

TCRC

Triple Creek Radio Control Aviation Club

March 2014

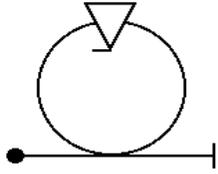
Issue 15

**Eliminate Bounce in
your Landings**

**Attack of the Destroyer
HOGS!!**

**DeHavilland DH-4
Stats and photos**





Editors Note

By Keith Hall

I went to the field to fly and the field looked like it had been bombed! It really looked like a miniature bombing run had been done on the edges of the runways. There were holes you could lose an airplane in! We didn't lose any airplanes but they sure got ripped apart, and some still are getting damaged even after the repairs. That day, the holes were tearing up planes left and right. It made you work hard to get that airplane on the runway and not run off the edge. Because if you did you were sure to lose your landing gear or worse. I guess the hogs came looking for grubs or roots and they keep digging until they get what they want or get tired of trying. In the process they really made a mess. I looked up what would work to keep them away, besides a gun, and there really doesn't seem to be anything. I thought maybe smelly ammonia, but I read they love foul smelling odors.

We have quit a few new members that have joined. I have to admit I do enjoy flying with new pilots. They bring a new sense of enjoyment to the hobby. It's good to help them out as it makes you stop and think about how you do things. It makes you also notice the short cuts and bad habits you have picked up over time. I have to say these guys have really done a great job of picking it up quick and we are enjoying their company at the field. If you see a new face, introduce yourself and welcome them.

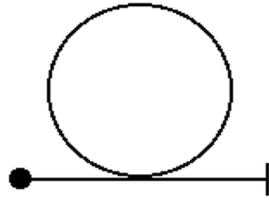


Chi Chi giving Keith a little help.

Wes flying his Albatross



In the Loop



Attack of the Killer Hogs!!



Steve, Keith, Wes
and Neil repair the
runway from the
hogs digging for
snacks.



February drawing to a close

by Greg Karpey

TCRC Safety Officer

Barring any last minute disasters in the final week of February, it has been a relatively safe month.

One thing I am requesting all members to do is to review the map of the “No Fly” zones that is posted on the club bulletin board. Some member’s (myself included), perhaps need to periodically remind themselves exactly where we are supposed to fly and where we are not. Numerous pilots have been observed going outside the designated flight zones.

The “No Fly” areas are designed not only to comply with AMA guidelines, but to keep members and spectators safe. Just to be clear the “No Fly” zones apply to electric and Nitro airplanes, the miniature (UMX type) planes, gliders, and helis. Keep to the authorized flight areas for the safety of all of us.

There were several observed incidents this month that could have resulted in serious injury. In one incident a member’s finger came in contact with a spinning propeller... luck was with him in that the prop hit his finger in the direction of rotation and pushed the finger out of the way. There was no harm other than a sore finger.

Two other incidents involved cords from glow plug ignitors coming in contact with spinning props. Again very luckily the cords did not become tangled in the spinning props and get whipped around. Please take care with your corded ignitors and starters to insure the cables stay out of harm’s way.

Also, those of us who use lanyards to support our transmitters while flying, need to take care while starting engines. A dangling lanyard wrapping around a spinning prop could get real ugly, real quick. Be mindful of those dangling lanyards!

An additional issue took place with a member was using a small screw driver to pry off a stubborn fuel line off a motor that was proving difficult to start. Unfortunately, the screwdriver slipped off the fuel line and ended up putting a small cut on the member’s thumb. In this case the motor was not even running, but maintenance was being performed.

I am sure most of us at one time or another have used a screwdriver as a pry bar — some of us have shed blood as a result. Use tools for the task they were designed for.

Rather than trying to pry off a plastic fuel line from a fitting that is designed to not allow the line to slip off — consider that cutting off the very end of the fuel line might be the safer alternative. The bonus is that when you reinstall the line eventually, you will have a fresh, unstretched section of the tubing. That would help the fuel line stay in place for future flights.

Have Fun, Fly Safe, and
Be Careful Out There!

Howard and Bob do a little maintenance check



Hmm, I give up



What's that Nob? It takes two to fly a cop-



Now Jake must have some very serious flying going on!



Leo and Wes Checking out the pits



Steve Sciuga's F-4
Phantom

Next club Meeting:
Saturday March. 1, 2014
10:00 am At the field

Eliminate Bounce in Your Landings

Twin City Radio Controllers, Inc., Minneapolis MN

In order for a taildragger not to tip over on its nose, its wheels must be ahead of the center of gravity (CG). As it is further forward, it can tolerate rougher ground, but the tendency to bounce is worse. But when a taildragger lands, the impact of the main wheels tends to push the nose up, increasing the angle of attack, lowering the tail, and increasing the lift—and the airplane is flying again.

Eventually, air speed is reduced and it falls to the ground again, maybe harder. The nose rotates, and the airplane becomes airborne once again. This process will continue until all flyable airspeed is exhausted. The aircraft may continue bouncing because of a phenomenon known as “loping.”

Loping occurs in a taildragger when the bounce of the main wheels causes the tail wheel to slam into the ground while the main wheels are still in the air. Then, the tail wheel bounces, slamming the main wheels onto the ground. This argument between the front and rear continues until momentum is lost. But the severity of the loping can increase in the interim.

Loping can occur in trike-gear aircraft as well. If the nose wheel strikes the ground before the main wheels do, the nose is pushed up severely, slamming the main wheels onto the runway. Being behind the CG, the rebound of the main wheels rotates the airplane forward so the nose wheel slams down again, maybe harder than the first time.

The process repeats. Loping in a trike airplane can start with taxiing. If the main wheel hits a bump, weight is shifted forward onto the nose gear. It rebounds, returning weight backward. This ping-pong-ing can grow, especially if the airplane is accelerating. The only way to stop it is to stop the airplane. The longer the distance between the main wheels and the nose wheel, the greater the tendency to lope. Loping also increases if the main wheels are too far aft of the CG. Stiff struts and bouncy wheels aggravate matters.

Trike gear has less potential for bounce because the main wheels can be placed closer to the CG.

When the main wheels touch down, the impact lowers the nose and the angle of attack, reducing lift. Some trike-gear designs actually have negative angles of attack when sitting on all wheels. This holds the airplane on the runway. Trikes have more positive ground steering because the nose wheel makes firmer contact with the runway than a tail wheel, especially at higher speeds.

Another little-known cause of bounce is main wheels that are too far apart. This may be shocking because this practice is generally considered good for ground handling. It usually is because it improves directional stability when rolling along the ground. What happens when the airplane lands and one wheel hit the ground before the other? A lateral form of bounce occurs from one wing to the other.

One might think that soft tires and springy struts would increase bounce. Not so. More often, bounce is aggravated by the landing gear that is too stiff. Rigidity does not absorb energy; it reflects it. The hardness of the runway contributes to bounce for the same reason. Some early racing airplanes, such as the Howard Ike, had landing gear so rigid they could not land on concrete runways because of the uncontrollable bouncing that occurred.

Moving the main gear close to the CG reduces bounce and improves tracking. The Spitfire, for example, is quite bounce resistant, but it tips over easily on rough ground.

Moving the nose and main gears closer together reduces bounce and loping, but it degrades tracking and increases the tendency to tip over on rough ground and in crosswinds.

Oleo struts help absorb impacts, but the spring tension must be just right—stiff enough to keep from bottoming out, soft enough to absorb shock. The same may be said of tires.

If your airplane rebounds into the air after a severe impact, head off further bounce by inching up the throttle slightly. Apply down-elevator if necessary to level the nose. This increases air speed, prevents a stall, and lowers the rate of descent.

DeHavilland DH-4

The Airco DH.4 was a British two-seat biplane day-bomber of the First World War. The first British two seat light day-bomber to have an effective defensive armament. It first flew in August 1916 and entered service with the Royal Flying Corps (RFC) in March 1917. The majority of DH.4s were actually built as general purpose two-seaters in the USA, for service with the American forces in France. The DH.4 was tried with several engines, of which the best was the 375 hp (280 kW) Rolls-Royce Eagle engine. Armament and ordnance for the aircraft consisted of one 0.303 in (7.7 mm) Vickers machine gun for the pilot and one 0.303 in (7.7 mm) Lewis gun on a Scarff ring mounting for the observer. Two 230 lb (100 kg) bombs or four 112 lb (51 kg) bombs could be carried. The DH.4 entered service on 6 March 1917 with No. 55 Squadron in France.

The aircraft was a conventional tractor two bay biplane of all wooden construction. The crew of two were accommodated in widely spaced cockpits, separated by the fuel tank.[3] It was armed with a single forward-firing synchronised Vickers machine gun and one or two .303 in (7.7 mm) Lewis Guns fitted on a Scarff ring fired by the observer. A bomb load of 460 lb (210 kg) could be fitted to external racks. While the crew arrangement gave good fields of view for the pilot and observer, it caused communication problems between the two crew members, particularly in combat, where the speaking tube linking the cockpits was of limited use.



TECHNICAL NOTES:

Armament: Guns: Forward-firing .303 in (7.7 mm) Vickers machine gun, Lewis gun on Scarff ring at rear

Bombs: 460 lb (210 kg) of bombs

Engine: 1 × Rolls-Royce Eagle VII inline liquid cooled piston, 375 hp

Maximum speed: 143 mph

Range: 470 miles

Ceiling: 22,000 ft.

Span: 43 ft. 4 in.

Length: 30 ft. 8 in.

Height: 11 ft.

