



PIPER WARRIOR

Training Supplement



2026-27

IMPORTANT NOTICE

Refer to POH/AFM

Do not use procedures listed without referencing the full procedures described in the approved Owner's Manual, POH, or POH/AFM specific to the airplane you are flying. Endurance and fuel capacities may vary considerably depending on the specific model / serial number being flown and any modifications it may have.

YOUR AVIATION JOURNEY BEGINS TODAY

Welcome to SkyPath Aviation!

Learning to fly is one of the most rewarding challenges you will ever undertake. This guidebook is designed to help you navigate the early stages of training, understand our procedures, and build confidence both on the ground and in the air.

Ask questions often, stay curious, and remember that every professional pilot began exactly where you are today.

We are excited to be part of your aviation journey!

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- Alternator and Alternator Belt
- Flywheel and Rear Bulkhead
- Starter
- Lycoming Engine Plate
- Brake Cylinder Reservoir
- Trim Assembly

Common Sense Security Measures

Be alert for anyone who seems suspicious.

Suspicious activity could include:

- Looking into aircraft
- Attempting to open aircraft doors
- Attempting to bypass security
- People who look as if they are under the control of someone else
- People not wearing the proper identification badges
- People loitering in the aircraft operations area
- Anyone making threats



If you see such suspicious behavior, your role is to report it.



It is NOT your role to:

- Intercept, and
- Have an altercation with suspicious people

THE PIPER

WARRIOR

PA28-161



I. THE PIPER WARRIOR

Engine

The PA-28 - 161 is powered by a four cylinder, direct drive, horizontally opposed engine rated at 160 HP at 2700 RPM. It is equipped with a starter, a 60 amp 14 volt alternator, a shielded ignition, two magnetos, vacuum pump drive, fuel pump, and an induction air filter.

Engine ignition is provided through the use of two engine-driven magnetos, which are independent of the aircraft's electrical system and each other. Each magneto powers one spark plug per cylinder (for redundancy and more complete combustion), for a total of 8 spark plugs.



- L** Lycoming
- H** Horizontally Opposed
- A** Air Cooled
- N** Normally Aspirated
- D** Direct Drive

Propellor

The Warrior is equipped with a Sensenich two-bladed, fixed-pitch, metal propeller. Propeller diameter is 76 inches. Maximum RPM (red line) is 2700 RPM.

Oil System

The Warrior can hold a maximum of 8 quarts of oil. The acceptable range is 5 to 6 quarts. Never depart with the oil indicating below 5 quarts.



Any time oil needs to be added to the Warrior, a full quart should be added. Never add less than a full quart; oil must only be added from full, unopened containers, and any oil not poured into the engine must be discarded.

I. THE PIPER WARRIOR

Carburetor Icing (Carburetor Heat)

Under certain atmospheric conditions at temperatures of 20° to 70° F (-5° to 20° C), it is possible for ice to form in the induction system, even in summer weather. This is due to the high air velocity through the carburetor venturi and the absorption of heat from this air by vaporization of the fuel. To avoid this, carburetor heat is provided to replace the heat lost by vaporization. The initial signs of carburetor ice can include engine roughness and a drop in RPM. Carburetor heat should be selected on full if carburetor ice is encountered.



Carburetor heat should not be applied unless there is an indication of carburetor icing, since the use of carburetor heat causes a reduction in power which may be critical in case of a go-around. Full throttle operation with carburetor heat on is likely to cause detonation.

Landing Gear

The landing gear is a fixed, tricycle-type gear, with oleo (air/oil) struts providing shock absorption for all three wheels. The nose wheel contains a shimmy dampener, which damps nose wheel vibrations during ground operations and centers the nose wheel in the air. The nose wheel is linked to the rudder pedals by a steering mechanism which turns the nosewheel up to 30° each side of center.

The three struts have a normal static load extension of 3.25 inches for the nose gear and 4.50 inches for the main gear.

Tire Pressure

At gross weight, the main gear tires require a pressure of 24 psi, and the nose gear tire requires a pressure of 30 psi.

I. THE PIPER WARRIOR

Brakes

The Warrior is equipped with hydraulically actuated disc brakes on the main landing gear wheels. Braking is accomplished by depressing the tops of the rudder pedals. Both toe brakes and the parking brake have separate braking cylinders but share a hydraulic reservoir. The brake fluid reservoir is installed on the top left front face of the firewall.

To set the parking brake, pull back on the brake lever, depressing the knob attached to the left side of the handle, then release the brake lever. To disengage the parking brake, pull back on the brake lever to disengage the catch mechanism, then allow the handle to swing forward.

Flight Controls

The Primary flight controls are: Ailerons, Stabilator and Rudder.
The Secondary flight controls are: Flaps, Trim Tabs.

Flaps

The Warrior is equipped with a manual flap system. The flaps are extended with a lever located between the two pilot seats. Flap settings are 0°, 10°, 25°, and 40°, and are spring-loaded to return to the 0° position.



Though the right flap will support a load in the fully retracted (up) position, it is our practice to avoid using this as a step to gain access to the flight deck.

I. THE PIPER WARRIOR

Fuel System

The Warrior, which uses 100 low lead aviation fuel (blue), is equipped with two 25-gallon fuel tanks. One gallon is unusable in each tank. Usable capacity at the bottom of the indicator tab located in each tank is 17 gallons.

An auxiliary electric fuel pump is provided in case of the failure of the engine driven pump. The electric pump should be ON for all takeoffs, landings and when switching tanks.

The aircraft is equipped with a three-position fuel selector control. The positions are "L", "R", and "OFF". The correct procedure for switching tanks in cruise flight is:

1. Electric fuel pump on
2. Fuel selector from "L" to "R" or from "R" to "L"
3. Check fuel pressure
4. Electric fuel pump off
5. Check fuel pressure



CAUTION: DO NOT OVER-PRIME or allow Electric Fuel Pump to run for an extended period of time. Each of these increases the risk of fire.

I. THE PIPER WARRIOR

Fuel Management

The checklist will call for "Fuel Selector... Proper Tank" on several occasions. It is important to monitor fuel burn to maintain a balanced fuel load. The Warrior POH does not provide a limitation on fuel imbalance.

It is SkyPath Aviation's policy that the fuel selector should not be changed during critical phases of flight, to include takeoff and operations below pattern altitude, unless called for on an emergency checklist.

During cruise flight and maneuvers, fuel load should be monitored, and the fuel selector should be selected to the fullest tank when a noticeable difference in fuel load occurs. Typically, 30 minutes of operation will result in a fuel load difference of several gallons and is a good guideline for fuel selector changes.

It is critical to follow the proper procedure for changing fuel tanks while on the ground, as well as while in flight. Failure to follow the proper fuel selector change procedure can lead to interruption in fuel flow, and engine failure, during a critical phase of flight.

I. THE PIPER WARRIOR

Electrical System

The electrical system includes a 14-volt, 60 amp alternator, a 12-volt battery, a voltage regulator, an over voltage relay and a master switch relay. The battery is mounted in a thermoplastic box immediately aft of the main spar on the right side of the fuselage below the rear passenger seat. The regulator and over voltage relay are located on the forward left side of the fuselage behind the instrument panel.

Electrical switches are located on the right center instrument panel and the circuit breakers are located on the lower right side of the instrument panel.

A rheostat switch on the left side of the switch panel controls the navigational lights and the radio lights. The similar switch on the right side controls and dims the panel lights.

The ammeter does not show battery discharge; rather, it indicates the electrical load on the alternator in amperes. With all the electrical equipment off and the master switch on, the ammeter will indicate the charging rate of the battery. As each electrical unit is switched on, the ammeter will indicate the total ampere draw of all the units including the battery.

For example, the average continuous load for night flight with radios on is about 30 amperes. This 30 ampere value plus approximately 2 amperes for a fully charged battery will appear continuously under these flight conditions. The amount of current shown on the ammeter will tell immediately if the alternator system is operating normally, as the amount of current shown should equal the total amperage drawn by the electrical equipment which is operated.



The main battery is used as a source of emergency electrical power and for engine starts. High drain items include the lights, vent fan, heater, radios. If an electrical problem arises, always check circuit breakers. If a circuit breaker is popped, reset only one time.

I. THE PIPER WARRIOR

Annunciator Lights

The annunciator panel includes alternator, low oil pressure, and vacuum indicator lights. The annunciator panel lights are provided only as a warning to the pilot that a system may not be operating properly, and that they should check and monitor the applicable system gauge to determine when or if any necessary action is required.

Vacuum System

The vacuum system is designed to operate the air driven gyro instruments. This includes the directional and attitude gyros when installed. The system consists of an engine driven vacuum pump, a vacuum regulator, a filter and the necessary plumbing.

A vacuum gauge, mounted on the far right instrument panel provides a pilot check for the system during operation. The valve is set so the normal vacuum reads 5.0 ± 1 inches of mercury, a setting which provides sufficient vacuum to operate all the gyros.

Heat & Ventilation

Heat for the cabin interior and the defroster system is provided by a shroud attached to the muffler. The amount of heat can be regulated with the controls located on the far right side of the instrument panel.

Fresh air inlets are located in the leading edges of the wings near the fuselage. At each front seat location there is an adjustable fresh air outlet on the side of the cabin near the floor.

Cabin air is exhausted through an outlet located below the rear seat.



CAUTION: When cabin heat is operated, the heat duct surface becomes hot. This could result in burns if arms or legs are placed too close to heat duct outlets or surface.

I. THE PIPER WARRIOR

Pitot Static System

Pitot and static pressure are both received from a pitot head installed on the bottom of the left wing. An alternate static source is located inside the cabin under the left side of the instrument panel, for use in the event of static port blockage.

When using the alternate static source, the storm window and cabin vents must be closed, and the cabin heater and defroster must be on. This will reduce the pressure differential between the cockpit and the atmosphere, reducing pitot-static error.

The pitot-static instruments are the airspeed indicator, altimeter, and vertical speed indicator.

Both the pitot and static lines can be drained through separate drain valves located on the left lower side of the fuselage interior.

Stall Warning Horn

The Warrior is equipped with an electric stall detector located on the leading edge of the left wing. The stall warning horn is activated between 5 and 10 knots above stall speed.

Cargo Area

A 24 cubic foot baggage area, located behind the rear seat, is accessible from the cabin or loaded through a large 20 x 22 inch outside baggage door on the right side of the fuselage.

Maximum capacity is 200 pounds. Tie-down straps are available and should be used at all times.

I. THE PIPER WARRIOR

External Power

An optional starting installation known as Piper External Power (PEP) is accessible through a receptacle located on the right side of the fuselage aft of the baggage door.

An external battery can be connected to the socket, thus allowing the operator to crank the engine without having to gain access to the airplane's battery.

Emergency Locator Transmitter

The Emergency Locator Transmitter (ELT) when installed, is located in the aft portion of the fuselage just below the stabilator leading edge and is accessible through a plate on the right side of the fuselage.

This plate is attached with slotted-head nylon screws for ease of removal. These screws may be readily removed with a variety of common items such as a dime, a key, a knife blade, etc.

AIRCRAFT AVIONICS



II. AIRCRAFT AVIONICS

Instrument Panel



PA28-161 Warrior
PIPER

II. AIRCRAFT AVIONICS

The Standard "Six Pack"



AIRSPEED INDICATOR



ATTITUDE INDICATOR



ALTITUDE INDICATOR



VERTICAL SPEED INDICATOR



TURN COORDINATOR



DIRECTIONAL GYRO

II. AIRCRAFT AVIONICS



GARMIN 430 Global Positioning System (GPS) - WAAS Enabled



Transponder (XPDR)



Left Wingtip ADS-B Out

PREFLIGHT RESOURCES



III. PREFLIGHT RESOURCES

Every flight begins with planning. Prior to your flight, ensure each of the following tasks are accomplished:



- 1. Complete Aircraft PreFlight
- 2. Obtain Weather Briefing
- 3. Brief Flight with Flight Instructor

Use the Flight Briefing form to assist with the above tasks.

DEPARTURE		ARRIVAL
	WEATHER	
	TIME	
	WIND	
	VISIBILITY	
	SKY	
	TEMP / DEWPOINT	
	ALTIMETER	

AIRPORT INFO	
	FIELD ELEVATION
	TRAFFIC PATTERN
	RUNWAY
	RUNWAY LENGTH

FREQUENCIES	
	UNICOM
	GROUND
	TOWER
	WEATHER
	APP / DEP

PAVE CHECKLIST	
☐	P PILOT
☐	A AIRCRAFT
☐	V ENVIRONMENT
☐	E EXTERNAL PRESSURES

PREFLIGHT	
☐	PREFLIGHT AIRCRAFT
☐	WEIGHT & BALANCE
☐	TO-LD CALCULATED
☐	WINDOWS CLEANED
☐	FUEL
☐	OIL LEVEL

WINDS ALOFT	
ALTITUDE	DIR / SPEED

FLIGHT TIME	
OUT	IN
HOBBS	
TACH	

FLIGHT PROFILE



VFR Flight Brief Form

Seat Position

Correctly positioning the seat exactly the same for each flight improves landing performance and safety.

The fore-aft adjustment is correct when the heels are on the floor with the balls of the feet on the rudder pedals, not on the brakes. The feet should be at a 45° angle from the floor to the pedals and the pilot should be able apply full rudder inputs without shifting their body weight. When braking is required, lift the foot from the floor rather than keeping the leg suspended in the air or resting the feet on the upper portion of the pedals.

The seat height should be adjusted so the pilot can see the curvature of the cowling, while still being able to see all flight instruments, for the best sight picture during landing.

“Build Your Nest”

An old Captain once told me to head out to the aircraft and “build your nest”.

At first, that advice sounded a bit funny, however, the more you think about it the more it made complete sense.

Just as you took the time to carefully plan for your upcoming flight, you should take a few minutes prior to each flight to settle into your seat. As you accrue flight hours, consider developing a routine to ensure resources such as the checklist, your iPad, favorite pen, water bottle, etc... are in a predictable location and are accessible during flight.

A carefully constructed “nest” will come in handy should you need to access something when things get busy during flight.

Resource: Pilot Operating Handbook (POH)

1981 Piper Warrior (PA28-161)

N8452B

ENGINES

(a)	Number of Engines	1
(b)	Engine Manufacturer	Lycoming
(c)	Engine Model Number	0-320-D2A or 0-320-D3G
(d)	Rated Horsepower	160
(e)	Rated Speed (rpm)	2700
(f)	Bore (inches)	5.125
(g)	Stroke (inches)	3.875
(h)	Displacement (cubic inches)	319.8
(i)	Compression Ratio	8.5:1
(h)	Engine Type	Four Cylinder, Direct Drive, Horizontally Opposed, Air Cooled

PROPELLERS

(a)	Number of Propellers	1
(b)	Propeller Manufacturer	Sensenich
(c)	Model	74DM6-0-60 or 74DM6-0-58
(d)	Number of Blades	2
(e)	Propeller Diameter (inches)	
	(1) Maximum	74
	(2) Minimum	72
(f)	Propeller Type	Fixed Pitch

FUEL

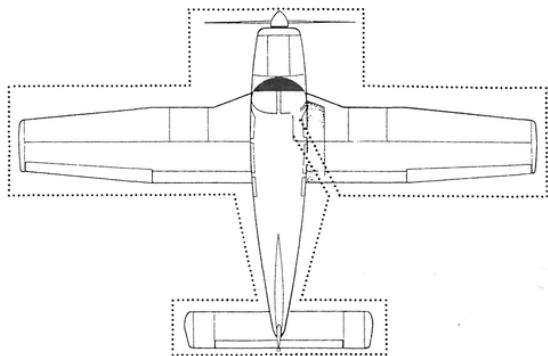
(a)	Fuel Capacity (U.S. gal) (total)-	50
(b)	Usable Fuel (U.S. gal) (total)	48
(c)	Fuel	
	(1) Minimum Octane	100 - Green or 100 LL - Blue Aviation Grade
	(2) Alternate Fuel	

OIL

(a)	Oil Capacity (U.S. quarts)	8
(b)	Oil Specification	Refer to latest issue of Lycoming Service Instruction 1014.
(c)	Oil Viscosity per Average Ambient Temp. for Starting	
		SINGLEMULTI
(1)	Above 60°F	S.A.E. 50S.A.E. 40 or 50
(2)	30°F to 90°F	S.A.E. 40S.A.E. 40
(3)	0°F to 70°F	S.A.E. 30S.A.E. 40 or 20W-30
(4)	Below 10°F	S.A.E. 20S.A.E. 20W-30

Resource: Pilot Operating Handbook (POH)

1981 Piper Warrior (PA28-161) Preflight N8452B



INTERIOR PREFLIGHT

- Required Documents On Board
- Hobbs/Tach Time Recorded
- Alt Static Source Normal
- Pitot / Static Drain Drain (2-3 Sec)
- Master Switch On
- Lights / Pitot Heat On
- Lights / Pitot / Stall Horn Check
- Lights / Pitot Off
- Master Switch Off
- Flaps Extend

RIGHT WING

- Flap Check
- Aileron Check
- Wingtip / Lights Check
- Leading Edge Check
- Fuel Vent Check
- Main Wheel Struts Check (+/- 4.5")
- Fuel Sump Sample
- Fuel Quantity Check
- Fresh Air Inlet Clear

NOSE

- Windshield Check / Clean
- Oil Quantity 4-5 Qts
- Alternator Belt Check
- Propeller / Spinner Check
- Landing Light Check
- Engine Air Intake Check
- Nose Wheel Strut Check (+/- 3 1/4)
- Break Fluid Check Level
- Fuel Strainer Sample

LEFT WING

- Fresh Air Inlet Clear
- Main Wheel Struts Check (+/- 4.5")
- Fuel Sump Sample
- Fuel Quantity Check
- Fuel Vent Check
- Leading Edge Check
- Pitot Tube Check
- Wingtip / Lights Check
- Aileron Check
- Flap Check

FUSELAGE / TAIL

- Antennas Check
- Left Fuselage Check
- ID Plate Check
- Left Stabilator Check
- Rudder Check
- Right Stabilator Check
- Right Fuselage Check
- ELT Panel Check
- Baggage Door Check

REMOVE AIRCRAFT CHOCKS BEFORE STARTUP



DON'T FORGET THE KEYS

Resource: Pilot Operating Handbook (POH)

III. PREFLIGHT RESOURCES



PIPER PA28-161 CHECKLIST



• DERIVED FROM PA28-161 POH

• NOT ALL PROCEDURES LISTED

1. PREFLIGHT: INTERIOR		3. ENGINE START	
DOCUMENTS	A.R.R.O.W. RECORD	FLAPS	RETRACT
HOBBS / TACHOMETER	CHECK	PASSENGER SAFETY BRIEFING ...	PERFORM
MAINTENANCE STATUS	SET	SEATS	UPRIGHT & SET
PARKING BRAKE	REMOVE	SEAT BELTS & HARNESS	ON & SECURE
CONTROL LOCK	FREE & CORRECT	FUEL SELECTOR	FULLEST TANK
FLIGHT CONTROLS	NEUTRAL	PARKING BREAK	SET
TRIM	OFF	CIRCUIT BREAKERS	ALL IN
MAGNETOS / IGNITION	FULLEST TANK	CARBURETOR HEAT	OFF
FUEL SELECTOR	OFF	AVIONICS MASTER SWITCH	OFF
CARBURETOR HEAT	IDLE CUT-OFF	BATTERY MASTER SWITCH	ON
MIXTURE	IDLE	ALTERNATOR SWITCH	ON
THROTTLE	OFF	BEACON	ON
ELECTRIC FUEL PUMP	OFF	ELECTRIC FUEL PUMP	ON
AVIONICS MASTER & RADIOS	ALL IN	MIXTURE	RICH
CIRCUIT BREAKERS	ON	PRIME	AS REQUIRED
BATTERY MASTER SWITCH	VERIFY	THROTTLE	1/4 INCH OPEN
FUEL QUANTITY INDICATORS	CHECK	MAGNETOS / IGNITION	START
ANNUNCIATOR PANEL	ON & CHECK	THROTTLE	1,000 RPM
EXTERIOR & INTERIOR LIGHTS	CHECK	ENGINE INSTRUMENTS	CHECK
STALL WARNING HORN	CHECK	ELECTRIC FUEL PUMP	OFF
PITOT HEAT	OFF	MIXTURE	LEAN
BATTERY MASTER SWITCH	EXTEND	AVIATIONS MASTER & RADIOS	ON
FLAPS			
2. PREFLIGHT: EXTERIOR		4. BEFORE TAXI	
(R) FLAP & AILERON	CHECK	TRANSPONDER	SET
(R) WINGTIP & LEADING EDGE	CHECK	ATIS / AWOS	OBTAIN
(R) TIE-DOWN & CHOCK	REMOVE	FLIGHT INSTRUMENTS	SET
(R) FUEL QTY, CAP, VENTS	CHECK	TAXI BRIEFING	PERFORM
(R) FUEL SUMP VALVE	DRAIN	PARKING BRAKE & BRAKES	RELEASE & TEST
(R) TIRE, BRAKE & STRUT	CHECK		
(R) ENGINE CONDITION	CHECK	5. ENGINE RUN UP	
OIL QUANTITY	CHECK 8QT / MIN 5QT	PARKING BREAK	SET
PROPELLER & SPINNER	NO DAMAGE	SEAT BELTS & HARNESS	ON & SECURE
ALTERNATOR BELT	CHECK	FLIGHT CONTROLS	FULL MOTION
ENGINE AIR INLET	NO BLOCKAGE	TRIM	SET
NOSE-WHEEL & STRUT	CHECK	FUEL SELECTOR	FULLEST TANK
(L) ENGINE CONDITION	CHECK	MIXTURE	RICH
(L/R) ENGINE COMPARTMENTS	SECURE	THROTTLE	2,000 RPM
NOSE FUEL STRAINER	DRAIN	MAGNETOS	CHECK 175 / 50 RPM
(L) TIRE, BRAKE & STRUT	CHECK	ENGINE INSTRUMENTS	CHECK
(L) FUEL QTY, CAP & VENTS	CHECK	AMMETER	CHECK
(L) FUEL SUMP VALVE	DRAIN	VACUUM SUCTION GUAGE	CHECK
(L) TIE-DOWN & CHOCK	REMOVE	ANNUNCIATOR PANEL SWITCH ...	PRESS & TEST
(L) PITOT TUBE & STATIC PORT	NO BLOCKAGE	CARBURETOR HEAT	ON RPM DECREASE
(L) LEADING EDGE & WINGTIP	CHECK	THROTTLE IDLE	IDLE CHECK
(L) AILERON & FLAP	CHECK	CARBURETOR HEAT	OFF RPM INCREASE
ANTENNAS	CHECK	THROTTLE	1,000 RPM
EMPENNAGE CONTROL SURFACES	CHECK	MIXTURE	AS REQUIRED
REAR TIE-DOWN	REMOVE	FLIGHT INSTRUMENTS	CHECK & SET
SERIAL PLATE	CHECK	COM FREQUENCIES	SET
BAGGAGE DOOR	CLOSE & LOCK	DEPARTURE BRIEFING	PERFORM
		PARKING BREAK	RELEASE

Resource: Pilot Operating Handbook (POH)

III. PREFLIGHT RESOURCES



PIPER PA28-161 CHECKLIST

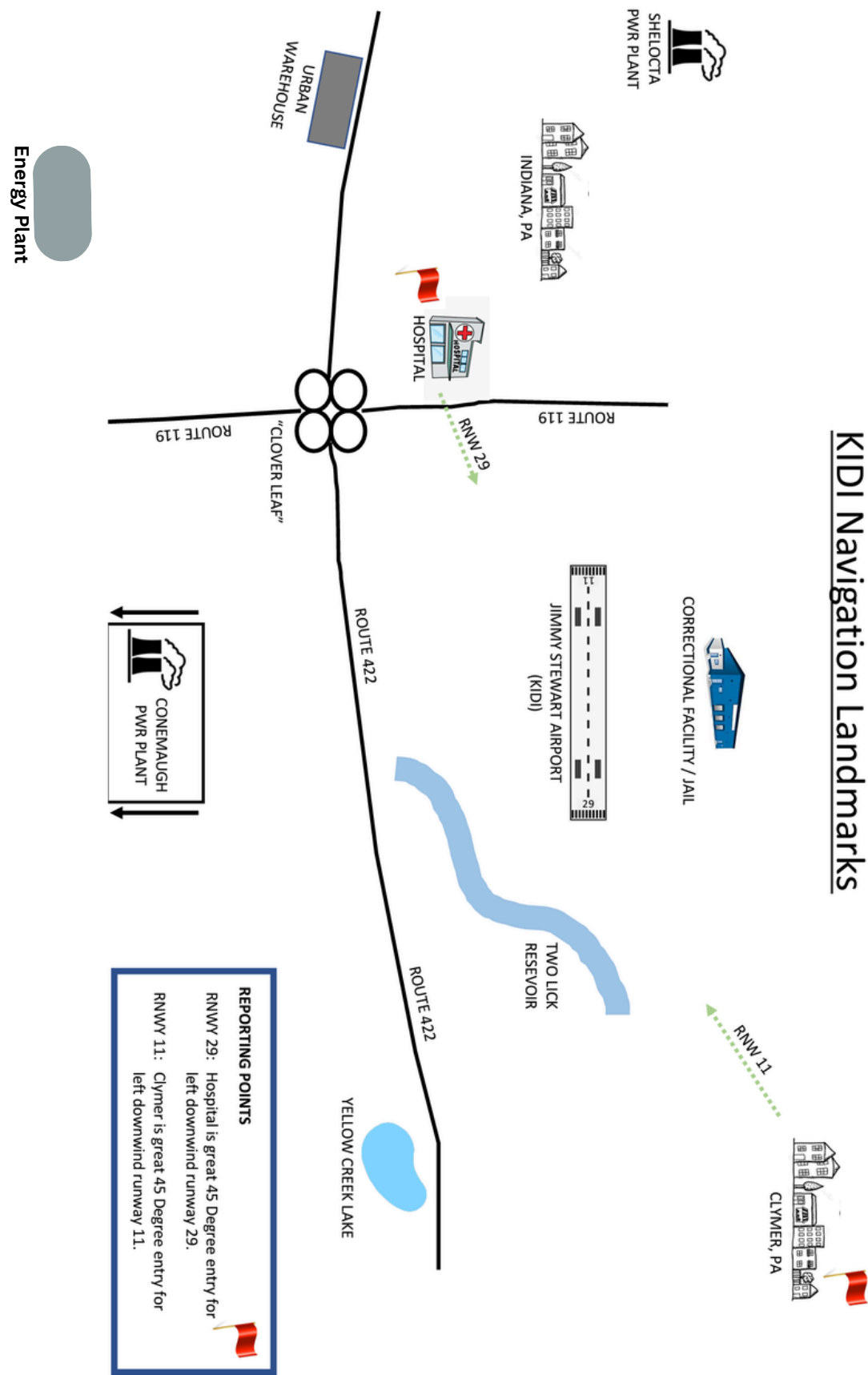


• DERIVED FROM PA28-161 POH • NOT ALL PROCEDURES LISTED

6. PRE-TAKEOFF		PRIOR TO MANEUVERS	
FLAPS	SET	FUEL SELECTOR	FULLEST TANK
MIXTURE	RICH	MIXTURE	RICH
ELECTRIC FUEL PUMP	ON	ELECTRIC FUEL PUMP	ON
LANDING & STROBE LIGHTS	ON	LANDING LIGHT	ON
TRANSPONDER	ALT	MINIMUM SAFE ALTITUDE	VERIFY
DOOR & WINDOWS	CLOSE & LOCK	RADIO COMMUNICATION	CHOOSE
7. CLIMB: +1000 AGL		CLEARING TURNS	PERFORM
FLAPS	RETRACT	THREE C'S: CLEAR CONFIGURE COMMUNICATE	
ENGINE INSTRUMENTS	CHECK	EMERGENCIES	
CLIMB SPEED	79 KIAS	ENGINE FIRE: DURING START UP	
8. CRUISE		MAGNETOS / IGNITION	CRANK
THROTTLE	SET	MIXTURE	IDLE CUT-OFF
MIXTURE	LEAN	THROTTLE	FULL OPEN
ELECTRIC FUEL PUMP	OFF	ELECTRIC FUEL PUMP	OFF
TRIM	AS NEEDED	MASTER SWITCH	OFF
9. APPROACH TO LANDING		FUEL SELECTOR	OFF
THROTTLE	SET	THROTTLE	IDLE
MIXTURE	RICH	MIXTURE	IDLE CUT-OFF
ELECTRIC FUEL PUMP	ON	FUEL PUMP	OFF
LANDING LIGHT	ON	HEAT / DEFROST	OFF
CARBURETOR HEAT	AS REQUIRED	ELECTRICAL FIRE: DURING FLIGHT	
FUEL SELECTOR	FULLEST TANK	MASTER SWITCH	OFF
ATIS / AWOS	OBTAIN	AVIONICS MASTER	OFF
AVIONICS	SET / CHECK	AIR VENTS	OPEN
FLIGHT INSTRUMENTS	SET / CHECK	HEAT / DEFROST	OFF
SEATS	UPRIGHT & SET	ENGINE FAILURE: DURING FLIGHT	
SEAT BELTS & HARNESS	ON & SECURE	AIRSPEED	BEST GLIDE
APPROACH BRIEFING	PERFORM	BEST LANDING SPOT	SELECT
10. AFTER LANDING		MIXTURE	RICH
FLAPS	RETRACT	ELECTRIC FUEL PUMP	ON
TRIM	SET	CARBURETOR HEAT	ON
ELECTRIC FUEL PUMP	OFF	PRIMER	LOCKED
LANDING LIGHT	OFF	FUEL SELECTOR	SWITCH TANKS
MIXTURE	LEAN	MAGNETOS / IGNITION	START
11. PARKING / SECURING AIRCRAFT		ENGINE DOESN'T RESTART: 7700 121.5 SECURE ENGINE	
PARKING BRAKE	SET	V-SPEEDS / GUMPSS	
MAGNETOS	CHECK	V _R	60 KIAS
RADIOS & AVIONICS MASTER	OFF	V _{S0}	44 KIAS
MIXTURE	IDLE CUT-OFF	V _{S1}	50 KIAS
ANTI-COLLISION & NAV LIGHTS	OFF	V _X	63 KIAS
ALTERNATOR SWITCH	OFF	V _Y	79 KIAS
BATTERY MASTER SWITCH	OFF	V _A	111 KIAS
MAGNETOS / IGNITION	OFF REMOVE KEY	V _{FE}	103 KIAS
PARKING BRAKE	SET	V _{NO}	126 KIAS
HOBBS / TACHOMETER	RECORD	V _{NE}	160 KIAS
		V _{glide}	73 KIAS
		G FUEL SELECTOR	
		U UNDERCARRIAGE	
		M MIXTURE	
		P PROPELLOR	
		S SWITCHES	
		S SEAT BELTS	
		Maximum Demo XWind	
		17 KIAS	

Resource: Pilot Operating Handbook (POH)

Navigation Landmarks



COMMUNICATION RESOURCES



IV. COMMUNICATION RESOURCES

Radio Communication

- Begin with** → Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
- add what
your doing** → Departing, Landing, Turning, etc...
- End with** → Indiana County

Taxi to Runway

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
Taxing to Runway 29
Indiana County

Departuring Runway (Staying in Pattern)

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
Departing Runway 29, Closed Traffic
Indiana County

Traffic Pattern Calls (Standard)

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo

✈ Left Crosswind Runway 29
✈ Left Downwind Runway 29
✈ Left Base Runway 29
✈ Final Runway 29

Departuring Runway (Leaving Pattern)

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
Departing Runway 29
VFR South at 3,500
Indiana County

Indiana County

45 Degree Entry into Pattern

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
Three and a Half Miles Southwest
45 Degree Entry
Left Downwind Runway 29
Indiana County

Taxi to Ramp from Runway

Indiana County Traffic
Warrior 8 - 4 - 5 - 2 - Bravo
Taxing to ramp / fuel pump
Indiana County

Phonetic Alphabet

A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

START UP PROCEDURES



Passenger Brief



- Seat Belts fastened for taxi, takeoff, landing
- Shoulder harness fastened for takeoff, landing
- Seat position adjusted / locked



- Air Vents (location and operation)
- Environmental Controls
- Action in case of passenger discomfort



- Fire Extinguisher (Aircraft / Nearby)



- Exit Doors (how to secure / open)
- Emergency evacuation plan
- Emergency / Survival Resources (if available)
- Equipment (location and operation)



- Traffic (scanning, spotting, notifying pilot)
- Talking ("sterile cockpit")



- Your Questions – Speak Up!

Resource: FAA Safety Briefing

V. STARTUP PROCEDURES

Engine Start (Cold Start)

1. Turn on the BAT/ALT Master switch
2. Turn on the beacon
3. Place aircraft key in the ignition
4. Prime once
5. Turn on the Electric Fuel Pump
6. Mixture - Full Rich
7. Open the throttle lever approximately 1/4 inch.
8. Clear Area around the Aircraft
9. Engage the starter by rotating magneto switch clockwise to start
10. When the engine fires, release the magneto switch, and set the throttle at 1000 RPM
11. Turn off electric fuel pump
12. Lean Fuel Mixture to about halfway between Full Rich / Off

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



Starter manufacturers recommend that cranking periods be limited to thirty seconds with a two minute rest between cranking periods. Longer cranking periods will shorten the life of the starter.

Resource: Piper Warrior POH

TAXI PROCEDURES



Taxi Brief

Display the Airport Diagram

"We will be taxiing from _____
to runway _____ via the following taxiway(s) _____. "

- Identify airport Hotspots
- Identify all runway crossings

When approaching intersecting taxiways or turns

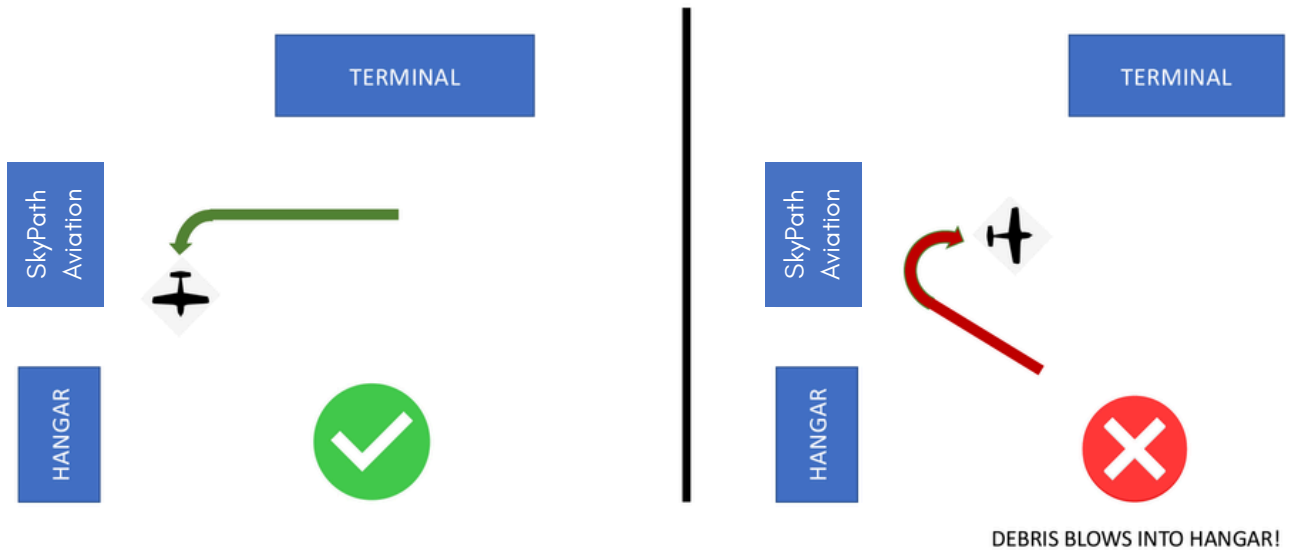
Turning Left: "Clear Right, Clear Left, Turning Left"

Turning Right: "Clear Left, Clear Right, Turning Right"

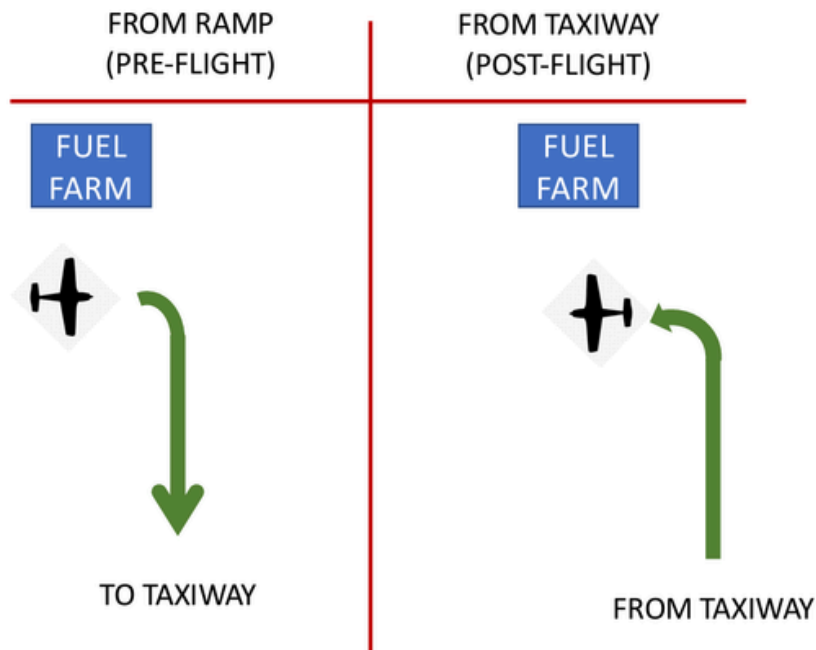
Proceeding: "Clear Left, Clear Right, Proceeding Straight Ahead"

Recommended Ramp Procedures

RECOMMENDED TAXI ROUTE TO PARK



REFUELING AT FUEL FARM



VI. TAXI PROCEDURES

Taxi Guidelines

- When taxiing around a ramp, be aware of movement of other aircraft as well as any guests that might be seated outside of the main terminal at the picnic tables.
- The centerlines on the airport surface provide protection from wingtip strikes, use them.
- Use the correct aileron placement on windy days!
- You haven't been hired by Southwest Airlines just yet, so try to taxi at a reasonable speed.
- When taxiing for departure, the environment around the airport can provide great insight into what the weather and winds are doing.
- If you have to look inside the aircraft for an extended period of time, stop the airplane. Never taxi when your attention is diverted inside.
- Always verbally clear intersections and runways, even if you're talking to yourself.

Resource: SkyPath Aviation

DEPARTURE PROCEDURES



VII. DEPARTURE PROCEDURES

Takeoff Brief

After completing runup checklist:

"We will be departing runway _____ and doing a (normal, short, soft field) takeoff. We will rotate at ____ knots, climb out at ____ knots. Our takeoff roll is expected to be _____ feet.

If there are any abnormalities prior to rotation, we will reduce power and stop on the runway.

If there are any abnormalities after rotation, less than 1000ft AGL, we will attempt to land straight ahead or slightly left or right of runway heading.

If there are any abnormalities above 1000ft agl, we will assess and determine best course of action.

NOTE: Greater than 1000ft AGL Course of Action

Depending upon the abnormality, the best course of action will depend upon the severity of the situation. Options may include returning immediately to land on any available runway, flying the pattern, etc....

VII. DEPARTURE PROCEDURES

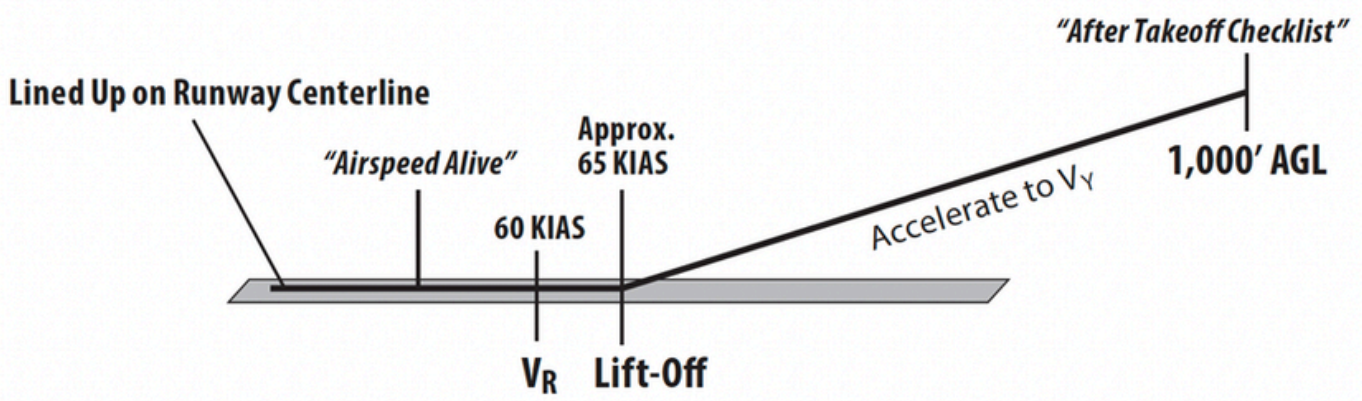
Normal Takeoff (Flaps 0°)

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with normal takeoff, climb operations, and rejected takeoff procedures.

Procedures:

1. Scan Runway, Arrival, Departure and Pattern for Traffic
2. Taxi onto runway and line up on centerline
3. Ensure aileron's are positioned for wind correction, if applicable.
4. Hold Brakes
5. Increase Throttle to 2000 RPM
6. Check Engine Instruments ... "Three in the Green"
7. Release Brakes
8. Increase throttle to Full Power
9. Verify Airspeed Indicator ... "Airspeed Alive"
10. Begin slow rotation between 60–65 KIAS
11. Pitch to V_y and accelerate to 78 KIAS (V_y)

Normal Takeoff Profile



FAA References

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM

VII. DEPARTURE PROCEDURES

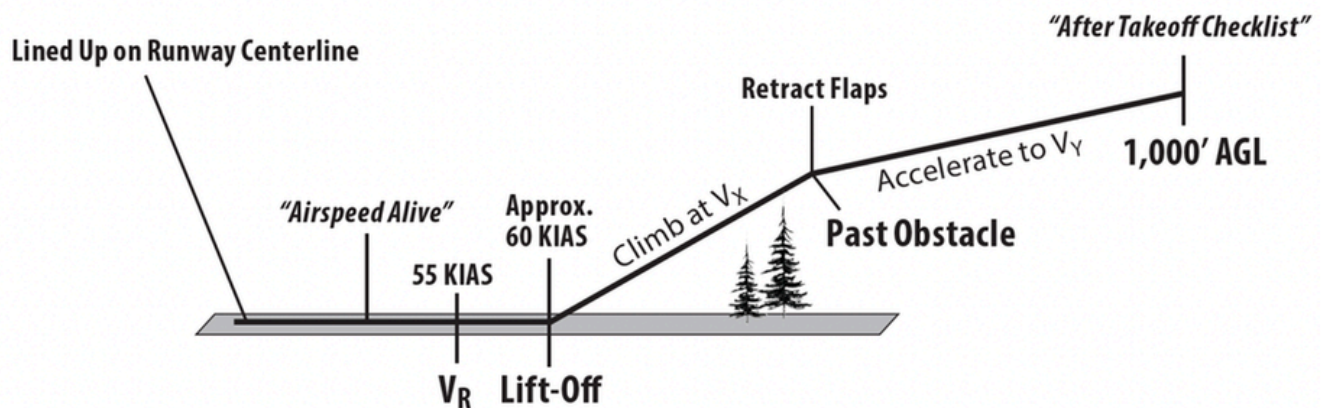
Short Field Takeoff (Flaps 25°)

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with short-field takeoff, maximum performance climb operations, and rejected takeoff procedures.

Procedures:

1. Set Flaps 25°
2. Scan Runway, Arrival, Departure and Pattern for Traffic
3. Using all available runway, taxi onto runway and line up on centerline
4. Ensure aileron's are positioned for wind correction, if applicable.
5. Hold Brakes
6. Increase Throttle to 2000 RPM
7. Check Engine Instruments ... "Three in the Green"
8. Increase to Full Throttle, Verify RPM / Max Power
9. Release Brakes
10. Verify Airspeed Indicator ... "Airspeed Alive"
11. Begin slow rotation between 50-55 KIAS
12. Pitch to V_x and accelerate to 65 KIAS (V_x)
13. Once clear 50' obstacle, reduce flaps to 10°
14. Decrease pitch and accelerate to V_y - 78 KIAS.
15. Reduce flaps to 0°

Short Field Takeoff Profile



FAA References

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

VII. DEPARTURE PROCEDURES

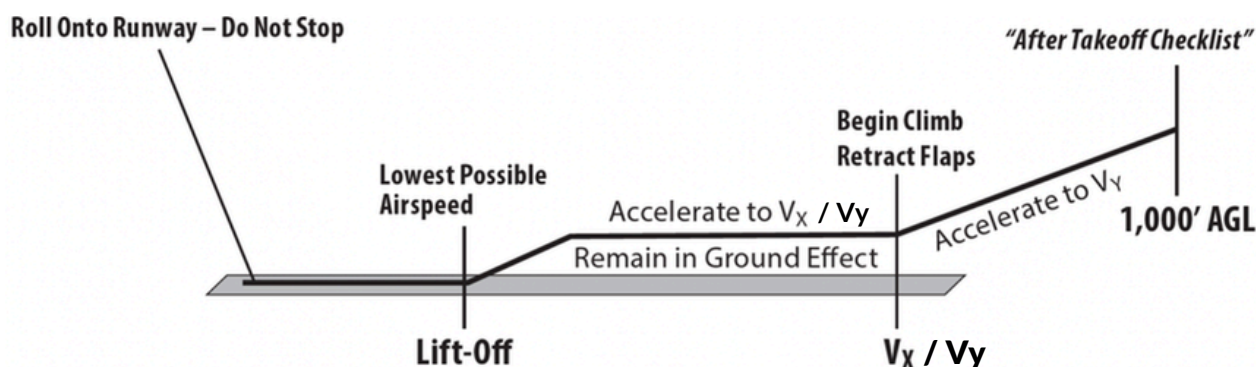
Soft Field Takeoff (Flaps 25°)

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with soft-field takeoff, climb operations, and rejected takeoff procedures.

Procedures:

1. Set Flaps 25°
2. Scan Runway, Arrival, Departure and Pattern for Traffic
3. Roll onto runway with minimal braking, do not stop.
4. Ensure Yoke is in full aft position.
5. Ensure aileron's are positioned for wind correction, if applicable.
6. Slowly begin to add power. As you reach about 50% power begin to reduce back pressure on the yoke while continuing to full power.
7. Check Engine Instruments ... "Three in the Green"
8. Verify Airspeed Indicator ... "Airspeed Alive"
9. With back pressure reduced to avoid a tail strike, establish and maintain a pitch attitude that will transfer the weight of the airplane from the wheels to the wings as rapidly as practical.
10. Lift off at lowest practical airspeed, then lower the nose to level off while remaining in ground effect.
11. While in ground effect, accelerate to V_x or V_y as appropriate.
12. At a safe altitude, reduce flaps incrementally.

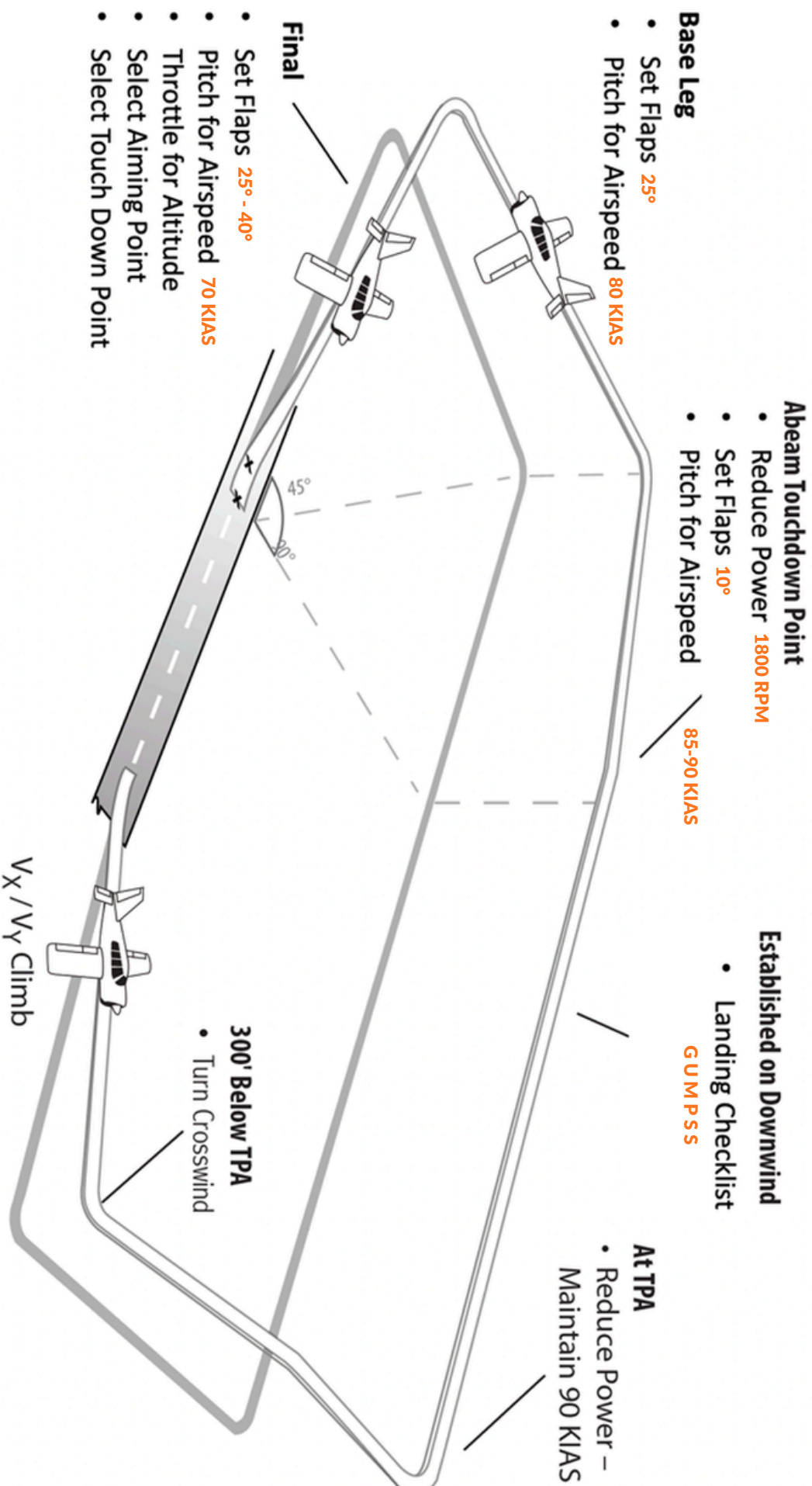
Soft Field Takeoff Profile



FAA References

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Traffic Pattern



PERFORMANCE MANEUVERS



Three C's Prior to Beginning any Maneuver



Clear the Area

Prior to beginning any maneuver, ensure that you have taken the time to clear the airspace in the vicinity of the aircraft.



Configure the Aircraft

Configure the aircraft according to the maneuver requirements in either a clean or landing configuration.

Clean Configuration Flow

1. Fuel Selector - Managed
2. Mixture - Full Rich
3. Electric Fuel Pump - On
4. Landing Light - On
5. Flaps 0°

Landing Configuration Flow

1. Fuel Selector - Managed
2. Mixture - Full Rich
3. Electric Fuel Pump - On
4. Landing Light - On
5. Flaps 40°



Communicate

Give a brief description of the maneuver and performance standards.

Steep Turns

Steep turns consist of two coordinated 360° turns, one in each direction, using a bank angle of 45°. They develop the pilot's skill in smooth and coordinated use of the flight controls, awareness of the airplane's orientation relative to outside references, and division of attention. Complete steep turns no lower than 1,500' AGL. Use a similar roll rate when rolling into and out of both turns.

Procedures:

- 1. Perform Clearing Turns
- 2. Configure Aircraft: Clean Configuration
- 3. 90 KIAS (approx. 2300 RPM), maintain altitude
- 4. Roll in bank and add approx. 1-200 RPM
- 5. Perform a 360° turn with 45° (PVT) or 50° (COM) of bank
- 6. Maintain Altitude and Airspeed
- 7. Roll out ½ bank angle prior to entry heading
- 8. Look for traffic, then perform a 360° turn in the opposite direction
- 9. Maintain Altitude and Airspeed
- 10. Roll out ½ bank angle prior to entry heading
- 11. Return to specified heading, altitude, and airspeed
- 12. Complete Cruise Checklist

	Airspeed	Altitude	Bank	Heading
	±10 KIAS	±100'	45° ±5° (PVT) 50° ±5° (COM)	±10°

FAA References

FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Slow Flight

Maneuvering during slow flight consists of flight (straight-and-level, climbs, turns, and descents) at an angle of attack just below that which will cause an aerodynamic buffet or stall warning. It teaches the pilot to understand the airplane's flight characteristics and flight control feel at high AOA and low airspeed. Complete the slow flight maneuver no lower than 1,500' AGL. During slow flight, establish and maintain an airspeed at which any further increase in angle of attack, increase in load factor, or reduction in power would result in a stall warning (e.g., airplane buffet, stall horn, etc.).

Procedures:

- 1. Perform Clearing Turns
- 2. Set Power to 1500 RPM while maintaining altitude
- 3. Configure Aircraft: Landing Configuration
- 4. Slow to just above stall warning activation (approximately 55-60 KIAS).
- 5. Power as required to maintain airspeed and altitude
- 6. Accomplish level flight, climbs, turns, and descents as required without activating a stall warning (Max 30° bank)
- 7. Maintain Altitude and Heading
- 8. Recover by moving to Full Throttle, reduce Flaps to 25°
- 9. At Vx, reduce flaps to 10°
- 10. At Vy, reduce flaps to 0°
- 11. Return to specified heading, altitude, and airspeed
- 12. Complete Cruise Checklist

	Airspeed	Altitude	Bank	Heading
 ACS	+10/-0 KIAS (PVT)	±100' (PVT)	±10° (PVT)	±10°
	+5/-0 KIAS (COM)	±50' (COM)	±5° (COM)	

FAA References

FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Power Off Stall

The power-off stall consists of a stall from a stabilized descent in the landing configuration with the throttle at idle, simulating a stall during an approach to landing. It develops the pilot's ability to recognize and recover from an inadvertent stall in this phase of flight. Begin the poweroff stall at an altitude that allows stall recovery to be completed no lower than 1,500' AGL.

Procedures:

- 1. Perform Clearing Turns
- 2. Set Power to 1500 RPM while maintaining altitude
- 3. Configure Aircraft: Landing Configuration
- 4. Initiate a stabilized descent at 65 KIAS
- 5. Slowly bring throttle to idle
- 6. Wings level or up to 20° bank as assigned
- 7. Raise nose to an attitude that induces a stall, and acknowledge cues of the impending stall
- 8. At full stall recover by reducing AOA, level wings, apply full throttle
- 9. Reversal of trend (VSI), reduce flaps to 25°
- 10. At Vx, reduce flaps to 10°
- 11. At Vy, reduce flaps to 0°
- 12. Return to specified heading, altitude, and airspeed
- 13. Complete Cruise Checklist

	Bank	Heading
	±10° (PVT)	±10°
	±5° (COM)	
	Not to exceed 20°	

FAA References

AC 61-67; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

Power On Stall

The power-on stall consists of a stall from a climb in the takeoff configuration with the throttle at full power, simulating a stall during a departure climb or go-around. It develops the pilot's ability to recognize and recover from an inadvertent stall in this phase of flight. Begin the power-on stall at an altitude that allows stall recovery to be completed no lower than 1,500' AGL.

Procedures:

- 1. Perform Clearing Turns
- 2. Set Power to 1500 RPM while maintaining altitude
- 3. Configure Aircraft: Clean Configuration
- 4. Slow aircraft to Vr (60 KIAS)
- 5. At 60 KIAS, increase pitch (slowly) and apply full power.
- 6. Slowly increase pitch to induce stall, and acknowledge cues of the impending stall
- 7. At full stall recover by reducing AOA, level wings
- 8. Reversal of trend (VSI), reduce flaps to 25°
- 9. Return to specified heading, altitude, and airspeed
- 10. Complete Cruise Checklist

	Bank	Heading
	±10° (PVT)	±10°
	±5° (COM)	
	Not to exceed 20°	

FAA References

AC 61-67; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

VIII. PERFORMANCE MANEUVERS



Basic Instrument Maneuvers

Coming Soon!

FAA References

Coming Soon!

GROUND REFERENCE MANEUVERS



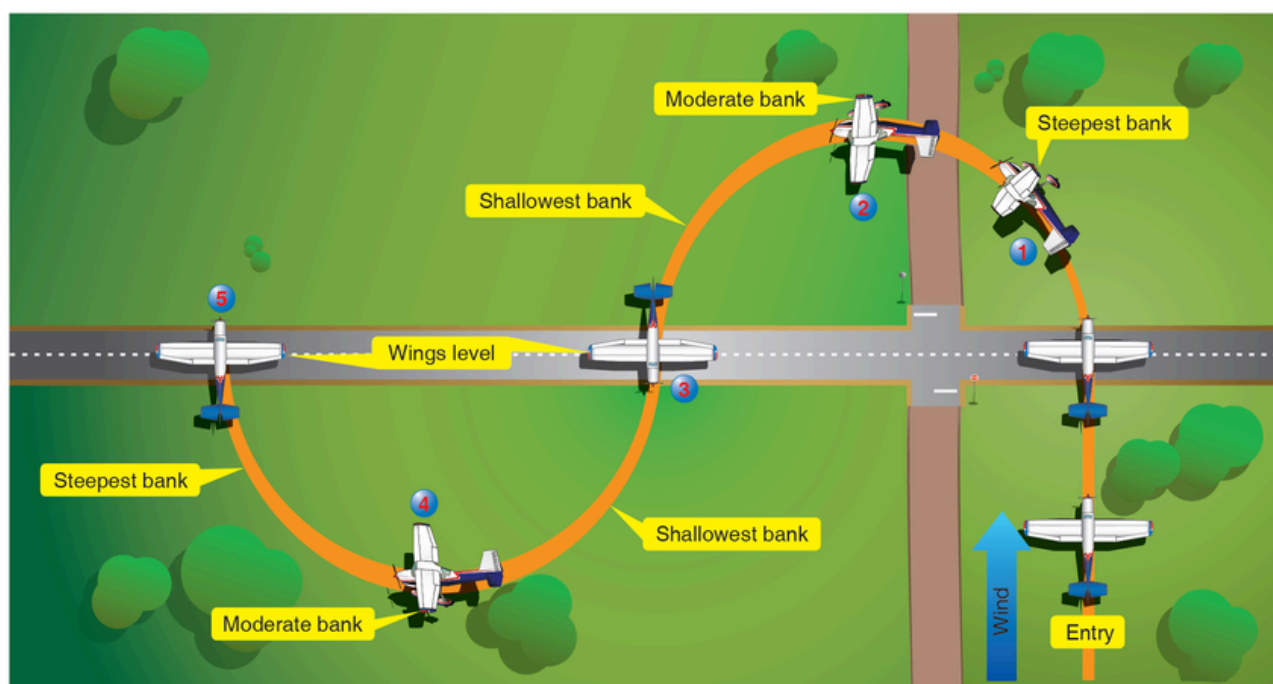
IX. GROUND REFERENCE MANEUVERS

S-Turns

S-turns consist of two half-circle turns, one in each direction, on either side of a straight-line ground reference. It develops the pilot's ability to apply winddrift correction to fly constant-radius turns. The maneuver also trains the pilot to correctly divide their attention between flightpath, ground references, control inputs, outside hazards, and instrument indications. S-turns are flown at an altitude between 600' AGL and 1,000' AGL.

Procedures:

1. Perform Clearing Turns
2. Configure Aircraft: Clean Configuration
3. Select a suitable ground-based reference line, maintain V_a
4. Enter on the downwind
5. Adjust bank angle throughout the turn to fly a constant radius turn
6. Maintain altitude and airspeed
7. Wings level crossing over reference line
8. Repeat in opposite direction
9. Recover once across the reference line again
10. Return to specified heading, altitude, and airspeed
11. Complete Cruise Checklist



FAA References

4 CFR part 61; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

IX. GROUND REFERENCE MANEUVERS

Rectangular Course

The rectangular course consists of a pattern around a rectangular ground reference that maintains an equal distance from all sides of the reference. It develops the pilot's ability to maintain a specified ground track by applying wind drift correction in straight and turning flight. The maneuver also trains the pilot to correctly divide their attention between flightpath, ground references, control inputs, outside hazards, and instrument indications. Additionally, it prepares the pilot to fly accurate airport traffic patterns. Fly the rectangular course at an altitude between 600' AGL and 1,000' AGL.

Procedures:

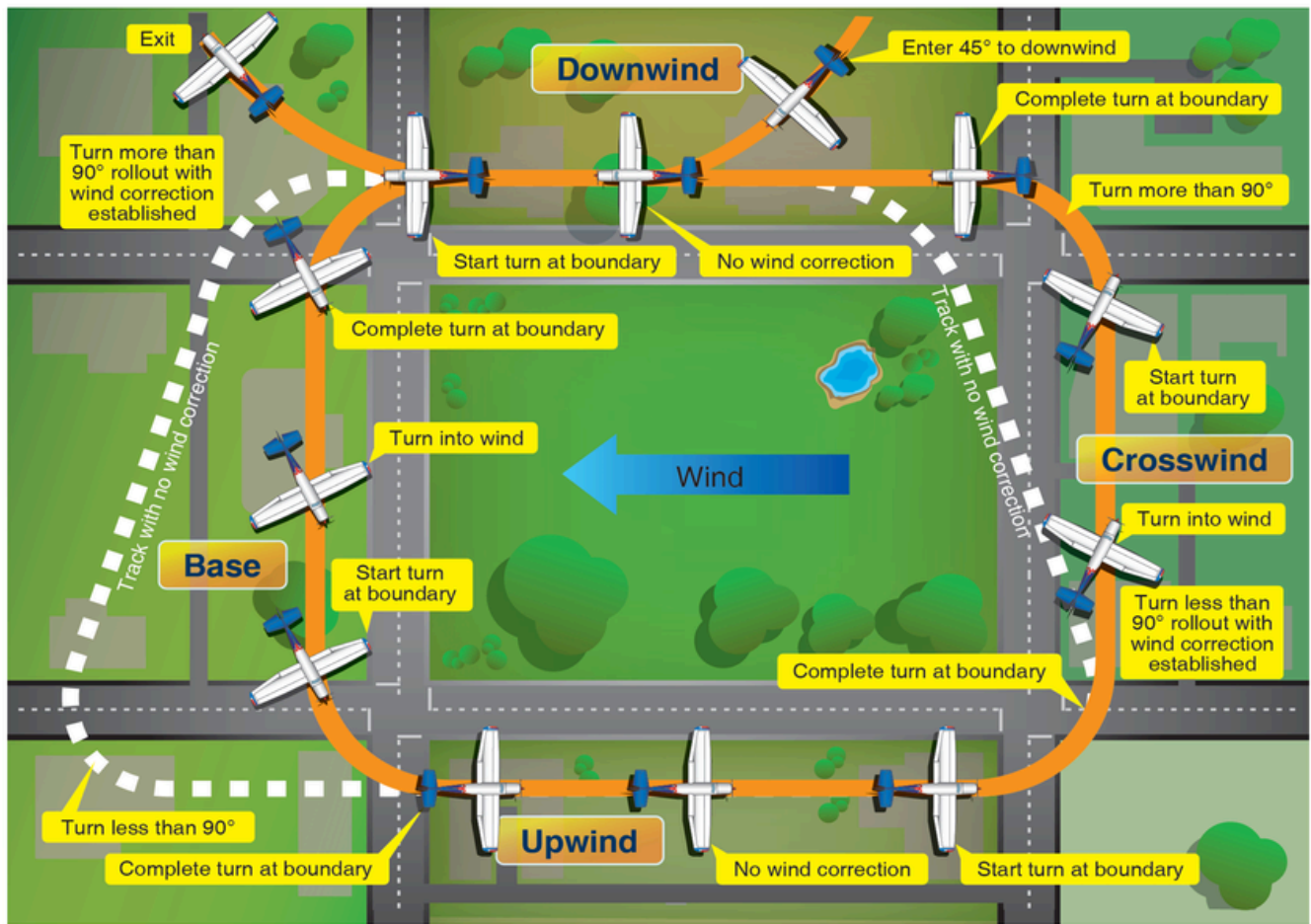
1. Perform Clearing Turns
2. Configure Aircraft: Clean Configuration
3. Select a suitable ground reference area, maintain V_a
4. Enter at a 45° angle to the downwind leg (right or left traffic)
5. Apply adequate wind-drift correction during straight and turning flight to maintain a constant ground track around a rectangular pattern.
Remain $1/2$ to $3/4$ of a mile from reference area.
6. Maintain altitude and airspeed
7. Recover when re-established on downwind
8. Return to specified heading, altitude, and airspeed
9. Complete Cruise Checklist

FAA References

14 CFR part 61; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

IX. GROUND REFERENCE MANEUVERS

Rectangular Course



FAA References

14 CFR part 61; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

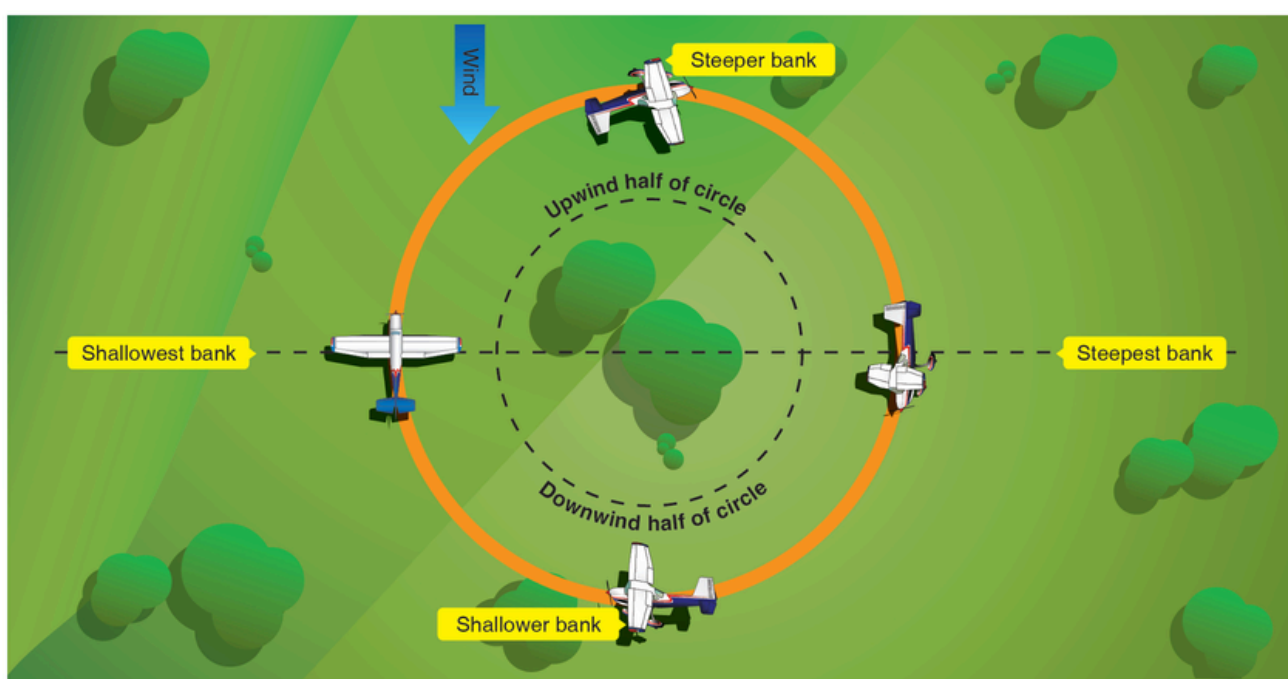
IX. GROUND REFERENCE MANEUVERS

Turns Around A Point

Turns around a point consists of a 360° constant radius turn around a ground-based reference point. It develops the pilot's ability to apply winddrift correction to fly a constant-radius turn, with the wind direction changing throughout the maneuver. The maneuver also trains the pilot to correctly divide their attention between flightpath, ground references, control inputs, outside hazards, and instrument indications. Turns around a point are flown at an altitude between 600' AGL and 1,000' AGL.

Procedures:

1. Perform Clearing Turns
2. Configure Aircraft: Clean Configuration
3. Select a suitable ground reference area, maintain V_a
4. Enter on the downwind
5. Adjust bank angle to maintain a constant radius turn around point
6. Maintain altitude and airspeed
7. Recover when 360° turn complete and established on downwind
8. Return to specified heading, altitude, and airspeed
9. Complete Cruise Checklist



FAA References

4 CFR part 61; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25

EMERGENCY PROCEDURES



X. EMERGENCY PROCEDURES

Emergency Descent

The emergency descent consists of a high-drag, high-air-speed, idlepower descent. It teaches the pilot how to descend rapidly and safely in emergency situations requiring an immediate landing. Pilots must maintain situational awareness, appropriate division of attention, and positive load factors throughout the descent.

Procedures:

1. Perform Clearing Turns
2. Configure Aircraft: Clean Configuration
3. Reduce throttle to idle
4. Initiate turning descent (bank angle 30°–45°), while clearing for traffic
5. Maintain 120 KIAS (actual emergencies may require acceleration to VNO or VNE, as appropriate)
6. Notify ATC/Traffic as appropriate
7. Return to specified heading, altitude, and airspeed



NOTE: Emergency descents are often performed in response to a specific emergency (actual or simulated), such as smoke/fire, acute passenger illness, etc. In addition to the maneuver, be sure to complete the appropriate checklist for the emergency situation.

FAA References

FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

X. EMERGENCY PROCEDURES



Unusual Attitudes

Coming Soon!

FAA References

Coming Soon!

ARRIVAL PROCEDURES



Good Planning provides the opportunity for a **Good Landing**

A good landing is a result of good planning, so brief each landing carefully.

When planning an approach and landing, decide on the type of approach and landing (visual or instrument, short-field, soft-field, etc.). Decide on the flap setting, the final approach speed, the aiming point, and where the airplane will touch down on the runway surface. Then, work towards achieving those criteria!

XI. ARRIVAL PROCEDURES

Concept of Stabilized Approach

At 300' AGL, begin a check that all stabilized approach conditions are met; if any condition is not met, go around at or before 200' AGL.

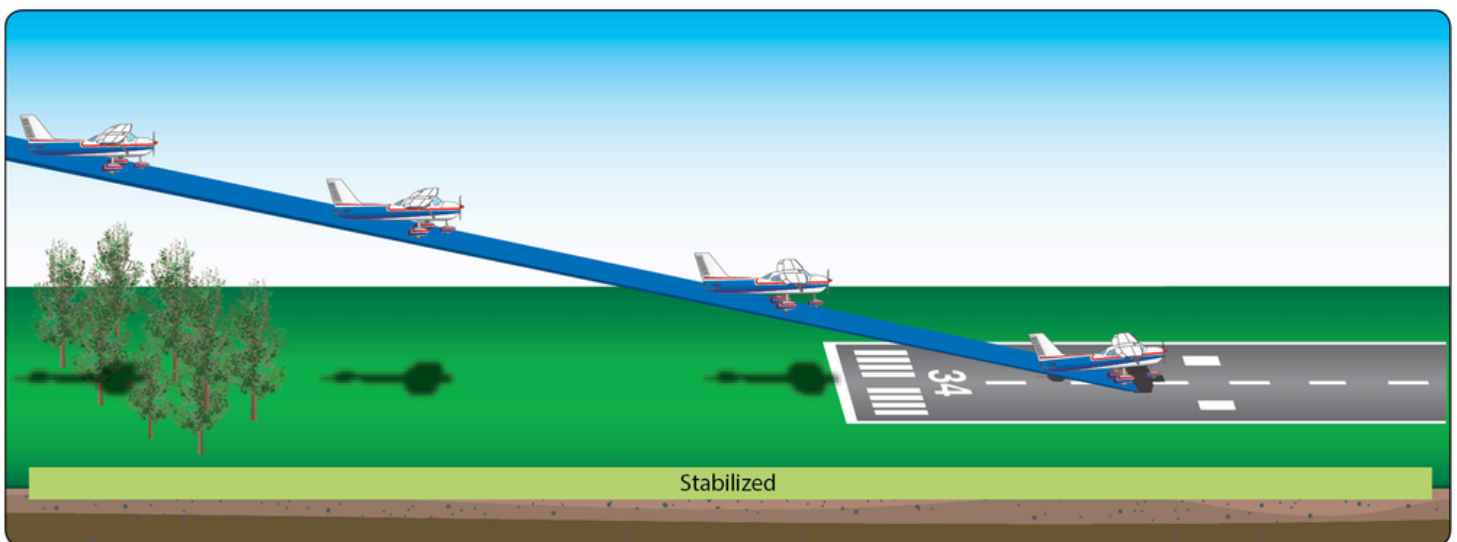
Do not wait until this point to declare an approach is not stable, a go-around can begin at any point during the landing phase.

Stabilized Approach Concept

A stabilized approach is one in which the pilot establishes and maintains a constant-angle glide path towards a predetermined point on the landing runway. It is based on the pilot's judgment of certain visual clues and depends on maintaining a constant final descent airspeed and configuration.

Piper Warrior – General Conditions for Stabilized Approach

- In Landing Configuration (Flaps & Trim Set)
- Appropriate Angle & Rate of Descent
- Engine RPM's are steady
- Airspeed stable (within 10KIAS of target)
- Touchdown within first 1/3 of runway expected



FAA References

Airplane Flying Handbook: Chapter 9 Approaches & Landings

XI. ARRIVAL PROCEDURES

Flap Settings

Students must be able to determine the best flap configuration and approach speed given the landing conditions. The Warrior POH states that:

"the amount of flap used during landings and the speed of the aircraft at contact with the runway should be varied according to the landing surface and conditions of wind and airplane loading. It is generally good practice to contact the ground at the minimum possible safe speed consistent with existing conditions. Normally, the best technique for short and slow landings is to use full flap... In high wind conditions, particularly in strong crosswinds, it may be desirable to approach the ground at higher than normal speeds with partial or no flaps."

Gust Factor

Slightly higher approach speeds should be used under turbulent or gusty wind conditions. Add $\frac{1}{2}$ the gust factor to the normal approach speed.

For example, if the wind is reported 8 gusting to 18 knots, the gust factor is 10 knots. Add $\frac{1}{2}$ the gust factor, 5 knots, in this example, to the approach speed.

Go Around

A go-around procedure must be initiated any time the conditions for a safe approach and landing are not met. Some examples of unsatisfactory approach and landing conditions are:

- Unstable approach path or airspeed.
- Improper runway alignment.
- Unexpected hazards on the runway or on final.
- Excessive floating past the touchdown point.
- Ballooning or bouncing.

Anything that jeopardizes a safe approach and landing. Any time unsafe or unsatisfactory conditions are encountered, a goaround must be immediately executed and another approach and landing should be made under more favorable conditions.

Landing Check (“G.U.M.P.S.S.”)



- Fuel Selector (“Gas”) set to the fullest tank.



- Landing Gear Down (“Undercarriage”)



- Mixture – Set Full Rich



- Propellor – Set High RPM (Constant Speed Props)



- Electric Fuel Pump – On
 - Landing Light – On
- (“Switches”)



- Seatbelts – On & Fastened

Approach Briefing

During the Approach Checklist, conduct an approach briefing. This organizes the plan and ensures effective communication between pilots. The briefing should be specific to each approach and landing, and be presented in a standard format that makes sense to other pilots and instructors.

Key Elements

- Type of Landing
- Runway
- Field Elevation
- Pattern Altitude
- Wind Direction & Speed
- Touchdown Point
- Go-Around Plan

Sounds something like this:

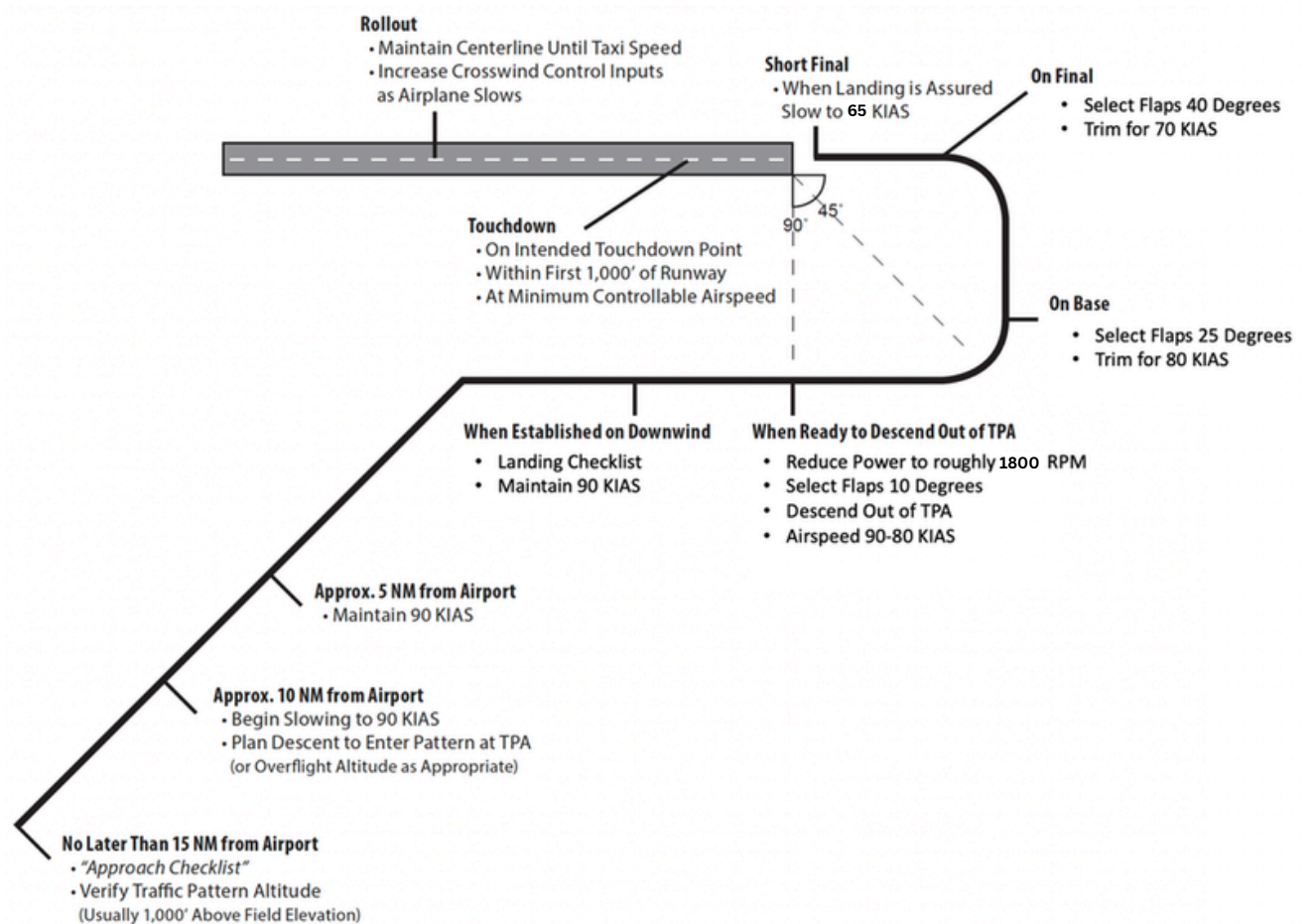
"This will be a normal flaps 25° landing on Runway 29. Field elevation 1420 feet, pattern altitude 2,400 feet. Winds are 235 at 7, slight left crosswind. Final approach speed 70 knots. If the approach becomes unstable, we'll go around and expect left traffic. Touching down on the 1,000' markings. "

This solidifies the plan between the student and instructor while visually identifying the touchdown point.



TIP: Do not allow briefing the approach to distract you from ATC calls and traffic reports. Pilots must maintain situational awareness of the position of all traffic in the pattern.

Full Normal Approach & Landing Profile



Getting ATIS, briefing the approach, and the Approach Checklist should be completed in advance of entering the traffic pattern at the destination airport. Accomplishing these tasks as early as possible creates more time to focus on aircraft control and collision avoidance in the busy airport environment. During training flights when maneuvering near an airport, get ATIS, brief, and complete the Approach Checklist as soon as the decision is made to return to the airport.

XI. ARRIVAL PROCEDURES

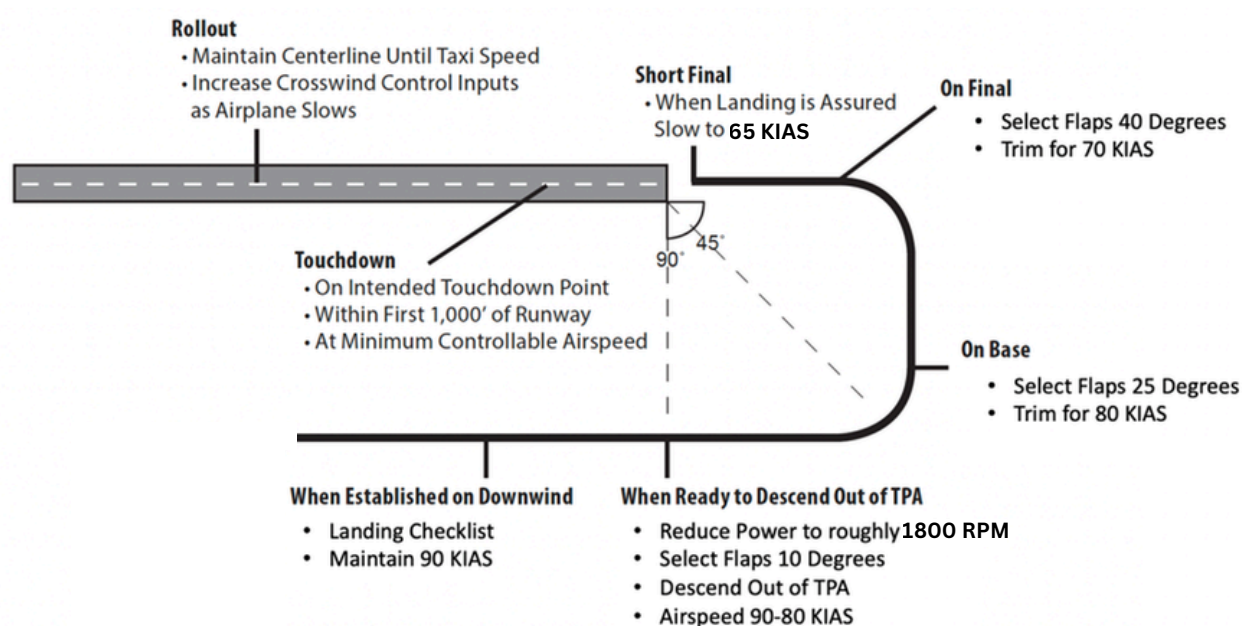
Normal Approach & Landing

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with normal approach and landing with emphasis on proper use and coordination of flight controls.

Procedures:

1. Complete the 'Approach Briefing' before entering the traffic pattern.
2. Slow to 90 KIAS prior to entering downwind
3. Enter Traffic Pattern at published TPA (typically 1,000 AGL)
4. When established, complete the 'Landing Checklist'
5. When abeam touchdown point, reduce power (approx. 1800 RPM) and set flaps 10°.
6. Descend out of TPA at approximately 85-90 KIAS and 500 FPM.
7. Base leg, set flaps 25°, slow to and trim for 80 KIAS.
8. On Final, set flaps 40°, slow to and trim for 70 KIAS.
9. Maintain 70 KIAS until landing is assured, then slow to 65 KIAS until the roundout.
10. Touch down at a proper pitch attitude, within 400 feet beyond or on the specified point, with no side drift, and with the airplane's longitudinal axis aligned with and over the runway center line.

Normal Approach Profile



FAA References

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-23, FAA-H-8083-25; POH/AFM

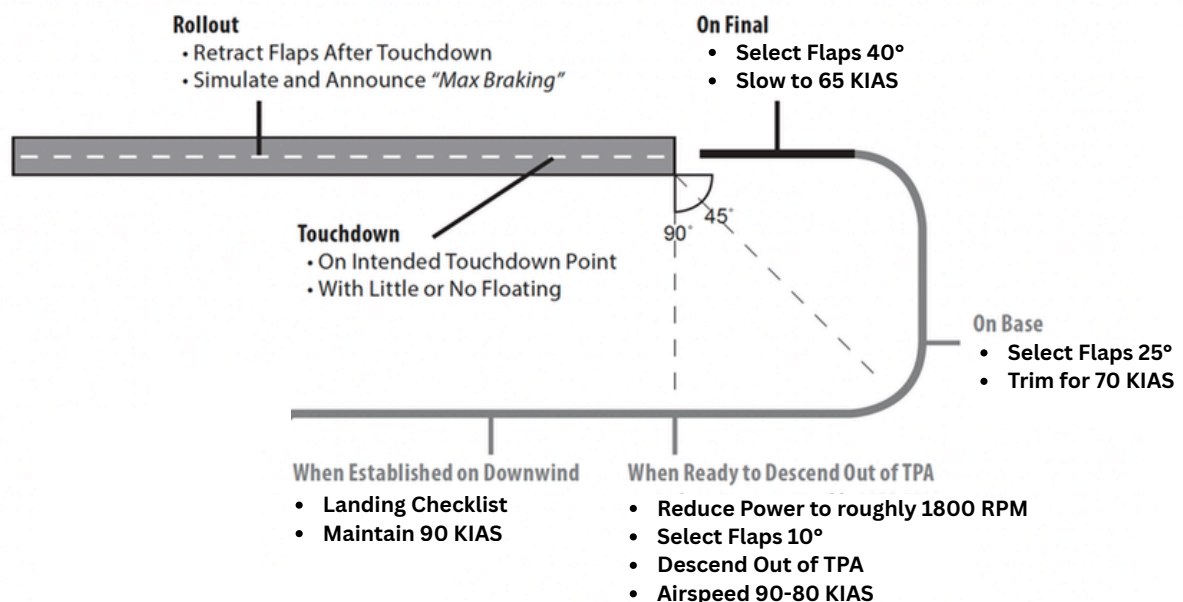
Short Field Approach & Landing

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with short-field approach and landing with emphasis on proper use and coordination of flight controls.

Procedures:

1. Complete the 'Approach Briefing' before entering the traffic pattern.
2. Slow to 90 KIAS prior to entering downwind
3. Enter Traffic Pattern at published TPA (typically 1,000 AGL)
4. When established, complete the 'Landing Checklist'
5. When abeam touchdown point, reduce power (approx. 1800 RPM) and set flaps 10°.
6. Descend out of TPA at approximately 85-90 KIAS and 500 FPM.
7. Base leg, set flaps 25°, slow to and trim for 70 KIAS.
8. On Final, set flaps 40°, slow to and trim for 65 KIAS.
9. Close throttle slowly during flare, touch down on intended touchdown point with little or no floating.
10. Prevent nosewheel from slamming onto the runway.
11. Retract the flaps immediately after touchdown.
12. Simulate and announce "Heavy Braking" for training and checkride purposes

Short Field Approach Profile



FAA Referen

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

XI. ARRIVAL PROCEDURES

Soft Field Approach & Landing

To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with soft-field approach and landing with emphasis on proper use and coordination of flight controls.

Procedures:

1. Complete the 'Approach Briefing' before entering the traffic pattern.
2. Slow to 90 KIAS prior to entering downwind
3. Enter Traffic Pattern at published TPA (typically 1,000 AGL)
4. When established, complete the 'Landing Checklist'
5. When abeam touchdown point, reduce power (approx. 1800 RPM) and set flaps 10°.
6. Descend out of TPA at approximately 85-90 KIAS and 500 FPM.
7. Base leg, set flaps 25°, slow to and trim for 80 KIAS.
8. On Final, set flaps 40°, slow to and trim for 70 KIAS.
9. Maintain 70 KIAS until landing is assured, then slow to 65 KIAS until the roundout.
10. Upon roundout, slowly close the throttle while maintaining a few feet above the runway surface in ground effect.
11. Smoothly let the airplane settle from ground effect and touch down at minimum controllable airspeed (typically with the stall horn on). This allows for a slow transfer of weight from the wings to the main landing gear.
12. Maintain enough back pressure to keep the nose wheel slightly off the runway. (Excessive back pressure will result in an excessively nose-high attitude, which will cause a tail strike. The objective is to keep the weight off the nose wheel while slowing down.)
13. Continue to increase back pressure through the rollout while applying minimal braking.

FAA References

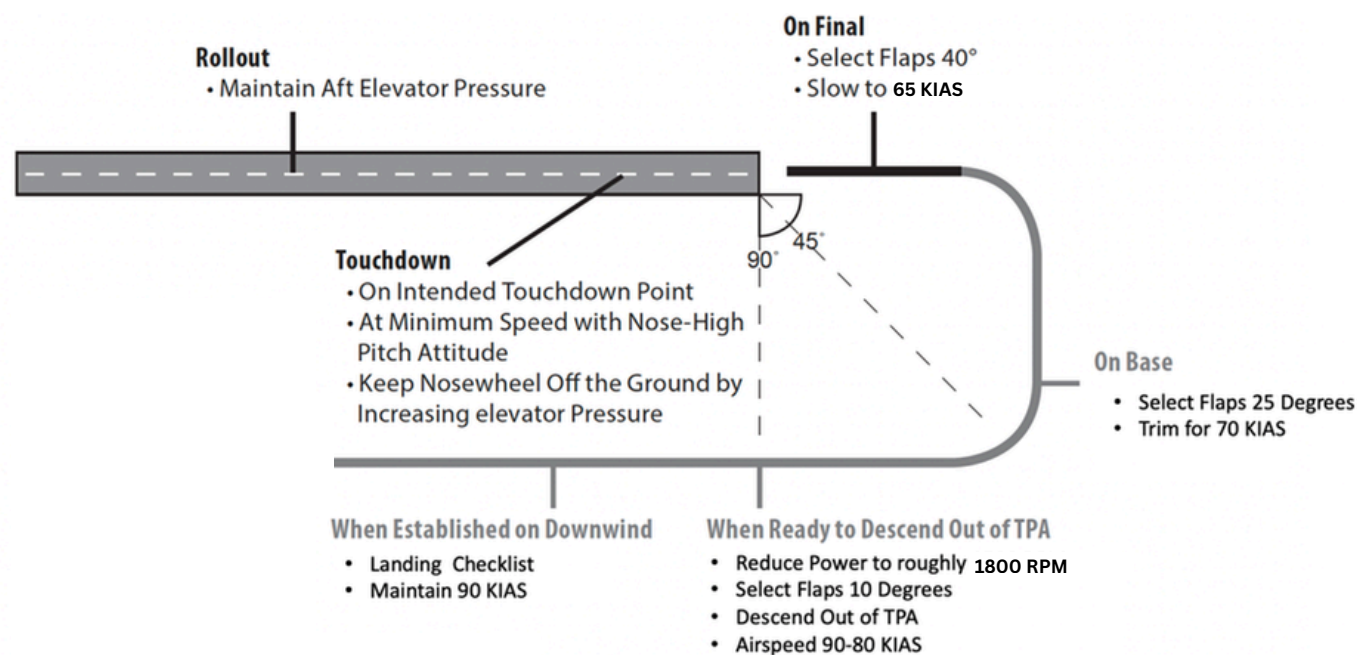
AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

XI. ARRIVAL PROCEDURES

Soft Field Approach & Landing

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Soft Field Approach Profile



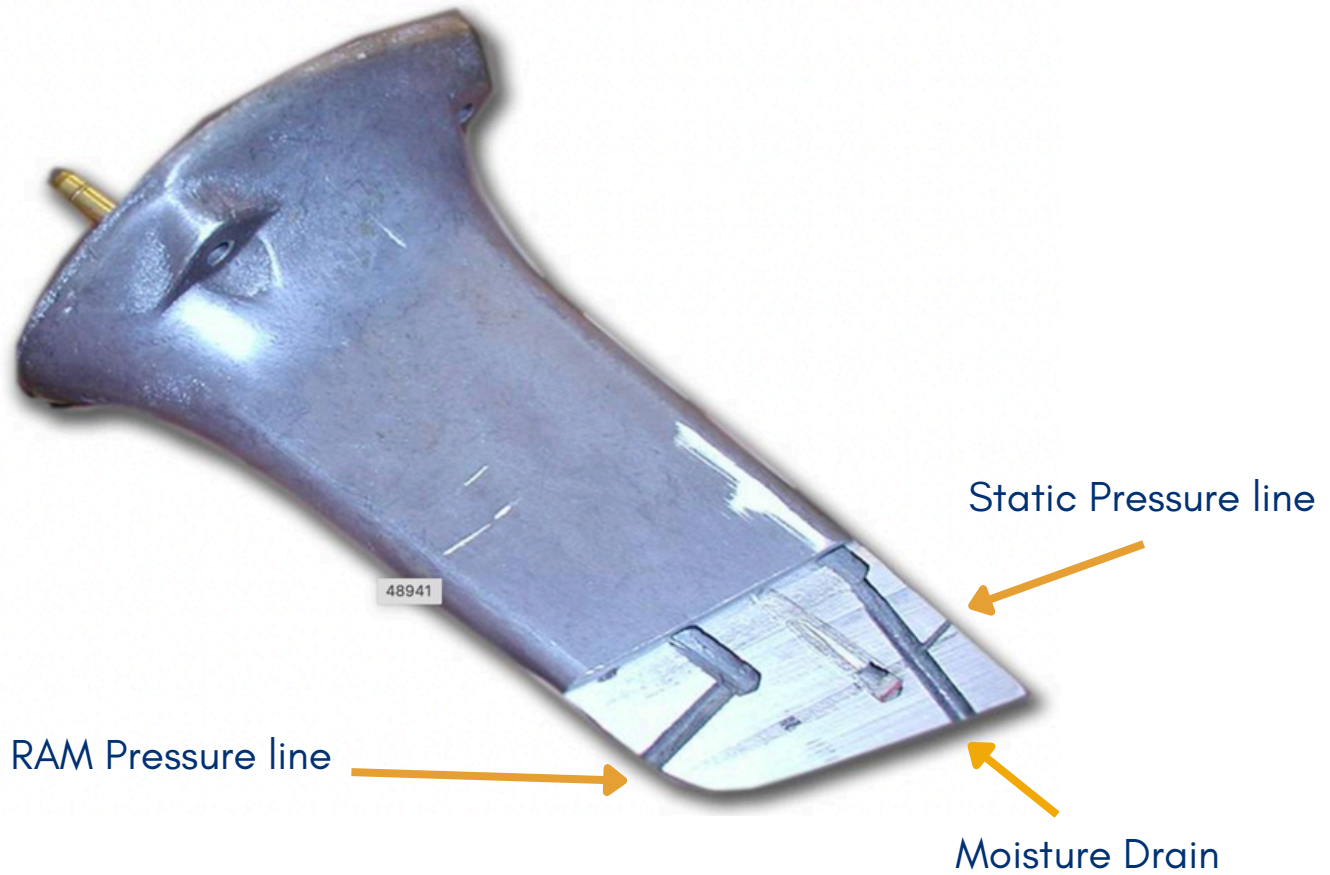
FAA References

AIM; FAA-H-8083-2, FAA-H-8083-3, FAA-H-8083-25; POH/AFM

GOOD STUFF TO KNOW



Pitot Static Tube



Electric Fuel Pump



Gascolator + Fuel Sump



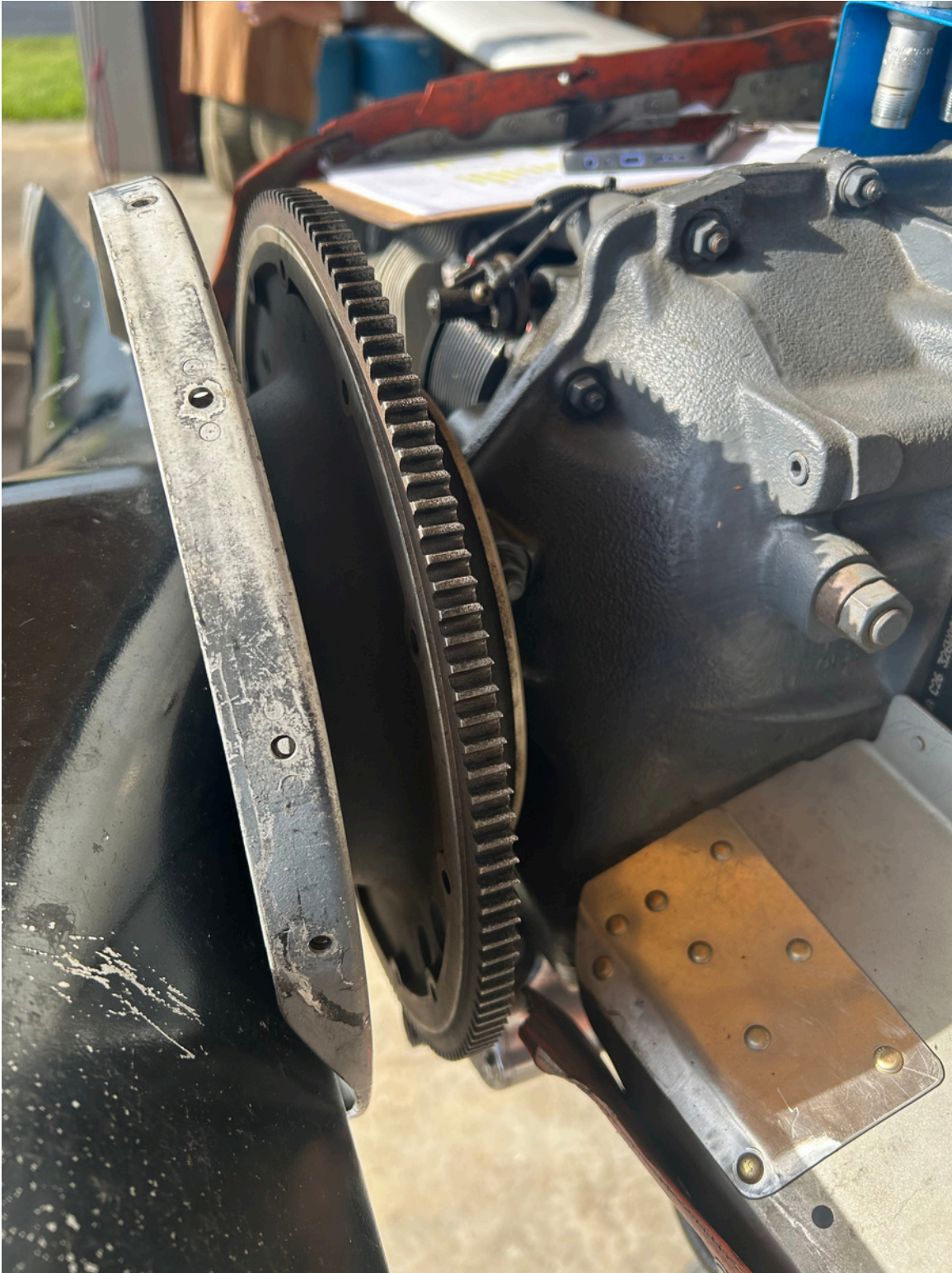
Carb Heat Shroud + Exhaust Pipes



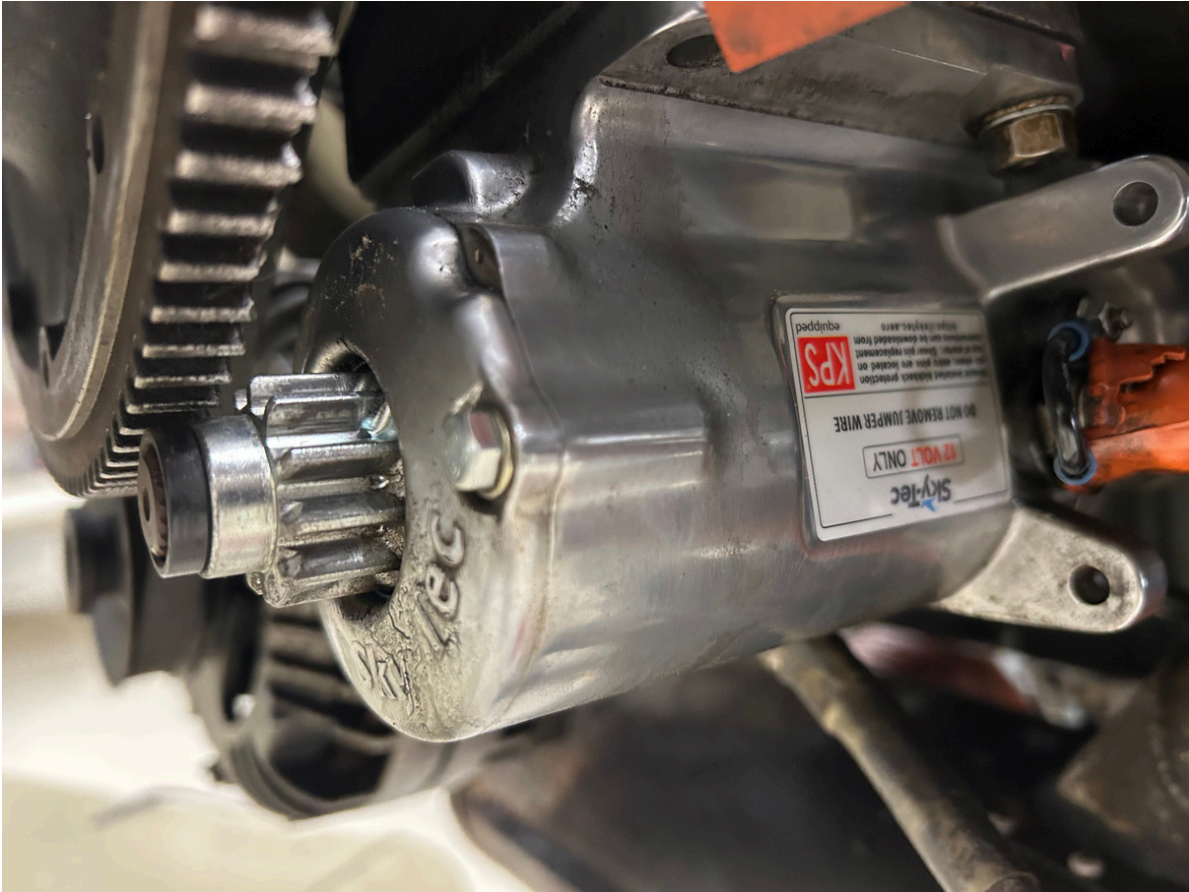
Alternator + Alternator Belt



Flywheel + Rear Bulkhead



Starter



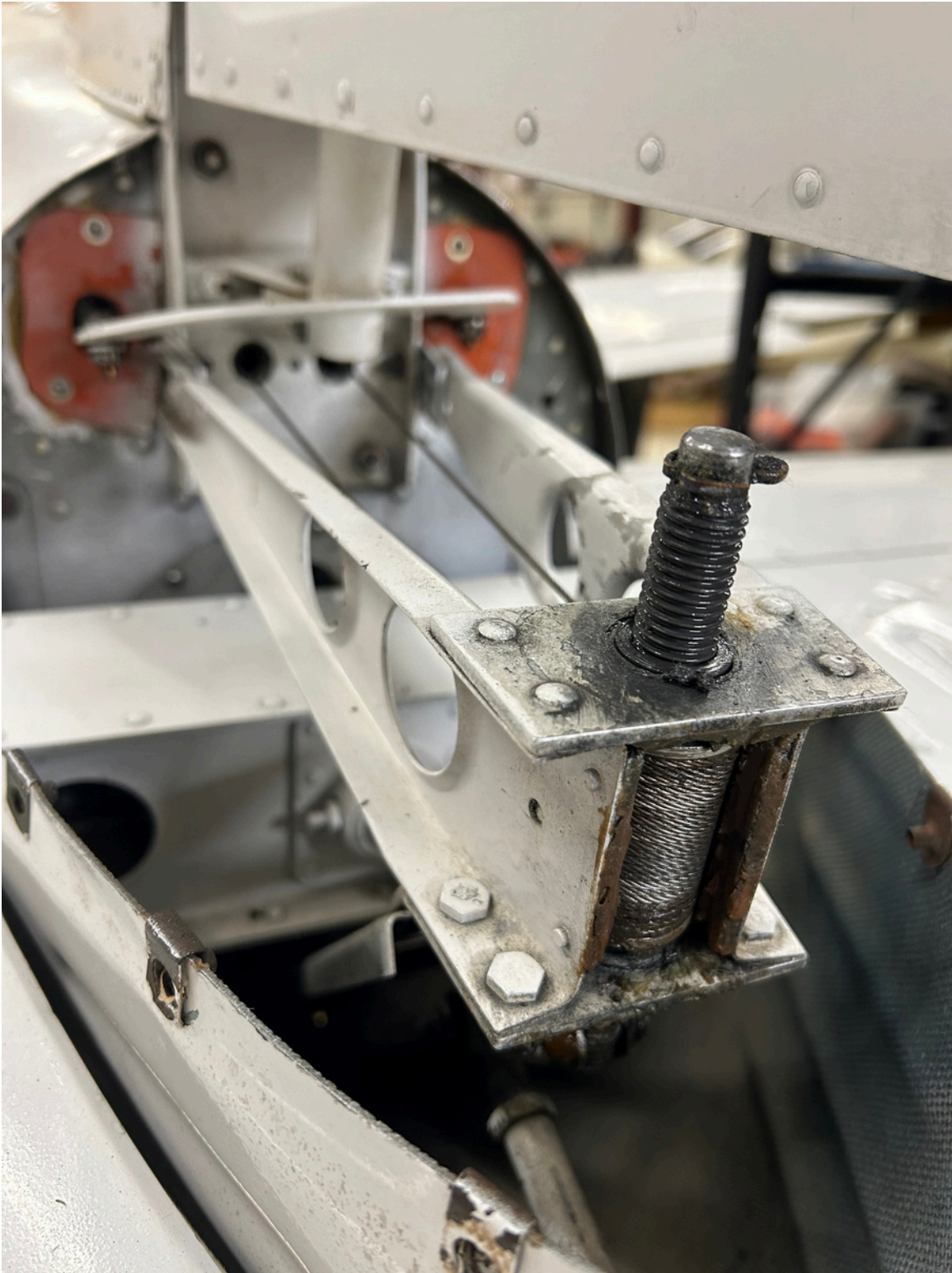
Lycoming Engine Plate



Brake Cylinder Reservoir



Trim Assembly



NOTES