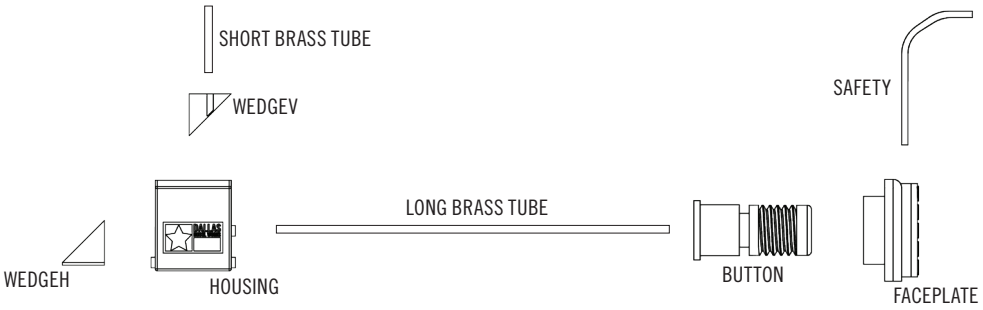
Wheel Brake for Sidings and Slopes DMW-405

INSTRUCTIONS

These instructions appear long and complex but in fact they are just detailed. Installation is simple as long as you read and understand these instructions.



Parts

- Housing
- WedgeH
- WedgeV

HOUSING ASSEMBLY

- 2x #4 3/8" pan head screws
- Faceplate
- Safety
- Button

FACEPLATE ASSEMBLY

- 12" long Brass Tube (3/32")

Required for Installation

- Superglue (CA) cyanoacrylate
- Phillips screwdriver
- A saw or tube cutter to cut 12" Brass Tube.
  Extra brass tube available at dallasmodelworks.com (part KS-370-8126).
- Masking tape
- Drill with x and x drill bits

Understanding How the Wheel Brake Works

Pushing the **Button** causes a **Long Brass Tube** to push **WedgeH** backward which in turn pushes **WedgeV** upward, lifting a **Short Brass Tube** up through the track's ties to act as a "wheel brake." This "wheel brake" effect is achieved by blocking the rolling stock's axle(s), thus preventing the car from rolling. Any other cars coupled to this car will also be effectively "braked."

Pulling the **Button** back out reverses the action, ultimately lowering the **Short Brass Tube** and thus allowing the rolling stock to pass unhindered. Furthermore, when the **Button** is pulled out, the **Safety** engages preventing any accidental activation of the ***Wheel Brake***.

Before You Begin

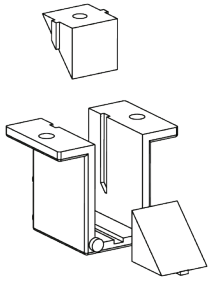
Read all of the instructions carefully.

Test fit all pieces before permanent installation. Test and test again. This is essential for smooth operation of the ***Wheel Brake***. We suggest using small strips of masking (or other) tape to tack parts in place to keep parts together and ensure correct alignment before final installation.

Remove the resin parts from their rafts. Letting them sit for a minute in hot water can make it easier, allowing some to snap right off. You can also use an X-acto or other hobby knife or desprueing nippers to remove the parts from their nibs as you would when removing parts from the sprues of a plastic model kit. Sand any remaining nibs. We recommend wearing a mask and proper ventilation when sanding resin.

Note that the **12" Brass Tube** will be cut to create the **Short Brass Tube** and the **Long Brass Tube**. This will be described later in the instructions.

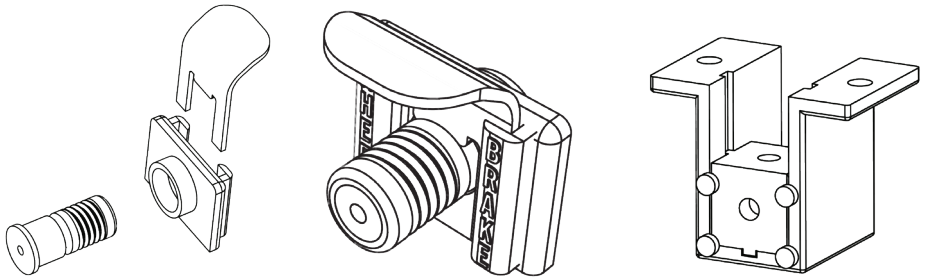
Initial Assembly



1. Assemble **Housing**, **WedgeH**, and **WedgeV** as shown in illustrations at right to create **Housing Assembly (HA)**.

Rails on the **Wedges** slide into grooves on **Housing**.

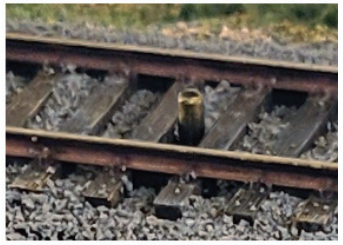
Tack the **Wedges** in place with small strips of masking tape.



2. Assemble **Faceplate**, **Button**, and **Safety** as shown in illustrations (above left) to create **Faceplate Assembly (FA)**.

Installing the Housing Assembly (HA)

2. Decide where on your layout you want the ***Wheel Brake*** located. Be certain that on the underside of the layout, there is a clear path from where the ***Wheel Brake*** will be located to the fascia of the layout so that the path of the **Long Brass Tube** is not impeded.



In the exact spot where the ***Wheel Brake*** is to be located, drill a 1/8" hole between the track ties and through your layout. You can use a slightly larger drill bit if you want a little "wiggle" room.

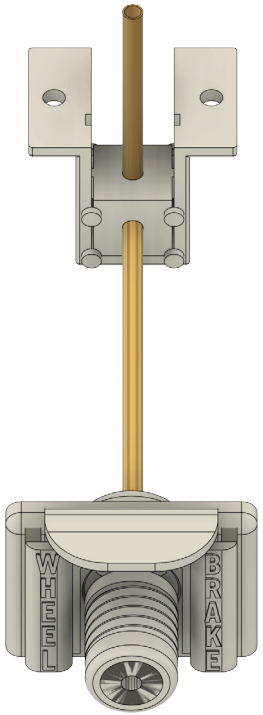
3. Temporarily insert the **12" Brass Tube** into the hole in **WedgeV** and put the **Brass Tube** up through the hole between the ties. Be certain that the **Brass Tube** is protruding up between the track ties exactly where you want it. (Get the help of a second person if you can't see.)

4. For reference, mark the location of the **Housing** on the bottom of the layout.

Then, using this reference, temporarily secure the **HA** to the bottom of the layout with ONE of the included **#4 Screws**. With the **HA** secured, remove any tape you've used to keep the **HA** together.

5. Now push on the front of **WedgeH** (the face with the hole) using a small tool (*e.g.* eraser end of a pencil).

WedgeH should move smoothly backward into the housing, pushing **WedgeV** up smoothly as it goes. The rising **WedgeV** will lift the **12" Brass Tube** up between the ties. When you release the pressure of your tool, both **Wedges** should slide smoothly back into place and the **Brass Tube** will lower.



Repeat this test until you are sure everything is moving smoothly.

6. Making certain that the **Wedges** are in their starting positions, mark the **12" Brass Tube** at the point where it meets the top of the ties. This is the point at which you will cut the **12" Brass Tube**, creating the **Small Brass Tube (SBT)**. Note that it is important that the **SBT** is not any higher than the height of the ties when the Wheel Brake is disengaged. This is to keep the **SBT** from interfering with the couplers of cars and locos passing over the ***Wheel Brake***.

7. Remove the **Screw** and remove the **HA** from its temporary installation under the layout.

8. Cut the **12" Brass Tube** at the mark you made, then use superglue (CA) to glue the **Small Brass Tube (SBT)** into the hole in **WedgeV** (*not* **WedgeH**!).

9. Reassemble and reinstall the *HA* and then test again as described in step 5.

10. Once you are confident all is working smoothly, install the second **#4 Screw** to secure the **HA**. NOTE: Make certain that installing the second **Screw** does not pinch the two sides of the **Housing** inward toward each other. This will impede if not completely stop the smooth operation of the ***Wheel Brake***.

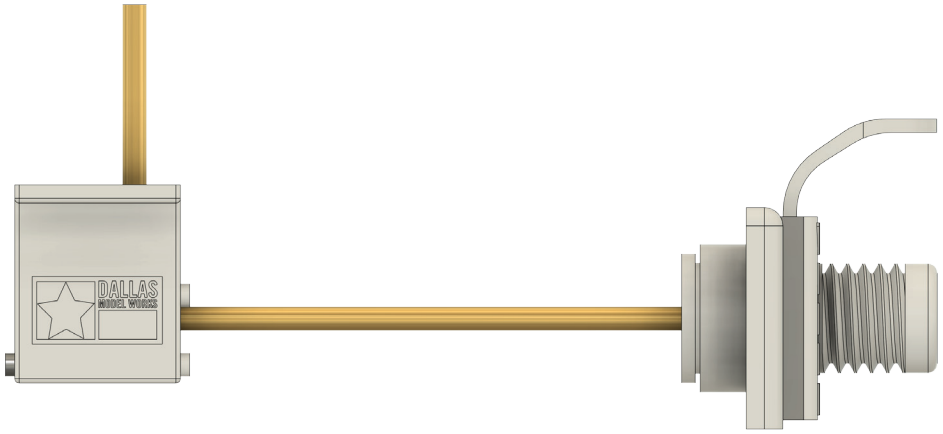
Installing the Faceplate Assembly (FA)

11. Using the center of the **HA** as a reference, measure a straight line from the hole in the front of **WedgeH** to the back of the fascia. Mark the back of the fascia at this point.

12. Drill an approximately x" hole through the fascia at the point you have marked. This hole may seem overly large but you'll want the wiggle room to ensure correct alignment.

13. Insert the larger remnant of the **12" Brass Tube** through the hole in the fascia into **WedgeH** *(*do not glue yet), then slide the **Brass Tube** through the hole in the back of the **Button** in the **Faceplate Assembly (FA)**.

Hold the **FA** against the front of the fascia making sure the **Brass Tube** is level horizontally and vertically (see picture below).



14. Test the operation by pushing the **Brass Tube** (not the **Button**—it should be secured by the **Safety**) inward. This action should move **WedgeH** backwards, **WedgeV** upwards, and the **Short Brass Tube** up from between the track ties.

Once you are confident you have the **FA** in the right place, mark its location on the front of your fascia.

15. Then, making certain the **Button** is pulled forward and the **Safety** is engaged in the groove in the **Button**, mark the point at which the **Brass Tube** protrudes from the front of the **Button**.

16. Remove the **Brass Tube** and the **FA** from the layout. Cut the **Brass Tube** just behind the mark you made on it (you don't want any of the **Brass Tube** to protrude from the front of the *Button*). This new part is called the **Long Brass Tube (LBT)**. More BT available

17. As described in Step 13 above, temporarily reinstall the **LBT** and the **FA** to confirm that the **LBT** does not protrude through the front of the **Button** when the **Button** is secured by the **Safety**. If this is the case, shorten the **LBT** by the appropriate amount.

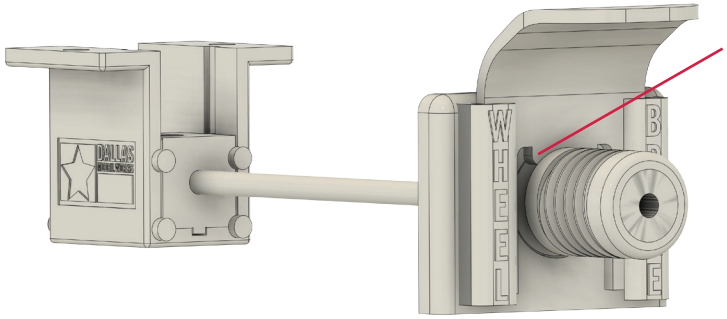
18. Once you are satisfied, pass the **LBT** through the hole in the fascia and then superglue the **LBT** into the hole in **WedgeH**. BE VERY CAREFUL to not get superglue anywhere but in the hole in **WedgeH**! A mess of superglue will lock the whole thing up!

19. Test fit the **FA** onto the front of the fascia by sliding the **LBT** through the hole in the back of the **Button**. Once you are confident all is right, remove the **FA** from the fascia again.

20. Now the Moment of Truth® is upon us.

Put superglue on end of the **LBT** that slides into the **Button**. Put more superglue on the back of the **FA**. Again, don't be sloppy with the superglue!

Now, making certain the **Button** is still engaged by the **Safety**, slide the **LBT** through the hole in the back of the **Button** and hold the **FA** against the fascia until the superglue sets.



*Note how the tooth on the **Safety** engages with the groove in the **Button**.*

Operation

Most of the time, the ***Wheel Brake*** should have the **Button** pulled forward and the **Safety** engaged. This will keep the **SBT** down and even with the top of the ties.

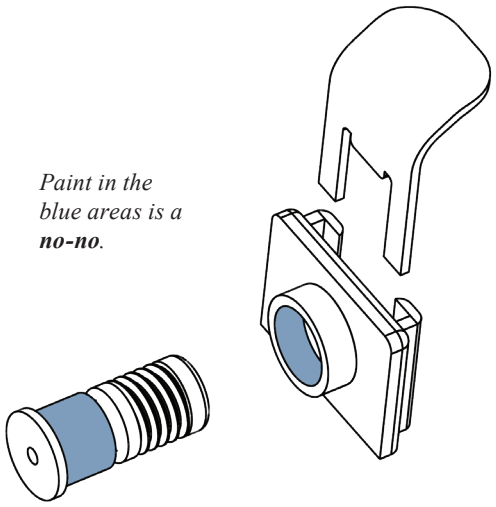
To engage the ***Wheel Brake***, lift the **Safety** up (to disengage it) and push the **Button** in. The **SBT** will rise up from between the ties to block any axle it encounters.

Be sure to spot your car over the ***Wheel Brake*** before pressing the **Button**. You don't want to damage a coupler by running it into the ***Wheel Brake***.

If on a slope, spot the car just up-slope from the ***Wheel Brake*** so the ***Wheel Brake*** engages the car's leading axle. On slopes or level track, we prefer to spot the car with one of its trucks directly over the ***Wheel Brake*** thus preventing the car from going rogue in either direction.

Notes on Painting

If desired, you can paint the **Faceplate Assembly** (there's no point in painting the **Housing Assembly** as it will be hidden under the layout) but be careful to *not* paint any parts of the **Button** which slide within the **Faceplate**.



Paint in the blue areas is a ***no-no****.*

Instructions v1 March 2025