

## Join The LUNAR Build-A-Rocket-By-Mail Club

LUNAR has started a club for folks who really enjoy building rocket kits. Each month you receive, by mail, another piece of a real rocket kit!

Imagine, if you had started with us last year, you would be really close to completing your Quest Cyclone – the very same model we're using at this year's Maker Faire! With nearly a dozen parts, over the last year many of us have enjoyed the carefully planned construction and the excitement of getting a new part every month.

Hurry and sign up for the next big project: The Mighty Saturn V! That's right, we're building Saturn Vs! With over 440 pieces in this finely detailed kit, at one piece each month you'll have plenty of time to carefully trim, sand, primer, paint, and detail to the finest construction standard ... We've planned ahead: We're not doing it for this year's 40<sup>th</sup> Anniversary, the entire thing will come together just in time for the 87<sup>th</sup> Anniversary of the Apollo 11 Lunar Landing in 2056! How exciting will that be! You might be the first one there.

## BATFE Giving Out FREE RELOADS At Snow Ranch

Local BATFE Agent Justin Case has had enough of being on the bad-guys side. Because of Judge Reggie Walton's recent ruling on our long-running NAR/TRA case, Justin decided to join the good-guys in LUNAR, and make amends for the so-many-years of trouble for rocketeers caused by the agency.



Photo by Steve Jurvetson, (cc)

Justin has promised to hand out FREE RELOADS to every rocketeer, at the next Snow Ranch launch!

## Extreme Precision Rocket Altitude Tracking via Sextant

LUNAR member Dr. Lirpa Sloof has written the equations and method for rocket altitude tracking, using a sextant, to obtain extreme precision.

Ordinary visual rocket altitude tracking, using a theodolite, is accurate to within a degree or so. Depending on the baseline, that degree can translate in to plus or minus several feet.

By using a high quality sextant, with a resolution of tenths of a minute of a degree of arc, the error can be reduced to fractions of an inch.

The Navigational Triangle, according to Bowditch (American Practical Navigator):



Dr. Sloof will present his method of modified-lunar-distance sighting and reduction at the next LUNAR meeting. Dr. Sloof says that the mathematics and arithmetic is not a problem, but getting the rockets to hold still at apogee is a problem.

