

THE S STOCK MOCK-UP – A PERSONAL REVIEW

by Piers Connor

A TRAIN IN A TENT

The mock-up for the new Sub-Surface lines' S Stock finally arrived in London over the weekend of 21 September 2008. It had been planned to be displayed some months before but various things have conspired to delay its appearance. To house it, a large and very posh tent was erected outside Euston station in Euston Square Gardens near Melton Street. Looking at it, the immediate impression was that someone was going to have a very upmarket wedding reception or a film star was about to celebrate being elevated to the peerage. Well, it was a bit more prosaic than either. Inside was the precursor to the new fleet of trains to be provided for the Sub-Surface lines of London Underground. The tent designers kindly provided transparent side panels so the great unwashed could gaze upon the miracle of new train technology within. Later, we were let in to see for ourselves.

Up to 27 September, various VIPs and other especially invited guests got to look round with a guided tour. The guides, provided by London Underground and Metronet, were excellent. They really knew their stuff, fielded the questions and comments very capably and generally gave an impression of enthusiasm and intention to do the best job they could. While I was there, I prevailed upon the Metronet person, a former colleague of mine from many years ago, to answer some of my more technical questions related to such things as door operation and light fittings, of which more anon.

For the record, the opening times were:

- Saturday 27 September – 10.00 to 16.00.
- Monday 29 September to Thursday 2 October – 09.00 to 19.00.

FIRST IMPRESSIONS

My first impression was of lightness and space. In many respects, the S Stock's Electrostar heritage is evident. What is very obvious visibly is the flat inward slope of the body below waist level. In my view, it's a shame this wasn't a gentle curve but I suspect it's got something to do with clearances and the need to get the floor lower to try to reduce stepping distances.

The mock-up represents two car ends, each with a pair of double doors, coupled together showing the walk-through wide gangway. The gangway is fully accessible and there are no end doors. A sample of the seating layout and standing areas in the mock-up gives an idea of what to expect on the new trains. With a combination of a bright, off-white, interior like the C Stock and the fewer seats, the first impression is of more space. There has to be, as the trains will operate on the Circle (sorry, T Cup) service and the District, where the passenger loads are very heavy. The downside is that there will be fewer seats for the extension routes. LU are taking a lot of flack over this, especially since the delay to the sub-surface lines re-signalling project will mean no more trains can be added to the service to make up for the lost seats. Don't expect to get a seat south of Chalfont in the morning peak.

DOORS

The new train doors provide a 1,600mm opening compared with the 1,372mm on the existing A and C Stocks but it is the new operating system which is the most interesting feature. The door re-cycling system promised over the last couple of

years is to be provided and, from what I saw of the prototype on show, it works very well. When the closing doors hit an obstruction (my shoulders) the doors re-open about 100mm on each side and then try to close again. They do this twice and then close permanently.

The proposed sensitive door edge anti-dragging feature is also installed. This will stop the train if something was trapped in a closed door and being dragged along the platform. After long term correspondence with various people and recent discussions with the upgrade staff and the engineer on site, I have finally come to the conclusion that this is workable. I was very dubious at first but the Metronet man explained to me that the system is linked to the round-the-train-circuit indicating all doors closed. This means that it will only operate when all doors are closed and only if pressure is applied to the inside part of the rubber edge. This would be the result you would get with a bag strap or clothing being pulled by the closed door edge as the train accelerates. A detector switch, linked to the sensitive edge, is mounted over the door. The switch will operate the brakes if the edge detects a drag. Having seen it, I think that the design of the rubber edge will considerably reduce the risk of malicious interference. Time in service will tell.

GANGWAYS

A big selling point for the new trains is the open connection between cars, allowing a gangway through which passengers can circulate along the train. A double-skin bellows is provided between the car ends. This naturally has to be flexible and leaves one wondering what the effect of graffiti would be on the material of the bellows. From my conversation on the day of my visit, it seems as though the jury is out on that question.

As the gangway is over the coupling point between cars, the floor has to be designed to allow some movement, most especially over reverse curves. The floor protection on the mock-up was, I thought, rather light. It consists of a series of hinged flaps, where the car floor overlaps the gangway floor. This is surely an invitation to small fingers to investigate what is underneath. Seeing as many parents these days appear to be unwilling or unable to supervise their children, allowing them to climb on the seats, smear filthy fingers on windows, push the hands into ventilators, scream uncontrolledly and otherwise behave in an anti-social manner, it would be sensible to look at the floor covering at the gangways to reduce the risk of damage or injury to such unsupervised children, particularly as, in the event of an accident, the parents are bound to pursue LU to the courts with a level of vigour in inverse proportion to that which they applied to disciplining their offspring.

One final point about the bellows is the work needed to remove it if necessary to uncouple cars. My impression, from conversations with Metronet Man on the day, was that it's not as difficult as it looks but that uncoupling would only be a last resort and that trains would remain coupled, even when lifted.

SEATING

The first thing about the seating is, of course, the lack of it but enough about that. The seats themselves are cantilevered off the body sides so that the car floor is clear under the seats. This makes cleaning easier and gives somewhere for passengers to place bags, which makes up for the lack of luggage racks that we are used to in the A Stock. Still, they don't get that much use. The one problem I foresee is that luggage under seats is out of sight and it won't be long before someone gets off a

train and leaves their bag under their seat. Then there's the whole terrorist bit, evacuation, suspension of service you know the story only too well by now.

I thought the seats were a bit hard. Of course they need to be to take the abuse they are likely to get in 20 years of use without an overhaul – they rarely get to refurbish seating on a regular basis these days so they gradually deteriorate, as we see on the 9x tube stocks. For myself, I could imagine getting a bit numb sitting on one of the new seats for 40+ minutes at a stretch – if I was lucky enough to find one free.

Finally, the design of the upholstery pattern was dreadful. It was a poor relative of the maroon/green/yellow C Stock pattern. They could have done a lot worse than use the present A Stock material. I hope than something better will be done before the new trains arrive.

PASSENGER INFORMATION

There are the usual visual displays across the car ceilings but the new ones are larger than we are used to seeing. There has been a huge amount of debate about these and what they should look like and where they should be located. At least they don't make a noise. Unfortunately, we common folk are forced to listen to continuous *blah blah* from the Digitised Voice Announcers (DVA). Personally, I hate them. I regard them as merely contributing to the ever increasing noise pollution on the Underground. It seems strange to me that so much money is spent on eliminating mechanical noise from modern trains and then filling it with electronic noise.

I think DVAs are intrusive and annoying but then, I know where I'm going. For those folk who don't, there is information about almost every line on the Underground, whether they need it or not. The voice on the mock-up was very loud but, we were told it was just for the purposes of the mock up and that it would be adjusted for the trains going into service. It was suggested to me later that the voice actually belonged to the Bombardier project engineer's wife. I bet he doesn't forget to put out the rubbish! It is also worth noting that the door open/close chimes, which were nasty and loud on the mock up, will not be like that on the production trains.

INTERIOR

The interior finish was very reminiscent of the refurbished C Stock with lots of off-white panelling. This is good visually, helping to create a bright atmosphere but it will need a lot of careful attention if it is not to become grubby and covered in graffiti stains.

I was impressed with the lighting tube covers. These were open mesh aluminium, allowing air into the light fittings and avoiding the condensation and dust accumulation which plagues the plastic fittings provided over the few years. I wasn't so impressed with the Allen key fittings securing the ceiling panels, which showed signs of being damaged already.

Obviously, the mock-up did not have the production version of the air cooling system planned for the trains, so there was little chance to understand how this will feel in service. That judgement will have to wait until we see the trains running through the tunnels of the Metropolitan Line during the summer.

WILL IT DO?

In a word, yes. It must. Any train design is a compromise and this is very much a series of compromises, forced on the Underground by the PPP and its associated

cash constraints. The train has to operate over both the urban Circle Line and the suburban Metropolitan and District lines, so it cannot be all things to all men. The lack of seats is going to annoy the medium distance passengers who won't get a seat but the standing space will help to ease the crush conditions on the Circle.

As for the door control, with its re-cycling and dragging detection, we must wait for it to settle down in service to see how it will perform once the trains are let loose on the travelling public. I think what will count in the end is the stock's reliability and the general comfort perceived by more standing room and the provision of air cooling.

The real question we need to see the answer to is – will the Underground be ready for it? The way things look at the moment, it's very doubtful.