

These pages are from [PilotWorkshops Flying Companion Manual](#).

# Flying Companion

## A Pilot-Friendly® Manual



*From passenger to helpful crew member—  
50 tasks a non-pilot can complete*

## Check the Pilot

Pilots must assess their own physical and mental readiness to fly. The FAA recommends the mnemonic “IMSAFE.” You can run through the checklist yourself and share your perspective on any factors that might impact safety of flight. Someone close to the pilot may notice that something is a bit “off” before that pilot does.

Ask yourself about your pilot:

**Illness**—Does your pilot have any illness, cold, or allergies that could affect decision-making or motor skills?

**Medication**—Is your pilot taking any prescription or non-prescription medicines that might affect judgment or cause drowsiness? The side-effects of some medications are worse at altitude.

**Stress**—Everyone has some level of stress. But is there excessive stress? It can be caused by pressure

at a job, financial, health, or family problems. It can also be flight-related, like rushing to depart or being worried about the weather. Stress causes concentration and performance problems.

**Alcohol**—Has your pilot been drinking recently? Pilots must wait eight hours to go “from bottle to throttle,” yet the FAA recommends waiting 24 hours.

**Fatigue**—Is your pilot adequately rested? Fatigue is one of the most insidious hazards to flight safety, and it’s often not apparent to oneself until serious errors are made. A pilot needs enough mental clarity for a flight when everything goes as planned—and “extra” in case things go wrong.

**Emotion**—How is your pilot feeling? Negative emotions like anger, impatience, sadness, or depression may not be things that are comfortable to think about (or talk about), yet they can seriously impact a pilot’s ability to deal with stress in the cockpit.

If you find something during your assessment that concerns you, discuss it with your pilot. When discussing issues, state what facts you observe—“You seem tired.”—and your perspective on the situation, rather than judgments about the pilot.

Ideally, all pilots would run through some form of risk assessment tool before every flight. Encourage your pilot to use you as a sounding board to assess risks. Together you can make a plan to mitigate them—or cancel the flight if necessary.

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*Searching online for “aviation risk assessment tools” or “flight risk assessment tools” yields many different systems, some of which include the risk of flight factors as well as the crew.*

**Flight Risk Assessment Tool**

Progress bar: Increase Risk Awareness

**Trip Details**

Name: Pilot N. Command

Make/Model: SR22

Date: [Calendar icon]

Departure Airport: KAPA

Arrival Airport: KCRQ

Flight Conditions: VFR IFR

**PAVE CHECKLIST**

**Pilot (P)**

- Less Than 15 Hours in Last 90 Days: [On]
- Flight Will Occur After Work: [Off]
- Less Than 8 Hours Sleep Prior to Flight: [Off]
- Instruction Received in Last 90 Days: [On]
- WINGS Phase in Last 6 Months: [Off]
- Instrument Rating Current and Proficient: [Off]

**Aircraft (A)**

- Less Than 40 Hours in Aircraft: [Off]
- Less Than 40 Hours with Avionics: [Off]

**EnVironment (V)**

- Twilight or Night: [On]
- Surface Wind Greater Than 15 Knots: [On]
- Crosswind Greater Than 7 Knots: [On]

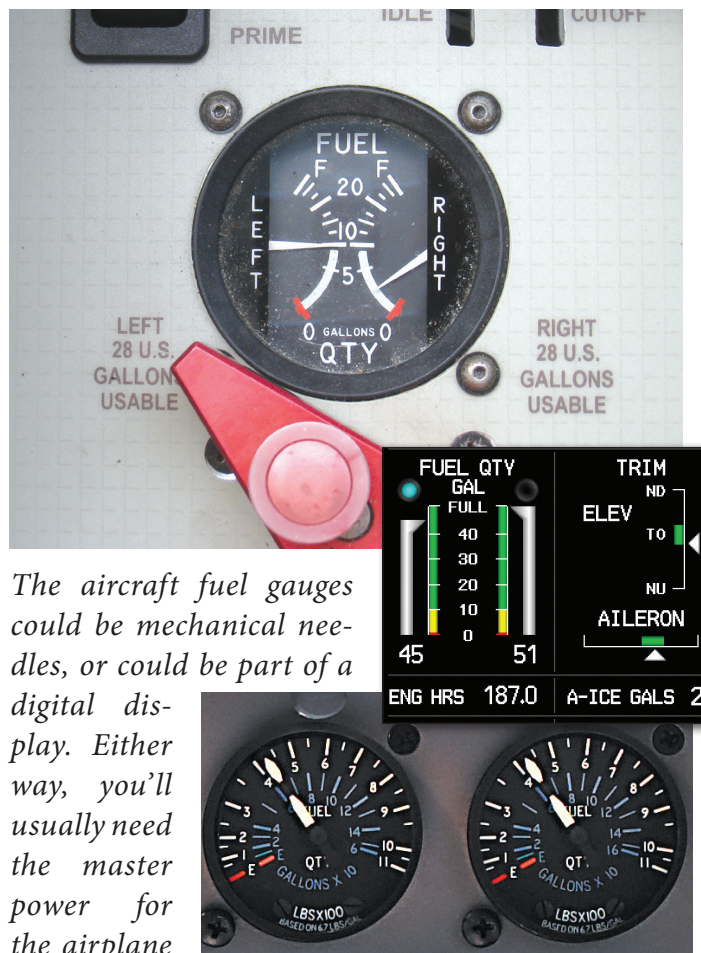
One of the first things most pilots check when they walk up to a GA airplane—or should check—is how much fuel is onboard. Fuel for the engine or engines means time in the air to reach your destination, or an alternate landing spot, without undue stress or hazard.

Checking the fuel can be a bit more complex than just looking at a fuel gauge, as happens in a car. Many airplanes have two or more fuel tanks, usually in the wings. Both the total fuel on board and where the fuel is located matters. Many planes have limitations for a maximum imbalance between the weight of fuel in each wing or auxiliary tank. So your goal for telling the pilot how much fuel is onboard isn't: "We have 12.5 gallons." It's: "We have 10 gallons in the left tank and about 2.5 gallons in the right tank."

Pilots often complain that aircraft fuel gauges are inaccurate. That's not exactly fair. Fuel gauges must be accurate for every calibration mark on the gauge. However, the flat, wide nature of most aircraft fuel tanks mean a large change in fuel quantity results in a small change in the height of the fuel in the tank, which is what the gauge really measures. The height is commonly measured by a float in the tank, which can get stuck or saturated with fuel over time. Add a bit of turbulence sloshing the fuel around and you see why pilots treat fuel gauges with a certain amount of suspicion.

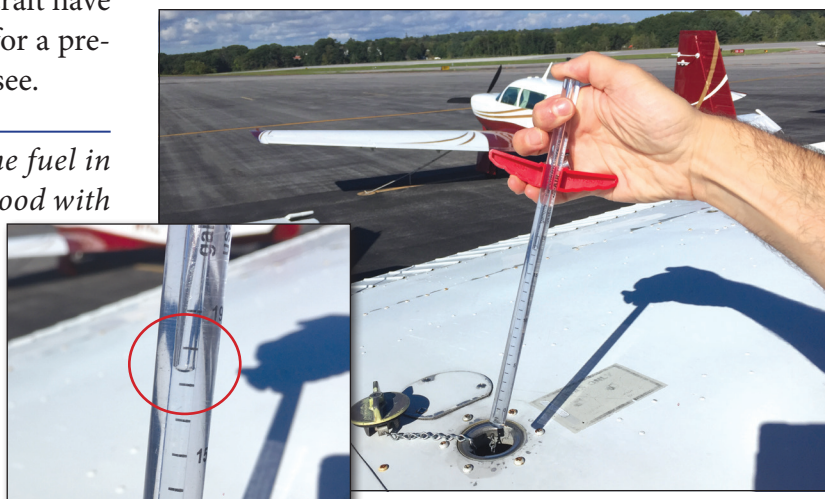
Luckily for you, there's no sloshing while the aircraft is still on the ground, so the reading from the fuel gauges should be fairly accurate. However, for most light aircraft it's still best to open each tank and confirm visually that the amount inside appears to match what's shown on the gauge. Some aircraft have a calibrated stick you can dip into the tank for a precise measure, or when the fuel is too low to see.

*A calibrated stick is a great way to check the fuel in each tank. This could simply be a piece of wood with marks on it. To use a dip tube like the one shown here, put the tube straight down into the tank with your thumb off the end. Then put your thumb tightly over the end and lift it out. Read the fuel level quickly off the scale, and then lift your thumb to drop the fuel back into the tank.*



*The aircraft fuel gauges could be mechanical needles, or could be part of a digital display. Either way, you'll usually need the master power for the airplane on to read the levels shown on the gauges. Check with your pilot before turning on or off the master.*

Some gauges read in pounds or kilos, as well as gallons or liters. Be sure you report the correct number and unit. An Air Canada flight once ordered fuel in kilos, but got fueled by pounds. Later the captain got to practice his skill at flying a 200-seat glider to an abandoned airfield (successfully).





## Drain the Fuel Sumps

The fuel used in the airplane must be clean and free from water, so some fuel is drained from each tank and checked prior to flying. You'll use a fuel testing tool. Pilots normally carry one on board at all times (it's that important) or keep it handy in the hangar.

Take fuel samples before your first flight of the day (especially if the airplane sat outside in the rain, or you're in a humid environment) and after fueling. You'll always check to see if there's water in the fuel and that the fuel is the correct type.

Locate the sumps on the airplane, using the pre-flight section of the POH as a guide, and check with the pilot to ensure you've found them all. Some high-wing Cessnas have 13 sumps. There's often a fuel drain at the lowest point in the system, on the belly. Sometimes a drain is actuated by pulling a knob in the engine compartment, or even inside the cabin.

Drain enough fuel so that you have a good visual—a few ounces or so, like a full shot glass. Look at the sample in the cup. If your aircraft uses 100LL avgas, it should look light blue.



Clear liquid mixed in with the blue is a bad sign: water in the fuel. Water may also show up as a large bubble at the bottom of the cup (water is heavier than fuel) or in smaller bubbles suspended in the fuel. You'll need to empty the water-contaminated fuel, dry out the cup to remove any droplets, and sump again—repeating until you no longer see water in the samples.

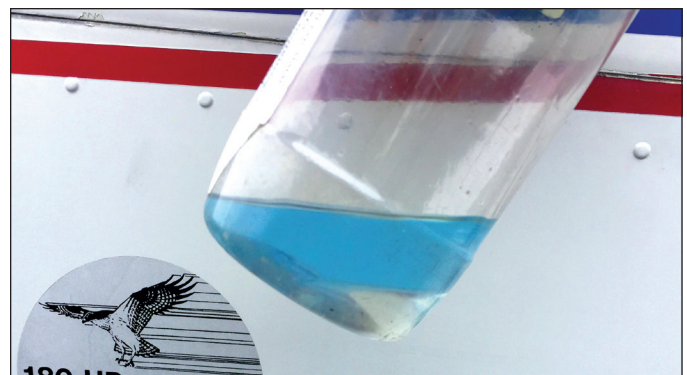
If your airplane was parked outside during a rain storm, quite a bit of water may find its way into the tanks. You might sump a lot of fuel to clear it all out.

Dirt and other foreign objects can clog the fuel screens in the system. So look for debris in the cup as well. Again, drain fuel until the sample runs clear of particles—there should be none.

The common 100LL avgas is a leaded fuel. While it's still legal to burn, dumping it on the ramp is dumping a toxic substance, as well as wasting a valuable resource. The airport may have a receptacle for hazardous liquids, but many don't.

Some sump tools, such as the one shown here, let you pour the fuel back into the tanks. They even strain out any water from the sampled fuel as you pour. Check with your pilot about pouring sumped fuel back into the tanks.

*Fuel drains are spring-loaded. Pushing up releases the fuel into a collection jar. Drains with a hole in the center require pushing up with a metal pin (top left). Drains with a T-shape are pushed with a notched cylinder (bottom left). Water will settle in the bottom of the collection jar (below).*



### TIP

Wait 15 minutes after fuel is added (page 16) before sumping the fuel tanks. It can take that long for water to settle.



## Pay for Fuel (Gas)



If you're buying fuel at an FBO and they put it in the plane, paying for it means waiting inside with a credit card while the line crew does the work. Self-serve fuel is another matter, and works a bit differently than at a roadside gas station. A wide variety of self-service machines exist. Here is the basic process.

Ground the airplane using the provided grounding cable (page 17). Most machines have you confirm this step before proceeding.



Once done, you insert a credit or fuel card. Sometimes this takes several tries as these machines sit out in the elements and the readers get ... cranky.

Next you enter the fuel type. Often you only have one option, but you must select it anyway.

Then enter the quantity of fuel you need in gallons (in the U.S.) or the rough amount of dollars you're willing to charge.

Some machines have a "fillup" key. Just know that it will run a large pre-authorization on your card if you choose that option. It will only charge you for the fuel actually pumped in.

Most of the fuel pumps require your aircraft registration number. If you only have an "N" followed by numbers, it's usually a matter of pushing enter once to select the N and then using a keypad for numbers. For more letters, there's a set of buttons that let you select them one at a time. Truth be told, you could put almost anything here and it would still sell you gas. This N-number is for record keeping and it appears on your receipt.



Like self-service fuel pumps you use with your car, you may need the billing zip code for your credit card as well. Push enter one more time.

Be prepared to wait a while. It seems like most self-serve fuel pumps are connected to the world via a dial-up connection from 1987. This is particularly noticeable on windy January mornings.

When it finally connects, you'll probably hear the pump motors engage. You will usually have to engage one more lever on the pump itself to start the fuel flowing. Then it's as described in "Fuel the Airplane" on page 16.

No matter whether you fill the airplane yourself or pay for fuel the line crew pumped in, make sure you check the receipt against the amount of fuel you've put into the tanks as well as the price you paid for the fuel. Self-service fuel is often slightly cheaper.



## Fuel the Airplane

Your first question: What kind of fuel does the airplane take? The most likely answer is 100LL, for “100 octane low lead.” This fuel is used in most piston engines. It’s also possible your airplane takes Jet A, which is essentially diesel fuel for aircraft. Some light airplanes can use automotive gas, or other gasoline available at some airports. Make sure you understand which fuel to use before ordering fuel or pumping it. Diesel and avgas filler necks are different sizes to help prevent confusion while fueling.

No matter who’s fueling the airplane, ask your pilot how much fuel to put in and which tank or tanks to fuel up. With this knowledge, you’ll call for fuel from an FBO and they’ll send out someone in a truck, or you’ll use self-service pumps.

If you’re doing it yourself, your pilot will taxi the airplane close to the fuel pumps and shut down. Find a set of “chocks,” which are the wedges put on both sides of a tire to keep the airplane from rolling. Often there are chocks hanging by the fuel pump. There are also usually ladders you can borrow to help reach high tanks. The grounding wire must be attached (page 17) before you start fueling. Note that there

*The hose is quite heavy. Support it with two hands and place it inside the filler neck for the fuel without letting it bend the filler neck. Make sure you’re footing is secure—particularly when on a ladder to reach the tanks.*



### TIP

Even if you’re not doing the fueling, monitor fueling personnel to ensure that the correct type and amount of fuel goes into the correct tanks. Your pilot is planning for a certain load and location for fuel. The wrong fuel or location can ruin your day.

may be a small spark when you connect the grounding wire, especially if you just came out of the clouds.

You’ll pay for the fuel (page 15) and haul the thick fueling hose out to the airplane. It’s usually on a ratchet and can take some force to pull out. Extend it slightly past the furthest point you’ll reach for the fuel, and then slowly further until the ratchet locks. You don’t want the hose trying to reel back in while you’re fueling.

Removing the fuel cap might just require a twist and lift, or it might require unlocking a tab that lifts and turns before the fuel cap comes off. Ask your pilot to show you. Aviation fuel can stain airplane wings if spilled or from the bottom of the fuel caps if wet when placed on the wings. Wipe any up right away.

Once the pump is running but before you start pumping, touch the end of the nozzle to the edge of the filler neck to equalize any electrical charge between the hose and the airplane. Then place the nozzle inside the filler neck while supporting it with two hands. Pull the trigger and fuel will start flowing.

You need to actively fuel the airplane—many pumps do not have automatic shut-off functions—and a fuel spill can be a nightmare. As the fuel nears the point where you want to stop for that fuel tank, partly release the trigger to slow down the flow of fuel. Sometimes you’ll have to stop filling and remove the hose to see the fuel tabs (page 17) if you’re only

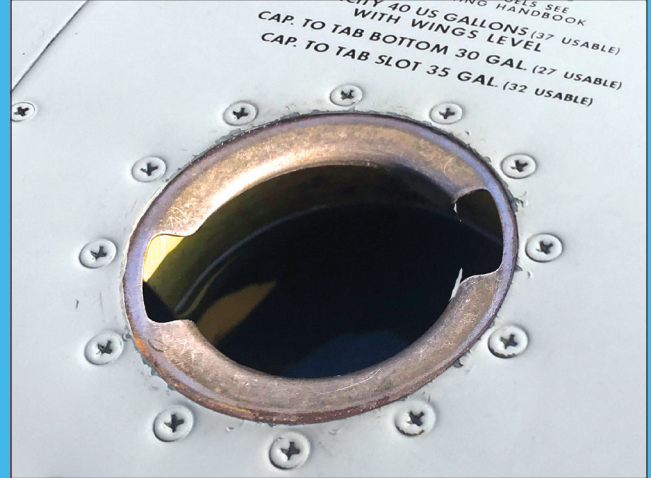


## "FUEL IT TO THE TABS"

Some aircraft have metal tabs or extensions on the filler neck in the fuel tank to mark intermediate levels for fueling the airplane. Your pilot may choose to "fill it to the tabs" in order to save weight and stay within maximum takeoff limits.



Below, you see the fuel tab (left) and an extended filler neck (right) inside the tank. Placards by the filler show the number of gallons of fuel that will reach the base of the tab. Some fuel tabs have interim marks on the tabs themselves.



filling to that point. The nozzle usually continues to pour some fuel even after you release the trigger. Turn it off early, and then add small squirts. When you're done, remove the nozzle and replace the fuel cap. Proceed to the next fuel tank. You must add fuel to each tank that needs it separately.

When you're trying to put in a specific number of gallons in each tank, it helps to have someone else reading the pump for you. When you're alone, make sure you can see that meter before you start pumping. If you bought a certain number of gallons, the pump should stop when it reaches that number.

The fuel hose might reel back up by giving it a tug and then walking back with it as the ratchet recoils, or it might require holding down a button while a motor reels it back in. This is best demonstrated by someone who has done it before, so ask your pilot to show you. You may have to guide the hose as it reels in to get it evenly distributed on the reel.

Disconnect and reel in the grounding wire, and remove the chocks. That's it. You're refueled.

### TIP

Listen for a change in pitch as the fuel nears the top of the tank. That's your clue to slow down the filling rate and prevent an overflow.

## GROUNDING THE AIRPLANE

Most fueling stations provide the grounding wire on a recoiling wheel with a ratchet. Grasp the clamp and pull the wire out past the point where you will attach it to your airplane. Then



slowly extend it a bit further until the ratchet locks. Have the pilot show you a good point to clamp it on for grounding purposes. A landing gear or exhaust pipe is often a good choice.



Grounding the airframe prior to fueling is critical. It prevents static on the aircraft from causing a spark right when you add the fuel.

## Check and Add Oil

Most aircraft engines consume oil, so they need topping off between oil changes. First, check the oil level using the dipstick. It's usually found under a hinged door on a cowlings covering the engine compartment, and often attached to the oil cap. Reading the dipstick works best when the oil is cold—hot oil checked right after engine shutdown can be hard to see.

Twist the oil cap off, and slide out the dipstick attached to the cap. Use a clean rag to wipe the dipstick, then put it back into the oil filler neck, screwing it back down or clicking it into place.

It's important that it's all the way in to get an accurate reading. Unscrew or unclick, and slide it back out again, and read the number where the top of the oil streak lines up on the dipstick. This is how much oil is in the engine. There's usually a minimum level for flight, which is in the POH (page 20). However, check with your pilot before adding oil to find out how much. Most aircraft engines expel oil on the aircraft belly if you fill them to their max capacity, and for a short flight the minimum may be enough. After a while, you'll know the right level for your airplane.

### NO FUNNEL? NO PROBLEM

You can use the dipstick itself as a makeshift funnel: Keep the dipstick in the oil filler cap. Touch the lip of the oil container to the dipstick and tilt it slowly until the oil starts running down the dipstick into the oil sump. As you get to the end, you can slide the lip of the oil container down the dipstick until you can upend it into the oil filler neck. This is one of the few things in aviation that works better when it's cold outside. Have a rag ready to wipe any spills.



However, if you ever see the level is over two quarts below the level you normally keep it, let your pilot know. It might be necessary to check with maintenance personnel before flying.

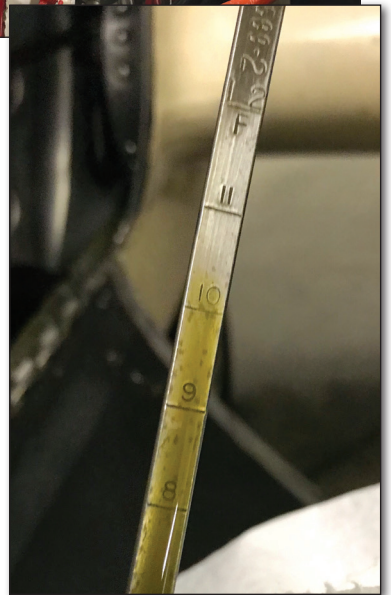
Verify the right grade and brand of oil with your pilot. It's in the POH, but some airplanes require a heavier weight of oil in summer than in the winter, and sometimes a special oil is in use during the break-in period for certain engine parts.

Don't try to just pour straight from the oil container into the filler neck as it's likely to spill over the engine. Use a funnel or similar aid to pour the quart of oil into the tank, allowing the last drops to slip out before replacing the cap on the bottle and returning it for recycling or disposal.

Slide the dipstick back in and check that the oil level is where you want it.

### TIP

Screw the oil filler cap on finger-tight. If you twist it on too tightly, it becomes difficult to loosen after the engine's been running. However, you don't want it to work itself off, either.





**Y**ou don't need to check tire pressure before every flight. However, if you suspect the pressure is low, checking tire pressure for airplane tires is roughly the same as with cars. Look up the tire pressure required in the POH or service manual. There may be a different pressure required on the nose or tailwheel tire compared to the tires on the main landing gear. The number is given in *pounds per square inch*, or psi, and you'll look for the same number on the tire pressure gauge.

Go to the tire, and unscrew the cap on the tire valve stem. If the airplane has wheel covers (commonly called "wheel pants"), you may need to roll the airplane forward or backward to uncover the valve stem. If the cap is missing, let the pilot know.

Slide the tire pressure gauge over the stem and press down to release air from the tire into the gauge. An instant readout appears on a dial, display, or along the side of a scale that extends.

The reading you get at first is the highest pressure that you'll see from that tire. Remove the gauge in a quick motion so as little air escapes as practical.

If you need to add air to the tires, the FBO can bring out their portable tank or compressor on a fuel or maintenance truck. Alternately, you may have a portable tank or compressor in your hangar that you can use. Have the pilot show you how to fill a tire, bringing it slowly up to the right pressure.

If you overfill the tire, you can release the extra air pressure by pushing in the pin in the tire valve stem. It hisses as air is released.

Changes in the weather can affect your tires. If there has been a significant change in barometric air pressure, that can cause some change in tire pressure. So you should consider checking the tire pressure before flight in this case.



### TIP

Periodically look for worn spots. To do this with wheel pants, have someone roll the airplane forward and back to see each tire's full circumference.

### EYEBALL TIRES BY THE SIDEWALLS

Even when inflated to their full pressure, aircraft tires can look low compared to car tires, especially on a cold day.



This tire is at its full pressure of 30 psi. One clue that it's fine is gleaned from the side of the tire coming up from the ground to the metal wheel, called the sidewall. If the angle between the lowest part of the sidewall and the ground is at least 45 degrees, the tire is probably fine.



As the air leaks out, the belly of the tire gets bigger and the sidewall droops lower. This tire is down to about 25 psi. It wouldn't be unsafe, but it's not good for the tire. Tell your pilot.



When the sidewall of the tire is close to—or touching—the ground, the tire almost certainly needs air. Tell your pilot right away.

## Clean the Windshield

Before and after each flight, ensure a clear view by cleaning the windshield and other windows inside (where dust gathers) and out.

You'll use different products than you would on your car to make sure you don't scratch the delicate Plexiglass. Find a new microfiber cloth (one you only use on the airplane's windows) and a specialized cleaner such as Plexus or Prist.



You can also use plain water—just not Windex or other scouring cleansers. To clean dried-on bugs, let the water or cleaner soak them for a while—and prevent them from drying on in the future by cleaning the windows after the flight.

When the windshield dries, use a soft, dry cloth or T-shirt to rub off any streaks.

At every fuel stop, it pays to make another pass at the windshield, especially in the summer months. Bugs bake on after several hours in the air, but they're even tougher to get off days later.

You can also clean other surfaces. Many aircraft owners use Pledge, or a similar gentle polish, on aluminum-covered wings, cowlings, and control surfaces. The polish not only removes caked-on bugs well, but also leaves a slick finish that tends to shed future grime with greater ease.

*Wipe up and down, right and left. Avoid wiping in a circular motion as it's more likely to leave smears that catch sunlight.*

## KNOW YOUR LIMITATIONS: FIND THEM IN THE POH

Section 8  
Handling, Servicing, Maintenance

Cirrus Design  
SR20

### Tire Inflation

For maximum service from the tires, keep them inflated to the proper pressure. When checking tire pressure, examine the tires for wear, cuts, nicks, bruises and excessive wear.

To inflate tires:

1. Remove inspection buttons on wheel pants to gain access to valve stems. It may be necessary to move airplane to get valve stem aligned with the access hole.
2. Remove valve stem cap and verify tire pressure with a dial-type tire pressure gage.
3. Inflate nose tire to 40 +2/-0 psi (276 +15/-0 kPa) and main wheel tires to 53 +2/-0 psi (365 +15/-0 kPa).
4. Replace valve stem cap and inspection buttons.

All wheels and tires are balanced before original installation and the relationship of tire, tube, and wheel should be maintained upon reinstallation. In the installation of new components, it may be necessary to rebalance the wheels with the tires mounted. Unbalanced wheels can cause extreme vibration in the landing gear.

### Propeller Servicing

The spinner and backing plate should be cleaned and inspected for cracks frequently. Before each flight the propeller should be inspected for nicks, scratches, and corrosion. If found, they should be repaired as soon as possible by a rated mechanic, since a nick or scratch causes an area of increased stress which can lead to serious cracks or the loss of a propeller tip. The back face of the blades should be painted when necessary with flat black paint to retard glare. To prevent corrosion, the surface should be cleaned and waxed periodically.

The Pilot's Operating Handbook, or POH, is the final word on the operation and care of the airplane. That's where you'll find how much oil it holds or the correct tire pressure, usually in Section 8. Ask your pilot to show you where it's kept in the airplane.

CESSNA  
MODEL 172P

SECTION 8  
HANDLING, SERVICING  
& MAINTENANCE

### CLEANING AND CARE

#### WINDSHIELD-WINDOWS

The plastic windshield and windows should be cleaned with an aircraft windshield cleaner. Apply the cleaner sparingly with soft cloths, and rub with moderate pressure until all dirt, oil scum and bug stains are removed. Allow the cleaner to dry, then wipe it off with soft flannel cloths.

If a windshield cleaner is not available, the plastic can be cleaned with soft cloths moistened with Stoddard solvent to remove oil and grease.

#### NOTE

**Never use gasoline, benzine, alcohol, acetone, fire extinguisher or anti-ice fluid, lacquer thinner or glass cleaner to clean the plastic. These materials will attack the plastic and may cause it to craze.**

Follow by **carefully washing** with a mild detergent and plenty of water. Rinse thoroughly, then dry with a clean moist chamois. **Do not rub** the plastic with a dry cloth since this builds up an electrostatic charge which attracts dust. Waxing with a good commercial wax will finish the cleaning job. A thin, even coat of wax, polished out by hand with clean soft flannel cloths, will fill in minor scratches and help prevent further scratching.

**Do not use a canvas cover on the windshield unless freezing rain or sleet is anticipated since the cover may scratch the plastic surface.**



Referring back to the weight and balance chart (page 8), you should know the exact weights and locations (stations) where you'll load baggage into the airplane. It's important the bags go where you planned because there are maximum weights for each cargo or seating area. Placards or signs in the airplane's interior state these limits. If it turns out something you planned for a specific station in the airplane doesn't fit and must be stowed elsewhere, you must recheck how shifting that baggage effects the weight and balance.

Make sure heavier items are near the bottom of the baggage area, otherwise they may topple onto passengers, or fall out of the baggage door when you open it after the flight. It's also good practice to put the biggest, heaviest items in first and toward the forward part of the baggage area. Pack the smaller stuff around them.

Smaller, soft-sided bags, such as duffels or backpacks, are easier to load and arrange than larger hard-sided luggage. A soft-sided duffel made of a comfortable fabric and filled with clothing can also double as a pillow in the back seat. However, anything fragile should be in a lightweight, hard-sided case. If you pack a bunch of smaller bags, you can arrange them so that you can access the items you need along the way, or for earlier parts of the trip. You'll also be able to adjust loading to fit cargo in tighter spots in the baggage area.



*Aircraft baggage doors are smaller than your average car trunk. This is another reason to pack in multiple, soft-sided bags*

Bags can really jump in turbulence or maneuvering flight such as takeoff and landing. Not to criticize your pilot's skills in this regard—unless you're keeping score (page 54). Bungee cords or webbed cargo straps that hook onto tie-down points in the baggage areas are a good idea.

This is particularly important for anything up high, such as on a shelf, that could fly forward with sudden deceleration. If you don't have a cargo net on these areas, get something from a sporting goods or outdoor store.

### KNOW YOUR LIMITATIONS: WEIGHT & BALANCE

The weight and balance section in the POH (normally Section 6) carries much of the info you need to safely load the airplane, but you also need to pay attention to the placards and any markings in the cargo areas and other sections of the airplane.

**120 POUNDS MAXIMUM BAGGAGE  
INCLUDING 12 LBS. MAXIMUM  
IN BAGGAGE WALL HATSHelf**

**FOR ADDITIONAL LOADING INSTRUCTIONS SEE  
WEIGHT AND BALANCE DATA.**

**MAXIMUM BAGGAGE THIS COMPARTMENT 100 LBS.**

**SEE THE LIMITATIONS SECTION OF  
THE AIRPLANE FLIGHT MANUAL**

**ALL WEIGHT IN EXCESS OF 3112  
POUNDS MUST BE FUEL WEIGHT ONLY  
FILL TIP TANKS FIRST  
USE MAIN TANKS FIRST  
RESTRICT PASSENGER WEIGHTS OR CARGO  
WEIGHT AS REQUIRED FOR COMPLIANCE**

## Assist With Preflight

As you become familiar with the airplane, your pilot may ask you to perform portions of the aircraft's preflight duties and checks, so that you can attend to the airplane. You can learn to check the fuel (page 16), oil (page 18), tire pressure (page 19), and other consumables.

You can also help with part (or all) of the walk-around inspection while your pilot checks weather, files a flight plan, or takes care of other items. You'll want to learn the flow that the pilot uses to check the airplane's airworthiness—or fitness—for flight. Your pilot may use a special checklist, an app, or the guide directly from the POH.

A graphic in the POH shows the walk-around pattern, which is typically a path a pilot follows to check items in each area. It includes making sure the flight controls operate correctly, doors and windows are secure, the engine's condition looks good, and all the ropes, covers, and wheel chocks are removed.

You don't need to be an expert to assist with these items. You simply need to gain some experience with your pilot as to how all these parts normally look and move—and then get the pilot to check them out if something seems off or out of place.

It's also a good idea to check the general appearance of the airplane. It's overall cleanliness is important—dirt can hide all kinds of problems, like loose parts, dents, and corrosion. You can also look the airplane over for those issues. Another set of eyes can see things that a pilot accustomed to a particular airplane may miss.

You can print or take a picture of the page in the POH to carry with you as you learn the walk-

around inspec-



*When you remove a tiedown rope, grasp the loose end lightly as you pull it through the tiedown ring so it doesn't swing up and smack the aircraft fuselage.*

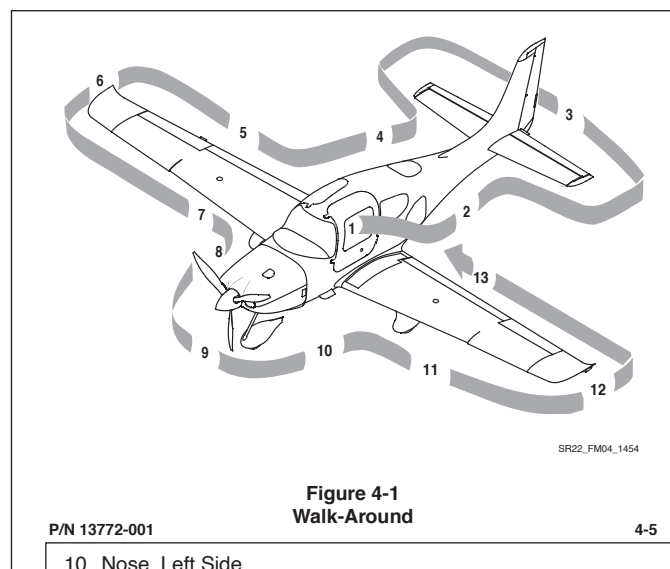


Figure 4-1  
Walk-Around

P/N 13772-001

4-5

10. Nose, Left Side
  - a. Landing Light.....Condition
  - b. Engine Oil.....Check 6-8 quarts, Leaks, Cap & Door Secure
  - c. Cowling.....Attachments Secure
  - d. External Power.....Door Secure
  - e. Vortex Generator.....Condition
  - f. Exhaust Pipe(s).....Condition, Security, and Clearance
11. Left Main Gear and Forward Wing
  - a. Wheel fairings.....Security, Accumulation of Debris
  - b. Tire.....Condition, Inflation, and Wear

tion. There are also apps, like MiraCheck, which let you check off items as you go, as well as customize the list for items specific to your airplane that your pilot may have pointed out for you.

It's often best to remove all the covers, plugs, control locks, and tiedowns first, and stow them. That way they're not in your hands as you try to do the preflight inspection. However, it's usually a good idea to leave at least one wheel chocked until you're ready to go.

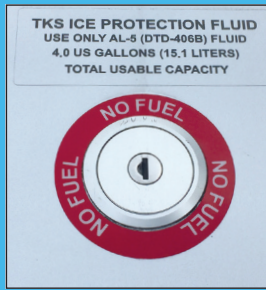
The same is true with checking the fuel (page 13), sumping the fuel (page 14) and checking the oil (page 18). These tasks require rags and tools which are annoying to hold as you walk around the airplane. You also might need to clean your hands after some of those tasks.

### TIP

If you think you may need fuel from the FBO, check that item first and call them right away. There may be a wait to get the fuel truck out to you, so you might as well start that clock ticking ASAP.



## PREFLIGHTING THE OTHER FLUIDS AND GASSES



Preflight may reveal the need for fuel, oil, or air in the tires. But it might also reveal a need for other consumables.

Some aircraft require a special fluid for their de-ice systems. Your pilot may keep this fluid in a bottle in the hangar or purchase it from an FBO. Because it's not always available when you travel, it's worth asking if there's enough onboard for a winter trip and whether extra should be packed in back.

De-icing can also happen on the ground. If snow

or frost on the wings is found on preflight, you can be the one to request de-icing from the FBO line staff.

When you fly at 10,000 feet or higher in an unpressurized airplane, you may need supplemental oxygen. This can be from a portable tank or be built into the airplane. It's another item you can check and report to the pilot to ensure it isn't overlooked.



If you find something you're not certain about and the pilot isn't right there, make a note of it and continue. Present the list to your pilot when you're done. You can also use your phone to take pictures of questionable items you find to show your pilot (or help you remember what you found).

If you're assisting with preflight, the most important thing, however, is that you and your pilot have agreed who is responsible for each item on the preflight inspection. You don't want each of you thinking the other one checked—when actually nobody did.

*Even if you didn't do the preflight, take one last look at the airplane before you get in. Is a tire chocked, a towbar on the nose gear, or the tail still tied down? Your final look may save embarrassment ... or worse.*



## STRANGE THINGS MAY TURN UP



It's easy to get complacent with preflight inspections because it's rare that anything turns up out of the ordinary. However, you must treat every preflight inspection as if lives depend upon it (even if those lives might not exactly be yours).

## OTHER DUTIES AS ASSIGNED

Other items you can handle prior to departure:

1. Settle the bill for fuel/parking with the FBO.
2. Make sure any kids stopped in the restroom.
3. Gather last-minute snacks or drinks, and ensure ice is in the cooler and it's easy to reach.
4. Confirm destination car or hotel reservations.
5. Tell any emergency or destination contacts of changes in your departure time or overall plan.