

		AEROCET Incorporated		
ISSUE DATE:	6/25/02	TITLE: AIRPLANE FLIGHT MANUAL SUPPLEMENT SUBTITLE: AEROCET MODEL SP1-200 FUEL/CARGO POD FOR CESSNA 180 AND 185 AIRCRAFT	PAGE	1 of 7
REVISION DATE:	12/01/11		FILE NO.	SP1-AFMS-200
			REVISION	B

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

**AEROCET MODEL SP1-200 FUEL/CARGO POD
INSTALLED ON CESSNA 180 & 185 AIRCRAFT**


Document No. SP1-AFMS-200

This supplement must be attached to the FAA-approved Airplane Flight Manual when the airplane has been modified by the installation of an Aerocet Model SP1-200 Fuel/Cargo pod in accordance with STC No. SA02179AK. The information contained in this document supplements or supersedes the basic flight manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the basic airplane flight manual.


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Manager, Seattle Aircraft Certification Office

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ISSUE DATE: 6/25/02		 Aerocet Incorporated	PAGE		2 of 7
			FILE NO.		SP1-AFMS-200
REVISION DATE: 12/01/11			TITLE: AIRPLANE FLIGHT MANUAL SUPPLEMENT		
			SUBTITLE: AEROCET MODEL SP1-200 FUEL/CARGO POD FOR CESSNA 180 AND 185 AIRCRAFT		
			REVISION		B

Log of Revisions

REV.	PAGES AFFECT.	DESCRIPTION	DATE	APPROVED
OR	ALL	Original Release	6/25/02	
A	2 & 6	Revised per (ECO) ACS-03	8/24/04	
B	ALL	<p>Reformatted document with Aerocet logo and header throughout.</p> <p>Changed company name multiple places within document from Alaska SkyCRAFT to Aerocet. Locations include; 2x page 1, 2x page 3 and once page 5.</p> <p>Corrected verbiage, Section 2: Limitations. Placard, Was: REFER TO WEIGHT AND BALANCE DATA FOR BAGGAGE/CARGO LOADING. IS: REFER TO WEIGHT AND BALANCE DATA FOR FUEL/CARGO LOADING.</p> <p>Section 2: Limitations. On the fuel filler cap Placard, Added "USEABLE" to "CAP. 26.5 GAL. USEABLE".</p> <p>Corrected section numbers referenced in section 1, General, as follows; Was: ...door openings are shown in Section 6, Is: Section 7, Was:...fuel tank and its related items are included in Section 7, Is: Section 8.</p> <p>Changed document title, Was; SP1-FMS-200, Is; SP1-AFMS-200, to be consistent with other related documents.</p>	12/01/11	

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POD FOR CESSNA 180 AND 185 AIRCRAFT

PAGE	3 of 7
FILE NO.	SP1-AFMS-200
REVISION	B

		AEROCET Incorporated		
ISSUE DATE:	6/25/02	TITLE: AIRPLANE FLIGHT MANUAL SUPPLEMENT SUBTITLE: AEROCET MODEL SP1-200 FUEL/CARGO POD FOR CESSNA 180 AND 185 AIRCRAFT	PAGE	4 of 7
REVISION DATE:	12/01/11		FILE NO.	SP1-AFMS-200
			REVISION	B

FLIGHT MANUAL SUPPLEMENT AEROCET MODEL SP1-200 FUEL/CARGO SKYPOD

SECTION 1: GENERAL

The Aerocet Model SP1-200 combination fuel and cargo pod provides both additional fuel and / or cargo space for operators of Cessna Models 180 and 185. The pod may be used on both landplanes and floatplanes.

The pod is constructed of fiberglass and consists of two integral parts: a 26.7 US gallon fuel tank makes up the forward third, and space for cargo is provided in the rear two thirds. The fuel tank filler is just forward of the pilot's door. Two cargo doors, one on each side, are included; they are secured with quick-release fasteners. Dimensions of the pod and the loading door openings are shown in Section 7. A description of the fuel tank and its related items are included in Section 8.

The pod is attached to the bottom of the fuselage with machine screws into rivnuts. After initial installation, it can be easily removed and installed. If the pod is installed on a floatplane, it will be necessary on the initial installation to cut holes in the cargo section of the pod for the cross brace wires. Instructions are provided in the kit for locating and cutting these holes.

SECTION 2: LIMITATIONS

The ADF (if installed) bearing accuracy may be adversely affected by the type and / or arrangement of the cargo pod contents.

The following limitations must be presented in the form of placards located on the inside of the SkyPod left door:

REFER TO WEIGHT AND BALANCE DATA FOR FUEL/CARGO LOADING. NEVER EXCEED 300
POUNDS COMBINED FUEL AND CARGO WEIGHT.

For 185 aircraft:


FUEL DRAINS LOCATED INSIDE SKYPOD ON LOWER FUSELAGE SKIN.

On the fuel filler cap:

FUEL – 100 OCT.
CAP. 26.5 GAL. USEABLE

Note: If a pod is installed on an aircraft approved for 80 octane fuel, the marking on the cap will need to be changed accordingly.

FAA Approved Date: _____

		 Aerocet Incorporated			
ISSUE DATE:	6/25/02	TITLE:	AIRPLANE FLIGHT MANUAL SUPPLEMENT	PAGE	5 of 7
REVISION DATE:	12/01/11	SUBTITLE:	AEROCET MODEL SP1-200 FUEL/CARGO POD FOR CESSNA 180 AND 185 AIRCRAFT	FILE NO.	SP1-AFMS-200
				REVISION	B

SECTION 3: EMERGENCY PROCEDURES

There are no changes to the aircraft emergency procedures when the SkyPod is installed.

SECTION 4: NORMAL PROCEDURES

The only additions to the normal procedures of the basic aircraft with the SkyPod installed are those related to the fuel tank installation. Checklist procedures are given below. In addition, the pilot should, as always, consider weight and balance issues, keeping in mind that the allowable gross weight of the aircraft and its approved loading envelope do not change when the SkyPod is installed, and that the maximum allowable weight in the SkyPod of both fuel and cargo is 300 pounds. If, for instance, the SkyPod fuel tank is full, then the maximum weight of cargo is 141 pounds. Any combination of fuel and cargo is allowable, as long as the total weight does not exceed 300 pounds.

SECTION 5: CHECKLIST PROCEDURES

PREFLIGHT INSPECTION

Cabin Area

- 1) Skypod Fuel Tank Sump – DRAIN and check for water or other contaminants.
- 2) Skypod Fuel Cap – CHECK for security.
- 3) Skypod Baggage Doors – CHECK quick-disconnect fasteners for proper latching.
- 4) Check operations of Skypod fuel pump prior to engine start. Ensure that pump is audible.

SECTION 6: PERFORMANCE

Climb performance with the SkyPod installed has been determined by flight test to be approximately 25 ft/min less for those airplanes on wheels, and approximately 10 ft/min less for a floatplane, compared to the values shown in the Rate of Climb Chart for the standard airplane.

To obtain speed performance for the airplane on wheels with the SkyPod installed, the speed differentials shown in the table below should be subtracted from the TAS values given in the Cruise Performance charts for the standard airplane.

SPEED DIFFERENTIAL TABLE	
<u>% BHP</u>	<u>Speed Loss mph</u>
75	1
65	2
55	3
45	4

There was no measurable speed loss on the floatplane.

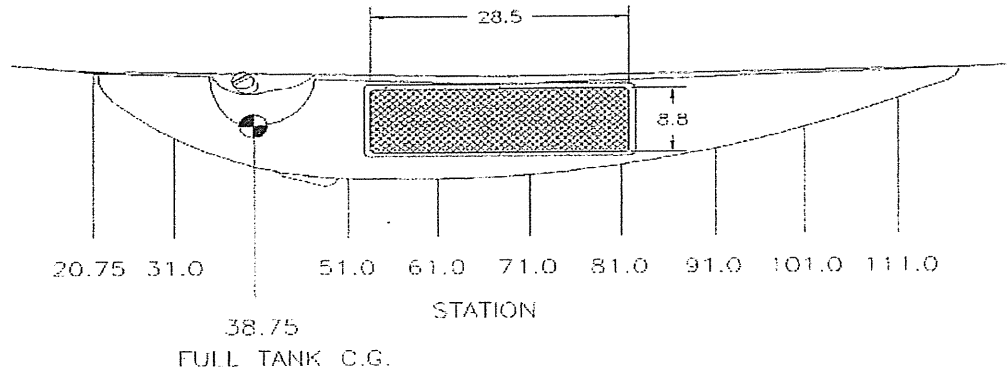
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ISSUE DATE:	6/25/02	TITLE: AIRPLANE FLIGHT MANUAL SUPPLEMENT SUBTITLE: AEROCET MODEL SP1-200 FUEL/CARGO POD FOR CESSNA 180 AND 185 AIRCRAFT	PAGE	6 of 7
REVISION DATE:	12/01/11		FILE NO.	SP1-AFMS-200
			REVISION	B

SECTION 7: WEIGHT AND BALANCE

The Aerocet Model SP1-200 SkyPod has a capacity of 300 pounds, which includes both fuel and cargo. Items in the cargo area may be placed anywhere, but it is preferable to distribute the load evenly. It is the pilot's responsibility to make sure that the maximum allowable load of 300 pounds in the pod is not exceeded, and that the aircraft remains within its original weight and balance limits.

The drawing below shows the location of the pod, the size of the door openings, the approximate center of gravity of the fuel, and airplane station numbers to aid the pilot in calculating the moment change due to weight in the pod.



SECTION 8: SYSTEM DESCRIPTION

The SkyPod fuel tank contains 26.5 US gallons of usable fuel. A sump for holding water or other contaminants is built into the bottom of the pod; it incorporates a quick-drain fitting. An electric fuel pump, fuel filter, and pressure switch are installed in the forward part of the cargo portion of the pod, immediately aft of the fuel tank bulkhead. A check valve and tee fitting are located under the floor behind the co-pilot's seat. The tee fitting is installed in the right main fuel tank line. The check valve prevents fuel in the right main tank from filling the SkyPod tank and possibly venting overboard.

A three position switch, small green annunciator light, and 5 amp. circuit breaker are installed on the instrument panel. The switch positions are: DOWN – OFF; CENTER – RUN and UP – MOMENTARY ON. When the pilot wishes to transfer fuel, the switch is placed in the momentary ON position and released. The pump will be activated, the green light will come on, and fuel will begin to transfer from the SkyPod tank to the right main fuel tank. The green annunciator light is wired such that if the pump is running, the light is on. When all the fuel has been transferred, the pressure in the line will drop, causing the pressure switch to shut off power to the pump. The green light will go off,

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			FILE NO.	SP1-AFMS-200
REVISION DATE:	12/01/11		REVISION	B

indicating to the pilot that the transfer is complete. This can be confirmed by observing the right fuel gauge, which should show a greater quantity of fuel than when the transfer began. The pilot may stop the fuel transfer at any time by placing the switch in the OFF position.

The general operational concept for using the SkyPod fuel system for **aircraft with selectable tanks** is to switch to the right tank after takeoff and burn approximately 30 gallons. At this point the fuel selector should be set to the left tank. Now fuel transfer may be initiated. If the aircraft fuel tanks are not large enough to accomplish this, the fuel transfer process will need to be performed twice. **Do not transfer fuel into the same tank from which the engine is running.** For aircraft **without selectable tanks**, prior to fuel transfer ensure that there is sufficient space in the aircraft fuel tanks for the fuel in the SkyPod. Fuel may also be transferred while on the ground or water, if desired, as long as there is sufficient space in the right main tank for the SkyPod fuel.

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