

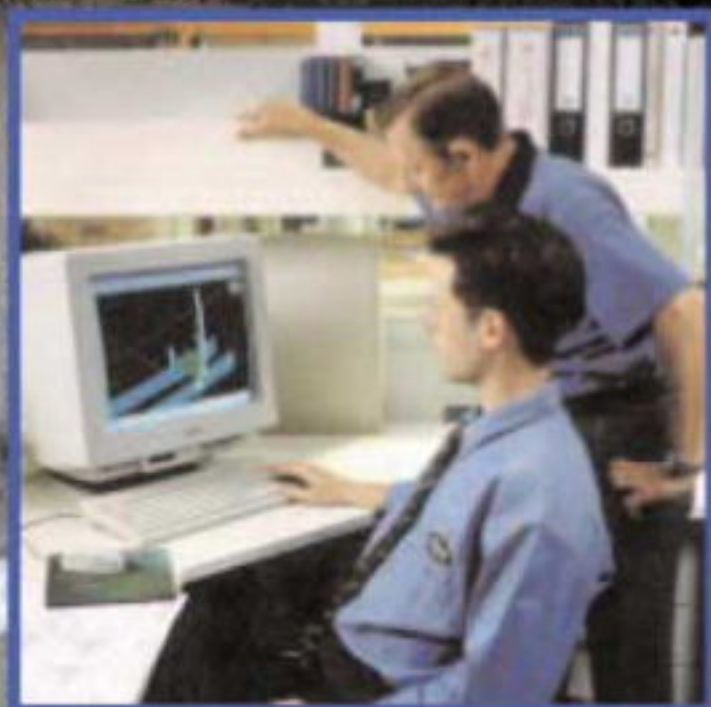


MAGNUM



MAGNUM





Development

We know what you want in a Cab-Over-Engine Prime Mover because we've been out there and asked most of you. Mack Trucks Australia has been working on this COE project for the past three years, gathering input from fleet owners, state and federal transport authorities, and individual vehicle operators. We've listened to your requirements and we know you'll like our solution - the Mack Magnum.

The Magnum is a true World Truck, combining the best design and mechanical components from around the world into a vehicle that is purpose-built to suit Australia's unique dimensional limitations and demanding road transport conditions.

Feedback from the industry told us that Australian operators wanted a purpose-designed COE that fitted the existing and projected B-Double regulations like a glove:

- Maximum legal cubic space for greater productivity
- A forward-position front axle for optimum weight distribution
- A high-horsepower North American powertrain
- Ample fuel capacity for line-haul operation

We could have delivered that - like some of our competitors - by reworking an old North American design. But at Mack we believe that Australia's long distance fleet owners, managers and drivers deserve more. We concluded that the best product for this unique market should combine the comfort of a European cab, front end and frame, with the high-tech grunt, simplicity, driver acceptance and fuel economy of a North American powertrain. Combining those ingredients wasn't a simple task, but Mack's worldwide resources and experienced Australian based, right hand drive engineering team made it happen - without compromises.

The Mack Magnum is easily the best-specified COE prime mover in the Australian marketplace, with all the important features that modern operators need.

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THE CAB

The unique Mack Magnum cab is a module that is quite separate from the engine and transmission modules, with a flat, heat and noise insulated floor between them. There is no engine tunnel intrusion into the cab and no humps to clamber over. The cab module sits on a four-point air suspension, which isolates the driver from the few road shocks that aren't absorbed by the taper-leaf front and air-suspended rear road suspension. This isolation from noise and heat gives the Magnum unparalleled interior noise and comfort levels.

High? Yes, the Magnum is nearly 3.8 metres tall - but why not? Trailers are 4.3 metres high.

By designing a tall cab Mack has used the space that's normally occupied by hollow cab-roof fairings for useful inside-cab space.

There is an optional shallow roof spoiler available with the Magnum, for fine tuning cab height to trailer height.

Aerodynamic? Mightn't look it, but it is. Very. In the real world a low drag coefficient for a prime mover counts for nothing if it doesn't match up

to its trailer. The Magnum has been designed with exterior width and height dimensions similar to those of the front of a trailer, but with wide-radius cab corners to smooth airflow around the front of the cab and with cab extenders to fair side flow along the trailer sides.

Getting in and out of the Magnum is a breeze, even with the set-forward front axle that's necessary for optimum fuel capacity and weight distribution in the Australian B-Double market. Electronic remote control locking is standard, making it easy to lock and unlock both doors without walking around the truck. Three wide steps and two ladder-style handrails behind the front axle provide sure, safe access to a fourth step which is aligned with the huge door opening. There's no possibility of the driver teetering precariously on only toe-depth steps, nor the need for an expensive, complex and fragile swing-out staircase.

A windscreen stoneguard and headlamp protectors, are also available as optional equipment.

The floor is completely flat with no engine tunnel intrusion into the cab and no humps to clamber over



Four-point Cab Air Suspension





MAGNUM



Standard Interior

CAB INTERIOR

Inside the Magnum's class-leading cabin the floor is completely flat, with 1.87 metre - (6 ft 2 inch) high standing room throughout the cab. Road vision through the panoramic one-piece windscreen - the industry's largest - is unsurpassed, and further augmented by large side windows and mirrors.

The driver's seat is a luxury Isringhausen air-suspended, multi-adjustable design with integrated lap/sash seat belt. The passenger's seat, also ISRI, can be swivelled through 180 degrees, becoming a rearward facing 'armchair' - with footrest - when the driver or passenger wants to relax.

The Magnum cab uses the same thermal insulation and soundproofing solutions as luxury cars. Lighting of the spacious cab is enhanced by the extensive use of a modern, light grey, low maintenance fabric in the standard cab trim. An optional buttoned vinyl trim with overhead console incorporating two additional speakers, multi-directional map lights and storage tray is available for those operators who prefer an American style interior.

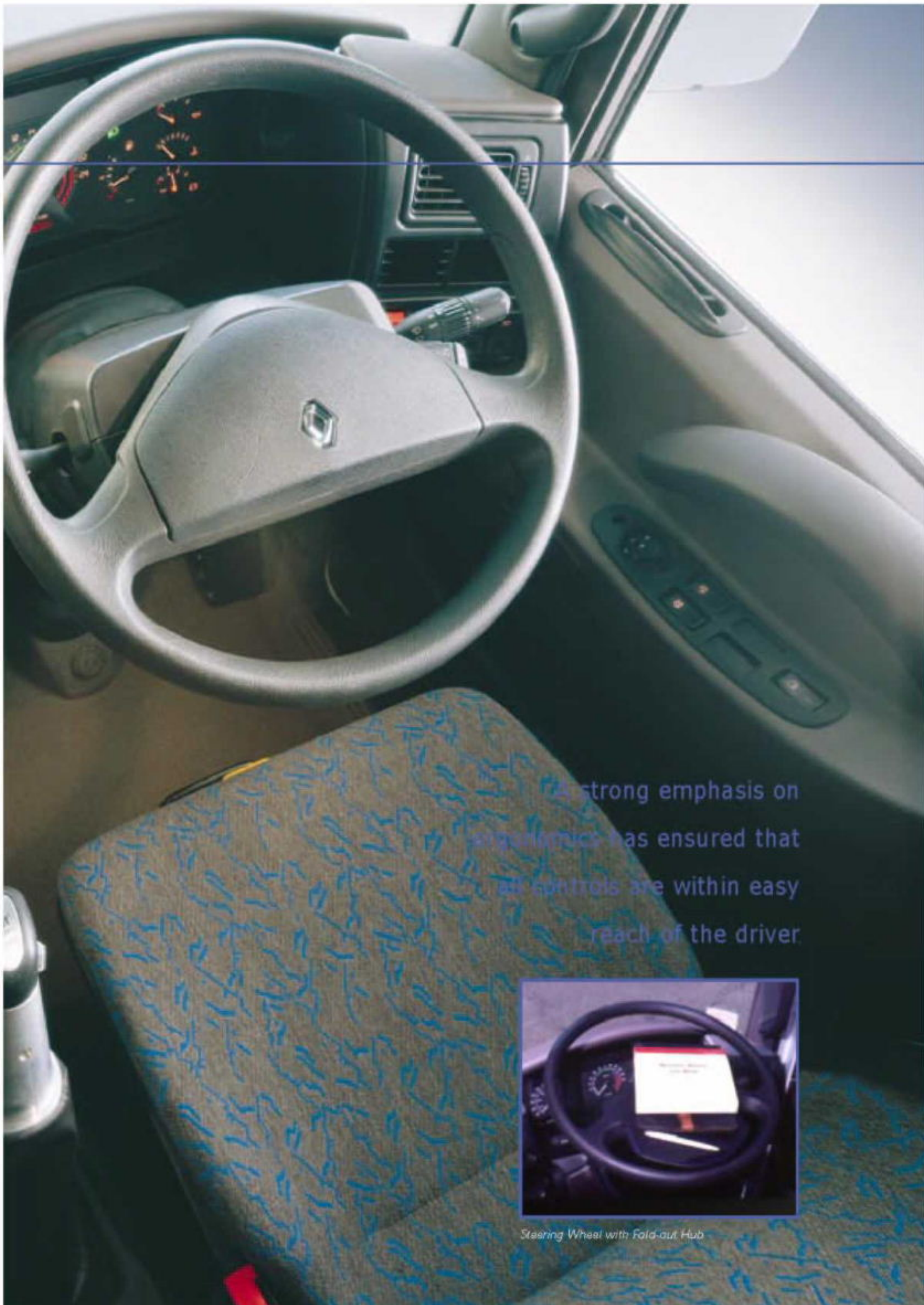
The Magnum driver sits behind a foot operated tilting and telescopic two-spoke steering wheel, which also features a fold-out hub that becomes a handy writing surface.

The sweeping, curved dashboard incorporates five air vents and an easily scanned instrument panel.

A strong emphasis on ergonomics has ensured that all controls are within easy reach of the driver, with almost no need to ever look away from the road ahead. Lights, wipers and even radio station selection and volume are controlled by steering column mounted wands at the driver's fingertips. Rocker switches for the engine brake, front sunvisor, power windows, diff locks and hazard lights are all within arms length. A simple set-and-forget temperature dial regulates the climate controlled air conditioning system. The driver's door panel houses controls for the large motorised rear vision mirrors and electric windows.

The sleeper bunk runs the full cab width and is 750 mm (29.5 inches) wide. Complete privacy is assured by the standard electrically operated front cab curtain and accompanying manual side curtains.

In-cab storage is class leading, with a full length hanging cupboard, three aircraft-style overhead roof lockers and a full-width under-bunk bin. A date sensitive dash mounted digital alarm clock is also standard.



Steering Wheel with Fold-out Hub



CHASSIS

The unique Magnum Concept is built around a chassis and powertrain module that's completely separate from the cab. With the cab tilted, no mechanical components other than the telescopic gearshift linkage and the vertical exhaust stack project above the 'waistline'. Cab tilt is effortless, electro / hydraulically activated, with manual backup. Swing-out chassis skirts provide excellent access to auxiliary systems. The easily removable step assemblies on both sides of the cab provide excellent engine and transmission service access.

Fuses are grouped in a single location at the left-hand end of the driver's console.

The frame has been purpose-designed with optimum strength for primemover work and includes both fifth-wheel mounting angles, chassis reinforcement and a full-width chassis gantry as standard equipment.

Running gear is a combination of European and North American hardware, providing the best of both worlds for Australian operators. The steer axle and front suspension are European components, employing state-of-the-art air disc brakes and taper-leaf steel springs with dampers and an anti-sway bar. This not only offers the ultimate in vehicle stopping time and braking reliability, but provides a level of ride and handling second to none.

With this vehicle optimally designed for maximum length Australian B-Double operation, ABS anti-lock braking is standard, as are Michelin tyres on Alcoa forged polished aluminium disc wheels to increase productivity by further reducing tare weight.

The unusual fuel tank design reduces the risk of side under-run, enhances vehicle aerodynamics, and yet still permits an extremely valuable combined fuel capacity of 950 useable litres.

MAGNUM



Hinged Access Panel & Cab Tilt Control

The unique Magnum Concept is built around
a chassis and powertrain module that's
completely separate from the cab



MAGNUM

ENGINE

The Magnum is powered by a choice of new Cummins Signature engines. Outputs for the two engines are more than 500 hp at 1,900 rpm with both engines offering more than 1,850 lbs ft (2,508 Nm) of torque in the 1,000-1,400 rpm rev range. Both engines have backup 'peak' horsepower, in excess of the advertised rated horsepower. Every Cummins Signature engine comes standard with the InTeBrake engine brake, which develops braking power equal to engine output.

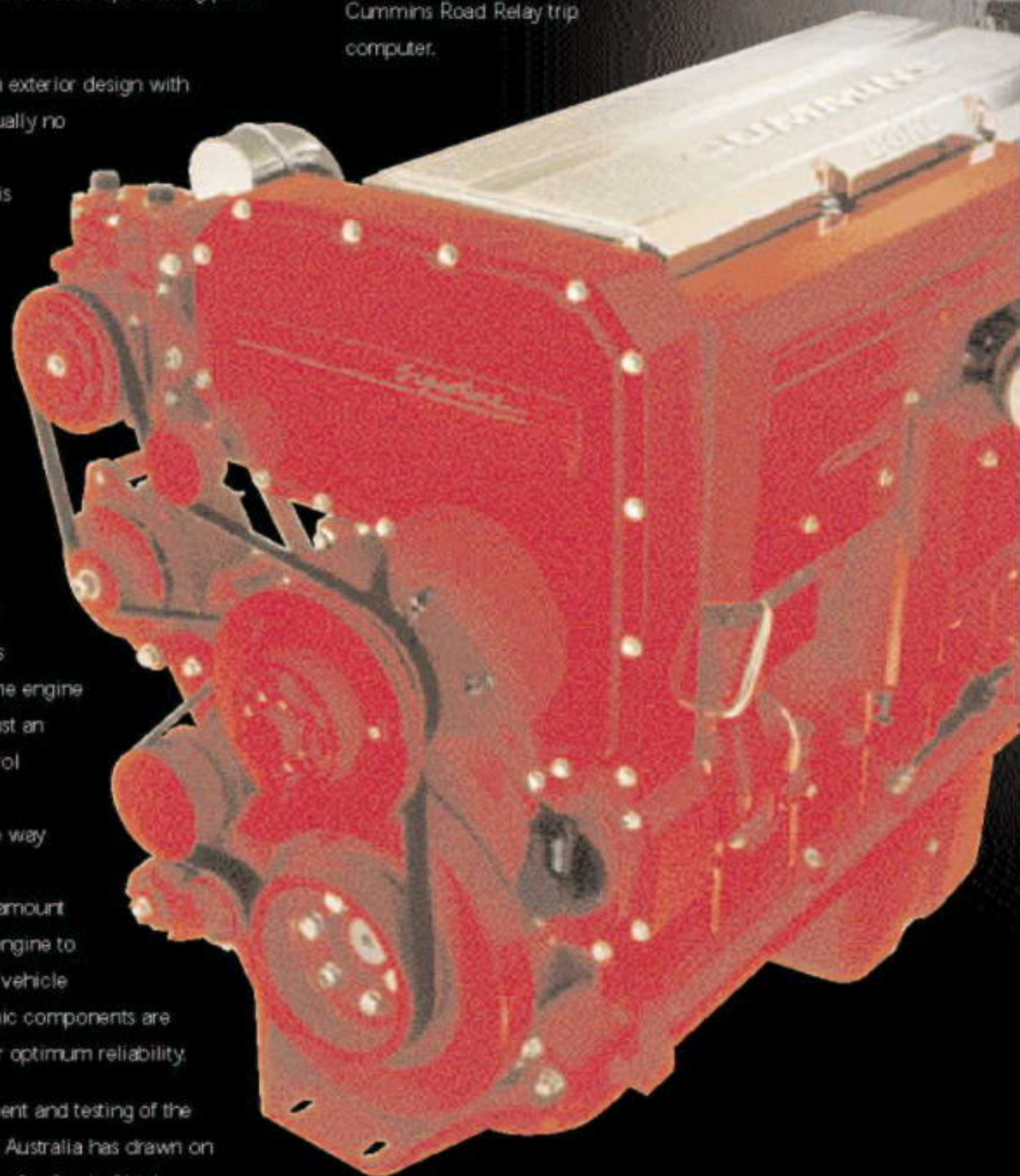
The Signature has a clean exterior design with internal drillings and virtually no external piping. In the Magnum the installation is also clean, without the convoluted intake and exhaust plumbing often seen in other cabover vehicles. Installed, the wet weight of the Signature is around 120 kg lighter than competitive 550+ hp engines.

The fuel injection system used on the Signature has been an integral part of the engine from its inception - not just an add-on. The Engine Control Module (ECM) monitors everything that effects the way your engine runs, and continuously adjusts the amount of fuel being sent to the engine to achieve the best possible vehicle performance. All electronic components are external to the engine, for optimum reliability.

Extensive local development and testing of the Magnum by Mack Trucks Australia has drawn on experience acquired at the forefront of high horsepower vehicle development.

Consequently, the production Mack Magnum has air cleaning capacity and engine cooling ability which both substantially exceed the parameters recommended by Cummins.

On-board engine diagnostics are standard on the Magnum, and operators who wish to record complete operational details can specify the optional Cummins Road Relay trip computer.





Every Cummins Signature engine
comes standard with the Intebrake engine brake,
which develops braking power equal to engine output



DRIVELINE

The Signature's impressive torque and power output is transmitted through an Eaton-Spicer Solo self-adjusting clutch. This feature eliminates the need for clutch adjustment and significantly reduces vehicle service time and cost.

Magnum's transmission is Eaton's driver friendly RTLO-20918 low inertia 18-speed Roadranger gearbox. This high strength transmission is designed to handle the rigours of constantly hauling heavy loads at maximum road speed, and utilises an oil-to-water oil cooler to minimise operating temperatures.

The standard drive tandem is a 20.9 tonne (46,000 lb) Eaton DS 462P axle set, mounted on Hendrickson's HAS 461 4-bag air suspension. A 20.9 tonne (46,000 lb)

Meritor RT 46-160GP bogie, also mounted on the HAS 461 is available as an option. Optional full driver controlled differential locks are available.

Hendrickson's road friendly HAS 461 air suspension is also rated at 20.9 tonnes (46,000 lbs). This top mounted, trailing Z-beam suspension offers superior ride by design, with large volume shock absorbers producing lower frequency spring rates for outstanding driver comfort, not to mention payload and equipment protection which contribute greatly to an improved bottom line.

Continuing the design philosophy of using the best technology available to minimise vehicle service time and cost, the brake systems on both the Eaton and Meritor drive axles are fitted standard with auto slack adjusters.

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Eaton Transmission



Mentor Axle Tandem

ACTIVE AND PASSIVE SAFETY

Productivity and comfort are nothing without safety, and with this in mind, the Mack Magnum was designed to achieve the highest levels of both active and passive safety, for drivers, passengers, and other road users.

Most obvious of the active safety features of the Magnum are its high-set driving position and unrivalled panoramic driver vision as well as the truck's balanced handling, responsive steering and standard ABS disc/drum braking system.

The cab has been tested to comply with Europe's ECE29 crashworthiness code, and has passed the more stringent Swedish truck safety test. These tests involve the simulation of frontal and rear impacts similar to those encountered in a real accident. Even a roll-over is simulated, exerting massive forces on the cab roof and pillars. Throughout these tests the cab must retain its overall integrity, protecting the occupants and not breaking away from the chassis.

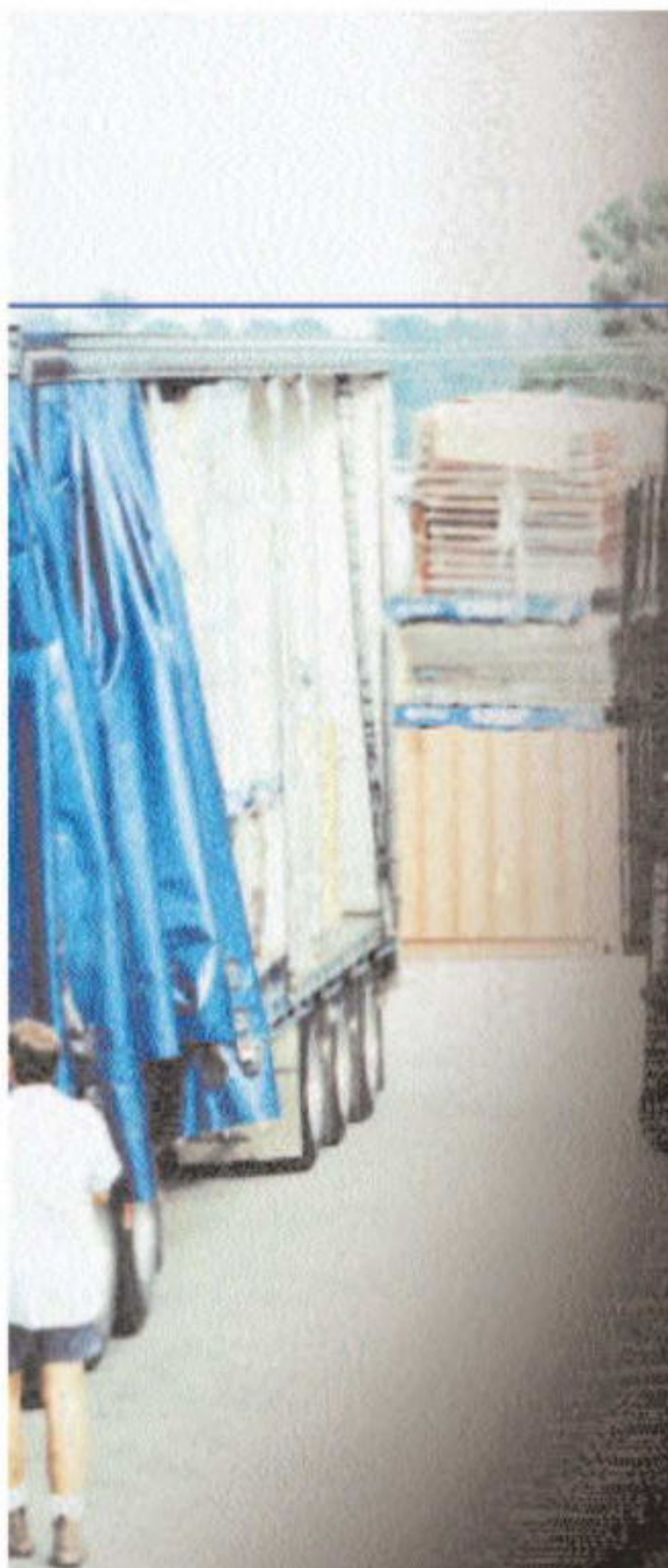
However, it is only when the Magnum is involved in a collision, that many of the truck's unique passive safety features take effect. Lap/sash seatbelts keep the occupants in place and standard headrests reduce the risk of whiplash. The cab module is a virtual cocoon. Should an accident occur, the flat floor and cab structure are designed to create a survival space devoid of any sharp projections. The Magnum's huge windscreen is a bonded multi-layer panel designed to prevent any risk of driver or passenger ejection from the cab as the result of an accident.

The forward axle location, in comparison with the set-back axles commonly seen on European trucks, offers greater resistance to frontal impacts. Even the unusual fuel tank design has a role to play in safety, reducing the likelihood of side under-run in the event of a side-on collision.

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The Mack Magnum is simply
the best-specified B-Double
prime mover on the market.



APPLICATIONS

Equally at home in single or multiple trailer haulage, the Magnum is an extremely versatile truck. The location of Mack's worldwide right-hand-drive engineering team in Australia has meant that the Magnum design has been optimised for Australia's maximum cubic capacity B-Double operations without compromise. Consequently Magnum can accommodate today's maximum length 25 metre B-double trailers with legal axle loads, and already meets the requirements of increases currently proposed for these limits.

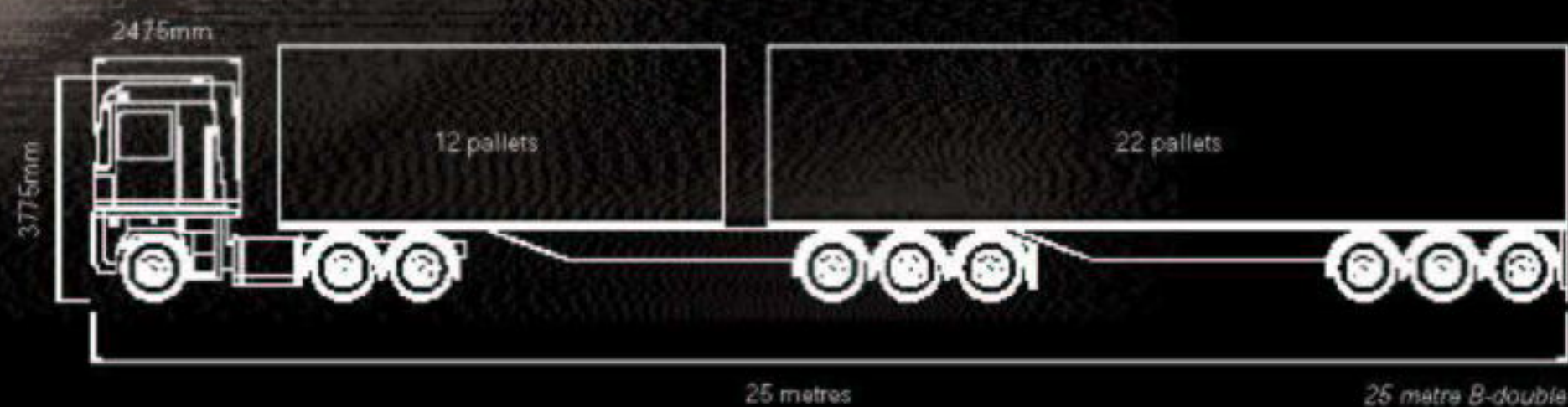
The Mack Magnum has been developed to meet the demands of discerning Australian transport operators, eager to benefit from the advances in technology which are so rapidly transforming our industry.

Be it via the excellent power and performance of the Cummins Signature engine, the impeccable ride and handling of the front-end and cab suspension, or the panoramic vision, safety features and driver comfort in the spacious cab, the Magnum delivers on all counts.

In comparison with the B-Double market benchmark the Mack Magnum offers several significant advantages:

- Superior ride and handling
- A modern aerodynamic cab
- Full cab suspension
- The ultimate in driver visibility
- An unrivalled walk-through interior
- More cab space in the driving and sleeper sections
- Climate control air conditioning
- Cab safety to Swedish regulation standards
- Disc front brakes

... and much higher levels of standard equipment.





**RIGHT HAND DRIVE
HEADQUARTERS**

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