

Welcome to the NASA/Houston Rocket Club. Here are directions to the launch site:



Driving east on NASA 1, just past Space Center Houston, turn left on Saturn Ln. The next light is the entrance to JSC - turn right. Present your ID and membership card to the guard there. After gaining clearance, drive past Rocket Park (home of the mighty Saturn 5) and turn left into the driveway immediately after the first building on your left (this is building 14 - approximately 1/4 mile from the guard house). Follow the driveway around to the back of the building and continue as it turns out into the field toward the large antennae test tower.

Two groups fly in the field, Radio Control airplanes and Rockets. The R.C. fliers ask that we drive to the left behind their flight prep area and avoid the asphalt area which they use for a runway.

You're always welcome to bring you own rockets up to 3.3 lbs using 'H' motors and below, or just come to watch and learn. On your first trip to a club launch please be sure to visit with a club officer regarding launch procedures and rules. Our main goal besides learning and having fun is of course, safety!

### Notice:

Due to the close proximity to houses and multi-billion dollar space exploration equipment at the Johnson Space Center model rocketry facility, special procedures are followed that go above and beyond NAR, FAA and other established regulations. Flights are always limited to 2000' or 2500' altitude with a dual deployment system. Rockets with "G" power and above require pre-flight calculations or simulations to include: expected altitude, speed off the launch guide, and expected wind drift.

The launch site is located on the south part of the field, so flights will normally be launched at a 3-6 degree angle from vertical - on an azimuth of 030 degrees (NNE - toward the 'fat' part of the field). Launch azimuth of 330° may also be used in certain wind conditions as directed by range safety personnel.

A flight card must be completed prior to each flight. Certain wind conditions will preclude launches to 2000'. Launch directives as specified by the RSO must be fully complied with in all cases.

Stay in touch with late breaking news regarding the NHRC and model rocketry in general through the club e-mail list server at <http://groups.yahoo.com/group/NHRC-General>. Anyone can read the messages on the web site. After joining the NHRC General Group Server you will have the option to receive or not receive messages as e-mail.

### Sample Flight Card:

#### NHRC SPORT LAUNCH FLIGHT CARD

Before each flight, please fill out one card completely.

Bring it with your model to Safety check.

Date \_\_\_\_\_

Owner's or Team Name: \_\_\_\_\_

Model's Name \_\_\_\_\_ Color: \_\_\_\_\_

Kit  Plan  Original  Maiden Flight (Heads up!)

Flight Weight: \_\_\_\_\_ (oz) (g) Tube Diameter: \_\_\_\_\_ (cm) (in.)

Engine(s) \_\_\_\_\_ Total Impulse \_\_\_\_\_ N.sec Reload: Y N

Expected Altitude: \_\_\_\_\_ feet

Parachute  Streamer  Tumble  Helicopter  Glider

Single-Stage  Multi-Stage  Clustered  Scale  Payload

Rod Needed:  1/8"  3/16"  1/4"  3/8"  1/2"  RAIL

Comments: \_\_\_\_\_

SAFETY OFFICER OK (INITIALS) \_\_\_\_\_ PAD # \_\_\_\_\_

FLIGHT:  Nominal  Non-nominal Why?: \_\_\_\_\_

RESULTS: \_\_\_\_\_

### Sample Checklist:

#### NHRC Model Rocket Safety Checklist

##### Construction Check

Motor Mount.....Secure  
Fins and Lugs.....Secure and aligned  
Nose Cone.....Proper Fit  
CG/CP.....Checked  
Special Instructions.....Check

##### Prep Check

Recovery System.....Checked, attached  
Wadding.....Installed  
Motor Impulse, Delay.....Checked  
Payload Bay.....Secure

##### If Applicable:

Ejection Charge(s).....Check  
Avionics.....Check  
Clusters, stagers.....Check

##### Flight Plan

Thrust to Weight.....Check  
Altitude.....Check  
Flight path.....Plan

##### Launch Check

Controller.....Disarm  
Pad check.....Complete  
Launch Angle.....Crosswind  
NASA Emergency # 281-483-333

## Local Rules for JSC Model Rocket facility

1. At least two adults including an approved Range Safety Officer must be present for all launches. RSO's shall have an ID card identifying them as so certified. RSO will insure high pressure water fire extinguisher, first aid kit, and cell phone are present.
2. All rockets must be checked using the NHRC approved checklist before each flight.
3. The NAR model rocket safety code, FAR 101, and all applicable safety codes must be followed at all times.
4. Regularly scheduled club launches at JSC will be limited to FAA Class 1 rockets. Class 2 rockets will be flown on a limited basis for rockets using motors up to "I" Impulse.
5. Report all accidents and lost rockets or parts to the Range Safety Officer. Incidents involving property damage, personal injury, and loss of ejection charges, unspent motors, or anything lost in the vicinity of NASA buildings must be reported to the NASA Safety Officer.
6. In the event of a grass fire: call the JSC emergency number and move all launch pads and wires to the back of the parking area to facilitate fire truck access. Do not attempt to fight a fire that has gotten out of control. Fire extinguishers may be used on small grass fires that can be easily controlled.
7. Flying must only be from the asphalt or concrete area near the tower. Never park on the grass
8. Watch and LISTEN FOR approaching aircraft. Don't launch until you determine that they are outbound
9. Never climb on the tower for any reason
10. Police your area for your trash and for any other trash that is in your area. This includes igniter plugs and composite igniter wires, spent motor casings, spent reloads including o-rings and the usual trash like soda cans and empty motor packages
11. When driving around the R/C flying area, please drive behind the grey R/C fliers tent and watch for R/C airplanes.
12. The Range Safety Officers directions will be followed at all times. If you see someone who has forgotten these rules, please remind them. Remember it's every club member's responsibility to follow and enforce the rules.
13. Safety check-in officers will carefully check the rockets expected flight path considering wind effects on weathervaning and parachute drift. All flights must be planned to land within the JSC boundaries.

### Special Rules Regarding High Power (HPR) Flights at JSC

HPR launches will be held at JSC on the first Saturday of each month.

- Impulse: "I" motors
- Wind limit - 15 mph
- Altitude restriction is always 2000' or 2500' with a dual deployment system.
  - may be further restricted by winds.
- Must be simulated to achieve 45 fps minimum speed off the launch guide,
- Standard Launch angle will be 3-6 degree from vertical at an azimuth of 030 degrees (NNE).
  - Other launch angles may be required for specific wind conditions as directed by the RSO