

Mercedes-Benz OC500LE MCV Evolution C124RLE

Tim Jennings. Proprietor of the small Avon based bus company, Somerbus, had been operating his fleet of Optare Solos predominantly on tendered contracts for local authorities and, fearing the vulnerability of funding for such work, was keen to establish a sustainable commercial service if he could. The opportunity came in 2010 when he spotted a need for a service linking Bath's Bus Station with the new Bath Business Park, a trading estate at Peasedown St John. The village was already served by First's 173, 178 and 184 services which combine to provide a 20-minute frequency but the new Somerbus 175 delivered a new link for the residents of the Orchard Way housing estate as well the new Circle Bath private hospital and various industrial premises on the trading estate. The estate also provided an ideal location to turn round the vehicles and layover facilities for the bus which operates ten return journeys daily at roughly hourly intervals.

The Orchard Way estate had been served



Somerbus bought this unregistered MCV Evolution C124RLE Mercedes-Benz OC500LE to operate commercially on its Peasedown-Bath service.

of around a dozen corridors being established as Quality Partnership Schemes in the Greater Bristol area, indeed it was the first of these to be signed up. Under the Quality Partnership Scheme the local authority agreed to provide various infrastructure enhancements including a realtime information system and there were other useful aspects including an extensive bus lane on the way into the city. Bath Bus Station itself is a high quality, though somewhat congested, modern facility opened a couple of years ago.

The OPS start date was set for the end of May 2011 though the real time information was not fully operational by that time and still isn't, delaying the high profile launch that was promised. Tim was keen to match the start of the enhanced provision with something appropriate in the vehicle line. The main vehicular stipulation in the Quality Partnership was a minimum engine standard of

Euro3 with the attendant low floor features which the 12.6m Optare Tempo he was operating would have satisfied. Apart from needing a replacement engine at just over three years old as the result of a piston disintegrating, the Tempo had been performing well until a difficult to locate electrical glitch (since cured) caused a loss of confidence in the bus in April 2011.

'At that point I decided I was going to buy a new bus, but I needed one quickly because of the start of the Quality Partnership scheme,' said Tim, 'and because I didn't want to fit RTI equipment in the Tempo needlessly.'

Options

Looking at what was available in the short period he had before the May start, there were three choices. Scania could have supplied an OmniLink, Alexander Dennis an Enviro300 and, after some thought about whether they could spare the vehicle that had been acting as their unregistered demonstrator, MCV offered the Mercedes-Benz OC500LE with their C124RLE body, which is a development of the Evolution.

Both Scania and ADL lent Somerbus a demonstrator for a week. Though Tim liked its solidity, the Scania proved surprisingly slow at hill climbing whilst using what he considered quite a lot of fuel considering its performance,

returning 7.3mpg over 459 miles, though it did not require AdBlue. Some shorter passengers complained about the high window line and the tall wheelarches. The Enviro300 surprised Tim with its lively performance coupled with excellent fuel consumption of 8.75mpg over 735 miles. It was over two tonnes lighter than the Mercedes



On the 175's stand outside Bath Bus Station on its first day in service. The corridor is the subject of a Quality Partnership between the local authority and operators using it.

before by First with a much less frequent version of the 175 but that had been withdrawn some months prior to Somerbus starting, and there had been a council tendered return journey provided by Faresaver. Going further back, the Bath Bus Company had once provided the C3 service using DAB articulated buses.

Although the 175 is commercially operated, a small amount of funding is being provided by the Bath Business Park's developers under a Section 106 payment for the first two years of the service.

An added attraction to starting the service was that the Midsomer Norton to Bath corridor is one



The first two miles out of Bath for the 175 service involves a steady uphill climb.

MCV and if he had been basing his decision on the likely running costs alone Tim would have picked the Enviro300 'but I just didn't like it.'

The Mercedes-Benz was not available to try in service but MCV did take it to Bath so that it could be assessed over the hilly route. It did not disappoint and a crude neck to neck filling exercise suggested (inaccurately) an mpg figure in double figures.

In the end the decision was made for Tim because after haggling with MCV they offered him a package that was very attractive. The 12-litre



Seating for 44 is provided including four tip-ups, along with space for 26 standees. Headroom in the low floor area is 2,440mm.

engine and 299bhp output were big attractions.

From entering service in July to mid November it has covered 17,130 miles and returned an average of 7.42mpg which Tim considers acceptable for a heavyweight on a hilly route. In comparison the longer Tempo, which was around 1.5-tonnes lighter, returned an average of 7.9mpg over the course of a year.

Prototype

The bus Tim bought was the very first example of a right hand drive OC500LE to be sold in the UK, not merely the first with MCV Evolution C124RLE bodywork, though Caetano had already supplied CT650 and CT655 high floor coach versions of the OC500RF in two and three axle forms. In making the OC500LE available Mercedes-Benz was moving away from its previous policy of offering only all Mercedes-Benz products in the UK because it judged that there were niches in which body on chassis combina-



The interior from the rear, showing how the stick-on Vogel badges have all disappeared from the rear of the Vogel Arondo seats.

tions could win it incremental business that was not available to it with the Citaro. Somerbus was just such a customer as a Citaro was not available within the timescale, although it would have been Tim's preference if price had not been an issue.

I had first seen the C124RLE in Egypt in 2010 when I joined a press party invited to its unveiling at the headquarters of MCV. Subsequent to this it appeared at a number of shows including the IAA

event in Hanover in 2010, before returning to the UK where it was exhibited at events such as the 2011 ALBUM conference.

MCV has a strong relationship with Mercedes-Benz, and they work closely in Egypt and many African and Middle East markets. Despite this, previous MCV products for the UK had been mounted on Dennis, MAN and VDL chassis but not Mercedes-Benz and it will also work with Volvo to supply double deckers and Volvo B7RLE based single deckers. In the future, it remains the company's intention to offer coach products on the OC500RF though this project has been delayed.

Chassis

Built at the former Setra Saida plant at Castro Urdiales, Northern Spain, alongside the underframe modules for the Cobus apron bus range, the OC500LE chassis features the six-cylinder OM457HLA horizontal engine. This well respected 12-litre unit delivers 299hp (220kW) at 2,000rpm and peak torque of 1,250Nm at 1,100rpm.

The transmission is the ZF 6HP592 fully automatic six-speed unit with integrated retarder. ZF also supplied the 8098 Servocom power steering system.

Both axles are Mercedes-Benz units with the VO 4/39CL 7.5 unit at the front and the rigid HO 6/3DCL single reduction unit with a ratio of 5.222:1 at the rear.

The brakes are Knorr Bremse SB700 disc units and the chassis is fitted with EBS and ABS.

Front and rear stabilisers are fitted on the air suspension system and there is a level

control with a 70mm kneeling feature. Tyres are 275/70R22.5 units on 8.25 x 2.5 rims.

Two 225Ah batteries are fitted and the single alternator has a 140A capacity.

Body

Construction of the body is in Cromwell stainless steel and takes place in the modern plant at Salheya in Egypt in accordance with the

ECWVTA regulations.

Side panels are aluminium sheet bonded into place and the roof is a single piece of GRP. The sectional front and rear bumper mouldings are also GRP. The front screen is a single piece gasket glazed unit with the deep side windows bonded into place. A reasonable sized rear window is fitted.

A Clayton blown air heating system is installed and the manual flipover ramp at the front entrance is a Compak unit.

Passenger capacity is 70 passengers with 40 fixed Vogel Arondo seats, including four in the rear-most row, along with four tip-ups (one on the offside and three in the nearside wheelchair bay). The standee capacity is 26. Wheelchair passengers are accommodated in a bay on the nearside immediately beyond the large wheelarch boxes, each of which has a single forward facing seat incorporated. There is an additional double

seat on the offside and between it and the wheelarch a single sideways facing seat with substantial rails on each side of it. Throughout the interior the handrails are finished in a bright yellow that contrasts with the red aisle floor covering, blue patterned moquette seat trim and light grey side and roof mouldings. Continuous light units run along each side of the ceiling, inward of the large contoured coving units. These are quite near to the window passengers' heads at



The emergency door is in the low floor area. Note the armrests on the seats.



Mercedes-Benz fit the 12-litre OM457HLA horizontal six-cylinder unit in the OC500LE. It delivers 299hp (220kW) at 2,000rpm and peak torque of 1,250Nm at 1,100rpm.

the rear of the saloon and may be the reason that there are four rather than five seats in the back row, with each of the outer ones inset from the side.

Once near universal but now increasingly unusual on service buses are the two opening skylights which can be used to increase airflow on hot days.

evaluation

A slight disappointment to Tim is that the Vogel badges that were in place when the bus arrived were stuck on items that sat in an oval recess on the moulded seat back. His passengers are not prone to damaging buses but little fingers soon removed them.

Tim fitted a four-camera Synectics CCTV system himself. There is one on the destination panel facing rearward, one over the entrance and one at the back looking forward as well as one at the front facing the road that is probably the most useful of the four. MCV can supply a variety of options including CCTV, air conditioning, an



Although spacious, there were criticisms of the cab, particularly the location of the indicators which cannot easily be seen behind the steering wheel and do not always self cancel. I am told that an audible indicator warning is a Mercedes option.

assault alarm and an assault screen.

Driving experience

To get an idea of how the vehicle performed on the road I spoke to the two drivers who usually take charge of it.

I caught up with John Ring while laying over at the Peasedown terminus of Somerbus's 757 service in one of the company's three Optare Solos. He told me that the Mercedes was generally easy to drive with nothing over complicated to worry about. Separating what he considered its good and bad points, he liked the wide cab door which he felt made it very open and friendly for passengers. In performance terms he felt it had, 'a lot of get up and go,' adding, 'it always seems to be in the right gear at roundabouts and junctions. I like that you can look up, see nothing is coming, then put your foot down and go.'

On the negative side, John criticised the stop bell light because it was difficult to see and you had to try and remember whether anyone had pressed the button. He felt the light needed to be located prominently on the main dash display. He also found it impossible to position the seat and steering wheel in an ideal position and still be able to see the indicator lights which are high up on the face of the dash. This, coupled with the absence of an audible warning, made it too easy to leave them on.

Finally, in a category he referred to as 'picky things', John suggested that the main driver's sun blind was not wide enough and complained that

the driver's window only opened one way, so that when the weather was really warm it was impossible to get the air in your face. He felt it was something that could easily be rectified by replacing the signalling window with one that also opened from the front.

I spoke to John Levy on the bus while we travelled into Bath on the 175, Tim Jennings having taken the wheel to enable me to do so. He completely agreed about the signalling window, complaining that 'in

summer the heat builds up and you can't get rid of it so it gets quite stuffy in the cab.' He also mentioned the indicators saying, 'if you adjust the steering wheel to where you want it for

comfort you can't see the indicators and they don't always self-cancel.' However, he did find the driver's seat comfortable.

'My biggest complaint is the door,'

he said. 'You have to have the hand brake on before it will open and you can't lower the front with the doors open. If you are boarding and someone needs it lowered you have to shut the doors again, lower it, and then re-open them, which passengers don't understand. It's not particularly quick to lower. A lot of kerbs around here are raised anyway.'

The other major criticism concerned a buzzer



'Designed to Lead - Built to Last' said the slogan on the side when the bus was demonstrated at the ALBUM conference in Norwich in 2010. With a Cromwell frame, big engine and heavy duty componentry it should live up to the second half of the message.

on the door. 'You are going along and all of a sudden the cab light flashes like you are in a disco and a buzzer will come on. You then have to stop and open the doors so that the buzzer goes off. Sometimes that cures it and other times it does it every ten minutes thereafter for a while.'

He also finds the demister blowers noisy. 'On the first setting they're OK but they're noisy on the

second. You have to switch them off to hear what a passenger is saying.'

'It seems to change gear all the time, as soon as you come off the roundabout it wants to be in fifth.'

An area the bus really scores over the Tempo in is the steering lock. 'It's really good', said John. 'It's tight coming out of Bath Bus Station and the



The bus nears Bath Bus Station at the completion of the run in from Peasedown.

other bus struggled but this is very good, like a go-kart.'

One negative concerned the transmission which Tim does not think is as smooth as the Allison World Series in the Tempo. John explained, 'if you are coasting down the steep hill down to Bath Bus Station and touch the throttle to speed up a bit, it does a really bad rough gear change. It only seems to do it there.' Tim agreed, 'the box will hold third gear down the hill, and then as soon as you accelerate it moves up very sharply.'

Overall John conceded, 'the performance is all right. It's better than what First have got. I've just been spoiled with the Tempo which, although it has a smaller engine, seems to go better.'

Passenger view

It was a miserable foggy afternoon for our journey but the interior of the MCV was bright and welcoming, partly because of the colours used in the interior and partly because of the full length LED lighting units that give very even illumination throughout the saloon. The bright, simple, orange and white external colours and the clarity of the Hanover destination display add to the welcoming impression the passengers get as the bus hoves into view.

Although it is low entry rather than low floor, with two steps up ahead of the rear axle and a sloping gangway with shallow pedestals beyond, I thought the

interior floor layout was in many ways preferable to most full low floor designs because the location of the steps that there were was obvious and they were shallower than in some low floor portal rear axle designs.

In terms of capacity, the C124RLE has a smaller low floor area than the Tempo, with its extended wheelbase, and John did mention the occasional

moan from passengers that the seats are too close together. I did not think it was particularly poor in this respect, but the Tempo had been generous.



Among a number of major trade show appearances was one at the IAA event at Hanover in Germany, where it carried the second of three colour schemes that have so far adorned it, featuring vinyls depicting a map of the world.

Ride quality was quite smooth and never other than comfortable, even when you were aware that it was accelerating or braking.

It was clear from talking to passengers that many regard the Somerbus package as preferable to the alternative of using First, and the standard of vehicle was one of the things they mentioned, though 'smiling drivers' probably carried more weight. One lady who had said the ride was smooth and comfortable, the suspension was good and the seats comfortable with the side arms making it feel safer, added that 'a driver of poor quality will eliminate the advantages of a good bus,' though she conceded that it was also down to the quality of the roads.

On the return journey I was talking to Tim and



John Levy in the process of taking over from Tim for the return run from Bath. Note the moquette trimmed Grammer driver's seat.

taking notes sat in a seat in the raised area when a man who was about to disembark interrupted us to say that if I was writing something about the company he wanted to say that, 'The drivers are wicked, the service is brilliant.'

Maintenance

'From a maintenance point of view there's been virtually nothing to report,' said Tim. 'It's been completely reliable apart from a wiper relay which was a Mercedes part rather than an MCV one. The

only problem otherwise has been the buzzer on the doors. The really annoying part is that it has to have a buzzer at all. You'd have to be pretty stupid

not to notice that the door was open next to you. It would be different if it had a centre door. MCV are also looking into whether the kneeling can be reprogrammed to allow it to kneel with the door open.'

'When we first tried the bus I was not happy that it was fitted with a digital tachograph which caused red lights to flash at you on the dashboard whenever driven (without a card). MCV agreed to sort this. On the 25th June we took it to Carousel Buses and left it for them to try

on their High Wycombe to Heathrow service for the weekend and on the Monday an MCV driver took it on up to EvoBus where a blanking unit was fitted in place of the tachograph. A hidden switch was also fitted at our request to allow the gearbox to be set in either economy or power mode to see what effect this had on performance. Our tests showed little difference in performance in power mode so we have rarely used this.'

The entrance doors had to be raised after a few weeks as they were rubbing the ramp. This was a simple adjustment I did myself. MCV are working on solving some minor fume ingress at the rear of the saloon and the entrance door warning buzzer which has a habit of activating itself. The only time off the road since the return from EvoBus was when the wiper relay failed, which was handled by Mercedes-Benz locally.'

Another aspect of the bus that Tim liked was that the 34-litre size of the AdBlue tank was sufficient to enable it to do a full week's work on a single filling. The normal Somerbus regime of refilling AdBlue tanks every Saturday morning had been interrupted by the Tempo which had a smaller tank and had to have an additional top up on a Wednesday. Filling of the fuel tanks is on the offside and the total capacity is 280-litres.

Support

Tim was keen to praise MCV for the level of support they provided. He commented, 'I must say

I've never known anyone so eager to put things right as MCV. A couple of times I've put them off coming to fix things I could do myself. One was the entrance door scraping the ramp - I wound it back myself, and the other was some aluminium edging around the rear wheelarches which wasn't needed and I removed it. They couldn't be more helpful.'

On the Mercedes-Benz side, there has been little need to call on the network's services. EvoBus handled the tachograph issue to Tim's satisfaction (at MCV's expense) and the wiper issue was dealt with effectively by local agent, City West Commercials, which has branches in Bristol and Avonmouth. He would have preferred to use the services of Rygors at Chilcompton with whom he has an existing relationship, but they are not a bus agent.

Last word

The Mercedes-Benz MCV combination has not exactly taken the market by storm, which isn't entirely its fault because the full sized single deck sector is suffering heavily at present. Apart from the Somerbus vehicle, a similar bus has been supplied to the RAF for use at an undisclosed location and Carousel Buses of High Wycombe have placed an order for three that will be delivered shortly. MCV can supply further examples at relatively short notice.

It has the performance characteristics



The Mercedes-Benz OC500LE replaced a 12.6m Optare Tempo which had been delivering 7.9mpg on the same route.

Somerbus need for the demanding 175 route and is performing reliably. Passengers, and they are slowly growing in number, like it, it is proving reliable and any minor issues that do arise are quickly sorted out by MCV.

Five months on Tim has no regrets about buying the Mercedes, it gives him the confidence he wanted - he just wishes he could find a buyer for the Tempo it replaced!

By Stuart Jones

Dimensions

Length:	12,000mm
Height:	2,920mm
Width:	2,550mm
Wheelbase:	5,950mm
Front overhang:	2,700mm
Rear overhang:	3,350mm
Unladen weight:	11,600kg
GVW:	18,000kg