Fuel System

1. FOLD HERE

2. CUT HERE

Fuel System

Circle the type(s) of fuel system(s) in your aircraft:

- **Gravity-fed**
- **Pump Driven**
- **Fuel-injected**
- **Carbureted**

Fuel Capacity

1. FOLD HERE

2. CUT HERE

Fuel Capacity

Total:_____ gal. Usable:_____ gal.

TIP:

Some airplanes have long range and/or tip tanks. Make sure you use the correct "usable" fuel amounts for your airplane's endurance calculations.

Fuel Drains and Locations

1. FOLD HERE

2. CUT HERE

Fuel Drains and Locations

Number of Drains: _____

Locations: _____

_____

_____

_____

Fuel Type and Weight

1. FOLD HERE

Fuel Type and Weight

Type (e.g., avgas, jet): _____

Weight: _____ **lb./gal.**

Engine

(Make, Model, HP, rpm)

1. FOLD HERE

2. CUT HERE

Engine

Make: _____ **Model:** _____

Horsepower: _____ **Max. rpm:** _____

TIP:

Engine model numbers can tell you a lot. For example, a C172R has a Lycoming IO-360 engine. The "I" means fuel injected and the "O" means the cylinders are horizontally opposed. The "360" refers to cubic inches of displacement, describing the physical size of the engine.

Oil

(Min./Max./Type)

1. FOLD HERE

2. CUT HERE

Oil

Minimum: _____

Maximum: _____

Type: _____

Magneto Check

1. FOLD HERE

2. CUT HERE

Magneto Check

Runup rpm: _____ Max. rpm Drop: _____

Max. Difference Between Left and Right: _____

TIP:

Question on how magnetos work? Check out the Air Safety Institute's *Engine and Propeller* online course at www.airsafetyinstitute.org/courses.

Electrical System

1. FOLD HERE

2. CUT HERE

Electrical System

Alternator Voltage: _____ Battery Voltage: _____

Alternator Amperage: _____

Abnormal Indications and Warnings:

_____

_____

_____

TIP:

Electrical component amperage is listed on the faces of the circuit breakers. Turning OFF the components with the largest draw will lengthen the life of the battery following an alternator failure.

Antenna Locations

1. FOLD HERE

2. CUT HERE

Antenna Locations

Sample aircraft antenna locations.

TIP:

Aircraft antenna locations vary based on the aircraft make/model and equipment installed.

Nosewheel Steering

1. FOLD HERE

2. CUT HERE

Nosewheel Steering

☐ **Steerable through degrees**

or

☐ **Free Castering**

TIP:

This is important when maneuvering the aircraft on the ground with a tug and/or tow bar. Look for markings on the nosewheel strut, wheel pant, or cowling that indicate the steering limit. This does not apply if the nosewheel is free castering.

VNE

1. FOLD HERE

2. CUT HERE

VNE - Never Exceed Speed

_____

TIP:

VNE is denoted by the red line.

Maximum Weights

1. FOLD HERE

2. CUT HERE

Maximum Ramp Weight

_____ lb.

Maximum Takeoff Weight

_____ lb.

TIP:

Maximum ramp weight usually includes the weight of fuel needed to taxi and complete the runup. This is why the maximum ramp weight may exceed the maximum takeoff weight in the normal category.

V_A

1. FOLD HERE

2. CUT HERE

V_A - Maneuvering Speed

At Max. Gross Weight:_____

TIP:

V_A is the maximum speed at which you may apply full control deflections without over-stressing the airplane. It varies with weight. Pilots should fly below this speed in severe turbulence.

V_{NO}

1. FOLD HERE

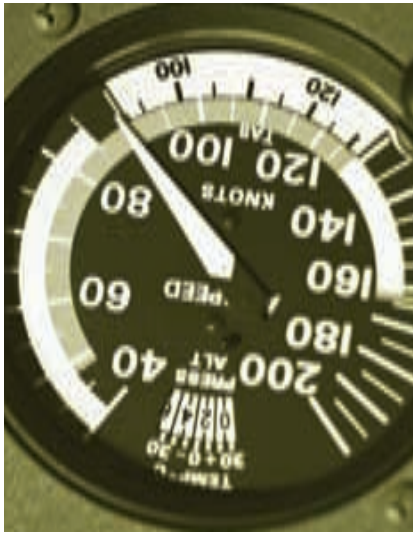
2. CUT HERE

V_{NO} - Maximum Structural Cruising Speed

TIP:

V_{NO} is shown where the green and yellow arcs meet. It should not be exceeded except in smooth air.

V_X



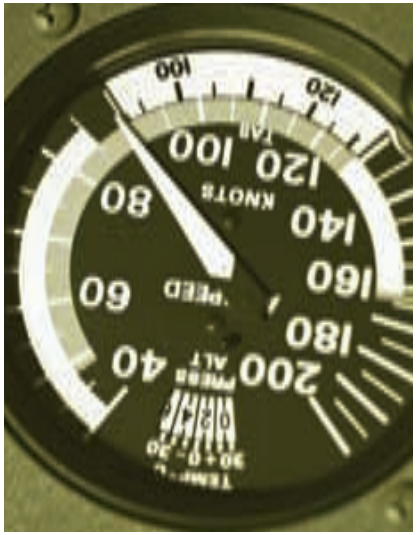
1. FOLD HERE

V_X - Best Angle of Climb

TIP:
V_X delivers the greatest altitude gain over a given **distance**.

2. CUT HERE

V_Y



1. FOLD HERE

V_Y - Best Rate of Climb

TIP:
V_Y delivers the greatest altitude gain over a given period of **time**.

2. CUT HERE

VFE

1. FOLD HERE

2. CUT HERE

VFE - Maximum Flap Extension Speed

Increment	Speed

TIP:

Flap operating range is shown on the airspeed indicator by the white arc. Often, the first flap extension speed is not included in the white arc.

VR

1. FOLD HERE

2. CUT HERE

VR - Rotation Speed

Normal: _____

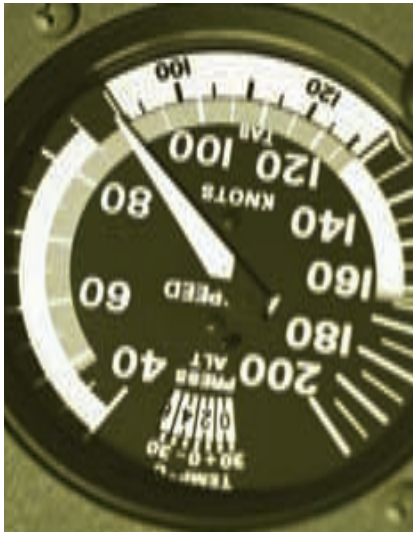
Short-field: _____

Soft-field: _____

TIP:

This is ***not*** marked on the airspeed indicator and will change depending on the takeoff procedure.

V_{SO}



1. FOLD HERE

V_{SO} - Stall Speed – Landing Configuration

_____ 0º Bank

_____ 60º Bank

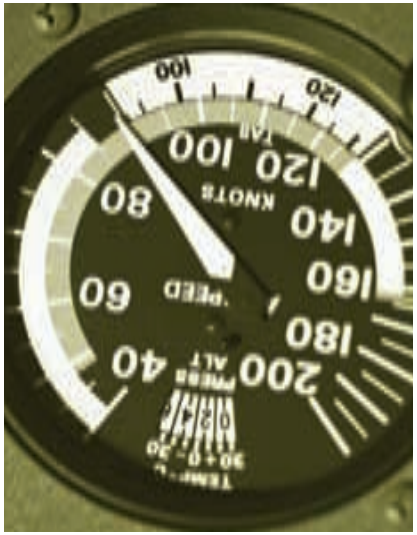
TIP:

V_{SO} is shown on the bottom of the white arc.

Remember: V_{SO} = "Stuff Out," which means gear and flaps extended.

2. CUT HERE

V_{S1}



1. FOLD HERE

V_{S1} - Stall Speed – Clean

_____ 0º Bank

_____ 60º Bank

TIP:

V_{S1} is shown on the bottom of the green arc.

Remember: V_{S1} = "Stuff In," which means gear and flaps retracted.

2. CUT HERE

Normal Landing Procedures

1. FOLD HERE

2. CUT HERE

Normal Landing Procedures

Leg	Power Setting	Flap Setting	Airspeed
Crosswind:	_____	_____	_____
Downwind:	_____	_____	_____
Base:	_____	_____	_____
Final:	_____	_____	_____

TIP:

Memorizing proper power settings and airspeeds for each segment of the approach will help stabilize the approach and landing.

Normal Takeoff Procedures

1. FOLD HERE

2. CUT HERE

Normal Takeoff Procedures

Flap Setting: _____

Rotation Speed: _____

Climb Speed: _____

Short-Field Landing Procedures

1. FOLD HERE

2. CUT HERE

Short-Field Landing Procedures

Leg	Power Setting	Flap Setting	Airspeed
Crosswind:	_____	_____	_____
Downwind:	_____	_____	_____
Base:	_____	_____	_____
Final:	_____	_____	_____

TIP:

The objective of the short-field landing is to transfer the aircraft's weight from the wings to wheels as soon as possible. Touch down as slowly as possible, while simultaneously applying maximum braking.

Short-Field Takeoff Procedures

1. FOLD HERE

2. CUT HERE

Short-Field Takeoff Procedures

Flap Setting: _____

Rotation Speed: _____

Climb Speed: _____

Flap Retraction: _____

TIP:

The objective of the short-field takeoff is to transition from the takeoff roll to best-angle-of-climb speed as quickly, efficiently, and safely as possible. This generally means using minimal runway length, neutral elevator for low drag, proper flap setting, and avoiding lifting off too soon.

Soft-Field Takeoff Procedures

1. FOLD HERE

Soft-Field Takeoff Procedures

Climb Speed: _____

Flap Setting: _____

Flap Retraction: _____ (airspeed *or* altitude)

TIP:

Don't forget these soft-field takeoff techniques: Hold full aft elevator while taxiing into position and avoid unnecessary stopping or braking. After rotation, remember to fly in ground effect until reaching the proper climb speed. In many light general aviation aircraft you may need to push forward on the yoke to stay in ground effect while building up airspeed.

2. CUT HERE

Soft-Field Landing Procedures

1. FOLD HERE

Soft-Field Landing Procedures

Leg	Power Setting	Flap Setting	Airspeed
Crosswind:	_____	_____	_____
Downwind:	_____	_____	_____
Base:	_____	_____	_____
Final:	_____	_____	_____

TIP:

The objective of a soft-field landing is to have the wings support the aircraft's weight as long as possible, which helps minimize the chance of sinking in the soft soil. Touch down as softly as possible, hold the nosewheel off the ground, and avoid unnecessary braking. You may need to add power in the flare to avoid a hard landing.

2. CUT HERE

Best Glide Speed

1. FOLD HERE

2. CUT HERE

Best Glide Speed

TIP:

Most light general aviation aircraft will glide about two miles for every 1,000 feet of altitude. Usually you'll want to extend the glide as long as possible by strictly maintaining the best glide speed and keeping the aircraft's configuration clean (e.g., gear and flaps up, feathered prop).

Maximum Demonstrated Crosswind Component

1. FOLD HERE

2. CUT HERE

Max. Demonstrated Crosswind Component

TIP:

This is the maximum crosswind in which the aircraft was tested during certification. Although it is not *technically* a limitation, it should be treated as one.

Emergency Procedures: Engine Failure

1. FOLD HERE

2. CUT HERE

Emergency Procedures: Engine Failure

Memory Items: _____

_____

_____

_____

_____

1. FOLD HERE

Types of Operations

2. CUT HERE

Types of Operations

Night ☐Yes ☐No

IFR ☐Yes ☐No

Known Icing ☐Yes ☐No

TIP:

Even if an aircraft has deice or anti-ice equipment, it may not be certified for flight into known icing conditions. In fact, few light general aviation aircraft have this certification.

Emergency Procedures: Engine Fire on Start

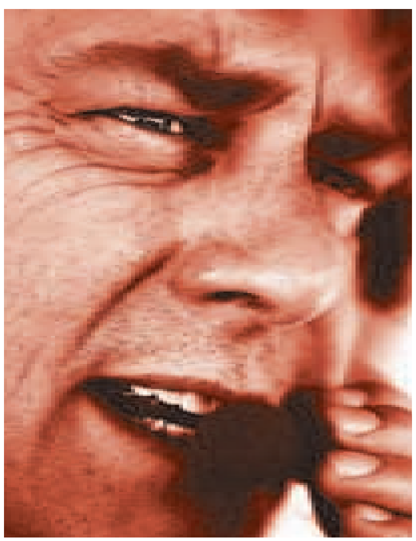
Memory Items: ____________________

Emergency Procedures: Engine Fire in Flight

Memory Items: ____________________

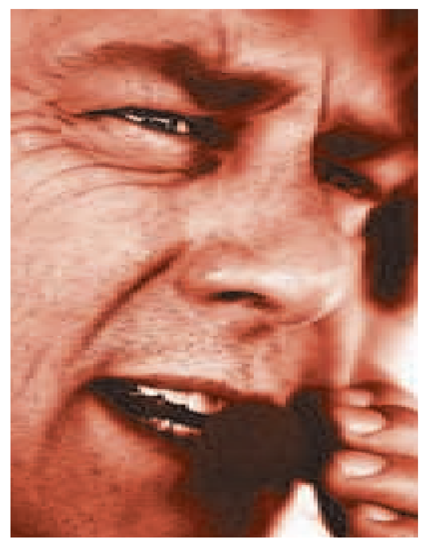
2. CUT HERE

1. FOLD HERE



Emergency Procedures:

Engine Fire on Start



Emergency Procedures:

Engine Fire in Flight

Emergency Procedures:

Inadvertent Icing Encounter

1. FOLD HERE

2. CUT HERE

Emergency Procedures: Inadvertent Icing Encounter

TIP:

Due to lack of anti- or deice equipment, most light general aviation aircraft are not approved for flight into icing conditions. If the aircraft is not equipped and certified for icing, you **MUST** exit icing conditions immediately. If you have an inadvertent icing encounter in an aircraft without windshield anti-ice, adjust the defroster setting to provide maximum heat to help keep a portion of the windshield clear. Turn off the cabin heat, if that will provide more heat to the windshield.

For more information, visit www.airsafetyinstitute.org/advisors and select the *Aircraft Icing Safety Advisor*, and take the *Weather Wise: Precipitation and Icing* online course at www.airsafetyinstitute.org/courses.

Emergency Procedures:

Electrical Fire in Flight

1. FOLD HERE

2. CUT HERE

Emergency Procedures: Electrical Fire in Flight

Memory Items: _____

_____

_____

_____

_____

TIP:

Electrical fires are usually smelled long before they are seen.

www.airsafetyinstitute.org

1. FOLD HERE

2. CUT HERE

Spin Recovery

1. FOLD HERE

Spin Recovery

Memory Items: _____

_____

_____

_____

_____

TIP:

Some pilots commit to memory the **PARED** acronym, which means **P**ower-reduce, **A**ilerons-neutral, **R**udder-full opposite, **E**levator-forward to break the stall, and **D**ive-recover.

2. CUT HERE

www.airsafetyinstitute.org

The Air Safety Institute is dedicated to making flying easier and safer for general aviation pilots. For information on free live seminars, online courses, and print materials visit www.airsafetyinstitute.org.

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