

# TECHNICAL UPDATE

Number **2** June '81

Distributed as a free service to all Lazair owners

## 2.1 WATER ON WINGS

Water on the wings of any airplane, whether caused by dew or rain, can add a considerable amount of weight and therefore will alter the flight characteristics — especially the rate-of-climb. If you're flying the Lazair, the effect of water on the wings is much more noticeable than it would be with a more conventional light airplane. The leading edge of the Lazair wing is very smooth and relatively free of rivets. This, along with the super-smooth mylar covering makes the Lazair wing one of the most aerodynamically clean wings ever used on a sub-sonic airplane, and is one of the reasons a Lazair is able to outperform most microlights which have more than twice the power-to-weight ratio. However, with beads of water on the wing (and especially on the leading edge) much of the smoothness of the wing is destroyed and climb performance will be significantly reduced. A take-off roll three to four times as long is not uncommon if the wings are wet. You may also find that immediately after lift-off, the airplane will assume a mush attitude and refuse to climb until it reaches an airspeed of about twenty-five or thirty miles per hour and the water beads begin to disperse.

## 2.2 LONG GRASS

Taking off or landing in reasonably long grass (up to a foot high) is generally not a problem except for the obvious increase in the take-off roll. However, the real long stuff (one and a half to two feet) can get caught in the cables (you know - the ones' people keep walking into) and can put enough stress on the tail to bend T11 (the spreader) or even break F4 (the rear stabilizer attach fitting). This is not a common occurrence but it has happened a couple of times and you should be aware of it. Any time you land in long grass (whether intentionally or otherwise) check your T11 and F4 before you take off again.

## 2.3 PRIMER BULBS

We have recently discovered that the major cause of those annoying air bubbles in the fuel line is the primer bulb. If you're having this problem, the best way to get rid of it is to get rid of the primer bulb. This obviously makes it more difficult to get fuel to the engines initially, but it should solve the bubble problem. If you want to retain the primer, be sure it is positioned so that the outlet end of the primer is lower than the inlet end. This will reduce the possibility of trapped air in the primer entering the fuel line to the engine.

## 2.4 SPARK PLUGS

Relative to the engines used on most other microlights, the engines on the Lazair have demonstrated excellent reliability. However, like any other two-stroke engine, they will refuse to run with fouled spark plugs. If an engine quits due to fuel starvation, it will usually cough and sputter a few times before it stops. If you notice an engine stop very suddenly with no warning, there's a high probability that the problem is due to a fouled plug. A small fibre of electrically conductive carbon, so small you can barely see it, can cause an engine to stop.

Although no one can guarantee you'll never have a fouled plug problem, there are several things you can do to reduce the possibility to a minimum.

- (a) Do *not* use unleaded fuel.
- (b) Use a good quality two-stroke oil in the gasoline. Although there are, no doubt, many good oils available, the one we recommend is Granberg (eutetic), mixed in a ratio of 100 to 1.
- (c) Check and clean (if necessary) your plugs regularly. Once every five hours is recommended, but this can be altered, based on your own experience. Plugs may be cleaned with a wire brush or with a small sandblaster of the type available at most automotive accessory stores and catalogue outlets for about ten dollars. If you use one of these units, be sure you clean all the sand particles out of the plug before you re-install it. Regardless of how you clean your plugs, make certain you clean all the grit out of the threads and apply a bit of oil before you screw it into the head. Aluminum heads can be damaged very easily by an improperly inserted spark plug. An easy way to avoid wasting valuable flying time cleaning plugs is to keep one or two spare sets of plugs and rotate them periodically.
- (d) Never turn the engine over with the spark plug lead off the spark plug, or with the spark plug incorrectly grounded as this could destroy your ignition module. This is a very costly mistake.

#### 2.5 STRUT PLUG HOLE LOCATION

Make sure that the 1/4" holes in the lower strut plugs are drilled with the centre of the hole at least 1/2" from the end. If they are not contact Ultraflight or your local dealer.