

## Winter Flying Notes

NR 10/25/05

### Flight Planning – Keep Options Open

It gets dark early.

Beware gnd fog, x-winds, blowing snow, sun setting off the end of runway.

Nobody in the boonies. Conservative routing. Warm gloves, hat, coat, shoes. Phone.

Possible need to turn back, RON, or abandon plane and pick up later.

Possible need to take tiedns, pre-ht hose, extension cord, ladder, brush, covers

Need to check battery up, hangar shoveled, tires up 1 – 2 days before intended flight.

### Preflight

Don't track salt into hangar or into airplane. Watch out for turkey-shit on ramp at BED.

If frosted or snowed-in: plane clean enough to fly. No scraping or hammering, no glycol

Ice in flap gaps, frozen trim tab, frozen throttle linkage. Possible re-freeze after thawing.

Water or ice in tanks and fuel lines. (Water will freeze at altitude and choke flow.)

Water, ice in pitot-static system. Be able to go around, land w/o airspeed or altitude ind.

Pitot heat working. Switches, lights working. Freeing stuck starter gear.

Tires not frozen to ramp. Plane free to roll.

Use good cold-start technique to spare the battery and starter motor. Prop discipline.

Jump starting, propping (don't!)

Icing spray

### Taxi, Take-off, Enroute, Descent, Landing

Don't taxi over ruts, drain grates, lumps of ice. Stay out of puddles.

Watch out for soft spots on turf or gravel

Leave enough room when taxiing to swing into wind

Oil temp off pin.

Carb heat in raw weather

Oil congealing in cooler enroute

Ice enroute.

Winds picking up at destination; may need to go elsewhere.

Carb heat. Carbon Monoxide

Shock cooling

Gusts, X-winds, go-arounds

### Shutdown and Tiedown

Engage bendix

Gust lock, tiedowns

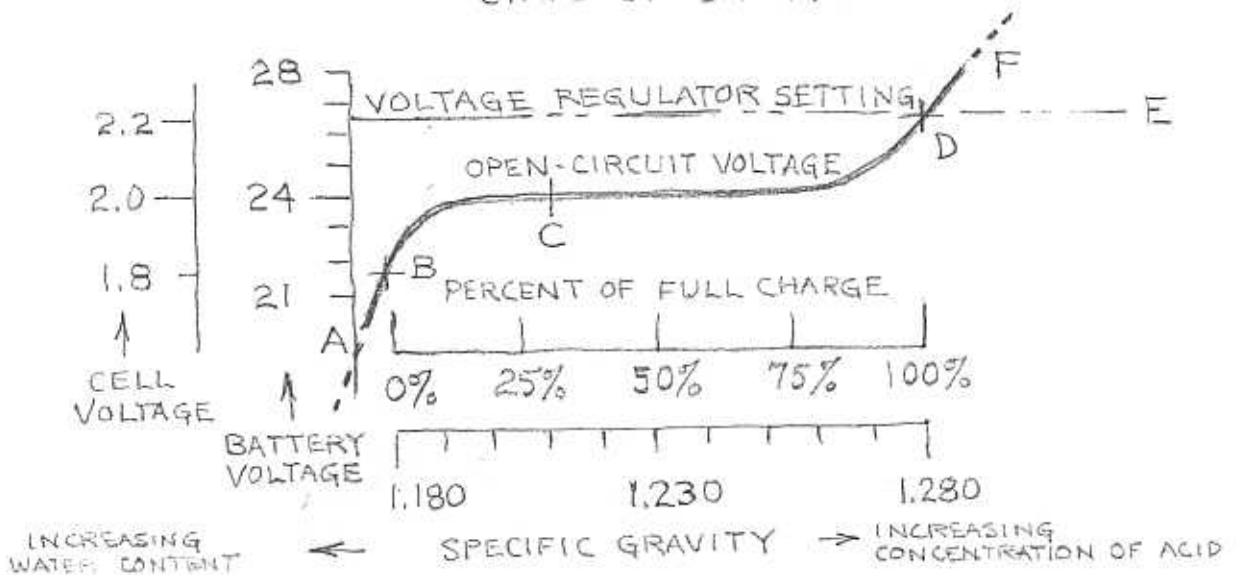
Covers, block heat, hangar

Take phone with

Security

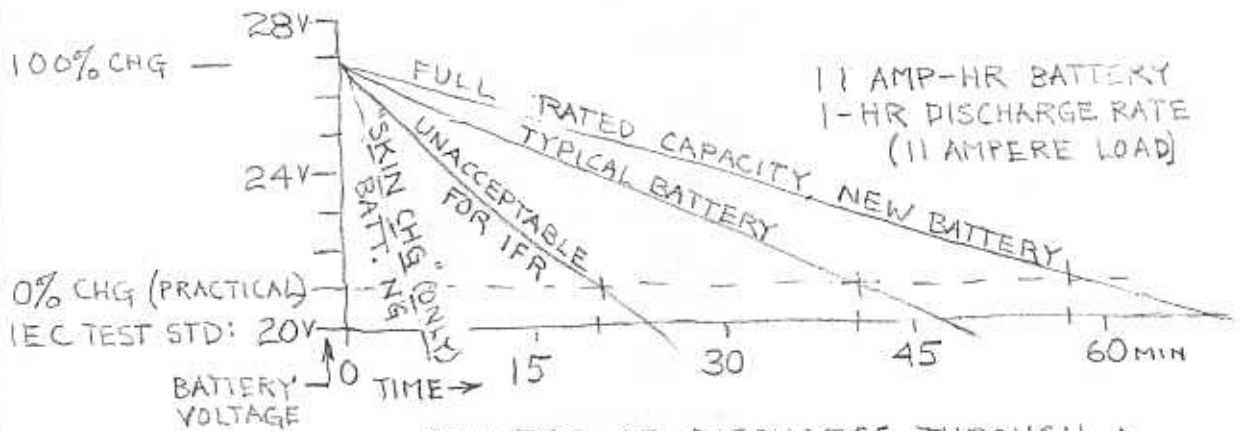
SOME IMPORTANT BATTERY CHARACTERISTICS

STATE OF CHARGE



- A. BATTERY LOW OR FLAT, RISK OF SULFATION
- B. BATTERY DISCHARGED, NEEDS PROMPT RE-CHARGE
- C. BATTERY IN NEED OF MAINTENANCE-CHARGING
- D. BATTERY FULLY CHARGED
- E. VOLTAGE LEVEL INTENDED TO PRODUCE FULL CHARGE
- F. BATTERY OVERCHARGED, CONSUMING WATER

BATTERY CAPACITY TEST, VOLTAGE vs. TIME UNDER LOAD

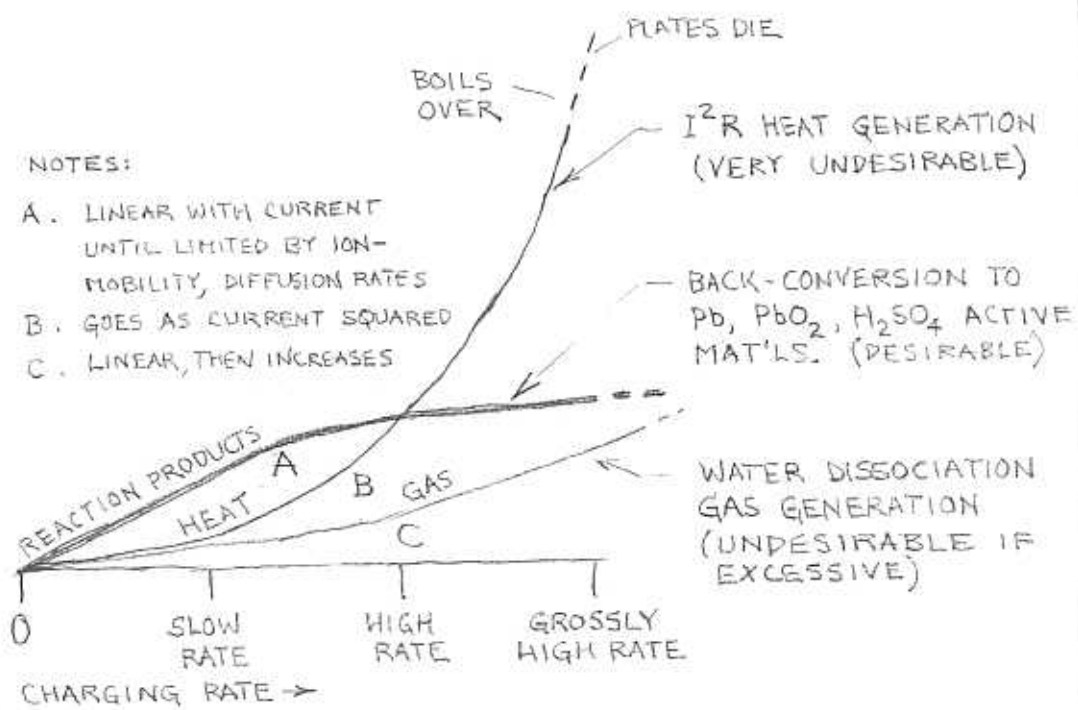


MINUTES OF DISCHARGE THROUGH A "C-1" LOAD (TYPICAL A/C EQUIPMENT LOAD)

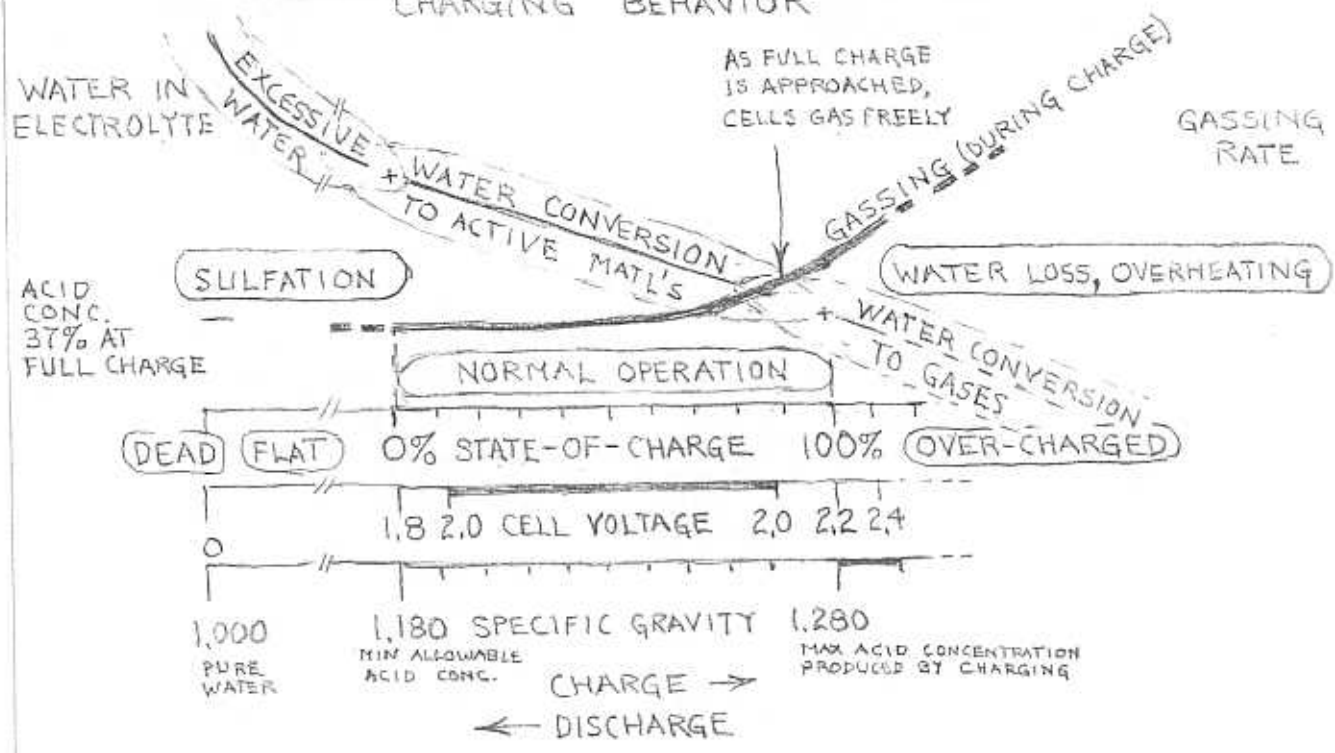
### EFFECTS OF HIGH CHARGING CURRENT

NOTES:

- A. LINEAR WITH CURRENT UNTIL LIMITED BY ION-MOBILITY, DIFFUSION RATES
- B. GOES AS CURRENT SQUARED
- C. LINEAR, THEN INCREASES

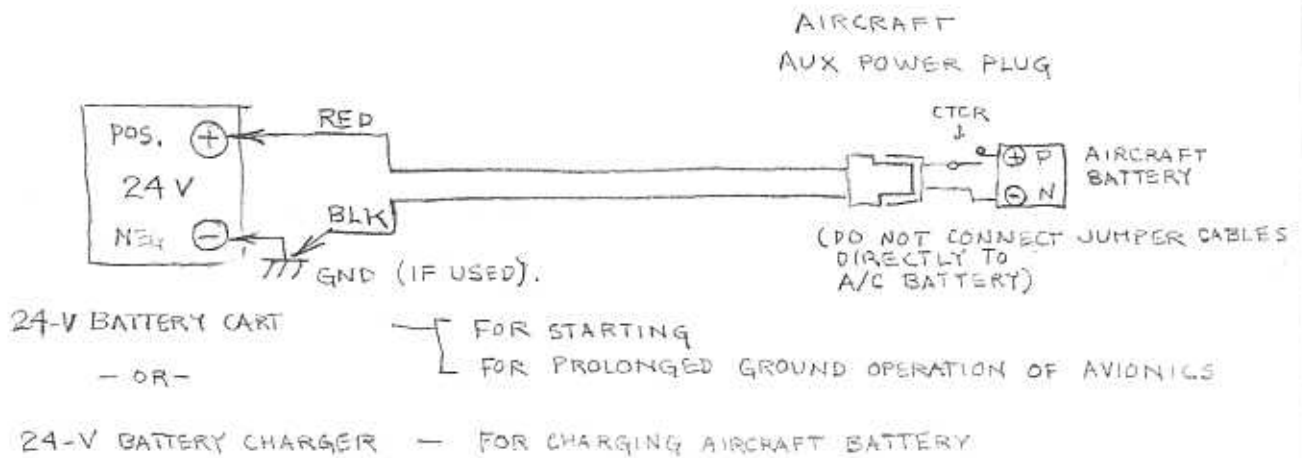


### CHARGING BEHAVIOR

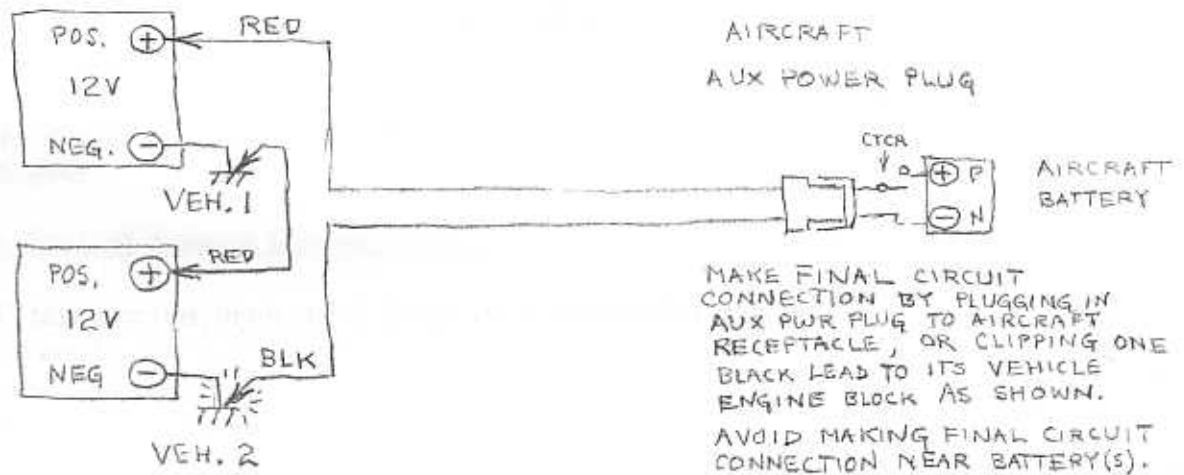


7.1.R 12/17/03

## BATTERY CONNECTION DIAGRAMS



- ALWAYS WEAR EYE PROTECTION ←
- ALWAYS SHUT AVIONICS OFF WHEN MAKING/BREAKING CONNECTIONS ←
- FOLLOW POH INSTRUCTIONS ←



TWO 12-VOLT AUTOMOBILES } FOR STARTING  
OR AUTOMOBILE BATTERIES } FOR PROLONGED GROUND OPERATION OF AVIONICS

NOTES: GROUND OF VEHICLE 1 MUST NOT BE CONNECTED TO GROUND OF VEHICLE 2 IN CIRCUIT SHOWN ABOVE

JUMPING OR TRYING TO CHARGE A DEAD AIRCRAFT BATTERY WITH AUTOMOBILE ALTERNATORS RUNNING MAY NOT BE A GOOD THING TO DO. CHARGING CURRENT MUST BE LIMITED TO A SAFE VALUE FOR THE AIRCRAFT BATTERY

BEST TO MAKE FINAL CIRCUIT CONNECTION AWAY FROM BATTERIES, TO VEH. GND AS SHOWN, OR BY JOINING CLIPS AT FAR END OF 2-CONDUCTOR BATTERY CABLE USED AS (SINGLE) SERIES CONDUCTOR BETWEEN BATTERIES, OR BY PLUGGING AUX PWR PLUG INTO A/C RECEPTACLE, AND FOLLOWING POH INSTRNS (PREFERRED)

