



Grumman Owners & Pilots Association

Building on our proud AYA heritage.
GrummanPilots.org

Grumman Owners & Pilots Association AA5 Series Tips

Flight Operations:

1. Do not allow the flap selector switch to spring back to neutral following flap deployment. It may overshoot, enter the retract position, and retract the flaps.
2. While braking effectiveness may be increased by raising flaps after touchdown, attention must not be diverted unnecessarily from control of the aircraft during rollout. When runway length permits, leaving the flaps down and holding the nose up during rollout provides significant aerodynamic braking and reduces brake and tire wear.
3. Due to the extremely clean aerodynamics, airspeed control is of the utmost importance. This plane does not fly like an equivalent Cessna or Piper! If you participate in our Pilot Familiarization Program (strongly recommended), you will see first hand the problems that can develop on final approach with too much or too little speed. Proper arrival planning to ensure pattern entry at the right speed is essential. Several hours of instruction from a GRUMMAN PROFICIENT FLIGHT INSTRUCTOR should be considered mandatory.
4. Flaps are of little use except to change pitch attitude and increase drag, and to improve short field landing performance. Slipping the aircraft, however, with or without flaps, has been found to be very effective for losing altitude without increasing airspeed. The use of full flaps on all landings is recommended by the POH except in the most extreme wind conditions. Failure to use full flaps increases the chance of "skagging" the tail on landing.
5. You may hear some pilots suggest using anywhere from a few degrees to one third flaps to aid in short or soft field takeoffs. This is not recommended by the POH/AFM or the AYA. Precise performance of the takeoff (including rotating to the correct attitude at the proper point in the takeoff roll) in the zero-flap configuration is what both the manual and the AYA recommend.
6. During landings, it is extremely important to keep the nose wheel off the ground as long as possible. Landing nose wheel first, or even on all three wheels at the same time, is virtually guaranteed to cause a porpoise situation, from which recovery is very difficult. A go around is the only sure cure for porpoising. Proper airspeed control on final approach (item 3), is the best way to avoid this situation. Think of it this way, in a Grumman, the only purpose of the nose wheel is to keep the propeller from striking the ground during taxi; it is not intended to absorb landing loads.
7. In the earlier AA-5x's without the ALT warning light, the alternator can fail with no easily discernible ammeter indication. This can be checked periodically by loading the system (turn on lights, pitot etc.) and turning the alternator side of the master switch off. After a few seconds, a heavy discharge should register. Turning the alternator back on should result in an initial heavy charge indication followed by a return to normal within 20 seconds.

Ground Operations:

1. When loading all seats in the four place aircraft, make sure the front seats are loaded first. If you load both back seats first, the aircraft will probably tip back onto the tail tie down. An easy way to accomplish this is for the front seat passengers to stand at the forward end of the walkway when the rear seat passengers board. This keeps the weight forward, where it belongs. Do the opposite on landing. Some owners have removed the boarding steps from their aircraft. In addition to reducing drag slightly, this automatically moves the weight of boarding passengers forward.
2. Do not handle the aircraft on the ground with the wing tips. Use the propeller or towbar. Use of the wing tips is believed by some to create a torque which causes fuel tank sealant leaks. Also, when using the propeller to push or pull the aircraft, hold it as near as possible to the spinner but do not apply pressure to the spinner.
3. Do not steer the aircraft when backing by kicking or pushing the nose wheel. If you have not developed the skill to push the aircraft backwards, use a towbar.
4. Chocking the nose wheel in Cessnas, Pipers, and Beeches works fine. With the Grumman nose wheel, however, a gust of wind will spin the nose assembly 90 degrees, and very rapidly rotate the aircraft into the wind. The solution is to chock both main wheels, front and rear. If you have only one set of chocks, pull the nose to the side to rotate the nose wheel 90 degrees (i.e., parallel to the prop) and then chock it.
5. Be careful that the dome light switch is off when you leave your aircraft. This circuit is wired directly to the battery, not through the master switch. Leaving it on has the same effect as leaving the master on a dead battery. Some owners recommend leaving the strobe or flashing beacon switch on all the time. This serves as a reminder that your master switch is still on.
6. When stopping the aircraft during taxi, be sure to straighten the nose wheel before you stop. If you stop with the nose wheel in a turn, it takes a great deal of power to get it straightened out again when you resume taxi.
7. The baggage compartment door is restrained by a small chain. If you open the door and allow a gust of wind to hit it, the chain will break readily. Keep the door latched at all times, unless loading or unloading.
8. Because of our differential braking steering method, the aircraft will not steer on ice. Also, caution is advised following installation of new brake pads, since initial braking action may be poor. Be sure to "set" the pads by hard application of brakes on the first taxi test after brake pad installation.
9. Be aware of which antenna is connected to which com radio in dual installations. Ground communications can be impaired if using an antenna mounted on the bottom of the aircraft.
10. With the key lock in the locked position, slamming the canopy will lock the occupants inside. More than one pilot has climbed out the baggage door, which has a release on the inside. In addition, there is a lock release catch on the canopy latching mechanism; ask your PFP instructor to show you how to use it.
11. WARNING: AA-5-series aircraft (especially the Tiger) are easily loaded beyond the aft c.g. limit when rear-seat passengers are carried even if the aircraft is still within maximum gross weight limits. Pitch stability is dangerously decreased very quickly after the aft c.g. limit is exceeded. Also, AA-5 and AA-5A aircraft are easily overloaded with four adult occupants aboard. Takeoff and climb performance suffer substantially in any over-gross situation. Proper W&B computations should be performed. An Excel™-based W&B computation and equipment list program is available from the AYA Safety Director to help in this area.
12. The parking brake on 1977 and older aircraft cannot be set or released from the co-pilot's side.

Maintenance:

1. Check trim tab arm for loose rivets. Periodically, check the cotter pins in the elevator trim linkage, as well as

those in the nose wheel axle and nose strut nut. Should the latter cotter pin shear off, the entire nose wheel, fairing, and fork assembly will fall off the aircraft! An inexpensive dental mirror is useful in checking the nose fork cotter pin during pre-flight. Stainless steel pins are highly recommended. Also, check to see that the rollers in the elevator control arms rotate freely.

2. Brake discs should not be allowed to become rusted and pitted. This will cause poor braking and premature wearing out of the pads. In addition, rust can easily progress where the hub meets the disc, causing a fracture and failure of the disc. Chrome or stainless discs can help this problem, but may have different braking properties than standard steel.

3. If the elevator trim wheel seems difficult to turn, try removing the tail cone and lubricating the trim jackscrew. The jackscrew must first be cleaned by spraying a cleaner on it while rotating the trim mechanism. Electrical contact cleaner works well for this. After cleaning, apply a special lubricant "Lubriplate No 630." This can be purchased from Aviall or other suppliers and is superior to regular grease. It is also the recommended lubricant by the manufacturer.

4. Some owners have had trouble with cracking of the U shaped bracket that supports the alternator in the Tiger. The Traveler and Cheetah share a common alternator bracket, but it is different from the one used by the Tiger. Typically, the Traveler and Cheetah do not experience the cracking problem that is common on the Tiger.

5. When removing the nose wheel assembly, remove the nose wheel first, the fairing/fork assembly second, and then separate the fork from the fairing. If you follow the service manual procedure, you will gouge the V shaped aerodynamic fairing at the rear of the nose strut.

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7. It is possible for the bolt holes in the elevator torque tube to elongate, allowing the left and right elevators to become misaligned with each other. Check this periodically by having one individual hold one elevator firmly while you try to move the other. If it moves, you have an elongated bolt hole in the torque tube, and must have it repaired. Repairs are possible, but must be accomplished before the hole is worn beyond repair limits.

8. The rubber fairings on the main gear legs of the Cheetah and Tiger will occasionally come apart at the leading or trailing edge. If this happens to you in flight, you will swear that you have a serious problem (you don't). Neoprene rubber cement (used in diving wet suits) is an excellent bonding agent for making repairs. Common household GOOP also has shown good results. The best solution is to replace the neoprene with aluminum fairings, supported by strips of the original neoprene. A number of owners have made this switch with good results. DMA Speed Mods sells the fairings, but they must be installed under an FAA 337 form.

9. If your canopy cannot be easily pulled open using one finger on the back edge, the tracks need cleaning.

10. Do not use furniture wax for cleaning plastic windows. Proper cleaners and polishes for Plexiglas are available for about the same amount of money and are much safer for your windows. Wash-Wax-All is also useful for "waterless" cleaning of all surfaces, although the red "heavy-duty" version is more effective for cleaning the belly and removing dried-on bugs.

11. The latch pins on the engine cowl doors should be adjusted so that the doors can be pushed gently into the latched position. If you have to slam the doors, or strike them with a fist or open hand to close the latches, the latch pins are mis-adjusted. Sometimes, squeezing the upper and lower cowl in the front will work. Then thumb pressure on the lower 1/2 inch of the rear latch while squeezing the cowls together will do the trick.

12. Working on the lower spark plugs without removing the lower cowl is facilitated by removing all of the machine screws on both aft sides of the lower cowl, and an equal number on the forward sides. This allows the sides of the cowl to fold out, giving ready access to the lower plugs. An even better solution is to "repair" the spot-welded seam on the bottom that joins the two halves of the lower cowl. If this seam is "repaired" by replacing the welds with a doubler, screws and nutplates, you will be able to remove one cowl half at a time.

13. REM 37 BY long reach spark plugs are approved for all of the engines in our four seat aircraft. These plugs are considerably less prone to lead fouling than are others. If you still have fouling problems, you can try the more expensive "fine wire" plugs, but these should not be necessary. Be sure to lean aggressively on the ground to reduce lead fouling.

14. In 1978 and earlier four seaters, fuel spilled around the filler caps should drain out through the bottom of the wing via the scupper drains. If it does not, you should clean the drains with a small wire so they work properly. These "scupper drains" are connected to the drain outlet on the bottom of the wing via a rubber hose that runs through the fuel tank. In some cases, these hoses can leak, allowing fuel to leak out of the tank. In a related item, a blocked vent will cause a crushed wing tank as fuel is used. Checking these vents should be part of each pre-flight inspection.

15. On each preflight, look at the four fuel tank cover plates below each wing. Eventually these will begin to leak, at which time they have to be removed and then resealed.

16. For ease in sliding the canopy, many suggestions are offered. WD 40, silicone spray, and alum a tube are some that have been recommended. However, the guides are made from Teflon and, therefore, a lubricant containing Teflon is a good solution. Tri-Flow spray lubricant works quite well. Note: Wearing of the tracks is often the source of a canopy problem. The tracks that are attached to the canopy can be removed and swapped from left to right. This changes the load bearing surface on each track and can give your canopy mechanism a 2nd life for free.

17. Many owners have had the nose bowl split to allow easier access to the alternator without having to remove the propeller. STCs are available including the necessary hardware. If you want to pursue this, contact AYA and we can put you in touch with one of the STC holders.

18. As soon as practical after landing, the oil access door should be opened and the cowls released and stood on the pins (wind conditions notwithstanding) to allow heat to escape the engine compartment. This prolongs the life of wiring and hoses in the engine compartment and reduces the chance of vapor lock on a "quick turn," especially for aircraft using auto gas.

19. The engine compartment baffle seals (the black, fabric like material under the cowl doors) are very important for engine and oil cooling. Experience has shown that many A&Ps do not fully understand their significance. Be sure YOU do. The seals should point inward, and should be flexible. They are intended to force incoming cooling air down through the cylinders. Any air that escapes this 90 degree turn also avoids cooling your engine.

20. In time, the intake hose leading to the carb air box in the AA5Bs becomes crushed. This can be securely bonded to the engine mount tubes with black silicone rubber. This will greatly extend the usable life of the duct.

21. The FAA has accepted the proposed alternate means of compliance to AD 79-22-04. The accepted alternate means requires compliance to Service Bulletin 163/Service Kit 144 for aircraft with riveted aileron torque tubes. It also provides instructions for a contour inspection of the ailerons. If both ailerons are found to be in contour then further repetitive inspections of the control system as specified by the AD are no longer required. This effectively ends the 100-hour aileron inspection AD.

22. As a replacement for the original gauges, you can install Mitchell gauges via 337. They're an all-electric set of replacement engine gauges. They allow you to remove the high-pressure fuel and oil lines that drive the stock gauges from the cockpit.

23. Cracking dorsal fins can be replaced with a new fiberglass version. This will last much longer than the original, plastic one.

24. For Travelers and Cheetahs, the 10-5217 carburetor is recommended. Lycoming SB 1305A addresses the legal (and recommended) conversion of the 10-5009 to the 10-5009N and that all 10-5009N carburetors should be overhauled with the parts kit from the 10-5135 (since they are now effectively 10-5135 carburetors). The 10-5135 is now superseded by the 10-5217. The reason for this modification to the type certificate is that the 10-5217 carburetor is a better carburetor for all AA-5 and AA-5A aircraft. This is due to the improved "pepper shaker" nozzle which produces better fuel vaporization. Since the FAA stresses the Type Certificate as the source of data for items such as this, modification of the type certificate is the best way to disseminate this information to all maintenance personnel of these aircraft.

25. Fuel tank leaks on AA-5 series aircraft are a recurring problem. However, if repaired correctly, re-sealed tanks should last for many years. First you need to drain all of the fuel and remove the tank access covers. Next, buy a small 12V CCD video camera (about the size of a film canister), preferably with built-in lighting. I borrowed one from someone else who did the same tank job. I think it cost about \$100. It hooks up to a small 12V B&W TV. The camera lets you see EVERYTHING going on inside the tank and is invaluable. Then, get a hard plastic/lexan/other scraper and get the old gunk out from around the seams that are leaking. This is a real pain! The most important step is to carefully look for debonding anywhere around the inboard rib. Delamination can occur elsewhere, but it most common there. Only once

you have scraped everything out from at least the inboard rib area and around the spar, can you reseal it. The sealing job is incredibly messy, but it is worth doing right. First you use the thin, type A sealant, then you use the thick, Type B sealant. You can get the sealant by ordering from Sealpak - Aviation Sealants (316) 942-6211 Fuel Tank Sealant Info: Sealpak (316) 942-6211 High Adhesion - CS3204 B1/2 - MIL-S-8802F (1/2pt \$15, 1pt \$27, 2 1/2oz \$13.61, 6oz) A is Thin, B is Thick, last number indicates the working time (1/2=30min, 2=2 hours, etc.) Low Adhesion - CS3330 - MIL-S-8784 (1/2pt \$17, 1pt \$32) A is Thin, B is Thick, last number indicates the working time (1/2=30min, 2=2 hours, etc.)