MODIFIED LESSON INSTRUCTIONS AND INSTRUCTIONAL GUIDES – TP 2 OF EO C240.03

A-CR-CCP-802/PG-001

EO C240.03 – IDENTIFY PARTS OF A ROCKET

1. **Performance.** Identify Parts of a Rocket.

2. **Conditions**

   a. Given:

      (1) Supervision; and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Suitable classroom facilities or training area large enough to accommodate the entire group.

3. **Standard.** In accordance with *Rocket Parts,* the cadet shall identify parts of a rocket to become familiar with its components.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Conduct an activity naming the parts of a rocket.	In-class Activity	10 min	C3-106

5. **Time**

   a. Introduction/Conclusion: 5 min

   b. In-class Activity: 10 min

   c. Total: 15 min

6. **Substantiation.** An in-class activity was chosen for TP1 as it is an interactive way to confirm the cadet's comprehension of the material.

7. **References.** C3-106 NASA. (2006). *Rocket Parts.* Retrieved 22 February 2007, from http://exploration.grc.nasa.gov/education/rocket/rockpart.html#.

8. **Training Aids.** Presentation aids (e.g. whiteboard/flipchart/OHP/multimedia projector) appropriate for the classroom/training area.

9. **Learning Aids**

   a. Rocket parts puzzle; and

   b. Parts of a rocket handout.

10. **Test Details.** N/A.

11. **Remarks.** N/A.

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ROYAL CANADIAN AIR CADETS

PROFICIENCY LEVEL TWO

INSTRUCTIONAL GUIDE

SECTION 6

EO C240.03 – IDENTIFY PARTS OF A ROCKET

Total Time: 15 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-802/PG-001, Chapter 4. Specific uses for said resources are identified throughout the Instructional Guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Photocopy the handout located at Figure 13F-1 for each cadet.

Photocopy and cut out the rocket puzzle pieces from Figure 13G-1 through Figure 13G-13 located at the end of this document.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

An in-class activity was chosen for TP1 as it is an interactive way to confirm the cadet's comprehension of the material.

INTRODUCTION

REVIEW

N/A.

OBJECTIVES

By the end of this lesson the cadet shall be expected to identify parts of a rocket to become familiar with its components.

IMPORTANCE

It is important for cadets to know the parts of a rocket so that they can understand how they are constructed. Identifying the parts of a rocket may develop an interest in the components that make up a rocket, which may lead to future aerospace opportunities in the Air Cadet Program.

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Teaching Point 1 **Conduct an Activity Naming the Parts of a Rocket**

Time: 10 min Method: In-class Activity



The following activity is designed to be done as a class activity. The class will construct and label the puzzle together, one piece at time.

ACTIVITY

OBJECTIVE

The objective of this activity is to help cadets become familiar with the parts of a rocket.

RESOURCES

- The puzzle located at Figure 13G-1 through Figure 13G-13, and
- Tape.

ACTIVITY LAYOUT

N/A.

ACTIVITY INSTRUCTIONS

1. Provide the cadets with the puzzle parts and shapes of a rocket.
2. Request a cadet to volunteer and select a shape and place it on the board in front of the class.
3. Repeat the steps until all the shapes are up on the board and the rocket is built. Then repeat the steps using the words and pictures to label the rocket.



Allow cadets to make corrections if the parts of the puzzle are in the wrong place.

4. Use the handout located at Annex F as a guide to confirm if the puzzle is correct.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 1

The cadets' participation in the parts of a rocket activity will serve as the confirmation of this TP.

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END OF LESSON CONFIRMATION



Distribute Figure 13F-1 Parts of a Rocket to each cadet.

The cadets' participation in identifying the parts of a rocket will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

Knowing the parts of a rocket will help cadets understand how rockets are constructed. Identifying the parts of a rocket will help cadets understand the components that make up the rocket, which may develop an interest in rocket technology that may lead to future aerospace opportunities in the Air Cadet Program.

INSTRUCTOR NOTES/REMARKS

N/A.

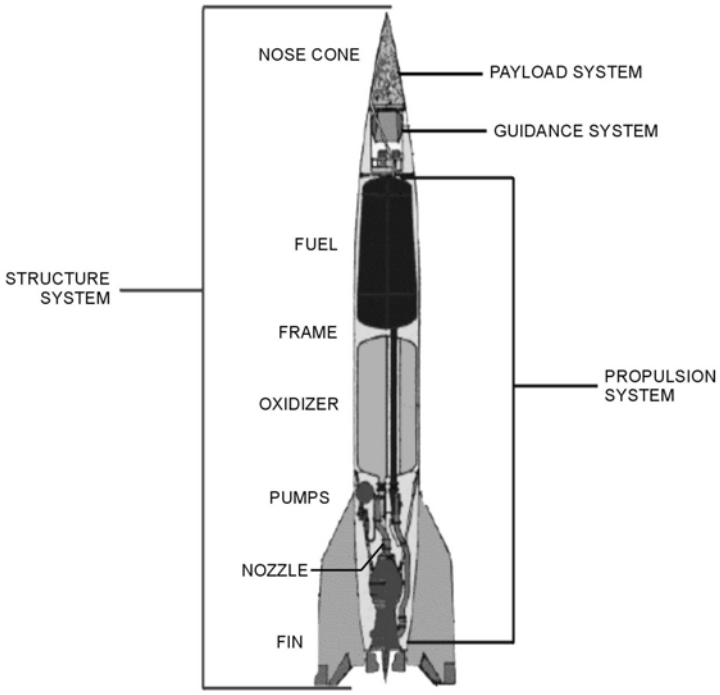
REFERENCES

C3-106 NASA. (2006). *Rocket Parts*. Retrieved 22 February 2007, from http://exploration.grc.nasa.gov/education/rocket/rockpart.html#.

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PARTS OF A ROCKET



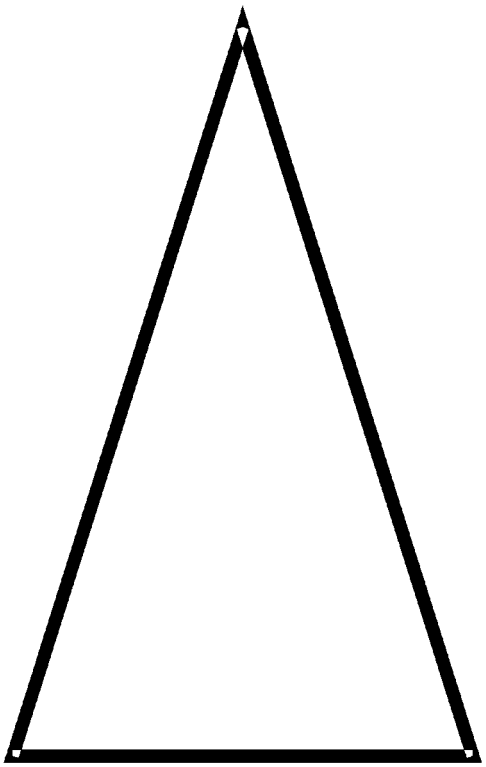
"NASA", Parts of a Rocket. Retrieved 23 April 2007, from http://exploration.grc.nasa.gov/education/rocketpart.html#

Figure 13F-1 Parts of a Rocket

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ROCKET PUZZLE PIECES

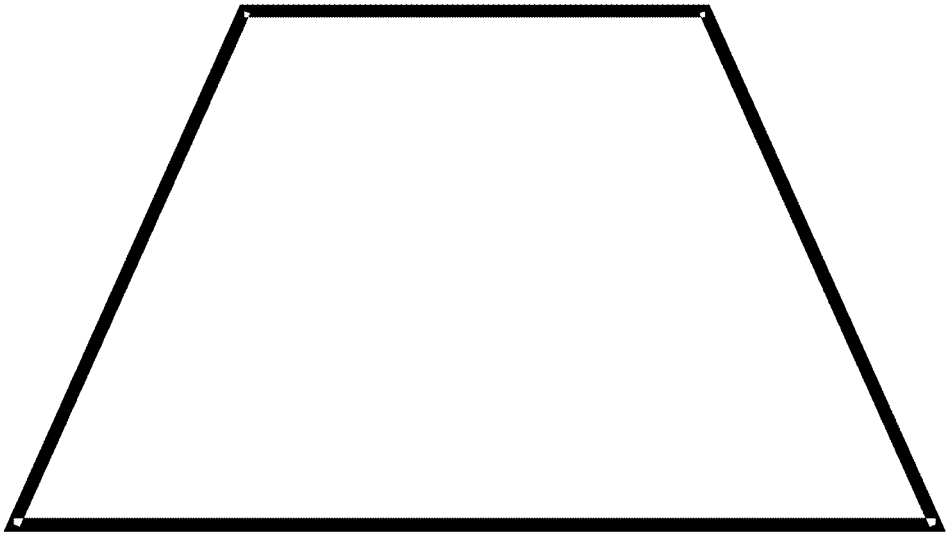


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Figure 13G-1 Nose Cone (Part A)

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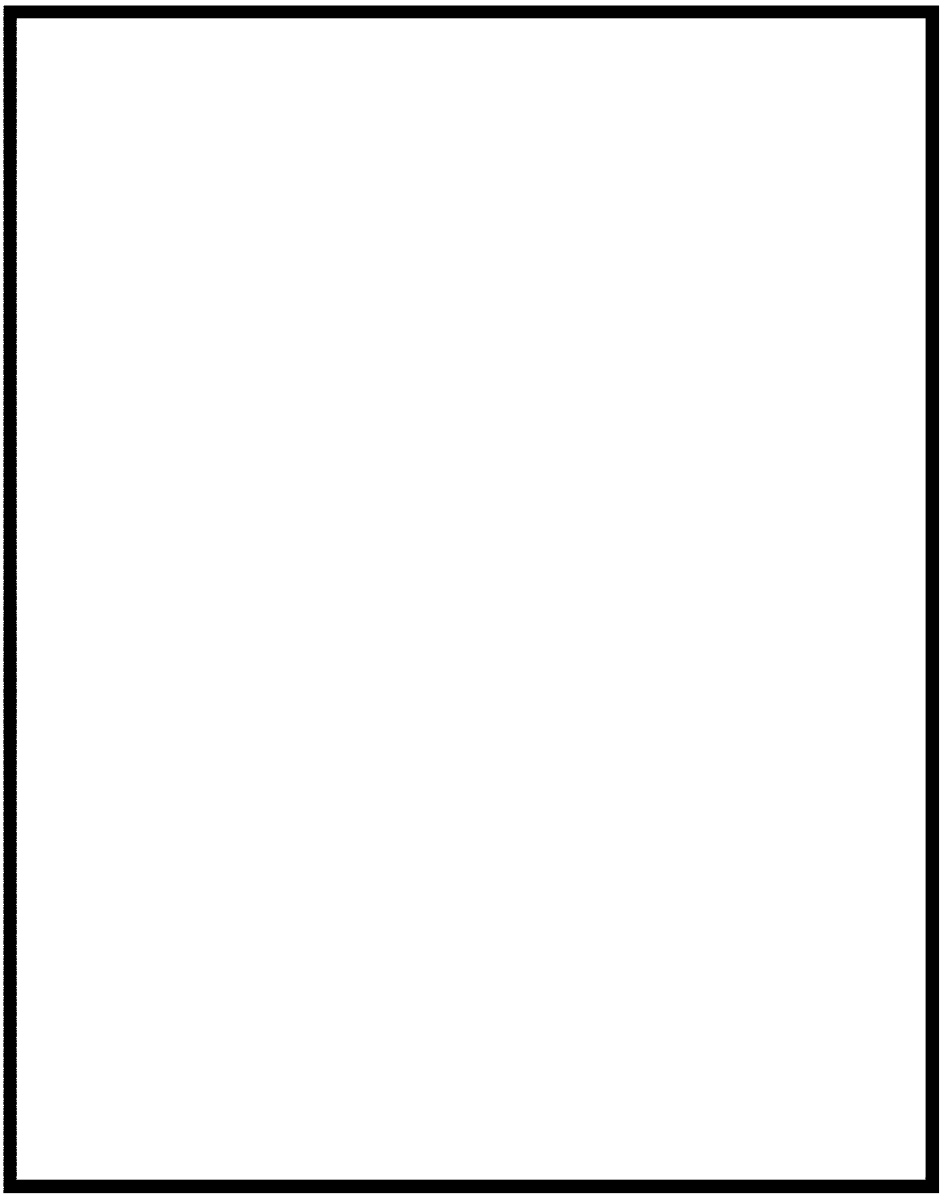
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Figure 13G-2 Nose Cone (Part B)

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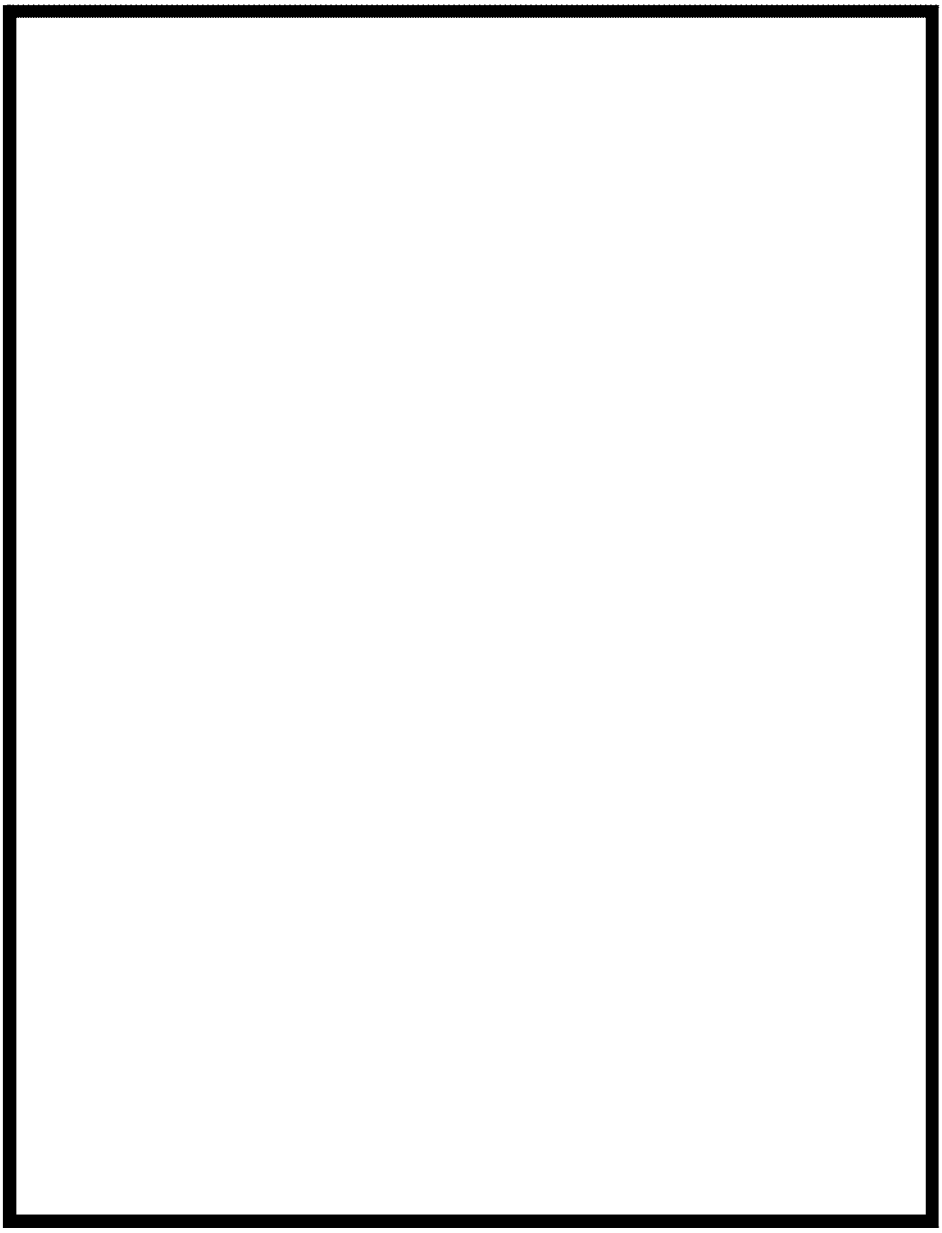


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Figure 13G-3 Frame (Fuel Section)

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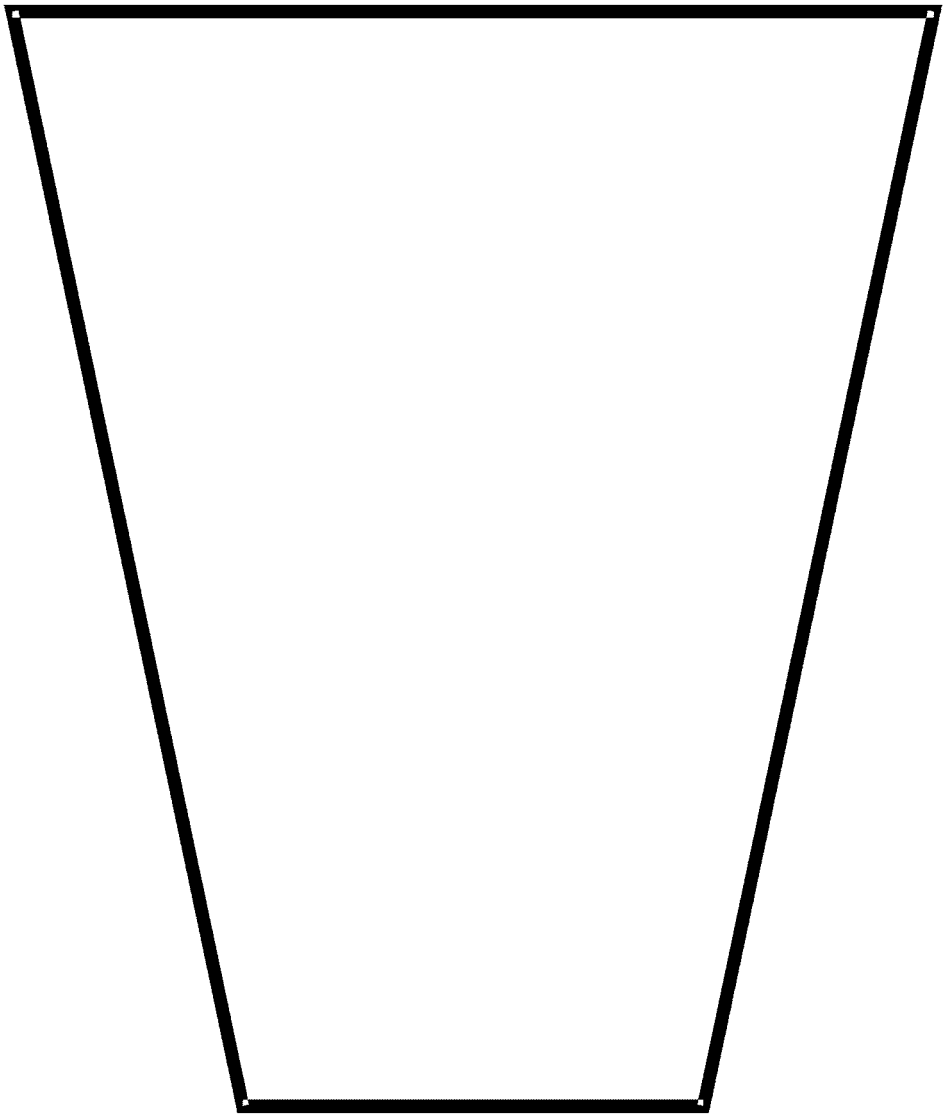


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Figure 13G-4 Frame (Oxidizer Section)

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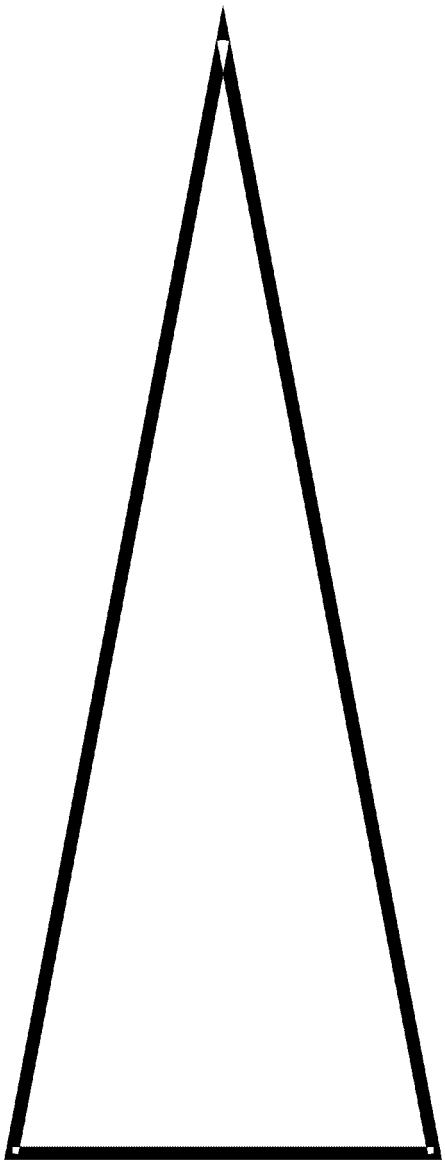


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Figure 13G-5 Frame (Pumps and Nozzle Section 0)

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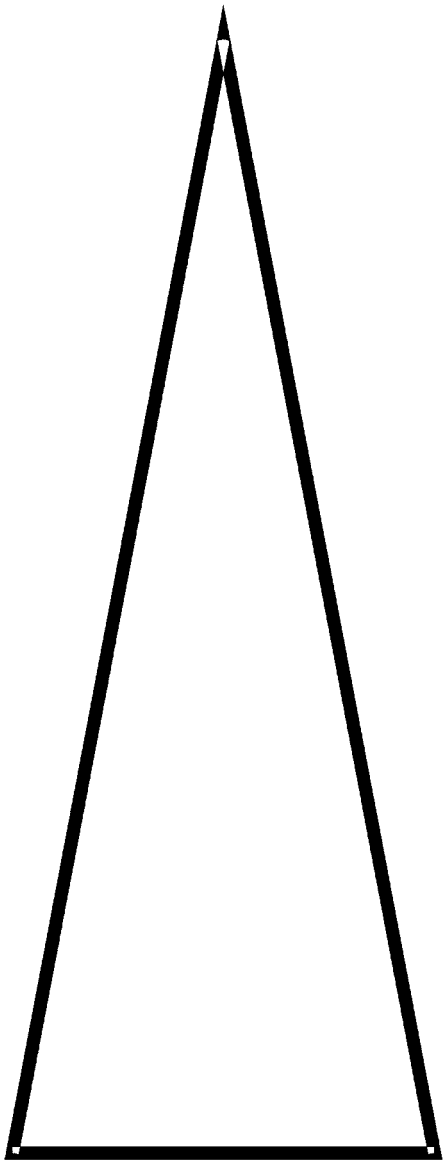


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Figure 13G-6 Fin (Section 1)

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Figure 13G-7 Fin (Section 2)

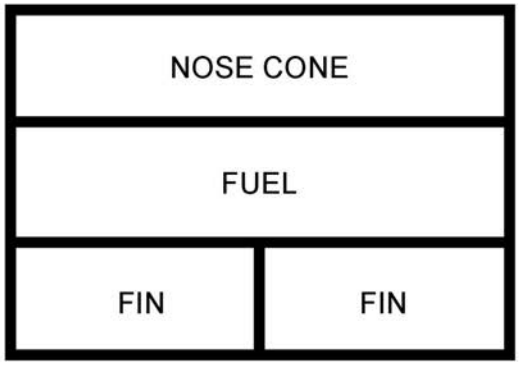
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PARTS OF A ROCKET: LABELS



Cut out the following boxes and figures to be used to label the rocket puzzle.



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Figure 13G-8 Rocket Labels

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GUIDANCE SYSTEM

"Clip Art", Microsoft Corporation, 2003 , Santa Rosa: CA: Impreza Systems, Copyright 2000, Impresa Systems

Figure 13G-9 Guidance System



PAYLOAD SYSTEM

"Clip Art", Microsoft Corporation, 2003 , Santa Rosa: CA: Impreza Systems, Copyright 2000, Impresa Systems

Figure 13G-10 Payload

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FUEL PUMP

"Google Images", New Philadelphia, Ohio, Fuel Pump. Retrieved 18 April 2007, from http://www.neohiotravel.com/images/gaspump.gif

Figure 13G-11 Fuel Pump



OXIDIZER

"Google Images", California State University, Oxidizer Label. Retrieved 18 April 2007, from http://www.csudh.edu/oliver/chemdata/warnlabs/oxidizer.jpg

Figure 13G-12 Oxidizer

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NOZZLE

"Google Images", Airwork Aviation Images, Engines. Retrieved 18 April 2007, from http://www.airwork-images.com/details.php?gid=278&sgid=&pid=456

Figure 13G-13 Nozzle

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