



**H.H. Arnold High School
Electronics and Technology Education
Frank C. Pendzich**

**ASSIGNMENT CHECK-LIST
08/07/00**

Course # Course Title
TED401 Indust Design/Computer Drafting

Area Competency
Z DESIGN AND MODELING PROJECT - THE MODEL ROCKET

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> <u>mm/dd/yy</u>	<u>Completed</u> <u>mm/dd/yy</u>
1	The Rocket Modeling Project (Theory)	(/ /)	(/ /)

Once this task is complete the student will identify the basic component parts of the model rocket. They will also define some basic aerospace terms and are associated with rocket flight.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z1a	Reading Assignment	Estes Model Rocket Kit
b	()	Z1b	Video Tape Inst.	Model Rocketry
c	()	Z1c	Homework Assignment	Rocketry Parts ID and Definitions
d	()	Z1d	Computer Test	Rocketry Terms and Definitions
e	()	Z1e	Notebook	Notebook Review

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> <u>mm/dd/yy</u>	<u>Completed</u> <u>mm/dd/yy</u>
2	CADD - Model Rocket Fin	(/ /)	(/ /)

The student will measure and then CADD a single Fin of the model rocket with its orientation - Nose Cone TOP. Each drawing will be placed in an appropriate border and all drawing elements will be on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z2a	Project	Fin - 3D Wire Frame
b	()	Z2b	Project	Fin - Ortho. Projection (Dimensioned)

Lastname, First

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<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> mm/dd/yy (/ /)	<u>Completed</u> mm/dd/yy (/ /)
3	CADD - The Model Rocket Body Tube		

The student will measure and then CADD the Rocket Body Tube with its orientation - Nose Cone TOP. Each drawing will be placed in an appropriate border and all drawing elements will be on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z3a	Project	Body Tube - 3D Wire Frame
b	()	Z3b	Project	Body Tube - Ortho. 3-View (Dimensioned)

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> mm/dd/yy (/ /)	<u>Completed</u> mm/dd/yy (/ /)
4	CADD - The Model Rocket Engine Hook		

The student will measure and then CADD the Rocket Engine Hook of the model rocket with its orientation - Nose Cone TOP. Each drawing will be placed in an appropriate border and all drawing elements will be on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z4a	Project	Engine Hook - 3D Wire Frame
b	()	Z4b	Project	Engine Hook - Ortho. (Dimensioned)

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> mm/dd/yy (/ /)	<u>Completed</u> mm/dd/yy (/ /)
5	CADD - The Model Rocket Retainer Ring		

The student will measure and then CADD the Retaining Ring of the Model Rocket with its orientation - Nose Cone TOP. Each drawing will be placed in an appropriate border and all drawing elements will be on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z5a	Project	Retaining Ring - 3D Wire Frame
b	()	Z5b	Project	Ret. Ring - Ortho. 3 View (Dimensioned)

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u> mm/dd/yy (/ /)	<u>Completed</u> mm/dd/yy (/ /)
6	CADD - The Model Rocket Launch Lug		

The student will measure and then CADD the Model Rocket Launch Lug with its orientation - Nose Cone TOP. Each drawing will be placed in an appropriate border and all drawing elements will be on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z6a	Project	Launch Lug - 3D Wire Frame
b	()	Z6b	Project	Launch Lug - Ortho. 3 View (Dimensioned)

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<u>Task</u>	<u>Task/Skill</u>	<u>Started</u>	<u>Completed</u>
7	CADD - The Model Rocket Nose Cone and Insert	<u>mm/dd/yy</u>	<u>mm/dd/yy</u>
		(/ /)	(/ /)

The student will measure and CADD the assembled Nose Cone of the Model Rocket with its orientation - Nose Cone TOP. The Nose Cone includes the Nose Cone shell and the Insert. Each drawing will be placed in an appropriate border and all component parts (Nose and Insert) and drawing elements will be grouped, on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z7a	Tutorial	CADDING the Nose Cone Insert
b	()	Z7b	Project	Nose Cone Insert - 3D Wire Frame
c	()	Z7c	Tutorial	CADDING the Nose Cone Shell
d	()	Z7d	Project	Nose Cone Shell - 3D Wire Frame
e	()	Z7e	Project	Nose Cone / Insert - 3D Wire Frame
f	()	Z7f	Project	Nose Cone - Orth. 3 View (Dimensioned)
g	()	Z7g	Project	Insert - Ortho. (Dimensioned)

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u>	<u>Completed</u>
8	CADD - The Model Rocket Assembled Drawing	<u>mm/dd/yy</u>	<u>mm/dd/yy</u>
		(/ /)	(/ /)

The student will assemble a series of pattern files to construct the completed Model Rocket with its orientation - Nose Cone TOP. The completed CADD model of the rocket includes the Body Tube, Fins (4), Motor Hook, Retaining Ring, Launch Lug, and Nose Cone assembly. Each drawing will be placed in an appropriate border and all component parts and drawing elements will be grouped, on separate levels, labeled, and then color coded.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z8a	Project	Model Rocket - 3D Wire Frame
b	()	Z8b	Project	Model Rocket - Orthographic (3 View)
c	()	Z8c	Project	Model Rocket - Exploded View (Isometric)

<u>Task</u>	<u>Task/Skill</u>	<u>Started</u>	<u>Completed</u>
9	MODEL - Constructed Model Rocket	<u>mm/dd/yy</u>	<u>mm/dd/yy</u>
		(/ /)	(/ /)

The student will construct the Model Rocket using the plans they have CADDed and the Model Rocket assembly manual. Once completed, the student will test and adjust the model for balance. They will then compete in head-to-head competition with other students to determine the quality of construction and the highest altitude achieved.

<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
a	()	Z9a	Project	Fins

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<u>Sub</u>	<u>Init</u>	<u>Code</u>	<u>Type of Task</u>	<u>Task Description</u>
b	()	Z9b	Project	Body Tube
c	()	Z9c	Project	Engine Hook
d	()	Z9d	Project	Retaining Ring
e	()	Z9e	Project	Launch Lug
f	()	Z9f	Project	Nose Cone Assembly
g	()	Z9g	Project	Painting and Detailing
h	()	Z9h	Project	Parachute
i	()	Z9i	Performance Test	Balance Test
j	()	Z9j	Performance Test	Flight Test and Altitude Assessment

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