



The Antenna

February 2019



Adam Tomalty's F16 takes-off for it's maiden flight and Jon From's Tigercat photographed last fall - seems ages since we had warm outdoor flying weather!

**Next Club Meeting: Wed, April 3rd, 2019, 7:30PM at the [RED DEER FLYING CLUB!](#)
(Red Deer Regional Airport)**

NOTE: No March Meeting

CARFF Flying Events: Indoor Flying - Feb 24, 13:00 - 15:00, Penhold Mutlplex, \$10/pilot

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Indoor Flying, Mar 10, 13:00 - 15:00, Penhold Multiplex, \$10.00/pilot

2019 Executive, Standing Committees and Contacts

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COUNTY OF RED DEER BYLAW ENFORCEMENT

403-343-6301 (Call will be forwarded to member on duty).

Field GPS Coordinates: N52° 12' 6", W113° 42' 18" (N52° 12.106', W113° 42.304')

CARFF on Facebook <https://www.facebook.com/groups/1418503868392501/>

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Dave Platt 1/4 scale Bucker Jungmeister

In the olde days, 1978, Dave Platt a scale builder of much acclaim, designed and produced the Bucker Jungmeister in quarter scale. You'd think big, but in fact the real aircraft was quite small and the wingspan of the model is only 68 inches. Perfect for a .90 sized 2 stroke or a 1.20 size gas or four stroke. Building this kit uses a lot of old school techniques and I have stayed true to that style of building so far. Even has maple hardwood engine rails in the nose. The kit has a spun aluminum cowl and plastic blisters and the finished model not only looks great it flies great. How do I know? I built this same kit back in 1981. Powered it with a super tiger 90 and had a blast with it for a couple years. I sold it to a fellow modeler from Calgary and I have seen it at our auction twice since I sold it. That wood have been around 1990 when it first came back.



All the flight surfaces are set at 0 incidence except the top wing is set at -1 degree. A strange layout but I can tell you that with airframe and the fact that the real a/craft was set up the same way, It is an awesome flyer and inverted can go all day long. There are lots of real examples on the web so finding a color scheme you like is really easy. The one I have picked is all silver with graphics. N133BE is a new airplane. That's right, several pilots in the USA have built brand new examples of the Jungmeister right from the original drawings made by Bucker before ww2. Says a lot for the flight characteristics of this veteran airplane. The Luftwaffe used it for training before putting pilots into a messerschmidt.

So far the only hard part in this build was to identify the unmarked parts the dummy punched out of the diecuts without marking them. A few pieces are missing but all in all a very enjoyable build so far. Stay tuned for more as the build keeps going.



Recreational Vehicle Batteries

Deep Cycle Batteries: They have fewer and thicker plates, versus "starting batteries", which have more, thinner plates for short bursts of high amperage. Starting batteries are NOT suitable for motorhome "house" batteries. Most RVs come equipped, not with a true deep cycle battery, but rather "RV Marine" type batteries which combine the attributes of both types, a sort of hybrid between a true deep cycle and a starting battery (and less expensive for RV manufacturers to use. These are definitely better house batteries than a starting battery would be, so use them until they wear out and then replace them with **a true deep cycle type.**

Battery Types: Flooded lead acid batteries are either lead calcium "maintenance free" types, or lead antimony (the more traditional type that has caps and to which you need to add water periodically). Most deep cycle batteries are lead antimony, since the "maintenance free" types (lead calcium) are sealed, but have low tolerance for "deep" discharge (below 40-50%). Lead antimony has higher tolerance for deep discharge, but they self-discharge faster. **On balance, lead antimony is better suited for RVs, and true deep cycle batteries are of this type.**

Gel Cell: Good for boats, where you're in rough seas, since the electrolyte won't leak out as it will with flooded batteries. But there are some problems, and in terms of utility they are now totally replaced by AGM. If you charge gel cells at too high a charge, you'll actually lose some of the electrolyte through gassing, and dry out the battery (shorter life).

AGM: (absorbed glass mat) is a flooded lead acid battery, but instead of gel, it uses a fibrous glass mat which is 90% soaked in electrolyte. It is sealed, and the electrolyte is so immobilized that it can never come out.

How to know the condition of your batteries: The only way to know for sure is to test the specific gravity of each cell. But this is so cumbersome that most RVers want another option. The built in systems of LEDs are at best an approximation. The other way is to go by battery voltage. The preferred method is a digital display, versus analog (needle). The idiot lights (red, amber & green) that come with most new rigs actually mean very little. The key to voltage checks is getting the battery "at rest". Yet that's virtually impossible unless you completely disconnect the battery, since there are always phantom loads (sensors, etc.). If you're plugged in to shore power, or use solar panels, they "charge" and make it impossible to know true voltage. Best time is first thing in the morning when you've

not been plugged in (and before any solar influence). 12.65V is "full"; 12.47V is 75%; 12.24V is 50% 12.06V is 25%; 11.89V is just about zero. The best time to catch battery in the needed "at rest" condition is in the early morning, unless you have solar, in which case you need to check before first light.

Primary causes of battery failure: Overcharging is one primary culprit. To charge, you need a source 14.1V to 14.4V or more at room temperature. That's the gassing threshold for most lead acid batteries. You don't want to have higher voltage causing it to boil or "gas" from excess amperage. Gassing will occur at lower charging rates if the outside ambient temperature is hot; such as parking on asphalt during hot weather. Overcharging causes plate corrosion and/or water loss. In colder weather you may need to go above 14.1-14.4 volts to cause the needed gassing to stir the electrolyte. This is called reaching the edge of the gassing threshold, which is needed to fully recharge the battery. Thus batteries will have longer life if there is a system for changing the charge rate depending on temperature. Lack of temperature compensation on inverter, charger, and solar is very important for RVs. Hot batteries require a lower voltage charge, while cold weather requires using higher voltage to "compensate" for the ambient temperatures. Unless the charging system can adjust the charging voltage either undercharging or overcharging is likely to occur. Temperature compensation is a crucial for RVs. If you don't have temperature compensation and the weather is hot, you'll have to add water more frequently, and keep batteries clean from the effects of gassing and spillage. Undercharging is another problem, as it results in plate sulfating and electrolyte stratification. You'll know this when your battery used to last for 3 days, but now only lasts a day. Vibration in an RV can cause some of the

lead on the plate to fall off and piles up on the bottom of the battery. Eventually it builds up and will short out on the adjacent plate.

Shopping for a House Battery:

Reserve capacity (usable minutes at 80 degrees F @ 25 amp draw to 10.5V)
 Amp-hour capacity: Available amp-hours, at a fixed rate, over a given period of time (e.g. 20hr rate, 5 hr rate, etc.). Most true deep cycle batteries are at the 20 hour rate. A group 27 battery has about 100 amp hours (5 amps for 20 hours at 80 degrees F). The problem is no one uses exactly 5 amps. If you're pulling 10 amps, you may have a "70 amp hour battery"; if you only draw 2, you may have a 140 amp hour battery. So the amp-hour rating is not really more than a general way to compare like types of batteries.

Comparison Techniques:

How to compare different types of RV batteries.

Efficiency: Measures how much you have to put back versus what you took out. Flooded is 89% efficient; gel cell 95%; AGM is 99%.

Self-discharge rate: Flooded 13%; gel cell 3%; AGM 1%.

Cycle life at 50% discharge limit: Flooded 1280; gel cell 400; AGM 1100.

Cycle life at 80% discharge: Flooded 850; gel cell 270; and AGM 550.

Charge set point: Flooded = 14.2-14.6; gel cell 13.8-14.0; AGM 14.1-14.4

Float charge: Flooded = 13.2-13.7; Gel cell 13.2; AGM 13.2 -13.4

(Note from the last two measures the relative intolerance of gel cell types. You have several charging sources, such as alternator, shore power/ converter, and solar. It's very difficult to hit the tight tolerances of gel cell type batteries in RVs.)

Input Charge: With flooded battery, charging amperage should not exceed 35% of the amp hours. Thus if you have a 100 amp hour flooded battery, you should not charge it at more than 35 amps. With gel cell, you can recharge at 50%; AGM you can recharge at 100%. Finally note that traditional lead acid batteries require maintenance, while gel cell and AGMs do not.

A note on adding water:

Look down cylinder, and fill to the "slit". Always use distilled water. Fill only to the base of the cylinder. Don't fill above that point (water expands when it gets hot); and don't let water go down to where you can see the top of the plates. The reason for not filling above the bottom of the cylinder is that water will expand in volume when hotter, and will spill out the electrolyte, causing corrosion. To clean batteries keep caps on tight, use half teaspoon

of baking soda in a cup of water and spray on. It will bubble and fizz, then just hose it off.

Equalization: This pertains only to flooded lead acid deep cycle batteries, e.g. a Trojan golf cart battery. They will have six caps, representing the six cells within the batteries. Sometimes on recharge one cell will recharge less than the others. 95% of "dead batteries" really means just one dead cell. Equalization is a planned overcharge of the five good cells, while bringing the one bad one up to full voltage. It's better than the option of letting the battery sulphate and ruin that one cell, causing a "dead battery". Suggests equalizing not above 15V, and then adding water immediately afterward.

Best bang for the buck is the Trojan T-105 golf cart batteries, if you have space for them. They are considerably taller, and won't fit in some compartments. Two 6's in series is better than two 12V batteries. Longer life, more forgiving, will last twice as long.

Choices:

Gel batteries cost twice as much as wet, but require a very exacting charging regimen. **Stay clear of them in RVs.**

Trojan AGM's will cost about 2.5 times that of the wet cell, but can be worth it for many RVers. Dry camping typically takes 50-100 amp hours daily. Two 6 volt golf cart batteries in series (12 volts) are usually enough for most rigs. Four are needed if you have an inverter.

There are date stamps on all batteries. They want to get rid of old batteries first. If you have different date stamps, you're likely to invite the "different ages" problem, which holds that you need to replace all batteries that are of the same age.

Note: Don't mix battery types, sizes or ages in the same battery bank. Typically, if you need to replace a battery, it's time to replace all of them.

RV Battery Winter Storage

1. Always remove your batteries from your RV and store them inside your garage or basement. If they are left in your RV they can freeze. Once this happens they will have to be replaced and there is no warranty on frozen batteries. It is not necessary to store the batteries in a heated area; however, it is crucial that they are charged regularly if stored in an area where it drops below freezing.
2. Be sure to charge your batteries throughout the winter to prevent sulfation. Sulfation occurs during periods of extended storage and will reduce the batteries capacity and make it very hard to recharge come spring. An hour of charge every 30 days is sufficient or you can use a

smart charger maintainer, such as a **BATTERY TENDER** that will automatically monitor your batteries' condition and come on and off as required.

3. Check your batteries fluid levels if you have a serviceable battery. Fill to about one inch below the top of the case making sure the plates are covered with fluid. Distilled water is the best (available at Walmart, etc.) however bottled water (de-mineralized) will do as well.
4. Clean any corrosion off your terminals with a wire brush and a baking soda solution.



Reprinted with permission: [Battery World](#)
[Battery FAQ](#)

EDITOR'S SOAPBOX

Eraldo Pomare

Thank-you John Ferguson for the Bucker Jungmeister article. Thanks also to George Rehman for suggesting I reprint the above RV Battery article; and a huge thanks to Battery World for permission to reprint (and providing an updated version). While not directly RC related, I'm sure members will find this article useful!

Indoor flying attendance has been dropping to well below the required average of 12 pilots per session to cover the gym rental costs. At the last meeting, some members questioned whether we should continue with the program next year. I for one would like to see it continue; but I do see their point, especially since there were only three of us at the last session.

Good outdoor flying weather is just around the corner. Balzac Billy didn't see his shadow; you just have to trust a guy dressed up as a rodent, right? Here's hoping.

Note: "The Antenna" needs your articles, photos and sketches! Previously published articles must be accompanied by a release (permission) from the copyright holder.

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Indoor Flying, Mar 10, 13:00 - 15:00, Penhold Multiplex, \$10.00/pilot

CARFF General Meeting - Minutes Wednesday Feb 6th, 2019

In Attendance: Brian Davis , Chris Warner, John Ferguson, Jon From, Vince Mulhall, Wayne Hutmacher, Scott Nelson, George Rehman, Ron Ditchburn, Adam Tomalty, Ron Hall, Tony Lindhout, Eraldo Pomare, Perry Friesen, Devon Glowatski, Mila Petrik, John Cameron.

The meeting was called to order @ 19:35 by Jon

Agenda: Additions -None.

Motion made by Brian, Seconded by Eraldo to approve agenda. Carried.

Minutes:

Motion was made by Tony, Seconded by Ron to adopt the Jan minutes as published in the newsletter. Carried.

Financial Report:

The balance in the bank account is \$13,965.18 and a GIC of \$ 15,618.58 for a total of \$29,583.76

Motion made by Wayne, seconded by Scott to adopt the financial report. Carried.

Old Business:

New Years Fun Day , good turnout . lots of stories.

New Business:

2019 Budget,

Moved by Wayne that we accept the 2019 budget as published in the newsletter, Seconded by George. Carried

CARFF Air Show Aug 4, 2018 (Long Weekend) For more info please see Jon.

Mall Show , no date yet looking for a weekend in March or April, please see Vince for more information.

Indoor Flying in Penhold. Need more Flyers.

Vince and Eraldo Auditors of the 2018 Financial Books, Completed.

Membership Committee, Moved by Eraldo , Seconded by John F. Carried.

Members are Vince, Ron, Jon, Eraldo, Perry, John F.

No Meeting March 2019, April meeting at the Red Deer flying Club.

Open Discussion:

MACC Zone Meeting Fall 2019 having a swap meet to attract more members

PA System for Lacombe Days June 1st.

Adjournment: Motion by John F at 8:32 that the meeting adjourn. Carried.

Pres. Jon From

Sec. Chris Warner

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Responsible Flying

Well, it turns out that the guy who caused [chaos at Heathrow airport](#) a couple of days after the drone incident shut down Gatwick, is an RC airplane flyer. He is a member of a club and presumably of the British equivalent of MAAC. It won't take many such events to put at risk any special dispensation MAAC gets from Transport Canada when the new regulations come into effect in June. It's in every MAAC member's interest & responsibility to fly safely and to call-out any unsafe flying.

2019 Calendar of CARFF Events

Feb 24, 2019 (Sun)	Indoor Flying, Penhold Multiplex, 1:00PM to 3:00PM, \$10/pilot
Mar 10, 2019 (Sun)	Indoor Flying, Penhold Multiplex, 1:00PM to 3:00PM, \$10/pilot
Mar 31, 2019 (Sun)	Indoor Flying, Penhold Multiplex, 1:00PM to 3:00PM, \$10/pilot
Apr 3, 2019 (Wed)	Club Meeting, 7:30 PM, Red Deer Flying Club - Red Deer Regional Airport
May 1, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
May 4, 2019 (Sat)	CARFF Auction, Sylvan Lake, 08:00 - 20:00; Organizer: Rob McCoy
May 11, 2019 (Sat)	Show & Shine, CARFF Field, 09:00-17:00, Organizer: Ron Hall
May 25/26, 2019 (S/S)	Sailplane Weekend, CARFF Field, 10:00-16:30, Organizer: Eraldo Pomare
Jun 5, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
Jul 3, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
Aug 4 2019, (Sun)	Airshow CARFF Field; Organizers; Jon From & Vince Mulhall
Aug 7, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
Sep 4, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
Oct 2, 2019 (Wed)	Club Meeting, 7:30 PM, CARFF Field Clubhouse
Nov 6, 2019 (Wed)	Club Meeting, 7:30 PM, Red Deer Flying Club - Red Deer Regional Airport
Dec 4, 2019 (Wed)	Club Meeting, 7:30 PM, Red Deer Flying Club - Red Deer Regional Airport (Election Night for 2020 Executive)

NOTE: If you know of other clubs who would like to have their events listed in the CARFF newsletter, please have them send the info to the [editor](#)

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