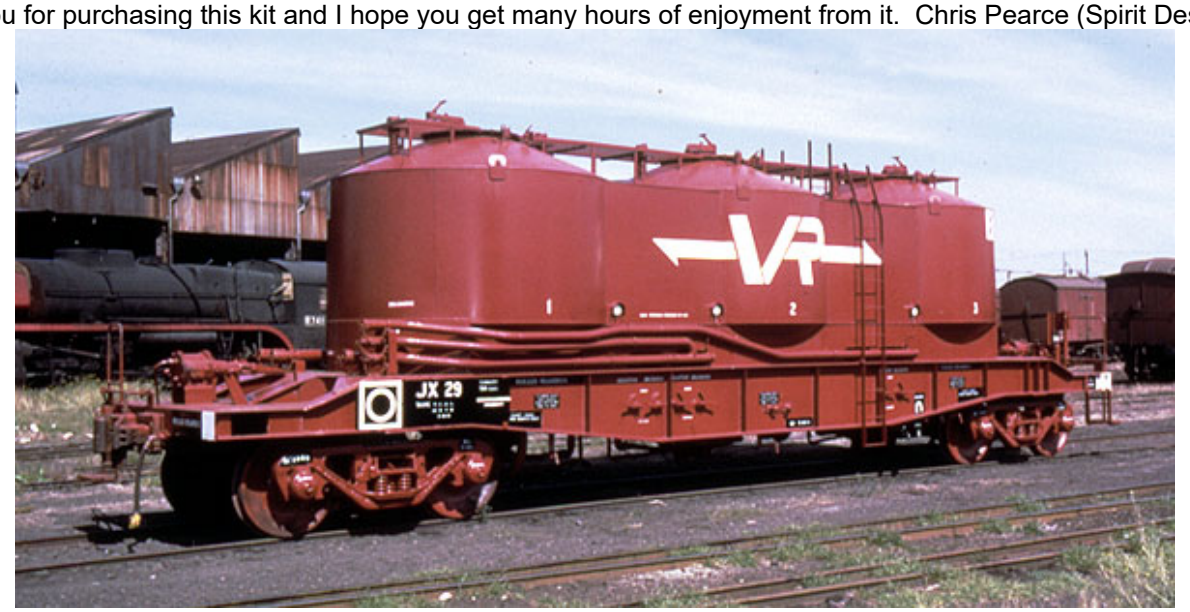
SPIRIT DESIGN

ABN 92 510 718 068

Web site:
http://www.spiritdesign.com.au

1015: Victorian Railways- V/Line JX / VPCX 3 dome cement wagon.

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



A brand new JX29 with medium size logo circa mid-1960s - Victorian Railways photo.
The medium size logo could still be found on some units up till the late 1970s.

Basic history notes: The JX were constructed to carry bulk cement around the system and being so successful eventually, their numbers would swell to 158. Construction periods were from 1963-1971 and 1976-1977. Eventually, these wagons were utilised in other states as well as used in the construction of the new Parliament House in Canberra where they ran as block trains of either 15 or 30 wagon trains. The last 50 were built as VPCX's.

Loading was through the top hatches and compressed air was used to help discharge them at destination depots dotted around the countryside. Originally constructed with 3 separate outlet pipes these were later modified as single pipe discharge units in the mid-1970s. Ratchet style handbrakes on the first 45 units were later modified so that the entire fleet had the miner's handwheel unit fitted. As there is, a large number constructed there is a small variation on the hatch covers that are applied to the group.

When first issued to traffic they carried the familiar VR wagon red with the large 'VR' logo in white. Later under the V/Line era, the VR was replaced with V/line and when painted grey the new logo 'V/line Freight' adorned their sides after overhauls although not all wagons received this treatment. During repaints, some units received the smaller 'VR' logo. Originally all units carried the JX coding that was superseded with the National wagon-coding registry of VPCX progressively from 1979 onwards.

Note: Please read these instructions thoroughly before attempting to build the kit to familiarise yourself with the construction methods.

Equipment & Materials: Exacto knife (blade no 16 or similar), 800-grit aluminium oxide sandpaper, small flat needle file. Super Glue, a small pair of tiny side cutters, soldering iron are required for completion (all recommended: usual disclaimers).

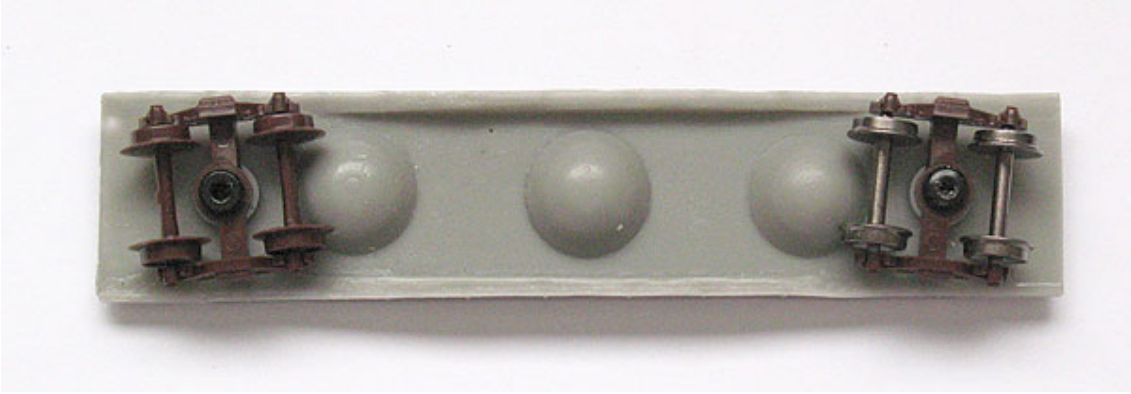
Soldering notes: *when removing any item from the brass etch with an Exacto knife please take care. Cutting should be done on a self-healing mat using a few score marks rather than the cut once method. Make sure that the brass is clean before soldering by using a brass cleaner like Tarnoff, very fine wet and dry sandpaper or using a fine wire brush in a Dremel to lightly polish the surface front and rear whilst taking care not to damage the etch itself. Depending on your skills some soldering is required but you could use superglue. It is up to you the modeller to decide your skill level. It is assumed if you use solder, you will also be fluxing the joints with Carr's Red label flux or equivalent.*

Also, you may wish to solder all the small components whilst your iron is fired up and install them as per directions.

The Castings: Before assembly, the 2 main castings should be washed in warm water and detergent to remove any mould release used during the casting process and then allowed to dry. Both castings have come out of their respective moulds with the same number of units being produced from each to maximise their characteristics being in line with each other. If you wish to lighten the wagon, you can drill some of the space out from the domes before assembly.

Assembly Instructions: There are a few steps that require close attention and they are highlighted in ***bold and italics!*** Parts referred to in the text are marked **(P1), (P2)** etc. ***Refer to the photos, which illustrate well the correct positioning of all parts.*** As there are several ways to build this kit I will leave it up to the builder to decide.

1. ***Drill the 2-bogie bolster pads out to take a bogie pin with a 2.0 mm drill bit slowly by hand and be careful not to go through the decking.*** You can trim 1mm off the end of a bogie pin so that you don't have to drill so far. If you do go through just fill the hole with a filler or styrene rod. Patience is the key to this step. ***Tip: as the drill bit will form a conical end to the hole just drilled, you can use a flat-tipped 'Jewellers' screwdriver and gently twist it in a circular motion to ream the bottom of the hole flat to match the bogie pin.***
2. Test fit the bogies for alignment on your track work. Depending on what size wheels you are using there are two brass washers included with the etch to raise the underframe casting. Check clearance around your sharpest curve and if the flanges on your wheels come into contact with the underside domes you have two choices, either replace the wheels with low profile units or file some clearance on the underside domes. I leave this up to the modeller to decide. Remove the bogies and set them aside for later.

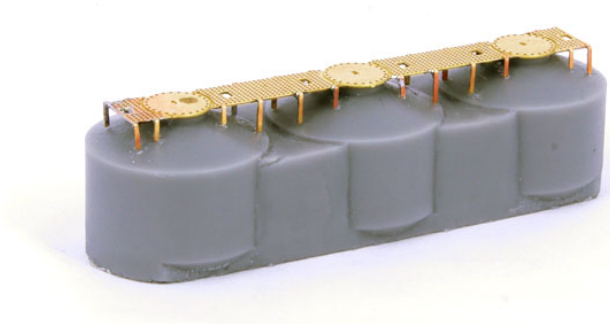


Notice the bogie on the left with the larger wheels cannot rotate as much as the lower profile wheels on the right. It may not look like much but it could mean the difference to smoother running on your layout curves.

3. Install Micro-trains 1023's (or 1015's) onto the underframe using the Micro-trains mounting screws. Carefully drill a clearance hole into the underframe for the mounting screw making sure that you do not drill through the top of the floor. If you need to raise the height of the wagon for the couplers glue **(P17)** the bogie washer in place underneath the wagon.

Take care with steps 4 & 5, as this is the only hard part of the kit assembly.

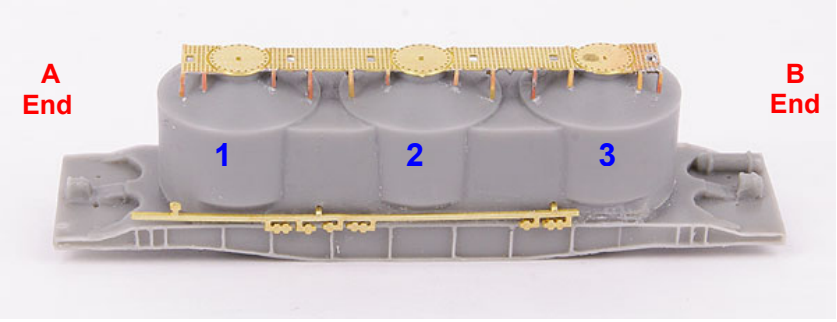
4. The hardest part of the whole kit is soldering, trimming and adhering to the walkway to the domes. It is estimated that a good hour or so will need to be spent on this section. Cut **(P1)** marked "123" from the etch and solder or Super Glue the legs at 90 degrees. There is a spare set of slightly longer-legged **(P1)** marked "ABC" in case they are needed. The reason for all the above is that the casting process can produce some units with slight variations from the original master made from brass.
5. Trail fit the walkway onto the domes and note, which end after rotating has the least amount of height above the domes. Mark, the very top of the dome cap with a small Texta "1" as this will aid you as you trim the legs to match the dome. Continue trial fitting, trimming and when happy glue the walkway to the domes centrally and use weights or clamps to hold the etch down. In addition, you can file the tops of the dome caps down a faction to aid in fitting the walkway. Also included in the etch are two extra legs **(P2)** in case you trim a walkway leg too much.



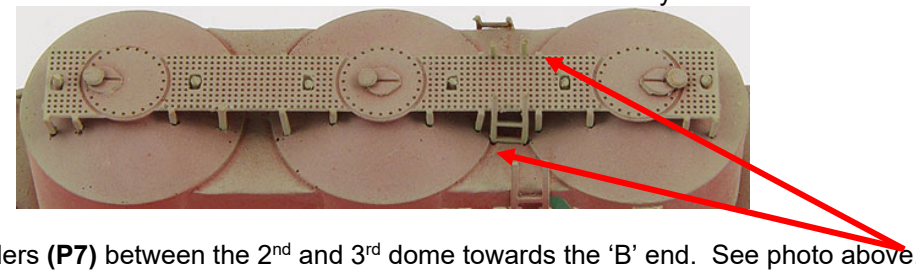
6. Trial fit the two castings together to ascertain which is the best fit by rotating the halves around and then glue them together. When dry fill or clean away any blemishes between the two castings mating faces.

7. I have given the builder 2 large pipes **(P3**) with valves in case they wish to beef up the look of the pipework. Fold one of them in half and either solder or glue the halves together. When viewed from the front, the pipework should have 2 valves on the RHS and 4 to the left of the centre. Fold the two tabs over at 90 degrees, as these are the gluing anchors to attach to the casting. Drill a 25 thou hole 2mm up from the

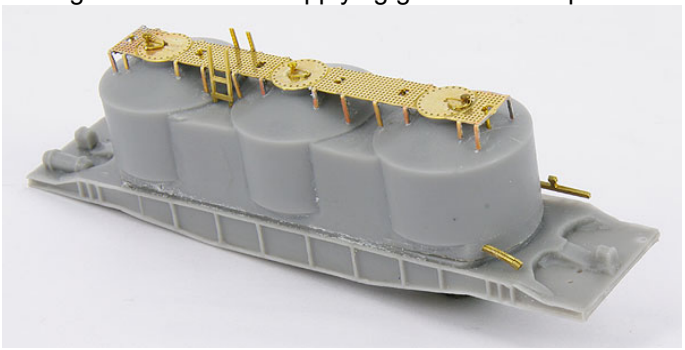
underframe casting into the domes and 1.5mm in from the RHS dome. Drill another hole 16mm further left of the last hole and 2mm up from the top of the underframe. Use the photo below as a reference. ***Note which end is A & B, as this orientation will be referred to later on in other assemblies and the dome numbers.***



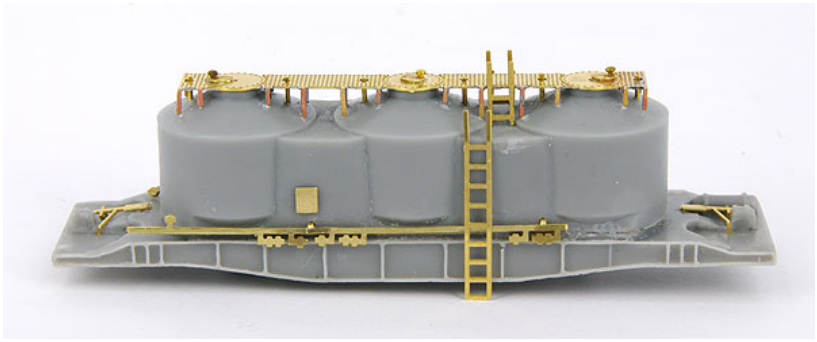
8. Glue **(P4)** the instruction plate 2mm in from the LH dome and 2mm up from the underframe top. See steps 14 & 15 photos for a guide.
9. There are 6 rectangular holes in the walkway. Drill a 25thou hole centrally and vertically into the domes at each opening. Insert a brass pin's pointed end into the hole and trim it so that it pokes above the walkway by 0.6mm. Glue this in place. Keep the brass head of the pin, as it will be used later. Repeat for the other 5 holes using the spare sections of the pin.
10. Again, the builder has a choice in the roof hatches by using either **(P5)** the original style or **(P6)** the more modern but less common style. Use a 25thou drill bit and open out the hole in **(P5)** and glue them as per the photo below after inserting the previously saved pinheads to 1mm above the holes in (or, glue the roof hatch to the walkway etch as per the photo below. When the glue has set using a 25thou drill bit open out the hole in **(P5)** and drill through the roof walk into the dome. This deeper hole will allow easier placement of the pin). The modern modeller can use **(P6)** in the same configuration but will need to fold the cross piece of the hatch cover over onto the top of the cover plate. Note back of the cover plate has no detail but is smooth. Also, make sure that the hatch covers also cover the small numerals in the walkway etch.



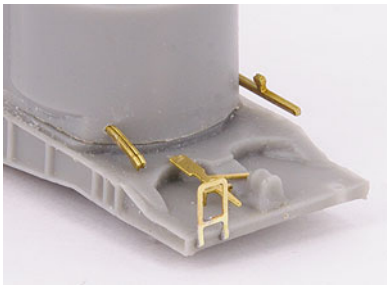
11. Glue the 2 small ladders **(P7)** between the 2nd and 3rd dome towards the 'B' end. See photo above.
12. Drill a 25thou hole into the 'A' end dome using the picture below as a guide and insert either the curve or straight pipe **(P8)** after folding them in half and applying glue. See the photo below.



13. There is both a Left hand and Right-hand brake rigging etch **(P9)**, one for each end of the wagon. Fold-down the legs to 90 degrees and trail fit into the holes provided and when satisfied with the fit glue them into place.
14. There 2 ladders **(P10)**, which are glued so that the bottom rung of each ladder sits in line with the bottom of the underframe. On the pipe side, you will have to bend it slightly to clear the pipework and shape it so the last uprights of the ladder above the domes bend slightly inwards towards the centre of the wagon. See the photo below as a guide. ***If you are using the large VR decals please do this step after painting, as it will be easier to slide the decals in place without the ladders.***



15. Drill two holes to the ‘A’ end sill for the support rail **(P13)** and glue in place. See the photo below.



16. Glue **(P11)** to the ‘B’ end of the wagon once you have folded the handwheel section behind and back onto itself. See photo above.

17. Glue the brake wheel **(P12)** to the top of the handwheel railing. See photo above.

18. Using the photos as a guide you may wish to super detail the domes with the lift rings **(P14)**. These are very fiddly and are optional for the builder to install. See the photo below.
19. Glue the number boards **(P15)**, 1 for each side as per the photo below.
20. Fold the shunter step **(P16)** at 90 degrees and solder. To make the shunter step more secure to the wagon bend the top lugs backwards 90 degrees in the opposite direction of the step. These hold onto the wagon deck to give more gluing area and support, as these items are prone to be mistreated in general use. Glue each shunter step to the LHS of the wagon end. See the photo below.

Painting general: The completed kit should be thoroughly cleaned and degreased and then ***lightly coated*** with an ***etch primer***, followed by a coat of Steam Era wagon red or equivalent colour from other makers. Paint a white square 2mm x width of the wagon end sill on the RHS corner of the end sill. Do the same for the opposite end as well. Use prototype photos as a guide. Paint **(P4)** the notice board near dome no. 1 black. Once decals are applied, dull cote and weather to taste. Bogies should also be painted the same colour.

Note the white squares indicating the handbrake side. Also note the wrap around on the side where the handbrake wheel is.

Also, use either black paint or a black “Texta” colour in the centre of the hand brake wheel **(P12)**.
Paint the handrails and the shunter steps white depending on the era being modelled. Other eras were all red or just the very side of the handrail was painted white.

Decals: There are several decals in the kit, some are paper, others screen-printed and a few Alps printed.

Screen-printed “VR”: Look closely at the decal and you notice that there is a clear border around the ‘VR’. Cut out the decal near the border, but leave the small numbers attached to the sheet. Once soaked the neat masking of the decal will soak free no matter what shape you trimmed the area around it making a very neat and clean decal. The added expense of making a special screen for this was to aid the builder in not having to be so exact when cutting the decal free. Position the decals using your preferred setting up decal solutions as per the photos below.

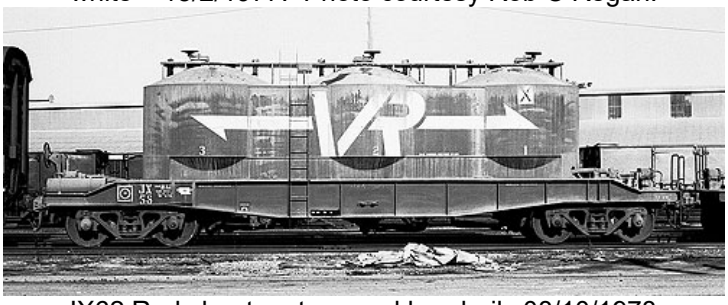
Using the photos below position the small tank numerals relative to their respective ends. Tank 1 is always the non-hand braked wheel end, i.e. ‘A’ end.

Determine your era modelled and select the code boards supplied on paper. Using a small amount of glue adhere the code board sheet to **(P15)** on each side of the wagon. ***Microscale Flat can be used to adhere to the paper decal. (Best Option).***

If you are modelling the modern era VPCX with a check digit you will also need to place the wagon number with a check digit at the end of tanks 1 and 3 as per the photo below.

JX61 Red shunter steps and RH edge of the handrail is white – 18/2/1977. Photo courtesy Rob O'Regan.

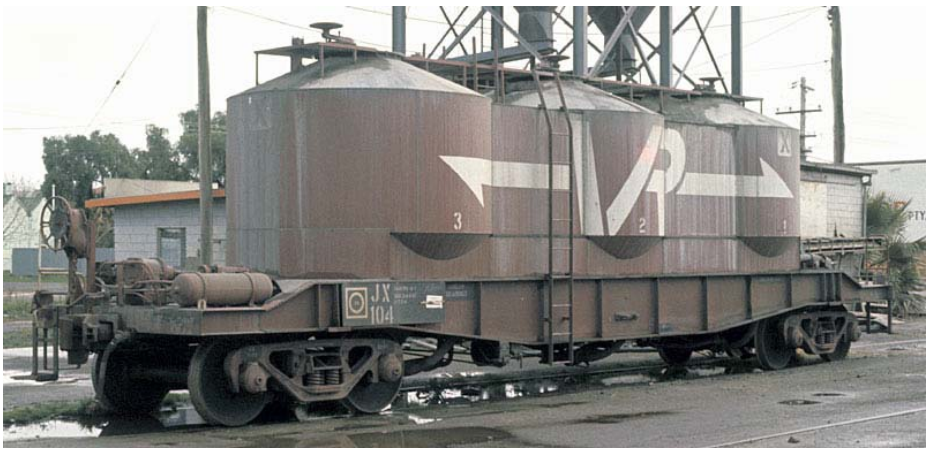
JX62 Red shunter steps and handrails 18/2/1977. Photo courtesy Rob O'Regan.

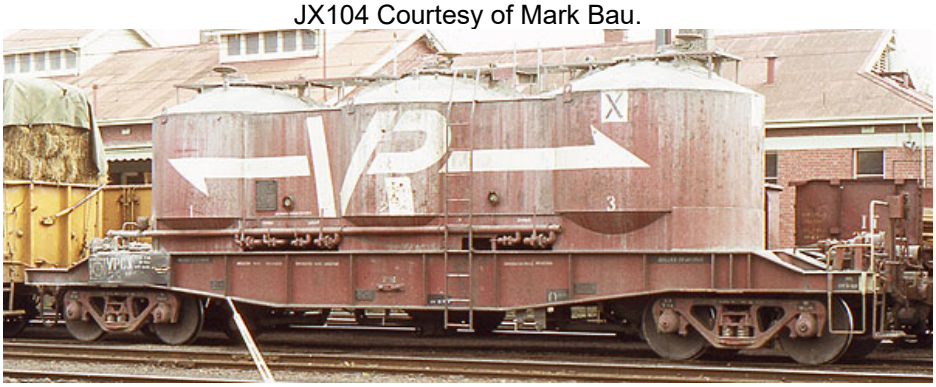

JX62 Red shunter steps and handrails 08/10/1978. Photo courtesy Rob O'Regan.


JX69 Red shunter steps and RH edge of the handrail are white – 18/2/1977. Photo courtesy Rob O'Regan.

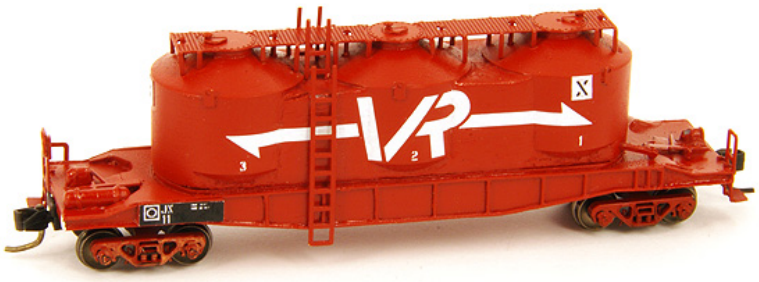
Using the paper 'X' decals and looking at the wagon side on one – one is positioned on the RHS tank as per the pictures above. Rotate the wagon 180 degrees and repeat on the other tank. Position an 'X' paper decal at each end of the wagon as per the colour photo of VPCX-48-K above.

Lastly don't forget to glue the large ladders on **(P10)** and attach bogies and couplers and then weather the wagon as you see fit.


JX104 Courtesy of Mark Bau.


VPCX 23 no check digit. Photo Chris Pearce. Note the white edges of the handrails.

JX92 Seymour Circa late 1970's. Photo Chris Pearce.



For more information and photos see: www.spiritdesign.com.au, Rob O'Regan's website http://www.robx1.net/ or Mark Bau's http://www.victorianrailways.net/ or Peter Vincent's http://www.pjv101.net/index.htm

Any alterations, suggestions or queries please contact me.
Email chrispearce@spiritdesign.com.au
Spirit Design ABN 92 510 718 068
www.spiritdesign.com.au