



18650 59TH DR. NE BLDG#1
ARLINGTON, WA. 98223

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FAA APPROVED

**SUPPLEMENTAL AIRPLANE FLIGHT MANUAL
FOR
CESSNA 180G & 180H SERIES FLOATPLANES**

Equipped With AEROCET 3500 or 3500L Seaplane Floats

Registration No. _____

Serial No. _____

The information contained in this document is FAA approved material which must be applied together with the basic FAA approved airplane placards and markings and/or FAA approved Airplane Flight Manual. This supplemental manual must be carried in the airplane when it is modified by the installation of the Aerocet Model 3500 or 3500L seaplane floats in accordance with Supplemental Type Certificate (STC) No. SA00137SE. The information contained in this document supersedes the basic airplane markings and placards and/or Flight Manual covered in the items contained herein. For Limitations, Procedures, and Performance information not contained in this supplement, consult the basic airplane markings and placards, and/or Flight Manual.

FAA Approved:

Manager, Special Certification Branch
Seattle Aircraft Certification Office

Date:

Oct 21, 1994



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SECTION 1. GENERAL

This supplemental manual, applicable to those Cessna Model 180G & 180H Series airplanes equipped with Aerocet Model 3500 or 3500L Seaplane Floats, provides information and limitations not included in the basic FAA approved markings and placards, and/or Airplane Flight Manual. Whenever the words "Not Applicable" (NA) appear in this supplemental manual, they are used to indicate that the related information may not be the same as that shown in the Cessna markings and placards, and/or Flight Manual are not required by the airplane certification basis and, therefore, should not be referenced. The aircraft is to be operated under the "NORMAL CATEGORY" only.

PERFORMANCE - SPECIFICATIONS

SPEED: NA

CRUISE: NA

RATE OF CLIMB AT SEA LEVEL: NA

SERVICE CEILING: NA

TAKEOFF PERFORMANCE: NA

LANDING PERFORMANCE: NA

STALL SPEED (POWER OFF, FORWARD CG):

FLAPS UP: 56 KCAS 64 MPH CAS

FLAPS DOWN: 51 KCAS 59 MPH CAS

MAXIMUM WEIGHT:

RAMP (DOCK): 2950 LBS.

TAKE-OFF & LANDING: 2950 LBS.

EMPTY WEIGHT: SEE ACTUAL WT. & BALANCE FORM FOR AIRCRAFT

MAXIMUM USEFUL LOAD: REF. ACTUAL WT. & BALANCE FORM FOR A/C

BAGGAGE ALLOWANCE:

IN AIRPLANE: NO CHANGE

IN EACH FLOAT 100 LBS.

(CAUTION: ASSURE CG RANGE IS PROPER WHEN LOADING)

WING LOADING: NA

POWER LOADING: NA

RANGE: NA

FUEL CAPACITY: NO CHANGE

OIL CAPACITY: NO CHANGE

ENGINE: NO CHANGE

PROPELLER: NO CHANGE

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SECTION 2. LIMITATIONS

CENTER OF GRAVITY LIMITS:

Center of Gravity Range: (inches aft of reference datum)

(+41.2) to (+43.9) at 2950 lbs. Max. G.W.
(+35.0) to (+43.9) at 2125 lbs. or less with a straight line variation between points given.

WEIGHT LIMITS:

| | |
|---|----------------|
| Maximum Ramp (Dock) Weight: | 2950 lbs. |
| Maximum Takeoff Weight: | 2950 lbs. |
| Maximum Landing Weight: | 2950 lbs. |
| Maximum Weight in Baggage Compartment: | NO CHANGE |
| Maximum Weight in Float Baggage Compartment | 100 lbs. each. |

AIRSPEED LIMITS:

| | <u>TIAS (KTS)</u> | <u>TIAS (MPH)</u> |
|--------------------------------|-------------------|-------------------|
| Never Exceed Speed (Vne) | 143 | 164 |
| Max. Structural Cruising (Vno) | 113 | 130 |
| Max. Maneuvering speed (Va) | 113 | 130 |
| Max. Speed with Flaps (Vfe) | 96 | 110 |

AIR SPEED INDICATOR MARKINGS:

The airspeed indicator shall be marked with a radial redline at 164 MPH.

If the radial line is on the indicator glass, the glass and bezel should also have a white slippage mark.

Apart from the redline mark, the airspeed indicator markings are the same as shown in the basic markings/Flight manual. Due to differences in airspeed calibration and speeds with floats installed, the indicated stall speeds and maximum structural cruising speed vary slightly from airspeed indicator markings.

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PLACARDS:

Aerocet P/N 35-70006 Placard is located on after part of console near water rudder handle in the "RETRACT" position:

"WATER RUDDER
ALWAYS UP
EXCEPT
WATER TAXIING"

Aerocet P/N 35-70008 Placard is installed on left side of cabin in full view of the pilot:

"FLOATPLANE WITH
AEROCET 3500 FLOATS

NEVER EXCEED SPEED: 143 KNTS. (164 MPH) (IAS)
MAX. MANEUVERING SPEED: 113 KNTS. (130 MPH) (IAS)
MAX. GROSS WEIGHT: 2950 LBS.
CG RANGE
(+41.2) TO (+43.9) AT 2950 LBS. MAX. GROSS WT.
(+35.0) TO (+43.9) AT 2125 LBS. OR LESS WITH A STRAIGHT
LINE VARIATION BETWEEN POINTS GIVEN FOR WT. & BAL.
SEE LOADING SCHEDULE."

SECTION 3. EMERGENCY PROCEDURES:

Emergency procedures in the FAA approved airplane placards and /or Flight Manual generally apply except for airspeeds which may be different. Emergency landings on water should be done with water rudders up, aircraft slightly tail low on touchdown, and control wheel held full aft as the floatplane decelerates on the water. Emergency landings on land should be done with water rudders up, aircraft in a level attitude on touchdown, and the control wheel full aft after contact. If damage occurs to the floats causing compartments to flood, aggressively shift the weight (people & baggage) in the opposite direction of damage in order to balance the aircraft over the buoyant compartments.

SECTION 4. NORMAL PROCEDURES: (NOTE: THESE ITEMS SUPPLEMENT THE CESSNA NORMAL PROCEDURES- BE SURE AND FOLLOW THE CESSNA PROCEDURES EXCEPT AS NOTED BELOW)

Before Entering the Floatplane.

1. Inspect the floats and attachment for dents, cracks, punctures, etc.

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2. Remove rubber plugs (which serve as stoppers on the standpipe in each float compartment) and pump out any accumulation of water. Reinstall rubber stoppers with enough pressure for a snug fit. (If there is an excess of water, investigate the leakage)

3. When checking engine oil level, use the side of the dipstick having two "X" marks. The lower mark indicates nine quarts and the upper mark indicates twelve quarts.

Before Starting Engine.

1. Water Rudder Operation - "CHECK VISUALLY"
2. Water Rudders - "DOWN FOR TAXIING"
3. Water Rudders - "CHECK FREEDOM OF MOVEMENT & SECURITY"

Takeoff

1. Water Rudders - "UP" (retraction handle aft)
2. Wing Flaps - "20 DEGREES" (second notch)
3. Control Wheel - "HOLD FAR AFT INITIALLY"
4. Power - "FULL THROTTLE & MAX RPM (advance slowly)"
5. Control Wheel - "MOVE FORWARD TO ATTAIN PLANING ATTITUDE"
6. Control Wheel - "APPLY LIGHT BACK PRESSURE TO LIFT OFF"
7. Wing Flaps - "UP AFTER OBSTACLES ARE CLEARED"

Before Landing

1. Water Rudders - "UP"
2. Wing Flaps - "DOWN"

Landing

1. Touchdown - "SLIGHTLY TAIL LOW"
2. Control Wheel - "HOLD FULL AFT THROUGH DECELERATION"

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Balked Landing - "RETRACT FLAPS TO 20 DEG. IMMEDIATELY AFTER APPLYING FULL POWER FOR GO-AROUND"

After Landing - "WATER RUDDERS DOWN"

Securing Aircraft - "FUEL SELECTOR TO RIGHT OR LEFT TANK POSITION TO PREVENT CROSSFEEDING"

SECTION 5. PERFORMANCE:

Airspeed Calibration - Essentially unchanged

STALL SPEEDS:

POWER OFF, FORWARD CG, 2820 LBS

| | | |
|--------------------|----------------|-------------------|
| FLAPS UP: | 56 KCAS | 64 MPH CAS |
| FLAPS DOWN: | 51 KCAS | 59 MPH CAS |

NOTE: ALTITUDE LOSS DURING STALL RECOVERY MAY BE AS MUCH AS 200 FEET.

SECTION 6. WEIGHT AND BALANCE:

The airplane equipped with Aerocet 3500 or 3500L Floats must be loaded in accordance with the limitations in Section 2. These are shown as an aircraft weight/moment envelope or an aircraft weight versus c.g. location chart on page 9.

Note: It is the responsibility of the airplane owner and pilot to insure that the airplane is loaded properly.

SECTION 7. AIRPLANE AND SYSTEMS DESCRIPTIONS:

In addition to the Aerocet 3500 Float installation the aircraft must incorporate the Cessna approved seaplane kit. As a result of these installations, the floatplane is identical to the landplane with the following exceptions:

AEROCET MODIFICATIONS: Floats, incorporating a water rudder steering system, replace the landing gear. A water rudder retraction lever, connected to the water rudders by cables, is located on the cabin floor tunnel.

CESSNA MODIFICATIONS:

1. An additional structural "V" brace is installed between the top of the front door posts and the cowl deck.
2. Additional fuselage structure is added to support the float installation.

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- 3. A centering spring assembly and cables are added to the rudder control system to improve stability in flight.

NOTE

If the floatplane is returned to the landplane configuration, these items need not be removed.

- 4. The floatplane has additional corrosion proofing and stainless steel cables.
- 5. Hoisting provisions are added to the top of the fuselage.
- 6. The left-hand cabin door is equipped with removable hinge pins for ease of door removal when loading large cargo.
- 7. Fueling steps and assist handles are mounted on the forward fuselage, and steps are mounted on the wing struts to aid in refueling the floatplane. Inboard fuel fillers are added when long range fuel tanks are installed.

NOTE

A reduction of approximately five gallons of usable fuel in each tank will result if inboard fillers are used to fill the long range fuel tanks.

- 8. Floatplane placards are added.

NOTE: Refer to the appropriate Cessna Pilots Operating Handbook for other seaplane changes which apply to individual 180 models.

SECTION 8. AIRPLANE HANDLING, SERVICE, AND MAINTENANCE

Information not required

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41.2 to 43.9 at 2950 lbs
35.0 to 43.9 at 2125 lbs

