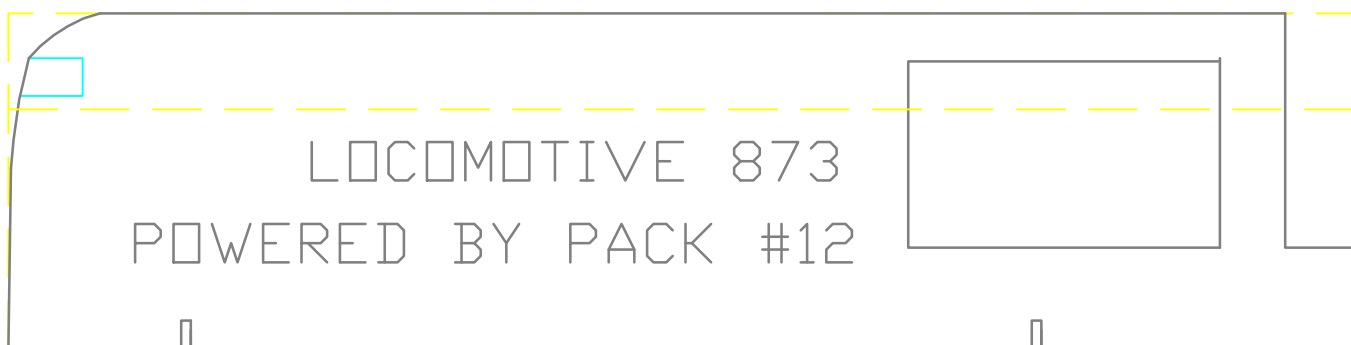
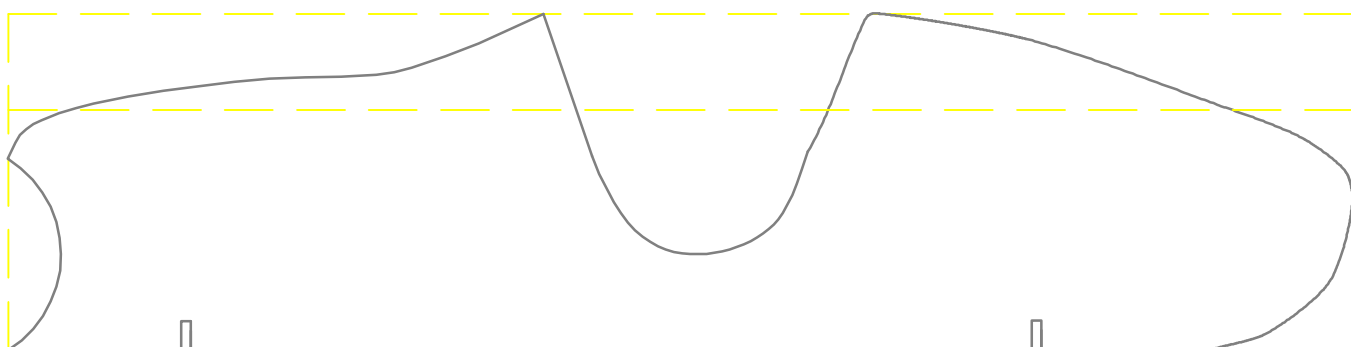


3/8" HOLES FOR WEIGHT

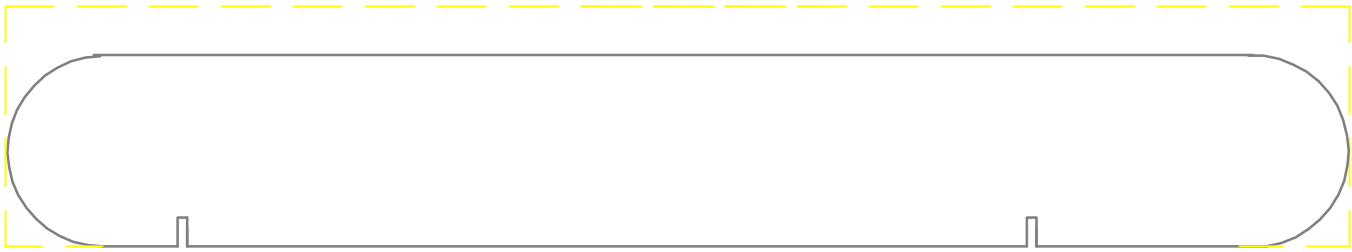
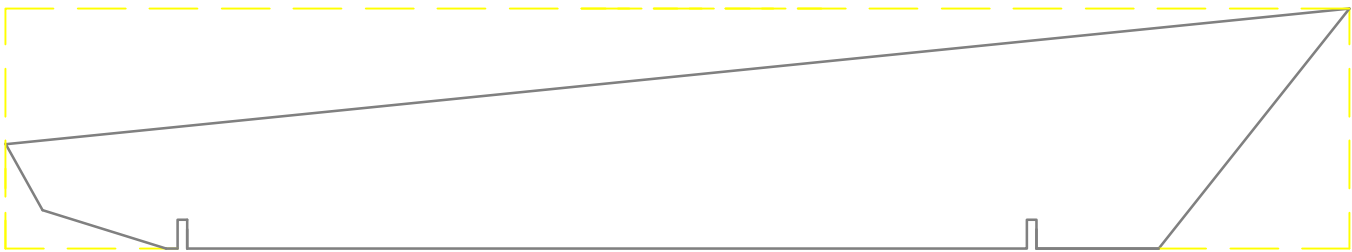
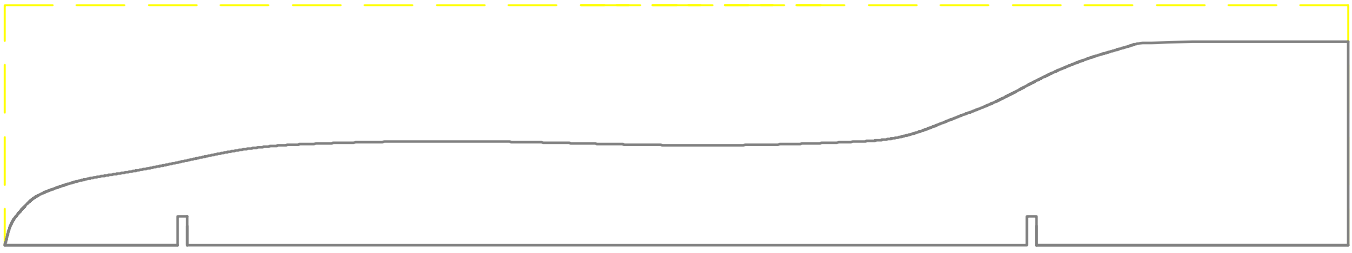


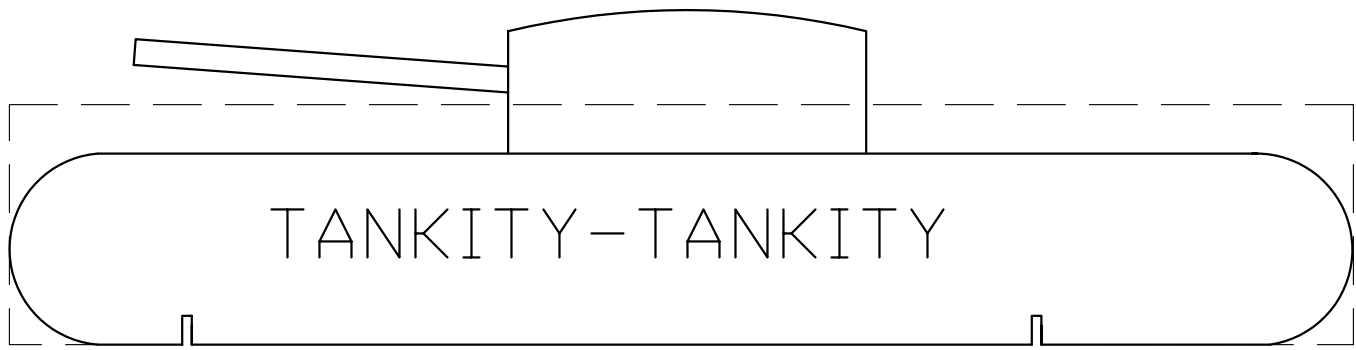
LOCOMOTIVE 873  
POWERED BY PACK #12

GLUE EXTRA WOOD TO BLOCK FOR REQUIRED HEIGHT



GLUE EXTRA WOOD TO BLOCK FOR REQUIRED HEIGHT



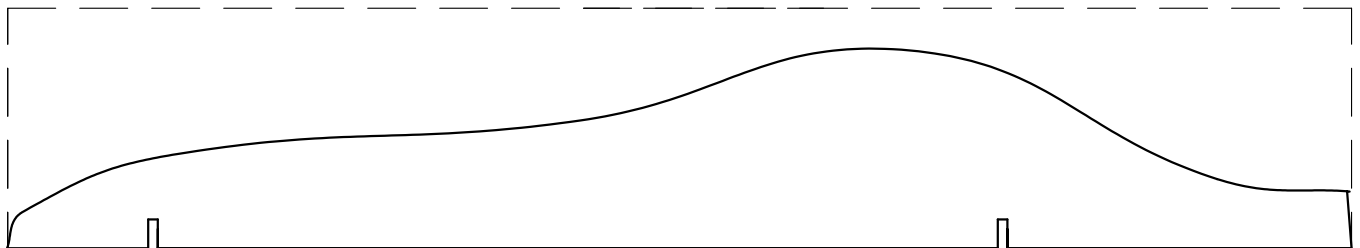
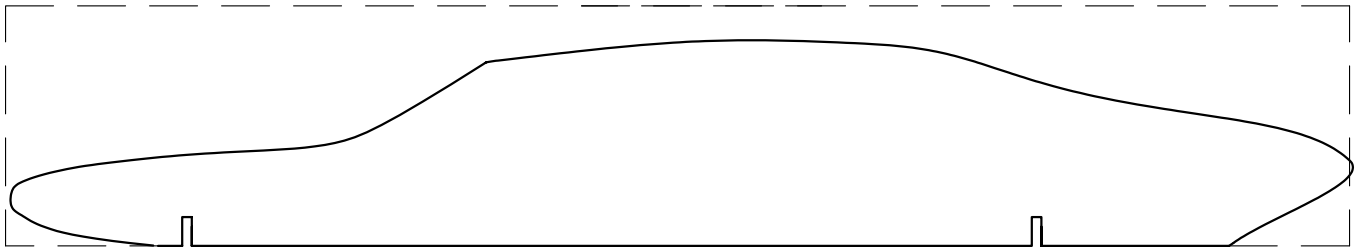


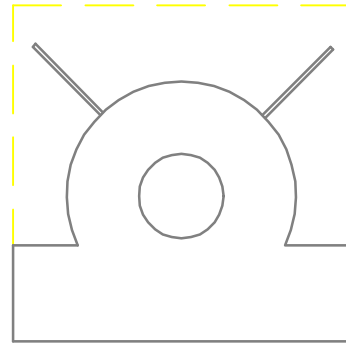
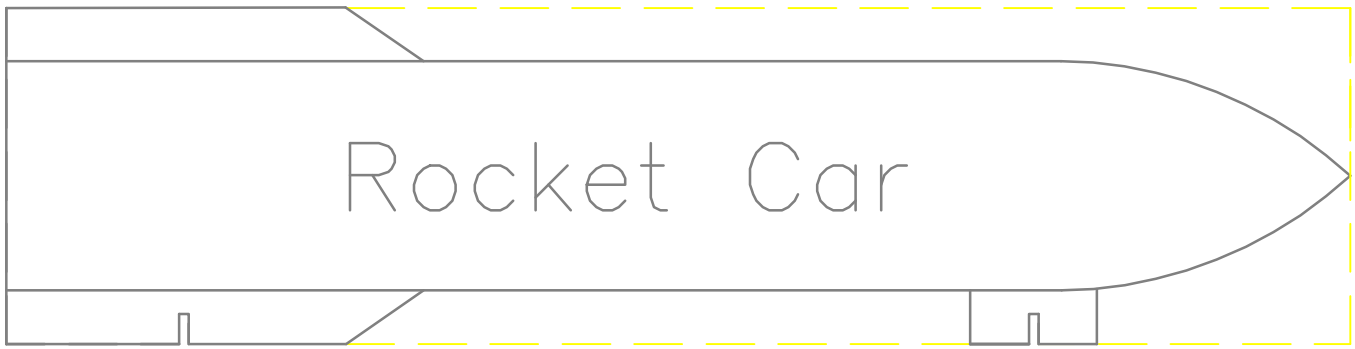
TANKITY-TANKITY

ADD WOOD FOR TURRET AND BARREL

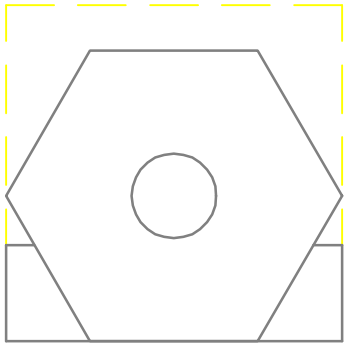


ADD WEIGHT IN 3/8" HOLES



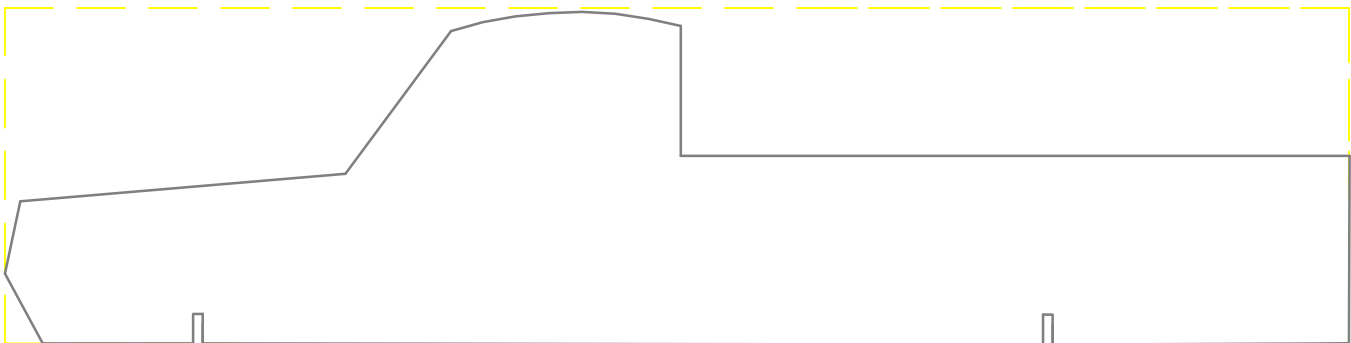
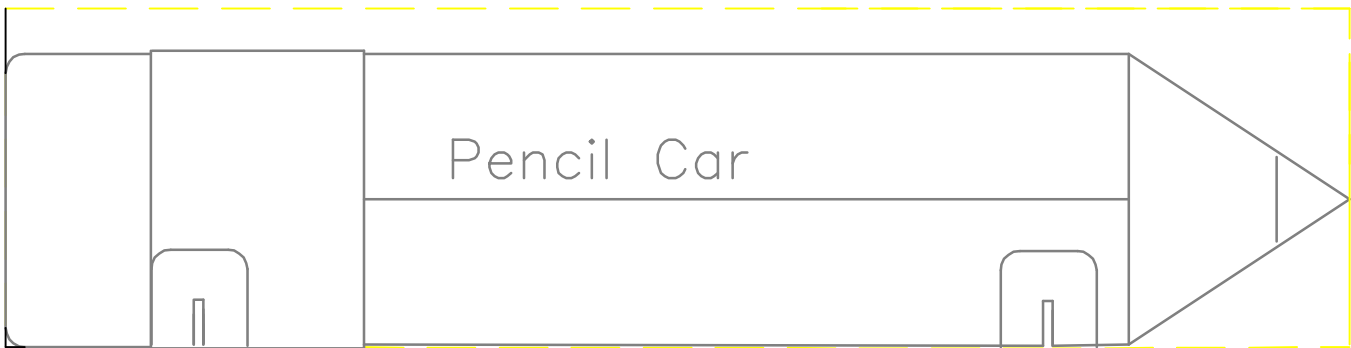


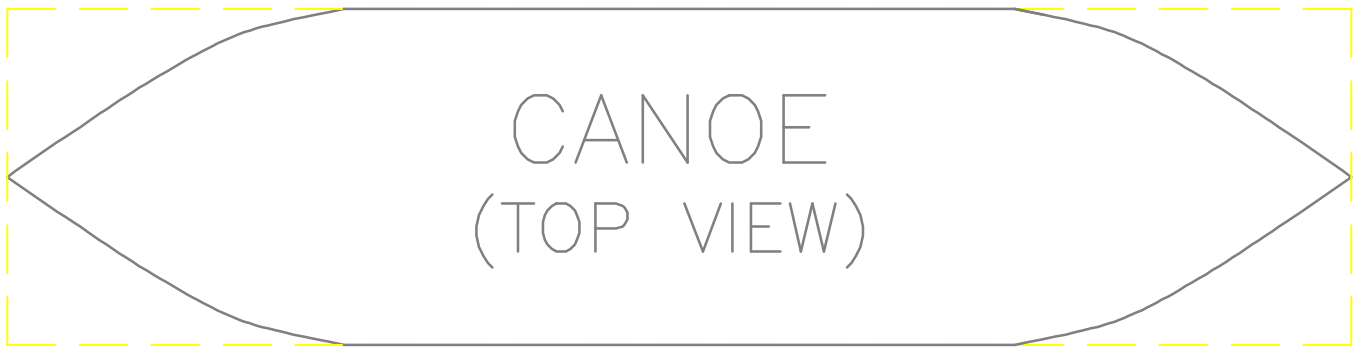
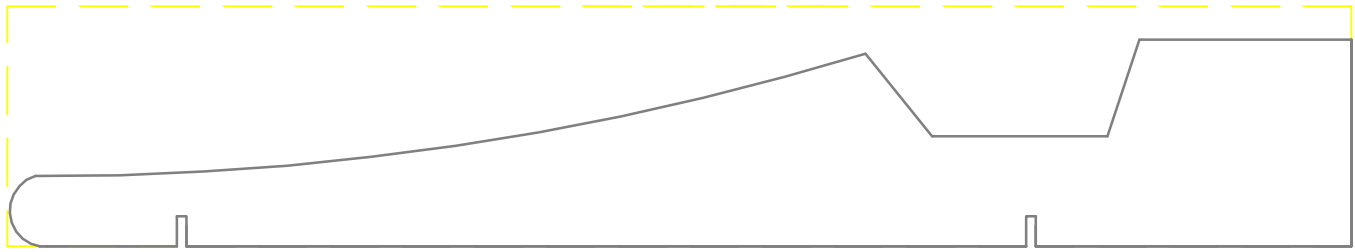
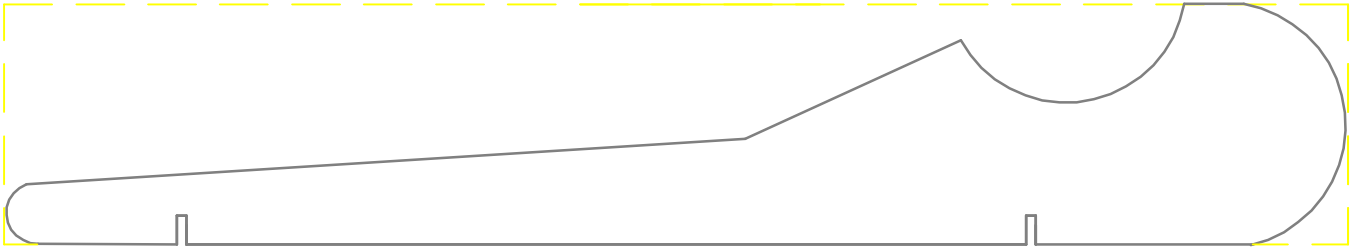
END VIEW



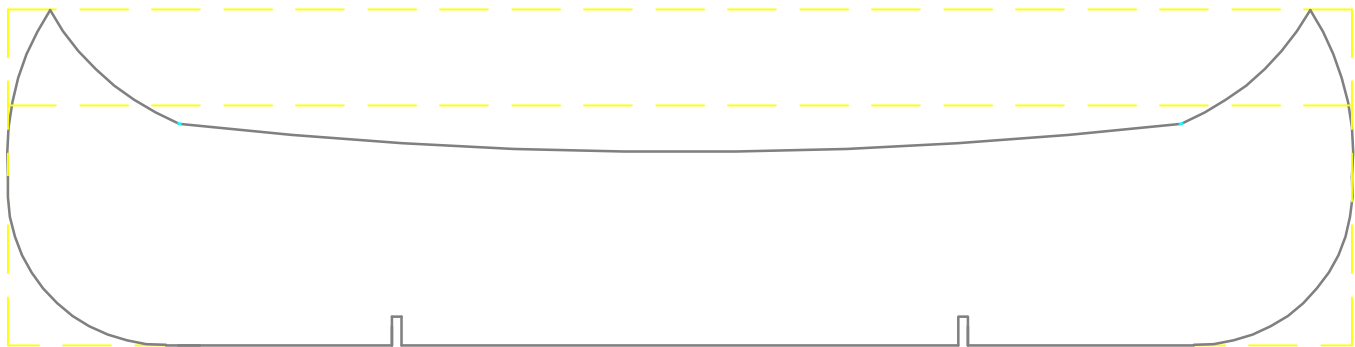
END VIEW

GLUE ADDITIONAL WOOD FOR THESE DESIGNS

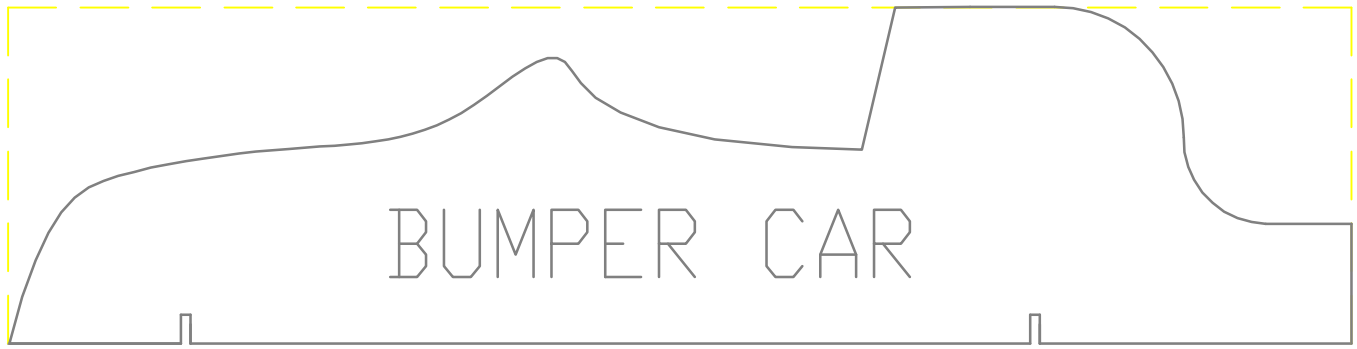




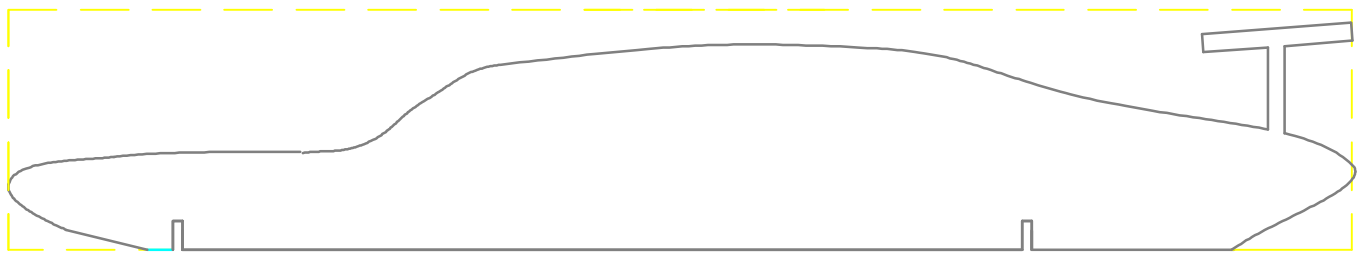
REQUIRES EXTRA HEIGHT



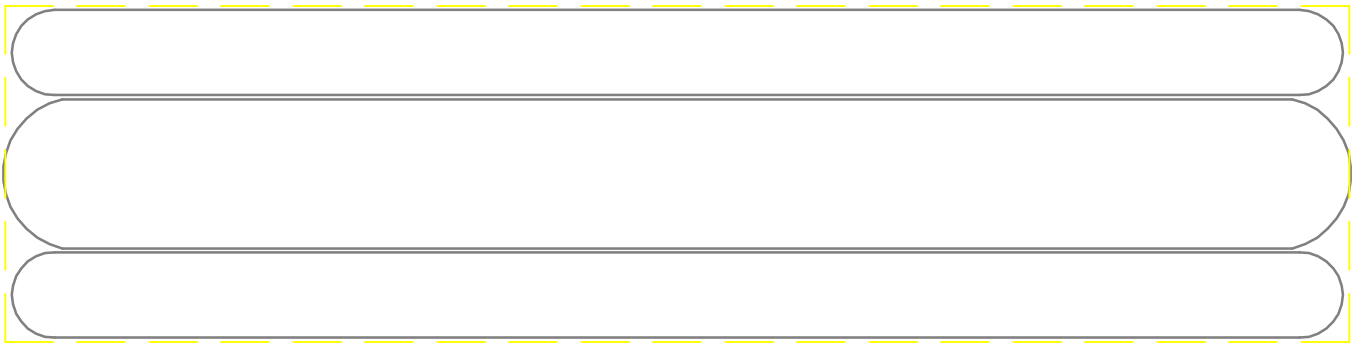
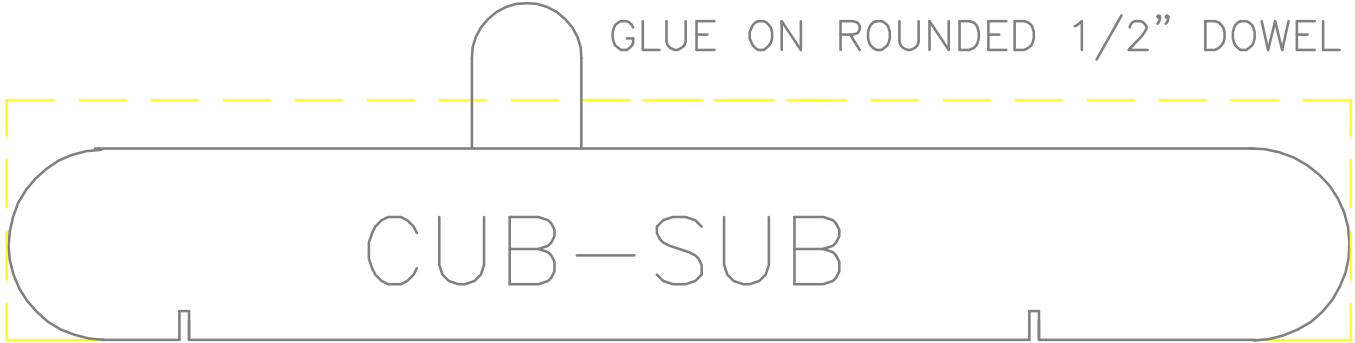
SHORTEN WHEELBASE



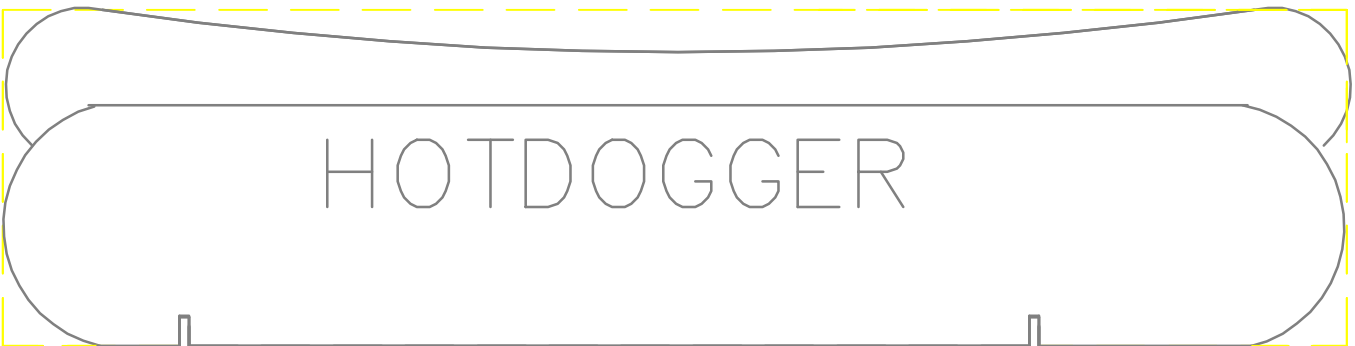
GLUE EXTRA WOOD FOR ADDITIONAL HEIGHT



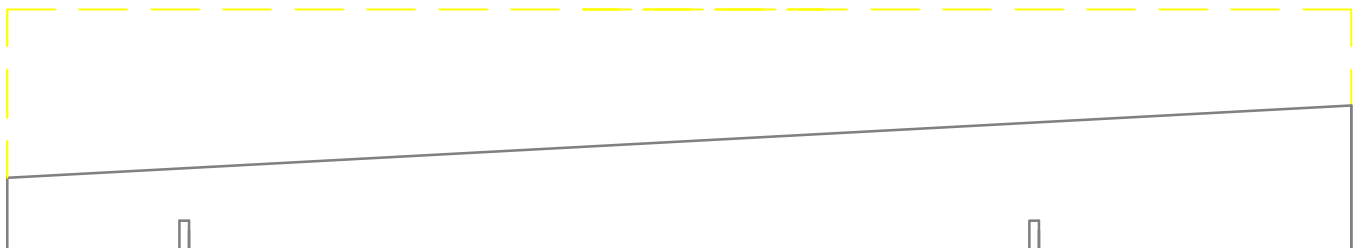
GLUE ON ROUNDED 1/2" DOWEL

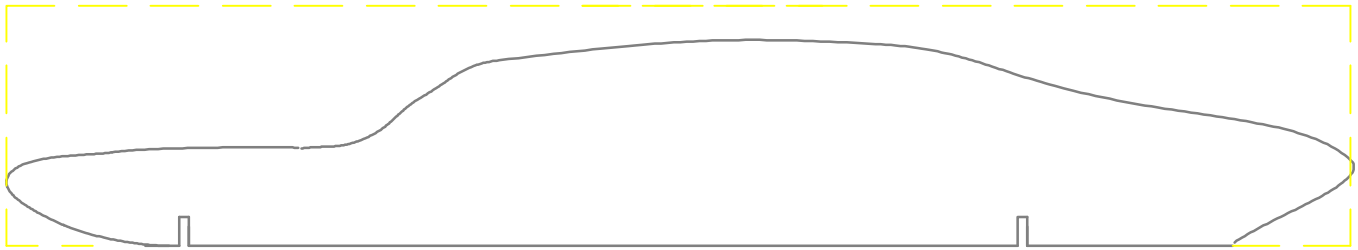
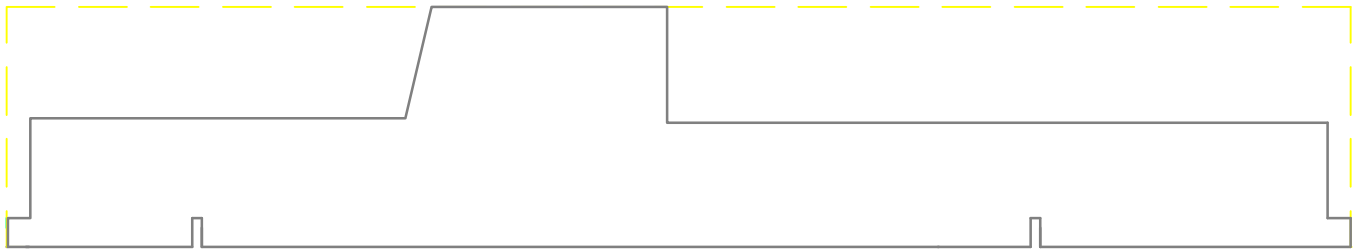
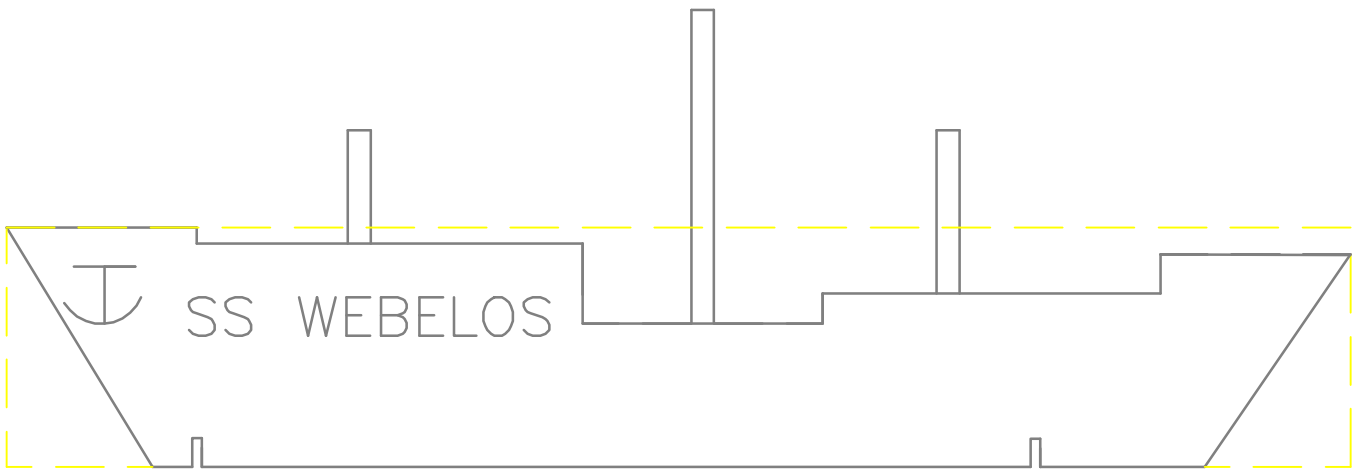
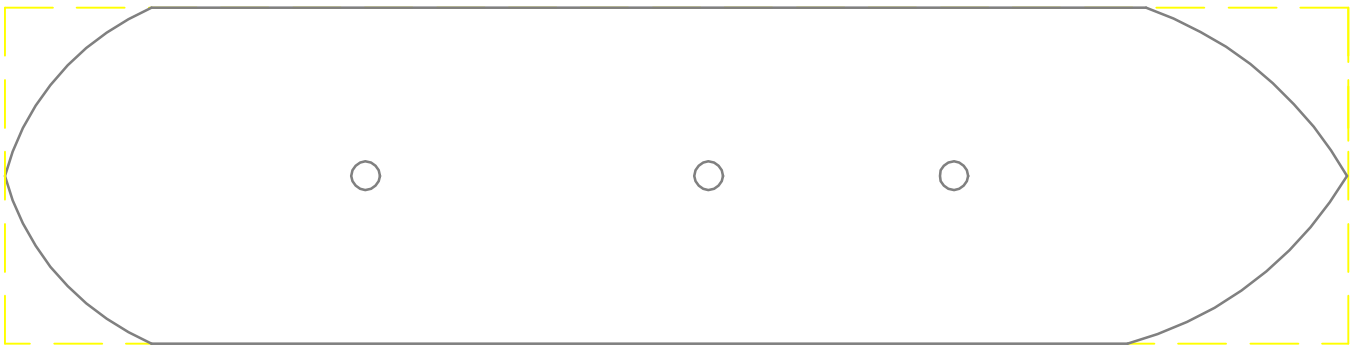


HOTDOGGER TOP VIEW

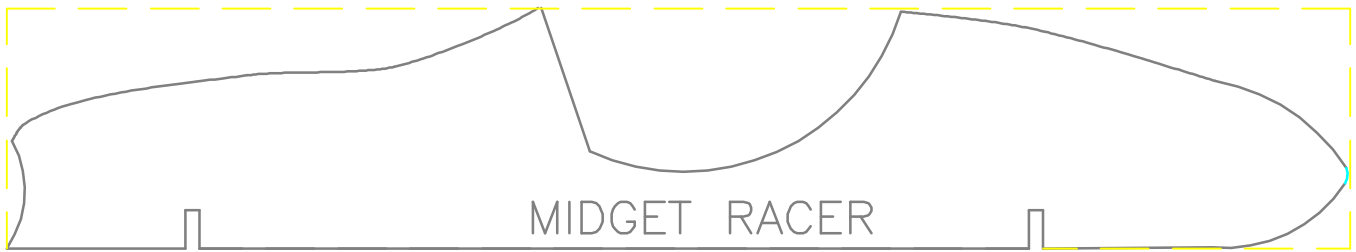
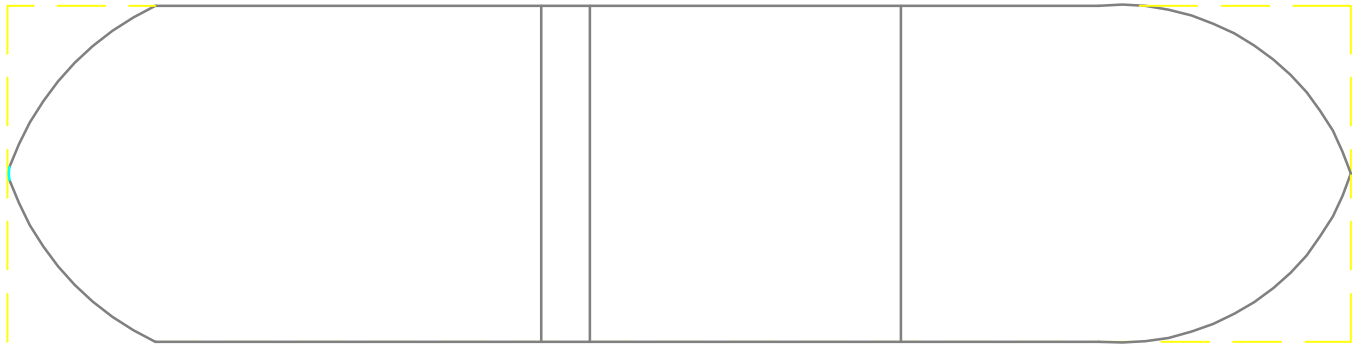


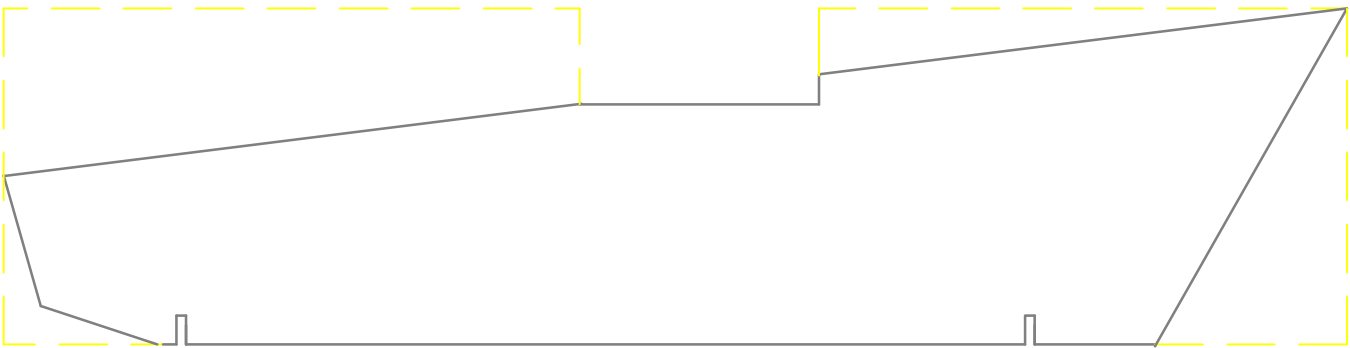
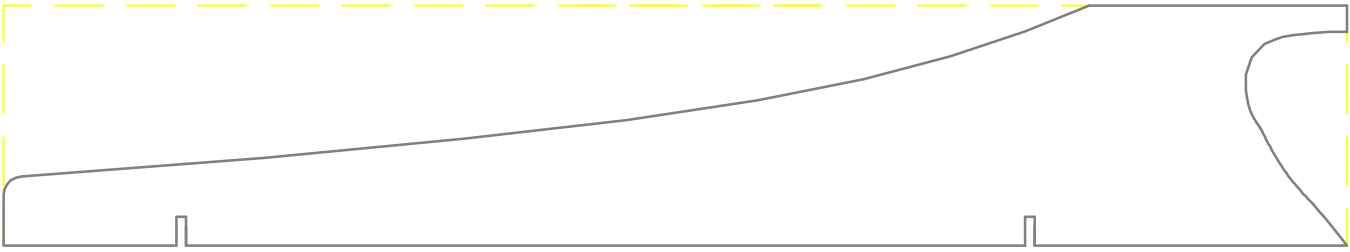
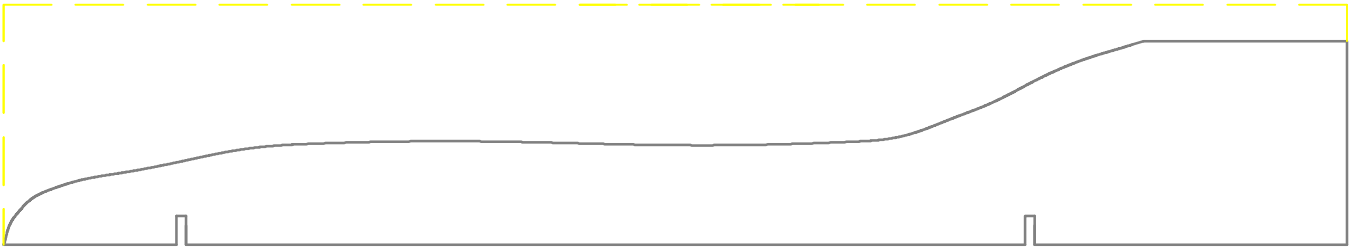
GLUE ADDITIONAL WOOD FOR HEIGHT





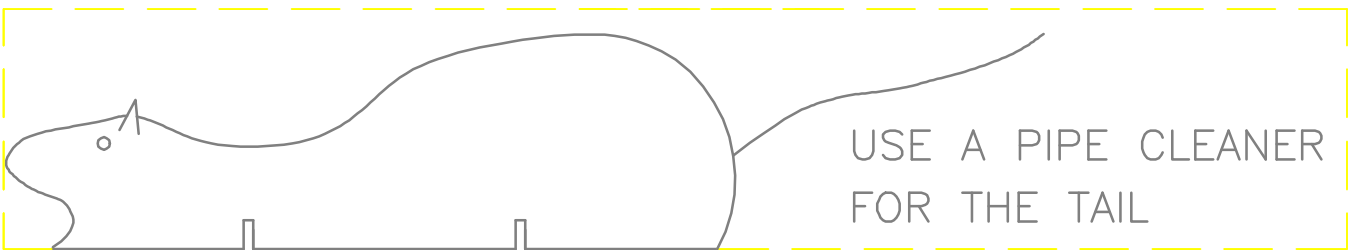




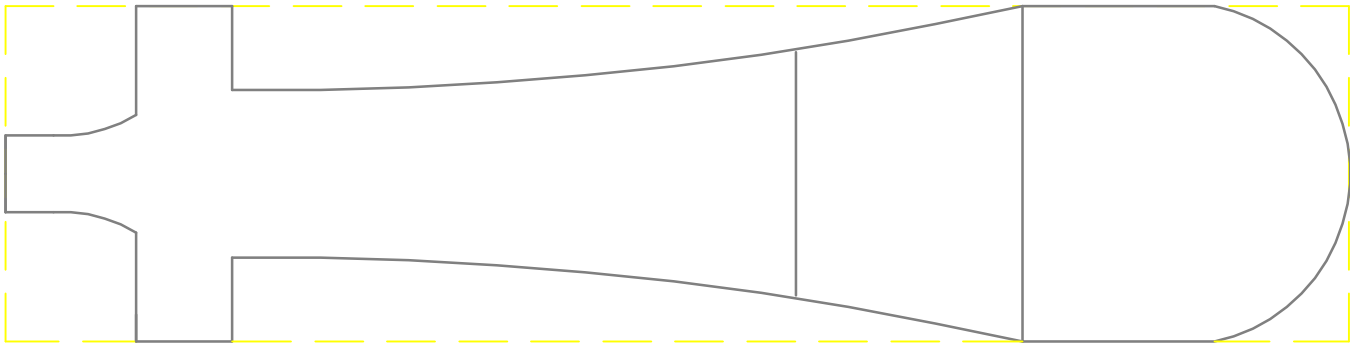
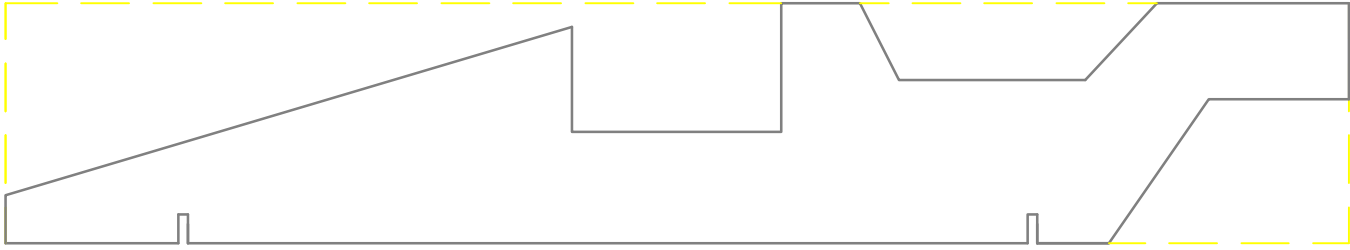


OLD STYLE BLOCK

MINIMOUSE – CUT PROFILE THEN SHAPE BODY

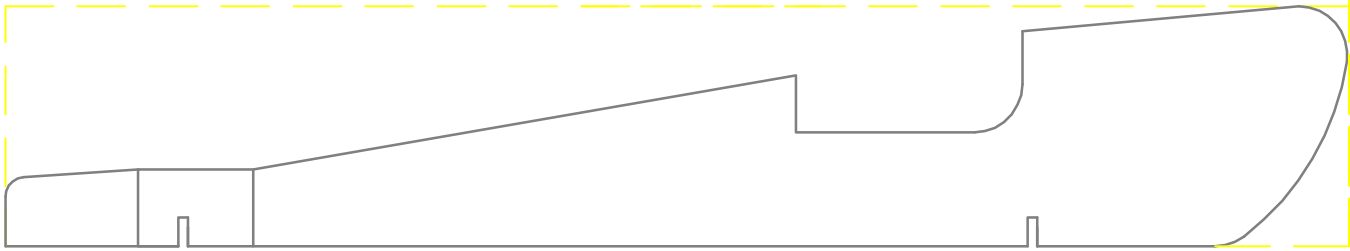


USE A PIPE CLEANER FOR THE TAIL



"DRAGSTER TOP VIEW"

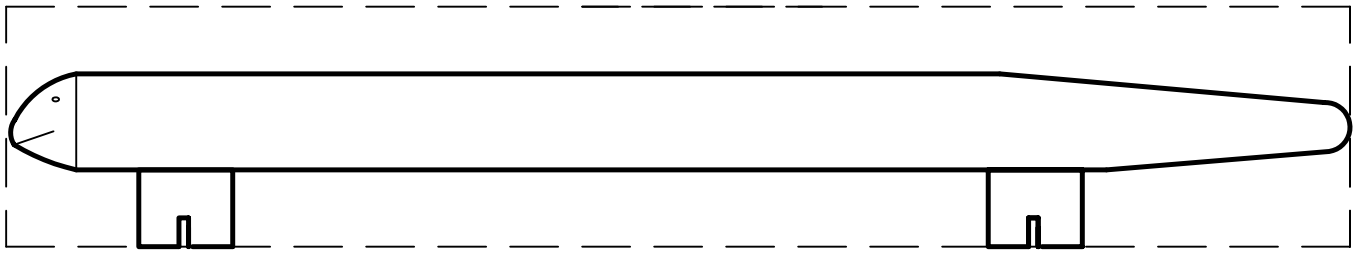
"DRAGSTER"



"SLOW SHORT STUFF"

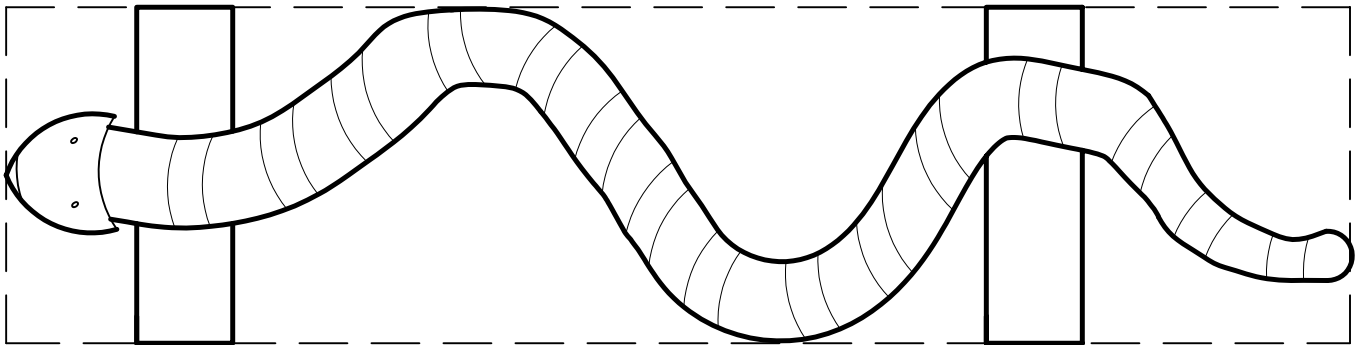


ADD WEIGHT IN 3/8" HOLES



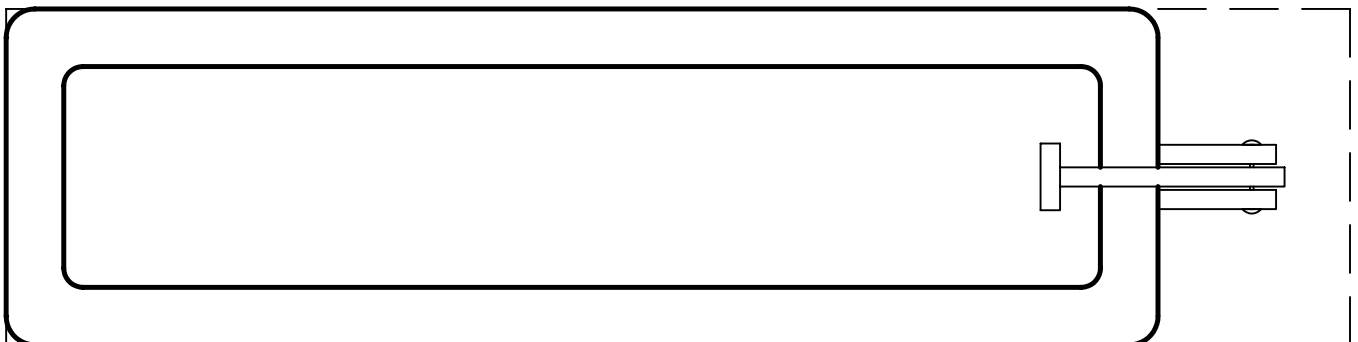
"SNEAKY SNAKE SIDE VIEW"

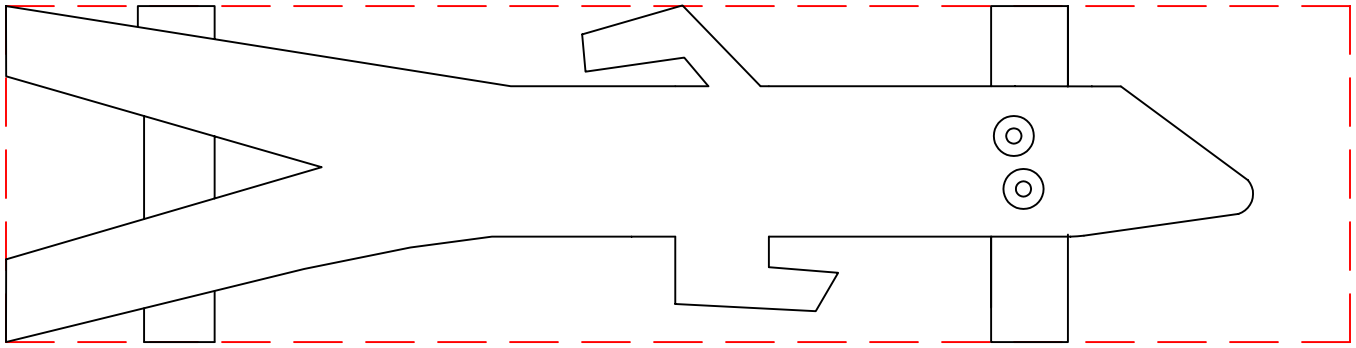
FRAGILE DESIGN, USE REINFORCEMENT



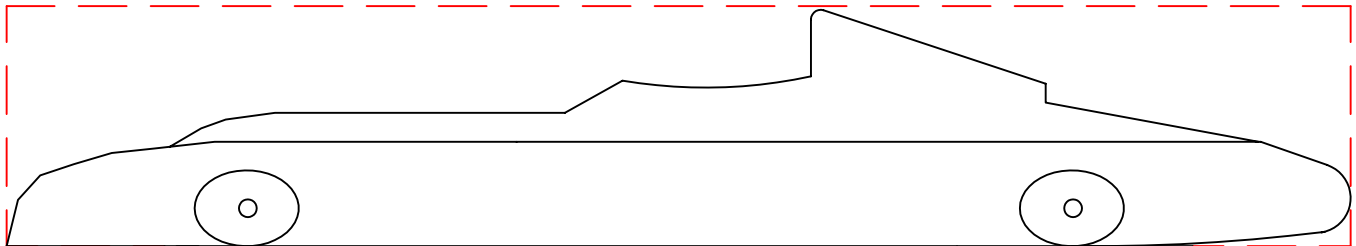
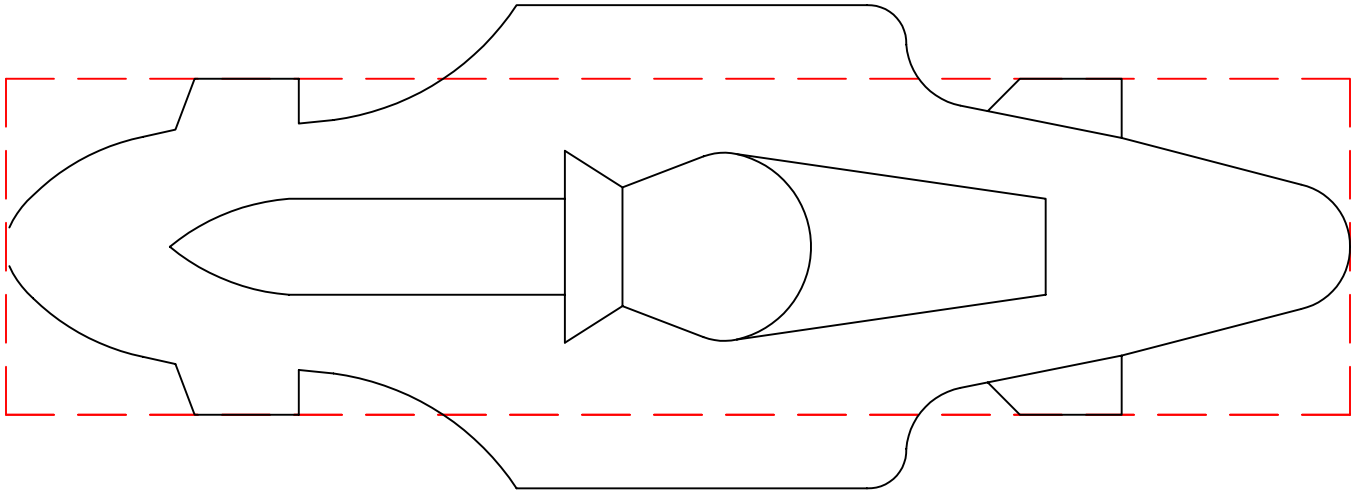
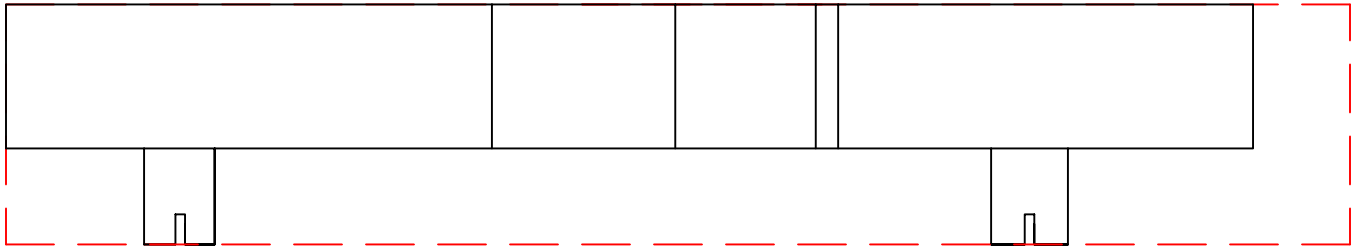
"SNEAKY SNAKE TOP VIEW"

1/8" WOOD DOWELS

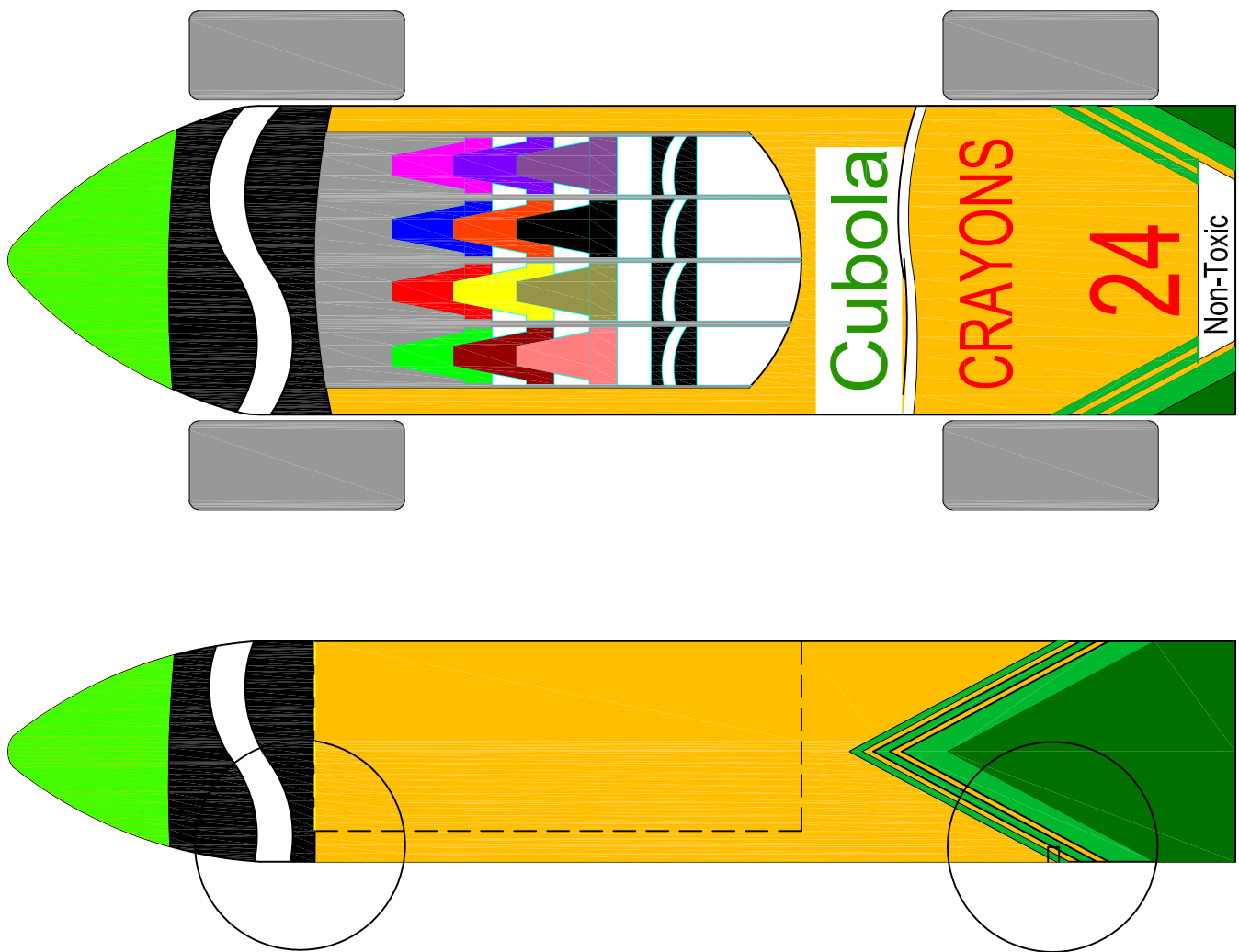


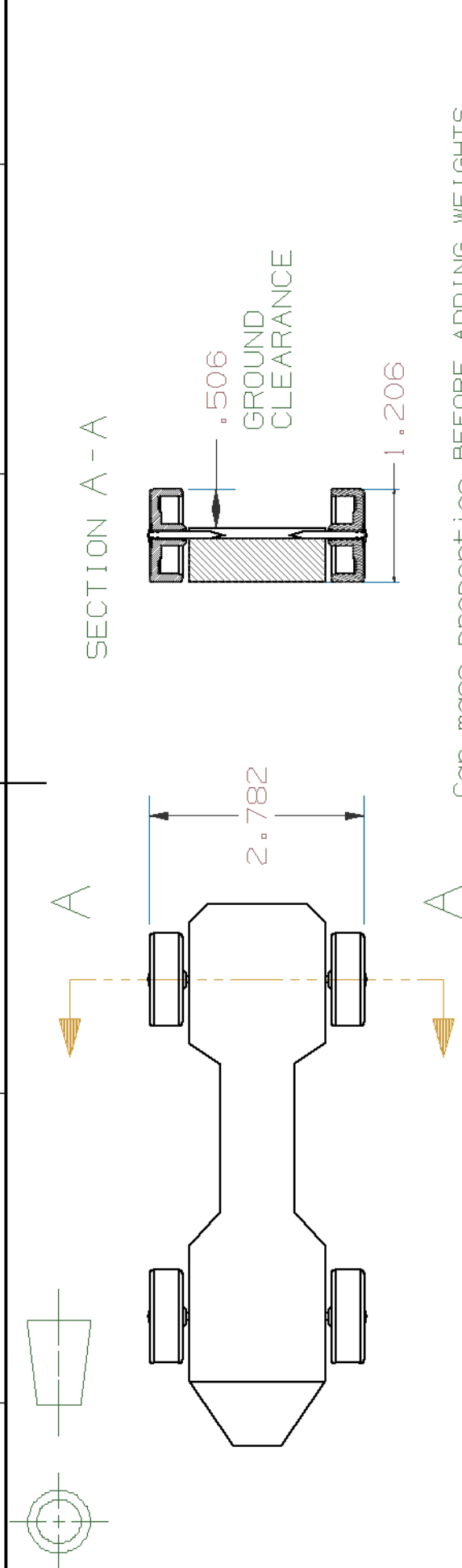


GUMBY



THE CRAYON CAR CAN BE CUT FROM THE STANDARD BLOCK THEN ROUTED TO REMOVE WOOD TO PROVIDE SPACE FOR ACTUAL CRAYONS TO BE INSERTED AS SHOWN. THE PAINT SCHEME COLORS DEPICT REALISTIC COLORS THAT MIGHT BE FOUND ON COMMERCIAL BOXES.





SECTION A - A

.506  
GROUND  
CLEARANCE

1.206

2.782

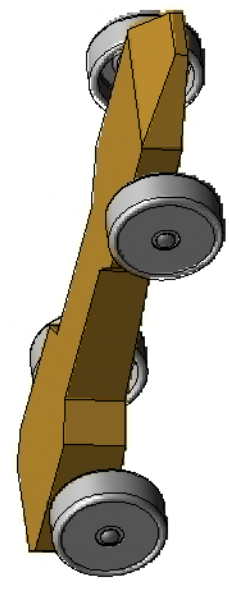
7

Car mass properties BEFORE ADDING WEIGHTS  
 Weight data was calculated  
 Accuracy used = 0.990000000000

Density = 0.01836026893 lbs/in<sup>3</sup>  
 Volume = 6.46459739331 in<sup>3</sup>  
 Mass = 0.11869174664 lbs  
 = 1.89906795 Ounces

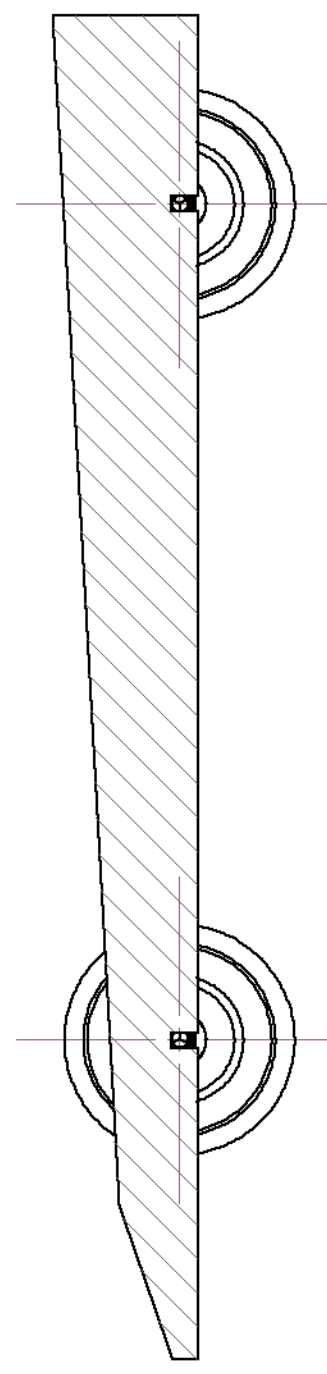
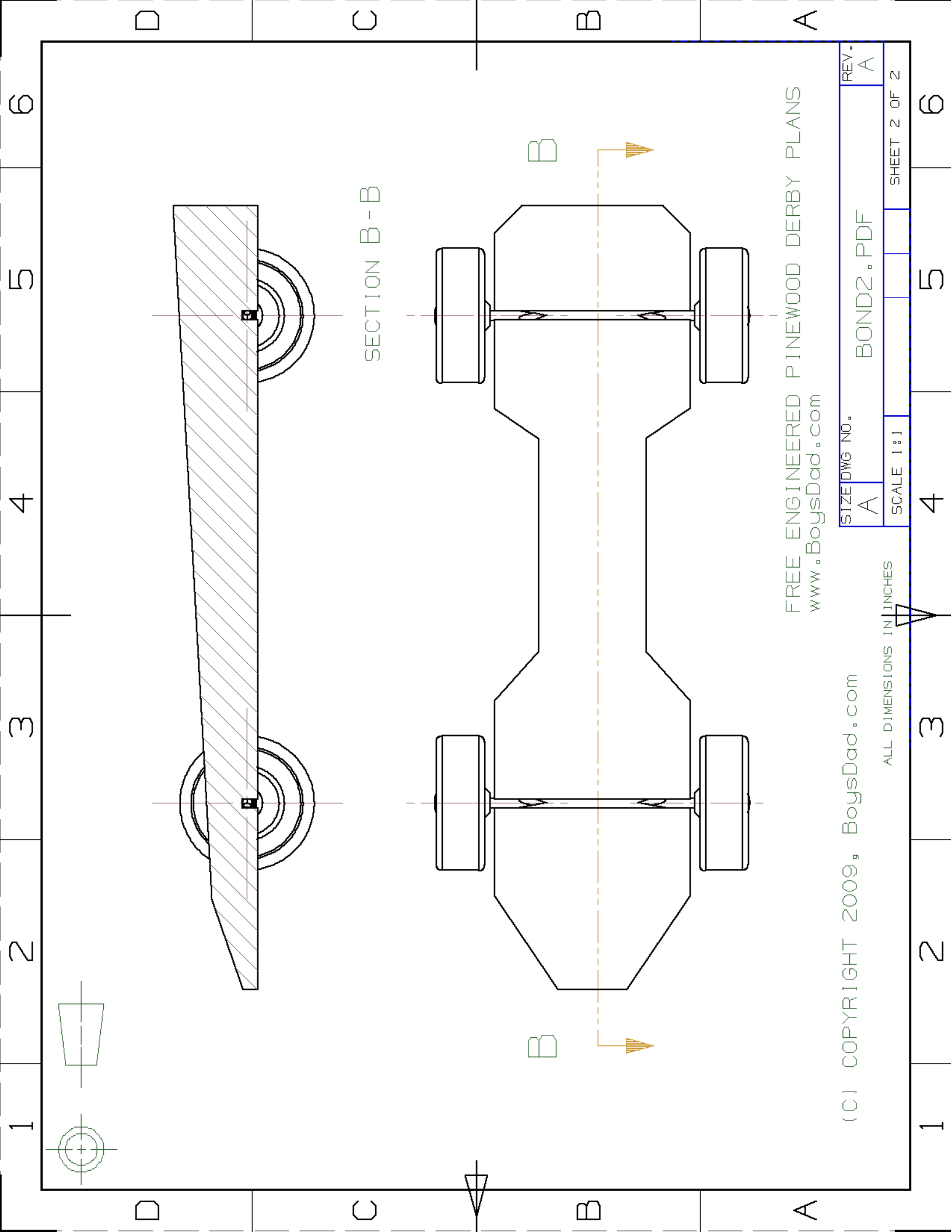
Center of Mass  
 Xcbar = 3.97270763208  
 Ycbar = 0.87500000000  
 Zcbar = 0.22168055541

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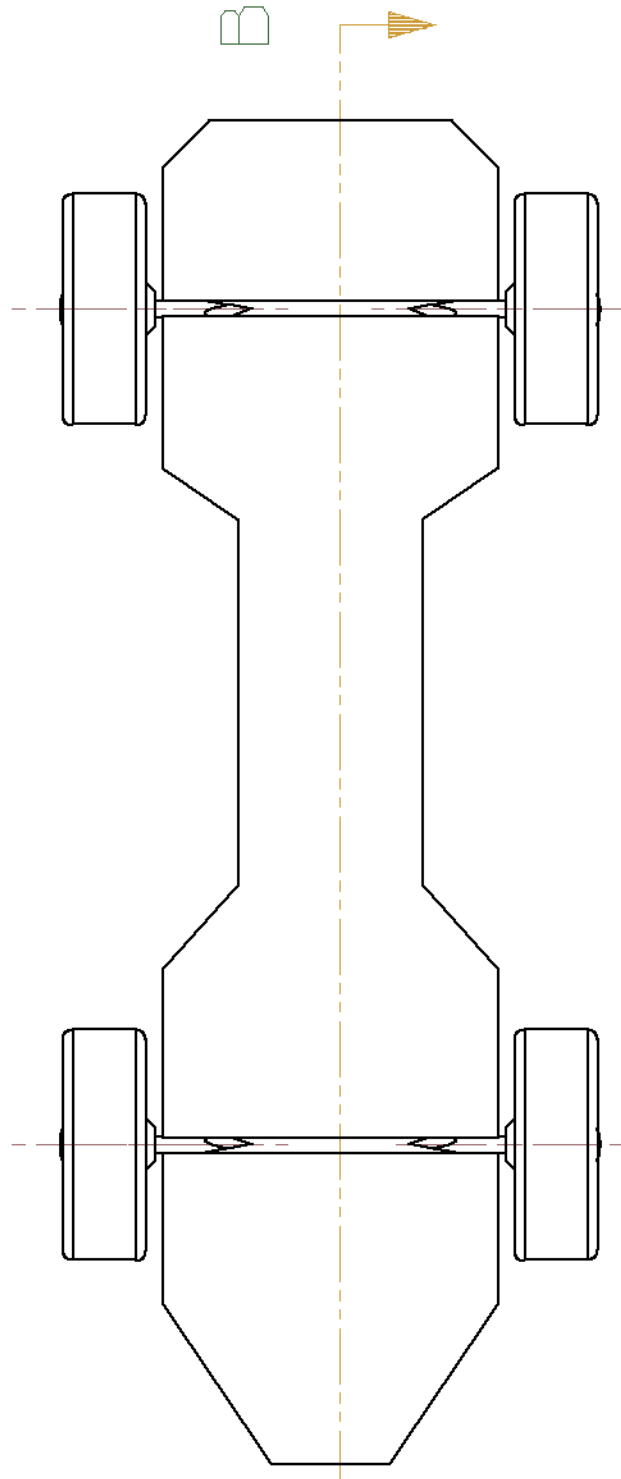


ALL DIMENSIONS IN INCHES  
 3D CAD MASTER PART NAME: unmodassy

|   |  |
|---|--|
| ENGINEERED PINEWOOD DERBY PLANS<br>SCOUTING SUPPLIES<br>www.BoysDad.com |  |
| FIRST ISSUED  | TITLE  |
| DRAWN BY  | CAR DESIGN: LUTHOR<br>DIMENSIONS AND MASS PROPS. |
| CHECKED BY  | SIZE DWG NO. A                                   |
| APPROVED BY   | BOND.PDF   |
|   | REV. A   |
| SCALE 1:2   | SHEET 1 OF 2                                     |



SECTION B-B



FREE ENGINEERED PINEWOOD DERBY PLANS  
[www.BoysDad.com](http://www.BoysDad.com)

|              |              |
|--------------|--------------|
| SIZE DWG NO. | REV.         |
| A            | A            |
| BOND2.PDF    |              |
| SCALE 1:1    | SHEET 2 OF 2 |

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ALL DIMENSIONS IN INCHES

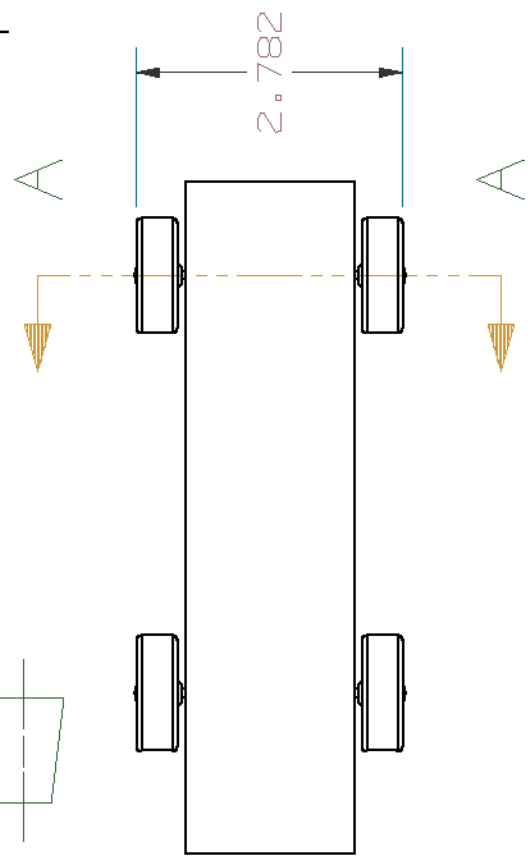
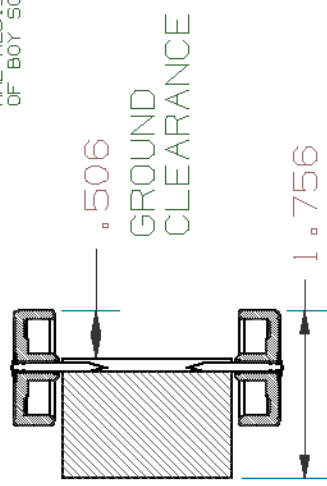
1 2 3 4 5 6

A B C D



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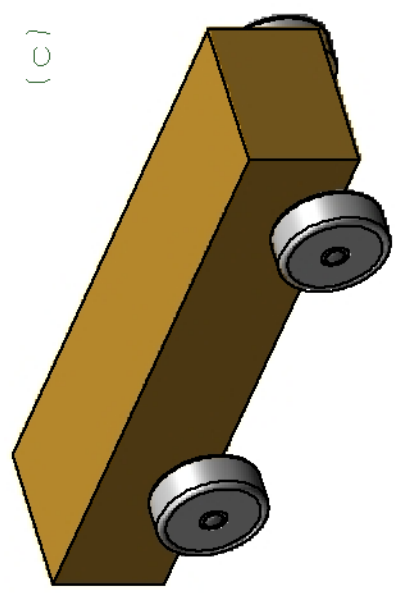
SECTION A - A



Selected mass properties for unmodified BSA car (assemble)  
 Volume = 16.26761478806 in3  
 Weight = 0.25410129288 lbs  
 4.06561922 oz

Center of Mass  
 Xcbar = 3.55761469735  
 Ycbar = 0.87500000000  
 Zcbar = 0.53596933412

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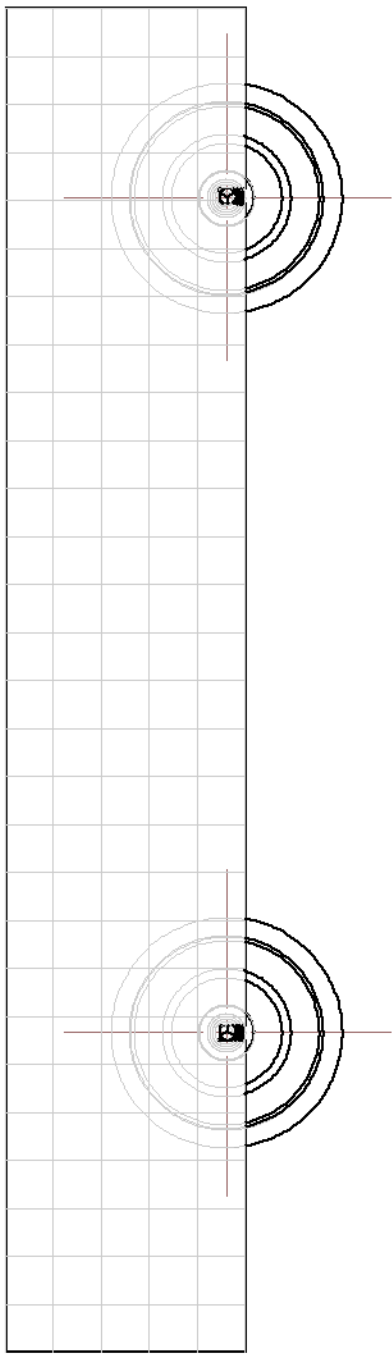
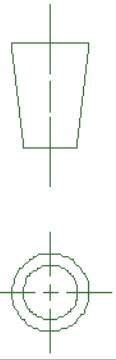
|   |  |                                    |                |
|---|--|------------------------------------|----------------|
| ENGINEERED PINEWOOD DERBY PLANS<br>SCOUTING SUPPLIES<br>www.BoysDad.com |  | TITLE<br>UNMODIFIED CAR DIMENSIONS |                |
| FIRST ISSUED  |  | SIZE                               | A              |
| DRAWN BY  |  | DWG NO.                            | unmodassy_dwg1 |
| CHECKED BY  |  | REV.                               | A              |
| APPROVED BY   |  | SCALE                              | 1:2            |
|   |  | SHEET 1 OF 2                       |                |

ALL DIMENSIONS IN INCHES  
 3D CAD MASTER PART NAME: unmodassy

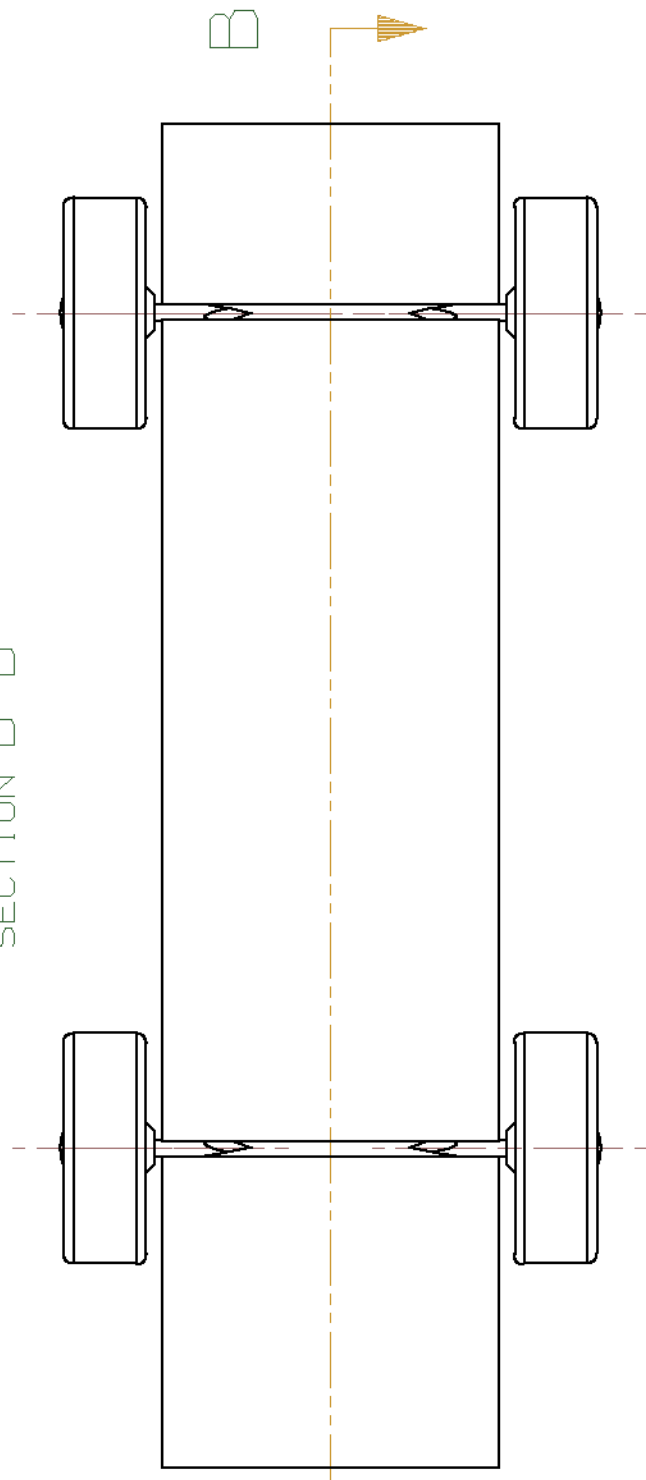
1 2 3 4 5 6

D C B A

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SECTION B-B



USE THIS TEMPLATE TO DESIGN YOUR OWN CAR.

ALL DIMENSIONS IN INCHES

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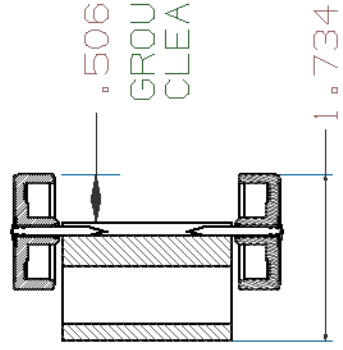
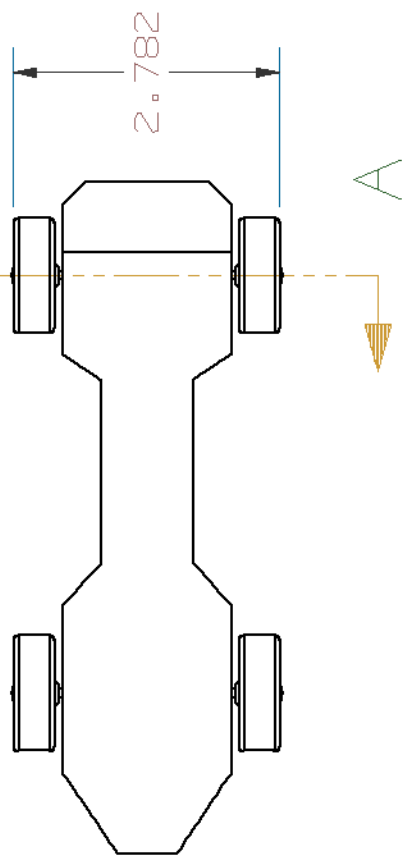
SIZE DWG NO. A www.BoysDad.com REV. A

SCALE 1:1 SHEET 2 OF 2

1 2 3 4 5 6

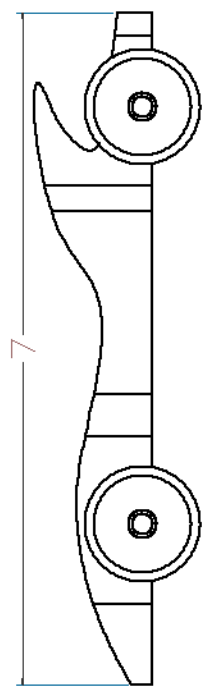
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SECTION A - A



Car mass properties BEFORE ADDING WEIGHTS

|                |   |               |                     |
|----------------|---|---------------|---------------------|
| Density        | = | 0.01758155418 | lbs/in <sup>3</sup> |
| Volume         | = | 7.80042559296 | in <sup>3</sup>     |
| Mass           | = | 0.13714360520 | lbs                 |
|                | = | 2.194288      | Ounces              |
| Center of Mass |   |               |                     |
| Xcbar          | = | 3.68596542622 |                     |
| Ycbar          | = | 0.87499458819 |                     |
| Zcbar          | = | 0.30183141357 |                     |



NOTE: A VERY THIN SAW BLADE IS REQUIRED TO CUT THIS CAR PROFILE.

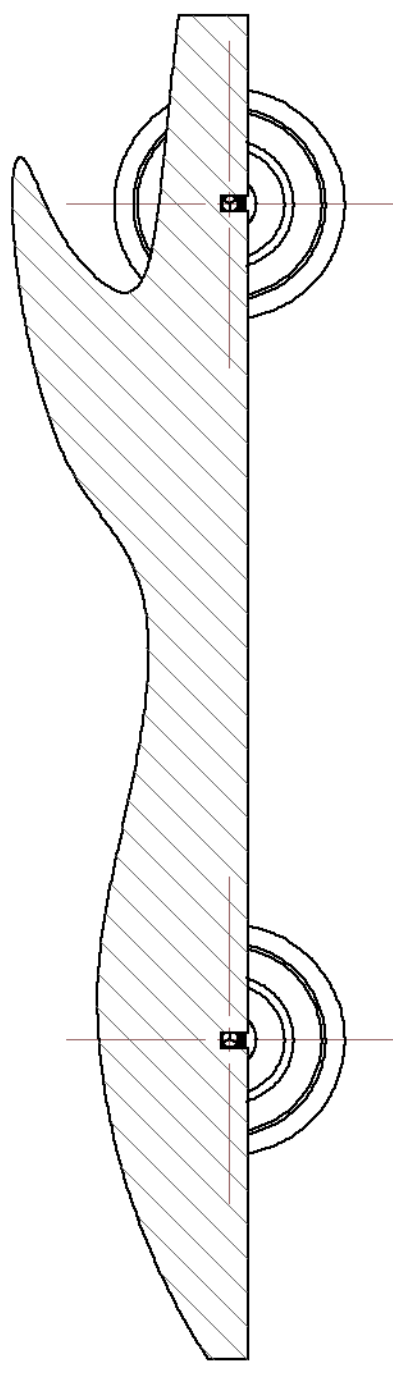
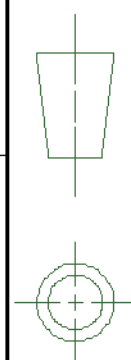
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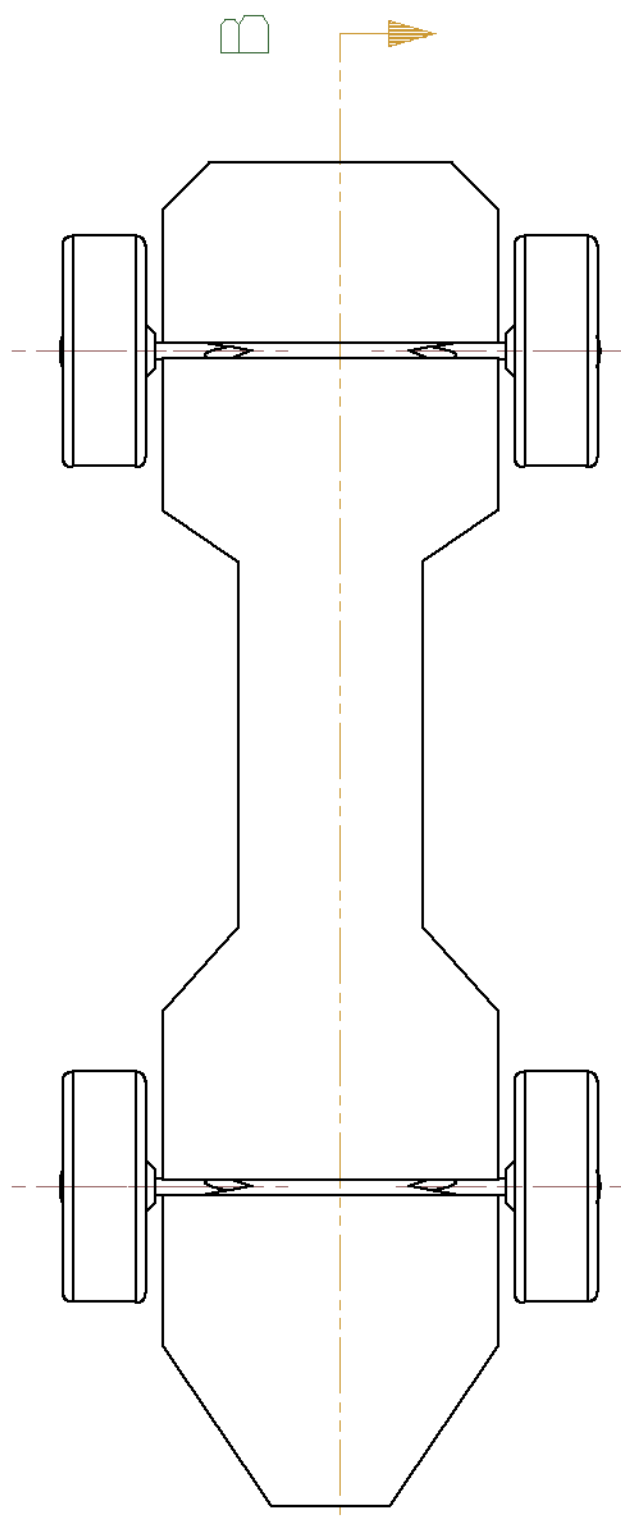
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|--|----------------------------|
| ENGINEERED PINWOOD DERBY PLANS<br>SCOUTING SUPPLIES<br>www.BoysDad.com |                            |
| FIRST ISSUED   | TITLE                      |
| DRAWN BY   | CAR DESIGN: FONZ           |
| CHECKED BY   | DIMENSIONS AND MASS PROPS. |
| APPROVED BY  | SIZE DWG NO. A             |
|  | FONZ.PDF                   |
|  | REV. A                     |
| SCALE 1:2  | SHEET 1 OF 2               |

ALL DIMENSIONS IN INCHES  
 3D CAD MASTER PART NAME: unmodassy

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SECTION B-B



FREE ENGINEERED PINEWOOD DERBY PLANS  
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SIZE DWG NO. A

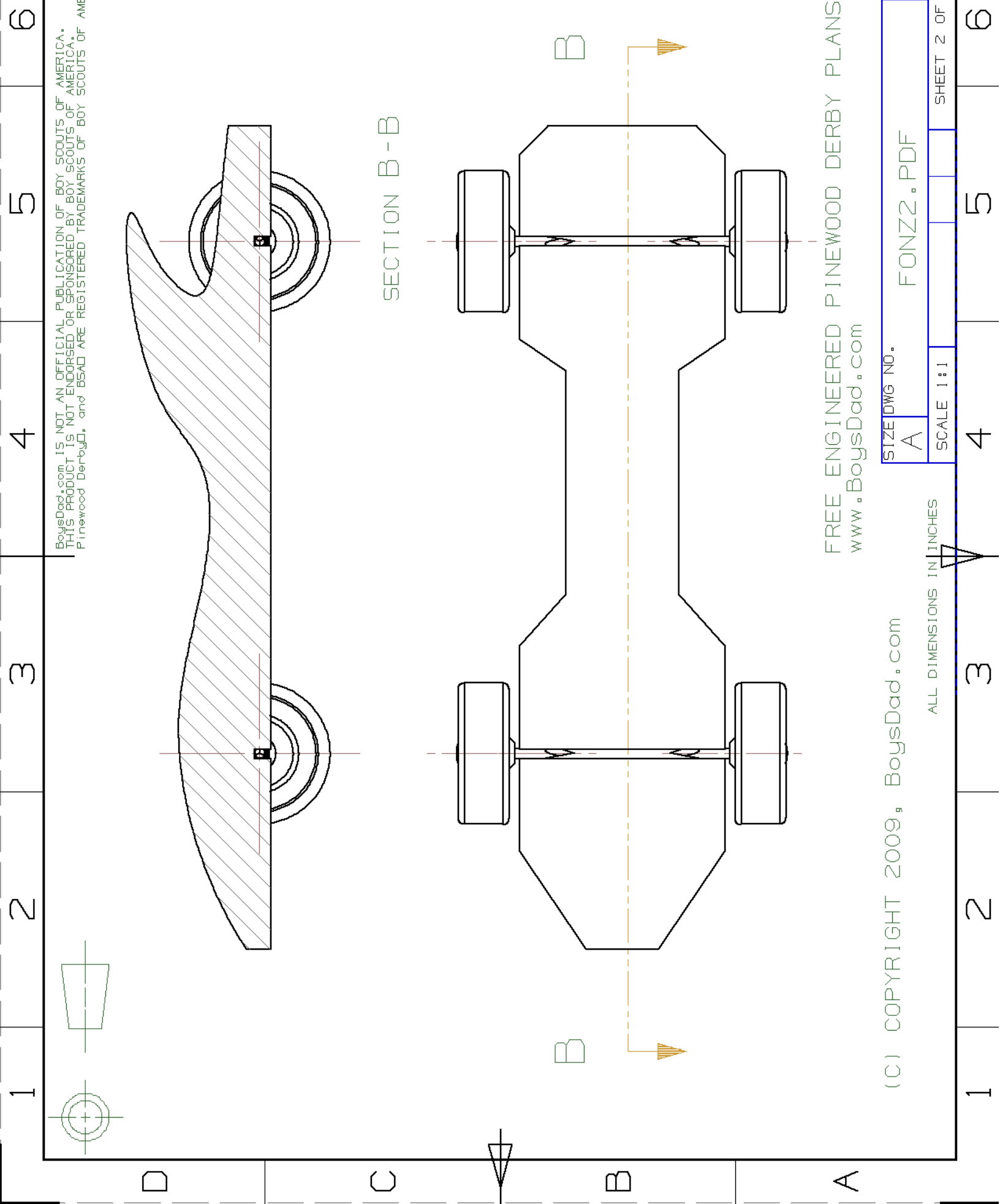
FONZ2.PDF

REV. A

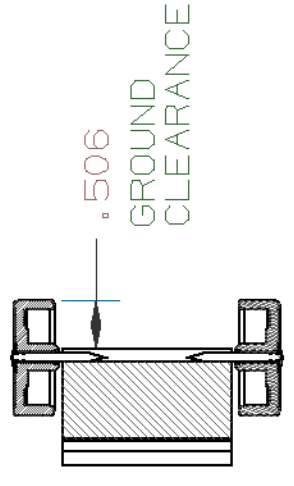
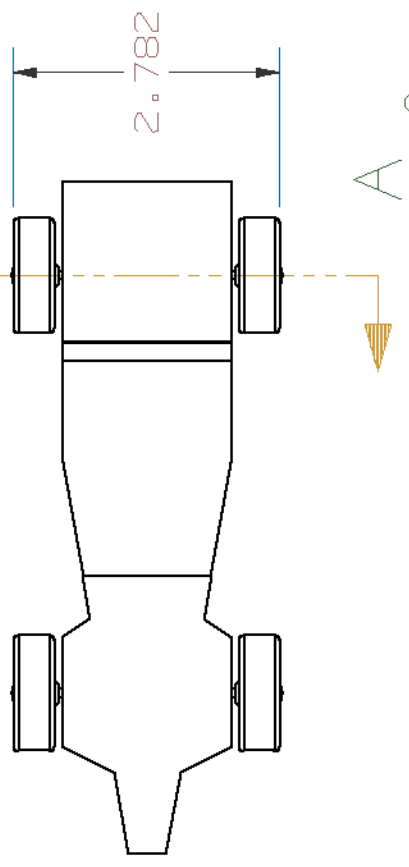
ALL DIMENSIONS IN INCHES

SCALE 1:1

SHEET 2 OF 2



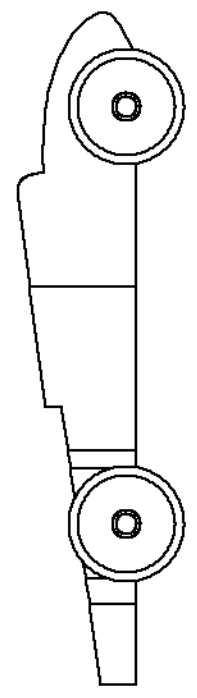
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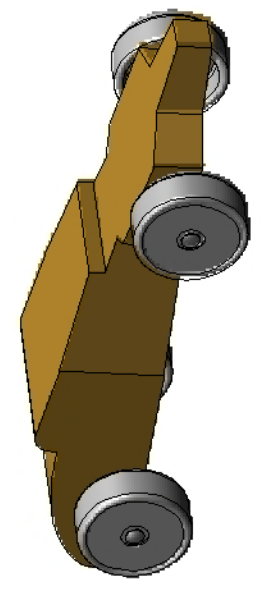
SECTION A - A

Car mass properties BEFORE ADDING WEIGHTS  
Weight data was calculated

|                                    |   |               |                     |
|------------------------------------|---|---------------|---------------------|
| Accuracy used                      | = | 0.99000000000 |                     |
| Assembled Density                  | = | 0.01677431087 | lbs/in <sup>3</sup> |
| Mass                               | = | 0.16651572191 | lbs                 |
|                                    | = | 2.66425       | oz                  |
| Center of Mass (from front of car) | = | 4.03914900489 |                     |
| Xcbar                              | = | 0.87498708591 |                     |
| Ycbar                              | = | 0.37064079128 |                     |
| Zcbar                              | = |               |                     |



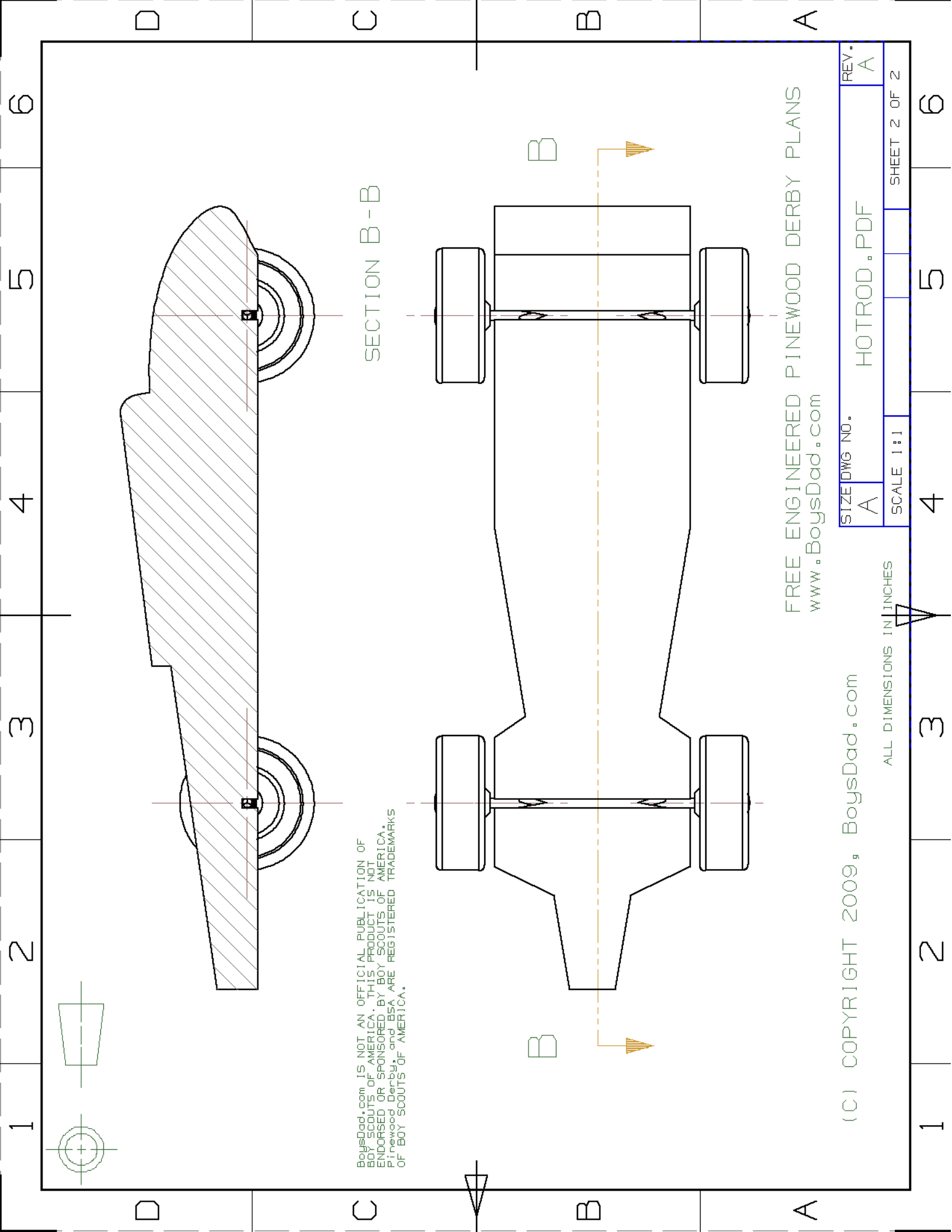
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ENGINEERED PINEWOOD DERBY PLANS  
SCOUTING SUPPLIES  
www.BoysDad.com

|              |  |                            |                |
|--------------|--|----------------------------|----------------|
| FIRST ISSUED |  | TITLE                      |                |
| DRAWN BY     |  | CAR DESIGN: HOTROD         |                |
| CHECKED BY   |  | DIMENSIONS AND MASS PROPS. |                |
| APPROVED BY  |  | SIZE/DWG NO.               | A / HOTROD.PDF |
|              |  | REV.                       | A              |
|              |  | SCALE 1:2                  |                |
|              |  |                            | SHEET 1 OF 2   |

ALL DIMENSIONS IN INCHES  
3D CAD MASTER PART NAME: unmodassy



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SECTION B-B

FREE ENGINEERED PINEWOOD DERBY PLANS  
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SIZE DWG NO.

A HOTROD.PDF

REV.

A

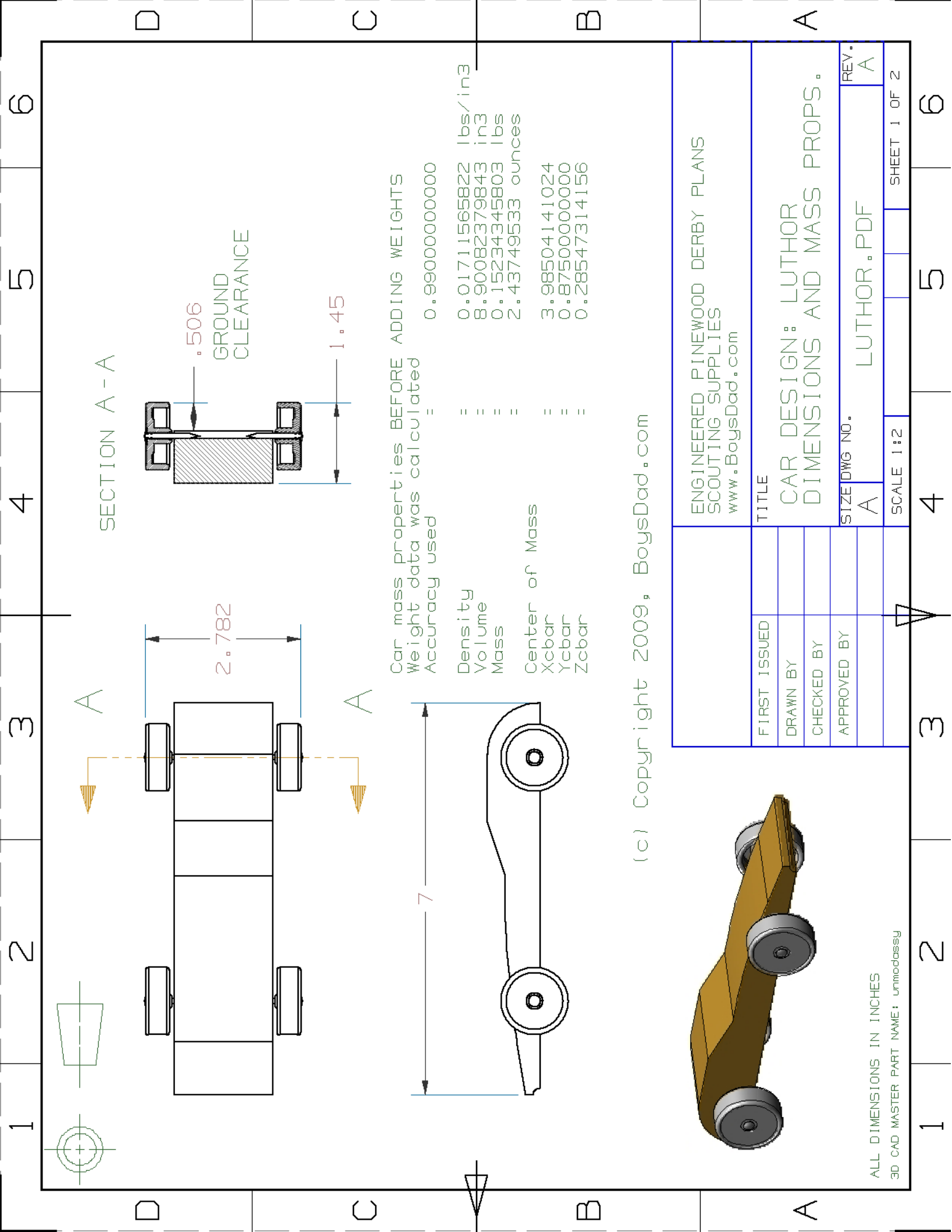
ALL DIMENSIONS IN INCHES

SCALE 1:1

SHEET 2 OF 2

1 2 3 4 5 6

A B C D



SECTION A - A

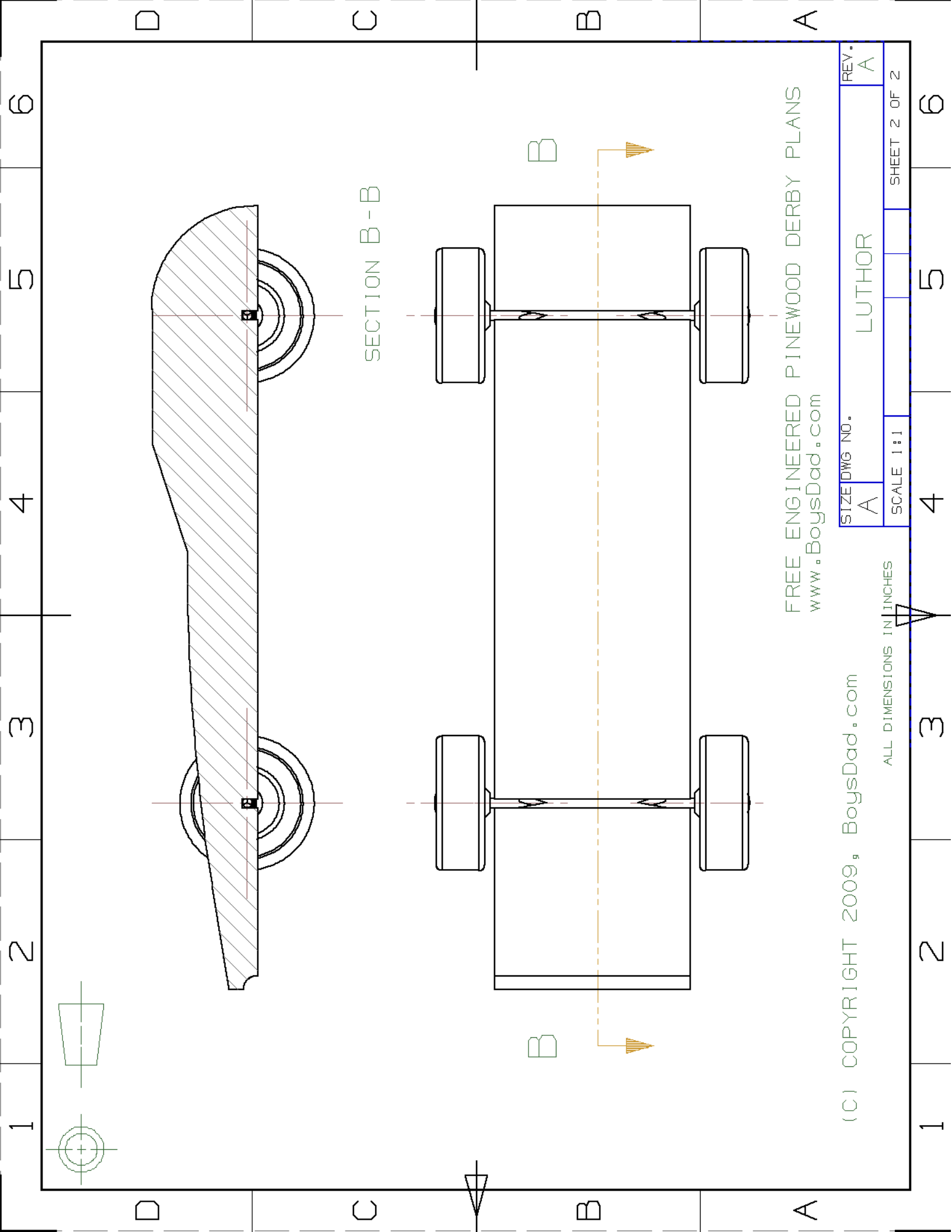
Car mass properties BEFORE ADDING WEIGHTS  
 Weight data was calculated  
 Accuracy used = 0.990000000000

|                |   |               |                     |
|----------------|---|---------------|---------------------|
| Density        | = | 0.01711565822 | lbs/in <sup>3</sup> |
| Volume         | = | 8.90082379843 | in <sup>3</sup>     |
| Mass           | = | 0.15234345803 | lbs                 |
|                | = | 2.43749533    | ounces              |
| Center of Mass | = | 3.98504141024 |                     |
| Xcbar          | = | 0.87500000000 |                     |
| Ycbar          | = | 0.28547314156 |                     |
| Zcbar          | = |               |                     |

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|   |  |
|---|--|
| ENGINEERED PINEWOOD DERBY PLANS<br>SCOUTING SUPPLIES<br>www.BoysDad.com |  |
| FIRST ISSUED  | TITLE  |
| DRAWN BY  | CAR DESIGN: LUTHOR<br>DIMENSIONS AND MASS PROPS. |
| CHECKED BY  | SIZE DWG NO. A                                   |
| APPROVED BY   | LUTHOR.PDF                                       |
|   | REV. A   |
|   | SCALE 1:2  |
|   | SHEET 1 OF 2                                     |

ALL DIMENSIONS IN INCHES  
 3D CAD MASTER PART NAME: unmodassy



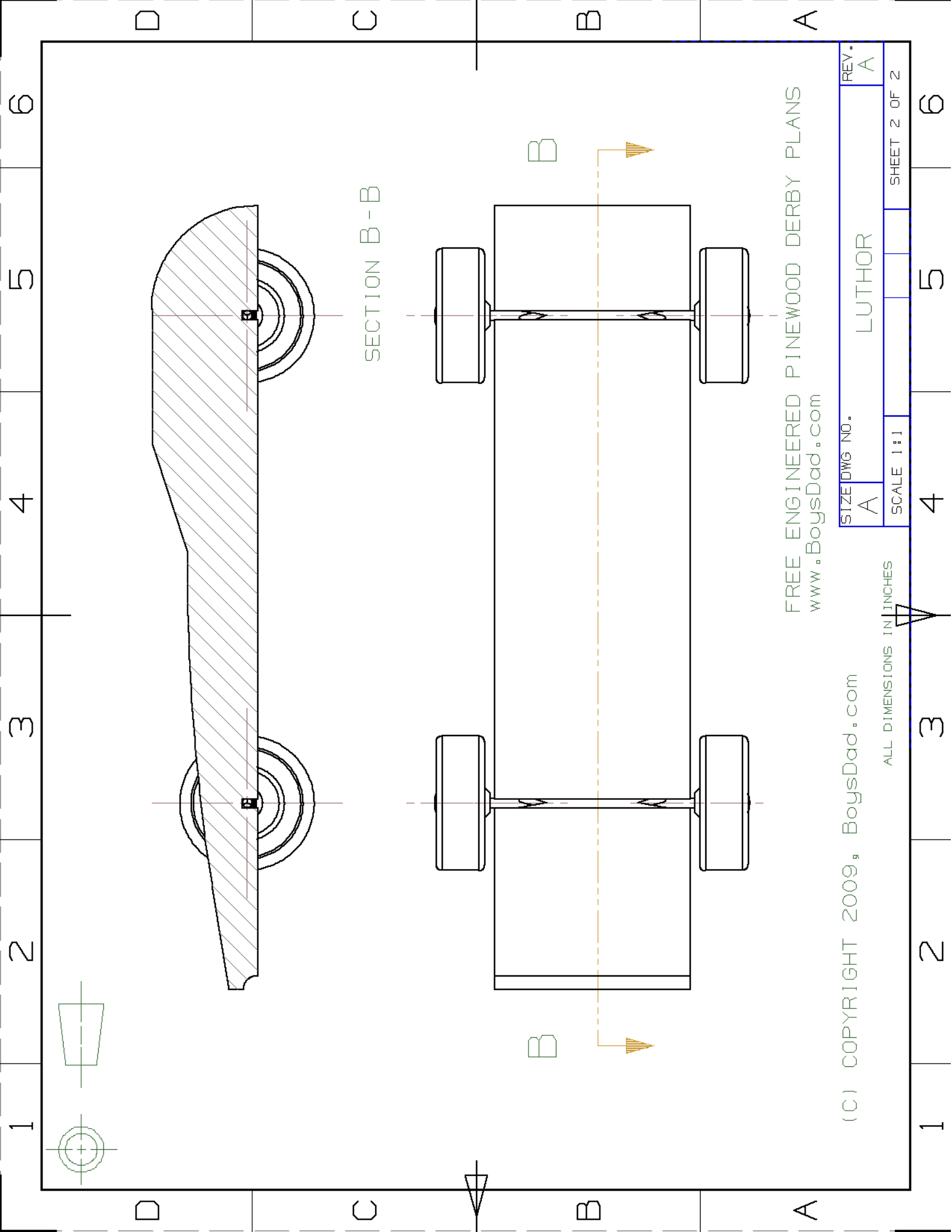
SECTION B-B

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|              |     |        |      |              |
|--------------|-----|--------|------|--------------|
| SIZE DWG NO. | A   | LUTHOR | REV. | A            |
| SCALE        | 1:1 |        |      | SHEET 2 OF 2 |

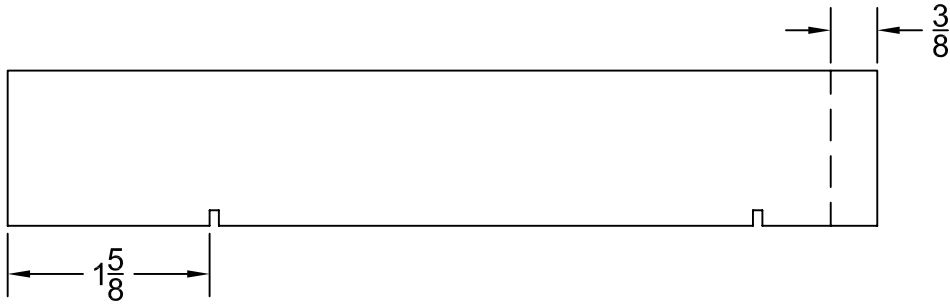
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ALL DIMENSIONS IN INCHES

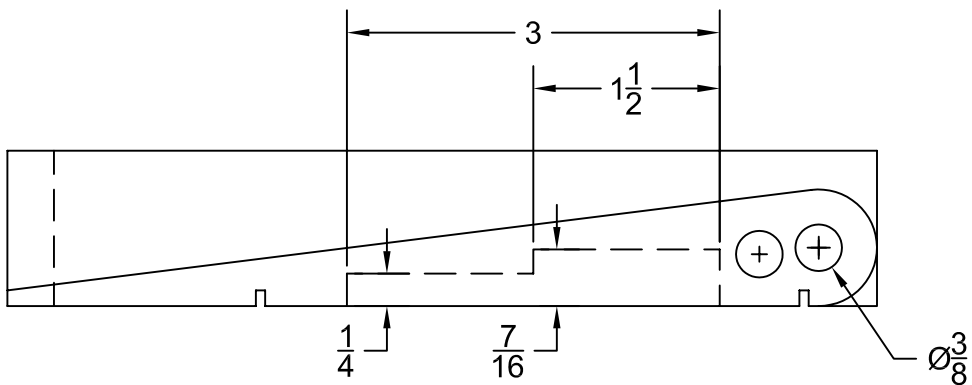
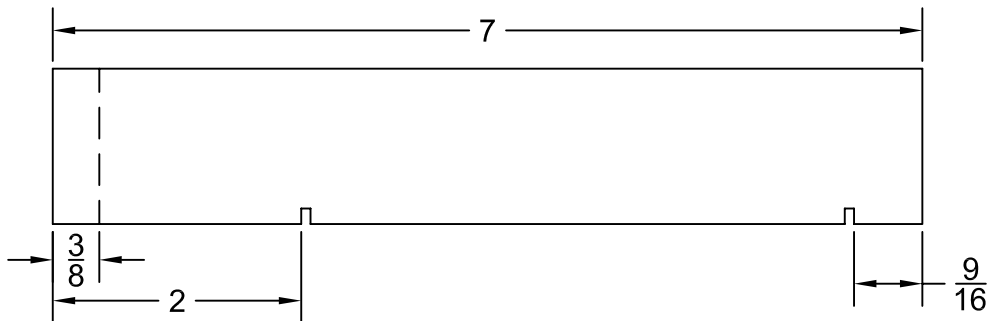




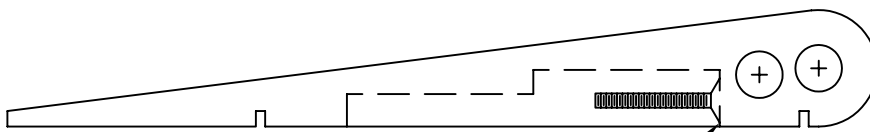
cut block off here



& glue another block to front

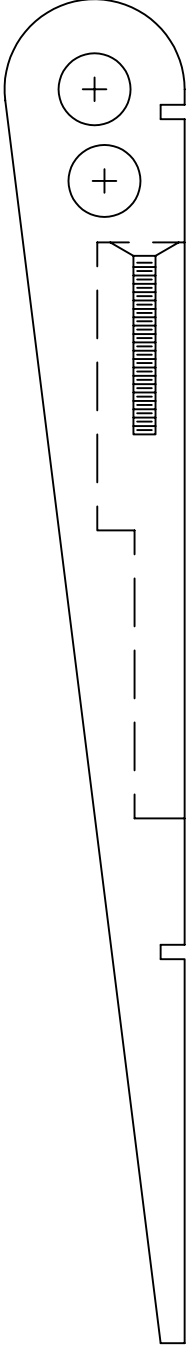


FILL THE TWO  $\frac{3}{8}$  HOLES WITH MELTED LEAD (LEAD IS POISONOUS!) TAKE PRECAUTIONS



USE 2 PART EPOXY TO ATTACH MACHINE SCREW TO CAR.

FULL SCALE LAYOUT



CUT OUT THIS PATTERN AND TRACE ONTO BLOCK