

BR MK I BRAKE COMPARTMENT SECOND (BSK) 34984 converted to 4TC TRAILER BRAKE COMPARTMENT SECOND (TBSK) 70824

Most details from: <https://www.bloodandcustard.com/bournemouth1966.html#PushPull>

This vehicle was ordered by British Railways on 27th April 1955 to be built at Metro-Cammell works in the West Midlands as part of Lot No. 30229. 93 similar coaches [numbered 34931 to 35023] were constructed to Design Diagram No. 182 with the last one completed on 20th April 1957. 34984 was outshopped during February 1957.

It's internal layout had one toilet compartment at the end of four passenger compartments each seating 8 with a central transverse entrance vestibule followed by a Guard's Compartment and, finally, a caged luggage/parcels area. Two BR I vacuum braked bogies carried the vehicle with steam heating equipment in the passenger and Guard's compartments as well as the toilet. Sc34984's first allocation was to the Scottish Region but little is known of it's service career although it would have travelled widely over the following nine years.

Sc34984 was withdrawn from revenue earning service and despatched to BREL York Carriage Works for conversion as part of Lot No. 30765. Under Diagram No. 920 the converted BSK was outshopped on 9th September 1966 in all-over matt BR Blue corporate livery. SC34984 was renumbered 70824 and, initially, it was allocated to Unit 413. It was found that this paint scheme did not wear well, however, so all units were repainted into BR's Blue /Pearl Grey livery and was outshopped on 18th March 1969.

Mechanically, all TC trailer vehicles had their vacuum braking and steam heating removed. They were remounted on new B5(S) bogies fitted with air and EP braking. These B5(S) bogies were a heavy duty version of the B4 bogie used extensively elsewhere on BR.

Converted former BSK vehicles were fitted with new battery boxes to supply emergency lighting to the whole unit and also had a motor generator (MG) set to supply current to light the whole set. A standard EMU Westinghouse DH25 compressor, for the air braking supply, was also fitted to the underframe. Power for the MG and compressor was supplied via the units' 750-volt heating jumpers from the 4REP unit, or locomotive, working the train.

Standard EMU style starting bell switches were fitted by the guard's inwards opening doors and a Loudaphone communications system in the guard's compartment gave speech communication with both cabs (or cabs elsewhere if the unit was working in multiple with others). All the above extra equipment meant the tare weight increased to 35 Tons.

Each pair of 3 ft diameter wheels was braked by clasp-type brake rigging operated by a single 8 inch air brake cylinder with integral slack adjuster. All bogies were fitted with trunnions for attachment of pull rods for handbrake operation, though these were only used on bogies beneath driving cabs, the handbrake applying on the innermost pair of wheels.

Heating was now electric using the SR 750-volt multiple unit arrangement. Each compartment had two 500w (at 675v) heaters, controlled by electric temperature controllers adjustable by passengers between 48°C and 86°C. Control circuits worked at

voltages between 45 - 110v to allow operation at 70v with other multiple-unit stock or 110v with locomotives.

All vehicles were already fitted with the drop head type of buckeye couplers at each end with retractable side buffers. As 70824 would now be formed intermediately within a unit the buffers were removed and drop head buckeyes replaced by a fixed head version.

Apart from internal layout alterations which differed with each variant of coach, all vehicles had their internal finishes updated with grey and blue coloured laminate panelling replacing wood, improved levels of lighting (though still provided by incandescent lamps). The revised seating moquette was in a new blue /green check design which became known as 'Bournemouth Blue' and was subsequently used in other types of SR units. Single glazed windows were retained though all were replaced during conversion with a later style of glazing unit using a gasket, rather than mastic mounted glass, and an external aluminium frame with sliding vents.

The Bournemouth electrification scheme was due to be inaugurated on 10th June 1967, though late delivery of some stock led to this being postponed until 10th July 1967. However, some of the TC units were delivered much earlier with the first train going into service loco-hauled from 15th August 1966. The initial pattern of service following electrification was an hourly semi-fast service from Waterloo to Bournemouth, with alternate trains having a through portion for Weymouth.

Overall a basic two-hourly fast service was also provided each having through sections to/from Weymouth. Trains from Waterloo had TC unit/s leading being propelled to Bournemouth by the 4REP unit although, if only one TC unit was going forward to Weymouth, the train could be formed with the 4REP in the middle.

At Bournemouth, a BRCW type 3 'Crompton' [now Class 33/1] diesel loco was attached at the front of the train and hauled the front four, or eight (TC), coaches to Weymouth. Following trials with D6580 nineteen Class 33 locomotives were modified for this purpose.

Under the 1972 BR TOPS classification system 4TC units became Class 442/2 and, in 1975, were further reclassified Class 491. During May 1986, the unit was renumbered to 8013 but, on 4th June 1987, it was disbanded with TBSK 70824 becoming spare. Then it was allocated as part of 4TCT 2806 (later renumbered 8106) from 3rd December 1997.

Major overhauls took place at Eastleigh Works, though they always remained allocated to Bournemouth Depot where most routine maintenance was carried out. Occasional trips to Selhurst Depot were made for accident/unscheduled repairs.

TC units later had a number of workings between Basingstoke and Salisbury, including one each way where the TC & locomotive combination attached at Basingstoke to an 8VEP electric train which had worked up from Bournemouth or Eastleigh. The flexibility of the coupling system on Southern Region enabled the loco to be controlled from the leading 4VEP unit, and vice versa in the evening when the loco was leading. On some occasions the locomotive ended up being marshalled between the TC and VEP units.

4TC units were able to be hauled by non-push-pull fitted locos as long as they were fitted with electric train supply equipment able to provide a supply to heat them. However, without high-level jumper cables a loco could not be controlled from the TC set and would have to run round at each end of the journey.

TC stock could also work in multiple with any other conventional Southern Region electric units from the '1951 type' onwards, though as such units did not have low level power jumpers, they could not supply heat and light to the TC stock. Because of this restriction, such workings were unusual and only in emergencies with passengers aboard. For a time, on Sundays, TC units were also diagrammed with Class 33/1 haulage between Portsmouth and Reading and, later in their lives worked as far as Exeter, sometimes hauled by Class 50's.

As a result of removal of buffet cars, six of the seven 4TCB units were reformed at the end of 1987, gaining an adapted TFK vehicle. Modified coaches were moved from Eastleigh to Bournemouth on 27th November 1987 prior to formation of 4TCT units. The units were reclassified as Class 438/1 and the one containing 70824 was renumbered as 8106 from 31st December 1987.

This didn't last long as Unit 8106 was disbanded on 2nd May 1988 with one vehicle removed. The remaining three coaches became part of 5TCB 2806 from 16th May 1988 which was further reformed again from 1st September 1988. It does not appear to have re-entered service and was withdrawn officially on 3rd October 1988, having moved earlier, from Clapham Yard to Salisbury, for further storage on 30th September 1988.

This was not the end for TBSK 70824 as it was added into 4REP 1902 from 17th March 1989. Unit 1902 was outshopped in Network South East striped livery but it didn't last long as the unit was disbanded on 23rd April 1990. A few days earlier, unit 1902 had been taken to Eastleigh works on 7th April 1990. TBSK 70824 was withdrawn finally on 10th February 1992.

TBSK 70824 was among eight 4TC vehicles purchased by London Underground in 1992 to form two four car units for use on the Metropolitan Line's "Steam on the Met" special trains. All vehicles were painted in Metropolitan Railway maroon livery and, normally, were based at West Ruislip depot. The last 'Steam on the Met' event took place in 2000 but the two 4TC units remained in use on other special trains until 2003 when vehicles were stored.

In 2005, Metronet sold one 4TC unit, in which 70824 was allocated, and the Swanage Railway 4TC Group's bid was successful. By November 2005 it had been moved to Westfield Storage, Dinton, near Salisbury. By February 2008, storage was transferred to the Midland Railway Centre at Butterley in Derbyshire. In September 2016, the Swanage TC Group decided to gift 70824, and the other ex-London Underground vehicles, to the Swanage Railway Trust charity.

Funding took some time to amass and restoration work had commenced in the summer of 2017. Overhaul has been extensive, with lots of extra problems found during the work. The biggest extra job was the van area floor, which has seen the original poured resin material removed, and replaced with fireproof ply. Tongue and groove wooden panelling also had to be renewed as well as refitting sliding doors and refurbishing door locks plus the all important Blue and Pearl Grey livery repaint.

On 23rd May 2019 the vehicle arrived at Norden so that volunteers could make a start on overhauling braking equipment, re-wiring, plumbing, and interior paintwork as well as refurbish upholstery to passenger carrying condition.