HI TECH H45 - Simulation results

Engine selection

[H73J-10]

Simulation control parameters

- Flight resolution: 800.000000 samples/second
- Descent resolution: 1.000000 samples/second
- Method: Explicit Euler
- End the simulation when the rocket reaches the ground.

Launch conditions

- Altitude: 0.00000 Ft.
- Relative humidity: 50.000 %
- Temperature: 59.000 Deg. F
- Pressure: 29.9139 In.

  Wind speed model: Calm (0-2 MPH)
    - Low wind speed: 0.0000 MPH
    - High wind speed: 2.0000 MPH

  Wind turbulence: Fairly constant speed (0.01)
    - Frequency: 0.010000 rad/second
- Wind starts at altitude: 0.00000 Ft.
- Launch guide angle: 0.000 Deg.
- Latitude: 0.000 Degrees

Launch guide data:

- Launch guide length: 72.0000 In.
- Velocity at launch guide departure: 58.2650 ft/s
- The launch guide was cleared at : 0.205 Seconds
- User specified minimum velocity for stable flight: 43.9993 ft/s
- Minimum velocity for stable flight reached at: 41.7443 In.

Max data values:

- Maximum acceleration:Vertical (y): 290.121 Ft./s/sHorizontal (x): 0.278 Ft./s/sMagnitude: 290.121 Ft./s/s
- Maximum velocity:Vertical (y): 568.9812 ft/s, Horizontal (x): 1.0941 ft/s, Magnitude: 568.9822 ft/s
- Maximum range from launch site: 43.68971 Ft.
- Maximum altitude: 3084.75524 Ft.

Engine ejection charge data:

- Using a delay time of : 10.000 Seconds
- Velocity: 26.0302 ft/s
- Altitude: 3073.98162 Ft.

Recovery system data

- P: 28_NYLON Deployed at : 13.500 Seconds
- Velocity at deployment: 26.0302 ft/s
- Altitude at deployment: 3073.98162 Ft.
- Range at deployment: -8.14881 Ft.

Time data

- Time to burnout: 3.500 Sec.
- Time to apogee: 12.679 Sec.
- Optimal ejection delay: 9.179 Sec.

Landing data

- Successful landing
- Time to landing: 179.132 Sec.
- Range at landing: 43.68971
- Velocity at landing: Vertical: -18.1382 ft/s , Horizontal: 1.0942 ft/s , Magnitude: 18.1711 ft/s

Competition settings

Competition conditions are not in use for this simulation.