

BR CLASS 423 (4VEP) ELECTRIC MULTIPLE UNIT No. 3417

The Southern Region of British Railways had plans to electrify much of its system. Stage 1 involved the Kent Coast electrification, which was completed in 1962. The second stage (planned for 1964) would have involved various secondary routes: Redhill to Tonbridge, Reigate to Guildford, Sanderstead to Oxted, Oxted to East Grinstead, Oxted to Lewes, Eridge to Tunbridge Wells, Christ's Hospital to Shoreham and Ash Junction to Wokingham. This stage was not progressed and, instead, a couple of the lines were closed!

Stage 3 was intended to cover Woking (actually Pirbright Junction) to Weymouth, Basingstoke to Salisbury and Winchester to Alton. What finally materialised was electrification between Woking and Bournemouth Central, with an extension to Branksome. This was in order to access a new Electric Multiple Unit (EMU) maintenance depot built on the approaches to the site of the former Bournemouth West station (closed in 1965). The depot incorporated the old Bournemouth West carriage shed.

Opening of Stage 3 allowed BR(S) to achieve its goal of finally ridding itself of steam locomotives in July 1967. Thereafter, regular fast trains to Bournemouth were formed of "TC" trailer units (either 3 or 4-car), all these being converted from loco-hauled BR Mark 1 carriages. These were powered by 4 REP tractor units between London Waterloo and Bournemouth, where a class 33/1 (BRCW Type 3 fitted with push-pull control), hauled one or two 4TC units (without the 4REP unit) on to Weymouth and propelled back.

The 4VEP (later BR class 423) was based on the successful '1963 stock' design of 4CIG and 4BIG units recently introduced on the Brighton line. To be known as 4VEP (4-car Vestibule Electro-Pneumatic), twenty units of this new type were ordered (along with the 4 REP /4TC stock) on 30th April 1965 for the commencement of new services from July 1967. These also being referred to as '1963 stock' with the principal difference between them and the earlier 4 CIG /4BIG type being higher density 3+2 seating layout including side doors to each seating bay and the first-class compartments (the latter being located at the inner end of each driving trailer) whilst a larger luggage van was also provided.

The 4VEP units were newly constructed, to the '1963 stock' layout with a Driving Trailer Composite (DTC) at each end flanking a Motor Brake Second (MBS) and Trailer Second (TS) with construction split between York (driving trailers) and Derby (centre vehicles). This had to be done to speed construction as York works were busy undertaking the conversion work on Mark 1 coaches for the REP and TC units as well.

All second class seating was covered in 'Bournemouth Blue' check uncut moquette with vertical beading showing each individual seat. Electric heater grids were placed beneath seats and behind these there was an aperture between each pair of seats for luggage. However, these quickly became filthy rubbish-traps. Arm-rests were provided only adjacent to the gangway with the upper ends of the seats padded for passengers standing. Rising from the seat backs were aluminium luggage-rack supports.

Aluminium curtain holdbacks were attached either side of each window but the orange curtains could be pulled forwards easily towards each droplight. These curtains became badly soiled from condensation off the sliding vent-lights and were removed completely from 1978. Curtains were retained in the first class compartments.

A few of the first twenty units were re-upholstered with the older style 'Trojan' grey seating due to a shortage of blue during their first CI overhauls. Later, units began to receive NSE 'Stripy-Blue' seating and all were eventually fitted with NSE 'Blue-Blaze' seating material.

Electrical equipment was similar to that of the 4CIG and 4BIG units, though units had conventional handbrakes in each cab and not the electric parking brakes fitted to the early Brighton line 4CIG /4BIG stock.

Trailer vehicles were mounted on B5 (S) bogies, the springing on the trailer bogies differing slightly from the similar bogies fitted to 4CIG /4BIG stock as expected passenger loads would be greater with the high-density seating layout.

Motor bogies being to the new Mark 6 type. Motor coaches carried similar equipment as those on the 4CIG /4BIG units and four EE507 motors were again fitted although there were minor differences to the 4CIG /4BIG version.

Each 4VEP unit seated forty-eight first-class and two-hundred & thirty-two second-class passengers. They weighed 149 tons and were 265 ft 8½ inches long. Shoe gear was fitted to the two outermost bogies beneath the driver's cabs, there being none on motor coaches.

Passenger access doors at each seating bay were all fitted with door locks having an inside catch handle, except those in the corridor section of the DTC vehicles. Windows were fitted from the outside and had external aluminium frames as a result.

Newly built driving trailers were moved from York to Derby to be formed-up into four car units prior to delivery to the Southern Region for commissioning [believed to have been at Stewarts Lane depot]. Unit 7704 was one of the first delivered, being noted at Clapham Junction carriage sidings on 5th April 1967, whilst unit 7701 was displayed at Waterloo on 10th April.

The Driving Trailers for unit 7717 were released from York Works on 27th May 1967. After the other two vehicles were inserted between the driving trailer coaches at Derby, the complete 4VEP was released to the Southern on 17th June.

The first twenty units (7701-20) were delivered in 1967 and were allocated to the new Bournemouth electric multiple unit depot. The original livery of 7717 was overall blue with small yellow warning panels and cast aluminium double arrows below the driving cab side windows. Orange curtains were fitted in the second class areas. Over their years of service, alterations were made to the VEP fleet.

The sliding glass ventilators caused draughts during the winter and were largely superfluous, so these were sealed closed; some being later replaced by full sidelights. In the late 1980s, it was decided to renumber the fleet from the 77xx series to the 423 0xx series; only the last four digits being painted on the ends.

The units were built with a large guard's van area in the motor coach. After the parcels and mail business diminished, it was decided to convert part of this area into two seating bays. This work was undertaken at Eastleigh Works during the 1990s. As this job took longer than the overhaul on the other three cars, the latter usually left with the first complete motor coach available, hence this unit having the motor coach formerly in unit 7775.

Units fitted with modified vans were renumbered into the 423 4xx series; once again, only

the last four digits being painted on the ends. (42)3417 was later refurbished throughout including new strip lighting in the passenger areas.

Heavy overhauls were carried out at Eastleigh and bogie exchanges and electrical overhauls at Ashford Chart Leacon. Some repainting of units and other un-programmed maintenance also took place at Selhurst and collision repairs at Slade Green when necessary. Unit 3417 was repainted into BR Blue/Grey livery on 5th September 1972.

DTC 76262 was removed from unit 7717 being replaced temporarily by spare DTC 76370 from 25th September 1972 for a few days. The following day, the unit was used for windscreen washer tests with Class 74 Electric-Diesel loco No. E6101. For most of 1973 the unit also appears to have been used for a series of brake tests. Bearing defects (which also affected some 4CIG units) led to several 4VEP units being stored out of use, often for some months, between mid-1974 and the end of the year.

Both DTC cars 76262 and 76263 entered Eastleigh Carriage & Wagon Works, on 27th October 1986, for asbestos stripping and were replaced by 'Float' DTC cars 76340 & 76690 (ex.unit 7705). Unit 7717 was reformed to normal at Eastleigh being outshopped on 20th November 1986. On 16th January 1987 it was repainted into the first version of Network SouthEast (NSE) livery which used a lighter Blue with angled upsweeps.

Like the 4CEP and 4CIG fleets, it was felt necessary to improve the interior of units with the provision of fluorescent lighting and fitting a PA system. Units started to be facelifted from early 1988.

Some (but not all) units had their generous luggage space reduced during this facelift with a new eighteen-seat saloon fitted into part of the former luggage area; these units being renumbered at works in a new series upwards from Nos 3401 - 3421 in order of out-shopping. Unit 7717 gained it's new numbering of 423017 around February 1990.

Just after this, on 15th March 1990, it received the latter NSE livery using a darker Blue as well as curved upsweeps. On 14th May unit 3417, and others, were transferred to be based to Eastleigh. This was followed by a transfer to Wimbledon Depot from 14th January 1991.

As the first twenty units had originally had some blue asbestos insulation in the floors of the York-built vehicles, these units were kept grouped together as 3401 – 3420 with the others becoming mixed-up in former number order.

As mentioned above, some units were facelifted, fitted with fluorescent lighting and PA equipment but without modifying the luggage area to provide additional seating. As a result, these were not renumbered into the 34xx series at the time, although many were done during later C3 overhauls, without seat moquette re-trimming.

The position of the downgraded first-class compartment was also standardised on those few with the inner one previously done, now the one adjacent to the toilet was also downgraded. During early 1993, these units began to return to Eastleigh for further overhauls (usually CI or C6X) where the brake van modification was then carried out, with the usual exchange of motor coaches occurring and renumbering into the 34xx series. In August 1993, unit 3014 went into Eastleigh for this work and was outshopped as 3417.

Under the BR privatisation arrangements, all units remaining in traffic in this form after 1st April 1994 were allocated to the ownership of a train leasing company. The Class 423 units

were split with Eversholt (later becoming Forward Trust and subsequently HSBC) owning units in use by South West Trains (SWT) such as 3417.

Units exchanging MBS vehicles during brake van modifications led to a number of units being formed with vehicles owned by different Roscos and early in 1995 this was altered so that although some coaches were still exchanged, units with mixed ownership were avoided and some units kept their original formations. SWT slightly amended the NSE livery with the inclusion of an orange stripe from 28th February 1997.

Between July 2002 and the end of that year all remaining SWT Class 423 units visited Eastleigh to have Train Protection and Warning System (TPWS) equipment installed in each Driving cab. This augmented the existing BR Automatic Warning System (AWS).

South West Trains repainted 3417 into near-original BR Blue livery, at Wimbledon Park depot during May 2004, to commemorate final months in traffic of the slam-door fleet. This unit was selected as having the longest life-expectancy, being the last to receive major works attention.

The unit was named "Gordon Pettitt", by the man himself, at Waterloo 2nd June 2004, with nameplates carried on MBS 62236. Following this event, it ran a special train for guests to Basingstoke and back to Waterloo. Unit returned to normal traffic duties from 11th June 2004.

Unit 3417 was last used in ordinary service on 20.23 Windsor to Waterloo on 28th April 2005 and then to Wimbledon Park for further work. Between March and May 2005, about eight units remained in service with SWT, one of which was 3417.

To mark the departure of Mk I stock from the South West Trains main line, and to celebrate the launch of its "heritage" operation on the Lymington branch, SWT organised two "Seaside Slammer" railtours between Waterloo and Weymouth. The first was on Saturday 11th June 2005 for staff and the second for the public ran on Saturday June 18th.

The outward journey went via the Guildford New Line and the Portsmouth Direct, thence via Cosham and Swanwick to Southampton and on to Weymouth. The return ran via the main line, non-stop from Bournemouth.

Two farewell rail tours ran using the restored 4VEP No. 3417 coupled to a 3CIG unit. No. 1498 was used on 11th and No. 1497 on 18th. Money raised from both tours was donated to the new Lymington Hospital.

After these specials, Unit 3417 returned to Bournemouth for storage and occasional use on special workings, mostly for driver training. Later it was kept in store at Wimbledon Park. Unit 423417 was officially withdrawn from revenue-earning service on 18th December 2005.

It was hauled from Wimbledon Park to Bournemouth on 2nd May 2008 for an onward move to appear in the Swanage Railway's Diesel Gala. On 8th May, running as 5Z73 13:50 Bournemouth Depot – Swanage, Class 73 Electro-diesel 73107 "Spitfire" did the honours by hauling the unit the last few miles. 3417 was returned to Wimbledon Park soon after the Gala by 73107.

Eventually, HSBC sold unit 3417 "Gordon Pettitt". to the Bluebell Railway Plc and it was moved to East Grinstead for display at the site of the new station on 17th January 2009.

The Bluebell Railway held a hugely successful Open Day at East Grinstead. Although only on site for a few days, the Bluebell Railway needed to honour its commitment to ensure that the 4 VEP was looked after. Following the Open Day, the railway's East Grinstead area reverted to a construction site and therefore became inaccessible, thus isolating the unit.

With construction works due to start at East Grinstead and the unit in an exposed position, the Bluebell Railway accepted the offer of short term accommodation at Eastleigh railway works. Knights Rail generously sponsored the move to the works on 22nd January where it was stored under cover and with 3rd rail power available on site. Along with LSWR B4 No.96 "Normandy", it represented the Bluebell Railway at the Eastleigh 100 event in May 2009.

The unit was able to attend the Swanage Railway Diesel Gala in May 2010, and then returned to the Bluebell Railway, arriving on 2nd September to play its part in the opening ceremony for the new platform a few days later.

The unit returned to East Grinstead on 29th August 2010 and was used to convey passengers, from the newly opened Bluebell station over Imberhorne Viaduct to the site of the rubbish tip, on 4th and 5th September. The unit was hauled by EDL 73 208 on these trips.

Unit was moved to Tonbridge West Yard around 25th October 2010, then back to East Grinstead with EDL 73 141 on 5th November 2010 and used for further shuttles over Imberhorne Viaduct on 7th November.

Unit hauled back to Bournemouth depot for undercover storage overnight 7th/8th February 2011 returning to East Grinstead again on 6th April 2011. Moved again on 30th June 2011 to Tonbridge West Yard and then on to Bournemouth depot once again on 25th July 2011.

Unit returned once again to East Grinstead on 8th September 2011 for a gala day event there and used on shuttles to Imberhorne Cutting again on 17th/18th September 2011. After this it was moved again to Clapham Yard on 19th September 2011 for a further period of storage.

This lasted until moving to Wimbledon Park again, between 12th and 15th March 2012, for the wheel lathe to remove some 'flat spots'. The route taken from Clapham Yard was somewhat roundabout as the unit needed to be turned. Whilst at Wimbledon unit 3417 was prepared for use on the Bluebell but, using the depot's third rail power supply, it was used to shunt "Tornado" which was also visiting the depot to make use of their wheel lathe!

Back at Clapham, another EDL hauled 3417 to East Grinstead on 20th April 2012 for a further gala day of shuttles on 22nd April 2012 before being returned to Clapham Yard on 23rd April. Responsibility for operational matters was handed over by Bluebell Railway to The Southern Electric Traction Group (SETG) from 6th June 2012, who plan to keep the unit in operational condition. SETG was founded in 2009 by staff members of South West Trains based at Wimbledon Park depot.

Unit 3417 was hauled from Clapham Yard to Alton on 25th April 2013 for use in Mid-Hants Diesel Gala weekend and tested in push-pull mode with 33 109 that day. 3417 had also had a complete set of shoe gear refitted so that the MG (motor generator), which supplies carriage lighting and charges batteries, could be checked running properly in Clapham Yard in readiness. The unit returned to Clapham Yard on 29th April 2013.

It was hauled to Swanage on the 8th May 2013 for Diesel Gala weekend and returned to Clapham Yard on 14th May. On 4th October 2014, it was moved to Ilford for some restoration work to be carried out by their apprentices. After a very thorough body overhaul, the unit was hauled from Ilford to Strawberry Hill Depot, Twickenham on 21st December 2015 where electrical work and internal restoration was started.

The small SETG team have carried out major work in many areas over the ensuing period with a view to gaining main line certification in the future for operation over the 3rd Rail network in passenger service.

Another notable event occurred in 2024 when the SETG and Bluebell Railway were proud to have brought No. 3417 'Gordon Pettitt' back to the mainline working in conjunction with GB Railfreight, South Western Railway and Network Rail. It was centre stage in a very special event at London Waterloo on Saturday 27th January when Gordon Pettitt was present as 3417 was drawn in.

Members of his family plus various guests of the railway industry, press, supporters and friends were present to witness the completion of 3417's restoration to passenger carrying standards.

A long-term loan agreement exists with the Bluebell Railway for SETG to provide specialist operational and technical knowledge to ensure the long-term future of 4Vep No. 3417, with the aim being to return the unit to mainline operation. The unit is currently based at Strawberry Hill Depot. The latest news on 3417 may be found on SETG's [news page](#), [Facebook](#) and [Twitter](#).

ELECTRIC MULTIPLE UNIT TYPE	Class 423 (4VEP)
UNIT Number	3417 (423 417)
UNIT Name	"Gordon Pettitt"
CONSTRUCTED	BREL York and Derby Carriage Works
VEHICLE DTCsoL	76262 (York 1967)
VEHICLE MBSO	62236 (York 1969)
VEHICLE TSO	70797 (Derby 1967)
VEHICLE DTCsoL	76263 (York 1967)
MAXIMUM SPEED	90 mph
OWNERSHIP	Transferred to Bluebell Railway Plc (17 th January 2009)
CARE AND MAINTENANCE	THE SOUTHERN ELECTRIC TRACTION GROUP

ACKNOWLEDGEMENTS

<https://www.bluebell-railway.com/heritage-locomotives/brs-4-vep-unit-3417-gordon-pettitt/>

<https://www.bluebell-railway.co.uk/bluebell/pic2/electric/vep3417.html>

<https://www.bloodandcustard.com/BR-4VEP.html>

https://www.kentrail.org.uk/4_VEP_Class_423.htm