

TEST DRIVE

DENNING DOUBLE-DECKER

Phoenix rising

DENNING COACHES REACHED FOR THE STARS WHEN ADDING MORE PASSENGER CAPACITY. **GARY WORRALL** WRITES

Australia might still have a small population clinging to the coastal fringe of a major land mass, but when it comes to urban transit in crowded cities, there is a definite need to move more people on the same routes than ever before.

While some designers have gone for additional length as the solution, Denning Coaches have thought outside the square with their response, creating firstly a double-deck coach, which has then undergone suitable refurbishing to become an urban double deck.

Without doubt this is an interesting solution, harking back to the days when double-decker buses were a common sight in cities around Australia, carrying passengers all over the metropolitan routes.

With inner-city land at a premium, the space needed to operate articulated buses, especially at bus stops, is not as freely available as it was when these models were high on the 'to do' list for manufacturers.

While double-decks are not without problems of their own, particularly when it comes to roof clearance in tunnels and under bridges, the concept is certainly worth investigating, hence the Denning urban double-deck.

BIRD'S-EYE VIEW

Denning was more than a little clever with the design, basing it on the proven, and popular, Phoenix model line so that to a casual observer, there's no difference between the models, other than the fact this one dwarfs its siblings with an overall height of 4.3m.

With more front, literally, than a block of flats, one of the problems the Denning designers have overcome is the amount of air resistance, or drag, the body faces when travelling at anything faster than walking pace.

The Denning solution is to eliminate sharp edges so that air is directed around corners and along the slab-sided body, meaning that the bus is only punching a hole in the air, rather than bludgeoning it out of the way.

The side view actually shows the upper deck's front screen angling backwards, directing air up and over the roof, while there is



Thompson's Denning double-decker is specced for urban fringe school runs with TransLink



Denning claims the Phoenix double-decker will hold 110 passengers including standees



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nothing hanging out into the slipstream, with all handles and knobs recessed into the bodywork for maximum effect.

The only exceptions are the two external mirrors, yet even these are made as aero-efficient as possible, using shaped backs and tube arms to reduce drag, while all the wheels are faired into the body work for not only aero effect but also spray suppression.

BELLY OF THE BEAST

The test bus is in use with operator Thompsons of Strathpine, working school runs in the fast growing Pine Rivers Shire north of Brisbane.

As such, it's configured perhaps differently to how other operators might prefer, although Denning says it can accommodate virtually any option. As with most choices, money is often the final arbiter.

Passenger entry is via the pneumatically-operated swing-out front door, which takes people past the driver's station and offers them the choice of lower-deck seating, or they can climb the staircase to the upper level, which houses the majority of seats.

There's also a waste bin beside the entry door for unwanted chewing gum and other foodstuffs, while the hardware required for



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Thompsons Bus Services Operations Manager Darren Bertram, left, with Gary Worrall during the test drive

transit cards can be mounted on the vertical rail.

DRIVING FORCE

The driving station is simple and well-thought-out, with a comfortable air-suspension seat that was more than capable of dealing with my 190cm (in boots) frame, while the large-diameter steering wheel was also easily adjusted for optimal vehicle control.

The driver's footwell is also large, with plenty of room for my size 11 Colorados around the two-pedal set up.

With the same front screen as the single-deck bus, driver visibility isn't an issue, and

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the proven dash layout remains, with big switches and buttons (ideal for ham-fisted journalists trying to figure out what they all control).

Multiple cameras are a welcome addition, and are all controlled from the 'flight deck' that lets the driver monitor behaviour on the upper deck, while the video feed can also be played on screens in the passenger areas, showing that the driver can see exactly

what is happening, even though they aren't on the same level.

Alternatively, with the bus working as a charter coach during the holidays, the screens help keep the clientele happy, running videos to help while away the hours.

With a Euro 5 Cummins ISM engine providing motive power, the first thing you notice is the noise, or lack thereof, while the engine is idling. In fact, even heavy acceleration is a barely-audible rumble, which would be even less noticeable with a few paying passengers adding their own conversations.

Despite its apparent bulk, the double-deck Phoenix is remarkably nimble, with a tight body that also means there are virtually no rattles or squeaks. It might struggle to hold

a Porsche on a twisty road, but the steering is direct, with no noticeable dead spot at the straight-ahead position.

The one issue we did pick up was a plastic-on-plastic squeal as the back of the steering wheel rubbed against the plastic surround. However, the Thompsons operations manager says this is normal, and is corrected where needed at the first scheduled service.

SPECS

- Chassis/body: Denning Phoenix 3-axle
- Length: 12.5m
- Height: 4.3m
- Engine: Cummins ISM, 10.8 litre in-line 6-cylinder 440hp Euro 5
- Transmission: Allison T450r 6-speed automatic; multi-stage integral hydraulic retarder

Using a test route that mirrors one of Thompsons school runs, including roundabouts, T-intersections, traffic lights and general driving at up to 80km/h, Phoenix proved to be remarkably viceless, with all controls doing exactly what they promised.

One of the more impressive attributes is the Allison T450R automatic transmission's integrated hydraulic retarder, which virtually negates the need for service brakes. Just add two or three levels of retardation, and the Phoenix can almost stop itself in traffic.

As well as providing smooth braking for the passengers, an effective retarder also saves money on brake linings and reduced down time due to the need for brake changes.

Even a multi-point turn showed just how predictable it was, aided no end by the reversing camera with the screen just to the driver's left, where it can be easily viewed while also keeping an eye on the mirrors. The biggest problem ABC discovered on this test drive, while not actually a fault of the vehicle, was certainly exacerbated by the 4.3m roof height.

The problem was that due to the bus operating on semi-rural roads where the biggest vehicles are 3.8 metre-high tipplers, the council hasn't been too diligent in cutting back overhanging branches, making the Phoenix a very expensive brushcutter.

Fortunately, there was no damage done, and the roads were quiet enough to allow use of both sides of the white line to ensure no other close encounters of the vegetative kind.

For operators, though, the reality is that if you're considering a bus of this size, make sure the local councils are aware of the routes, and that a 4.6m clearance (allowing a safety margin) is required before operations commence. ■