PA28R
ARROW III

EMERGENCY PROCEDURES

Autopilot (AP) Flight System

AUTOPILOT MASTER (AP) BUTTON	THIS BUTTON HAS THREE MODES:
	AP OFF AP ON Left click will advance one mode and Right click will decrease one mode.
HEADING MODE 	In Heading mode the autopilot will maintain the heading selected by the heading bug on the directional gyro or HSI.
HEADING BUG INDICATOR	The Heading Bug indicator provides a fully visible course indicator around the normal directional gyro or HSI.
NAVIGATION MODE 	The NAV button pursues the Selected Course in the directional gyro or HSI. Once the course is caught, the AP will hold it. NAV mode will follow NAV1.
APPROACH MODE 	The approach mode is used for automatic approach. When the APR button is pressed, the AP will follow the ILS signal of the NAV 1. This mode is recommended for instrument approach.
REVERSE MODE 	Reverse mode permits automatic Back-Course approaches and for tracking outbound on the Front Course prior to a procedural turn. When using this mode, the Course Selector of the directional gyro needs to be set to the opposite direction of the Front-Course heading.

ALTITUDE HOLD

Engagement of the altitude hold button will maintain the altitude (desired altitude) at the moment the ALT button is pressed.

VERTICAL SPEED FUNCTION

When pressed, AP will engage the vertical speed hold mode.

You can modify the vertical speed using the DECR/INCR knob of the right of the AP

Desired vertical speed will appear:

- On the AP screen indication (x100 feet/minute)

AIRSPEED LIMITATIONS

SPEED	KIAS	KCAS
Never Exceed Speed (V_{NE}) - Do not exceed this speed in any operation.	183	186
Maximum Structural Cruising Speed (V_{NO}) - Do not exceed this speed except in smooth air and then only with caution.	146	148
Design Maneuvering Speed (V_A) - Do not make full or abrupt control movements above this speed.		
At 2750 lbs. G.W.	118	120
At 1865 lbs. G.W.	96	96

CAUTION

Maneuvering speed decreases at lighter weight as the effects of aerodynamic forces become more pronounced. Linear interpolation may be used for intermediate gross weights. Maneuvering speed should not be exceeded while operating in rough air.

AIRSPEED LIMITATIONS

SPEED	KIAS	KCAS
Maximum Flaps Extended Speed (V_{FE}) - Do not exceed this speed with the flaps extended.	103	103
Maximum Landing Gear Extension Speed - Do not exceed this speed when extending the landing gear.	129	130
Maximum Landing Gear Retraction Speed - Do not exceed this speed when retracting the landing gear.	107	107
Maximum Landing Gear Extended Speed (V_{LE}) - Do not exceed this speed with the landing gear extended.	129	130

AIRSPEED INDICATOR MARKINGS

MARKING	IAS
Red Radial Line (Never Exceed)	183 KTS
Yellow Arc (Caution Range - Smooth Air Only)	146 KTS to 183 KTS
Green Arc (Normal Operating Range)	60 KTS to 146 KTS
White Arc (Flap Down)	55 KTS to 103 KTS

EMERGENCY PROCEDURES CHECKLIST

ENGINE FIRE DURING START

Starter.....CRANK ENGINE
Mixture.....IDLE CUT-OFF
Throttle.....OPEN
Electric Fuel Pump.....OFF
Fuel Selector.....OFF
Abandon if fire continues.

ENGINE POWER LOSS DURING TAKEOFF

If sufficient runway remains for a normal landing, leave gear down and land straight ahead.

If area ahead is rough or if it is necessary to clear obstructions:

Gear Selector Switch.....UP

If sufficient altitude has been gained to attempt a restart:

Maintain safe airspeed.
Fuel Selector.....SWITCH to tank containing fuel
Electric Fuel Pump.....CHECK ON
Mixture.....CHECK RICH
Alternate Air.....OPEN

If power is not regained, proceed with power off landing

ENGINE POWER LOSS IN FLIGHT

If at low altitude:

Airspeed.....MAINTAIN 79 KIAS minimum

Prepare for power off landing

If altitude permits:

Fuel Selector.....SWITCH to tank containing fuel

ENGINE POWER LOSS IN FLIGHT

Electric fuel pump.....ON
Mixture.....RICH
Alternate Air.....OPEN
Engine Gauges.....CHECK for indication of cause of power loss

If no fuel flow/pressure is indicated, check tank selector position to be sure it is on a tank containing fuel.

When power is restored:
Alternate Air .....CLOSE
Electric Fuel Pump .....OFF
If power is not restored, prepare for power off landing.
Trim for 79 KIAS.

POWER OFF LANDING

Trim for 79 KIAS.
Locate suitable field.
Establish spiral pattern.
1000 ft. above field at downwind position for normal landing approach.
When field can be easily reached, slow to 72 KIAS for shortest landing.

Gear Down Emergency Landing

Touchdowns should normally be made at the lowest possible airspeed with full flaps.

When committed to landing:
Landing Gear Selector.....DOWN
Flaps.....AS DESIRED
Throttle.....CLOSE
Mixture.....IDLE CUT-OFF
Ignition .....OFF
BATT MASTR Switch .....OFF
ALTR Switch.....OFF
Fuel Selector.....OFF
Seat Belts and Harness.....TIGHT

NOTE

If battery master switch is OFF, the landing gear cannot be retracted.

POWER OFF LANDING

Gear Up Emergency Landing

In the event a gear up landing is required, proceed as follows:

Flaps ..... AS DESIRED
Throttle ..... CLOSE
Mixture ..... IDLE CUT-OFF
Ignition ..... OFF
BATT MASTR Switch ..... OFF
ALTR Switch ..... OFF
Fuel Selector ..... OFF
Seat Belt and Harness ..... TIGHT
Contact surface at minimum possible airspeed.

FIRE IN FLIGHT

Source of Fire ..... CHECK

Electrical Fire (Smoke in Cabin):

BATT MASTR Switch ..... OFF
ALTR Switch ..... OFF
Vents ..... OPEN
Cabin Heat ..... OFF
Land as soon as possible.

Engine Fire:

Fuel Selector ..... OFF
Throttle ..... CLOSED
Mixture ..... IDLE CUT-OFF
Electric Fuel Pump ..... CHECK OFF
Heater and Defroster ..... OFF
Proceed with power off landing procedure

NOTE

The possibility of an engine fire in flight is extremely remote. The procedure given is general and pilot judgement should be the determining factor for action in such an emergency.

LOSS OF OIL PRESSURE

Land as soon as possible and investigate cause.
Prepare for power off landing.

LOSS OF FUEL FLOW/PRESSURE

Electric Fuel Pump .....ON
Fuel Selector .....CHECK on tank containing fuel

HIGH OIL TEMPERATURE

Land at nearest airport and investigate the problem.
Prepare for power off landing.

ELECTRICAL FAILURE

ALT annunciator light illuminated:
Ammeter.....CHECK to VERIFY inop. alt.

If ammeter shows zero:
ALTR Switch.....OFF

Reduce electrical loads to minimum:
ALTNTR. FIELD
Circuit Breaker.....CHECK and RESET as required
ALTR Switch .....ON

If power not restored:
ALTR Switch.....OFF

If alternator output cannot be restored, reduce electrical loads and land as soon as practical. The battery is the only remaining source of electrical power.

ELECTRICAL OVERLOAD (Alternator over 20 amps above known electrical load)

BATT MASTR Switch .....OFF

ELECTRICAL OVERLOAD (Alternator over 20 amps above known electrical load)

If ammeter reading does NOT decrease:

ALTR Switch.....OFF
Land as soon as possible. Use Emergency Landing Gear Extension to lower landing gear.

If ammeter reading DOES decrease:

BATT MASTR Switch .....ON
Ammeter .....MONITOR

If ammeter reading does NOT begin to decrease within five minutes:

BATT MASTR Switch.....OFF
Land as soon as possible.

CAUTION

If the battery is depleted, the landing gear must be lowered using the emergency extension procedure. The gear position lights will be inoperative.

NOTE

Due to increased system voltage and radio frequency noise, operation with ALTR switch ON and BATT switch OFF should be made only when required by an electrical system failure.

If ammeter reading DOES begin to decrease within five minutes:

Proceed with flight.
Ammeter .....MONITOR

PROPELLER OVERSPEED

Throttle.....RETARD
Oil Pressure.....CHECK

PROPELLER OVERSPEED (continued)

Propeller Control.....FULL DECREASE rpm, then set if any control available.
Airspeed.....REDUCE
Throttle. .....AS REQUIRED to remain below 2700 rpm

EMERGENCY LANDING GEAR EXTENSION

NOTE

Refer to paragraph 4.39 for differences when emergency gear extension is being performed for training purposes.

Prior to emergency extension procedure:

BATT MASTR Switch.....CHECK ON
ALTR Switch.....CHECK ON
Circuit Breakers .....CHECK
NAV LIGHT Switch.....OFF (in daytime)
Gear Indicator Bulbs .....CHECK

If landing gear does not check down and locked:

Airspeed.....REDUCE BELOW 87 KIAS
Landing Gear Selector Switch.....GEAR DOWN POSITION

If gear has still failed to lock down, move and *hold* the emergency lever down to the Emergency Down position.

If gear has still failed to lock down, yaw the airplane abruptly from side to side with the rudder.

If the nose gear will not lock down using the above procedure, slow the aircraft to the lowest safe speed attainable using the lowest power setting required for safe operation and accomplish the following:

Landing Gear Selector Switch.....GEAR DOWN POSITION

If landing gear does not check down, recycle gear through up position and then select gear DOWN.

SPIN RECOVERY (

Rudder.....FULL OPPOSITE to DIRECTION of ROTATION
Control Wheel.....FULL FORWARD WHILE NEUTRALIZING AILERONS
Throttle.....IDLE
Rudder.....NEUTRAL (when rotation stops)
Control Wheel.....AS REQUIRED to SMOOTHLY REGAIN LEVEL FLIGHT ATTITUDE

OPEN DOOR

If both upper and side latches are open, the door will trail slightly open and airspeeds will be reduced slightly.

To close the door in flight:

Slow airplane to 87 KIAS.
Cabin Vents.....CLOSE
Storm Window.....OPEN

If upper latch is open.....LATCH

If side latch is open.....PULL on ARMREST while moving Latch Handle to LATCH position If both latches are open.....LATCH SIDE LATCH then TOP LATCH

ENGINE ROUGHNESS

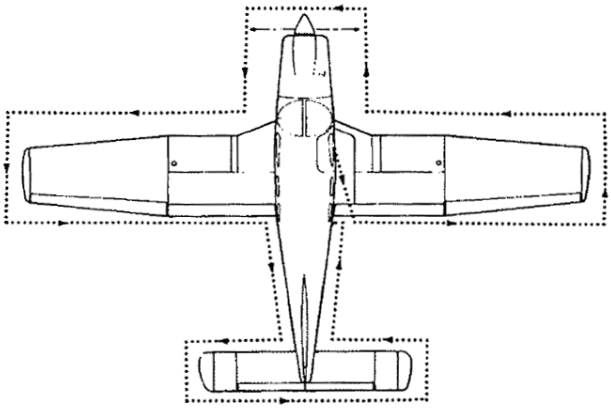
Mixture.....ADJUST for maximum smoothness
Alternate Air.....OPEN
Electric Fuel Pump.....ON
Fuel Selector.....SWITCH TANKS
Engine Gauges.....CHECK
Magneto Switch.....L then R then BOTH

If operation is satisfactory on either magneto, proceed on that magneto at reduced power, with full RICH mixture, to a landing at the first available airport.

If roughness persists, prepare for a precautionary landing.

PA28R
ARROW III

NORMAL PROCEDURES



WALK-AROUND

NORMAL PROCEDURES CHECKLIST

Preflight Checklist

CAUTION

The flap position should be noted before boarding the airplane. The flaps must be placed in the UP position before they will lock and support weight on the step.

COCKPIT

Control Wheel.....release restraints
Gear Handle .....DOWN
Parking Brake .....SET
Avionics.....OFF
All Switches .....OFF
Mixture.....IDLE CUT-OFF
Magneto Switch .....OFF
BATT MASTR Switch.....ON

Preflight Checklist

COCKPIT

Fuel Gauges .....check QUANTITY
Annunciator Panel.....CHECK
BATT MASTR Switch .....OFF
Primary Flight Controls.....PROPER OPERATION
Flaps .....PROPER OPERATION
Trim.....NEUTRAL
Pitot and Static Systems.....DRAIN
Windows .....check CLEAN
Required Papers and POH .....check ON BOARD
Tow Bar and Baggage .....STOW PROPERLY - SECURE
Baggage Door .....CLOSE and SECURE

RIGHT WING

Surface Condition .....CLEAR of ICE, FROST, SNOW
Flap and Hinges .....CHECK
Aileron and Hinges .....CHECK
Static Wicks.....CHECK - SECURE
Wing Tip and Lights .....CHECK
Fuel Tank.....CHECK supply visually - SECURE cap
Fuel Tank Vent.....CLEAR

CAUTION

When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Fuel Tank Sump.....DRAIN and CHECK for water, sediment, and proper fuel
Tie Down and Chock .....REMOVE
Main Gear Strut .....PROPER INFLATION (2.0 +/- 0.25 in.)
Tire .....CHECK
Brake Block and Disc .....CHECK
Fresh Air Inlet .....CLEAR

Preflight Checklist

NOSE SECTION

General Condition .....CHECK
Cowling .....SECURE
Oil.....CHECK QUANTITY
Dipstick.....PROPERLY SEATED
Oil Filler Cap.....SECURE
Engine Baffle Seals .....CHECK
Windshield .....CLEAN
Propeller and Spinner.....CHECK
Air Inlets.....CLEAR
Alternator Belt .....CHECK TENSION
Landing Light.....CHECK
Chock.....REMOVE
Nose Gear Strut .....PROPER INFLATION
(2.75 +/- 0.25 in.)
Nose Wheel Tire .....CHECK

CAUTION

When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Fuel Strainer.....DRAIN

LEFT WING

Surface Condition .....CLEAR of ICE,.FROST, SNOW
Stall Warning Vane.....CHECK
Fuel Tank .....CHECK Supply
visually - SECURE CAP
Fresh Air Inlet .....CLEAR
Chock.....REMOVE
Main Gear Strut .....PROPER INFLATION
(2.0 +/- 0.25 in.)
Tire.....CHECK
Brake Block and Disc .....CHECK
Fuel Tank Vent.....CLEAR

CAUTION

When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Preflight Checklist

LEFT WING

Fuel Tank Sump.....DRAIN and CHECK for water, sediment, and proper fuel
Tie Down.....REMOVE
Pitot Mast.....REMOVE COVER - HOLE CLEAR
Wing Tip and Lights.....CHECK
Aileron and Hinges.....CHECK
Flap and Hinges.....CHECK
Static Wicks.....CHECK - SECURE

FUSELAGE

Antennas.....CHECK
Left Static Vent.....CLEAR
Fresh Air Inlet.....CLEAR
Empennage.....CLEAR of ICE, FROST, SNOW
Stabilator and Trim Tab.....CHECK
Tie Down.....REMOVE
Right Static Vent.....CLEAR
BATT MASTR Switch.....ON
Cockpit Lighting.....CHECK
Navigation and Strobe Lights.....CHECK
Landing Light.....CHECK
Stall Warning.....CHECK
Pitot Heat.....CHECK
All Switches.....OFF
BATT MASTR Switch.....OFF
Passengers.....BOARD
Cabin Door.....CLOSE and SECURE
Seat Belts and Harness.....FASTEN - CHECK inertia reel

Before Starting Engine Checklist

BEFORE STARTING ENGINE

Brakes.....SET
Circuit Breakers.....IN
Alternate Air.....OFF
Propeller.....FULL INCREASE RPM
Avionics.....OFF
Fuel Selector.....DESIRED TANK

Engine Start Checklist

ENGINE START - GENERAL

CAUTION

Do not attempt flight if there is no indication of primary alternator output.

CAUTION

If a positive oil pressure is not indicated within 30 seconds following an engine start, stop the engine and determine the trouble. In cold weather it will take a few seconds longer to get a positive oil pressure indication.

NOTE

Starter manufacturer recommends starter cranking periods be limited to 10 seconds with a 20 second rest period between cranking attempts. Maximum of 6 start periods allowed. If start is not achieved on sixth attempt allow starter to cool for 30 minutes before attempting additional starts.

NORMAL START - COLD ENGINE

Throttle.....1/2 INCH OPEN
ALTR Switch.....ON
BATT MASTR Switch.....ON
Electric Fuel Pump.....ON
Mixture.....RICH - then IDLE CUT-OFF
Propeller.....CLEAR
Starter.....ENGAGE
Mixture.....FULL RICH
Throttle.....ADJUST
Oil Pressure.....CHECK

Engine Start Checklist

NORMAL START - HOT ENGINE

Throttle.....1/2 INCH OPEN
ALTR Switch.....ON
BATT MASTR Switch.....0N
Electric Fuel Pump.....ON
Mixture.....IDLE CUT-OFF
Propeller.....CLEAR
Starter.....ENGAGE
Mixture.....ADVANCE
Throttle.....ADJUST
Oil Pressure.....CHECK

ENGINE START WHEN FLOODED

Throttle.....FULL OPEN
ALTR Switch.....ON
BATT MASTR Switch.....ON
Electric Fuel Pump.....OFF
Mixture.....IDLE CUT-OFF
Propeller.....CLEAR
Starter.....ENGAGE
Mixture.....ADVANCE
Throttle.....RETARD
Oil Pressure.....CHECK

ENGINE START WITH EXTERNAL POWER SOURCE

BATT MASTR Switch.....OFF
ALTR Switch.....OFF
All Electrical Equipment.....OFF

Terminals.....CONNECT
External Power Plug.....INSERT in receptacle

Proceed with normal start.
Throttle.....LOWEST POSSIBLE RPM
External Power Plug.....REMOVE from receptacle
BATT MASTR Switch.....ON
ALTR Switch.....ON - CHECK AMMETER
Oil Pressure.....CHECK

Engine Start Checklist

ENGINE START WITH EXTERNAL POWER SOURCE (continued)

CAUTION

It is possible to use the ship's battery in parallel by turning only the battery master switch ON. This will give longer cranking capabilities, but will not increase the amperage. Care should be exercised because if the ship's battery has been depleted, the external power supply can be reduced to the level of the ship's battery. This can be tested by turning only the battery master switch ON momentarily while the starter is engaged. If cranking speed increases, the ship's battery is at a higher level than the external power supply.

NOTE

For all normal operations using the PEP jumper cables, the battery master and alternator switches should be OFF.

Warm-Up Checklist

WARM-UP

Throttle.....1400 to 1500 RPM

Taxiing Checklist

TAXIING

Taxi Area .....CLEAR
Parking Brake.....RELEASE
Propeller .....HIGH RPM
Throttle.....APPLY SLOWLY
Brakes .....CHECK
Steering .....CHECK

Ground Check Checklist

GROUND CHECK

Parking Brake .....SET
Propeller.....FULL INCREASE
Throttle.....2000 RPM

Ground Check Checklist

GROUND CHECK

Magnetos.....CHECK
max. drop 175 RPM
- max. diff. 50 RPM
Vacuum.....4.8 to 5.1 inches Hg
Oil Temperature.....CHECK
Oil Pressure.....CHECK
Ammeter.....CHECK
Annunciator Panel.....PRESS-TO-TEST
Propeller.....EXERCISE - then
FULL INCREASE
Alternate Air.....CHECK
Engine is warm for takeoff when throttle can be opened without engine faltering.
Electric Fuel Pump.....OFF
Fuel Pressure.....CHECK
Throttle.....RETARD

Before Takeoff Checklist

BEFORE TAKEOFF

BATT MASTR Switch.....ON
ALTR Switch.....ON
Flight Instruments.....CHECK
Fuel Selector.....PROPER TANK
Electric Fuel Pump.....ON
Engine Gauges.....CHECK
Alternate Air.....CLOSED
Seat Backs.....ERECT
Mixture.....SET
Propeller.....SET
Belts/Harness.....FASTENED/CHECK
Empty Seats.....SEAT BELTS
SNUGLY FASTENED
Flaps.....SET
Trim.....SET
Controls.....FREE
Doors.....LATCHED
Air Conditioner.....OFF

Takeoff Checklist

NORMAL TECHNIQUE (

Flaps .....SET
Trim .....SET
Accelerate to 65 to 75 KIAS.
Control Wheel.....back pressure to ROTATE
smoothly to CLIMB ATTITUDE

SHORT FIELD, OBSTACLE CLEARANCE TECHNIQUE (4.23b)

Flaps.....25° (second notch)
Accelerate to 50 to 60 KIAS depending on aircraft weight.
Control Wheel.....back pressure to ROTATE
to CLIMB ATTITUDE
After breaking ground, accelerate to 55 to 65 KIAS depending on aircraft weight.
Gear .....UP
Accelerate to best gear up angle of climb speed - 78 KIAS, slowly retract the flaps and climb past the obstacle.
Accelerate to best gear up rate of climb speed - 90 KIAS.

SOFT FIELD TECHNIQUE

Flaps.....25° (second notch)
Accelerate to 50 to 60 KIAS depending on aircraft weight.
Control Wheel.....hack pressure to ROTATE
to CLIMB ATTITUDE
After breaking ground, accelerate to 55 to 65 KIAS depending on aircraft weight.
Gear .....UP
Accelerate to best gear up rate of climb speed - 90 KIAS.
Flaps .....RETRACT SLOWLY

Climb Checklist

CLIMB

Best Rate (2750 lb.) (Gear Up, Flaps Up) ..... 90 KIAS
Best Rate (2750 lb.) (Gear Down, Flaps Up) ..... 78 KIAS
Best Angle (2750 lb.) (Gear Up, Flaps Up) ..... 78 KIAS
Best Angle (2750 lb.) (Gear Down, Flaps Up) ..... 72 KIAS
En Route ..... 104 KIAS
Electric Fuel Pump ..... OFF at desired altitude

Cruise Checklist

CRUISE

Reference performance charts, Avco-Lycoming Operator's Manual and power setting table.
Normal Maximum Power 75%
Power ..... SET per power table
Mixture ..... ADJUST

Approach And Landing Checklist

APPROACH AND LANDING

Fuel Selector ..... PROPER TANK
Seat Backs ..... ERECT
Belts/Harness ..... FASTEN
Electric Fuel Pump ..... ON
Mixture ..... SET
Propeller ..... FULL INCREASE
Gear ..... DOWN - 129 KIAS max
Flaps ..... SET - 103 KIAS max
Air Conditioner ..... OFF
Trim to 75 KIAS

Stopping Engine Checklist

STOPPING ENGINE

CAUTION

The flaps must be placed in the UP position for the flap step to support weight. Passengers should be cautioned accordingly.

Flaps .....RETRACT

Electric Fuel Pump.....OFF
Air Conditioner .....OFF

Avionics.....OFF
Electrical Switches .....OFF
Propeller.....FULL INCREASE
Throttle.....CLOSED
Mixture.....IDLE CUT-OFF
Magnetos .....OFF
ALTR Switch.....OFF
BATT MASTR Switch .....OFF

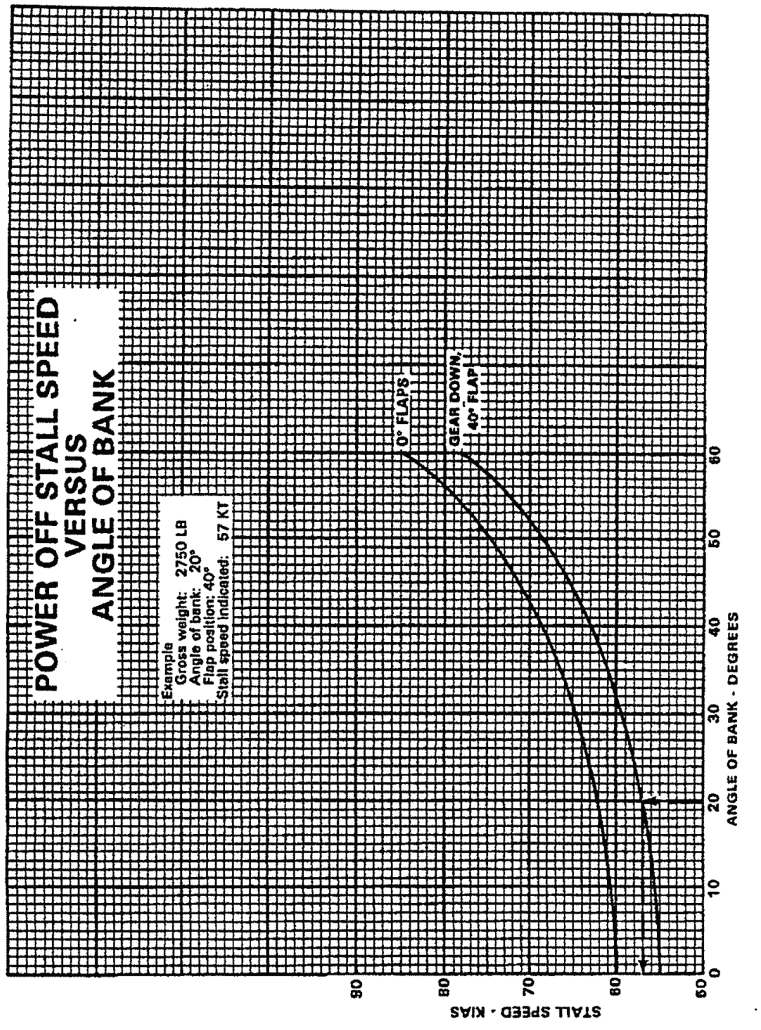
Mooring Checklist

MOORING

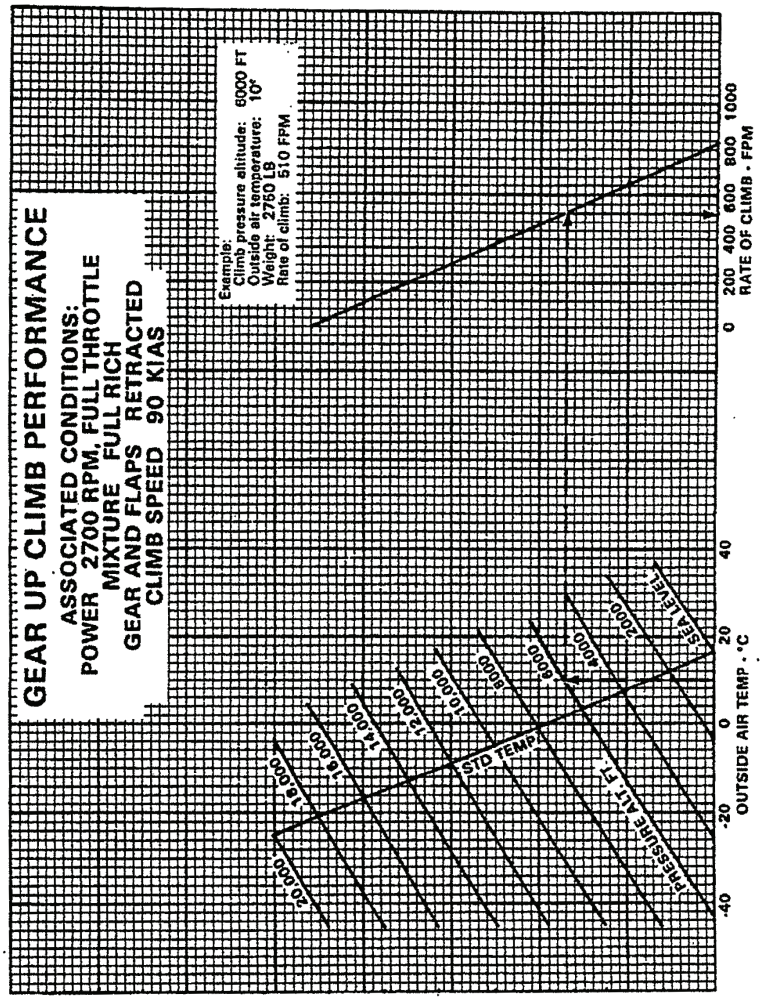
Parking Brake .....SET
Flaps .....FULL UP
Control Wheel.....SECURED with belts
Wheel Chocks .....IN PLACE
Tie Downs .....SECURE

PA28R
ARROW III

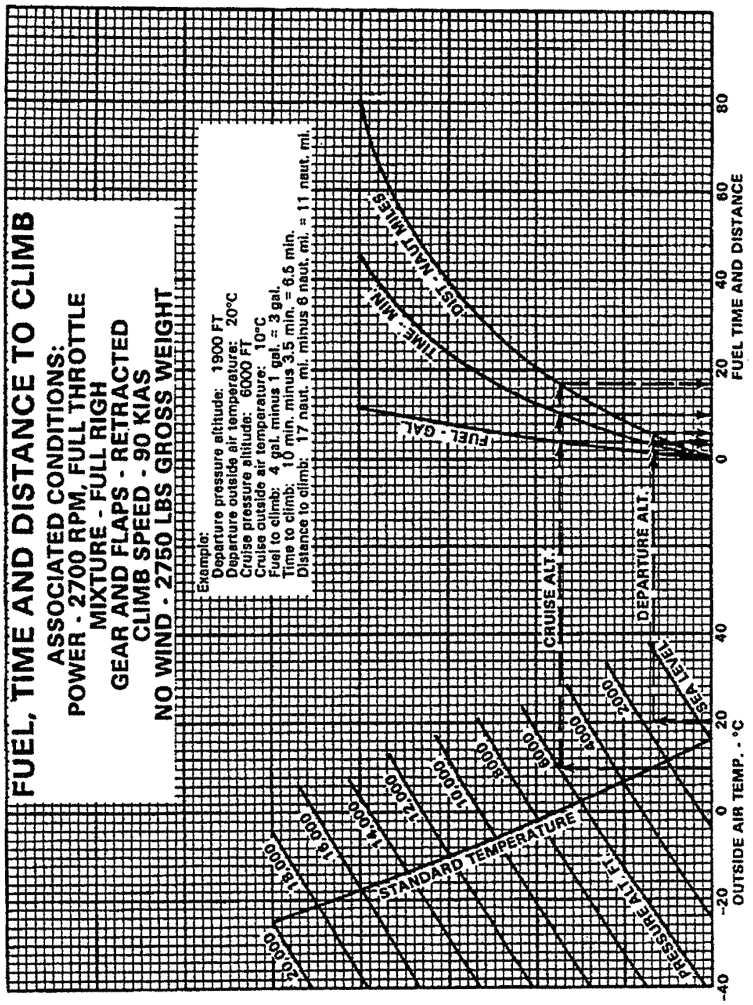
PERFORMANCE TABLES



POWER OFF STALL SPEED VS. ANGLE OF BANK



GEAR UP CLIMB PERFORMANCE



FUEL, TIME AND DISTANCE TO CLIMB

Power Setting Table for Lycoming Model IO-360-C1C6
Engine as Installed in PA-28R-201 Arrow Best Power Mixture

POWER SETTING TABLE (Best Power)

Pressure Altitude	ISA Temperature		55% power 110 BHP@ Prop Mixture Peak EGT + 100° F RPM and Manifold Press.		65% power 130 BHP @ Prop Mixture Peak EGT + 100° F RPM and Manifold Press.		75% power 150 BHP @ Prop Mixture Peak EGT + 100° F RPM and Manifold Press.	Pressure Altitude
Feet	°F	°C	2200 RPM	2500 RPM	2200 RPM	2500 RPM	2500 RPM	Feet
S.L.	59	15	23.7	21.7	26.1	24.1	26.3	S.L.
1000	55	13	23.4	21.4	25.8	23.7	26.0	1000
2000	52	11	23.0	21.1	25.4	23.4	25.6	2000
3000	48	9	22.6	20.8	25.1	23.1	25.3	3000
4000	45	7	22.3	20.5	24.7	22.8	24.9	4000
5000	41	5	21.9	20.2	24.3	22.4	24.6	5000
6000	38	3	21.6	19.9	24.0	22.1	24.3	6000
6800	35	2	21.3	19.7	23.7	21.9	F.T.	6800
7000	34	1	21.2	19.6	23.6	21.8		7000
7500	32	0	21.0	19.4	F.T.	21.6		7500
8000	30	-1	20.8	19.3		21.5		8000
9000	27	-3	20.5	19.0		21.1		9000
9400	25	-4	20.3	18.9		F.T.		9400
10000	23	-5	F.T.	18.7				10000
11000	19	-7		18.4				11000
12000	16	-9		18.1				12000
13000	12	-11		17.8				13000
14000	9	-13		17.5				14000

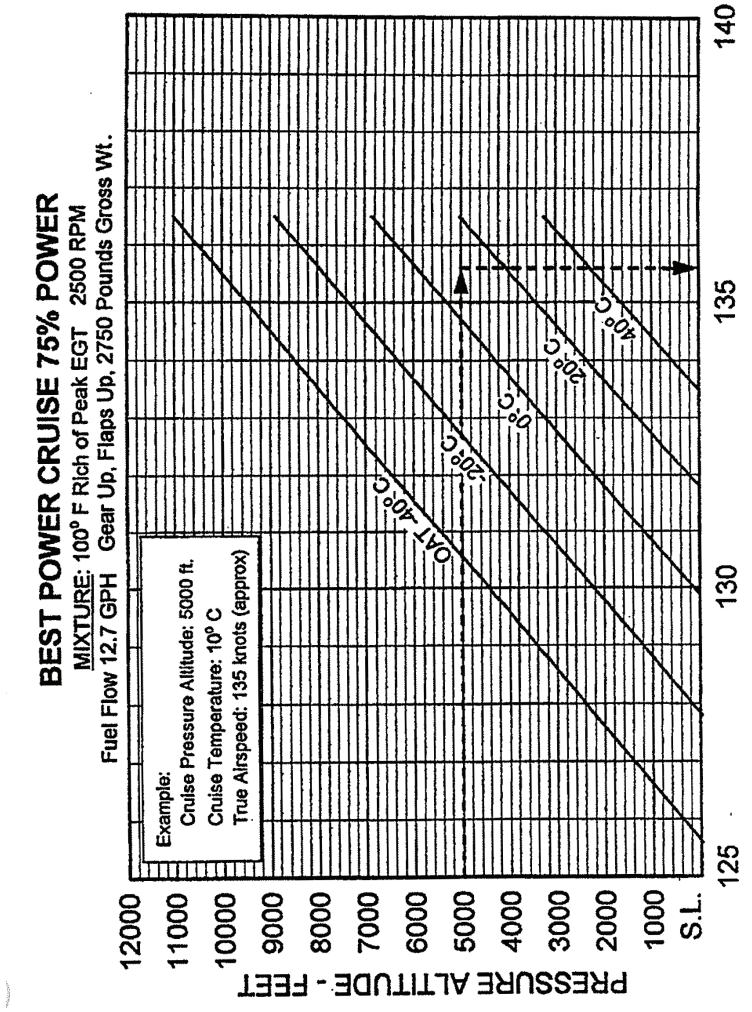
Note:
To maintain constant power, correct manifold pressure approximately 0.16" Hg for each 10° F (5.5° C) variation in inlet air temperature from standard altitude temperature. Add manifold pressure for air temperatures above standard: subtract for temperatures below standard.Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.

Power Setting Table for Lycoming Model IO-360-C1C6
Engine as Installed in PA-28R-201 Arrow Best Economy Mixture

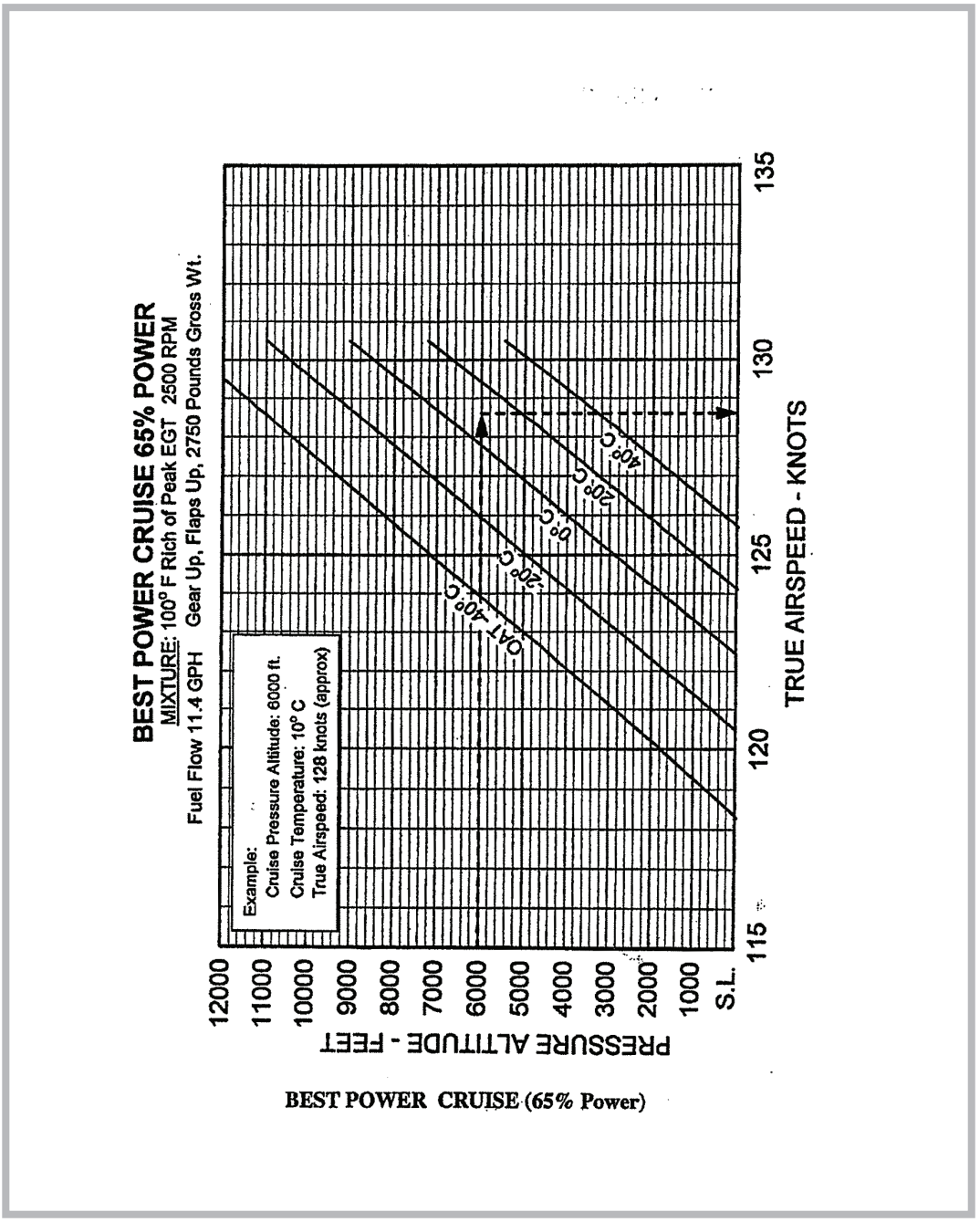
POWER SETTING TABLE (Best Economy)

Pressure Altitude	ISA Temperature		55% Power 110 BHP @ Propeller Mixture Peak EGT Manifold Pressure - In. Hg		65% Power 130 BHP @ Propeller Mixture Peak EGT Manifold Pressure - In. Hg		Pressure Altitude
Feet	°F	°C	2200 RPM	2500 RPM	2200 RPM	2500 RPM	Feet
S.L.	59	15	24.8	22.2	27.5	24.5	S.L.
1000	55	13	24.4	22.0	27.1	24.3	1000
2000	52	11	24.0	21.8	26.7	24.1	2000
3000	48	9	23.7	21.5	26.3	23.8	3000
4000	45	7	23.3	21.3	26.0	23.6	4000
5000	41	5	22.9	21.1	25.6	23.3	5000
5250	40	4	22.8	21.0	F.T.	23.2	5250
6000	38	3	22.5	20.8		23.1	6000
7000	34	1	22.1	20.6		22.8	7000
8000	30	-1	21.8	20.4		22.6	8000
8750	28	-2	21.5	20.2		F.T.	8750
9000	27	-3	F.T.	20.1			9000
10000	23	-5		19.9			10000
11000	19	-7		19.7			11000
12000	16	-9		F.T.			12000

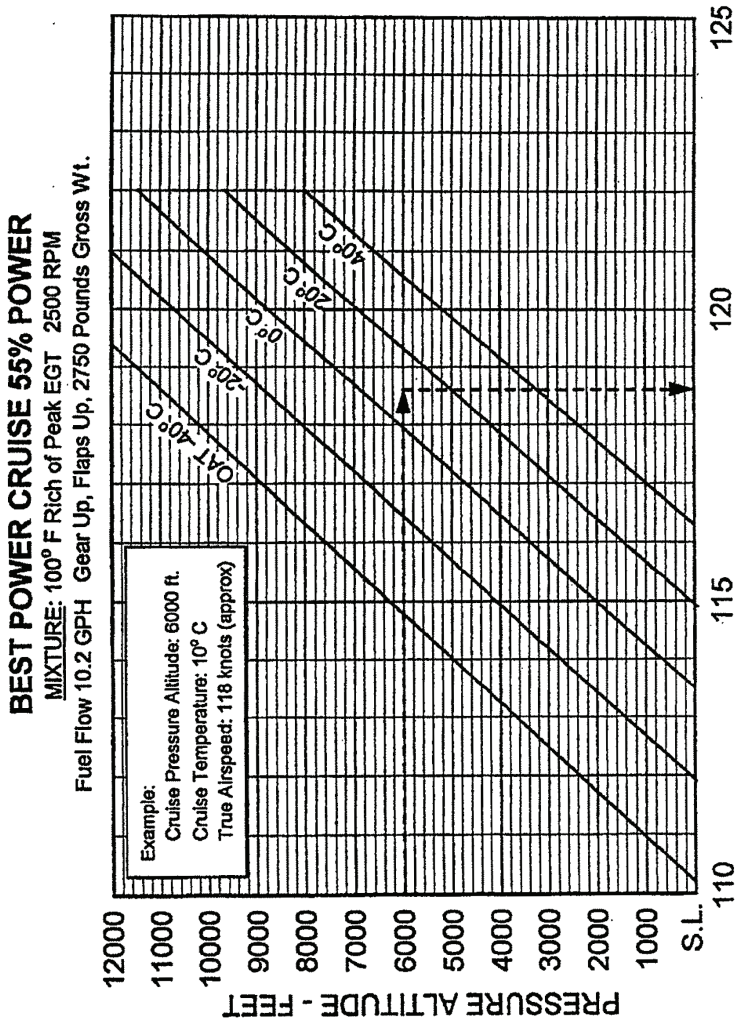
Note: To maintain constant power, correct manifold pressure approximately 0.16" Hg for each 10° F (5.5° C) variation in inlet air temperature from standard altitude temperature. Add manifold pressure for air temperatures above standard: subtract for temperatures below standard. Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.



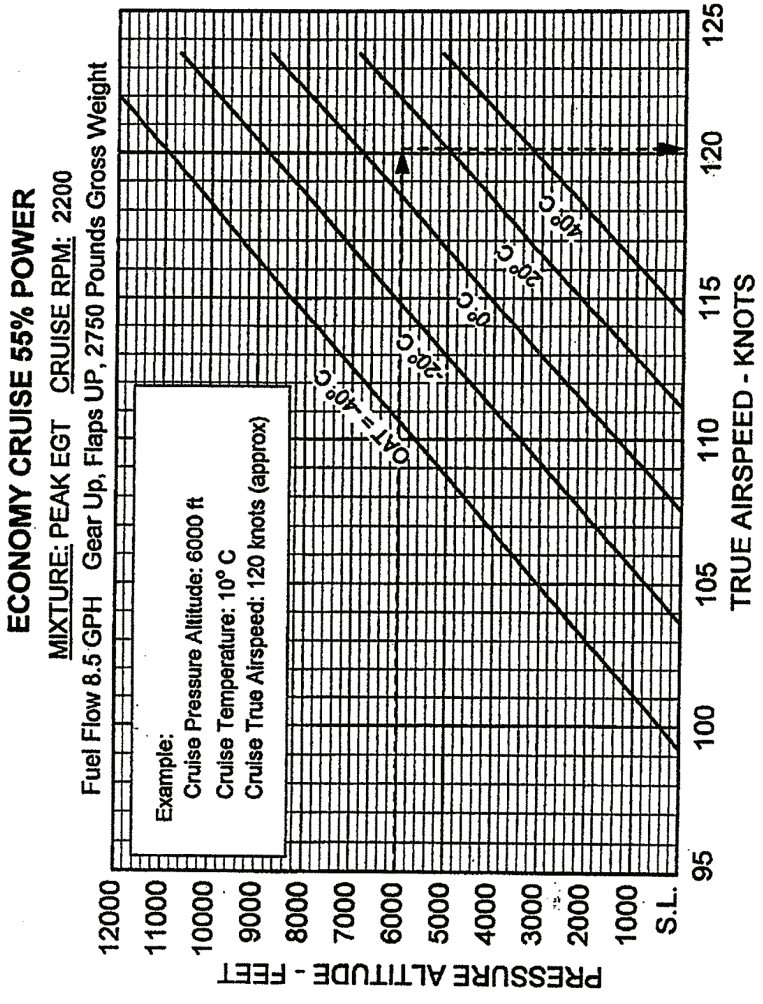
BEST POWER CRUISE (75% Power)



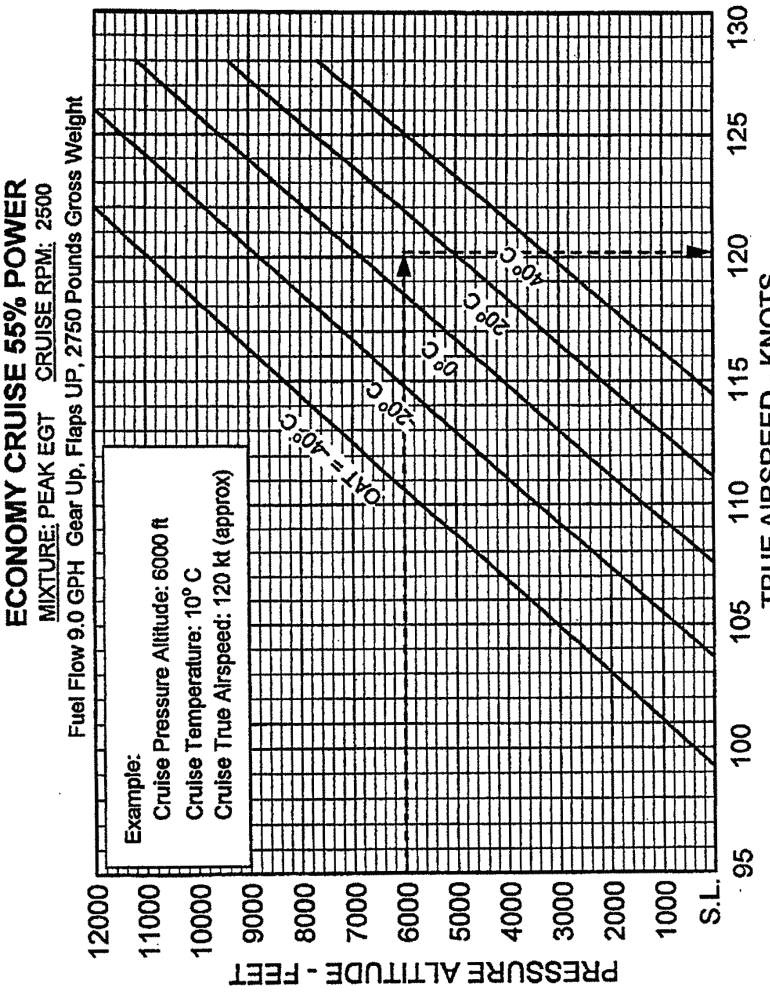
BEST POWER CRUISE (65% Power)



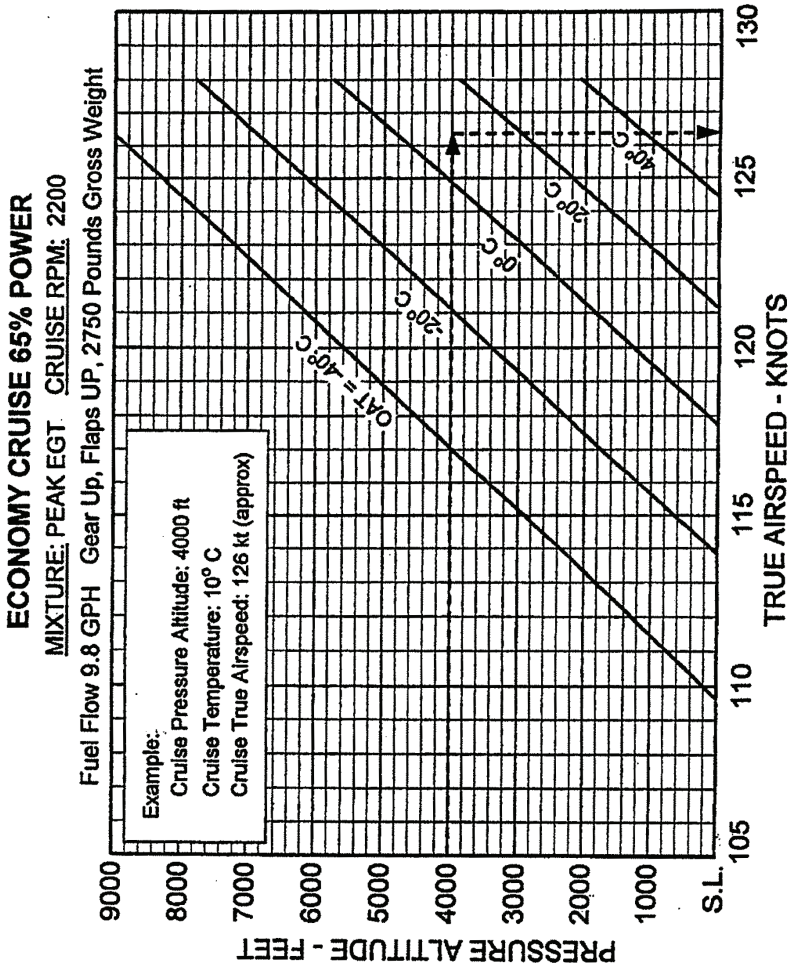
BEST POWER CRUISE (55% Power)



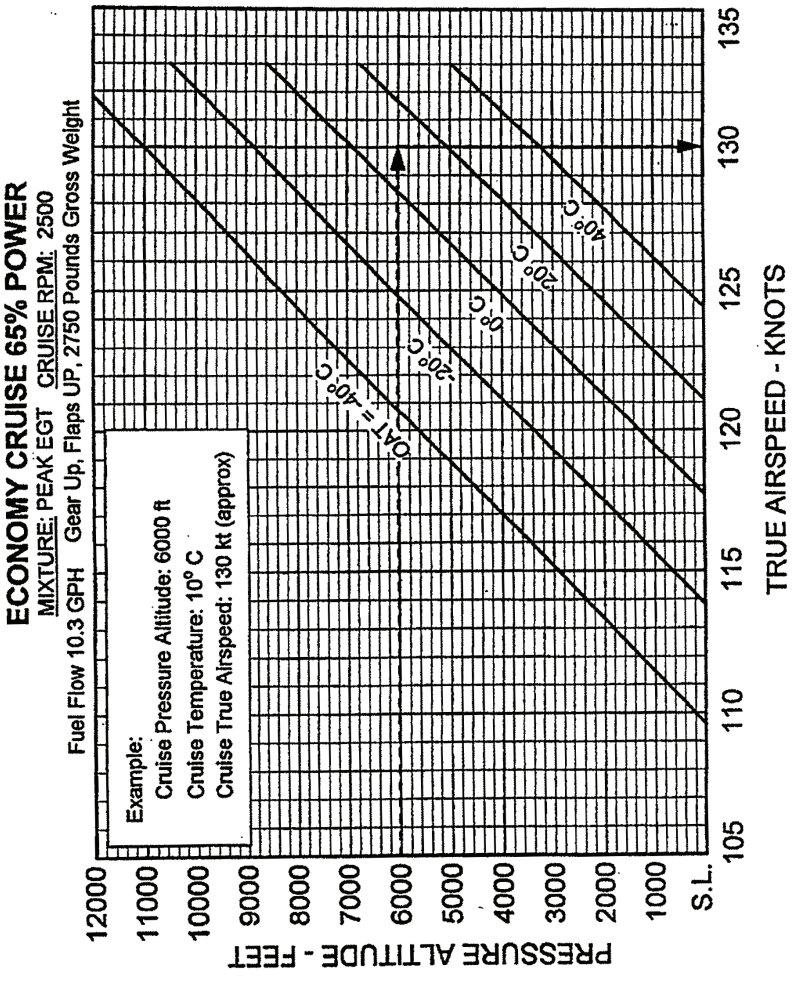
ECONOMY CRUISE (55% Power 2200 RPM)



ECONOMY CRUISE (55% Power 2500 RPM)



ECONOMY CRUISE (65% Power 2200 RPM)



ECONOMY CRUISE (65% Power 2500 RPM)

AIRSPEED LIMITATIONS

SPEED	KIAS	KCAS
Never Exceed Speed (V_{NE}) - Do not exceed this speed in any operation.	183	186
Maximum Structural Cruising Speed (V_{NO}) - Do not exceed this speed except in smooth air and then only with caution.	146	148
Design Maneuvering Speed (V_A) - Do not make full or abrupt control movements above this speed.		
At 2750 lbs. G.W.	118	120
At 1865 lbs. G.W.	96	96

CAUTION

Maneuvering speed decreases at lighter weight as the effects of aerodynamic forces become more pronounced. Linear interpolation may be used for intermediate gross weights. Maneuvering speed should not be exceeded while operating in rough air.

AIRSPEED LIMITATIONS

SPEED	KIAS	KCAS
Maximum Flaps Extended Speed (V_{FE}) - Do not exceed this speed with the flaps extended.	103	103
Maximum Landing Gear Extension Speed - Do not exceed this speed when extending the landing gear.	129	130
Maximum Landing Gear Retraction Speed - Do not exceed this speed when retracting the landing gear.	107	107
Maximum Landing Gear Extended Speed (V_{LE}) - Do not exceed this speed with the landing gear extended.	129	130

AIRSPEED INDICATOR MARKINGS

MARKING	IAS
Red Radial Line (Never Exceed)	183 KTS
Yellow Arc (Caution Range - Smooth Air Only)	146 KTS to 183 KTS
Green Arc (Normal Operating Range)	60 KTS to 146 KTS
White Arc (Flap Down)	55 KTS to 103 KTS