



## 1007 - KC wagon with LCL containers.

Thank you for purchasing this kit and I hope you get many hours of enjoyment from it. Chris Pearce (Spirit Design)



**Basic history notes:** The Victorian Railways in 1952 introduced a new steel container service for its customers, which attracted considerable attention. These units were very similar in design to the steel ones SAR and NSWGR had introduced earlier on their Railways. The units were probably based around overseas practice as NYC (New York Central) pioneered the use of these units in 1921 and by 1922 had standardised the box shape with side strapping and door access at one end with the roof matching their steel boxcars of that era. The LCL (Less than Car Load) was made from rust-resistant 16-gauge steel (probably Corten steel). The unit was 7-foot wide x 8 foot long and 7 foot 9 15/16 inches tall.

The main strength of each unit was 1/4 inch and 1/8 inch steel braces surrounded by the 1/16 inch corrugated sidings. Internally they had provisions for hanging with hooks and tie-off points and the floor was fashioned from steel-framed supports upon which Oregon timber was bolted to. Each unit weighed 19cwt and could carry 5 1/2 tons later being raised to 6 tons.

They were introduced to stop the risk of goods being pilfered and could be padlocked for extra safety. Apart from the benefits of less pilfering, there was also less handling of the consignment, which reduced the chances of goods being broken. The service was such a success that demand soon exceeded supply and the Victorian Railways jointly with NSWGR would end up making a fleet of over 350 ordinary, insulated and grain carrying containers.

To cater for this new trade the Railways originally carried the units in HY wagons similar to GY's until a conversion program had built enough KC's (1954-55) and QC (1959) bogie wagons. The KC's were made from cut down IY 4 wheel wagons whose bodies had reached the end of their lives but whose underframes were still quite serviceable. When first in service they carried the code of K but soon were recoded KC with an odd numbering group. Numbers in the class were 87-106 and 112-121.

They could be seen around the Victorian Railways system carrying all manner of LCL containers be they the 7ft box, cylindrical types to the 14ft box units. They make a very interesting model as these units with the advertising U vans were the most colourful on the VR system. Containers were placed in the wagon as a centre single unit, 2 at each end or 3 in all positions of the wagon.

By the mid-1970s all units were utilised solely in the Tallow traffic between Wodonga and Dynon. Gradually their importance waned with the adoption of the more modern 20ft, 40ft and 48ft containers and heavier road traffic. The need for dedicated 4 wheel wagons was at an end and by the mid-1980s, all were withdrawn from service.

**The kit:** when removing any item with an Exacto knife please take care. Cutting should be done on a self-healing mat. Make sure that the brass is clean before soldering by using very fine wet and dry sandpaper or using a fine wire brush in a Dremel to lightly polish the surface front and rear. Depending on your skills some soldering is required but you could use superglue.

**Equipment & Materials:** Sandpaper 150 -200 grit, 2B pencil, Superglue, soldering iron, paints etc.

### KC wagon Floor.

1. Cut the floor base out from the brass etch
2. Fold up the end sills ends to 90 degrees and solder
3. Remove two 'L' shaped container lugs from the brass etch and fold up towards the etch lines so that the small sidepiece and large sidepiece touch each other. You may want to solder these first before putting them on the floor. These are

soldered into the right-hand corners of the unit when looking down from overhead. The smallest lug is positioned towards the sill end

4. Fold up the floor deck various support lugs and solder the etch lines or use glue
5. Remove two 'L' shaped container lugs from the brass etch and remove the squarest (largest) piece from the brass etch so that you only have two parts to the container lug. The small lug faces the sill end of the unit and is soldered into place. The interior of the deck should not be obstructed by any container lugs. Repeat for the opposite end container lug
6. Cut the base of the shunter step-free from the brass etch but do not remove the piece securing the ladder part of the step to the brass etch yet. Fold the base of the step 90 degrees and solder/glue. Now you can remove the other securing tab from the brass etch. Repeat for the other shunter step. The smaller stirrups steps on the etch sheet are not for this wagon but are a common feature on other VR wagons. Feel free to use these on your other models
7. Glue or solder the shunter steps to the left-hand side of the end sill
8. Finally, clean off all excess solder and glue from the wagon deck and set aside until the underframe is completed

**The completed deck of the KC should look similar to this one.**



### **3D printed underframe:**

1. Using a 0.7mm drill bit extended from the pin vice, gently clean out any foreign matter in the axle box holes with just a few turns back and forth
2. Twizel a 2B pencil into each of the axle box holes to lubricate them for the axle points
3. Insert an axle into the NON 'V' grooved hole and then with a little pressure gently ease the 'V' groove axle hole a fraction so that the opposite axle point can be pushed in and test that the wheels spin. **Removal is the reverse procedure**
4. Trial fit the underframe to the KC deck underneath and when happy glue in place
5. Using Selleys water-based Kwik Grip glue 2 MicroTrains 1015 couplers into the area of the coupler position

### **3D printed container:**

1. Using a razor saw cut through the lugs holding the container towards the 3D base. Then using a small pair of snips – trim the remaining nubs but be careful as the 3D prints are brittle
2. Using a smooth file profile the rooftop if needed or sand the bottom edge of the container
3. If your unit has a hole in the roof glue 1 of the provided hatches and covers into it. The base of the hatch sits level with the inside of the roofline
4. Using a small drill – drill 4 holes near the corner of each LCL roof corner and insert the brass hooks provided so that the hooks face outwards as in the picture

### **Paint and decals.**

The KC wagon was painted with standard VR wagon red all over. Steam Era models wagon red is the best match for this. The brass deck of the wagon is best lightly sanded with 800-1200 grit sandpaper, primed and have dummy wheels inserted to protect the axle box holes from paint. When the paint is dry put the supplied wheels back into the wagon taking care as you remove the painted dummy wheels

The code board for the unit is located on the left-hand side of the underframe sill. As a normal decal is extremely hard to see or place in this position, a coloured printed decal has been provided. Cut around the class number and code and insert it into the underframe with a bit of PVA or Microscale clear acting as the glue behind the board.

Paint with LCL a golden Yellow similar to Steam Era's diesel yellow. Fit decals to each side of the container as per the photos after briefly soaking them in lukewarm water. The left-hand side Melbourne Sydney decals (Decal sheet) are for the front of the unit and the right-hand side ones are for the back of the LCL.