MODEL AA-5B
AIRPLANE FLIGHT MANUAL

AIRPLANE SERIAL NO. 1145

MANUAL NO. 41

N4529D

Gulfstream American

Gulfstream American

Gulfstream American Corporation
P.O. Box 2206, Savannah, Georgia 31402
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Report FP-AA5B-3

AIRPLANE FLIGHT MANUAL

FOR THE

GULFSTREAM AMERICAN

MODEL AA-5B

MANUFACTURER'S SERIAL NO. -

REGISTRATION NO. -

FAA Approved

Chief, Engineering and
Manufacturing Branch
Southern Region, FAA

DATE 2/26/79

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LOG OF REVISIONS
TO THE AIRPLANE FLIGHT MANUAL

Rev. No.	Revised Pages	DESCRIPTION OF REVISION	FAA APPROVAL AND DATE

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SECTION I

LIMITATIONS

The following limitations must be observed in the operation of this airplane:

A. ENGINE

Lycoming O-360-A4K

ENGINE LIMITS

For all operation; 2700 RPM, 180 BHP

B. FUEL

Grade 100 or 100LL Aviation Gasoline (Minimum)

C. PROPELLER

McCauley 1A170/FFA7563

Fixed Pitch

Diameter: Not over 75 inches

Not Under 74.5 inches

(No further reduction permitted)

D. INSTRUMENT MARKINGS (POWER PLANT)

OIL TEMPERATURE

Green Arc (Normal Operating Range)	$100^{o}F$ to $245^{o}F$
Red Radial (Maximum)	$245^{o}F$

OIL PRESSURE

Green Arc (Normal Operating Range)	60 PSI to 90 PSI
Red Radial (Minimum when idling)	25 PSI
Red Radial (Maximum During start and Warm-up	100 PSI

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LIMITATIONS

TACHOMETER	
Green Arc (Normal Operating Range)	2250 RPM to 2700 RPM
Yellow Arc (Caution)	1850 RPM to 2250 RPM
Red Radial (Maximum)	2700 RPM
FUEL PRESSURE	
Green Arc (Normal Operating)	0.5 PSI to 8 PSI
Red Radial (Maximum)	8 PSI
Red Radial (Minimum)	0.5 PSI

E. AIRSPEED LIMITATIONS

NEVER EXCEED SPEED, V_{NE}	174 KCAS (174 KIAS)
MAXIMUM STRUCTURAL CRUISING SPEED, V_{NO}	143 KCAS (142 KIAS)
DESIGN MANEUVERING SPEEDS, V_A	113 KCAS (112 KIAS)
MAXIMUM FLAP EXTENDED SPEED, V_{FE}	104 KCAS (103 KIAS)
MAXIMUM CANOPY OPEN SPEED	113 KCAS (112 KIAS)

F. AIRSPEED INDICATOR MARKINGS

Green Arc (Normal Operating Range)	56 KIAS to 142 KIAS
Yellow Arc (Caution Range Smooth Air)	142 KIAS to 174 KIAS
White Arc (Flap Operating Range)	52 KIAS to 103 KIAS
Red Radial (Never Exceed Speed)	174 KIAS

G. FLIGHT LOAD FACTORS

Normal Category (Gross Weight - 2400 lbs)	
Flaps Up	+3.8g, -1.52g
Flaps Down	+3.5g
Utility Category (Gross Weight - 2050 lbs)	
Flaps Up	+4.4g, -1.76g
Flaps Down	+3.5g

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H. MAXIMUM TAKEOFF AND LANDING WEIGHT: 2400 LBS

MAXIMUM RAMP WEIGHT - NORMAL CATEGORY 2408 LBS
- UTILITY CATEGORY 2058 LBS

I. C.G. RANGE

NORMAL CATEGORY

Weight (Pounds)	Forward Limit (Inches Aft of Datum)	Aft Limits (Inches Aft of Datum)
1920	81.0	92.5
2400	89.0	92.5

UTILITY CATEGORY

Weight (Pounds)	Forward Limit (Inches Aft of Datum)	Aft Limits (Inches Aft of Datum)
1920	81.0	85.32
2050	83.17	85.32

NOTES:

1. Straight line variation between the points given.
2. Datum is 50 inches forward of front face of the lower portion of firewall.
3. It is the responsibility of the airplane owner and the pilot to assure that the airplane is properly loaded. See "Weight and Balance Section IV) for proper loading instructions.

J. UNUSABLE FUEL

The unusable fuel in this aircraft has been determined as 1.6 gallons.

K. SUCTION GAGE

The operating range (Green Arc) for the vacuum system is 4.6 to 5.4 inches of mercury for all operations.

L. MANEUVERS

NORMAL CATEGORY

Authorized Maneuvers:

(1) Any maneuver incidental to normal flying;
(2) Stalls (except whip stalls); and
(3) Lazy eights, chandelles, and steep turns, in which the angle-of-bank is not more than 60^{o}.

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Unauthorized Maneuvers:

All acrobatic operation including spins.

UTILITY CATEGORY

In the Utility Category, the baggage compartment and rear seat must not be occupied. No aerobatic maneuvers are approved except those listed below.

Maneuver	Recommended Entry Speed
Chandelles	112 KIAS
Lazy Eights	112 KIAS
Steep Turns	112 KIAS
Stalls (Except Whip Stalls)	Slow Deceleration

SPINS PROHIBITED

M. MAXIMUM PASSENGER SEATING CONFIGURATION

Three passengers (plus one pilot)

N. PLACARDS

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

(1) In full view of the pilot:

THE MARKINGS AND PLACARDS INSTALLED IN THIS AIRPLANE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THE NORMAL CATEGORY. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THIS CATEGORY OR IN THE UTILITY CATEGORY ARE CONTAINED IN THE AIRPLANE FLIGHT MANUAL.

NORMAL CATEGORY —

DESIGN MANEUVERING SPEED VA — — — 112 KNOTS IAS
NO ACROBATIC MANEUVERS, INCLUDING SPINS, APPROVED

UTILITY CATEGORY —

DESIGN MANEUVERING SPEED VA — — — 112 KNOTS IAS
REAR SEAT MUST NOT BE OCCUPIED
ACROBATIC MANEUVERS ARE LIMITED TO THE FOLLOWING

MANEUVER	ENTRY SPEED IAS
CHANDELLES	112 KNOTS
LAZY EIGHTS	112 KNOTS
STEEP TURNS	112 KNOTS
STALLS (EXCEPT WHIP STALLS)	SLOW DECELERATION

SPINS PROHIBITED

THIS AIRPLANE IS APPROVED FOR VFR, IFR, DAY AND NIGHT WHEN EQUIPPED IN ACCORDANCE WITH FAR 91.
THIS AIRPLANE IS NOT APPROVED FOR FLIGHT INTO KNOWN ICING CONDITIONS.

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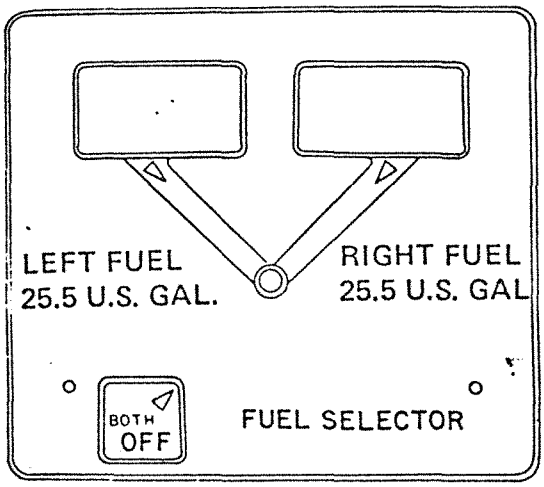
(2) On control gust lock:

CONTROL LOCK

REMOVE BEFORE STARTING ENGINE

(3) On fuel selector valve:



(4) Left side of instrument panel:

FOR FLIGHT WITH REAR SEAT OCCUPANTS AND/OR BAGGAGE–CARGO, CHECK WEIGHT & BALANCE

(5) Aft of fuel tank caps:

FUEL
MIN 100/130 OCT.
26.3 U.S. GAL. TOTAL CAP.
19.0 U.S. GAL. TO TAB

(6) On instrument panel (if strobe lights are installed):

TURN OFF STROBE IN CLOUD, FOG OR HAZE. TAXI WITH STROBE OFF

(7) On instrument panel:

CAUTION: FLASHING BEACON IN CLOUDS
MAY CAUSE VISUAL DISORIENTATION

(8) Adjacent to canopy latch:

FLAG INDICATES
UNLATCHED CANOPY

(9) In baggage compartment:

120 POUNDS MAXIMUM BAGGAGE

FOR ADDITIONAL LOADING
INSTRUCTIONS SEE WEIGHT AND
BALANCE DATA

NO HEAVY OBJECTS ON HAT SHELF

On rear seat base:

NO PASSENGERS
340 POUNDS MAXIMUM CARGO
DISTRIBUTE EVENLY

FOR ADDITIONAL LOADING
INSTRUCTIONS SEE WEIGHT AND
BALANCE DATA AND PILOTS
OPERATING HANDBOOK

Under rear seat base:

NO STEP

BEFORE FLIGHT
SEAT BACK MUST BE
TURNED DOWN TO COVER
THIS AREA

(10) Inside canopy rail, left side:

112 KIAS MAX WITH CANOPY OPEN TO HERE
NO FLIGHT WITH CANOPY OPEN BEYOND THIS POINT

(11) Interior of canopy adjacent to lock.

PUSH
TO
UNLOCK

(12) On wing outer ribs (if strobe lights are installed):

WARNING
—HIGH—
VOLTAGE
WAIT 5 MINUTES AFTER
SHUTTING OFF BEFORE STARTING
ANY WORK ON THIS UNIT
—CAUTION—
THIS UNIT POLARITY SENSITIVE
WHITE OR RED LEAD POSITIVE
BLACK LEAD AND OR CASE NEGATIVE

(13) Adjacent to auxiliary power plug (if installed):

CAUTION: 12 VOLT
D.C. ONLY, MASTER
SW. MUST BE OFF

(14) On instrument panel:

AVOID CONTINUOUS OPERATION BETWEEN
1850 & 2250 RPM WHILE DESCENDING

(15) On baggage door:

TO OPEN DOOR FROM INSIDE,
SLIDE HANDLE FORWARD ⇨

(16) On glove box door:

TIRE PRESSURE	
NOSE	25 LBS
MAIN	35 LBS

(17) On the oil filler cap.

OIL
8 QTS.

(18) A calibration card is provided to indicate the accuracy of the magnetic compass in 30° increments

SECTION II

OPERATING PROCEDURES

A. NORMAL PROCEDURES

CHECKLISTS

1. Cabin
   (a) Canopy – OPEN (turn handle counterclockwise to open.)
   (b) Control Wheel Lock – REMOVE
   (c) Ignition Switch – OFF.
   (d) Master Switch – OFF
   (e) Mixture – IDLE CUTOFF.

2. Left Wing Trailing Edge
   (a) Flap – Secure and undamaged.
   (b) Aileron – Freedom of Movement

3. Left Wing
   (a) Wing Tip and Light – Undamaged
   (b) Aileron Counterweight Access – Unobstructed
   (c) Wing Inspection Plates – Secure
   (d) Tiedown – Removed
   (e) Pitot Tube – Unobstructed
   (f) Fuel Tank Vent – Unobstructed

4. Left Wing Leading Edge
   (a) Fuel Tank – Full, cap seal checked for damage, cap secure
   (b) Tank Drain – Fuel free of water and sediment, drain secure
   (c) Sump Drain – Fuel free of water and sediment, drain secure
   (d) Fuel – Proper color
   (e) Landing Gear Wheel Fairing and Tire – Undamaged, tire properly inflated
   (f) Chocks – Removed

5. Left Cowling
   (a) Windshield – Clean, undamaged
   (b) OAT Gauge – Secure, undamaged
   (c) Fuel Pump Overflow Drain – Unobstructed
   (d) Fresh Air Vents – Unobstructed
   (e) Air Cleaner Drain – Unobstructed
   (f) Oil Breather Vent – Unobstructed
   (g) Cowling – Open, secured
   (h) Baffles – Secure, Undamaged
   (i) Cowling – Closed, latches secured (flush with surface)

NOTE

If engine cowling is opened, ensure that its support tube is secured in the retainer clip prior to closing the cowling. Ensure that cowling latches are secure (flush with surface).

6. Nose
   (a) Propeller and Spinner — Secure, undamaged
   (b) Cowling — Secure, undamaged
   (c) Landing Light — Secured, undamaged
   (d) Nose Gear, and Fairing — Undamaged, tire properly inflated, mud scraper clear
   (e) Tow Bar — Removed and stowed
   (f) Chocks — Removed
   (g) Engine Cooling Openings — Unobstructed

7. Right Cowling
   (a) Cowling — Open
   (b) Carburetor Air Duct — Unobstructed
   (c) Engine Cooling Openings — Unobstructed
   (d) Engine Oil Level — 6 Quarts minimum, capacity 8 quarts
   (e) Engine Oil Dipstick — Secured (finger tight)
   (f) Vacuum Pump Vent — Unobstructed
   (g) Battery — Secure
   (h) Alternator Belt — Proper tension
   (i) Baffles — Secured, Undamaged
   (j) Cowling — Closed, latches secured (flush with surface)

8. Right Wing Leading Edge
   (a) Fuel Tank — Full, cap seal checked for damage, cap secured
   (b) Tank Drain — Fuel free of water and sediment, drain secured
   (c) Sump Drain — Fuel free of water and sediment, drain secure
   (d) Fuel — Proper color
   (e) Landing Gear, Wheel Fairing and Tire — Undamaged, tire properly inflated
   (f) Chocks — Removed
   (g) Stall Warning Vane — Check

9. Right Wing
   (a) Wing Tip and Light — Undamaged
   (b) Aileron Counterweight Access — Unobstructed
   (c) Wing Inspection Plates — Secured
   (d) Tiedown — Removed
   (e) Fuel Tank Vent — Unobstructed

10. Right Wing Trailing Edge
   (a) Aileron — Freedom of movement
   (b) Flap — Secure and undamaged

11. Right Side of Fuselage
   (a) Static Source — Unobstructed
   (b) Antennas — Secure, undamaged
   (c) Fuselage — Undamaged

12. Empennage
   (a) Elevators — Freedom of movement
   (b) Rudder — Freedom of movement
   (c) Trim Tabs — Secure, undamaged
   (d) Tail Cone and Light — Secured, undamaged
   (e) Tie Down — Removed

13. Left Side of Fuselage
    (a) Static Source — Unobstructed
    (b) Fuselage — Undamaged
    (c) Baggage Door — Secure

14. Night Flight Preflight
    (a) Fuses and Circuit Breakers — Check
    (b) Spare Fuses — In Map Compartment
    (c) Flashlight — Aboard
    (d) Required Charts — Aboard

ELECTRICAL SYSTEMS PREFLIGHT

1. Cabin
    (a) Master Switch — ON
    (b) Instrument Lights — Check Rheostat, OFF
    (c) Map Light and Dome Light — ON
    (d) Navigation Lights — ON
    (e) Flashing Beacon — ON
    (f) Strobe Lights — ON
    (g) Pitot Heat — ON
    (h) Landing Light — ON

2. Left Wing Tip
    (a) Navigation Light — Illuminated
    (b) Strobe Light — Flashing

WARNING

DO NOT TOUCH PITOT TUBE DIRECTLY, IT CAN BE HOT ENOUGH TO BURN SKIN.

    (c) Pitot Tube — Check for heat

3. Nose
    (a) Landing Light — Illuminated

4. Right Wing
    (a) Stall Warning Vane — Lift, check that stall warning horn sounds

5. Right Wing Tip
    (a) Navigation Light — Illuminated
    (b) Strobe Light — Flashing

6. Empennage
    (a) Navigation Light — Illuminated
    (b) Flashing Beacon — Operating

7. Cabin
   (a) Master Switch – OFF
   (b) Navigation Lights – OFF
   (c) Flashing Beacon – OFF
   (d) Strobe Lights – OFF
   (e) Pitot Heat – OFF
   (f) Landing Light – OFF

BEFORE STARTING ENGINE

(1) Preflight Inspection – Complete
(2) Seats, Seat Belts and Shoulder Harness – Adjusted, locked
(3) Radios, Autopilot, Electrical Equipment – OFF
(4) Parking Brake – SET
(5) Controls – Check for proper operation

STARTING ENGINE

Airplane Power

(1) Master/Alternator Switch – ON
(2) Mixture – FULL RICH
(3) Carburetor Heat – OFF
(4) Fuel Selector Valve – Set to fullest tank
(5) Prime – As required
(6) Flaps – UP
(7) Auxiliary Fuel Pump – ON (Check pressure 0.5 – 8 PSI)
(8) Propeller – CLEAR
(9) Ignition Switch – ON LEFT
(10) Throttle – Open approximately 1/4-inch
(11) Starter Button – Press, release when engine starts
(12) Ignition Switch – ON BOTH
(13) Oil Pressure – Check, if no pressure within 30 seconds, shut down engine
(14) Engine – Warm up at 1000 to 1200 RPM
(15) Auxiliary Fuel Pump – OFF

External Power

(1) Master/Alternator Switch – OFF
(2) External Power – SET FOR 12 VOLTS, CONNECTED.
(3) Mixture – FULL RICH
(4) Carburetor Heat – OFF
(5) Fuel Selector Valve – Set to fullest tank
(6) Prime – As Required.
(7) Flaps – UP
(8) Auxiliary Fuel Pump – ON (Check pressure 0.5 to 8 PSI)
(9) Propeller – CLEAR
(10) Ignition Switch – ON LEFT
(11) Throttle – Open approximately 1/4 inch
(12) Starter Button – Press, release when engine starts.
(13) Ignition Switch – ON BOTH

(14) Oil Pressure – Check, if no pressure within 30 seconds, shut down engine.
(15) Engine – Warm up at 1000 to 1200 RPM.
(16) Auxiliary Fuel Pump – OFF
(17) External Power – OFF and DISCONNECTED
(18) Master/Alternator Switch – ON
(19) After the engine is warmed up and running properly, shut the engine down.

CAUTION

IF THE ALTERNATOR IS OPERATING PROPERLY AND THE ENGINE WILL NOT START USING AIRPLANE POWER, REMOVE THE BATTERY FROM THE AIRPLANE AND SERVICE OR REPLACE IT BEFORE FURTHER FLIGHT.

(20) Using the AIRPLANE POWER procedure above, restart the engine.

NOTE

Starting the engine with airplane power will ensure that the battery system is charged and operating properly.

BEFORE TAXIING

(1) Radios/Transponder – ON/STANDBY
(2) Altimeter/Gyros/Clock – SET
(3) Exterior Lights – AS REQUIRED
(4) Parking Brake – RELEASED

TAXIING

(1) Brakes – CHECKED
(2) Flight Instruments – CHECKED

NOTE

Aviod prolonged idling while on the ground.

ENGINE RUNUP

(1) Parking Brakes – SET
(2) Throttle – Set for 1800 RPM
(3) Engine Instruments – In green arc
(4) Ammeter – Charging
(5) Vacuum Gage – 4.6 to 5.4 in. Hg.
(6) Magnetos – Check, 175 RPM maximum drop, not over 50 RPM difference between left and right magnetos
(7) Carburetor Heat – ON, check for RPM drop, then set to OFF
(8) Throttle – Set for 1000 RPM
(9) Radios – ON, checked, Transponder – STANDBY
(10) Engine – Idles smoothly
(11) Engine is ready for takeoff when it will take throttle without hesitating or faltering and oil temperature is in green arc.

BEFORE TAKEOFF

(1) Trim Tab – SET
(2) Flaps – Checked for operation, set UP
(3) Mixture – FULL RICH (or as required by field elevation)
(4) Throttle Friction Lock – ADJUSTED
(5) Auxiliary Fuel Pump – ON, check for pressure change, then set to OFF
(6) Flight Instruments – SET (clock, directional gyro, altimeter, radios)
(7) Lights – ON, as required
(8) Parking Brake – OFF
(9) Seat Belts and Shoulder Harness – SECURE
(10) Transponder – ON

TAKEOFF

NORMAL TAKEOFF

(1) Flaps – UP
(2) Carburetor Heat – OFF
(3) Auxiliary Fuel Pump – ON
(4) Throttle – FULL OPEN
(5) Elevator Control – Raise nosewheel at 50 KIAS to 55 KIAS
(6) Climb Speed – 90 KIAS

OBSTACLE CLEARANCE TAKEOFF

(1) Flaps – UP
(2) Carburetor Heat – OFF
(3) Auxiliary Fuel Pump – ON
(4) Throttle – FULL OPEN
(5) Elevator – Apply light back pressure at 50 KIAS, lift nosewheel at 55 KIAS
(6) Climb Speed – 65 KIAS

CLIMB

(1) Normal Climb Speed – 90 KIAS at full throttle
(2) Best Rate of Climb Speed – 90 KIAS at sea level, full throttle
(3) Best Angle of Climb Speed – 70 KIAS at sea level, full throttle

CRUISE

(1) Auxiliary Fuel Pump – OFF
(2) Power – SET at 2200 to 2700 RPM
(3) Trim Tab – SET as required
(4) Mixture – SET as required. Full rich when operating at more than 75% power. If in doubt of percentage of power being used, use full rich mixture for operation below 5000 ft.

CAUTION

DO NOT OPEN CANOPY AT SPEEDS IN EXCESS OF 112 KIAS.

DESCENT

(1) Power — As required for descent

NOTE

While descending avoid continuous operation at engine speeds between 1850 and 2250 RPM.

(2) Mixture — As required by altitude
(3) Carburetor Heat — As required by engine power setting and weather conditions
(4) Trim Tab — SET as required

BEFORE LANDING

(1) Seats, Seat Belts and Shoulder Harness — Adjust and lock
(2) Fuel Selector — On fullest tank
(3) Mixture — FULL RICH
(4) Auxiliary Fuel Pump — ON
(5) Carburetor Heat — as required.
(6) Parking Brake — OFF
(7) Flaps — SET as required, below 103 KIAS
(8) Landing Light - ON as required.

BALKED LANDING

(1) Power — Full throttle
(2) Carburetor Heat — OFF
(3) Airspeed — 70 KIAS
(4) Establish Climb Attitude
(5) Flaps — Retract slowly,
(6) Airspeed - Accelerate to 90 KIAS

LANDING

NORMAL LANDING

(1) Touch down on main gear.

CAUTION

IF THE NOSE GEAR IS ALLOWED TO CONTACT THE RUNWAY PRIOR TO MAIN GEAR TOUCHDOWN A PORPOISE MANEUVER MAY OCCUR. SHOULD THE AIRPLANE BEGIN PORPOISING RECOVER AS FOLLOWS:

(a) APPLY FULL POWER
(b) MAINTAIN STEADY ELEVATOR BACK PRESSURE FOR A NORMAL CLIMB.
(c) ESTABLISH A NORMAL CLIMB AT 90 KIAS
(d) SLOWLY RETRACT FLAPS
(e) EXECUTE A NORMAL GO-AROUND.

(2) Lower nosewheel slowly as speed decreases.
(3) Use rudder to maintain directional control down to approximately 20 KIAS.
(4) Brakes — Use as required for stopping and directional control.

AFTER LANDING

(1) Flaps — UP
(2) Auxiliary Fuel Pump — OFF
(3) Landing Light — OFF (if used)
(4) Carburetor Heat — OFF
(5) Strobe Light — OFF (if used)

SHUT-DOWN/SECURING AIRPLANE

(1) Electrical Equipment, Radios, Lights — OFF
(2) Mixture — IDLE CUTOFF
(3) Ignition — OFF (after propeller has stopped)
(4) Master Switch — OFF
(5) Control Lock — Installed
(6) Parking Brake — SET
(7) Chocks/Tiedowns — Installed
(8) Parking Brake — OFF

NORMAL TAKEOFF PROCEDURE

Before beginning the takeoff roll, align the airplane with the runway. Aligning the nose wheel with the takeoff direction will allow minimum brake usage during the initial ground roll. When full power is applied for takeoff, directional control is maintained with light toe pressure on the brakes. At speeds above 15 KIAS to 20 KIAS, the rudder becomes fully effective and brake steering is NOT necessary. Continued use of brake steering will only prolong the takeoff roll.

Accelerate to 50 KIAS before applying a light back pressure on the control wheel to lift off the nose wheel. Raising the nose wheel too soon or to an excessive angle may increase takeoff ground distance. When airborne, accelerate to the desired climb speed.

MAXIMUM PERFORMANCE TAKEOFF PROCEDURES

After alignment in the takeoff direction, hold the brakes to prevent movement and apply full throttle. When full power is reached, release and begin the takeoff roll with the elevator neutral. Use light smooth brake pressures to maintain low speed directional control. At 55 KIAS apply elevator back pressure for rotation, then climb at 65 KIAS below 50 ft. If terrain or further obstacles are to be cleared after takeoff and above the 50-foot obstacle, accelerate to the best angle-of-climb speed - 70 KIAS at sea level. When obstacles are cleared, accelerate to the desired climb speed.

NORMAL CLIMB PROCEDURE

A normal climb speed of 90 KIAS is recommended once all ground obstacles have been cleared. This speed offers good visibility, excellent over-the-ground speed and rate of climb. The best rate-of-climb speed varies from 90 KIAS at sea level to 79 KIAS at 10,000 ft. The best angle-of-climb speed varies from 70 KIAS at sea level to 72 KIAS at 10,000 ft.

NORMAL LANDING PROCEDURE

Full flaps and main wheels first are recommended for a normal landing.

BALKED LANDING PROCEDURE

Should a landing be balked, apply full power immediately; carburetor heat OFF; establish a positive rate of climb at 70 KIAS, retract the flaps and trim for normal climb.

CROSSWIND PROCEDURE

Crosswind Takeoff

The airplane is accelerated to a speed slightly higher than normal, then flown off abruptly to prevent possible settling back to the runway while drifting. When clear of the ground, make a coordinated turn into the wind to correct for drift.

Crosswind Landing

When landing in a strong crosswind, use the minimum flap setting required for the field length. Although the crab or combination method of drift correction may be used, the crab method gives the best control. After touchdown, hold a straight course with the rudder and occasional braking.

B. EMERGENCY PROCEDURES

Engine Fire

a. In case of an engine fire in flight:

1. Mixture - IDLE CUTOFF
2. Fuel Selector Valve - OFF
3. Master Switch - OFF
4. Cabin Heat and Air - OFF
5. Airspeed - 115 KIAS If fire is not extinguished, increase glide speed to attempt to blow the fire out.
6. Forced Landing - EXECUTE (as described in Landing Without Engine Power).

b. In case of carburetor induction fire on the ground:

1. Cranking - CONTINUE to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine.

If engine starts:

2. Power - 1800 RPM for a few minutes.
3. Engine - SHUTDOWN and inspect for damage.
   a. Fuel Selector - OFF
   b. Master Switch - OFF
   c. Ignition Switch - OFF

If engine fails to start:

4. Evacuate passengers.
5. Engine - SECURE
   a. Mixture - IDLE CUTOFF.
   b. Master Switch - OFF.
   c. Ignition Switch - OFF.
   d. Fuel Selector Valve - OFF.
6. Fire - EXTINGUISH using fire extinguisher, seat cushion, wool blanket, or dirt.

Engine Failure During Takeoff

a. Engine Failure During Takeoff Run

1. Throttle - IDLE
2. Brakes - APPLY
3. Mixture - IDLE CUTOFF
4. Ignition Switch - OFF
5. Master - OFF.

b. Engine Failure Immediately After Takeoff

1. Mixture - IDLE CUTOFF
2. Fuel Selector Valve - OFF
3. Ignition Switch - OFF
4. Master Switch - OFF

Engine Failure During Flight

1. Airspeed - 72 KIAS
2. Carburetor Heat - ON
3. Fuel Selector Valve - SWITCH TANKS
4. Mixture - RICH
5. Master Switch - ON
6. Auxiliary Fuel Pump - ON
7. Throttle - OPEN 1/4 inch
8. Ignition Switch - BOTH
9. Primer - IN and LOCKED
10. Starter - PRESS if propeller is stopped.

Electrical System Emergency Procedures

a. Electrical Fire in Flight

If fire is in engine compartment:

1. Master Switch - OFF
2. Vents/Cabin Air/Heat - OFF/CLOSED
3. Land airplane as soon as possible

If fire is in cockpit:

1. Master Switch - OFF
2. All Other Switches (except ignition switch) - OFF
3. Vents/Cabin Air/Heat - CLOSED
4. Fire Extinguisher - ACTIVATE (if available)

If fire appears to be out and electrical power is necessary to continue flight:

5. Master Switch - ON
6. Circuit Breakers - CHECK for faulty circuit, do not reset.
7. Radio/Electrical Switches - ON one at a time, with delay after each until short circuit is located.
8. Vents/Cabin Air/Heat - OPEN when fire is out.

b. Ammeter Shows Discharge

1. Alternator Circuit Breaker - Check

NOTE

If circuit breaker trips, wait 15 seconds before resetting it.

2. Field Circuit Breaker - Check
3. If Field Circuit Breaker is tripped, land as soon as practical.
4. If Field Circuit Breaker is not tripped, and ammeter continues to show discharge, set alternator side of master switch to OFF and land as soon as practical.

Vacuum System Failure

A vacuum system failure may disable the directional and attitude indicators, thus forcing the pilot to rely on the turn coordinator or turn-and-bank indicator if he inadvertently flies into clouds.

Static Source Blocked

If erroneous readings are suspected on the instruments associated with the pitot-static system (airspeed indicator, altimeter and vertical speed indicator) pitot heat should be applied (for erroneous airspeed indications) in case the problem is due to ice or water accumulation in the pitot head. Failure of pitot heat to correct the problem may indicate blockage of the static sources. Obviously in a situation such as this, a landing should be planned at the nearest suitable airport. If it is necessary to continue the flight, and particularly if the flight is in marginal conditions, a static source must be supplied to the airspeed indicator and altimeter.

If an alternate air source is installed on your airplane, a static air source can be applied to these instruments by pulling out the ALT-STATIC AIR valve located on the left side of the instrument panel.

NOTE

Close the canopy when using alternate static air source. At airspeeds above 87 KIAS subtract 6 KIAS from indicated airspeed and 80 feet from indicated altitude.

If your airplane is not equipped with an alternate static air source, a static source can be supplied to the airspeed indicator and altimeter by breaking the glass on the face of the vertical speed indicator.

If this is done, remember the following:

1. The vertical speed indicator will be inoperative.
2. Some error may be expected in airspeed and altitude indications. At airspeeds above 87 KIAS subtract 6 KIAS from indicated airspeed and 80 feet from indicated altitude.
3. The canopy must be kept closed, since opening it could introduce large errors in airspeed and altitude indications.

SECTION III

PERFORMANCE

A. Altitude Lost in Stall

The maximum altitude lost in a normal stall recovery is approximately 350 feet.

B. Engine Cooling

Engine cooling has been satisfactorily demonstrated for an outside air temperature of 23°C above standard. This temperature is not to be considered an operating limitation.

C. Condition for Usable Fuel

The maximum usable fuel, as determined by the most critical flight profile, is available for any reasonable flight condition.

D. Airspeed Calibration - Normal System

Note: 1. KIAS assumes zero instrument error.
2. Corrections are not affected by flap position.

KIAS	KCAS
50	50
60	60
70	70
80	81
90	91
100	101
110	111
120	121
130	131
140	141
150	150
160	160
170	170
180	180

SECTION IV

WEIGHT AND BALANCE

It is the responsibility of the pilot-in-command to calculate the weight and center-of-gravity position of the aircraft and insure the calculated weight and center of gravity are within the prescribed weight and center-of-gravity limitations.

The following information will enable you to fly your AA-5B Tiger within the prescribed weight and center-of-gravity limitations. To calculate the weight and balance for your AA-5B Tiger, use the Sample Problem (Figure 1), Loading Graph (Figure 2) and Center of Gravity Envelope (Figure 3) charts as follows:

Write down the "Basic Empty Weight" and "Moment" on the Sample Loading Problem chart (Figure 1) under the column marked "Your Airplane" from the Weight and Balance Data Sheet (and/or changes listed on FAA Form 337) included with your airplane papers. Also add all additional weights and their corresponding moments (obtained from the"Loading Graphs") of items to be carried on in flight. Plot the total weight and moment on the "Center of Gravity Envelope" chart (Figure 3) and if the intersection is within the envelope, the loading is acceptable.

SAMPLE LOADING PROBLEM	SAMPLE AIRPLANE			YOUR AIRPLANE		
	WEIGHT (LBS)	ARM (IN)	MOMENT (LB-IN/ 1000)	WEIGHT (LBS)	ARM (IN)	MOMENT (LB-IN/ 1000)
1. *Basic Empty Weight (as calculated from Figure 6-2 or from Weight and Balance Data Sheet)	1400	82.30	115.22	—	—	—
2. Fuel (in excess of unusable) Capacity 51 gallons.	306	94.80	29.01	—	94.80	—
3. Pilot and Co-Pilot	340	90.60	30.80	—	90.60	—
4. Rear Seat Passengers	340	126.00	42.84	—	126.00	—
5. **Baggage (in baggage compartment) Maximum allowable — 120 pounds	22	151.00	3.32	—	151.00	—
6. Cargo Area Loading Maximum allowable — 340 pounds	—	116.40	—	—	116.40	—
7. SUB TOTAL Airplane Ramp Weight	2408	91.86	221.19	—	—	—
8. ***Less fuel for start, taxi, and runup	-8	94.80	-0.76	—	94.80	—
9. Total Airplane Take-off Weight	2400	91.85	220.44	—	—	—

* Includes 40 pounds of optional equipment.

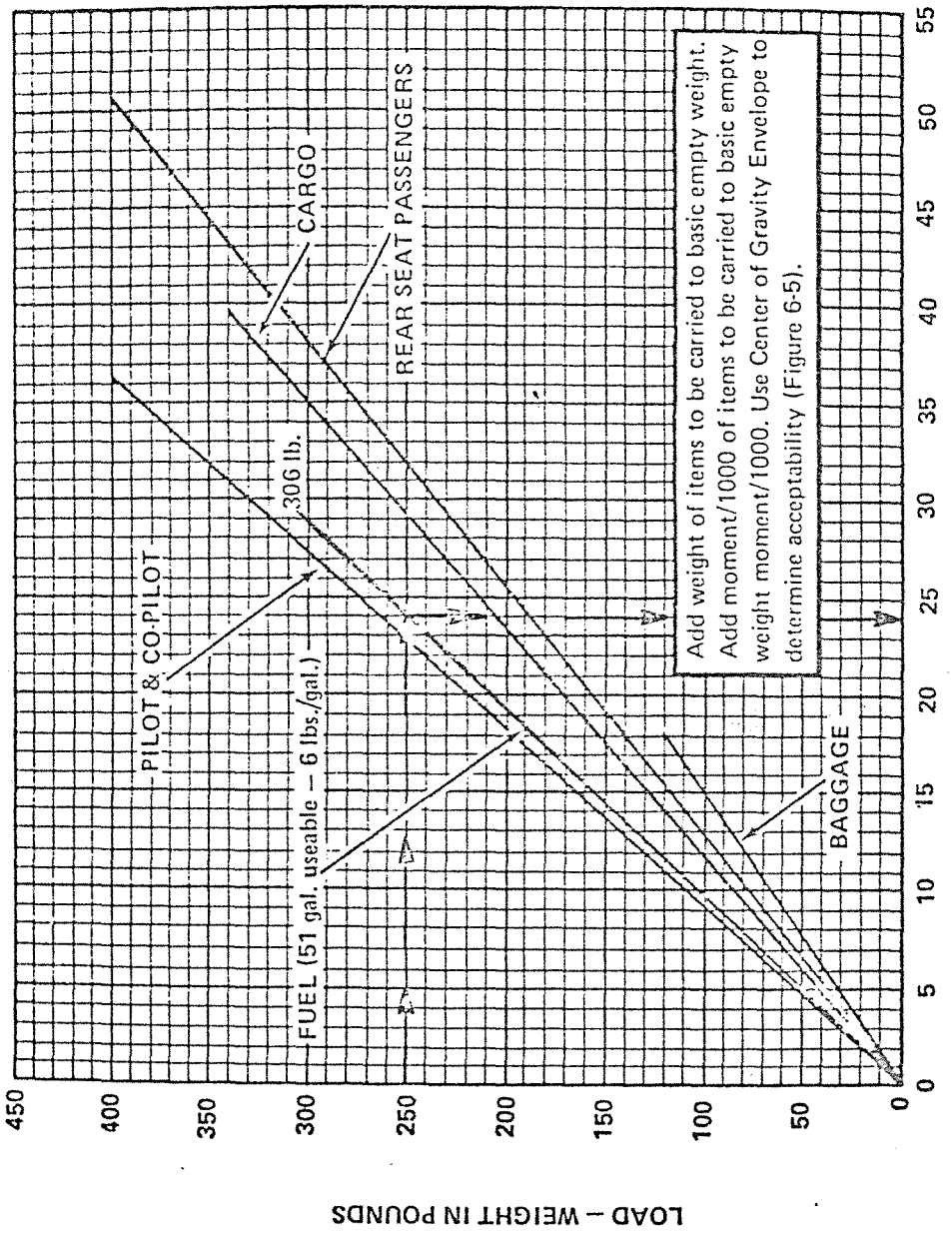
** Maximum allowable is 120 pounds if c.g. is within Center of Gravity envelope. Refer to Cargo Loading and Weight and Balance Section for cargo loading instructions.

*** Fuel for start, taxi, and runup is normally eight pounds at an average moment (LB-IN/1000) of 0.76.

NOTE:

Change in moment from upright to fold-down position of rear seat is negligible.

Figure I



EXAMPLE:
250 pounds of fuel is at a moment of 24 (1000) inch pounds.

Figure II

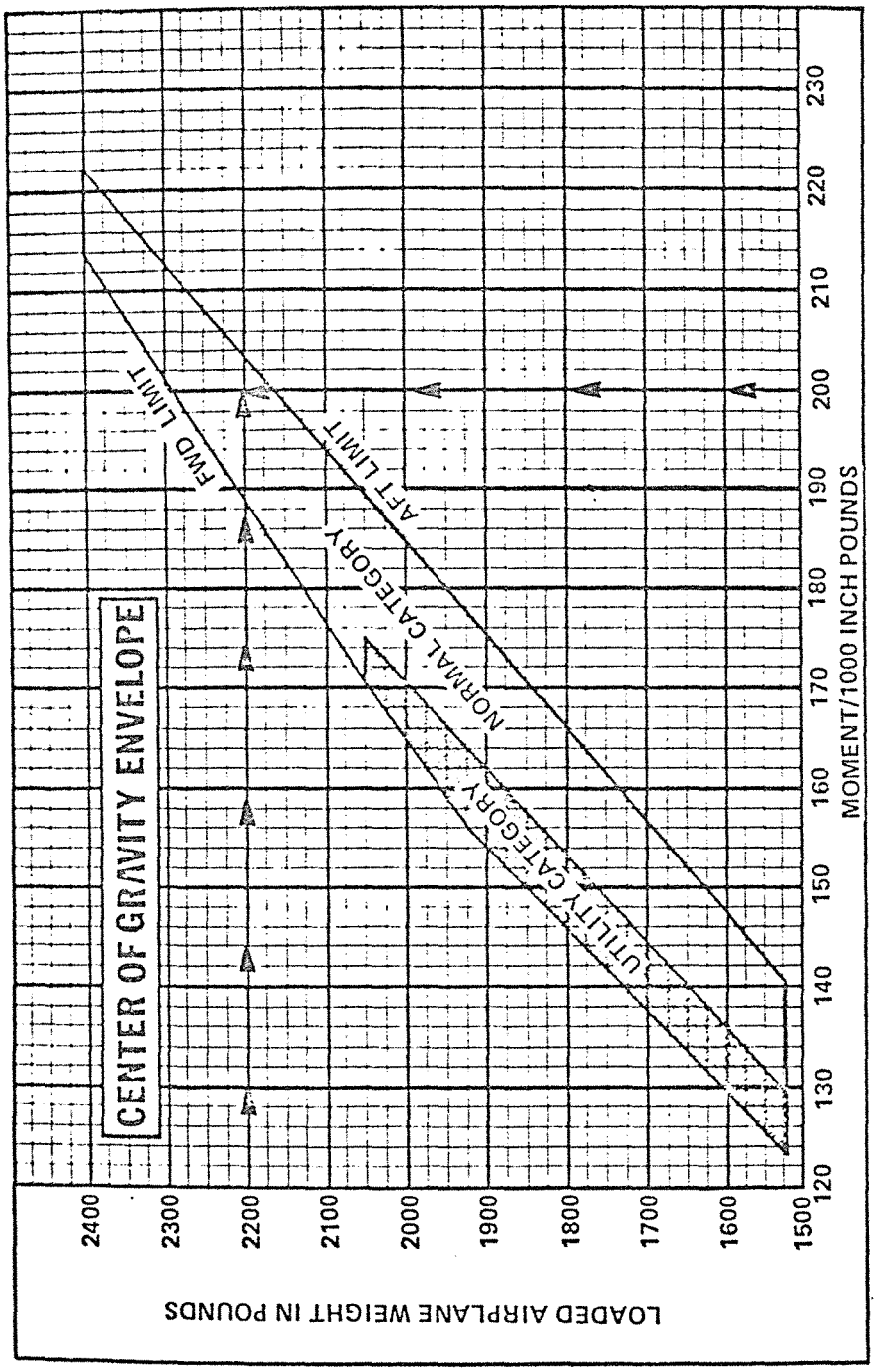


Figure III

EXAMPLE:
At a loaded airplane weight of 2200 pounds and a moment of 200 (1000) inch pounds, the Airplane is within center of gravity limits.

Gulfstream American

Gulfstream American Corporation
P.O. Box 2206, Savannah, Georgia 31402
Telephone: (912) 964-3000 Telex: 54 6470

EQUIPMENT LIST

The following equipment list contains equipment normally available for the AA-5B airplane. A separate equipment list of items installed in your specific airplane is provided in your airplane file. The following list and the specific list for your airplane have a similar order of listing.

NOTE

If additional equipment is to be installed, it must be done in accordance with the reference drawing, accessory kit instructions, or a separate FAA approval.

NOTE

Refer to applicable FAR's for a listing of specific equipment required for each mode of airplane operation.

Columns showing weight (in pounds) and arm (in inches) provide the weight and center of gravity location for the equipment.

NOTE

Unless otherwise indicated, true values (not net change values) for the weight and arm are shown. Positive arms are distances aft of the airplane datum; negative arms are distances forward of the datum.

GULFSTREAM AMERICAN AA-5B TIGER EQUIPMENT LIST
NOTES
(1) Suffix letters to item numbers —R = required items of equipment for FAA certification —S = standard equipment items —O = optional equipment items replacing required or standard items —A = optional equipment items which are in addition to required or standard items
(2) Status of equipment (As Licensed) X = Installed in the aircraft at the factory N = Not installed on, or stowed in, the aircraft at the factory L = Loose item of equipment which is stowed in the aircraft when it left the factory but which is not included in the Optional Equipment Weight and Moment. (Installed ARM is listed.)
(3) Unless otherwise indicated, actual value (not net change values) for weight and arm are shown. See weight and balance data sheet for datum location.
(4) A separate FAA approval must be obtained if the following items are not installed per applicable Gulfstream American Corporation drawings or accessory kit instructions.

ITEM NO.	DESCRIPTION	STATUS	WT. LBS	ARM INS
001-R	Powerplant Installation includes Lycoming 180 HP engine, installation parts, fuel pump, vac pump drive, primer system, oil thermostatic bypass valve, alternator, carburetor air box, and filter		302.92	22.89
002-R	Propeller installation including propeller, aluminum spacer and hardware		40.22	7.84
003-R	Muffler assembly		14.62	23.3
004-R	Oil Cooler and Lines		3.16	36.00
005-R	Propeller Spinner		2.67	4.32
006-R	Vacuum Pump Pad		.01	37.00
007-R	Quick Drain Oil Valve (Exchangeable)		0.00	0.00
008-R	Airspeed Indicator		.50	68.50
009-R	Altimeter (Standard)		1.12	68.00
010-R	Magnetic Compass		.58	70.77
011-R	Instrument Cluster		.48	69.25
012-R	Pitot System (Std.)		1.78	122.65
013-O	Heated Pitot (Exchange)		.97	88.01
014-R	Recording Tachometer		.62	69.00
015-R	Stall Warning (Audible)		.61	64.32
016-O	Altimeter, Sensitive (Feet and Millibar)		.88	68.00
017-0	Altimeter, Sensitive (Feet and inches of Mercury)		.88	68.00
018-A	Gyro System (With Vacuum System)		10.55	59.69
019-A	Outside Air Temp Indicator		.38	69.20
020-A	Turn Coordinator-Indicator		2.40	66.56
021-A	Vertical Speed Indicator		.50	68.25
022-R	Alternator, 12V, 60A, (Included in Engine Wt.)		---	---
023-R	Battery, 12 volt, 25 amp-hour		22.30	47.00
024-R	Light Cabin Dome		.37	124.00
025-R	Instrument Lights		.06	69.00
026-R	Navigation Lights		.95	111.70
027-R	Standard Wiring System		1.36	41.30
028-R	Voltage Regulator-12 volt		.80	49.00
029-R	Aileron and Elevator Lock		.08	71.00
030-R	Brake, Toe Operated		2.80	54.43
031-R	Electric Flaps		9.56	124.40
032-S	Parking Brake		.74	65.75
033-S	Armrests Front and Rear (4)		.88	109.65
034-S	Ashtrays (2)		.20	115.00
035-S	Baggage Straps		.30	150.00
036-S	Cabin Air Ventilators		2.28	66.03
037-S	Canopy Latch		.10	86.50
038-S	Center Console Fore and Aft		2.40	95.60
039-S	Chart Holder		.08	70.00
040-S	Coat Hook		.02	105.40

ITEM NO.	DESCRIPTION	STATUS	WT. LBS	ARM INS
041-S	Fold Down Rear Seat		25.90	126.80
042-R	Fuse Holder and Spare Fuse		.01	69.00
043-S	Glove Compartment		.53	68.00
044-S	Headliner, Fabric		.54	126.80
045-S	Head Rests Rear		1.00	136.88
046-R	Cabin Heating System		5.28	52.39
047-S	Instrument Panel Glare Shield		1.66	65.75
048-R	Seats, Front		24.50	92.5
049-R	Seat Belts		2.50	119.65
050-R	Shoulder Harnesses		4.32	132.83
051-S	Soundproofing		1.88	100.00
052-S	Baggage Tie-Down Rings		.40	148.40
053-A	Auxiliary Power Receptacle		1.50	44.50
054-A	Cigarette Lighter		.25	75.00
055-A	Clock (Electric)		.33	69.50
056-A	Corrosion Proofing		3.38	110.00
057A	Dual Controls		7.50	60.81
058-A	Fire Extinguisher		4.70	83.60
059-A	Hour Meter		.50	69.25
060-O	Tinted Windows		— — —	— — —
061-A	Tow Bar		2.00	136.00
062-A	Ventilation System, Rear Seat		.33	119.00
063-1	Head Rests Front (2)		1.00	105.04
064-S	Paint Scheme (Imron)		6.0	118.98
065-S	Step Strips		.05	89.50
066-S	Main Wheel, Tire and Brake Assembly (two 6.00 x 6 type III)		36.75	100.15
067-S	Nose Wheel, Tire and Tube (5.00 x 6)		8.70	36.10
068-S	Wheel Hub Covers		.07	71.33
069-S	Wing and Tail Tie Down Rings		.15	111.70
070-A	Beacon Omni Flash, (INACTIVE)		1.04	231.60
071-A	Landing Light		1.17	17.35
072-A	Wheel Fairings Main Gear (2)		16.36	99.76
073-A	Wheel Fairings Nose Gear		4.30	35.01
074-A	Outside Step (L.H.)		2.52	127.68
075-A	Outside Step (Both R.H. and L.H.)		5.05	127.68
076-A	Winterization Kit		— — —	— — —
077-S	Engine Primer (Included in Engine Wt.)		— — —	— — —
078-A	Fuel Pump, Electric		2.17	48.50
079-R	Fuel Pump, Mechanical (Included in Engine Wt.)		— — —	— — —
080-S	Fuel Selector Valve		.55	76.40
081-S	Fuel Tank Quick Drains (4)		.20	93.50
082-A	Option 1 (Includes Microphone Inst.)		5.42	131.73
083-A	Option 2		4.26	97.60
084-A	Option 3		2.23	78.83
085-A	Option 101 (Obsolete)		1.12	5354
086-A	Narco Escort 110 (1975)		6.37	61.61
087-A	Narco AT-50A Transponder		4.89	62.14

ITEM NO.	DESCRIPTION	STATUS	WT. LBS	ARM INS
088-A	Narco Com 10A/Nav 10 or Com 110/Nav 110		7.08	62.16
089-A	Narco Com 11A/Nav 11 or Com 111/Nav 111		7.78	62.38
090-A	Narco Com 11A/Nav 12/UGR 2A		9.88	60.38
091-A	Narco Com 11A/Nav 14/UGR 2A/DGO 10		14.02	59.81
092-A	Narco ADF-31AB (1975)		5.30	66.38
093-A	King XK 170B/KI-201C		10.33	65.02
094-A	King KX 170B/KI-214		10.53	65.07
095-A	Genave Delta 202 (1975)		2.50	82.36
096-A	Genave Alpha 200A (1975)		5.71	63.61
097-A	Genave Alpha 360/Theta 100 (1975)		7.41	64.37
098-A	Genave Alpha 360/Theta 200/Phi 20 (1975)		8.61	64.15
099-A	Emergency Locator Beacon (C.C.C. CIR-10) (1975)		2.50	232.42
100-A	Narco Audio Switch Panel (1975)		1.20	70.00
101-A	Narco MBT-12 Marker Beacon (less Marker Beacon Light Assembly		3.13	75.52
102-A	Marker Beacon Light Assembly		.13	69.00
103-A	Turn and Bank Installation		1.94	68.00
104-A	Microphone Inst.		.50	91.80
105-A	Narco Mark 16 (1975)		9.63	63.75
106-A	CP-125 Audio Panel		1.69	67.55
107-A	PDF-35 Installation (1975)		7.16	88.69
108-A	2-Light Strobe Installation		3.10	101.96
109-A	Century I Autopilot		4.64	67.58
110-A	King KX-175/KI-210C		10.33	65.02
111-A	King KX-175/KI-211C or KI-214		10.53	65.07
112-A	King KT-78		3.21	65.24
113-A	King KR-85/KI-225		7.89	83.65
114-A	King KMA-20		2.38	68.27
115-A	King KT-76		3.21	65.24
116-A	King System Inst.		31.01	69.79
117-A	Pantronics H.F. DXIORA		14.00	120.57
118-A	Bendix ADF		18.60	71.47
119-A	Narco ELT-10 Emergency Locator Beacon		3.62	233.40
120-A	Narco ADF 140 Installation		9.36	97.21
121-A	Sunvisor (2)		0.68	80.25
122-A	Map Light		0.25	79.40
123-A	Century II B Autopilot		10.85	61.92
124-A	DME-190 Narco		6.60	66.41
125-A	Alternate Static Source		.22	68.50
126-O	Encoding Altimeter (exchange)			
	AR-800 Narco or		1.08	66.98
	8040-15K AeroMach or		.88	66.86
	5035P2-P25 United Inst. or		.88	66.86
	5035P-P22 United Inst.		.88	66.86
127-O	True Air Speed Indicator (Exchange)		---	---

ITEM NO.	DESCRIPTION	STATUS	WT. LBS	ARM INS
128-O	Narco ELT-10C Emergency Locator Beacon		2.70	233.40
129-A	Nose Gear Shock Absorber Installation (Includes Firewall Seal)		4.31	46.55
130-A	Glider Tow Hitch Installation		6.42	223.51
131-A	Collins VHF-251		4.40	62.32
132-A	Collins VIR-351/IND-350/VHG-251		9.02	63.02
133-1	Collins VHF-251/VIR-351/ IND-351/GLS-350		11.46	61.37
134-A	Collins RCR-650/IND-650/ANT-650		6.60	103.81
135-A	Collins TDR-950/Antenna		2.27	67.11
136-A	Collins AMR-350/Antenna		2.80	67.78
137-A	Sidetone Intercom		0.25	69.50
138-A	Narco COM-120		4.82	61.54
139-A	Narco Instl NAV-121		3.72	60.42
140-A	Narco Instl NAV-122		4.02	60.60
141-A	Narco Instl AT-150		4.32	61.05
142-A	Narco ADF-141		6.20	98.74
143-A	Narco CP-135		2.10	67.51
144-A	King KI-203		1.60	67.30
145-A	King KI-204		1.70	67.30
146-A	King KN 75		1.60	66.20
147-A	MTG Tray Assy		0.31	67.38
148-A	King KI-208		1.00	67.30
149-A	King KI-209		1.20	67.30
150-A	Collins VHF-250		3.30	64.03
151-A	Collins VIR-350		3.10	64.53
152-A	Collins VHG-250/VIR-350/IND-350		8.52	62.96
153-A	Collins VHF-250/VIR-350/ IND-351/GLS-350		10.96	61.25
154-A	Abrasion Boots, Horiz-Stabilizer		3.8	225.50
155-A	Encoding Altimeter - United Instruments 5035P2-P30 (Exchange)		0.88	66.86
156-A	Beacon OMNI Flash		1.27	227.90
157-A	Storage Box Assembly		0.80	89.00
158-R	Airplane Flight Manual		Negligible	