Battalion Bits BT-3: 50 tonne Flat Wagon Type SSys

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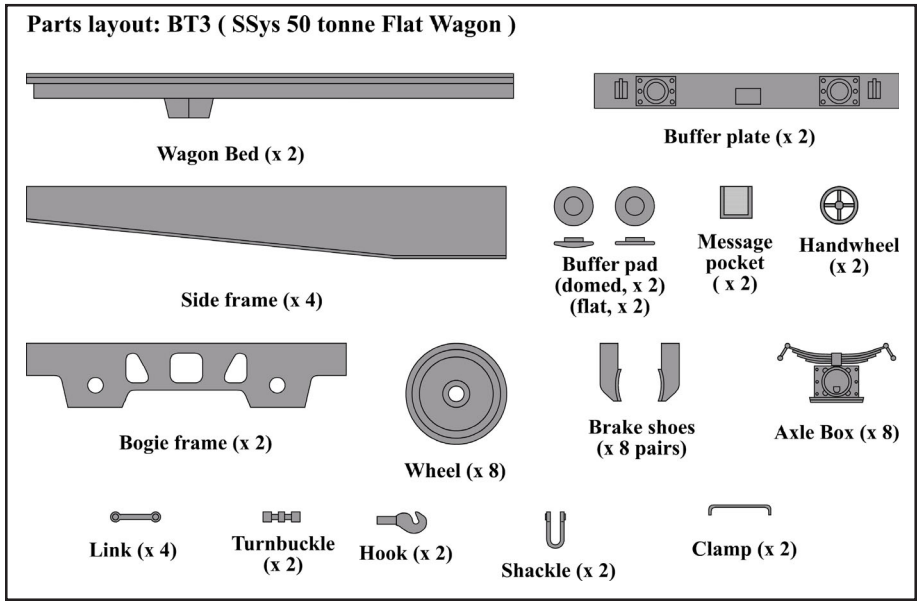
Background

Someone once said “an army travels on its stomach” … a mechanized army travels on wheels. German forces in WWII used rail transport extensively to marshall forces at key jumping off points close to the front. Trucks and light armoured vehicles could be transported in many types of rail car, including low-side goods wagons. Medium tanks up to PzKfw IV sizes were transported on Rungenwagen (stake side flat cars), but as tanks got heavier, the capacity of these cars was exceeded. The result was the 50 tonne capacity SSys heavy transport flat car, which used twin axle bogies and could handle tanks up to the PzKfw V Panther. For PzKfw VI Tigers, the 80 tonne SSyms flat car with triple axle bogies was required.

Frame assembly

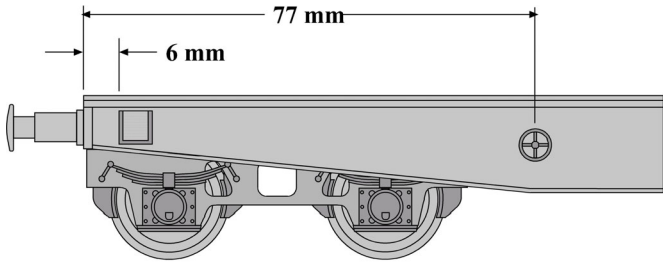
Remove any casting flash on the ends of the wagon bed pieces. Place deck down on a flat surface, test fit the butt joint and join together using cyanoacrylate glue. Snap the pour strip from the top of the side frames, clean up the edge and tape two together. Test fit these onto the side of the bed assembly; they fit into the shoulder formed by the side frames and the underside of the top deck, and should not extend past the end frames. Glue in place and fill the seam between the two side frames.

Glue on the buffer plates, making sure the hook pad in the centre is towards the bottom. Glue the buffer pads into the recesses in the buffer cylinders, noting that the flat one goes on the right side (looking from above), while the domed one goes on the left.



On the side frames, glue on the message pocket where indicated below. Glue a small disc about 0.040" (1 mm) thick where the centre of the handwheel is indicated, then glue the handwheel to the disc.

Glue the clamps in the centre of the side frames.



Final Assembly

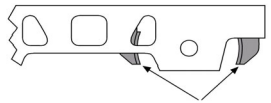
Bogie Assembly

Clean up the bogie assembly, removing any flash. Using a 1/8" (3.2mm) drill, drill out the flashed over axle holes, and make sure the holes line up. Set the bogie top side down on a flat surface, clean up the brake shoes and glue them in the corners as indicated in Figure x. Double check that the wheel fits between the brake shoes, with its centre hole lined up with the hole in the bogie frame.

Clean up the axle boxes, sanding their back faces flat. Cut four axles from 1/8" diameter stock provided, each 40 mm long. Cut four tubes from the stock provided, each 29 mm long.

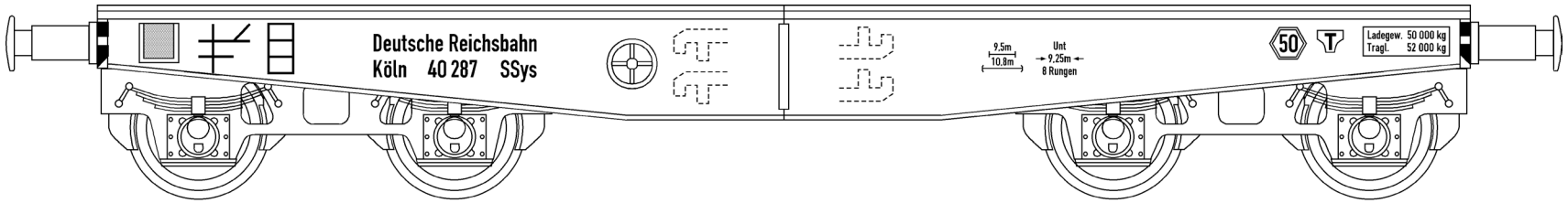
The fit of the wheels between the brake shoes is tight enough that you cannot assemble a complete axle and then insert it in place in the bogie. Instead, the following procedure may seem a bit complex, but it has been tried and it works. Place one wheel between the brake pads, and insert the axle through the bogie frame. Place the other wheel in position and while holding it there, place the tube between the wheels, continuing to insert the axle through the wheel, through the tube, through the second wheel then into the bogie frame on the other side. It helps to have three hands on one arm ... too bad for most of us! Glue the axle boxes to the outside of the bogie frames where shown on the drawings.

Inside view of bogie frame
Note flat back faces of brake shoes face **inside**



Note raised detail of brake pads face **outside**

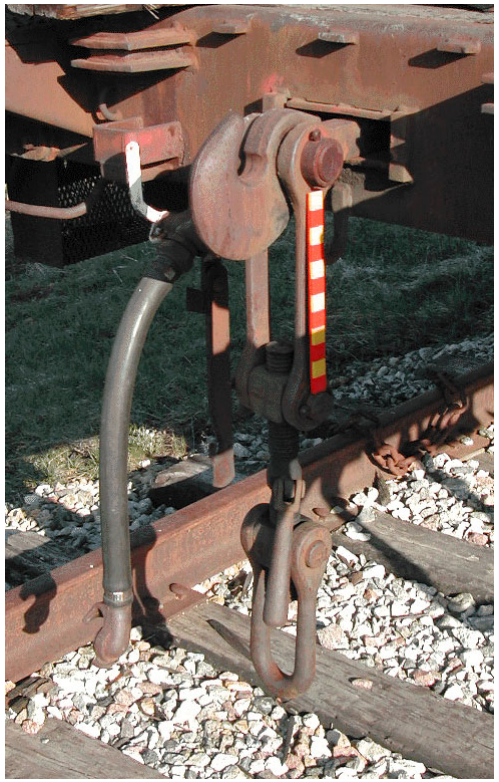
Note: Because the bogie frame hides much of the wheel, it will help if you paint the wheels before assembly.

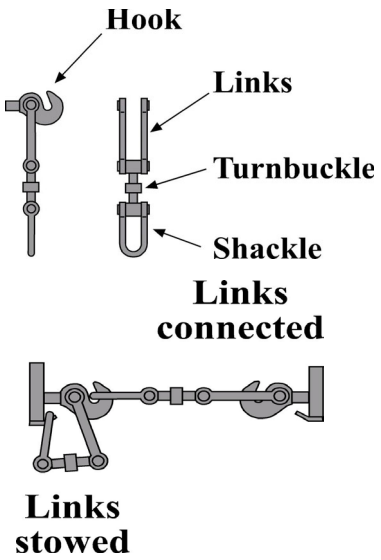


Note: All markings are shown black, but are white

Hooks and links

Glue the hook in place on the hook pad on the buffer plate. Glue a small chip of plastic below the hook to represent the shackle hanger. When a wagon is disconnected, the shackle was sometimes folded back under the hook and hung on the hanger (see at right). Assemble the links as indicated at left. Glue the turnbuckle between the shackle ends. Glue the two links to the other end of the turnbuckle, and then attach the whole assembly by gluing the other ends of the link arms to the side of the hook.



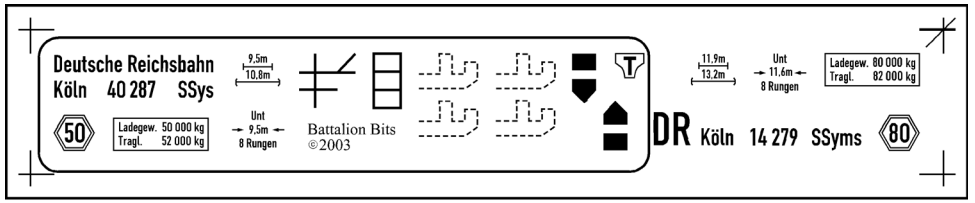


At left, a photo of an ex-Swedish rail car in use in Ottawa. The hook and turnbuckle arrangement are identical to DR equipment. The striped object is a scale marked in one inch increments.

Painting and Markings

Wagons were overall black (use very dark grey) with wood decking. I would go easy on the weathering; grease and rust on the suspension and a bit of dust on the wagon, but by definition these things don't go through the mud. Grease stains and track scrapes on the wood decking would be appropriate.

The decal sheet (2) supplied with the kit is used for both the SSys and the SSyms; use those parts on the left for this wagon. Follow the layout according to the drawing below. Note that the symbols consisting of a rectangle over a pentagonal shape are meant to go around each corner, with the point down at the apex.



References

My background is in armour and aircraft, so learning about rail cars was a new experience for me; I found German rail cars of WWII are not really well documented, at least in the references to which I had access. I suspect there are some good books on the subject, but likely only in German. Unfortunately, most photos of WWII wagon loads concentrate on the tank sitting on the wagon, rather than the wagon, so even photos are thin on the ground. The best references I found were the following websites.

1. http://www.fh-merseburg.de/~nosske/EpocheII
2. http:/www.panzerzuge.com