

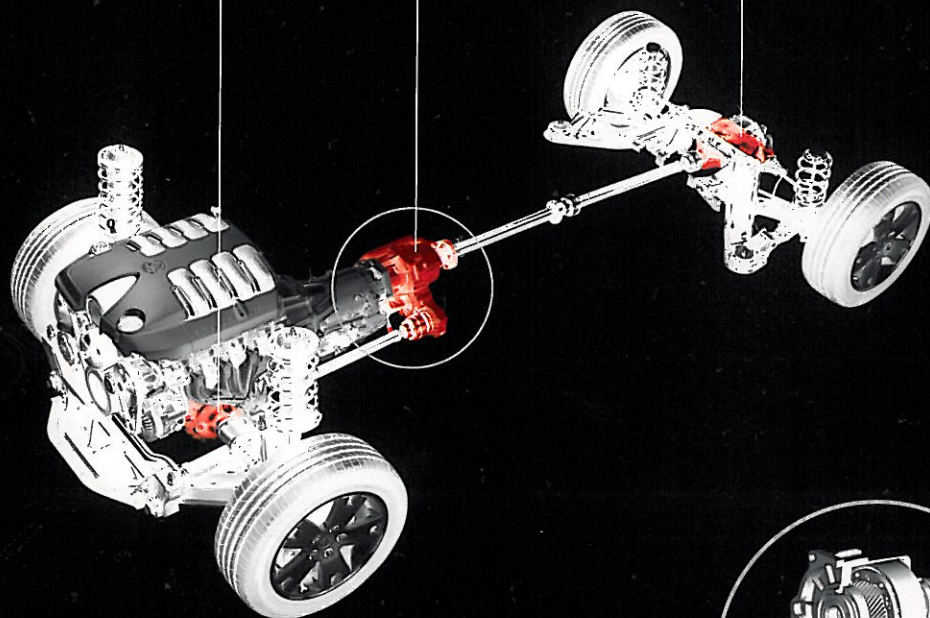


*CROSS***X***TRAC*

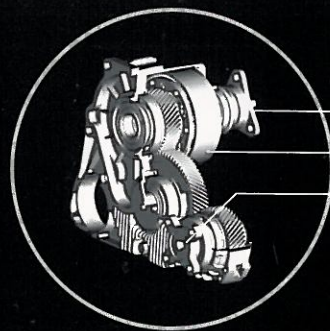
rear differential

centre differential

front differential



Cross Trac detects excessive wheel spin at any wheel and controls it electronically via the braking system, redistributing torque to other wheels with more traction.



Cross Trac transfer case

rear-axle output – 62%

epicyclic centre differential and torque splitter

front-axle output – 38%



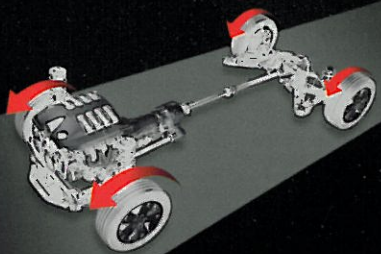


Fig 01

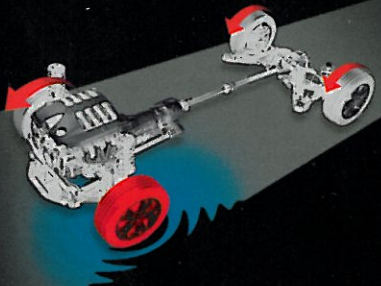


Fig 02

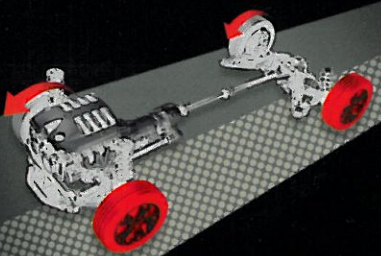


Fig 03

Holden's pioneering Cross Trac system is a combination of mechanical and electronic technologies that work together seamlessly to create the first crossover all wheel drive system designed and manufactured in Australia.

Cross Trac is a traction control-based, constant all wheel drive system that has been developed and calibrated to cope with all types of road surfaces found in Australia, with specific attention to deformable road surfaces, such as sand, gravel and loose dirt.

The system features a transfer case at the rear of the automatic transmission, splitting the drive between the front and rear, 62 per cent to the rear and 38 per cent to the front.

Three "open" differentials are employed, at the front, rear and middle of the drive train. They provide constant torque to all four wheels and allow it to be distributed differently between the wheels when needed.

The ingenuity of the Cross Trac system is the way it uses unique calibrations of Automatic Brake Differential (ABD) software and Electronic Brake Force Distribution (EBD) to achieve its desired levels of traction across all wheels, without a loss of engine power and torque.

ABD allows smooth acceleration without a loss of grip. It does this by detecting excessive wheel spin at any wheel, then controlling it electronically via the brake system, redistributing driving torque to the other wheels with more traction.

This adaptive torque transfer also aids acceleration and control when wheels are on different surfaces. For instance if two wheels are on bitumen and the other two are on an icy surface, the system applies differing amounts of brake pressure to keep all four wheels at their respective limits of adhesion.

EBD works in conjunction with the anti-lock braking system (ABS) to ensure maximum brake system efficiency. It does so by distributing brake torque between front and rear axles; thus helping maintain vehicle stability under all load conditions on all surfaces. EBD also assists braking control when cornering by distributing brake torque across the rear axle.

The Cross Trac system requires no intervention from the driver. It is constantly active, monitoring conditions at all times. This way, drivers can be assured of maximum vehicle performance.

Not only does the Cross Trac system make a vehicle safe and dynamic to drive, it also improves the utility of a vehicle on all road surfaces. Acceleration, straight-line stability and control are also increased.

The result is a driving experience that provides a high level of traction and grip. This leads to improved cornering performance and a higher level of driver confidence in all kinds of weather and on all road surfaces.

Fig 01 In normal conditions, Cross Trac distributes power evenly to all four wheels.

Fig 02 If one wheel loses traction, driving torque is automatically distributed to the other wheels to compensate.

Fig 03 Cross Trac allows smooth acceleration and provides greater control when wheels are on different surfaces





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