

A Vehicles

A vehicles = tracked or wheeled armoured vehicles.
B vehicles = wheeled, lightly or non-armoured vehicles generally used for logistic tasks.

Pics Brian Hartigan, ADF and UK MoD



LEADING SEAMAN ANDREW DAKIN

M1A1 Abrams

The M1A1 Abrams main battle tank is a key component of the Australian Army's combined-arms team.

Abrams is fitted with advanced composite armour, which provides substantial defence against conventional weapons and improvised explosive devices.

The engine is a gas turbine [jet] engine – which can burn a range of fuels, though Australia uses diesel by default – coupled to an automatic gearbox.

Fuel and ammunition reside in separate compartments to protect the crew from the risk of the tank's own ammunition exploding if the tank is damaged.

When the ADF purchased 59 refurbished American tanks, it also purchased the tank, urban survivability kit, which greatly enhances the Abram's survivability in complex terrain.

Abrams is fitted with an on-board digital fire-control computer – compensating for climatic conditions and vehicle movement – that enables the gunner to 'point and shoot' to engage targets quickly, out to 2500m or more. This capability coupled with an advanced sensor suite, allows the Abrams to engage targets at extended ranges, day or night, even in adverse weather conditions.

To support the Abrams, the ADF also procured seven M88A2 HERCULES [Heavy Equipment Recovery Combat Utility Lift and Evacuation System] armoured recovery vehicles. HERCULES is a fully-tracked heavy-armoured vehicle which performs hoisting, winching and towing as part of recovery operations and evacuation of heavy tanks and other combat vehicles.

Abrams is also supported by Heavy Tank Transporters to fulfil its long-range logistics requirements.

A range of simulators have also been procured to assist in training and crew preparedness.

CHARACTERISTICS	
Weight	62 tonne
Length	7.93m hull 9.83m gun forward
Width	3.65m
Height	2.89m
Crew	Four – commander, gunner, loader and driver
PERFORMANCE	
Engine	Honeywell AGT1500C turbine
Power	1119kw [1500shp]
Speed	72km/hr highway 48km/hr cross-country
Range	400km+
ARMAMENT	
120mm M256 smooth-bore cannon	
12.7mm [.50 cal] M2HB QCB machine gun	
2 x 7.62mm MAG58 machine gun	
66mm smoke grenade launchers	

ASLAV

CHARACTERISTICS	
Weight	13.5 tonne
Length	6.57m
Width	2.77m
Height	2.43m
Crew	Three – with up to six passengers
PERFORMANCE	
Engine	Detroit Diesel 6V 53T
Speed	100km/hr
Operational range	600km
ARMAMENT	
25mm M242 Bushmaster chain gun	
2 x 7.62mm MAG58 machine gun	
76mm smoke-grenade launchers	



BRIAN HARTIGAN

The Australian Light Armoured Vehicle [ASLAV] is an eight-wheel vehicle that has been modified to deal with Australia's harsh conditions. Modifications include the widest wheels and tyres available.

Its four front wheels are used for steering, via a truck-like steering wheel, while 4x4- or 8x8-wheel-drive is selectable. Transmission is automatic.

Despite being designed as an amphibious vehicle and sporting two boat-style propellers at the back,

CONTACT believes Australian ASLAVs are no longer capable of 'swimming' because of their weight in battle-ready configuration.

ASLAV is said to be reliable, relatively cheap to maintain and with an ability to self-deploy quickly over long distances.

ASLAV-25 [pictured] is fitted with an electric turret and 25mm Bushmaster chain gun, coupled to thermal optics and integrated laser range finder.

Other variants without the turret or chain gun, such as command vehicles and APCs, can be fitted with remote weapon stations.

With run-flat tyres, small-arms resistant armour, internal spall protection, a counter IED electronics suite and an automatic fire-suppression system, crew and passenger survivability is optimised.

Much development and modification to the original US LAV-25 – itself developed from the MOWAG Piranha – was undertaken for and in Australia.

Variants of the ASLAV include reconnaissance, personnel carrier, command, surveillance, ambulance, fitter and recovery vehicles.

The fleet is supplemented by nine advanced gunnery simulators known as crew procedural trainers, which significantly reduce the cost of training ASLAV crews and maintaining their combat readiness.

Bushmaster



BRIAN HARTIGAN

CHARACTERISTICS	
Weight	12.5 tonne
Length	7.18m
Width	2.48m
Height	2.65m
Crew	One
PERFORMANCE	
Engine	Caterpillar 3126E
Range	800km
Speed	100km/hr

The Bushmaster Protected Mobility Vehicle [PMV] is an Australian designed and produced blast-resistant vehicle that can rapidly deploy up to 10 battle-ready troops in all environments.

It has been credited with saving many Australian lives in Afghanistan, with no fatalities to date despite a large number of IED strikes.

Bushmaster's cabin design gives it flexibility to serve in a variety of roles and configurations.

In basic configuration, Bushmaster is designed to carry and sustain a nine-man infantry section.

It is fully air-conditioned and can store up to 250l of drinking water and a three-day supply of food.

Bushmaster carries one complete spare wheel, but all fitted wheels have run flat-tyre inserts, allowing them to continue travelling with multiple punctures. A central tyre-inflation system allows the drive to vary tyre pressures to cope with changing ground conditions, from pristine highway to soft sand.

Bushmaster uses an armoured v-shaped hull to protect its passengers from landmines and IEDs, the shape acting to deflect an upward blast away from the vehicle.

Its welded one-piece shell is designed to protect troops against all small arms fire. Windows also provide a similar level of ballistic protection.

Fuel and hydraulic tanks are positioned outside the crew compartment to reduce the risk of fire. A protected emergency fuel tank gives the vehicle extra capacity to escape an incident in the event that the main fuel tank is ruptured.

The vehicle can be fitted with a remote-controlled weapon station.

A Vehicles

M113AS4

The M113 armoured personnel carrier has provided the Australian Defence Force with a protected mobility capability since the Vietnam War. A comprehensive upgrade – recently completed – enhanced the capability and extend the service life of the M113 fleet through to 2050.

M113AS4 is an all-terrain vehicle designed to protect and transport its crew and up to 10 infantry soldiers. It incorporates armour resistant to small-arms fire, ballistic plating for mine-blast protection and spall curtains to maximise passenger survivability.

Logistically, the vehicle is capable of rapid deployment by road, rail, sea or air.

The M113AS4 family of vehicles includes seven variants – APC, fitters, recovery, ambulance, mortar, command and logistic. The diverse family of M113 vehicles provides an essential capability for maintaining and supporting armoured assets in the field with minimal logistic support.

Project LAND 106 upgraded 431 Vietnam-era vehicles with “improved protection, lethality, mobility and habitability”.

Only the hull, hatches, rear door and communications systems of the old vehicle were retained with most other components of the vehicle replaced. The upgrade even involved stretching the hull by about 1m.

Upgrades include an electrically powered turret, day/night weapon sights, a new engine, steering controls, drive train, electrical and fuel systems as well as a newly designed internal layout to accommodate safe stowage in a variety of situation.

The keys to the final M113AS4 were ceremonially handed to Army by BAE Systems in October 2012.



CORPORAL RICKY FULLER

CHARACTERISTICS	
Weight	18 tonne
Length	6m
Width	2.69m
Height	2.61m
Crew	Two
PERFORMANCE	
Engine	MTU 6 V 199 TE 20
Speed	66km/hr
Range	550km
ARMAMENT	
12.7mm M2HB QCB machine gun	

CHARACTERISTICS (guesstimated)	
Weight	11-tonne
Length	7m
Width	2m
Height	2.4m
PERFORMANCE (guesstimated)	
Engine	6-cylindar 6.7l Cummins diesel
Speed	110km/hr
Range	800km

Nary



ANDREW LINNETT UK MOD

Australian special forces will receive a range of vehicles built by British company Supacat, which recently opened a support base in Melbourne.

Supacat was selected in 2012 to develop a prototype vehicle for the Special Operations Vehicle-Direct Action (SOV-DA) requirement under Project JP2097 Phase 1B.

The prototype, which was delivered late last year, will be used to inform capability options for second-pass approval by the government.

Supacat has previously supplied a number of Special Operations Vehicles-Special Reconnaissance (SOV-SR) to Special Operations Command.

The SOV-DA will contribute to the overall land mobility capability for special forces, eventually replacing the Land Rover 6x6-based long-range patrol vehicle currently in service.

SOV-DA can carry a range of weapon systems, communications and surveillance equipment.

These vehicles are named the ‘Nary’, in honour of SASR Warrant Officer Class Two David Nary, who was killed during a training accident in the Middle East in 2005.

The SOV-DA has a range of unique features including improved rollover protection, a remote weapon station, an ability to carry a Javelin anti-tank missile system, and has improved self-recovery capability.

Plans call for the vehicle to be light enough to be carried underslung by CH-47 Chinook.

No specific details or photos of the Australian SOV-DA have been released, but it is believed to be similar to the British Army’s Coyote 6x6 (pictured), which is itself a derivative of the 4x4 Supacat Jackal.

Protected route-clearance capability

Joint Project 154 Phase 3A – or Project Ningau – will deliver a range of vehicles to aid deployed Australian task forces in clearing routes of mines and IEDs.

- > Husky with ground-penetrating radar or interrogator arm
- > High Mobility Engineer Excavator (HMEE)
- > Bushmasters fitted with SPARK mine rollers

1 Husky

Husky Mark 3 protected route clearance vehicle will be fitted with either a ground-penetrating radar or an ‘interrogator arm’, which is essentially a long excavator-type hydraulic arm with a variety of attachments.

The ground-penetrating radar provides the ability to detect metallic and non-metallic objects buried in the ground, using radar. Once found or suspected, the spot is marked with spray and the second Husky with the interrogator arm comes forward to investigate.

The operator physically explores the site using either high-pressure air, scraping the ground with a steel finger or digging with a fork – all at a distance long enough [about 6m] to ensure the safety of the operator in his armoured cab.

Because the interrogator arm is also fitted with a camera, it could also be used to look over walls or other obstacles close to a route.

Husky is said to be the most blast-survivable vehicle in Afghanistan, with hundreds of recorded strikes against them – many being struck more than once.

Husky features a very deep v-shaped hull, a heavily armoured cab, and has very large, low-inflation tyres that produce very low ground pressure. In addition, the vehicle is designed to blow apart from its wheels and can be rebuilt in the field with minimal effort.

Specs: Engine: 6-cylindar 6.4l Mercedes
Weight: 8.8 tonne
Speed: 75km/hr highway
<35km/hr when working



BRIAN HARTIGAN



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NOTE: Statistics and ‘facts’ listed above may differ from those of other publically available sources (including relevant manufacturers). We have mainly used the official ADF figures on the grounds that in-service products may have been customer-modified. Where ADF information and figures are not available, we used other sources and used our own judgement in weighing up a reasonable figure – and we accept that we may not be correct.

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