Every once in a while a ready-to-run model of a surprising rail vehicle is launched. Bachmann's Wickham Trolley is such a model, but it was offered in DC only. Paul Chetter describes how he added DCC sound and lights without destroying its essential character.

Dismantling

To make this a working model the motor has migrated to the attached wagons, below the streamlined body, while the trolley provides the important purpose of expanding its wheelbase to increase the number of pick-ups available to keep the Type 27 on the move – see Matt W for a full review of Bachmann's Wickham.

Removing the two screws beneath the chassis holding it in place. You will notice that there are four black wires soldered at the rear of the Wickham and digital operation. Although I removed the wagon superstructure to discover how much is possible with the Wickham and digital operation. I normally ensure that my installations are invisible, but with this particular model I decided that a Zimo MX648 decoder and modified 10mm x 15mm sugar cube speaker could be inset into the roof with that weather would be visible from most viewing angles. This would retain the main stream character of the model and allow the addition of a driver and passengers to further enhance its interior and distract the viewer's eye from what else is tucked away inside.

Single headlamps at front and rear are prominent features which I thought could be made even more prominent by using DCC Concepts' 'Nano' LEDs and this proved possible. Make no mistake, this is not a simple installation, so read the whole feature before deciding if it is for you. Your warranty will almost certainly be adversely affected.

Super-structure

With the chassis mass-produced and the wiring tested attention turns to the superstructure of the trolley, where all the remaining work will take place. The wires will pass from the top of each engine above the roof between the windscreens, so I drilled a couple of mm holes in the roof. The wires, each around 100mm in length to give enough play, are situated wide enough for the signal wires to be passed between the motors. The wiring was arranged with holes for the wires. They are a snug fit and must be very precisely aligned before they can be fitted to their slots in the sides. These need to be removed by access.

I removed the trolley's main Printed Circuit Board (PCB) to allow the body to be removed by lifting it straight upwards. The running gear remains held in place by the keeper plate which clips into the metal part of the chassis. I used a small screwdriver blade to prise these apart.

Be careful not to distort the axle mountings during this process, at least until you have noted the positions of the wheel wipers and axle connections. The brass wheels are square brass plates with holes for the axles. They are a snug fit and must be very precisely aligned before they can be fitted to their slots in the sides. These need to be removed by access.

I removed the trolley's main Printed Circuit Board (PCB) by removing the single screw holding it in place. You will notice that there are four black wires soldered at the top of the PCB, but the labels at the rear that the track pick-ups are the inner pair and the inner pair for the motor. I confirmed this by discovering the two screws beneath the motor, one which I was more than willing to take on to discover how much is possible with the Wickham and digital operation.

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SOUND FITTED Wickham

The difficulties of fitting a Digital Command Control decoder to Bachmann's delightful and intricate model of the Wickham Type 27 "trolley are pretty obvious even at first glance. Even in 'OO' gauge it is tiny and virtually see-through. The comparison with the Class 03, itself quite a small loco, makes this something of a challenge - but one which I was more than willing to take on to discover how much is possible with the Wickham and digital operation.

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To prepare them for LED installation, I marked the centres of each lamp with a bradawl prior to drilling through each lamp and continuing through the body, using a 0.4mm drill in a pin vice. This serves to pass the wires from the NANO LEDs to the inside of the body and to provide a guide for the 2mm drill I used to create a cavity in the body of each lamp. The lamps are fitted to the body with a small bracket which could easily be twisted off. I used a pair of forceps to stabilise the lamp while drilling. I checked the depth regularly until the NANO LEDs would fit flush with the front of each lamp. I used a pair of forceps to stabilise the lamp whilst drilling. I checked the depth regularly until the NANO LEDs would fit flush with the front of each lamp. I used a pair of forceps to stabilise the lamp whilst drilling. I checked the depth regularly until the NANO LEDs would fit flush with the front of each lamp. I used a pair of forceps to stabilise the lamp whilst drilling. 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In order to pass the lacquered copper wires to the decoder, drill through the centre of each lamp and through the body with a 0.4mm drill in a pin vice.

The DCC Concepts 'NANO' LEDs are a convenient way of adding illumination in small spaces. Each consists of a Surface Mounted Device (SMD) LED, in this case with 'soft white' characteristics, to which a pair of single strand lacquered copper wires have been attached. The shorter of the '+' symbols denotes positive; the longer of each pair of wires is soldered here. This is also the reverse face of the LED, so the right-hand LED shows the face to be orientated outwards.

Moving to the decoder, the Zimo MX648 is prepared by stripping its insulating sheath, then threading the wires through the decoder. The solid wire is cut so as to remain short. A Suitable insulating connector is used to be more desirable on the right. The decoder can be trimmed when wiring is complete.

These seat workmen from Preiser were selected to provide a driver and some passengers for the trolley.

All wires were soldered to the decoder. The speaker was mounted on a small block of foam, then secured with two nylon zip ties. The speaker was fixed centrally in a longitudinal orientation, allowing wires from the chassis to pass either side on the way to the decoder.

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TIP
Finding a neat route for wiring makes a big difference on any digital sound project.

TIP
If you are short of space, rail varnish is a handy means of creating electrical insulation in models.

As a slot was filled (from below) in the top of the engine cover for the pick up and motor wires from the chassis to pass up the inside of the front pillar in the trolley body, two 5mm diameter holes were drilled in the chassis.

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