MOBILITY
RE-DEFINED | RE-DESIGNED

6x6 HILOAD | PROSPEED NO BOUNDARIES


BFGoodrich
All-Terrain T/A
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All-Terrain T/A

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6x6 HILOAD

THE SOLUTION

The 6x6 HILOAD builds upon the capabilities of the Hilux 4x4 pickup.

In many customer applications the 4x4 quickly runs out of payload, load space and has degraded mobility.

The 6x6 HILOAD provides the solution to many of these industrial and light utility vehicle projects by boosting payload, load space and mobility.

Payload Increased to 3,000Kg

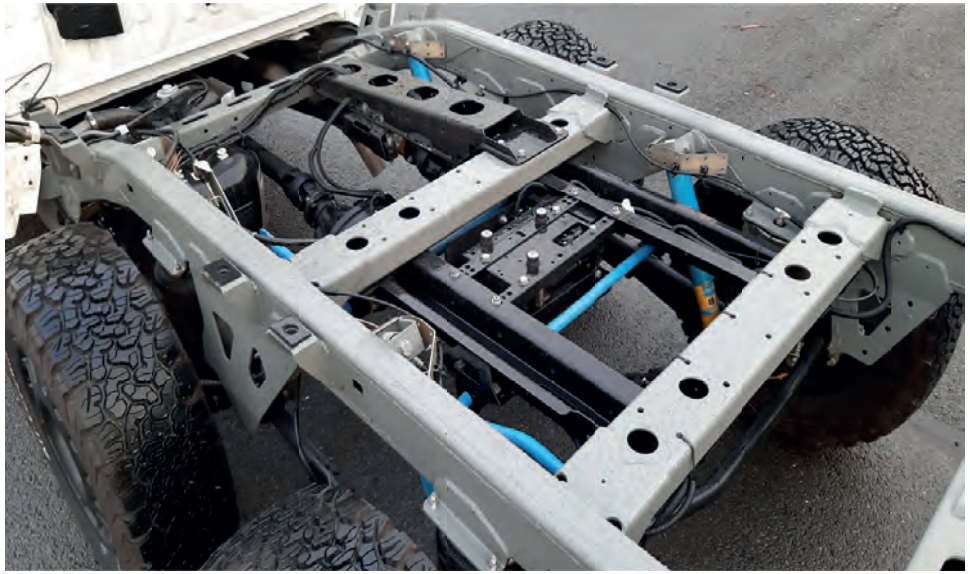
- Payload is tripled enabling heavier permanent and temporary loads to be carried with a self levelling air-suspension system
- Axle capacities and Front Axle Load Ratio enables flexible load distribution

Increased Load Space

An additional 1230mm of chassis length before overhang allowance vastly increases rear load area

Improved Mobility

- The 6x6 drivetrain with transfer box that can fully lock in 6x4 and 6x6 configurations.
- Rear axle load split between 2 axles to reduce ground pressure and boost vehicle mobility
- Replacement for many overly capable and expensive vehicles that are purchased for mobility capability



6x6

FIRE & RESCUE

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FIRE & RESCUE

The payload, load space, mobility and single rear wheel format of the 6x6 HILOAD is ideally suited to a number of specialist Fire & Rescue applications.

The equipment cabins offer significantly more space than 4x4 pick-up trucks with ample payload to carry a wide array of equipment and media,

The 6x6 drivetrain offers an enhanced level of off-road mobility for wild-fire and incidents in remote locations.

The vehicle can also be used in urban underground and multi-storey car parks with 190cm height limits.

For the Fire & Rescue role 6x6 HILOAD offers

- 190cm Height for Urban Car-Parks
- Double Cabin with Automatic Gearbox
- Sufficient space and payload for many configurations
- High levels of mobility
- Hydraulic power take-off from engine bay
- Stiff chassis for mounting bodies of various types
- Driving position and driving comfort levels very much like a normal car

There is nothing in the market-place that has the capability of this vehicle.

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COMMERCIAL

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POWERLINE

MOBILE ELEVATING WORK PLATFORM (MEWP)

Crucially it is the additional load space and ability to move weight to the rear axles and away from the front axle that enables the 6x6 HILOAD to solve the operational issues presented by the use of 3500Kgs 4x4 pick-ups.

It is possible that one vehicle can replace two vehicles that are used to overcome the shortcomings of the 4x4.

SOIL ENGINEERING

DRILLING PLATFORM

The 6x6 HILOAD releases soil engineers from using trailers to transport the mobile drilling machine which limits speed of deployment and ability to get the slow moving machine to the numerous each sampling site.

Using HILOAD the drilling machine can be moved from site to site within the vehicle which speeds up sampling times.

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ELECTRIC UNDERGROUND MINING

ZERO EMISSIONS

We are working with FD 4x4 Centre in Holland to develop a 6x6 version of their 4x4 Tembo e-LV which us based on Toyota Hilux.

Under development for many years and now being manufactured in Holland for underground mining operations around the world the Tembo in 4x4 and 6x6 formats solves the underground emissions problem.

POWER: 60KW Continuous power, peak power 95KW

TORQUE: Continuous torque 165Nm, Peak Torque 250NM

TRANSFER CASE: Full-Time 4WD, Differential Lock, High Gear 1:1, Low Gear 2.488:1

BATTERY: 28kWh, 395 Volt (nominal), IP67 and ISO12405-2

WINTER ACCESS

6x6

ADVENTURE

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LIGHT UTILITY

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LIGHT UTILITY VEHICLE

There have been many fleets of light utility vehicles that have been used in the armed forces of Europe, Australia and the Middle East that have blended the payload, load space and mobility capabilities of 4x4 and 6x6 vehicles.

These fleets have been based on Mercedes Benz G-Wagen, Land Rover and Pinzgauer with the 6x6 building upon and expanding the capability of a 4x4.

The same can be done with Toyota Hilux, with a light utility fleet blending 4x4 and 6x6 capability using the same drive-train and logistics.

A 6x6 vehicle solves this problem by adding an additional axle which increases payload to 3,000Kg, increasing load bed length by 1230mm.

Crucially the 2 rear axles spreads the increased load to lower and optimise ground pressure between the 3 axles, thereby boosting vehicle mobility,

Within the Light Utility Vehicle application there are many applications that have used 6x6 Light Utility Vehicles:

- Mobile Command Post
- Ambulance
- Surveillance & Reconnaisance
- Maintenance Vehicle
- Cable Line Layer
- Special Operations Vehicles
- Special Forces Re-Supply / Mothership
- Light Mortar / 105mm Light Gun
- Telescopic Mast / Surveillance / Shelter
- Airfield Fire & Rescue

AMBULANCE

MILITARY AMBULANCE

As the user requirement expands to include more life support equipment and up to 4 litter patients the 4x4 vehicles upon which battlefield ambulances have been based are no longer suitable and require more space, payload and corresponding mobility.

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TROOP CARRIER

HIGH MOBILITY TRANSPORT

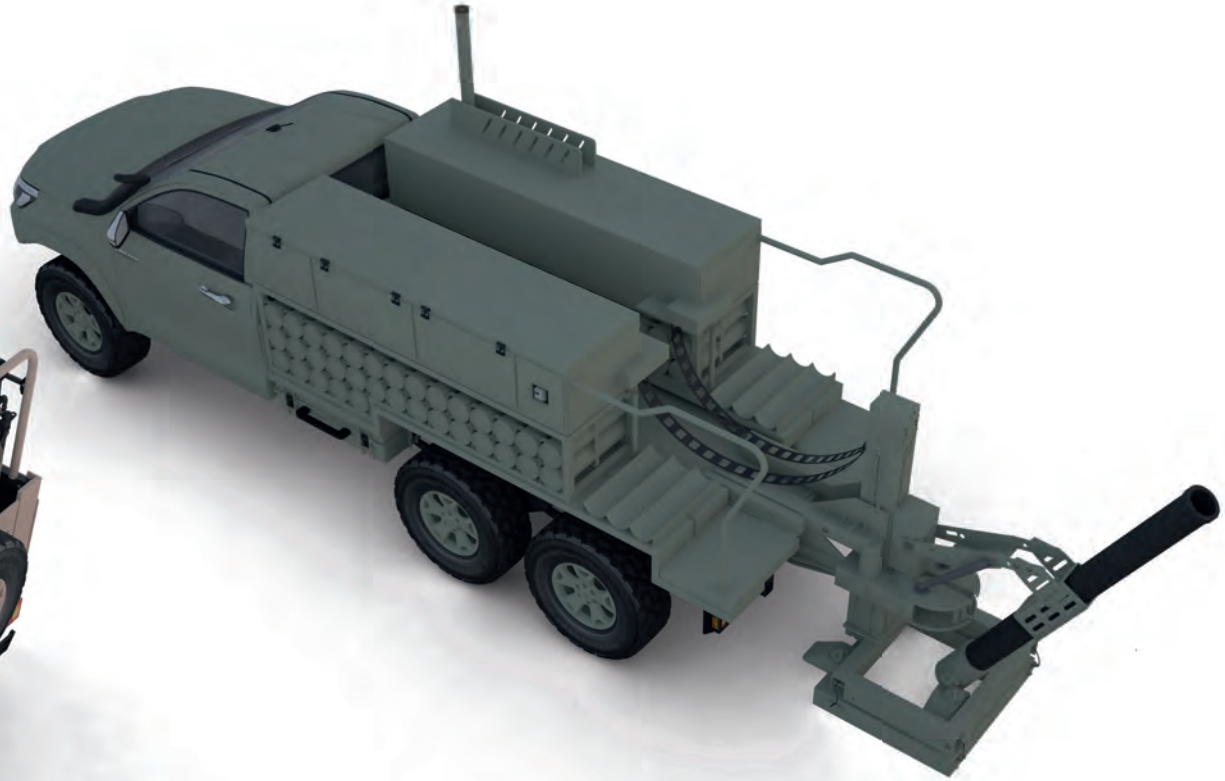
Upto 12 crew can be accomodated in the cab and rear crew area which can also be configured to take pallets / load.

120MM MORTAR

120MM MORTAR SYSTEM

Lightweight mortar systems are being developed for light pick-up vehicles.

Mounting the mortar on the 6x6 Hilux enables a significant increase in the number of mortar rounds that can be carried or an increase in crew size.



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105MM LIGHT GUN

LIGHT GUN CARRIER

Using a 6x6 Light Utility Vehicle enables the vehicle to carry the full gun crew, equipment and minimum ammunition load on one vehicle.

COMMS CABLE LAYER

A Light Utility Vehicle application that requires a lot more space to accommodate the Cable Laying module and crew.

6x6

SPECIAL FORCES

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INTERVENTION

TACTICAL INTERVENTION VEHICLES

In the last 10 to 15 years pick-up vehicles have been used extensively to operate as Intervention Vehicles for Special Forces teams.

In many cases these user groups have reported that they have proven to be too small to carry a full team of operators safely.

They also lack the space and payload to enable the integration of increasingly heavy and complex Assault Systems which combine hydraulic ramps, platforms and ladders.

The 6x6 HILOAD offers a vehicle platform which is low in height and is extremely stable due to the load-sensing suspension and anti-roll bar set-up on the 2 rear axles. The suspension system on the rear can be locked on target to further stabilise the whole vehicle when operators are assaulting.

The increased payload and load-space enables much larger and more capable assault systems to be mounted on the vehicle along with larger teams of operators.

The payload also opens up the potential of zoned armour to protect the operators on approach to target.

The Prospeed project team have considerable experience in the supply of vehicles and systems of this type and work closely with leading suppliers of such Intervention Systems to enable them to develop solutions for their customers.

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TECHNICAL

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TECHNICAL OVERVIEW

Replacement Chassis: Extensive Finite Element Analysis (FEA) was undertaken to arrive at the optimum chassis rail and cross member constructions. The chassis is 10% heavier then the OEM frame it replaces with a 30% increase in stiffness profile along its length. The chassis has a 1”(25mm) lift.

Transfer Box: The transfer box which takes the rearward drive from the OEM transfer case and splits to torque to the centre axle and rear axle using 2 prop-shafts. This transfer box contains a limited slip differential (LSD) with locking function. Automotive grade gears are used for silent running.

Driveline & Differentials: The vehicle is full-time 6x4 (centre and rear axle) both of which contain OEM LSD with locking function, when these axles are locked they are running through the LSD of the transfer box, to fully lock centre and rear axle the transfer box must also be locked. 6x6 and locking function is selected using OEM cab controls.

Front Axle: The front suspension towers, spindles and control arms are upgraded to enable the weight rating and durability to be increased..

Rear Axles: Toyota Hilux axles are used in the centre and rear locations to maximise Toyota component use and to maximise weight carrying capacity.

Suspension: Height adjustable and load sensing air system on centre and rear axle with dampers, coils-overs-damper on front.

Braking System: OEM braking system is retained, ABS and stability functionality retained.

Environmental Protection: The chassis is subject to a 7 stage E-Coating process and is subsequently powder-coated to the required colour. Life-time perforation warranty.

Hilux Safety & Emissions Systems: These all remain in place in line with the 1st stage homologation.

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KEY TECHNICAL SPECIFICATIONS

HOMOLOGATED WEIGHTS: Double Cab, Auto, ICON Specification

Kerb Weight: 2,610Kg	Front Axle Capacity: 1,750Kg
Pay load: 3,000Kg	Middle Axle Capacity: 2,100Kg
GVW: 5,610Kg	Rear Axle Capacity: 2,100K g

TRAILER WEIGHTS:

Braked Trailer: 3,500Kgs	Gross Train Weight: 8,100Kgs

DIMENSIONS:

Vehicle Length: 6,300mm (as conversion platform)	Wheel base: 3,300mm (centre) & 4,300mm (rear)
Min Vehicle Length: 5,652mm (min rear overhang)	Frame Extension: 1,200mm
Max Vehicle Length: 7,536mm (max rear over hang)	Load Bed Length: 3,500mm(SC), 3,030mm(EC), 2,710mm(DC)

Please request Bodybuilder Guide for comprehensive data on the vehicle.

CAD Model available upon request to enable modelling of customer specifications.

6x6

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