

# The SS67B-2 Liquid Fuel Rocket Kit!

**The Dawn of a new era is here!**

- Uses Regular Gasoline as a fuel!
- Re-usable! Multiple launch capability!
- Can reach altitudes of 5000 feet!
- Simple refueling! Use only a funnel!
- Cost per launch is \$6.00!
- Launch control box included!
- Easy assembly! No special tools needed!

The SS67B-2 rocket kit blends the engine with the casing into one unit! As a result, purchasing phenolic tubing, a nose cone, a transition collar, fins, etc. is not required! **IT'S ALL INCLUDED!**

**SS67B-2 Rocket Data**

**SS67B-2 Rocket Specifications:**  
Average thrust: 250 newtons (56 lbs.)  
Burn: 5 seconds  
Total impulse: 2050 lbs  
Chamber pressure: 200psi  
Exit gas velocity: Mach 2.4  
Fuel: Super unleaded gasoline  
Oxidizer: 50% Hydrogen Peroxide  
Dry weight: 5 kg (11 lbs.)  
Loaded weight: 7.2 kg (15.8 lbs.)  
Height: 6 feet  
Diameter: 4 inches

The SS67B-2 uses a pressurized gas (CO<sub>2</sub> recommended) for pressurizing the propellants into the combustion chamber. Pressurizing can easily be accomplished by acquiring commercially available "dry ice." (This is the same stuff used to keep ice cream in ice cream trucks cold.) Using "dry ice" eliminates the need for bulky pressurizing tanks! The SS67B-2 uses 50% Hydrogen Peroxide as the oxidizer. Both the dry ice and 50% Hydrogen Peroxide are easily obtainable through sources revealed in the 30 page construction manual. Manual comes complete with assembly procedures and drawings! Refueling support equipment and ignition control box are included!

**Designed with safety in mind!**

To demonstrate the safety of the propellants, the flask to the left is filled with the oxidizer and the fuel. The combination does not mix due to the difference in densities between the two propellants (in similar to when water and oil are mixed). The oxidizer (50% Hydrogen Peroxide) contains 50% water! This large water content suppresses detonations from occurring! The propellants will not ignite even when in contact with each other (a non-hypergolic) and will stay separated!

**No expensive propellant ground support needed!**

Both propellants are liquid at atmospheric pressure. As a result, a small funnel (included with kit) is all you need to load the propellants on the ground. Simply bring the propellants to the launch site in different containers and load the fuel and oxidizer reservoirs by pouring them into their respective chambers! There are no special tanks, fillings, pumps or any other type of equipment required!

**Only \$948!**

Save \$50 off the regular price for a limited time only! Order Now!

To order, dial/toll free 1-800-240-4848 (orders only please!)  
Overseas, dial 1-518-365-3186. Visa and Mastercard accepted!  
For questions, call 1-450-621-5999 Mon-Wed, E.S.T. 9AM-5PM  
Fax: 1-450-621-1062 E-mail: launch@total.net

For checks or money orders, send to: Systeme Solaire, 100 Walnut St., Champlain, NY, 12919 U.S.A.

Quite a few years ago, the Tripoli High Powered Rocketry magazine had an advertisement for a liquid fueled rocket offered from a company in Canada.

I had talked with a fellow High Powered rocket member Bill Bowman from the San Diego California prefect Dart about this kit. So we talked about it and bought one.

Bill noticed several issues with it. The following is a brief about the build and the flight results.

IGNITOR GUIDE TUBE  
AND SOLID PROPELLANT STARTER GRAIN

WTS 5/10/01

2X ACTUAL SIZE  
GRIND ANGLE

WIDEN SLOT  
FOR TUBE

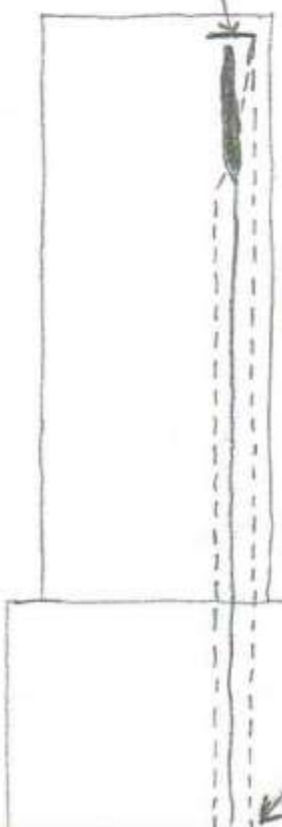
STOP

IGNITOR POWDER MIX  
CAN BE BLOWN OUT BY  
PROPELLANT SPRAY.  
USE SOLID AP GRAIN.

IGNITOR GUIDE TUBE  
ALLOWS IGNITOR TO  
BE REPLACED IF IT  
FAILS WITHOUT  
UNBOLTING ENTIRE  
COMBUSTION CHAMBER



24MM  
WHITE  
LIGHTNING  
OR BLACK  
JACK GRAIN

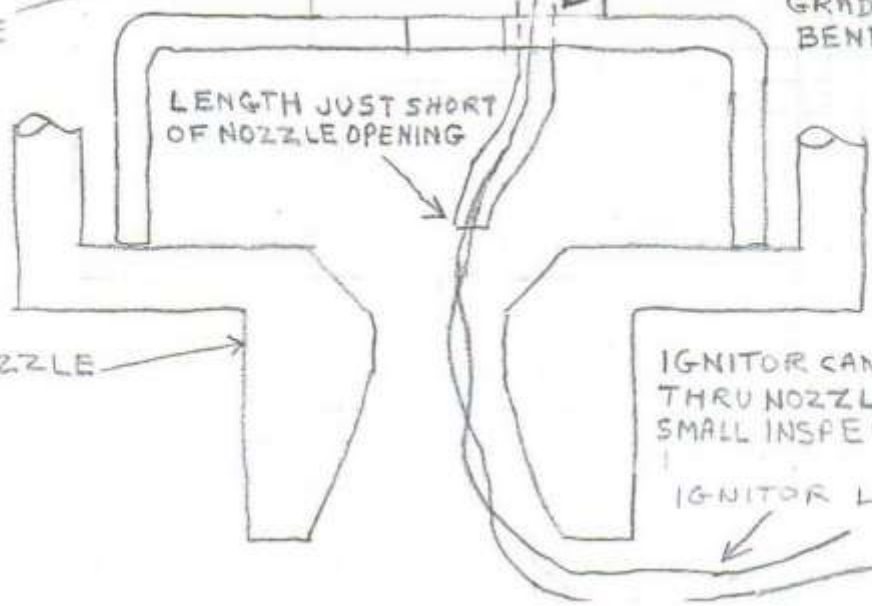


3/16 OD STAINLESS STEEL  
TUBE

STEEL WIRE LOOPS  
THRU SMALL HOLES  
IN IGNITION CARTRIDGE  
TO HOLD TUBE IN  
PLACE, ALSO EPOXY.

HOLE DRILLED IN  
COPPER END CAP  
FOR TUBE

IGNITION  
CARTRIDGE



LENGTH JUST SHORT  
OF NOZZLE OPENING

GRADUAL  
BENDS

NOZZLE

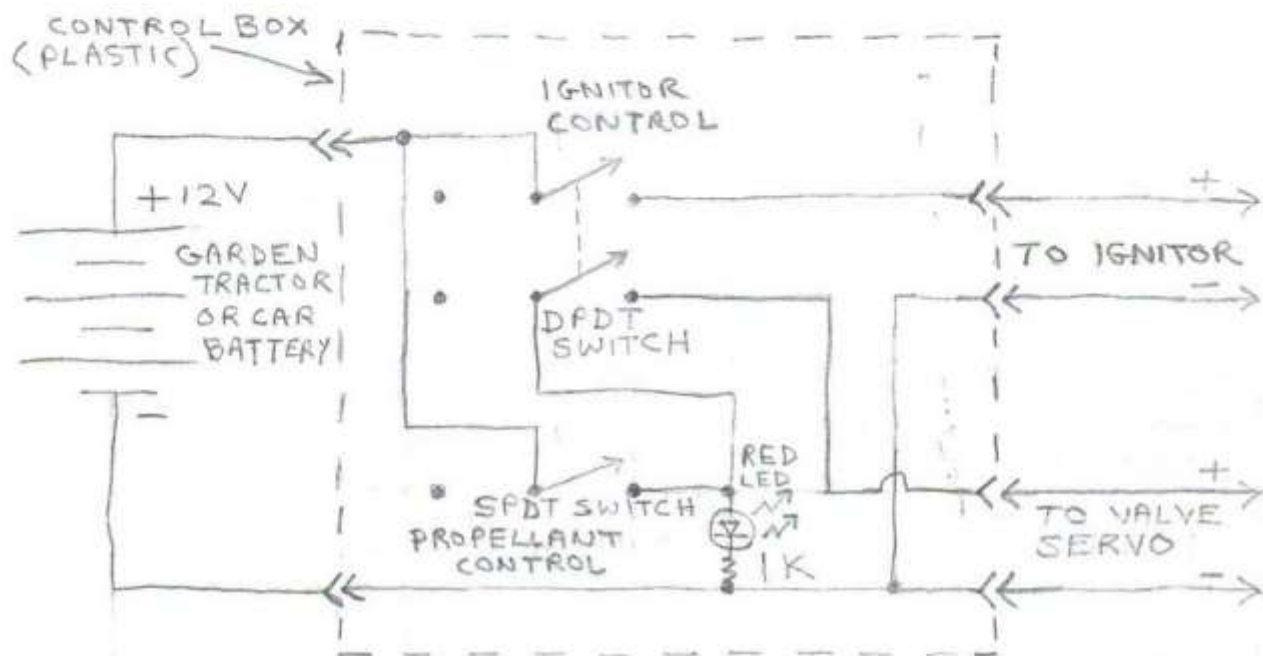
IGNITOR CAN BE INSERTED  
THRU NOZZLE WITH AID OF  
SMALL INSPECTION MIRROR

IGNITOR LEADS

# SS67B-3 LAUNCH CONTROL

(MANUAL)

WRC 4/17/01



A MANUAL LAUNCH CONTROLLER IS NEEDED TO ENSURE ROCKET IS NOT PREMATURELY LAUNCHED IF STARTER GRAIN DOES NOT IGNITE (FAULTY IGNITOR, LOW BATTERY, OR FAULTY WIRING).

CURRENT LAUNCH CONTROLLER RELEASES PROPELLANTS INTO COMBUSTION CHAMBER 3-4 SECONDS AFTER IGNITOR IS SWITCHED ON.

MANUAL SYSTEM GIVES YOU CHANCE TO SEE IF IGNITION OF STARTER GRAIN HAS OCCURRED (WHITE SMOKE) BEFORE RELEASING PROPELLANTS.

RED LED GIVES WARNING NOT TO WIRE UP SYSTEM IF LIT (PROPELLANT CONTROL ENERGIZED)



## SS67B 3 MODS (REFER TO PHOTOS)

1. THRUST FRAME - THE WHOLE PRESSURE TANK IS SUPPORTED ABOVE THE PROPELLANT TANK ONLY BY THE PLUMBING. THIS MUST SUPPORT ALL "G" FORCES INCLUDING LANDING SHOCK. I BUILT A THRUST FRAME TO WITH MOLDED PLASTIC RINGS AND 3 THICK WALL ALUMINUM TUBES FOR EXTRA STRENGTH.
2. FUELING PORTS WITH PLUGS - NO PROVISION WAS PROVIDED FOR EASY AND SAFE FUELING OF THIS ROCKET. I ADDED 2 FUELING PORTS FOR GASOLINE AND H<sub>2</sub>O<sub>2</sub> WITH THREADED BRASS PLUGS. (COAT THREADS WITH SEALANT)
3. THIS ROCKET MOTOR DOES NOT HAVE AN OVER PRESSURE SAFETY VALVE. THE WHOLE PRESSURE TANK MUST BE UNSCREWED TO RELIEVE PRESSURE IN AN EMERGENCY. I ADDED A THREAD IN, PUSH TO RELEASE PRESSURE, VALVE. SKU# 340008

PHOTO # 1

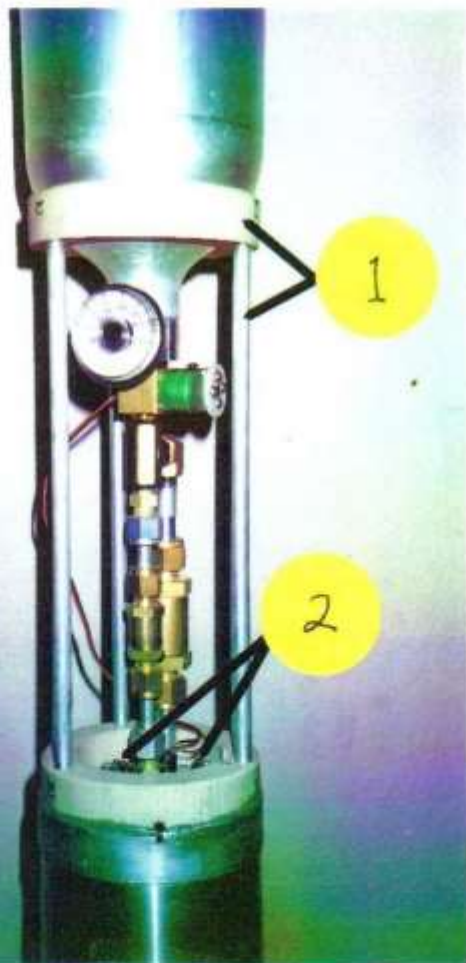
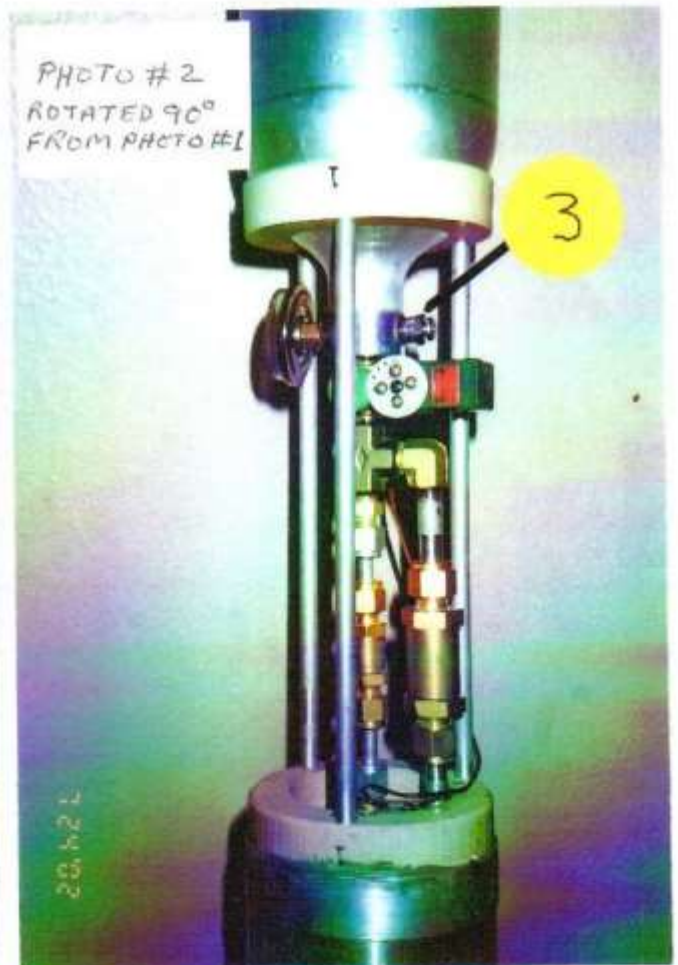
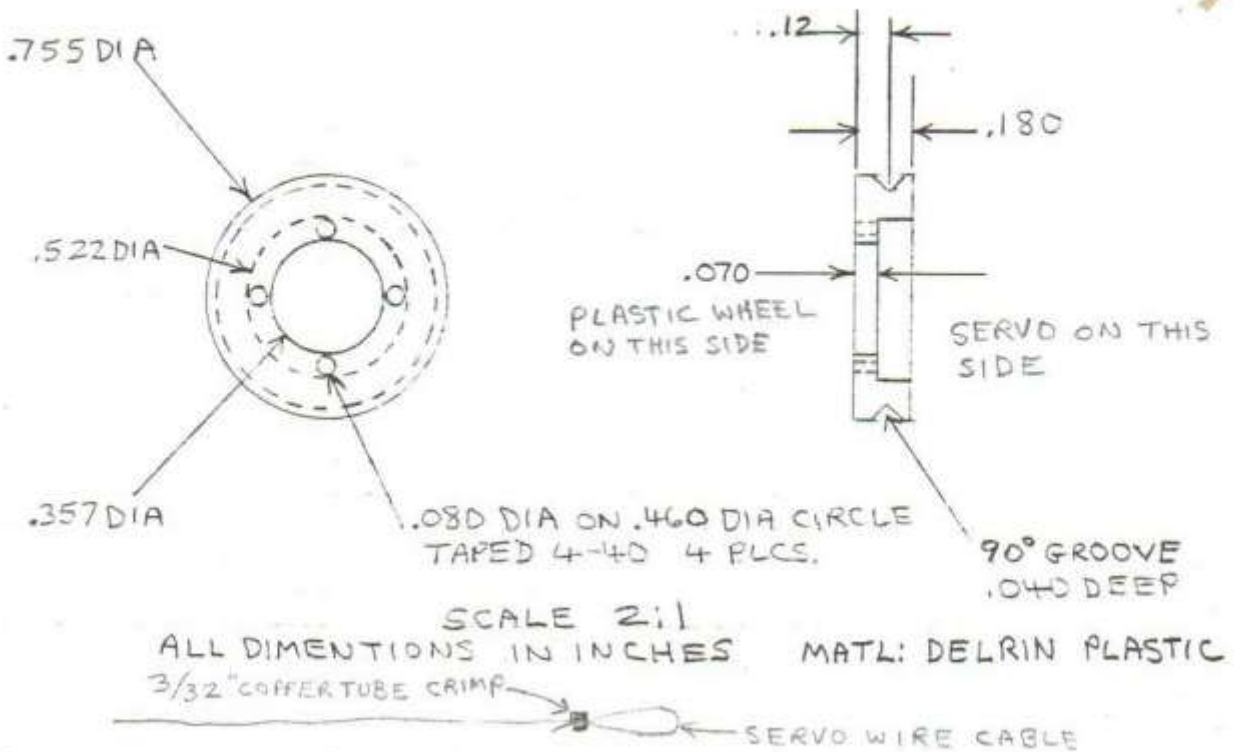


PHOTO # 2  
ROTATED 90°  
FROM PHOTO #1



SERVO PULLEY

5/5/00



Billy,

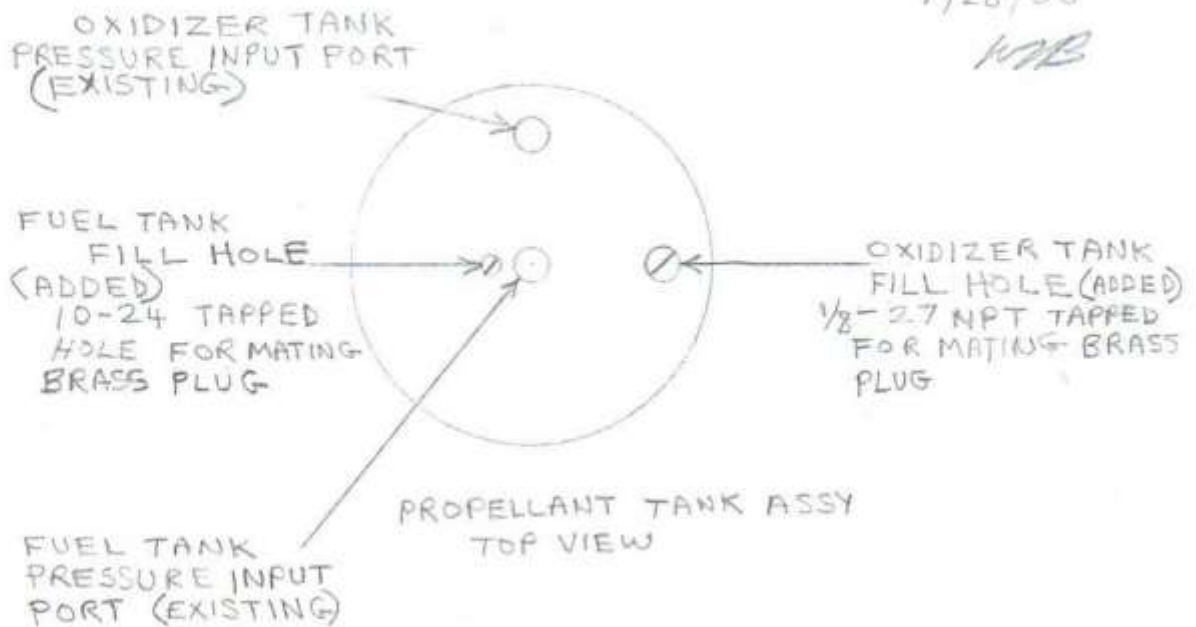
Above I have drawn a pulley I made for the valve servo on the 5567B-3.

It snaps under the plastic wheel on the servo which needs the four screw holes drilled out to .10". The wire going to this pulley goes thru one of the small holes on the outer circle of holes on this wheel. This makes installation of the pulley wire much easier.

Bill Bowman

# PROPELLANT TANK MODIFICATIONS

4/28/00  
WR



ADDITIONAL PORTS FOR FUEL AND OXIDIZER FILLING OF PROPELLANT TANK ASSY. ARE NEEDED, THIS IS SO THAT FEED LINES FOR CO<sub>2</sub> PRESSURE DO NOT HAVE TO BE DISCONNECTED/RECONNECTED FOR EACH FUELING.

THREADS ON EACH SCREW IN PLUGS SHOULD BE COATED WITH SEALANT TO ENSURE PRESSURE TIGHT FIT.

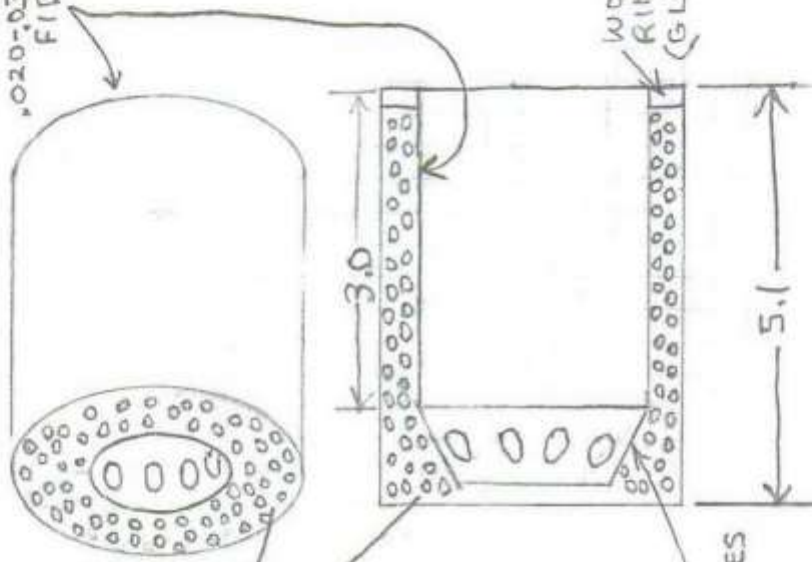
5567B-3

CATALYST CARTRIDGE

ALL DIMENSIONS IN INCHES

WTS 6/1/00

.020-.031 WALL THICKNESS CARDBOARD OR FIBERGLASS TUBING



KMNO<sub>4</sub>

3.7 DIA

TOP VIEW

3.0

BOTTOM VIEW

3.06 DIA

.020-.031 THICKNESS CARDBOARD CONE WITH 8 3/8 DIA HOLES

1.8 DIA

WOOD RING (GLUE IN)

5.1

THIS CARTRIDGE MAKES INSTALLING AND REMOVING CATALYST MUCH EASIER AND LESS MESSY. SEVERAL CARTRIDGES CAN BE MADE AHEAD OF TIME FOR EASY CHANGE OUT.





These are photos of the very first launch of the liquid fueled rocket. You will notice that it is just purple smoke. This is from the Potassium permanganate and 50% hydrogen peroxide. The solid fuel grain igniter never lit, so the 7 ounces of unleaded fuel was never lit. Even though that did not occur, there was enough thrust to get the rocket up to almost 200 feet.

There was a magnetic deployment recovery system in the rocket to help with parachute deployment, however, the rocket is tail heavy. In order for the magnetic sensor to have worked, the rocket is suppose to nose over at a more than 20 degree angle. That never happened. The rocket landed hard, but there was minor damage and the rocket was repaired and prepped for another launch in the future.