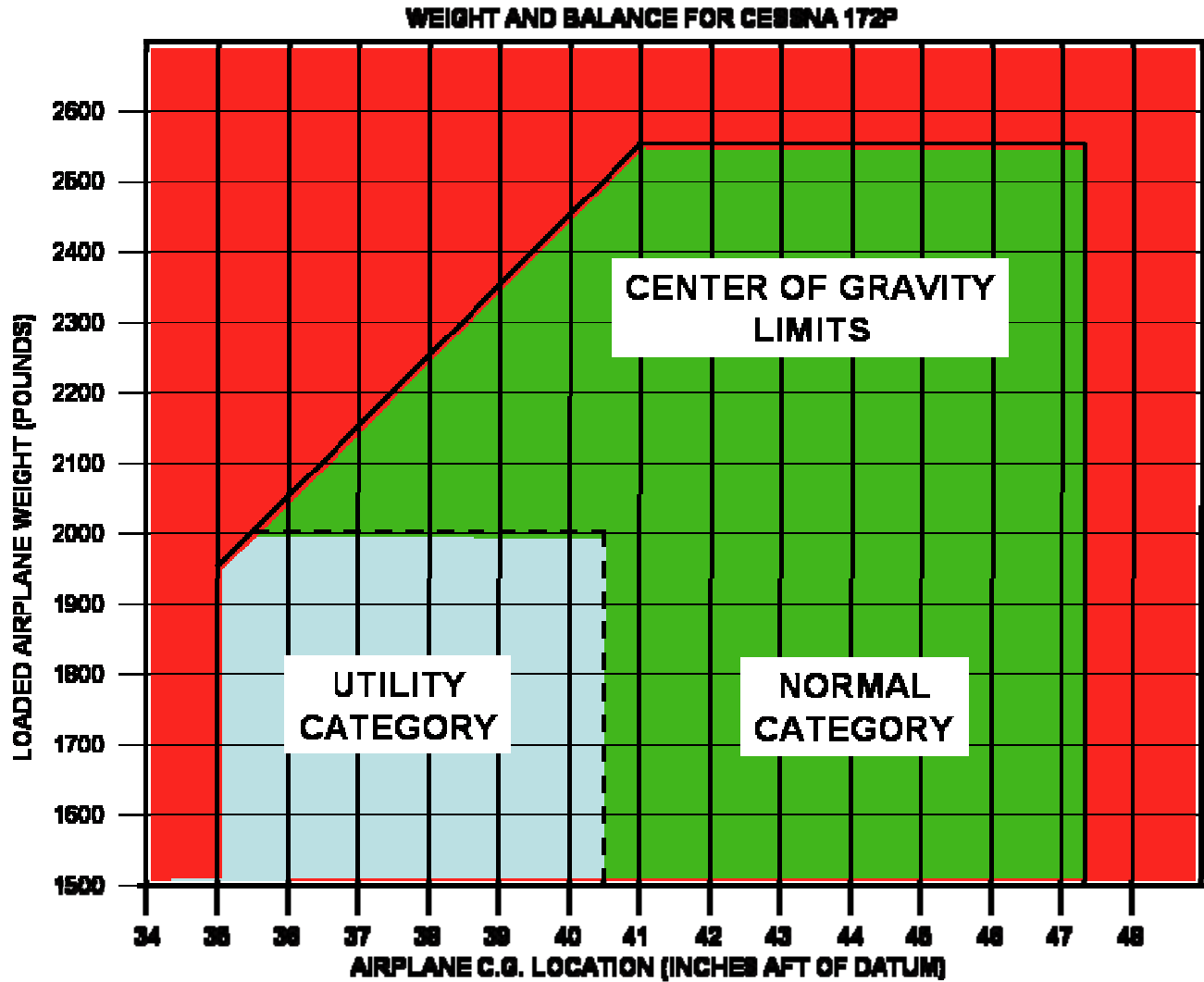
Section 5

PAGE 5-21 LANDING DISTANCE – SHORT FIELD

NOTES:

4. If a landing without flaps is necessary, increase approach speed by 9 KIAS and allow for 35% longer landing distance.

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**180 HP Cessna 172 Skyhawk  
Cruise Performance (Standard Temperature)  
(All times are estimated)**

<b>Pressure Altitude</b>	<b>RPM</b>	<b>BHP %</b>	<b>GPH</b>	<b>Time @ 40 GAL Useable</b>	<b>Time @ 50 GAL Useable</b>	<b>Time @ 62 GAL Useable</b>
2000	2550	76	10.2	3:55	4:54	6:05
2000	2500	72	9.6	4:10	5:13	6:28
2000	2400	64	8.7	4:36	5:45	7:08
2000	2300	58	7.9	5:04	6:20	7:51
2000	2200	52	7.2	5:33	6:57	8:37
2000	2100	46	6.6	6:04	7:35	9:24
4000	2600	76	10.2	3:55	4:54	6:05
4000	2500	68	9.2	4:21	5:26	6:44
4000	2400	62	8.3	4:49	6:01	7:28
4000	2300	55	7.6	5:16	6:35	8:09
4000	2200	49	6.9	5:48	7:15	8:59
4000	2100	44	6.3	6:21	7:56	9:50
6000	2650	76	10.1	3:58	4:57	6:08
6000	2500	69	9.2	4:21	5:26	6:44
6000	2400	62	8.4	4:46	5:57	7:23
6000	2300	56	7.7	5:12	6:30	8:03
6000	2200	53	7.3	5:29	6:51	8:30
8000	2700	76	10.1	3:58	4:57	6:08
8000	2600	69	9.2	4:21	5:26	6:44
8000	2500	62	8.4	4:46	5:57	7:23
8000	2400	56	7.7	5:12	6:30	8:03
8000	2300	53	7.3	5:29	6:51	8:30
8000	2200	47	6.7	5:58	7:28	9:15
10000	2700	72	9.6	4:10	5:13	6:28
10000	2600	65	8.8	4:33	5:41	7:03
10000	2500	59	8.1	4:56	6:10	7:39
10000	2400	53	7.4	5:24	6:45	8:23
10000	2300	48	6.8	5:53	7:21	9:07
12000	2650	65	8.8	4:33	5:41	7:03
12000	2600	62	8.4	4:46	5:57	7:23
12000	2500	56	7.7	5:12	6:30	8:03
12000	2400	51	7.1	5:38	7:03	8:44