

**Transport Canada Approved Flight Manual Supplement
For**

**WIPLINE MODEL 3450
SEAPLANE FLOATS**

This supplemental manual is applicable to Wipline Model 3450 seaplane float equipped FBA-2C2 airplanes or Wipline Model 3450 seaplane float equipped FBA-2C1 airplanes with Mod 1043 installed. Mod 1043 replaces the plain flap system on the model FBA-2C1 airplane with a slotted Fowler-type flap system (commonly referred to as “Fowler Flaps”). Therefore where 2C2 is used in this manual it is acceptable to read 2C1 with Mod 1043 installed.

This Supplement must be attached to the Transport Canada Approved Airplane Flight Manual when the airplane is modified by the installation of Wipline Model 3450 seaplane floats in accordance with Found Aircraft Canada drawing D257 Issue 2 or later approved revision.

The information contained herein supplements or supersedes the basic flight manual, airplane markings and/or placards only in those areas listed herein.

For Limitations, Procedures, and Performance information not contained in this Supplement, consult the airplane markings and placards and/or basic Airplane Flight Manual, (P/N: FAC2-M400).

Approved:



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P/N M400-S08

LOG OF REVISIONS

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SECTION 1 GENERAL

INTRODUCTION

This supplemental manual is applicable to Wipline Model 3450 seaplane float equipped FBA-2C2 airplanes or Wipline Model 3450 seaplane float equipped FBA-2C1 airplanes with Mod 1043 installed. Mod 1043 replaces the plain flap system on the model FBA-2C1 airplane with a slotted Fowler-type flap system (commonly referred to as “Fowler Flaps”). Therefore where 2C2 is used in this manual it is acceptable to read 2C1 with Mod 1043 installed.

This supplement provides information and limitations not included in the Transport Canada approved markings and placards, and/or Airplane Flight Manual (P/N: FAC2-M400).

The aircraft is to be operated under the “NORMAL CATEGORY” only.

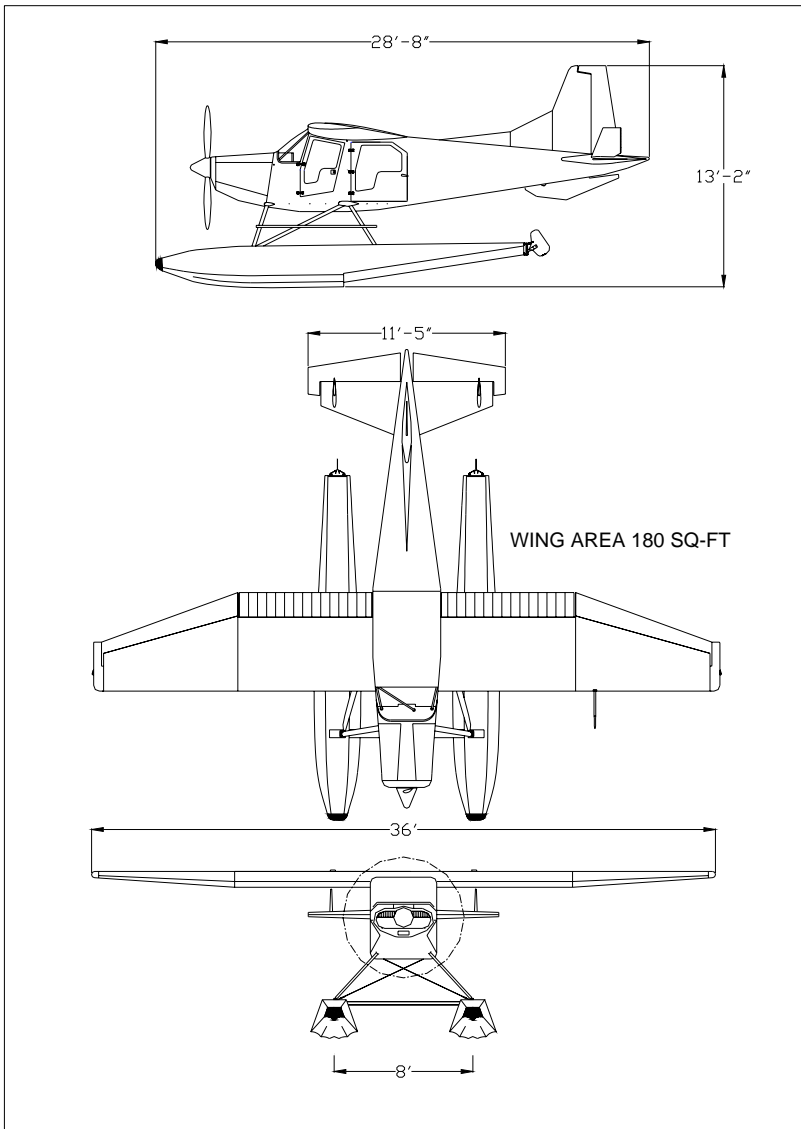


Figure 1 Three View - Normal Ground Attitude

DESCRIPTIVE DATA

MAXIMUM CERTIFICATED WEIGHTS

Maximum Operational Weight:

Takeoff:	3700 lbs
Landing:	3700 lbs

Maximum Weights in Baggage Compartment:

Main Baggage Area	250 lbs maximum
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STANDARD AIRPLANE WEIGHTS

Standard Empty Weight:	2360 lbs *
Maximum Useful Load:	1340 lbs *

* the above weights may vary depending on configuration.

SPECIFIC LOADINGS

Wing Loading:	20.6 lbs/sq.ft.
Power Loading:	12.3 lbs/hp

SECTION 2 LIMITATIONS

INTRODUCTION

The FBA-2C2 Bush Hawk-XP Wipline seaplane must be operated in accordance with the limitations contained in this section. These include operating limitations, instrument markings, colour coding and basic placards, powerplant, systems and equipment limitations. The limitations shown in this section apply only to operations of the FBA-2C2 Bush Hawk-XP equipped with Wipline Model 3450 seaplane floats.

AIRSPPEED LIMITATIONS

Airspeed limitations and their operational significance are shown below:

	SPEED	KCAS	KIAS	REMARKS
V _A	Maneuvering Speed	117	118	Do not make full or abrupt control movements above this speed.

NOTE

The operating speeds for the float installation are unchanged from the landplane operating airspeeds except for the indicated stall speeds.

The airspeed indicator markings remain unchanged from the landplane as the floatplane stall speeds are more conservative than the landplane stall speeds.

WEIGHT LIMITS

Maximum Takeoff Weight:	3700 lbs.
Maximum Landing Weight:	3700 lbs.
Maximum Weight in Baggage Compartment	250 lbs. (Arm = 94")
Maximum Weight in Float Baggage Compartments	50 lbs. each (Arm = -4")

CENTER-OF-GRAVITY LIMITS

Center-of-Gravity

Range:

Forward: 17.0 inches aft of datum at 2750 lbs or less.
20.5 inches aft of datum at 3700 lbs max. GW
with linear variation with weight in between.

Aft: 23.5 inches aft of datum at all weights.

Reference Datum: Lower forward corner of the front door

OTHER LIMITATIONS

FLAP LIMITATIONS

Approved Takeoff Range: 0° to 20°

Approved Landing Range: 0° to 30°

WATER RUDDER LIMITATIONS

Water rudders must be retracted for all flight operations.

PLACARDS

The following information is displayed in the form of composite or individual placards.

1. Above the airspeed indicator:

MANEUVER SPEED = 118 KIAS

2. Located on the centre instrument panel below the throttle control

FOR AIRCRAFT EQUIPPED WITH
WIPLINE MODEL 3450 FLOATS,
MAX GROSS = 3700 LBS.
REFER TO FMS M400-S08

SECTION 3

EMERGENCY PROCEDURES

NOTE

These items supplement the FBA-2C2 emergency procedures. Be sure to follow the FBA-2C2 procedures in Flight Manual P/N FAC2-M400 except as noted below.

INTRODUCTION

This section provides the operational checklists that are specific to FBA-2C2 with Wipline Model 3450 seaplane floats in abnormal circumstances and emergencies that may occur on the water or during flight. Only the sections that are affected by the Wipline floats are included in this supplement.

Emergency landings on water should be done with water rudders up, aircraft should be established in a normal water landing attitude with the tail slightly low. On touchdown on the water, gently pull the elevator back to the full up position allowing the floatplane to come off the step and decelerate. If damage occurs to the floats causing compartments to flood, open doors, get life vest on, and taxi aircraft to shallow water as quickly as possible.

Emergency landings on land should be done with water rudders up, aircraft in a normal landing attitude on touchdown, and the control wheel full aft after contact.

AIRSPEEDS FOR EMERGENCY OPERATION

Engine Failure after Takeoff

Wing Flaps - Up	80 KIAS
Wing Flaps - 10°	75 KIAS
Wing Flaps - 20°	70 KIAS
Maneuvering Speed	118 KIAS
Maximum Glide (Flaps - Up)	75 KIAS

Precautionary Landing With Engine Power

Wing Flaps - Up	80 KIAS
Wing Flaps - 30°	70 KIAS

Landing Without Engine Power

Wing Flaps - Up	80 KIAS
Wing Flaps - 30°	70 KIAS

EMERGENCY PROCEDURES CHECKLISTS

ENGINE FAILURES

ENGINE FAILURE DURING TAKEOFF RUN

1. Throttle IDLE
2. Control Wheel..... FULL AFT.
3. Flaps RETRACT
4. Mixture IDLE CUT OFF.
5. Ignition Switch OFF
6. Master Switch OFF
7. Alternator Switch..... OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

1. Land LAND or WATER
(Straight ahead turning only to avoid obstacles)
2. Airspeed..... 80 KIAS (Flaps UP)
70 KIAS (Flaps 20°)

If time permits:

3. Mixture IDLE CUT-OFF
4. Fuel Shutoff Valve..... OFF
5. Ignition Switch OFF
6. Master Switch OFF
7. Alternator Switch..... OFF
8. Flaps AS REQUIRED

FORCED LANDINGS

EMERGENCY LANDING ON WATER WITHOUT ENGINE POWER

1. Seats SECURE
2. Seat belts..... FASTENED
3. Loose Articles..... SECURE
4. Airspeed..... 80KIAS (Flaps UP)
70 KIAS (Flaps 30°)

Before touchdown:

- 5. Doors UNLATCH PRIOR TO TOUCHDOWN
- 6. Mixture IDLE CUT-OFF
- 7. Auxiliary Fuel Pump Switch OFF
- 8. Fuel Shutoff Valve OFF
- 9. Ignition Switch OFF
- 10. Water Rudders UP
- 11. Master Switch OFF
- 12. Alternator Switch OFF
- 13. Touchdown SLIGHTLY TAIL LOW
- 14. Control Wheel HOLD FULL AFT

PRECAUTIONARY LANDING WITH ENGINE POWER

- 1. Seats SECURE
- 2. Seat Belts FASTENED
- 3. Loose Articles SECURE
- 4. Airspeed 80 KIAS Minimum
- 5. Wing Flaps UP
- 6. Selected Field FLY OVER
Note terrain and obstructions.
- 7. Radio & Electrical Switches OFF
- 8. Wing Flaps 10~20° (or 30° for steep approach)
- 9. Airspeed 75 KIAS (Flaps 10°)
70 KIAS (Flaps 30°)
- 11. Propeller HIGH RPM
- 12. Doors UNLATCH PRIOR TO TOUCHDOWN

After touchdown:

- 10. Ignition Switch OFF
- 11. Master Switch OFF
- 12. Alternator OFF

SECTION 4 NORMAL PROCEDURES

NOTE

These items supplement the FBA-2C2 normal procedures. Be sure to follow the FBA-2C2 procedures in Flight Manual P/N FAC2-M400 except as noted below.

AIRSPEDS FOR NORMAL OPERATION

Unless otherwise noted, the following airspeeds are based on a maximum weight of 3700lb. and may be used at a lesser weight.

CONDITION	KIAS
TAKEOFF	
Normal Climb Out	70-80
Short Field Takeoff - Flaps 15 deg, Speed at 50 feet	67
Short Field Takeoff - Flaps 20 deg, Speed at 50 feet	65
ENROUTE CLIMB, FLAPS UP	
Normal - Sea Level	75-85
Best Rate of Climb - Sea Level	79
Best Angle of Climb - Sea Level	65
LANDING APPROACH	
Normal Approach - Flaps Up	80-90
Normal Approach - Flaps 30 deg	65-75
Short Field Approach - Flaps 30 deg	66
BALKED LANDING	
Maximum Power - Flaps 30 deg	80
MAXIMUM RECOMMENDED TURBULENT AIR PENETRATION SPEED	118
MAXIMUM DEMONSTRATED CROSSWIND VELOCITY	
Takeoff or Landing	15

NORMAL PROCEDURES CHECKLISTS

PREFLIGHT INSPECTION

BEFORE ENTERING FLOATPLANE

1. Floatplane Approved Flight Manual Supplement with Airplane Flight Manual should be available in the airplane.
2. Floats, Struts, and Float Fairings.... INSPECT for dents, cracks, etc.
3. Float Compartments INSPECT for water accumulation.
4. Pump out each float compartment. Ensure the rubber stoppers are replaced after pumping and they are seated with a snug fit. Inspect the floats for leaks if there appears to be an excess amount of water in any of the compartments. If there is red hydraulic fluid in any water, investigate fittings and lines in that bay before proceeding.
5. Water Rudders..... CHECK actuation cables

PRIOR TO ENGINE START

1. Water Rudder Operation CHECK VISUALLY
2. Water Rudders..... DOWN for taxiing on water
(lever full forward)
3. Water Rudders..... CHECK freedom of movement and
security

TAKEOFF

NORMAL TAKEOFF

1. Doors CLOSED, UNLOCKED
2. Water Rudders UP (retraction lever full aft)
3. Wing Flaps..... 10~20 deg (20 deg recommended)
4. Control Wheel..... HOLD FULL AFT
5. Pitch Trim SET to NEUTRAL
6. Power FULL THROTTLE at 2700 RPM
7. Mixture RICH
8. Elevator Control MOVE FORWARD gently when the nose pitches up and stops rising to attain planing attitude. APPLY LIGHT BACK PRESSURE to lift off at airspeed of 60-65 KIAS.
9. Wing Flaps..... UP at Safe Speed and altitude
10. Climb Speed 75-85 KIAS

NOTE

To reduce takeoff water run, the technique of raising one float out of the water may be used.

NOTE

If the flap indicator is non-functional, for example, flap indicator reads zero when flaps are deployed, use flaps up for all takeoffs.

ENROUTE CLIMB

1. Airspeed 75-85 KIAS
2. Power FULL THROTTLE at 2600 RPM
3. Mixture RICH
(Above 3000ft, LEAN as required)
4. Auxiliary Fuel Pump..... OFF

BEFORE LANDING

1. Water Rudders UP
2. Wing Flaps AS DESIRED
(30 deg for short approach)
3. Airspeed (Flaps Up) 80-90 KIAS @ 3700 lb
4. Airspeed (Full Flap) 65-75 KIAS @ 3700 lb
(Reduce 1 knot for each 80 lb Below 3700 lb)

LANDING

1. Touchdown SLIGHTLY TAIL LOW
(Normal float landing attitude)
2. Control Wheel HOLD FULL AFT
THROUGH DECELERATION

NOTE

With forward loading, a slight nose-down pitch may occur if the elevator is not held full up as floatplane comes down off the step.

BALKED LANDING

1. Throttle FULL OPEN and 2700 RPM
2. Flap 20°
3. Climb Speed 80 KIAS
4. Flaps SLOWLY RETRACT
to FLAPS UP

AFTER LANDING

1. Water Rudders DOWN (except on land)

SECURING AIRPLANE

1. Fuel Selector Valve OFF

AMPLIFIED NORMAL PROCEDURES

TAXIING

The water rudders should be in down position when taxiing. Engine speeds lower than 800 rpm should be used for normal taxi. Taxiing with higher RPM may result in engine overheating and the taxiing speed will not be appreciably increased. Also, higher taxiing speeds may cause excess water spray to strike the propeller tip and cause propeller tip erosion.

During all low speed taxi operations, the elevator should be positioned to keep the bows of the floats out of the water as far as possible. Normally, this requires holding the elevator control full aft except when taxiing downwind in high wind conditions. For minimum taxi speed in close quarters, use idle RPM and a single magneto. This procedure is recommended for short periods of time only.

Although taxiing is very simple with the water rudders, it is sometimes necessary to sail the floatplane under high wind condition. In addition to the normal flight controls, the wing flaps, ailerons and cabin doors will aid in sailing. Water rudders should be retracted during sailing.

To taxi great distances, it may be advisable to taxi on the step with the water rudders retracted. Turns on the step from an upwind heading may be made with safety providing they are not too sharp and if ailerons are used to counteract any overturning / rolling tendency.

CROSSWIND OPERATIONS

In most floatplane operating areas, crosswind operating conditions are limited - either the water channel is narrow and the body of water is not greatly stirred up by winds or the body of water is large enough to allow pilots to minimize the crosswind and accept greater wave action. In higher winds where waves have been stirred up, spray may be developed during the early part of the takeoff run which is aggravated under increasing crosswinds. To minimize the adverse impact of spray on visibility and in extreme cases on engine operation, takeoffs should be made as nearly into the wind as possible.

In extreme crosswind takeoff conditions the water rudders may need to be in the down position until the floatplane achieves adequate speed to make the rudder effective.

The flaps should not be deployed until the floatplane is established on the step. When planing on the step retract the water rudders, extend flaps as required and continue a normal takeoff.

TAKEOFF

Start the takeoff by applying full throttle smoothly while holding the control wheel full aft. When the nose stops rising, move the control wheel forward slowly to place the floats on the step. Slow control movement and light control pressures produce the best results. Attempts to force the floatplane into the planing attitude will generally result in loss of speed and delay in getting on the step. The floatplane will assume a planing attitude which permits acceleration to takeoff speed, at which time the floatplane will fly off smoothly.

Takeoff flap between 10°~20° can be used and 20° is recommended throughout the takeoff run. When the airplane reaches a safe altitude and airspeed, retract the wing flaps slowly especially when flying over glassy water because a loss of altitude cannot be easily defined due to the loss of reference over glassy water.

If porpoising is encountered while on the step, apply additional control wheel backpressure to correct the excessive nose-low attitude. If this does not correct the porpoising, immediately reduce power to idle and allow the floatplane to slow to taxi speed, at which time the takeoff can again be initiated.

To clear an obstacle after takeoff with 20 degrees wing flap, use an obstacle clearance speed of 65 KIAS for maximum performance. Under some adverse combinations of higher takeoff weight, pressure altitude, and high air temperature or operation on glassy water, the airplane may require significantly longer takeoff distances to accelerate to the lift-off speed and extra takeoff distance should be allowed for these conditions.

If lift-off is difficult due to high lake elevation or glassy water, the following procedure is recommended. With the floatplane in the planing attitude, apply full aileron as required to raise one float out of the water. When one float leaves the water, apply slight elevator backpressure to complete the takeoff. Care must be taken to stop the rising wing as soon as the float is clear of the water, and in crosswinds, raise only the downwind wing. With one float out of the water, the floatplane accelerates to takeoff speed much more rapidly.

For a crosswind takeoff, start the takeoff with wing flaps up, ailerons deflected partially into the wind and water rudders extended for better directional control. Flaps should be extended to 20 degree and the water rudders retracted when the floatplane is on the step. The remainder of the takeoff is normal. If the floats are lifted from the water one at a time, the downwind float should be lifted first.

LANDING

To execute either a power on or a power off landing, approach at 80~90 KIAS with flaps up or 65~75 KIAS with flaps down. When landing in a restricted area use 30° flaps and an approach speed of 66 KIAS.

GLASSY WATER LANDING

Establish an elevation reference such as an island or shoreline adjacent to the landing area, extend flaps to 20° and use trim and power to establish a normal nose up landing attitude with a constant decent rate of 200 feet per minute and an approach speed of 66 KIAS. Fly the airplane onto the water maintaining constant speed and sink rates without attempting to flare, realizing that height above glassy water is impossible to judge. Once on the water reduce power to idle and slowly increase the back pressure on the yoke until the floatplane falls off the step. A glassy water landing requires a longer approach and longer total landing distance than a normal regular water landing.

CROSSWIND LANDING

The wing-low slip method should be used with the upwind float contacting the surface first while maintaining a slightly nose up normal float landing attitude.

SECTION 5 PERFORMANCE

HEIGHT LOSS IN STALLS

The height loss of up to 200 ft. may occur in stalls.

AIRSPEED CALIBRATION

The airspeed calibration is slightly changed due to the float installation and the weight increase from the landplane configuration. It is still acceptable to use the landplane airspeed calibration.

**STALL SPEED
AT 3700 POUNDS**

CONDITIONS
POWER OFF

MOST FORWARD CENTRE OF GRAVITY

FLAP SETTING	ANGLE OF BANK							
	0 °		30 °		45 °		60 °	
	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
UP	54	60	58	64	64	71	76	85
10	51	58	55	62	61	69	72	82
15	48	55	52	59	57	65	68	77
20	46	53	49	57	55	63	65	75
30	44	51	47	55	52	61	62	72

NOTE:

1. Altitude loss during stall recovery may be upto 200 feet
2. Indicate speeds are approximate

Figure 2 Stall Speeds

**BEST ANGLE-OF-CLIMB
AT 3700 POUNDS**

CONDITIONS:

Flaps Up
2600 RPM
Full Throttle
Mixture at Best Power Schedule

PRESS ALT	CLIMB SPEED	BEST ANGLE OF CLIMB (deg)			
		-20°C	0°C	20°C	40°C
S.L	65	6.9	6.2	5.5	4.8
2,000	67	6.0	5.3	4.6	4.0
4,000	68	4.7	4.1	3.5	3.0
6,000	70	3.5	3.0	2.4	2.0
8,000	70	2.5	2.0	1.5	1.0
10,000	71	1.5	1.0	0.5	0.1

Figure 3 Best Angle-of-Climb

**BEST RATE-OF-CLIMB
AT 3700 POUNDS**

CONDITIONS:

Flaps Up
2600 RPM
Full Throttle
Mixture at Best Power Schedule

PRESS ALT	CLIMB SPEED	RATE OF CLIMB (FPM)			
		-20°C	0°C	20°C	40°C
FEET	KIAS				
S.L	79	830	770	707	644
2000	78	737	676	613	549
4000	76	604	543	480	417
6000	74	471	410	347	284
8000	73	339	277	214	151
10,000	72	209	146	---	---

Figure 4 Best Rate-of-Climb

**TIME, FUEL AND DISTANCE TO CLIMB
 AT 3700 POUNDS**

CONDITIONS:

Flaps Up
 Full Throttle
 2600 RPM
 Mixture at Best Power Schedule
 Standard Temperatures
 At Best Rate of Climb

PRESS ALT FEET	TEMP °C	CLIMB SPEED KIAS	RATE OF CLIMB FPM	FROM SEA LEVEL			
				TIME IN MIN	FUEL USED LITRES	FUEL USED U.S GAL	DIST IN NM
S.L	15	78	723	0	0	0.0	0
1000	13	78	700	1	2	0.5	2
2000	11	77	641	3	4	1.1	4
3000	9	76	581	5	7	1.7	6
4000	7	76	521	6	9	2.4	8
5000	5	75	460	8	12	3.1	11
6000	3	74	400	11	15	3.9	14
7000	1	74	340	13	18	4.8	18
8000	-1	73	280	17	22	5.8	22
9000	-3	72	220	21	27	7.1	28
10000	-5	72	161	26	33	8.7	35

NOTES:

1. Add 7.5 litres (2 US gallons) of fuel for engine start, run-up, taxi and take off allowance.
2. Mixture leaned to climb schedule.
3. Increase time, fuel and distance by 10% for each 10⁰ C above standard temperature.
4. Distances shown are based on zero wind.

Figure 5 Time, Fuel and Distance to Climb

SECTION 6 WEIGHT AND BALANCE

The Bush Hawk-XP equipped with Wipline 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. locations chart on the following pages.

WARNING

IT IS THE RESPONSIBILITY OF THE AIRPLANE OWNER
AND PILOT TO ENSURE THAT THE AIRPLANE IS LOADED
PROPERLY.

FLOAT BAGGAGE COMPARTMENTS

Baggage may be carried in the float baggage compartments in accordance with the following limitations.

Compartment	Max. Weight	Arm	Moment/1000
LEFT	50 lbs	-4 in.	-0.2
RIGHT	50 lbs	-4 in.	-0.2

FLOATPLANE REFERENCE DATUM

The floatplane reference datum for the purpose of weight and balance is the lower forward corner of the front doors.

FLOATPLANE WEIGHING PROCEDURES

1. Preparation:

- a) De-fuel airplane. Refer to FAC2-M200 Maintenance Manual.
- b) Service engine oil as required to obtain a normal full indication.
- c) Move sliding seats to the most forward position.
- d) Raise flaps to the fully retracted position.
- e) Place all control surfaces in neutral position.
- f) Remove all non-required items from airplane.
- g) Remove the ventral fin from the tail wheel bracket.

2. Levelling:

- a) Jack up the tail wheel boom bracket on a stand such that the baggage compartment floor is near level longitudinally and laterally. Place a scale under this fitting.
- b) Drop plumb lines from both front door datum points. Mark the locations on the floor. Connect the points and extend the line out to the centre of both floats.
- c) Place scales under each float. The scales should be centred on the line described above. A minimum scale capacity of 1500 pounds is recommended for the main scales and 1000 pounds for the tail scale.

3. Weighing:

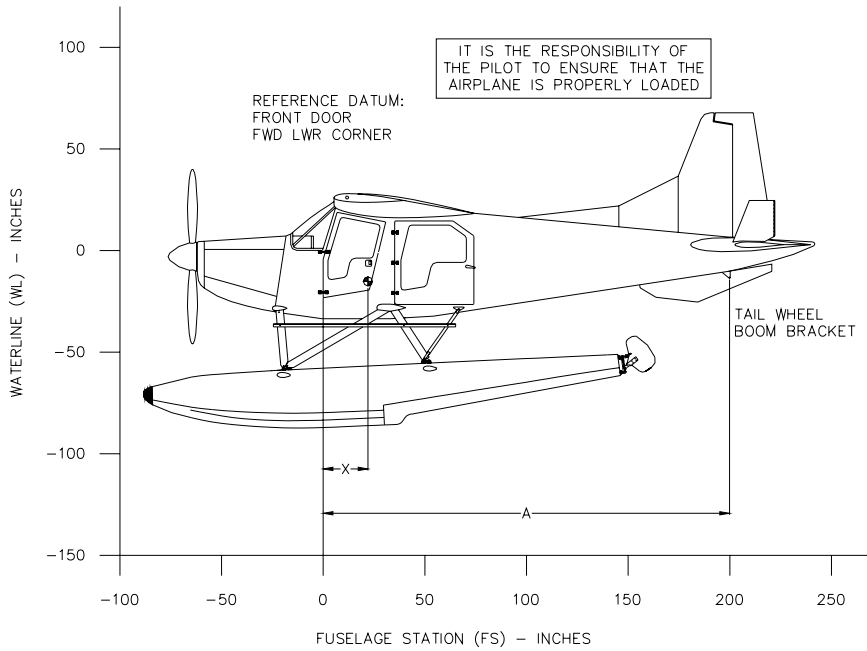
- a) With the airplane level and, record the weight shown on each scale. Deduct the tare, if any, from each reading.

4. Measuring Arms:

- a) Obtain measurement A by measuring horizontally (along the floor) from the floatplane reference datum line previously drawn on the floor (Item 2b) to a point on the floor directly below the tail wheel boom bracket. See the illustration below.

5. Calculate CG and Weight:

- a) Using weights from Item 3 and measurements from Item 4, the airplane Basic Empty Weight and C.G. can be determined by completing the following table.
- b) DO NOT forget to add in the contribution from the ventral fin. The weight and arm of the ventral fin can be found in the Equipment List provided at the time of delivery of the aircraft.



Weighing Point	Tare (lbs)	Scale Reading (lbs)	Net Weight (lbs)	Arm (inches)	Moment (in-lbs)
Tail				A =	
R Main (Float)				0.0	
L Main (Float)				0.0	
Ventral Fin*	---	---	3.0	190.0	570.0
Total (Weighed)				CG =	
CG = Total Moment / Total Net Weight					
Use spaces below to add or subtract items from weighed condition.					
Empty Weight				CG =	
Drainable Unusable Fuel (6 lbs/USG), 1.7 USG			10.2	21.8	222.4
Basic Empty Weight					

Net Weight = Scale Reading - Tare

Moment = Net Weight * Arm

Arm is measured from the aircraft datum (front door forward lower corner).

* - These are nominal figures for the Ventral Fin. The actual weight and arm should be used instead of the nominal numbers shown above if available.

These figures are supplied with the aircraft at the time of delivery.

FLOATPLANE WEIGHT AND BALANCE PROCEDURES

The following information will enable you to operate your FBA-2C2 within the prescribed weight and centre of gravity limitations. To figure weight and balance, use the Sample Loading Problem, Loading Graph (in Section 6 of M400), and Centre of Gravity Moment Envelopes as follows:

1. Take the Basic Empty Weight and Moment from appropriate weight and balance records carried in your airplane and enter them in the column titled YOUR AIRPLANE on the Sample Loading Problem.

NOTE

In addition to the Basic Empty Weight and Moment noted on these records, the C.G. arm (fuselage station) is also shown, but need not be used on the Sample Loading Problem. The moment which is shown must be divided by 1000 and this value used as the moment/1000 on the loading problem.

2. Use the Loading Graph to determine the moment/1000 for each additional item to be carried; then list these on the loading problem.

NOTE

Loading Graph information for the pilot, passengers and baggage is based on seats positioned for average occupants and baggage loaded in the centre of the aft baggage compartment as shown on the Loading Arrangements diagram. For loadings which may differ from these, the Sample Loading Problem lists fuselage stations for these items to indicate their forward and aft C.G. range limitations (seat travel and baggage compartment limitation). Additional moment calculations, based on the actual weight and C.G. arm (fuselage station) of the item being loaded, must be made if the position of the load is different from that shown on the Loading Graph.

3. Total the weights and moments/1000 and plot these values on the centre of Gravity Moment Envelope to determine whether the point falls within the envelope, and if the loading is acceptable.

SAMPLE LOADING PROBLEM FOR FLOATPLANE	WEIGHT AND MOMENT TABULATION				
	SAMPLE AIRPLANE		ARM (in)	YOUR AIRPLANE	
	WEIGHT (lbs)	MOMENT (lb-in /1000)		WEIGHT (lbs)	MOMENT (lb-in /1000)
1. Basic Empty Weight (Use the data pertaining to your airplane as it is presently equipped. Includes unusable fuel and full oil).	2360	36.7	15.6		
2. Usable Fuel (At 6.0 lbs/USG) 98 USG Maximum 60 USG (used for example)	360	7.8	21.8		
3. Pilot and Front Passenger (Station 17.8 & 200 pounds each)	400	7.1	17.8		
4. Rear Passenger (Station 55.0 & 200 pounds each)	400	22.0	55.0		
5. Main Baggage Area (Station 76 to 114; 250 pounds. max. @ Station 94)	50	4.7	94.0		
6. Ramp Weight and Moment (add columns)	3570	78.4			
7. Fuel Allowance for Engine Start, Taxi and Run-Up	-7	-0.2	21.8		
8. Takeoff Weight and Moment (Subtract Step 7 from Step 6)	3563	78.3	22.0		
9. Locate this point (3563 at 78.3) on the Centre of Gravity Moment Envelope, and since this point falls within the envelope, the loading is acceptable.					

CENTER OF GRAVITY MOMENT ENVELOPE

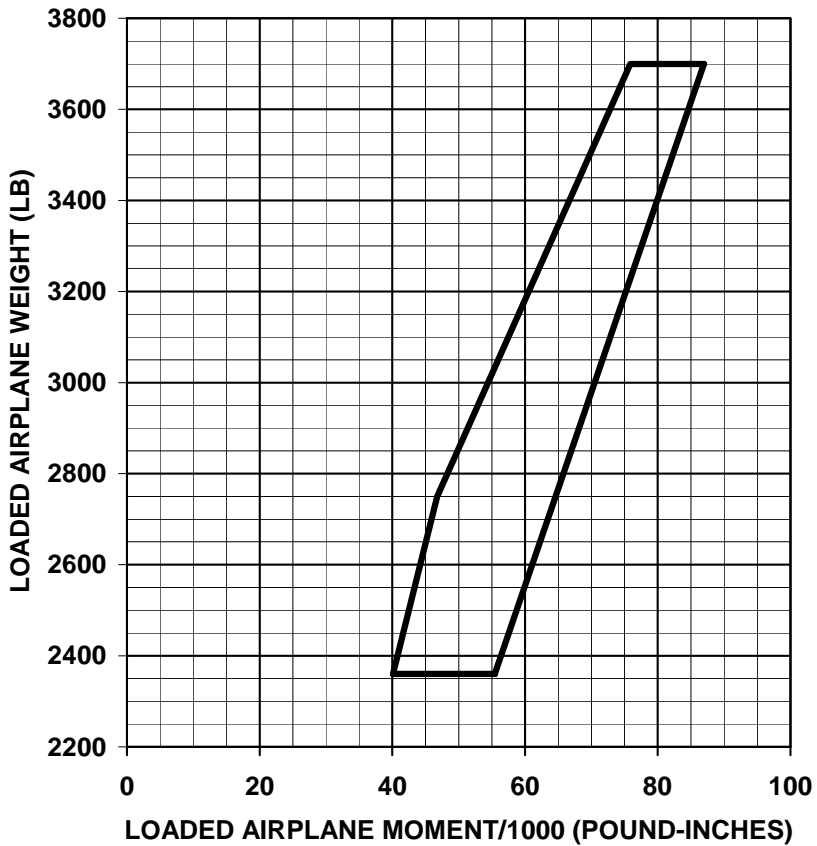


Figure 6 Loaded Airplane Moment/1000 (pound-inches)

CENTER OF GRAVITY RANGE ENVENLOPE

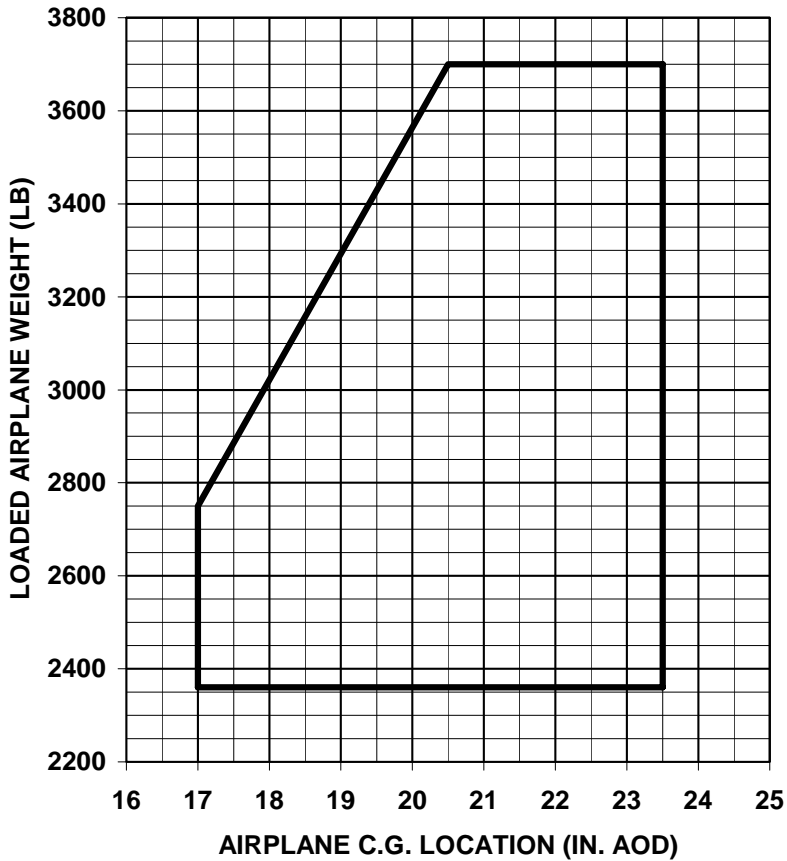


Figure 7 Airplane CG Location (Inches AFT of Datum)

SECTION 7

AIRPLANE AND SYSTEMS DESCRIPTION

In addition to the Wipline Model 3450 floats installation, the aircraft must incorporate the Found Aircraft Canada Inc. approved floatplane kit. With either of these installations, the floatplane is identical to the landplane with the following exceptions:

FOUND AIRCRAFT CANADA MODIFICATIONS

1. Floats, incorporating water rudder steering system.
2. Water rudder steering cables for retraction and steering control of the water rudders.
3. A water rudder retraction lever connected to the dual water rudders by cables is located on the cabin floor between the front seats.
4. Ventral fin located on the bottom of the fuselage and the finlets on the top of the stabilizer.
5. Loading steps, which are mounted to the float struts.
6. Floatplane placards.

WATER RUDDER SYSTEM

Retractable water rudders, mounted at the aft end of each float, are connected by a system of cables and springs to the rudder pedals. Normal rudder pedal operation moves the water rudders to provide steering control for taxiing.

A water rudder retraction lever, located on the cabin floor between the front seats, is used to manually raise and lower the water rudders. The handle should be in the UP (aft) position during takeoff, landing, and in flight. With the handle in this position, the water rudders are up. When the lever is rotated forward to the DOWN position, the water rudders extend to the full down position for water taxiing.

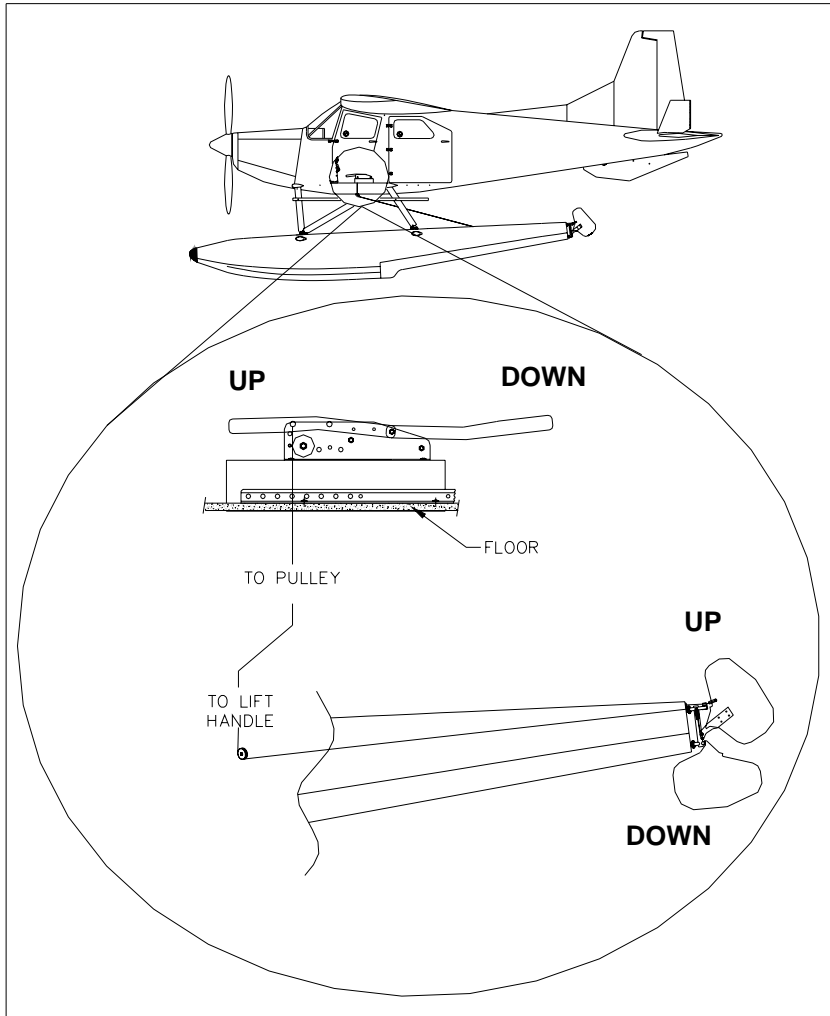


Figure 8 Water Rudder Retraction System