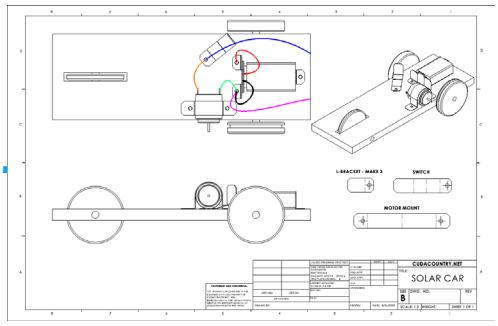
Chapter 10

Solar Car Drawing



A. Insert Side, Top and Isometric Views.

Step 1. Click File Menu > New, click **Drawing** and OK.

Step 2. Click **View Layout**

on the Command Manager toolbar.

Step 3. Click **Model View**

on the View Layout toolbar.

Step 3. Click **Browse** in the Property Manager.

Step 4. Select your **SOLAR CAR ASSEMBLY** file and click Open.

Step 4. In the Model View Property Manager:
under Orientation, **Fig. 1**
click **Right**
check **Preview**
under Scale
select **Use custom scale** and set scale to **1:1**.

Step 6. Move the cursor into the graphic area and click to place the right side view as shown in **Fig. 2**. Align the left edge of the preview with the left border line and align the bottom edge with the top of the title block.

Step 7. **Move the cursor straight up** and click to place the top view as shown in **Fig. 3**. Center the preview between the side view you just placed and the top border line.

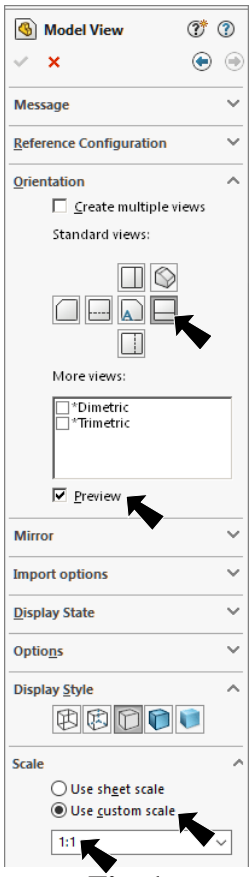


Fig. 1

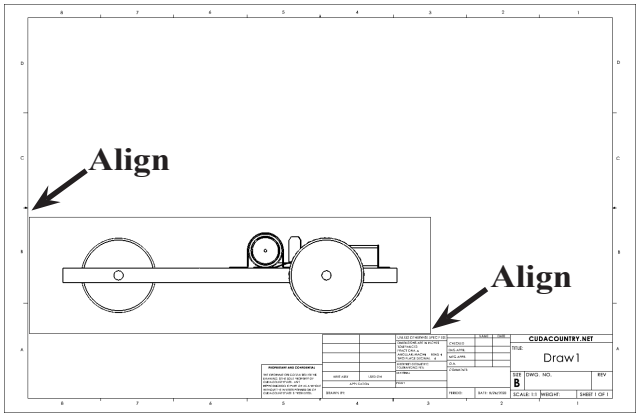


Fig. 2

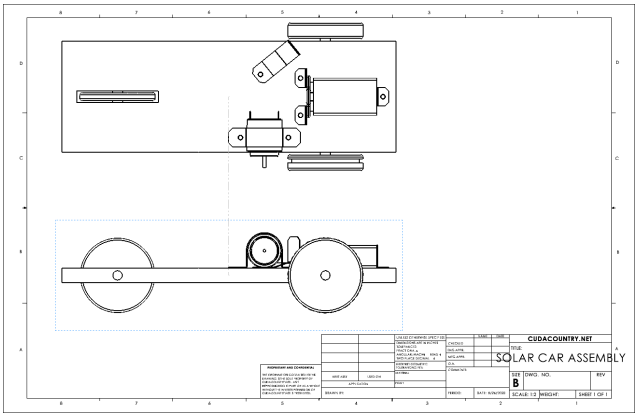


Fig. 3

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Step 8. Move the cursor to the top left corner of the drawing and click to place the Isometric view, **Fig. 4**.

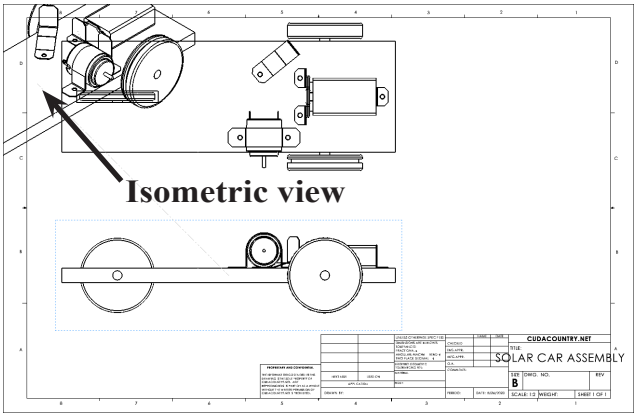


Fig. 4

Step 9. Click OK ✔ in the Property Manager.

Step 10. Click the Isometric view to select it, **Fig. 4**.

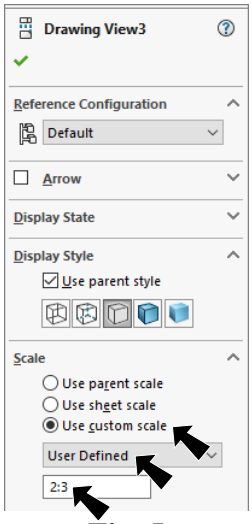


Fig. 5

Step 11. In the Property Manager:
under Scale, **Fig. 5**
select **Use custom scale**
select **User Defined**
key-in **2:3** for scale
click OK ✔ .

Step 12. Grab any geometry of the Isometric view and move view to space right of Side and Top views, **Fig. 6**. Click OK ✔ in the Property Manager.

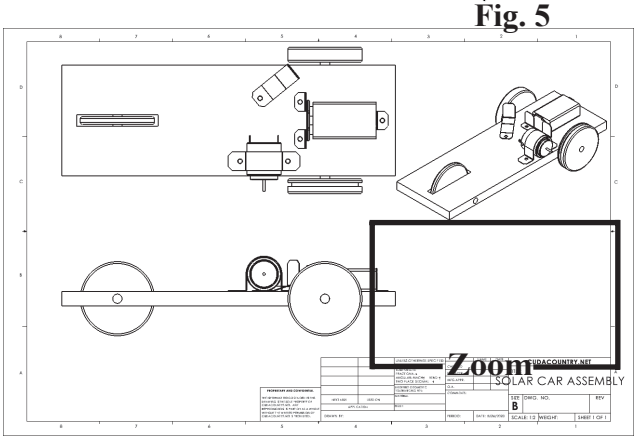


Fig. 6

B. Save as "SOLAR CAR".

Step 1. Click File Menu > Save As.

Step 2. Key-in **SOLAR CAR** for the filename and press ENTER.

C. Insert L-Bracket Flatten.

Step 1. Use the **Zoom to Area** in the View toolbar to drag a zoom window around the **bottom right corner of the drawing**, **Fig. 6**.

Step 2. Click **Options** on the Standard toolbar.

Step 3. In the Documents Properties dialog box:
click **Documents tab** at top, **Fig. 7**
click **Sheet Metal** in left panel,
under Bend notes,
uncheck **Display sheet metal bend notes** and click OK.

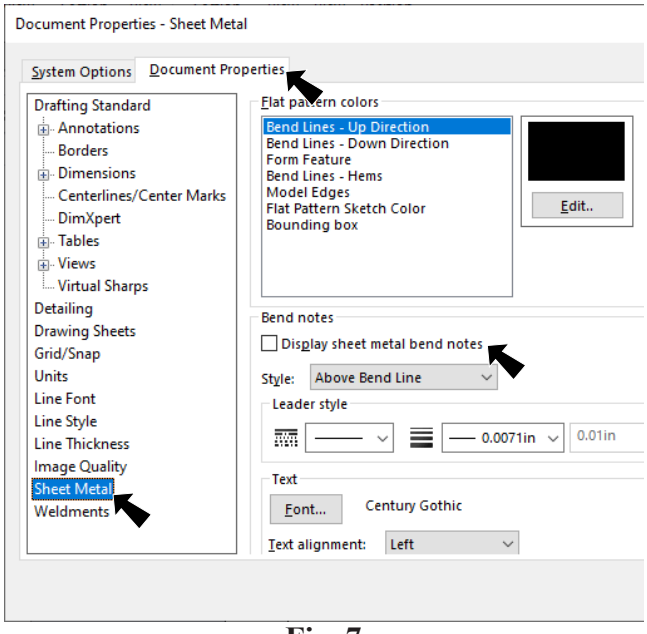


Fig. 7

Step 4. Click **Model View**

on the View Layout toolbar.

Step 5. Click **Browse** in the Property Manager.

Step 6. Select your **L-BRACKET** file and click Open.

Step 7. In the Property Manager set:
under Orientation More Views
check **Flat Pattern**, **Fig. 8**
check **Preview**
under Flat Pattern Display
Angle **90º**
under Scale
Scale 1:1

Step 8. Move the cursor into the graphic area and click to place the L-Bracket flat pattern view as shown in **Fig. 9**.

Step 9. Click OK in the Property Manager.

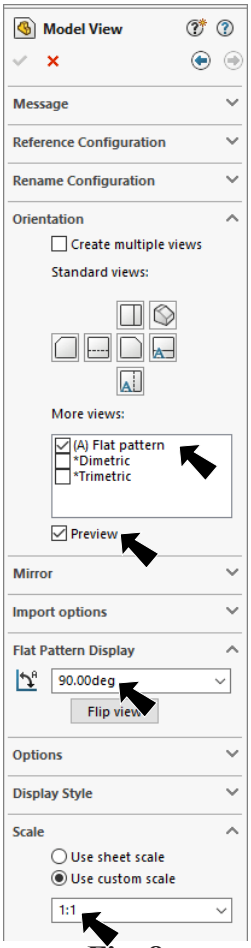


Fig. 8

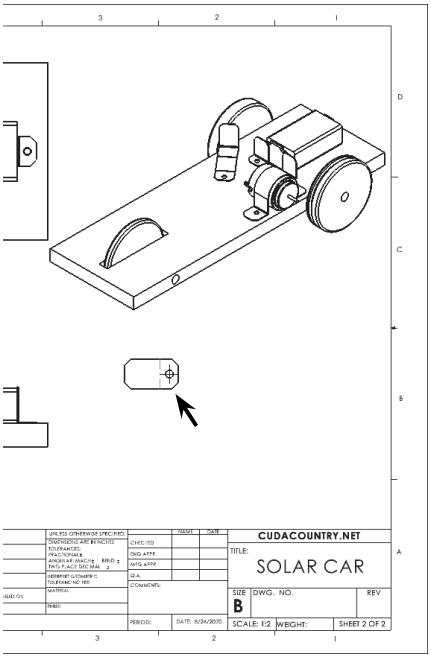


Fig. 9

D. Insert Switch Flatten View.

Step 1. Click **Model View**

on the View Layout toolbar.

Step 2. Click **Browse** in the Property Manager.

Step 3. Select your **SWITCH** file and click Open.

Step 4. In the Property Manager set:
under Orientation More Views, **Fig. 8**
check **Flat Pattern**
check **Preview**
under Flat Pattern Display
Angle **90º**
under **Scale**
Scale 1:1

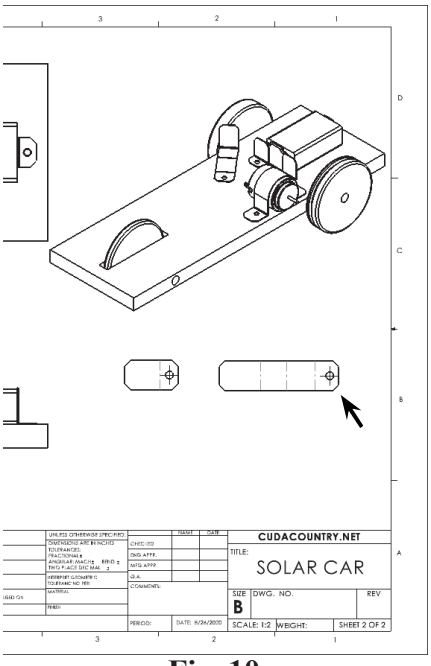


Fig. 10

Step 5. Move the cursor into the graphic area and click to place the Switch flat pattern view as shown in **Fig. 10**. Click OK in the Property Manager.

E. Insert Motor Mount Flatten View.

Step 1. Click **Model View**

on the View Layout toolbar.

Step 2. Click **Browse** in the Property Manager.

Step 3. Select your **MOTOR MOUNT** file and click Open.

Step 4. In the Property Manager set:
under Orientation More Views
check **Flat Pattern**, **Fig. 11**
check **Preview**
under **Flat Pattern Display**
Angle **0º**
under Scale
Scale 1:1

Step 5. Move the cursor into the graphic area and click to place the motor mount flat pattern view as shown in **Fig. 12**.

Step 6. Click OK in the Property Manager.

Step 7. Save. Use **Ctrl-S**.

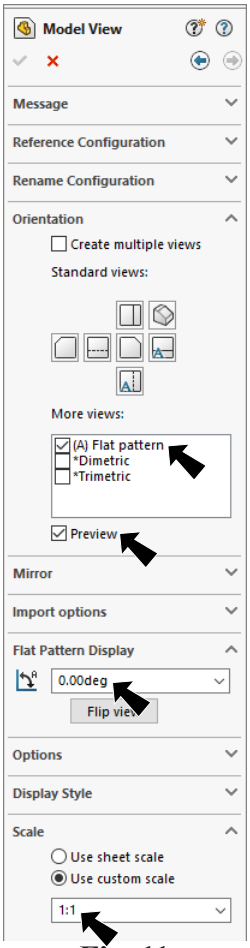


Fig. 11

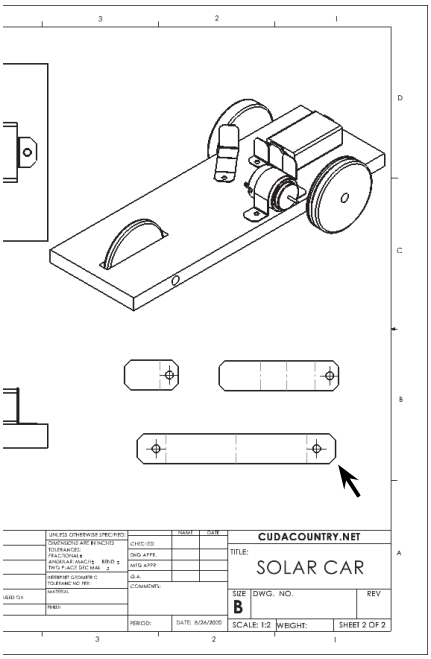


Fig. 12

F. Add Sheet Metal Notes.

Step 1. Click **Annotation** Annotation on the Command Manager toolbar.

Step 2. Click **Note** Note on the Annotation toolbar.

Step 3. In the Note Property Manger:
under Leader, **Fig. 13**
click **NO Leader**

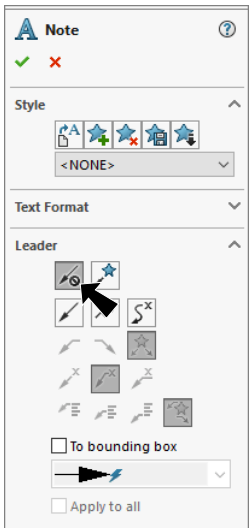


Fig. 13

click just above L-Bracket to place the note

lock the caps
key-in:
L-BRACKET - MAKE 3
Fig. 14

Click OK in the Property Manager.

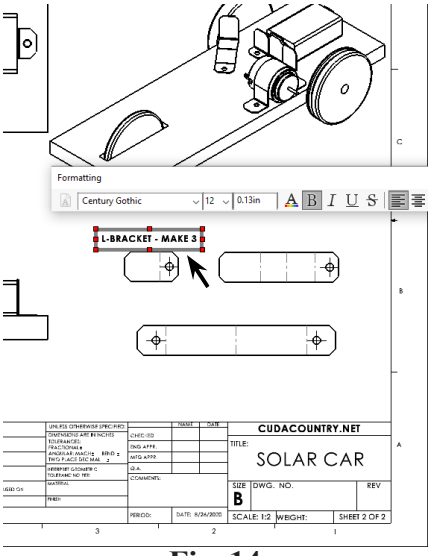


Fig. 14

Step 4. Click **Note** Note on the Annotation toolbar.

Step 5. In the Note Property Manger:
under Leader, **Fig. 13**
click **NO Leader**

click just above Switch to place the note

lock the caps and key-in **SWITCH**, **Fig. 15**

Click OK in the Property Manager.

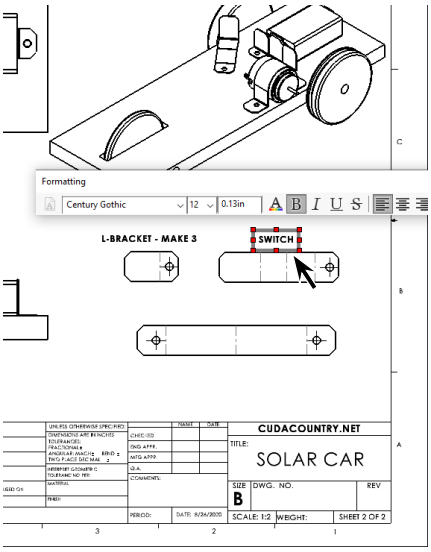


Fig. 15

Step 6. Repeat and place note above **MOTOR MOUNT** flatten pattern, **Fig. 16**.

Step 7. Save. Use **Ctrl-S**.

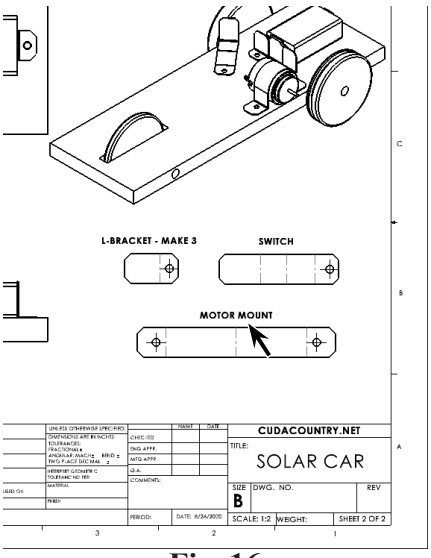


Fig. 16

G. Sketch Splines for Wires.

Step 1. Use **F** key on keyboard to **fit** drawing.

Use the **Zoom to Area** in the View toolbar to drag a zoom window around the **switch, motor and L-Brackets in the top view**, **Fig. 17**. Press **Escape** to unselect Zoom to Area.

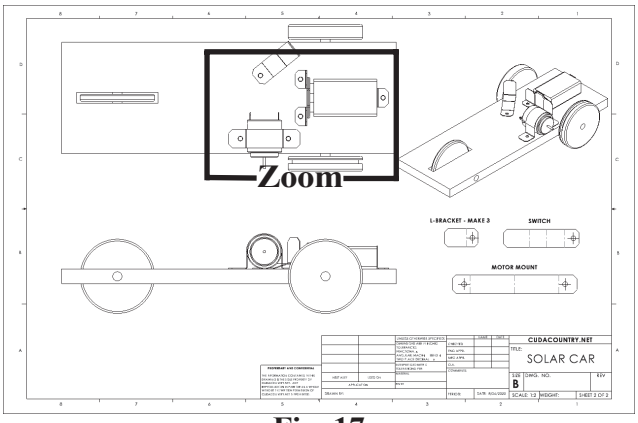


Fig. 17

Step 2. Click **Sketch** on the Command Manager toolbar.

Step 3. Click **Line Thickness** on the Line Format toolbar and select the **.0197 thickness**, **Fig. 18**.

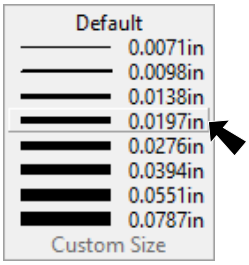


Fig. 18

Step 4. Click **Spline** on the Sketch toolbar.

Step 5. Click the 4 Points in **Fig. 19** to sketch a spline for the wire between the **left L-Bracket and the left side of battery clip**. Press **Escape key** to end the spline.

Step 6. Click **Line Color** on the Line Format toolbar and select **red.** Click OK, **Fig. 20**.

Step 7. Click **Spline** on the Sketch toolbar.

Step 8. Click the 4 Points in **Fig. 21** to sketch a **RED** spline for the wire between the **right L-Bracket and the right side of battery clip**. Press **Escape key** to end the spline.

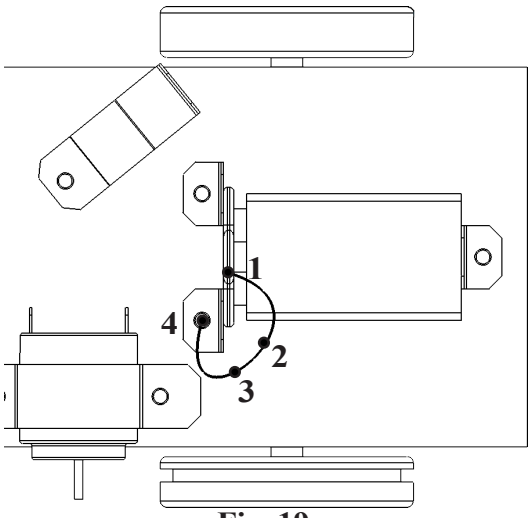


Fig. 19

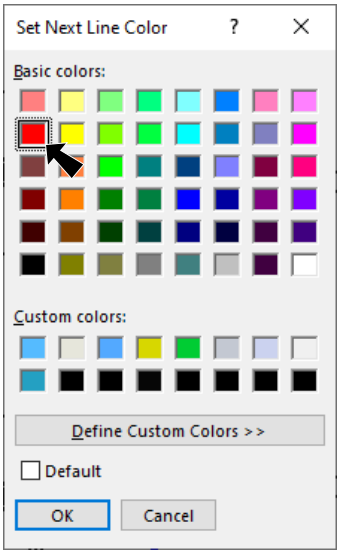


Fig. 20

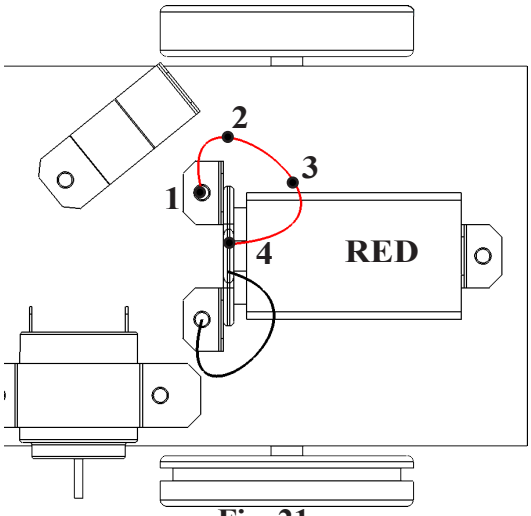


Fig. 21

Step 9. Click **Line Color** on the Line Format toolbar and select **green.** Click OK.

Step 10. Click **Spline** on the Sketch toolbar.

Step 11. Click the 3 Points in **Fig. 22** to sketch a **GREEN** spline for the wire between the **left L-Bracket and the rear of motor**. Press **Escape key** to end the spline.

Step 12. Sketch a **ORANGE** spline between **front of motor and switch**, **Fig. 23**.

Step 13. Sketch a **BLUE** spline between **switch and rear edge of Chassis**, **Fig. 24**. The Solar Panel will be connected to this wire.

Step 14. Sketch a **PURPLE** spline between **left L-Bracket and rear edge of Chassis**, **Fig. 25**. The Solar Panel will be connected to this wire.

Step 15. Save. Use **Ctrl-S**.

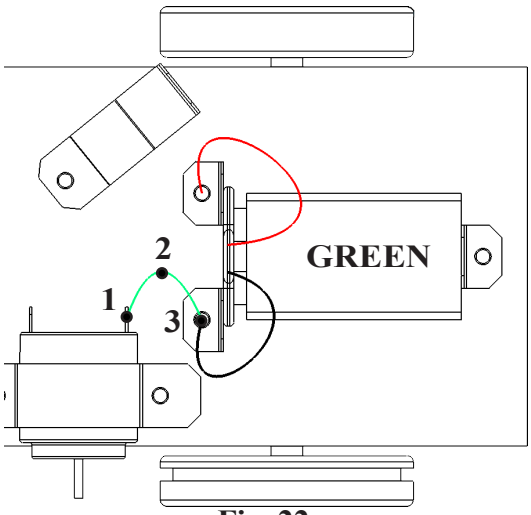


Fig. 22

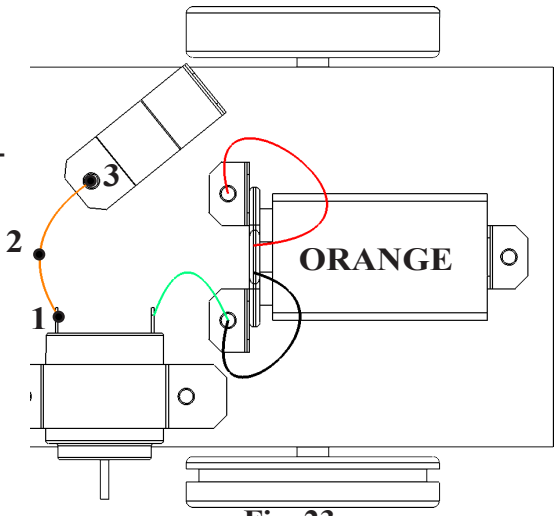


Fig. 23

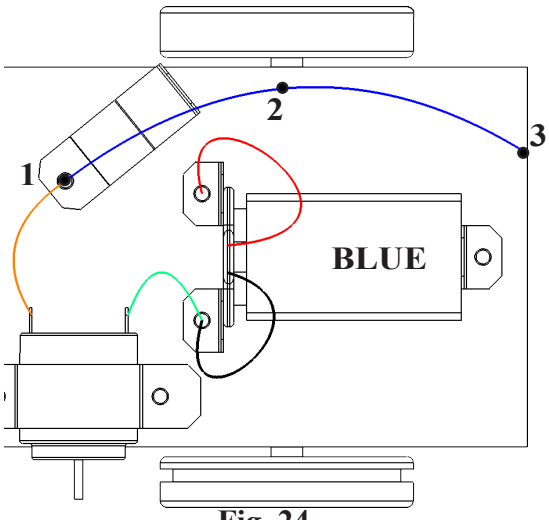


Fig. 24

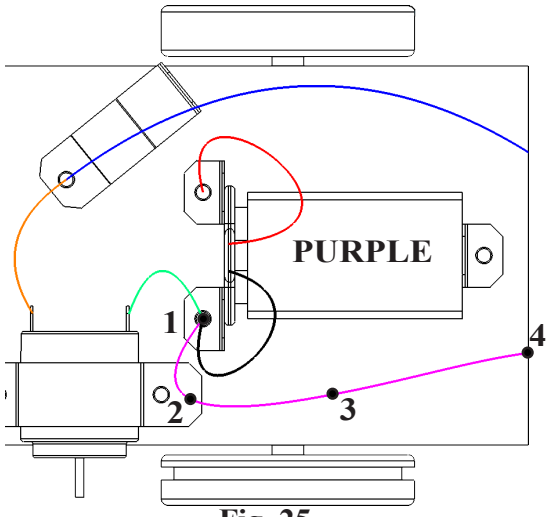


Fig. 25

H. Add Your Name and Period to Title Block.

Step 1. Use **F** key on keyboard to **fit** drawing.

Use the **Zoom to Area** in the View toolbar to drag a zoom window around the **DRAWN BY and PERIOD** in the title block, **Fig. 26**.

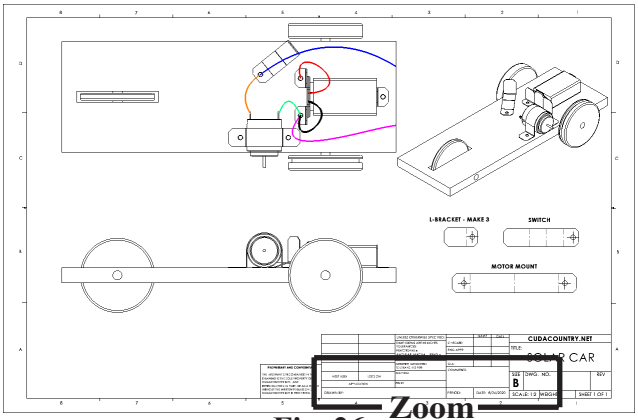
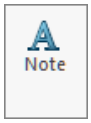


Fig. 26

Step 2. Click **Note**  on the Annotation toolbar.

Step 3. Click just to the right of DRAWN BY:, **Fig. 26**.

Step 4. Lock the Caps and key-in **your first and last names**, **Fig. 26**.

Step 5. Click OK ✔ in the Property Manager.

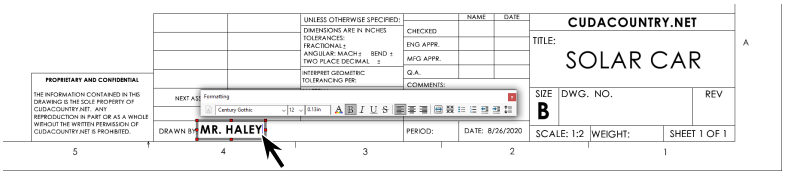
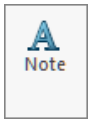


Fig. 27

Step 6. Click **Note**  on the Annotation toolbar.

Step 7. Click just to the right of PERIOD:, key-in **your Period number**, **Fig. 28**.

Step 8. Click OK ✔ in the Property Manager.

Step 9. Save. Use **Ctrl-S**.

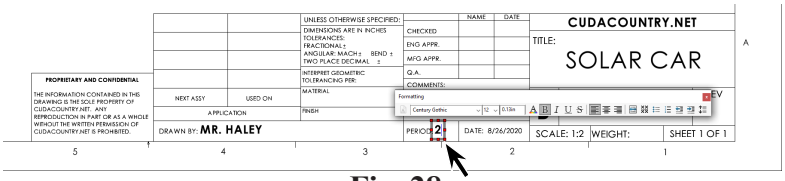


Fig. 28