



Queensland Railways (QR) – PCO/PCUY Container Wagons in HO $3\frac{1}{2}$ and HO scale by SDS Models in partnership with CGL Models.

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Price: \$198.00 per pack of three wagons.

Prototype

PCO, PCOP, PCOY, PCUY wagons are some of the most versatile container wagons on the QR network. The PCO class wagon entered service in 1986 as container traffic was exploding in both overseas and domestic markets. Gross mass of containers was increasing including their overall height. The class could be found in all corners of the state, in all types of traffic. Many were allocated to specific traffic, sugar, bitumen, gypsum, coal, minerals, fuel, pipes, steel, spoil, cattle, cotton to name but a few.

The PCO wagons were designed with a lower floor profile to carry two 20ft containers with a gross mass of 24t (tonnes) each or one 40ft container. Other length containers with 20ft mounts could also be carried if required. With an average tare weight of 14.5t these wagons could carry 48.5t (Gross 63t) and were fitted with QR 38 bogies. The class entered service fitted with auto couplers, buffers and transition links. The next build contract of the class entered service rated as 100km/h runners available for passenger trains, the PCOP class. These wagons were fitted with dummy buffers and QR 50/51 bogies. A few years later, the requirements for passenger train wheelsets changed with testing required every three months. The PCOP wagons lost their passenger train status and became the PCOY class, the first 100km/h goods wagons. These wagons paved the way to increased freight service speeds on the North Coast Line (NCL). With the NCL 100km/h project, all contracts and wagon classes used were grouped into the PCUY class. In 2000 the last 100 wagons to enter service were fitted with QR 59 Barber bogies, becoming the PJZY class with an increased carrying capacity of 65t (Gross 80t). Today, many PCUY/PJZY wagons are still in service.

A total of 310 wagons entered service between 1986 and 1991 over four contracts. The PCO were built by Commonwealth Engineering (Comeng) at Salisbury (QLD). The

other three contracts were awarded to ANI Ruwolt of Ipswich. Wagons from both manufacturers were similar, except in later contracts the wagons' top deck was more open.

Model

The first contract PCO wagons fitted with QR 38 bogies, built by Comeng, were chosen for the model. Five packs with different numbers are available in both HO $3\frac{1}{2}$ (12mm track) and HO (16.5mm track). Two packs carry PCO classification, covering the 1980/90 era modellers. Three packs have the PCUY classification for 1995 onwards, after the NCL 100km/h project modifications. All packs are different with markings reflecting various eras and ownership.

The prototype PCO wagon has spigots on the ends and retractable twist locks in the centre of the wagon. This has been captured in fine detail under the wagon floor. On top of the floor, uniform container mounting heads are fitted to make it easy for modellers. SDS Models 20ft containers with recessed slots in the corner casting fit straight on. Their 40ft containers fit on the wagon with the centre twistlock heads fitting inside the container frame. Caution: over the years there have been various HO scale containers manufactured, some are under length and most have different fixing methods. With some modelling engineering, most can be modified to fit on the wagon.

Up until the mid-1990s, only one bogie on the wagon was fitted with VTA brake change over valve (loaded/empty detection). Instructions were issued that when wagons were loaded with one container, the container was to be loaded over the hand brake wheel. This avoided heavy braking of the wagon and flat wheels.

The wagons are fitted with adjustable coupler boxes. Each wagon comes with the coupler set for HO operations; that is, the coupler centre is 10.1mm above the rails. QR drawings for more modern wagons show coupling height around 787mm when loaded. In some cases on container wagons, it is even lower. Empty wagons are shown around 830mm. In HO terms that is 9.04mm loaded and 9.5mm when empty. For those who model older timber wagons, the draw hook is centred at 2ft 8ins above the rail, in HO terms that is 9.33mm. The coupler boxes on

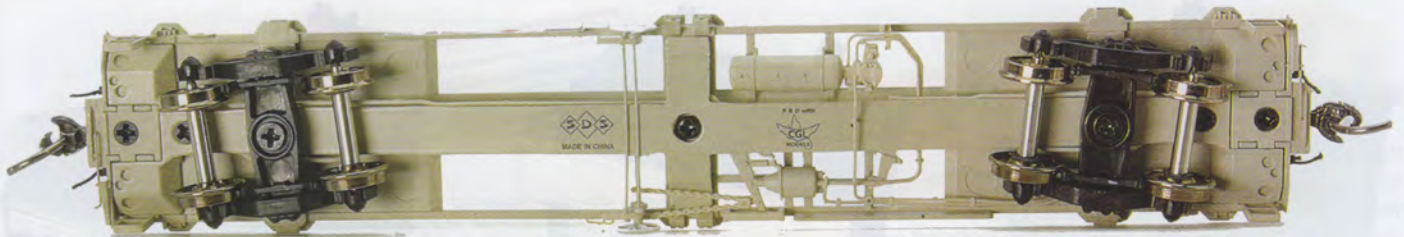
▲ SDS Models and CGL Models websites detail the main characteristics that went into the construction of the models. The main 'skeletal' frame of the wagon is made with a die-cast metal centre beam surrounded by a highly detailed injection moulded plastic bodywork, a proven method used on other container wagons produced by SDS Models. The many features on the frame have been brilliantly captured. The class's unique scale buffers have been included separately, giving the modeller a choice of era when the wagon ran without buffers before the NCL project. The buffers are a nice firm fit with location pins to ensure they are square on the headstock. All other detail is fitted to the wagon, including coupler release levers and bifurcated brake hose bags.

the PCO wagons have a plate within the coupler box that can be changed to the top of the coupling shaft, reducing the coupler down to 9.4mm above track level. If the 0.6 of a millimetre affects your operations, changing the coupler height is quick and easy. I did one PCO wagon fitted with buffers to see what the difference was, the rest being left as is and there have been no issues running on the layout.

On the weighbridge, the wagon mass is 36gm and, with two containers fitted, 60gm. With a low centre of gravity and free running bogies, the wagons did not derail pushing back a train of 27 bogie wagons with a total mass of 2.106kg.

Using an A4 plan with minimal dimensions, my old set of vernier callipers and a steel rule, all available measurements were found within acceptable limits, including the floor height above rail.

Container wagons offer so much for the modeller, carrying different company containers in various colours and markings that can be changed and swapped around displaying several loading configurations. No two running sessions need to be the same. The PCO wagon being a medium size wagon, it will suit any layout. On my layout with PECO HOm track, the wagon performed faultlessly, loaded with containers or



The detail under the wagon is spot on. Brake and branch pipes, various pipes connecting brake cylinder, WF series triple valve and auxiliary reservoir are included, even pipes to and from the automatic changeover valve (VTA) are on the model. The brake cylinder piston foundation lever has chain connected to the hand brake. Pull rods run from foundation levers towards the bogies. On the ends there are bifurcated hose bags and coupler release levers. All components are flash free and look just superb. The detail is to scale and is very fine.



Markings on the wagon are what dreams are made of. They are all there to the correct size and are readable. Builder's plates, axle test dates, brake service information, reflector, handbrake on/off with arrows, drawgear class, length, tare and carry loads for all lines, as well as maintenance servicing requirements. Side reflectors along the wagon replicate different eras and ownership.

running empty. When visiting 'Mosquito Creek' layout, the wagons straight out of the box were running on Shinohara track without any issues.

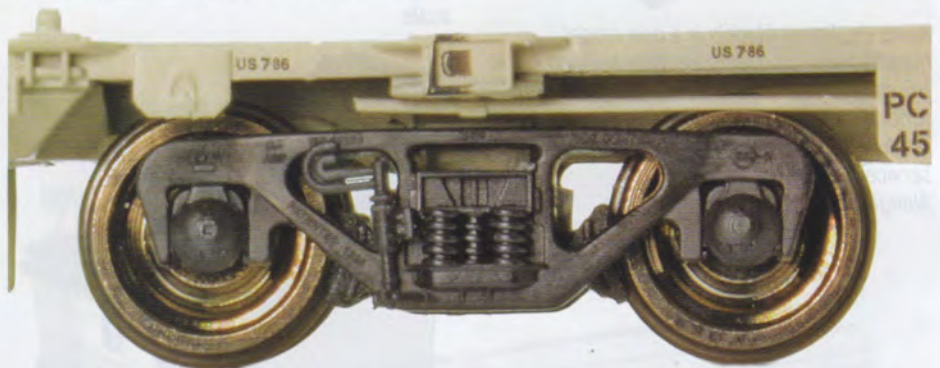
QR 38 bogies and wheelsets can be purchased separately if needed for other modelling projects. After viewing these wagons, these may save the day for my 10 PCUY wagons I scratch built a few years ago now from heading for the bin.

Summary

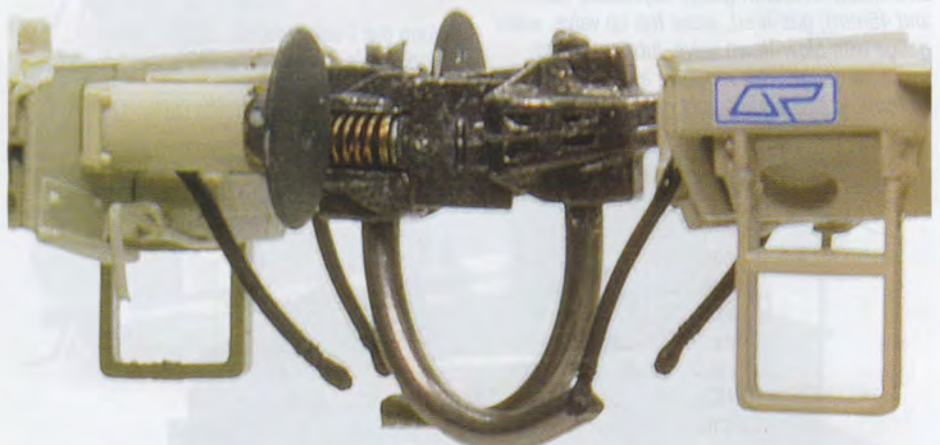
In summing up, an awesome wagon with detail that was just a pipe dream for many of us. The manufacturers have done their homework, resulting in a model with outstanding detail that runs freely and operates exceptionally well on the layout. The wagon will be at home on any layout where the modeller is looking for container trains and is a must for QR modellers who model the mid 1980's onwards.

Well done guys, congratulations and thank you. An awesome model that fills a void for QR Modellers.

Arthur Hayes



The bogies are scale reproduction of the QR 38 bogie fitted to PCO wagons. One bogie on the model is fitted with a VTA brake change over valve as per the prototype. The bogie side frames carry the same markings as the prototype QR 38 bogies. Brake blocks and shoes are also part of the bogie. The bogies are fitted with blackened wheels conforming to NMRA RP25-88 standards. The pinpoint axles fit into coned bearings in the axle boxes. On the track they run freely and if the layout has any ups or downs, the wagons simply roll away.



Changing the coupler height, the coupler trip pin will also require adjustment so that it will not foul the top of the rail. Caution: trip pins need to be set as per manufacturers' specifications if using uncoupling magnets. If the pin is raised too high, the couplings will not separate from other wagons when being lifted from the track. Given the wagon is fitted with scale brake hoses, many modellers cut the trip pins off altogether. On the prototype, anything up to half a coupler knuckle was acceptable for traffic. Plus, on the prototype, there are differences within the class. There are loaded and empty wagons fitted with new wheels down to last turning wheels. This can add up to quite a bit, something like 100mm, in HO terms 1.1mm, resulting in various coupling heights across the entire train.

REVIEWS

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Editor