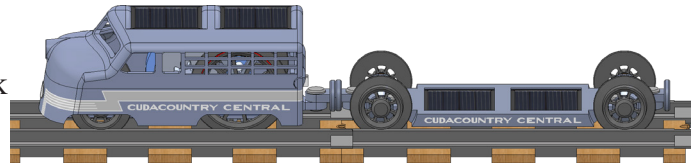


# Solar Train Train Assembly

## A. Insert Tie and Rail.

Step 1. Click New  on the Standard toolbar, click Assembly Metric  and OK.



Step 2. Select your **STRAIGHT TRACK ASSEMBLY** file and click Open from the Open dialog box.

Step 3. In the Begin Assembly Property Manager set:

click **Keep Visible** , Fig. 1  
under Options

**Only fix first component**

Click OK  in the Property Manager. This will place Track Assembly origin at the assembly origin and fix the position so Track cannot move. This fixed component should have a (f) before its name in the Feature Manager  (f) STRAIGHT TRACK ASSEMBLY<1>.

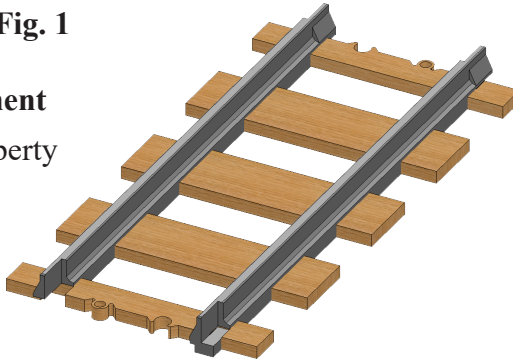


Fig. 2

Step 4. Click **Browse**  in the Property Manager, Fig. 1.

Step 5. Select your **LOCOMOTIVE ASSEMBLY** file and click Open.

Step 6. Back in the Begin Assembly Property Manager:  
under Part/Assembly in Insert, Fig. 3  
select **LOCOMOTIVE ASSEMBLY** to highlight it.

Step 7. Click to position  
**Locomotive**, Fig. 4.

Step 8. Click OK  in the Property Manager.

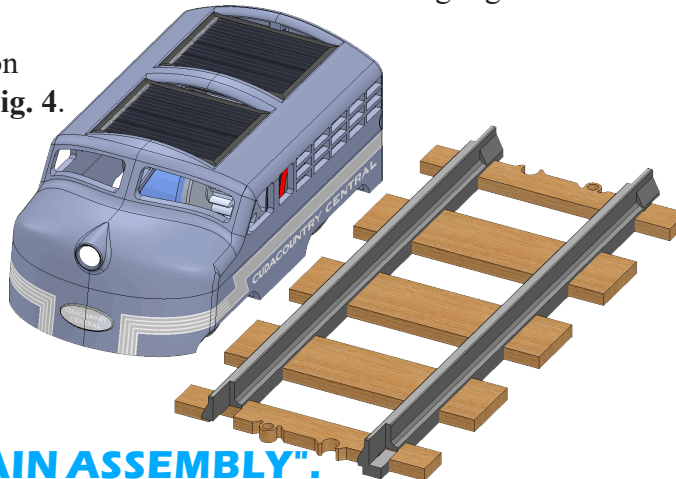


Fig. 4

## B. Save as "TRAIN ASSEMBLY".

Step 1. Click File Menu > Save As.

Step 2. Key-in **TRAIN ASSEMBLY** for the filename and press ENTER.

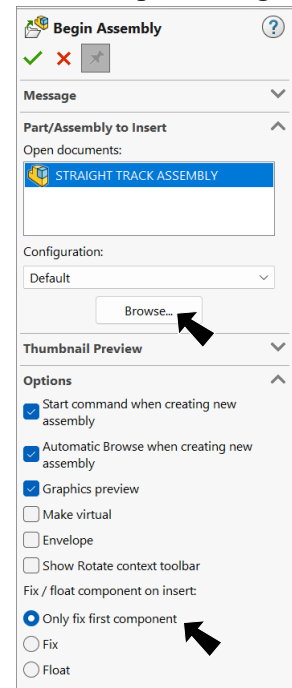


Fig. 1

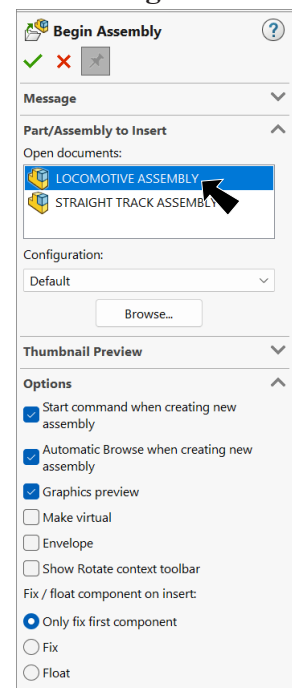


Fig. 3

## C. Mate: Loco.

Step 1. Click **Right Plane**  in the Feature Manager and **Mate**  on the context toolbar, **Fig. 5**.

Step 2. Expand the flyout Feature Manager design tree, expand **Loco** and click **Right Plane** , **Fig. 6**.

Step 3. Click Add/Finish Mate  to add **Coincident**  mate.

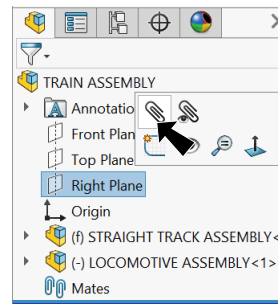


Fig. 5

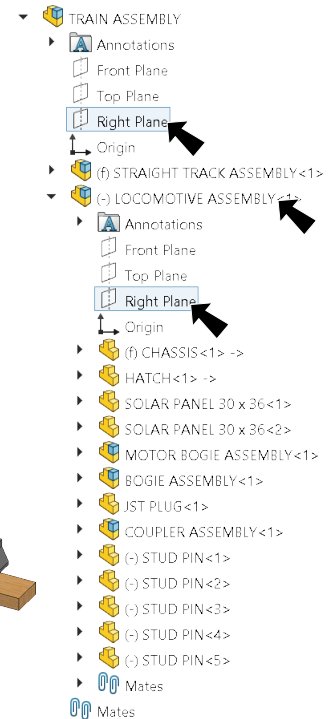


Fig. 6

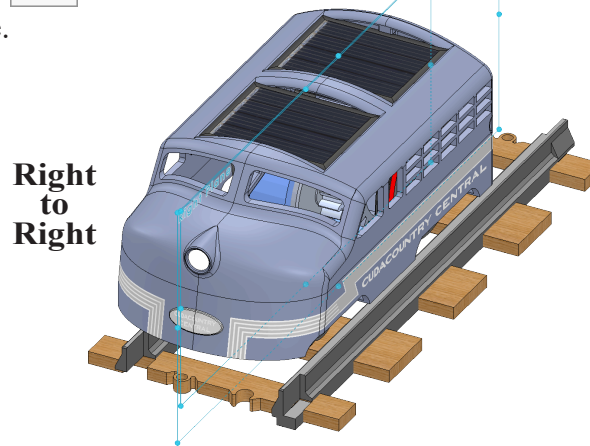


Fig. 7

Step 4. Click **Front**  on the Standard Views toolbar. (Ctrl-1)

Step 5. Expand the flyout Feature Manager design tree, click **Top Plane** , expand **Loco** and click **Top Plane** , **Fig. 8**.

Step 6. Click **Distance**  in Mate pop-up, **Fig. 9**. Set distance **12.65** and press ENTER. The Wheels should just clear track, **Fig. 10**. If positioned in opposite direction, click **Flip Dimension**  in the Mate pop-up. Click Add/Finish Mate  to add Distance  mate.



Fig. 9

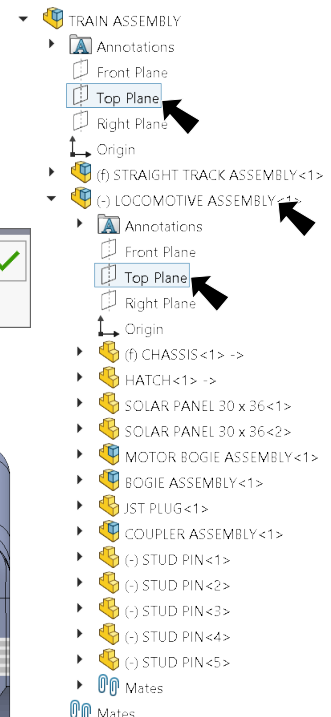


Fig. 8

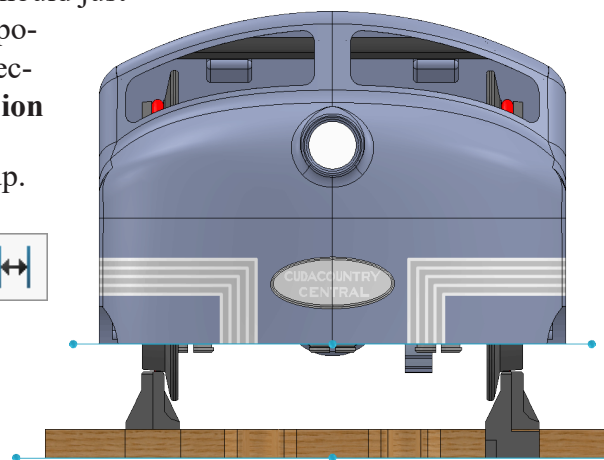


Fig. 10

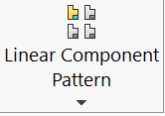
**Top to Top Distance 12.65**

Step 7. Click OK  in the Property Manager.

Step 8. Save  (Ctrl-S).

## D. Track Linear Component Pattern.

Step 1. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

Step 2. Click **Linear Component Pattern**  on the Assembly toolbar.

Step 3. In the Linear Pattern Property Manager set:  
under Components to Pattern, **Fig. 11**  
click **Track Assembly**, **Fig. 12**  
under Direction 1

click in Pattern Direction  box

click a **horizontal side edge**

Spacing  127

Number of Instances  2

click OK .

**Tip:** Add more track...  
crank it up

Step 4. Save  (Ctrl-S).

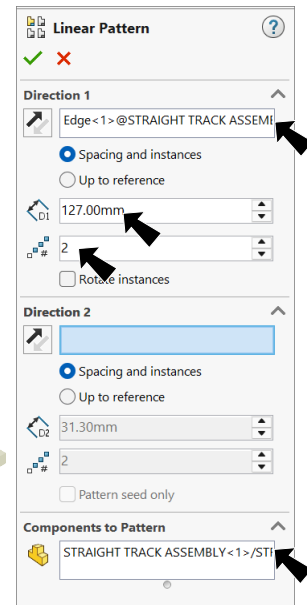


Fig. 11

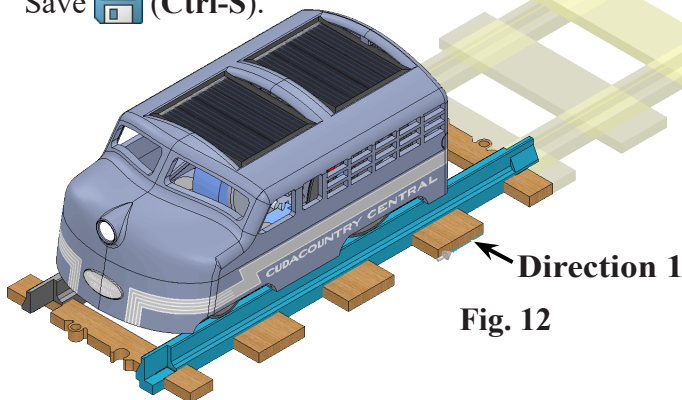
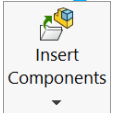


Fig. 12

## E. Insert Flat Car Assembly.

Step 1. Click **Insert Components**  on the Assembly toolbar.

Step 2. Select your **Flat Car Assembly** file and Open.

Step 3. Click to place **Flat Car Assembly**, **Fig. 13**.

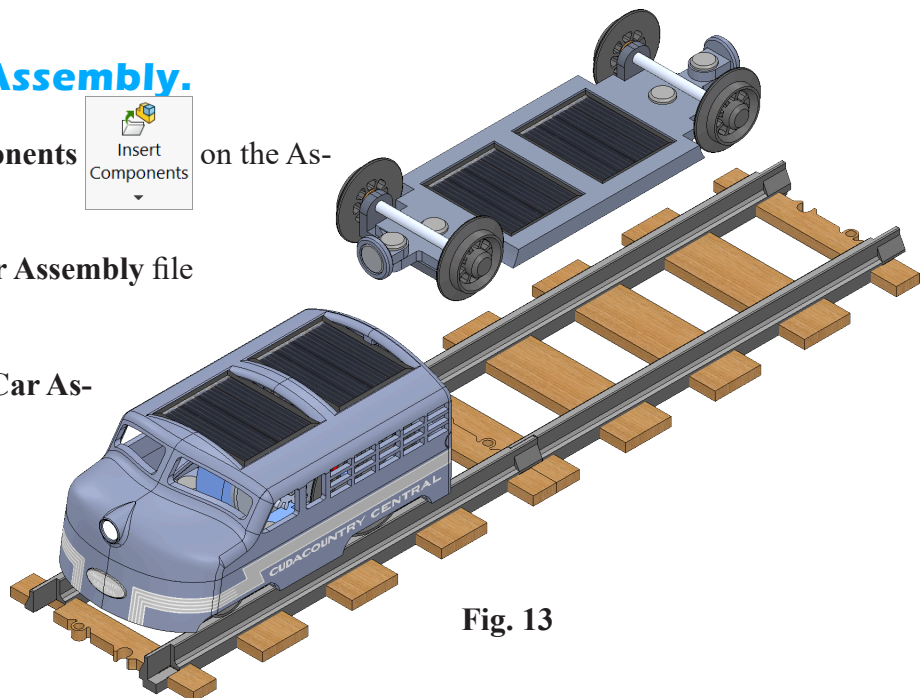


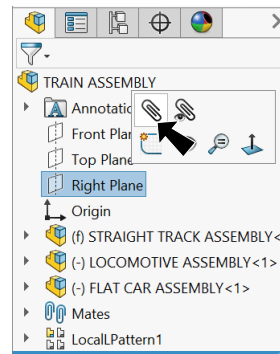
Fig. 13

## F. Mate: Flat Car.

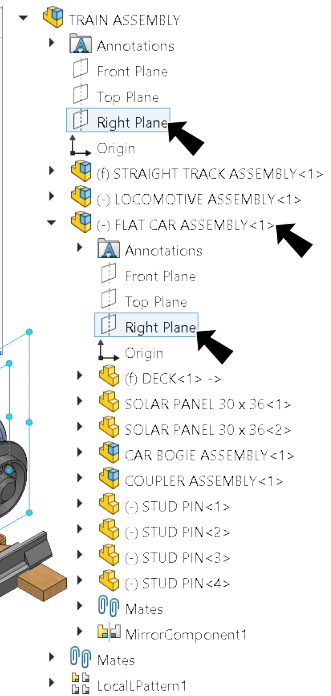
Step 1. Click **Right Plane**  in the Feature Manager and **Mate**  on the context toolbar, **Fig. 14**.

Step 2. Expand the flyout Feature Manager design tree, expand **Flat Car Assembly** and click **Right Plane** , **Fig. 15**.

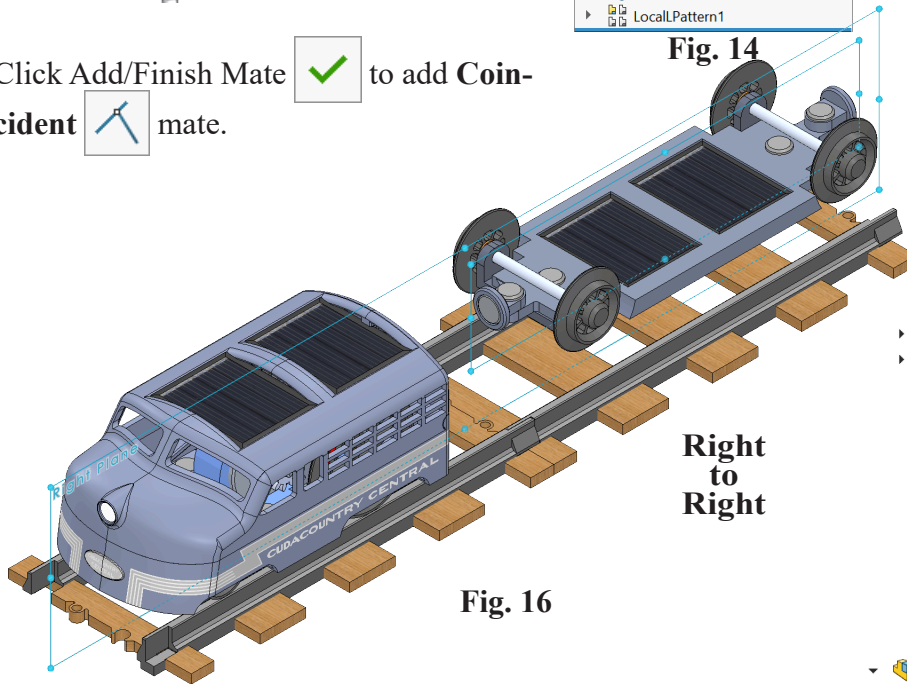
Step 3. Click Add/Finish Mate  to add **Coincident**  mate.



**Fig. 14**



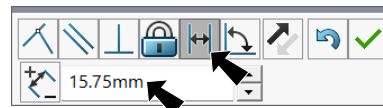
**Fig. 15**



**Fig. 16**

Step 4. Expand the flyout Feature Manager design tree, click **Top Plane** , expand **Flat Car Assembly** and click **Top Plane** , **Fig. 17**.

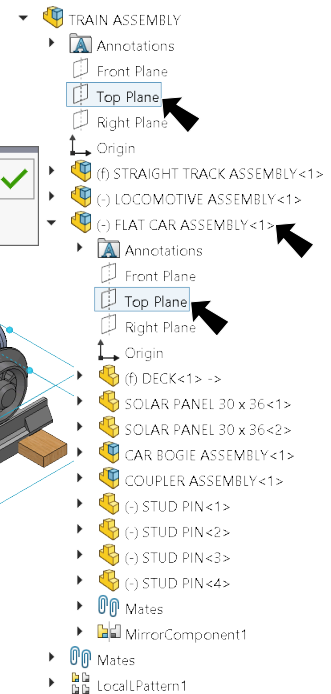
Step 5. Click **Distance**  in Mate pop-up, **Fig. 18**. Set distance **15.75** and press ENTER. The Wheels should just clear track, **Fig. 19**. If positioned in opposite direction, click **Flip Dimension**  in the Mate pop-up. Click Add/Finish Mate  to add Distance



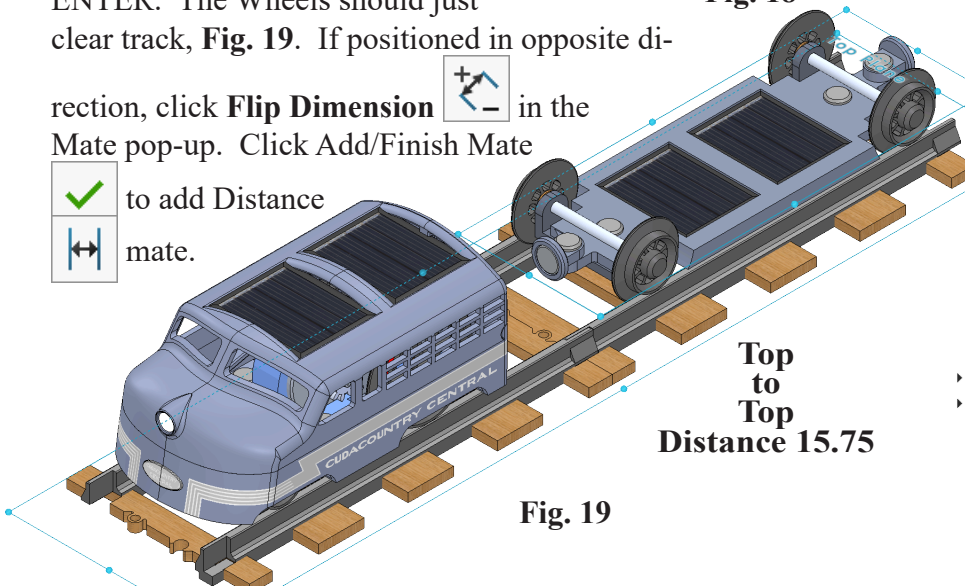
**Fig. 18**

mate.  to add Distance

 to add Distance mate.

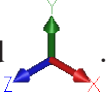


**Fig. 17**



**Fig. 19**

Step 6. Click **face of Magnet** in Coupling on Flat Car, **Fig. 20**.

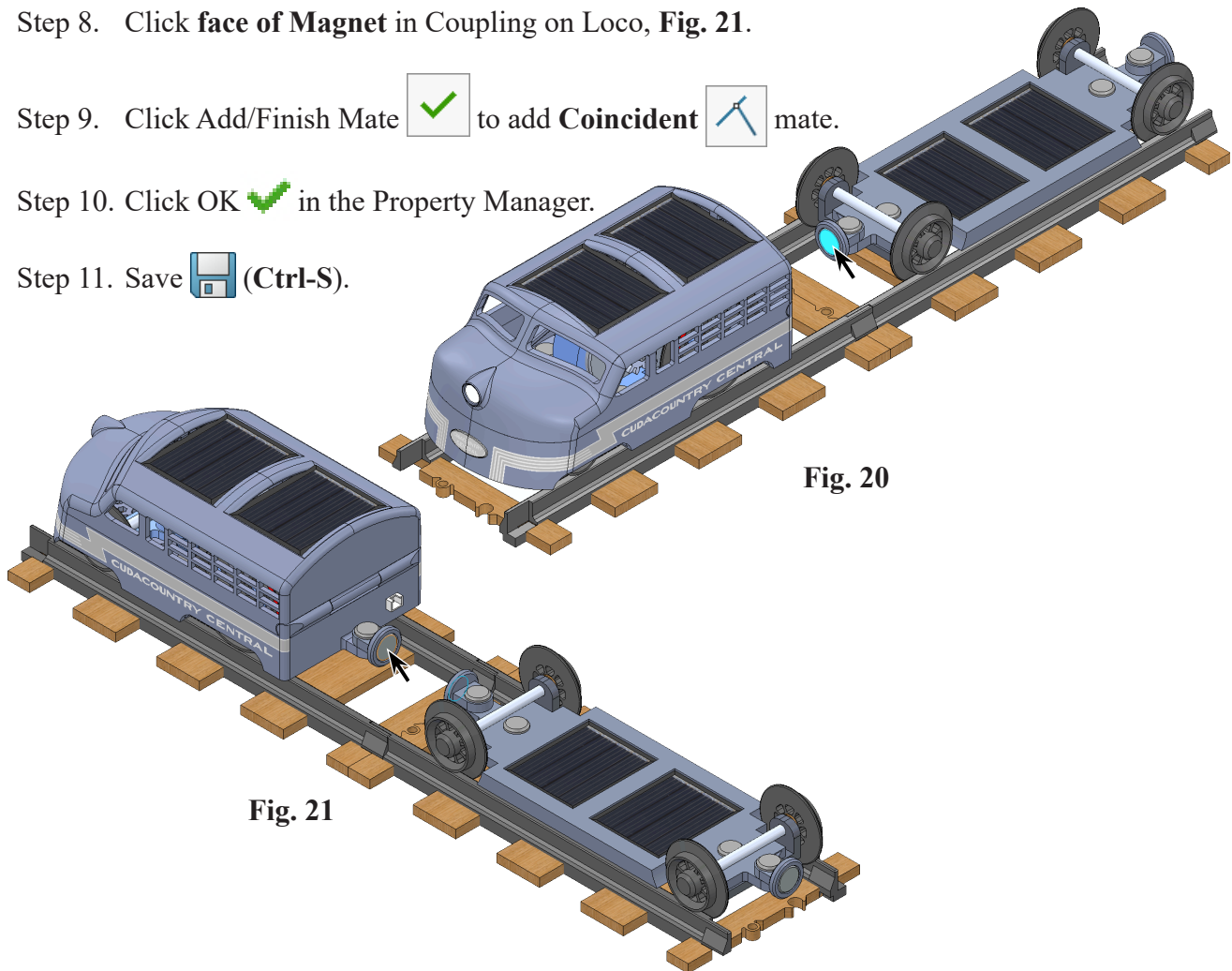
Step 7. Rotate view to back side, **Shift click the Y**  **axis of the Reference Triad** .

Step 8. Click **face of Magnet** in Coupling on Loco, **Fig. 21**.

Step 9. Click Add/Finish Mate  to add **Coincident**  mate.

Step 10. Click OK  in the Property Manager.

Step 11. Save  (Ctrl-S).



**Fig. 20**

**Fig. 21**

