

2009 TUBE STOCK ON TRACK

by John Hawkins

Photos of 2009 Tube Stock on the Derby test track are included in "Metronet Matters" issue No.15, December 2006 (available on the Metronet Website) confirming that the project remains on schedule. The accompanying report mentions that following tests on individual cars, a four-car unit was tested before a complete train was formed, although there is no intention to split units in normal circumstances.

Full dynamic testing with all eight cars began in September 2006 on Bombardier's 1.65 kilometre test track, to be completed in December 2006. Testing of the first two trains is scheduled to continue in London, to test and commission the newly installed Victoria Line signalling system. The new signal control centre is at present being fitted out at Northumberland Park, to take the place of Euston (Cobourg Street) from 2009.

The second pre-series train is to be tested in engineering hours, and later in off-peak traffic hours (presumably evenings) without passengers, and finally trial running in full passenger service in July 2008. This will provide practical experience with the new design before the production fleet begins to enter service by 2010.

Amongst new features of these trains will be electric door operation for improved reliability. The dot-matrix displays will show real-time information about network-wide service disruption.

It was once reported that these trains are to be built to fit the line's larger tunnels, and will not therefore transfer over the Piccadilly Line. However, their cross section dimensions are surprisingly similar to current stocks. Despite the growing average height of Londoners, the body height remains the same as all other tube stock at 2.88m. The width of 2.68m is an increase of some 40mm, about the same as the 1967/72 stock exceeded its predecessors, the 1959/62 Stocks. However, the 1967/72 Stock has been the widest tube stock in the fleet since it was followed by 1973 Tube Stock, the first to use six longer cars to replace seven. To reduce the overhang on curves, the longer cars were made 12mm narrower at 2.63m, a dimension maintained for the even longer 1995/96 fleet cars. For some reason the 1992 Tube Stock was made a further 10mm narrower at 2.62m, although it did not have long cars.

The new trains are three metres longer than the 1967 Tube Stock, making use of the longer platforms that were originally provided because, at the civil construction stage, the stopping accuracy of auto-trains was still uncertain. This makes the trains longer than 1992 Tube Stock, in fact making them the longest trains operated by LU at 133.275m over couplers, exceeding the 131.205m of A-stock, until the arrival of the first S-stock at 133.470m (surface stock dimensions from the June 2006 issue of Underground News).

So the new trains will take advantage of the 132.6m platform tunnels on the Victoria Line, and also occupy another 40mm of tunnel width. Of course this is unusual, as the cars will be longer than the 1992 Tube Stock cars, and one would therefore expect the cars to be narrower, or at least no wider than the current stock. So a major way that the 2009 Tube Stock will take advantage of the larger running tunnels of the line is in the overhang on curves, where they will come closer to the tunnel wall.

This probably prohibits them travelling the more sharply curved Piccadilly Line, with its slightly smaller diameter running tunnels, especially at points such as the reverse curves east of South Kensington. The 1973 Tube Stock was a very tight fit on delivery! Since trains are now maintained on their own line, there will be little need for the new stock to travel elsewhere, so we can expect it to remain on the Victoria Line for its service life.