

# THALES



## **HIGH MOBILITY ENGINEERING VEHICLE**

Rapid self deployment, mobility and combat flexibility

## >> HIGH MOBILITY ENGINEERING VEHICLE

### >> RAPID SELF DEPLOYMENT, MOBILITY AND COMBAT FLEXIBILITY

#### > Origin

The Thales Australia High Mobility Engineering Vehicle (HMEV) is a high-speed, all-terrain, multipurpose engineering vehicle. The HMEV performs a variety of military and civil engineering and logistic tasks that exceed the capabilities of most other in-service equipment. In its basic configuration, the vehicle is fitted with a backhoe and a front-end loader.

High-speed capability on formed and unformed roads is exceptional. The vehicle has a top speed of 100 km/h (60 mph) and can easily maintain an average speed of over 80 km/h (48 mph) for long distances. Under these conditions the HMEV is exceedingly stable and easy to drive. The HMEV also has exceptional cross-country mobility, which is achieved through a unique combination of suspension and wheel size.

#### > Self deployable

Due to its inherent high speed and mobility, the HMEV is easily self-deployed with convoys.

This eliminates the cost of deploying the HMEV by low loader or trailer.

#### > Air transportable

The HMEV is air transportable under a CH-47 Chinook and in a C-130 Hercules.



HMEV – self deployable multi-functional engineering asset

#### > Highly versatile capabilities

The HMEV's major optional accessories include earth auger, forklift, winch, compactor, rock breaker, and armour protection. Due to its versatility the HMEV can be utilised as a base platform for engineering applications. Its broad spectrum of engineering capabilities makes the HMEV a highly versatile vehicle.

#### > Exceptional performance

The powerful Cummins 6-cylinder turbo-charged diesel engine not only has ample power to allow the HMEV to reach speeds of 100 km/h (60 mph), but also gives it inherent hydraulic power and earthmoving capabilities.

## > Designed for driver control and safety

An ergonomically designed, airconditioned and positively pressurised cabin contributes to superior driver comfort. The semi-automatic, multi-range transmission system enhances driver control. The driver/operator's seat, capable of swivelling through 180°, allows complete access to all operational controls.

The cabin is compliant with rollover (ROPS/FOPS) code AS2294-990 to provide a safe working environment for the operator.

The optional passenger seat further enhances the HMEVs operational range and support. Both seats are compliant with Australian Design Rules—another first for this type of vehicle.

As the only purpose-built, high-speed military engineering vehicle in the world, the HMEV, with its top speed of 100 km/h (60 mph), is in a class of its own.



HMEV - designed, manufactured and supported by Thales Australia



HMEV – in-service and operationally proven

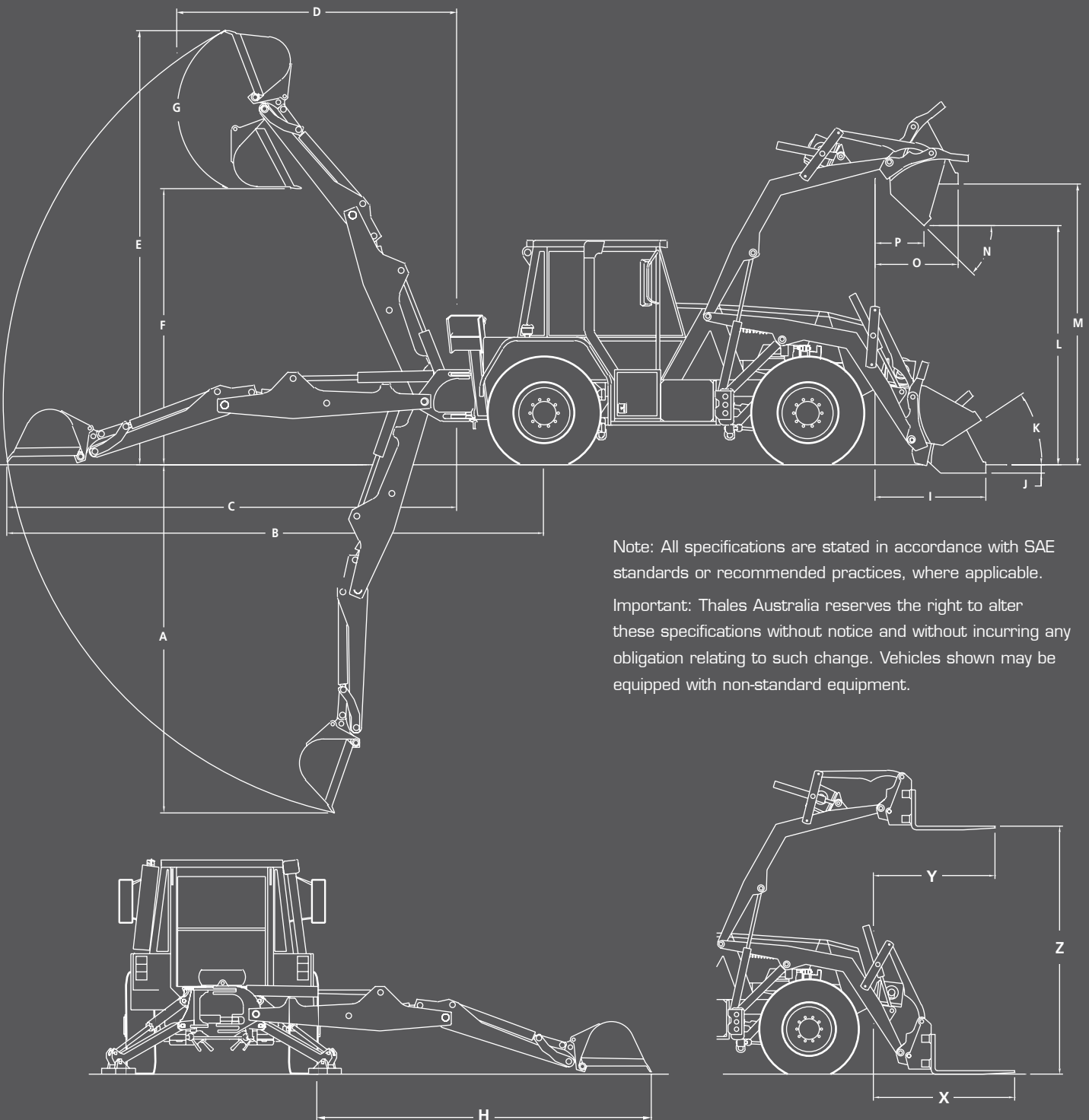
## > Already in service

Originally the HMEV was designed to meet the requirements of a tough Australian Army specification. Other armies around the world are now also seeing its benefits.

The vehicle's unique high speed and engineering performance capabilities have made it the subject of great interest with the military forces of other leading nations. HMEVs are currently being trialled by a number of countries around the world.

As the only purpose-built, high-speed military engineering vehicle in the world, the HMEV stands alone.

# >> HIGH MOBILITY ENGINEERING VEHICLE SPECIFICATIONS



Note: All specifications are stated in accordance with SAE standards or recommended practices, where applicable.

Important: Thales Australia reserves the right to alter these specifications without notice and without incurring any obligation relating to such change. Vehicles shown may be equipped with non-standard equipment.

Backhoe dimensions			Standard		Extendahoe	
			mm	ft in	mm	ft in
<b>A</b>	Max dig depth	Ext	-	-	5570	18'3"
		Ret	4360	14'4"	4510	14'10"
	610 mm level bottom	Ext	-	-	5540	18'2"
		Ret	4320	14'2"	4470	14'8"
<b>B</b>	Reach - ground level to rear wheel centre	Ext	-	-	7760	25'5"
		Ret	6540	21'5"	6700	22'0"
<b>C</b>	Reach - ground level to slew centre	Ext	-	-	6650	21'10"
		Ret	5440	7'10"	5600	18'5"
<b>D</b>	Reach - at full height to slew centre	Ext	-	-	3500	11'6"
		Ret	2660	8'9"	2630	8'8"
<b>E</b>	Operating height	Ext	-	-	6970	22'10"
		Ret	5850	19'2"	5940	19'6"
<b>F</b>	Maximum loader height	Ext	-	-	3710	12'2"
		Ret	3070	10'1"	3150	10'4"
<b>G</b>	Bucket rotation	180°				

Backhoe performance			N		lbf	
Bucket tearout			48824	10976	48824	10976
Dipper tearout	Ext	-	-	-	21729	4884
	Ret	31356	7049	29740	6686	

Backhoe attachments - Standard profile bucket			
Width		Rated capacity	
mm	in	m <sup>3</sup>	ft <sup>3</sup>
305	12	0.08	2.90
610	24	0.18	6.40

Backhoe attachments - Winterised			
610	24	0.18	6.40

Capacities		litre	US gal
Hydraulic system (inc. tank)		152	40.16
Fuel tank		210	55.48
Engine coolant		30	7.93
Engine oil		14	3.70
Transmission oil		25	6.60
Rear axle differential		9.7	2.56
Front axle differential		8.0	2.11

Loader dimensions		mm	ft in
<b>H</b>	Side reach	4085	13'5"
<b>I</b>	Reach at ground (toe plate horizontal)	1195	3'11"
<b>J</b>	Dig depth (toe plate horizontal)	100	0'4"
<b>K</b>	Roll back at ground	38°	
<b>L</b>	Dump height	2724	8'11"
<b>M</b>	Loadover height	3225	10'7"
<b>N</b>	Dump angle	43°	
<b>O</b>	Max reach at full height	1123	3'8"
<b>P</b>	Reach at full height - fully dumped	714	2'9"
	Jaw opening width	910	3'0"

Loader attachments		
Fork lift performance		
	mm	ft in
<b>X</b>	Reach at ground	1925 6'4"
<b>Y</b>	Reach at full height	1800 5'11"
<b>Z</b>	Full lift height	2620 8'7"
	Fork length	1060 3'6"
SWL @ 500 mm load centres - 2000 kg		

Loader bucket (GP shovel capacity)					
Width		Rated		Struck	
mm	ft in	m <sup>3</sup>	ft <sup>3</sup>	m <sup>3</sup>	ft <sup>3</sup>
2490	8'2"	0.80	28.25	0.60	21.19

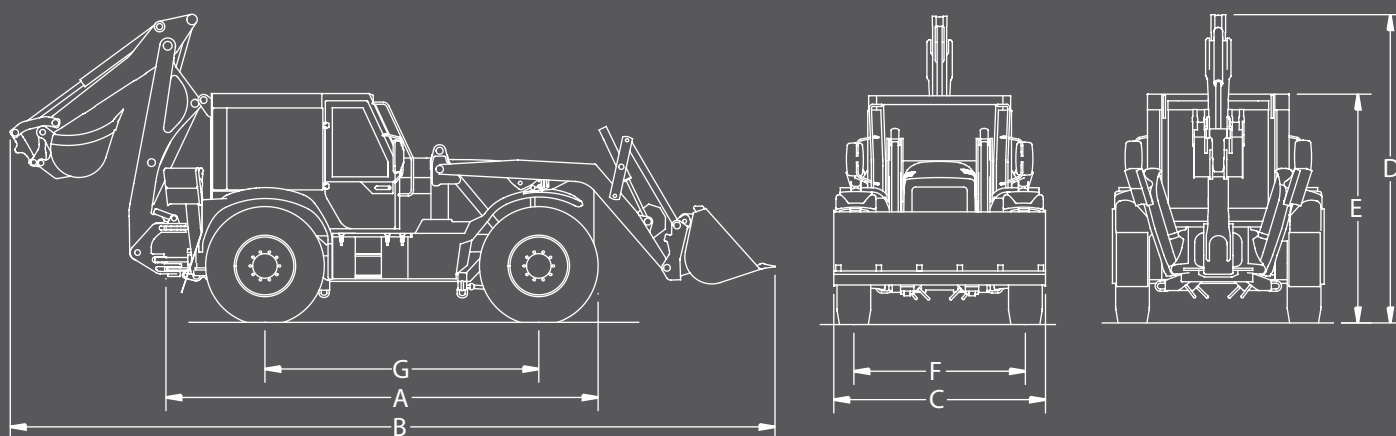
Loader Performance		N	lbf
Loader breakout at bucket		35388	7956
Loader breakout at arms		42190	9485

Specifications for vehicle fitted with quick hitch and 4-in-1, 0.6 m<sup>3</sup> struck capacity bucket

Travel Speeds 14R-24 tyres and engine at 2500 r/min		
Ratio	km/h	mph
Low 1	7	4
Low 2	15	9
Low 3	26	16
Low 4	42	26
High 1	17	11
High 2	37	23
High 3	64	40
High 4	103	64

# >> HIGH MOBILITY ENGINEERING VEHICLE

## VEHICLE SPECIFICATIONS



<b>Crew</b>	1 + 1
<b>Configuration</b>	4 x 4
<b>Mass (GVM)</b>	11,990 kg
<b>Power to mass ratio - 185 hp @ GVM</b>	11.5 kW/tonne
<b>A Length (prime mover)</b>	5,112 mm
<b>B Length (overall)</b>	8,541 mm
<b>C Width (overall)</b>	2,490 mm
<b>D Height (overall)</b>	3,487 mm
<b>E Height (cabin)</b>	2,677 mm
<b>F Track (front)</b>	2,073 mm
<b>G Wheel base</b>	3,150 mm
<b>Front overhang</b>	2,450 mm

<b>Rear overhang</b>	2,941 mm
<b>Angle of approach (transport mode)</b>	13°
<b>Angle of departure</b>	29°
<b>Ground clearance</b>	under chassis 377 mm under differential 428 mm
<b>Turning circle (kerb to kerb)</b>	15.6 m
<b>Speed</b>	maximum up to 100 km/h
<b>Fuel capacity - useable</b>	200 L
<b>Road range - maximum</b>	600 km
<b>Fording - no preparation</b>	760 mm
<b>Gradient</b>	60%
<b>Side slope</b>	30°
<b>Vertical obstacle</b>	620 mm



**Engine**

Cummins 6BTA5.9 – C185 6 cylinder, turbocharged intercooled diesel developing 138 kW (185 hp) @ 2500 rpm (optional 149 kW (200 hp) engine available).

**Transmission**

Clark 12.5 LHR 28821 power shift transmission providing range shift, 8 forward and 4 reverse speeds, converter lockup and electronic gear selector

**Axles**

Dana Spicer SD66 series, double reduction, 11,000 kg capacity, lockable differentials

**Suspension**

Multi-mode pneumatic spring suspension, incorporating ride levelling, double-acting shock absorbers and beam axles. Five link configuration utilising anti-dive, anti-squat geometry

**Steering**

Power steering

**Brakes**

Dana Spicer air operated drums, multi circuit, S-cam actuation

**Tyres**

14.00 R24 SR with bead locks, 100 km/h rated

**Electrical system**

24 volt

**Chassis**

High strength, tubular space frame construction

**Cabin**

High strength tube construction complying with ROPS/FOPS standards. Glazing is tinted and fully bonded

**Environmental control**

Ducted airconditioning and heating system supplied by a pre-filtered fresh air make-up/pressuriser

**Air transportable**

CH-47 Chinook and C-130 Hercules



HMEV – unrivalled mobility, self deployable at 100km

**Standard equipment**

Airconditioning

Fresh air pressurisation

Power steering

Tilt steering column

Air suspension seat and headrest

Retractable lap sash seatbelt

Lumbar support (seat)

Arm rests

Sun visor

Tinted glass

Rear window wiper washer

Lockable cab

Front and rear working lights

Audible reverse alarm

Starting switch lockable

Integrated tool boxes

Electronic gear shifting

Shuttle shift forward/reverse

Pneumatic differential locks

Transmission declutch

4WD selectable

185 hp engine

Lift and tiedown provisions

610 mm (24") excavator bucket

4-in-1 bucket

Bucket level position indicator

Return to dig, height control

Return to position, self levelling

Road lights, direction indicators

Master electrical isolation

24 V, 100 amp alternator

**Optional equipment**

200 hp engine

Winterised package

Supplementary tool kit

Detachable wire grills (lights)

Rear fog light

Full automatic transmission

Cruise control

Steering knob

Spare wheel

Passenger seat

Flashing amber beacon

Auxiliary hydraulics

Front mudguards

IP66 switch upgrade

Air purifier cartridge (pesticides, herbicides)

Loader quick hitch (mechanical or hydraulic)

Excavator quick hitch

Forklift quick attaching

Crane jib quick attaching

Earth auger, rock breaker, compactor

Winterised bucket

305 mm (12") bucket

Lifting shackle on loader bucket

Street pads

Winch and fairlead

Brass stud intervehicle starting

Extra fuel storage

Armour protection to customer requirements

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