



**INSTALLATION OF SADDLE TANKS
FOR
BEECHCRAFT KING AIR AIRPLANES
200, 200C, A200, A200C, B200, B200C, B200GT, B200CGT
300, B300, AND B300C
SUPPLEMENTAL TYPE CERTIFICATE NUMBER SA11142SC
FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT**

Airplane Serial No: _____

This supplement must be attached to the appropriate FAA Approved Airplane Flight Manual when the aircraft is modified in accordance with STC SA11142SC. The information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures and performance information not contained in this supplement, consult the basic Airplane Flight Manual or Pilot's Operating Manual, as applicable.

FAA APPROVED

A handwritten signature in blue ink, reading "A. Scott Horn", written over a horizontal line.

A. Scott Horn, Manager
Aircraft Certification Office, ASW-140
Federal Aviation Administration
Fort Worth, Texas 76137

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CENTEX AEROSPACE INCORPORATED, 7925 KARL MAY DRIVE, WACO, TX 76708

INTRODUCTION

This supplement should be read carefully by the owner and the operator in order to become familiar with the operation of the airplane having now been modified by the installation of the CenTex Aerospace “Saddle Tanks” or “Saddle Tanks Plus” auxiliary fuel tank system. The Saddle Tanks system increases usable fuel quantity by 190 gallons and the Saddle Tanks Plus system increases usable fuel quantity by 120 gallons.

The terminology used in this supplement matches the terminology used in the basic Airplane Flight Manual and Pilot Operating Manual. This includes the definitions of warnings, cautions, and notes. Also, you will find the format of limitations, procedures, and checklists herein match the AFM and POM format for the 200, A200, B200, 300 and B300 series airplanes.

COMPATIBLE MODIFICATIONS

The following STC-approved modifications have been found to be compatible with the Saddle Tank installation:

1. SA11103SC, CenTex Aerospace Halo 250 Commuter Category Conversion of Beechcraft King Air 200 Series Airplanes

It is up to the installer to determine whether any other STC-approved modifications are compatible with the CenTex Aerospace Saddle Tanks conversion.

LIST OF EFFECTIVE PAGES

The list of effective pages shown below contains all current pages with the page version date. This list should be used to verify this supplement contains all of the applicable and required pages. When inserting revised pages into this supplement the List of Effective Pages should be updated, as well, to the corresponding new list.

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SECTION 2 LIMITATIONS

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INTRODUCTION

The limitations shown in this section are approved by the Federal Aviation Administration and must be observed while operating Beechcraft King Air 200, A200, B200, 300 and B300 series airplanes that have been modified by the CenTex Aerospace Saddle Tank Conversion STC. This STC approves the installation of a set of auxiliary fuel tanks that have a total capacity of 190 US gallons (120 US gallons for Saddle Tanks Plus).

OTHER LIMITATIONS (Airplanes with Saddle Tanks installed)

1. Both left and right main and auxiliary tanks must be full of fuel before fuel can be added to the Saddle Tanks.
2. Maximum allowed fuel imbalance between left and right side Saddle Tanks is 300 pounds (45 gallons).

Airplanes equipped with Saddle Tanks Plus system.

3. Maximum allowed fuel imbalance between left and right side Saddle Tanks Plus is 100 pounds (15 gallons).
4. Maximum weight of cargo carried inside each Saddle Tank Plus storage compartment is 100 pounds.

Continued on next page

PLACARDS

1. *On top of each Saddle Tank adjacent to the fuel filler cap;*

SADDLE TANK FUEL
USE JET FUEL
SEE PILOTS OPERATING
MANUAL FOR FUEL DESIGNATIONS
CAPACITY 95 U.S. GAL
WITH WINGS LEVEL
MAIN & AUXILIARY TANKS MUST BE FULL
BEFORE FILLING SADDLE TANKS

- or, on top of each Saddle Tank Plus adjacent to the fuel filler cap.*

SADDLE TANK FUEL
USE JET FUEL
SEE PILOTS OPERATING
MANUAL FOR FUEL DESIGNATIONS
CAPACITY 60 U.S. GAL
WITH WINGS LEVEL
MAIN & AUXILIARY TANKS MUST BE FULL
BEFORE FILLING SADDLE TANKS

2. *Vent line drain valve.*
On underside of wing outboard of main landing gear fairing.

FUEL DRAIN

3. *Sump drain valve*
On inboard rear side of Saddle Tank (Standard Saddle Tanks)
Or, on underside of wing inboard of main landing gear fairing (Saddle Tanks Plus)

FUEL DRAIN

4. *Fuel line drain valve*
On bottom of main landing gear rear fairing.

FUEL DRAIN

5. *On inside of Saddle Tank Plus storage door.*

COMBINED WEIGHT OF CARGO
MUST NOT EXCEED 100 POUNDS

CARGO MUST BE SECURELY
FASTENED BEFORE FLIGHT

DO NOT LEAVE DOOR UNLATCHED
LATCH DOOR WHEN CLOSED

6. *On top of each auxiliary tank adjacent to the fuel filler cap.*

CAUTION

DO NOT OPEN AUX TANK CAP
IF THERE IS FUEL IN THE
SADDLE TANK

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PROCEDURES BY FLIGHT PHASE

NOTE

Refer to all applicable Supplements for flight phase procedures for optional equipment installed in the airplane. The procedures listed below are required for airplanes modified by the installation of the CenTex Aerospace Saddle Tanks STC.

Steps marked with an * may be omitted except for first flight of the day and after adding fuel to the Saddle Tanks.

PREFLIGHT INSPECTION

Add the following steps.

COCKPIT

After Fuel Quantity (main & auxiliary).....CHECK

Saddle Tanks Fuel Quantity Indicators CHECK FUEL QUANTITY

LEFT WING

Saddle Tank Filler Cap..... SECURE

* Saddle Tank Sump DRAIN

* Saddle Tank Fuel Line DRAIN

* Saddle Tank Vent Line DRAIN

Airplanes with Saddle Tanks Plus

Saddle Tank Storage Door CLOSED AND LATCHED

RIGHT WING

Saddle Tank Filler Cap..... SECURE

* Saddle Tank Sump DRAIN

* Saddle Tank Fuel Line DRAIN

* Saddle Tank Vent Line DRAIN

Airplanes with Saddle Tanks Plus

Saddle Tank Storage Door CLOSED AND LATCHED

CAUTION

Do not open the auxiliary tank cap if there is fuel in the Saddle Tank. Opening the cap and the anti-siphon valve (flapper) can result in fuel flowing out of the auxiliary tank if the Saddle Tank contains fuel.

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SECTION 6 WEIGHT AND BALANCE

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SADDLE TANKS WEIGHT AND MOMENT TABLE

The table below provides the weight and moment of fuel carried in the Saddle Tanks. Use this weight and moment information when calculating the aircraft weight and balance.

King Air 200 Series and King Air 300

Fuel per Tank <i>Gallons</i>	Total Fuel <i>Gallons</i>	Total Weight * <i>Pounds</i>	Moment * <i>Inch-lbs/100</i>
5	10	67	168
10	20	134	329
20	40	268	635
30	60	402	943
40	80	536	1246
50	100	670	1545
60	120	804	1840
70	140	938	2133
80	160	1,072	2425
90	180	1,206	2715
95	190	1,273	2860

King Air B300 (350)

Fuel per Tank <i>Gallons</i>	Total Fuel <i>Gallons</i>	Total Weight * <i>Pounds</i>	Moment * <i>Inch-lbs/100</i>
5	10	67	178
10	20	134	348
20	40	268	674
30	60	402	1001
40	80	536	1323
50	100	670	1641
60	120	804	1956
70	140	938	2268
80	160	1,072	2579
90	180	1,206	2889
95	190	1,273	3044

* Based on Jet-A turbine fuel at 6.7 lbs/gal.

USABLE FUEL PER TANK

95 Gallons

UNUSABLE FUEL PER TANK

0.7 Gallons

UN-DRAINABLE FUEL PER TANK

0.15 Gallons

- Saddle Tanks Plus Information Continued On Next Page -

SADDLE TANKS PLUS WEIGHT AND MOMENT TABLE

The tables below provide the weight and moment of fuel and cargo carried in the Saddle Tanks Plus. Use this weight and moment information when calculating the aircraft weight and balance.

King Air 200 Series and King Air 300

Fuel per Tank <i>Gallons</i>	Total Fuel <i>Gallons</i>	Total Weight * <i>Pounds</i>	Moment * <i>Inch-lbs/100</i>
5	10	67	148
10	20	134	293
20	40	268	577
30	60	402	859
40	80	536	1141
50	100	670	1422
60	120	804	1699

Cargo per Tank <i>Pounds</i>	Moment <i>Inch-lbs/100</i>
25	60
50	120
75	180
100	240

* Based on Jet-A turbine fuel at 6.7 lbs/gal.

SADDLE TANKS PLUS WEIGHT AND MOMENT TABLE

King Air B300 (350)

Fuel per Tank <i>Gallons</i>	Total Fuel <i>Gallons</i>	Total Weight * <i>Pounds</i>	Moment * <i>Inch-lbs/100</i>
5	10	67	158
10	20	134	312
20	40	268	616
30	60	402	917
40	80	536	1218
50	100	670	1518
60	120	804	1815

Cargo per Tank <i>Pounds</i>	Moment <i>Inch-lbs/100</i>
25	64
50	127
75	191
100	254

* Based on Jet-A turbine fuel at 6.7 lbs/gal

King Air 200 Series, King Air 300, and King Air B300 (350)

USABLE FUEL PER TANK

60 Gallons

UNUSABLE FUEL PER TANK

0.75 Gallons

UN-DRAINABLE FUEL PER TANK

0.15 Gallons

SECTION 7 SYSTEMS DESCRIPTION

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SADDLE TANKS (190 GALLONS)

SADDLE TANKS FUEL SYSTEM

The CenTex Aerospace auxiliary fuel tanks or “Saddle Tanks” add 190 gallons (95 gallons each) of usable fuel capacity to the airplane fuel system. These tanks ride on top of the wing behind the nacelle. The contour of the tank’s lower surface matches that of the wing and fits like a saddle. Five attachment points on the wing hold each tank in place. An aerodynamic fairing streamlines the region between the rear of the engine nacelle and tank.

The tanks are constructed solely from aluminum and are an assembly of a formed shell, segmented floor panels, and internal baffles. The tank shell and floor are 0.080 inch thick aircraft grade aluminum that makes the tanks very durable and easy to repair, and provides excellent protection against lightning strikes and corrosion. The internal baffles, which are constructed from 0.050 inch thick aircraft grade aluminum, control fuel sloshing and provide stiffness. The pieces are joined by a combination of riveted and welded seams. A special sealant (PRC PR1422) is applied internally to seal the seams. Removable panels in the shell and floor provide access to the inside in case a repair is needed. Each tank weighs approximately 90 pounds.

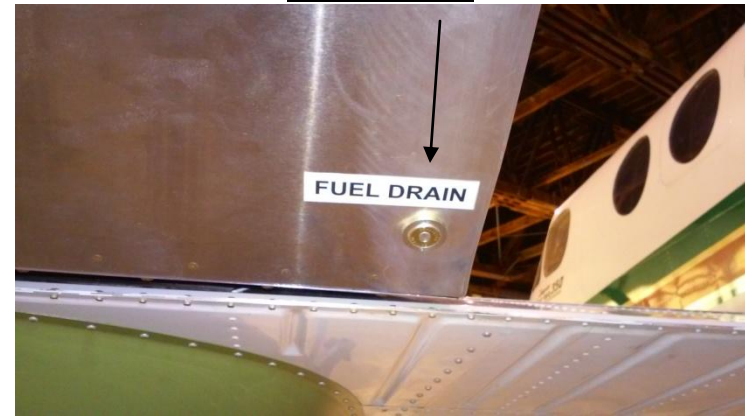
A flush mounted filler cap, which is lightning safe, is located on top of the tank. When securing the cap, it should be properly aligned with the adjacent index mark to ensure proper sealing. As with all fuel tank caps, it is a matter of safety to ensure the cap is closed properly and sealed. Figure 7-1 shows the location of the Saddle Tank filler cap.

FIGURE 7-1
SADDLE TANK FILLER CAP



For Saddle Tanks, a sump drain with a push-to-open valve is located at the inboard rear corner of each tank. Opening the drain valve allows fuel from the lowest point in the tank to escape, which serves as a means to remove water or other contaminants. Figure 7-2 shows the location of the tank sump drain valve.

FIGURE 7-2
TANK SUMP DRAIN



Fuel in the Saddle Tank enters the airplane fuel system through a interconnected line between the tank and the auxiliary tank. The fuel line is constructed of 5/8 inch diameter aluminum tubing that traverses through the rear of the wheel well fairing under the rear spar and into the wheel well. A drain is provided at the lowest point (under the rear spar) so any contaminants that may have collected in the line can be removed. Figure 7-3 shows the location of the drain valve.

FIGURE 7-3
FUEL LINE DRAIN



Fuel may occasionally enter the vent line to the Saddle Tank. A drain is provided at the lowest point (outboard of the main landing gear fairing on the underside of the wing) so any fuel that may have collected in the line can be drained. Figure 7-4 shows the location of the drain valve.

FIGURE 7-4
VENT LINE DRAIN

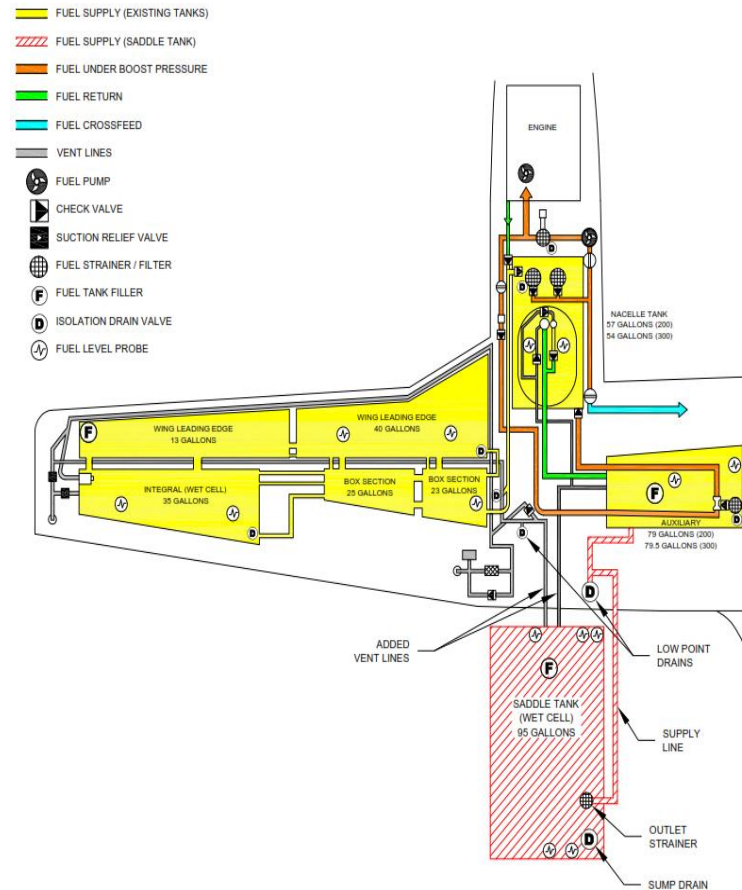


Figure 7-5 is a schematic of the fuel system with the Saddle Tank system depicted in red. Due to the Saddle Tank being on top of the wing, fuel in the Saddle Tank flows downward into the auxiliary tank assisted by gravity. Fuel inside the auxiliary tank is handled by the existing fuel system, which pumps it into the nacelle tank.

CAUTION

Do not open the auxiliary tank cap if there is fuel in the Saddle Tank. Opening the cap and the anti-siphon valve (flapper) can result in fuel flowing out of the auxiliary tank if the Saddle Tank contains fuel.

FIGURE 7-5
FUEL SYSTEM SCHEMATIC (190 GALLON)



FUEL QUANTITY INDICATOR SYSTEM

The approximate amount of fuel in the Saddle Tanks is indicated inside the cockpit by a display of LED lights. These indicator lights are contained in a small console mounted next to the Fuel Control Panel. Each LED light is activated by an optical sensor installed in the wall of the tank. When the sensor lens is submersed in fuel it closes an internal switch that activates the light. Figure 7-6 shows the fuel quantity indicator. In this photo, the amber lights indicate that no fuel remains in the Saddle Tanks.

FIGURE 7-6
SADDLE TANKS FUEL QUANTITY INDICATOR CONSOLE



The system is powered through the FUEL QTY circuit breaker located in the Fuel System Circuit Breaker panel. A ½ amp fuse provides additional protection from electrical faults. The fuse is located in the bottom of the indicator console and is easily accessible.

All of the LED lights that indicate a fuel quantity above zero are green in color. An illuminated green light indicates the quantity of fuel in the corresponding tank is at least the amount shown on the label next to the light. A non-illuminated light indicates the quantity of fuel inside the tank is less than the amount specified by the label.

The empty ("0") indicator light has two colors – green and amber. When fuel is present in the Saddle tank, the light color is green. The color will change to amber when the tank is empty. The amber illumination also shows that the system is operational when all other lights are not illuminated. A non-illuminated empty light indicates a failure of the indicator system has occurred.

A dimmer switch is located on the left side of the console to adjust intensity of the LED lights.

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SADDLE TANKS PLUS (120 GALLONS + STORAGE COMPARTMENT)

SADDLE TANKS PLUS FUEL SYSTEM

The CenTex Aerospace auxiliary fuel tanks or “Saddle Tanks Plus” add 120 gallons (60 gallons each) of usable fuel capacity to the airplane fuel system with an integral storage compartment at the aft section of the tank. These tanks ride on top of the wing behind the nacelle. The contour of the tank’s lower surface matches that of the wing and fits like a saddle. Five attachment points on the wing hold each tank in place. An aerodynamic fairing streamlines the region between the rear of the engine nacelle and tank.

The tanks are constructed solely from aluminum and are an assembly of a formed shell, segmented floor panels, and internal baffles. The tank shell and floor are 0.080 inch thick aircraft grade aluminum that makes the tanks very durable and easy to repair, and provides excellent protection against lightning strikes and corrosion. The internal baffles, which are constructed from 0.050 inch thick aircraft grade aluminum, control fuel sloshing and provide stiffness. The pieces are joined by a combination of riveted and welded seams. A special sealant (PRC PR1422) is applied internally to seal the seams. Removable panels in the shell and floor provide access to the inside in case a repair is needed. Each tank weighs approximately 90 pounds.

A flush mounted filler cap, which is lightning safe, is located on top of the tank. When securing the cap, it should be properly aligned with the adjacent index mark to ensure proper sealing. As with all fuel tank caps, it is a matter of safety to ensure the cap is closed properly and sealed. Figure 7-7 shows the location of the Saddle Tank filler cap.

**FIGURE 7-7
SADDLE TANKS PLUS FILLER CAP**



For Saddle Tanks Plus, a sump drain with a push-to-open valve is located on the underside of the wing inboard of the main landing gear fairing. Opening the drain valve allows fuel from the lowest point in the tank to escape, which serves as a means to remove water or other contaminants. Figure 7-8 shows the location of the tank sump drain valve.

FIGURE 7-8
TANK SUMP DRAIN



Fuel in the Saddle Tanks Plus enters the airplane fuel system through a interconnected line between the tank and the auxiliary tank. The fuel line is constructed of 5/8 inch diameter aluminum tubing that traverses through the rear of the wheel well fairing under the rear spar and into the wheel well. A drain is provided at the lowest point (under the rear spar) so any contaminants that may have collected in the line can be removed. Figure 7-9 shows the location of the drain valve.

FIGURE 7-9
FUEL LINE DRAIN



Fuel may occasionally enter the vent line to the Saddle Tank Plus. A drain is provided at the lowest point (outboard of the main landing gear fairing on the underside of the wing) so any fuel that may have collected in the line can be drained. Figure 7-10 shows the location of the drain valve.

FIGURE 7-10
VENT LINE DRAIN

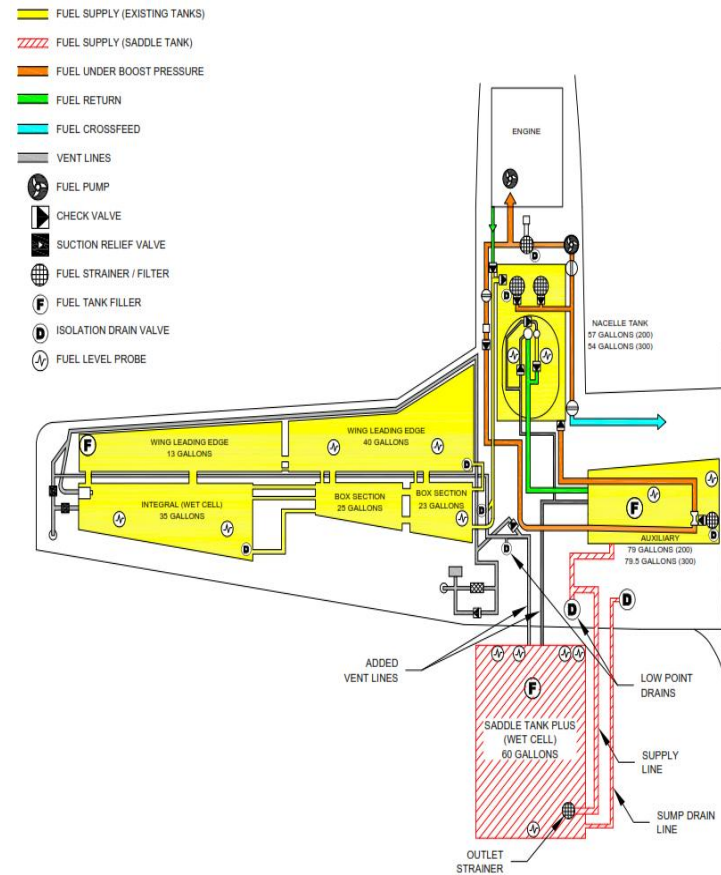


Figure 7-11 is a schematic of the fuel system with the Saddle Tanks Plus system depicted in red. Due to the Saddle Tanks being on top of the wing, fuel flows downward into the auxiliary tank assisted by gravity. Fuel inside the auxiliary tank is handled by the existing fuel system, which pumps it into the nacelle tank.

CAUTION

Do not open the auxiliary tank cap if there is fuel in the Saddle Tank. Opening the cap and the anti-siphon valve (flapper) can result in fuel flowing out of the auxiliary tank if the Saddle Tank contains fuel.

FIGURE 7-11
FUEL SYSTEM SCHEMATIC (120 GALLON)



FUEL QUANTITY INDICATOR SYSTEM

The approximate amount of fuel in the Saddle Tanks Plus is indicated inside the cockpit by a display of LED lights. These indicator lights are contained in a small console mounted next to the Fuel Control Panel. Each LED light is activated by an optical sensor installed in the wall of the tank. When the sensor lens is submersed in fuel it closes an internal switch that activates the light. Figure 7-12 shows the fuel quantity indicator without power applied.

FIGURE 7-12

SADDLE TANKS PLUS FUEL QUANTITY INDICATOR CONSOLE



The system is powered through the FUEL QTY circuit breaker located in the Fuel System Circuit Breaker panel. A ½ amp fuse provides additional protection from electrical faults. The fuse is located in the bottom of the indicator console and is easily accessible.

All of the LED lights that indicate a fuel quantity above zero are green in color. An illuminated green light indicates the quantity of fuel in the corresponding tank is at least the amount shown on the label next to the light. A non-illuminated light indicates the quantity of fuel inside the tank is less than the amount specified by the label.

The empty ("0") indicator light has two colors – green and amber. When fuel is present in the Saddle tank, the light color is green. The color will change to amber when the tank is empty. The amber illumination also shows that the system is operational when all other lights are not illuminated. A non-illuminated empty light indicates a failure of the indicator system has occurred.

A dimmer switch is located on the left side of the console to adjust intensity of the LED lights.

SADDLE TANK PLUS STORAGE COMPARTMENT

Each Saddle Tank Plus storage compartment is a non-pressurized, non-heated compartment that may be used for storage of cargo up to a maximum of 100 lbs. To open the Saddle Tank storage door, depress the two buttons located aft of the door to release the latches. An attached gas spring will assist to open the door and maintain it in the open position. Any cargo carried in the storage compartment must be properly secured with cargo straps utilizing the six "D" rings inside the compartment. Prior to flight, close and latch the door. Note that the latch buttons will indicate a bright orange color when in the unlatched position. A keyed door lock is also provided in addition to the latches to prevent unauthorized access to the compartment.

FIGURE 7-13

SADDLE TANK PLUS STORAGE COMPARTMENT

