

Handy Reference Guide Part 1 - Revision 2

To fit your viewee twoee

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#### Reference Guide

This catalogue of Australian soldiers' weapons, designed as a quick-reference guide only, is proudly brought to you by...

#### CONTACT Air Land & Sea

Australia's best boots-on-the-ground military magazine.

NOTE: Where statistics and 'facts' listed in this guide differ from those of other publicly available sources (including manufacturers), we deferred to official ADF figures on the grounds that in-service weapons may have been customer-modified.

This pocket guide is designed to print on gloss 6x4-inch photo paper – ideal for inserting into a standard military viewee twose, after trimming to line below.

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Assault rifles

F88



Weight 4.8kg (with full magazine)

Lenath 790mm

Barrel length 508mm Muzzle velocity 930m/sec

Effective range 300m

Cyclic rate of fire 680-850 rounds per minute

#### The F88 Austeyr and its derivatives is currently (2016) the ADF's standard-issue combat weapon.

Manufactured under liscence in Australia, it fires NATO standard 5.56mm ammunition from a 30-round magazine.

It is a gas-operated semi-automatic rifle, which can fire single rounds or full-auto bursts via dual trigger pressures, or can be restricted to single-shot semi-auto by a 'lock-out button'.

The F88SA2 (latest variant) can be fitted with different sights such as the standard 1.5x ring-sight, the Advanced Combat Optic Gunsight [ACOG] or night weapon sights, as well as laser aiming devices and other accessories attached to a Picatinny rail.

It can also be fitted with a grenade launcher attachment (GLA).



#### Enhanced F88 or EF88 is the future weapon of the Australian Army, with many units rolling out in 2016.

Cyclic rate of fire 680-850 rounds per minute

Defence contracted Thales to produce the new rifle, grenade launchers, spare parts and various ancillaries, at their facility in Lithgow, NSW. The EF88 (which Thales is marketing as the F90) can be field fitted with a grenade launcher attachment (GLA) with no special tooling required. One significant difference between the EF88 and older variants is that the barrel is fixed.

It can also be fired right or left handed without adjustment. The weapon as issued to the Army will be black, but soldiers and units will be authorised to custom paint their weapons.

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#### Assault rifles

#### **M4A1**



Calibre 5.56mm Weight 3.1kg

(with 30-round mag)

Length 840mm

(stock extended) 756mm

(stock retracted)

Barrel 370mm

length

Muzzle 884m/sec

velocity

Effective 500m

range

Cyclic rate 700-950

of fire rounds per minute

The M4A1 carbine, designed and built in the US, closely related to the M16, is a shorter and lighter variant of the M16A2 assault rifle, and an updated variation of the older M4.

It is a gas-operated, air-cooled weapon fed by a 30-round magazine that has selective-fire options for semi-automatic or fully automatic. The shortness of the weapon [370mm barrel and telescoping stock] allows soldiers to better operate in close-quarter battle and, as such, is the standard-issue weapon for Australian special forces.

It features a Picatinny rail on all four sides, allowing scope for a wide range of accessories.

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#### Machine Guns





Weight 7kg (with 100-round box magazine)

Length 1080mm [865mm Para]

Barrel length 570mm (349mm Para)

Muzzle velocity 930m/sec Effective range 400m

Cyclic rate of fire 800-900 rounds per minute

#### The F89 Minimi light support weapon (LSW), manufactured under liscence in Australia, is employed as the primary support weapon at the brick, squad or section level.

It is gas operated, fully automatic, air cooled and fed by a disintegratinglink belt, either loose or from a 100-round belt box, and is capable of high rates of effective fire against point and area targets.

The LSW 5.56mm Para Minimi (shorter, with collapsible stock), is employed as the primary support weapon for special forces teams and as a section-support weapon for parachute units.

LSW is fitted with a Picatinny rail and is configured with standard optical weapon sights or can be fitted with an enhanced optical sight, nightaiming device, laser target designator or night weapon sight.

#### Machine Guns

Maximi



Weight 8.2kg

Length 1000mm Barrel length 502mm

Effective range 600m

Cyclic rate of fire 710 rounds per minute

#### The 7.62mm Maximi is a recent addition to the Australian Army and is basically a scaled-up version of the 5.56mm Minimi LSW.

It is gas-operated, fully automatic, air-cooled machine gun fed by a disintegrating link belt.

It is capable of a high rate of effective fire against point and area targets with heavier, harder-hitting 7.62mm ammunition.

The Maximi is reliable, effective and proved popular during recent operations undertaken by Australian soldiers - though CONTACT has been told the ADF added generic 5.56mm-calibrated sights when they purchased the weapon from the US instead of forking out for 7.62mmcalibrated sights intended for the weapon.

Machine Guns

MAG58



The Belgian-made general support machine gun (GSMG) FN MAG58 is designed in the 1950s for general support purposes.

Cyclic rate of fire 750-1000 rounds per minute

It can be used either as a light support weapon (LSW), fired from a bipod, or fired from a tripod in the extended-range role and was very popular in Afghanistan as a vehicle-mounted weapon.

It can also be mounted on a tripod with a C2 sight and used in the indirect sustained-fire role.

It is a fully automatic, 7.62mm, belt-fed, air-cooled, gas-operated weapon, and is capable of a sustained high volume of fire. Stoppages can be easily and quickly remedied.

Ammunition belts are made up of disintegrating links, factory packed in 500-round boxes, normally fitted in the ratio of one tracer round to every four ball rounds, although all-ball-round belts are available. Maximum effective range of the MAG58 in the LSW role is 800m.

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Machine Guns

м2НВ ОСВ



Length 1656mm

Barrel length 1145mm

Cyclic rate of fire 450-600 rounds per minute

1200 rpm Navy variant

Designed in 1918, the Browning M2HB (heavy barrel) QCB (quickchange barrel) machine gun is still a very effective and popular weapon as a primary or secondary armament on various vehicles and watercraft and helicopters.

It can also be used in the ground role, fired from a tripod. On vehicles and watercraft, it is used to provide close-range fire support against surface and air targets. Navy uses a variant (capable of 1200 rounds per minute) as a helicopter door gun. When mounted on a tripod, it can be used in direct- or the indirect-fire-roles.

It is an automatic, belt fed, air-cooled, spring and recoil-operated weapon, also capable of firing single shots. It fires from a positively locked breech position and is capable of a sustained high volume of fire. The maximum effective range in the direct fire role is 2000m and in the extended-range role out to 6800m.

**Pistols** 

**Browning Mark 3** 



The 9mm Browning Mark 3 self-loading pistol is a short-recoil, magazine-fed semi-automatic weapon with fixed open sights and a 13-round magazine.

The weapon is ideally used for quick, instinctive firing at very shortrange targets (less than 5m) or more deliberate fire up to 25m. The pistol can be fitted with a lanyard and/or a torch mount. It is probably the most widely used military/police pistol in the world with more than 1,000,000 units manufactured, after being first introduced into Belgian military service in 1935.

**Pistols** 

USP9



### The Heckler and Koch USP (universal self-loading pistol) 9mm is the preferred side-arm for Australian special forces.

The USP was specifically designed and developed in the early 1990s with the US SF, law-enforcement and commercial markets in mind and comes in several variants, including 9mm, .40 calibre and .45 calibre. The USP9 in the 'tactical' variant is 194mm long with a 108mm barrel and weighs 748grams without the magazine while the 'compact' USP9 weighs 80g less, but is 21mm shorter (and with a shorter hand grip) and 17mm less in barrel length.

It's a recoil-operated semi-automatic pistol with a 13-round magazine.

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The Glock 19 is a 9mm striker-fired polymer-framed pistol and is essentially a more compact version of the Glock 17, one of the most widely used pistols in military and police service in the world today.

The Glock 19 is the standard issue of RAAF pilots, especially those who fly aircraft that use ejection seats.

It's a recoil-operated semi-automatic pistol with a 15-round magazine.

The **Glock 26** - dubbed the 'baby Glock' is also issued to some RAAF personnel. It is a smaller, 10-round weapon, but still said to be highly accurate and readily concealable.

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#### Specialist Weapons

HK417



Calibre 7.62mm

Weight 4.05kg (with 20-round magazine)
Length 905mm (buttstock retracted)

985mm (buttstock extended)

Muzzle velocity 750m/sec Effective range 600m

Cyclic rate of fire 600 rounds per minute

The 7.62mm Heckler and Koch HK417 weapon system is used by specialist marksmen to engage targets at extended ranges, enhancing the protection and lethality of an infantry section.

A suppressor affords even greater protection and safety by lowering the visual and audible signature of the weapon.

It is fed by a 20-round magazine.

HK417 is fitted with an Advanced Combat Optic Gunsight (ACOG) Trijicon 6  $\times$  48 with Ruggedised Miniature Reflex (RMR), which magnifies four times more than most infantrymen are accustomed to.

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MP5



Weight 2.88 kg (without magazine)
Length 660mm [butt extended MP5A3]

Barrel length 225mm Muzzle velocity 400m/sec

The Heckler and Koch MP5 sub-machine gun, developed from the G3, is the standard weapon for many police forces around the world and was selected for the counter-terrorist role for Australian special forces.

The MP5A3 and other models are the standard-issue individual weapon for operators in tactical assault groups.

MP5 is an air-cooled weapon that operates by the delayed blowback system and is fed by a 30-round magazine.

Operation for all models is similar, varying only in the length of recoil and rates of fire.

It is capable of selectable semi-automatic or automatic fire.

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#### The Remington 870 pump-action shotgun is primarily used by Navy boarding parties, plus infantry and others for door breaching.

A 1RAR soldier (above right) carries a Remington 870 Police Magnum shotgun, using 12-gauge breaching rounds purpose-designed for ballistically breaching door hinges and locks.

Navy weapons generally have a folding buttstock (above left). The Navy's web site says this weapon is capable of a high rate of fire "with an effective range of 100 metres" – CONTACT seriously doubts this.

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#### Sniper Rifles

**SR98** 



Calibre 7.62mm

Weight 7.8kg

(with sight and bipod)

**Length** 1250mm **Barrel length** 660mm

Muzzle velocity 825m/second

Effective range 800m+

### Australian Army snipers are issued the Accuracy International SR98 sniper rifle, providing the capability to engage targets beyond 800m.

The weapon is a magazine-fed, bolt-action rifle fitted with a telescopic sight on a Picatinny rail. Iron sights are supplied as a back-up.

It is fed by a 10-round magazine.

This rifle can be fitted with a screw-on suppressor to reduce muzzle flash and noise signature.

The SR98 is almost unique in being a purpose-designed sniper rifle as opposed to an adapted or improved standard rifle.

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**Sniper Rifles** 

Blaser



Calibre .338

Weight 9.14kq (with full magazine)

**Length** 1230mm **Barrel length** 627mm

Muzzle velocity 800-915m/second

Effective range 1500m

#### The Blaser Tactical 2 sniper rifle is a straight-pull, bolt-operated rifle that feeds from a detachable four-round magazine.

The weapon is capable of firing both ball and armour-piercing .338 calibre ammunition, and engaging point targets to a range of 1500m or delivering harassing fire to 2000m.

It has an adjustable bipod, which can be detached, and can be tailored to fit soldiers' personal tactical requirements.

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#### Sniper Rifles





Calibre 12.7mm (.50 cal)

Weight 14.93kg (with full magazine)

Length 1350mm
Barrel length 692mm
Muzzle velocity 825m/sec
Effective range 1500m

The AW50F 'anti-materiel rifle' (AMR) is a bolt-operated, magazine-fed weapon that fires several types of 12.7mm (.50 cal) ammunition with the capability of engaging targets to a range of 1500m.

It has an adjustable bipod and third leg at the rear that can be adjusted to fit soldiers' personal and tactical requirements.

It may be fitted with telescopic or iron sights.

Ammunition types include ball F1, tracer, armour piercing, armourpiercing incendiary and multipurpose, fed from a five-round box magazine.

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**Sniper Rifles** 

SR-25



Length 1150mm Barrel length 510mm

Muzzle velocity 780m/second

Feed 20-round magazine

Effective range 800m+

#### Defence has a variant of the SR-25, which is referred to as the Knights Armament MkII Mod 0 sniper rifle.

This is a hand-built, semi-automatic sniper rifle capable of engaging point targets beyond 800m.

It is an air-cooled, gas-operated, magazine-fed weapon with a rotating-bolt locking action and is capable of semi-automatic and automatic fire. The weapon can fire a number of different types of munitions and can be fitted with a suppressor to reduce its visual and audible signature. It has an adjustable bipod, which can be detached, and a rail system that allows a range of sighting systems and ancillaries to be mounted. Designed to provide a complementary capability to the SR98, it allows a sniper to rapidly engage multiple targets or re-engage single targets and is the standard-issue weapon for the number two in a sniper pair.

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# Explosive Weapons

Grenade



Weight 370g
Length 96mm
Width 58mm
Lethal radius 6m
sualty radius 15m

Casualty radius 15m
Danger radius 30m

**Detonation** 4.5-5.5 seconds

#### When direct fire on an enemy may not be appropriate or achievable, soldiers require a weapon that can overcome such deficiencies.

A hand-thrown blast and fragmentation grenade provides this capability at short range. It can be easily carried by individual soldiers and so is available for immediate use.

The F1 fragmentation grenade is a hand-thrown, anti-personnel grenade, effective in the clearing of enemy from bunkers, fire trenches, dugouts and buildings. It can also be used for all types of close-quarters battle, urban fighting and ambushing.

The F1 fragmentation grenade contains 30g of HE mixture and approximately  $4000 \times 2.5 \text{mm}$  steel balls.

Smoke variants are also available. "They're still a weapon and come in very handy," one soldier told CONTACT.

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#### **Explosive Weapons**

Claymore



Fragmentation 700 steel balls

Explosive 700g
Weight 1.5kg
Length 21.5cm

Effective range 100m

The anti-personnel weapon M18A1 Claymore is a commanddetonated, fixed-direction, fragmentation weapon designed primarily for use against personnel. The fragments also effectively penetrate soft-skinned vehicles.

All soldiers must be able to effectively employ the Claymore against the enemy and safely among friendly troops. This requires high-level knowledge of the weapon, its characteristics and each component's operation.

Claymore can be employed during offensive and defensive operations.

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#### Support Weapons

**M203PI** 



Weight 1.4kg
Length 380mm
Barrel length 305mm
Muzzle velocity 76m/second
Effective range 150m
Max range 400m

**Action** Single shot

The M203PI (product improved) grenade launcher system for the F88 Steyr was purchased in 2000 by the ADF to replace the Vietnam era M79 and the M203 grenade launchers then in service.

It provides an integral high-explosive fire-support capability to an infantry section by enabling targets to be engaged in the zone between the maximum effective range of hand-thrown fragmentation grenades and the minimum safety range of mortars and artillery.

The round can penetrate windows, blow in doors, produce casualties in enemy groups, destroy bunkers and damage or disable soft-skinned vehicles.

It can fire the full range of 40mm service ammunition including highexplosive, smoke and illumination.

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Support Weapons

**SL40** 



Effective range 150m Max range 400m

**Action** Single shot

The SL40 grenade launcher attachment is a derivative of Steyr's GL40, specifically modified for fitment to the new Thales EF88.

The SL40 has a side-opening receiver and its trigger is located within the EF88's trigger guard.

It can be fitted and removed by the operator without specialist equipment and can fire all standard 40mm grenades.

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#### Support Weapons

M72A6



**Calibre** 66mm **Weight** 3.5kg

Length 775mm unarmed

980mm armed

Muzzle velocity 145m/second

Effective range 350m

#### The 66mm M72A6 light direct fire-support weapon, aka short-range anti-armour weapon, has an effective range of 250m.

Its primary use was against light-armoured vehicles but is mainly used today against enemy emplacements.

It is a portable one-shot 66mm unguided rocket packed inside a launcher made up of two tubes, one inside the other.

While closed, the outer assembly acts as a watertight container. The outer tube contains the trigger, arming handle and sights.

When extended, the inner tube telescopes backwards, cocking the weapon.

The standard '66' warhead can penetrate up to 20cm of steel plate, 600mm of reinforced concrete or 1.8m of soil.

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#### Support Weapons

#### Carl Gustav



Calibre 84mm

Weight 10kg (with bipod and sight)

Length 1065mm

Effective range 500m (stationary targets)

300m (moving targets) 100m (area targets)

Back blast danger area 60m rearwards and

820mm either side

#### The 84mm M3 Carl Gustav is a breech-loaded, recoilless, shouldercontrolled weapon that is highly accurate and versatile.

It is fired by one soldier (the No 1) from all the normal firing positions. However, the back-blast danger area (BBDA) must be taken into account and the firing position adjusted to suit.

A second soldier [No 2] carries the ammunition and acts as a loader. The M3 version was designed to withstand Arctic, tropic and desert conditions better than the M1 or M2 versions.

There are six types of service ammunition available, including high-explosive anti-personnel and high-explosive anti-tank, illumination and non-explosive practice.

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Support Weapons

Javelin



Missile weight 11.8kg Warhead weight 8.4kg Missile length 110cm Flight time 7sec per 1000m

Effective range 2000m

Min range 65m direct attack

Javelin was introduced to the Australian Army to engage and destroy current and anticipated enemy armour at ranges beyond that achievable with previous shoulder-fired anti-armour systems, which can also be used against bunkers, fortifications and helicopters.

It is mainly used as a dismounted, shoulder-fired weapon, that locks on to heat signatures and, once fired, does not require guidance – which allows the firer to get up and go before being counter attacked. Javelin has two modes – direct attack and top attack. In direct attack, the rocket flies directly to the target, just like a bullet. In selectable top-attack mode, the rocket initially flies a similar path before arching up to about 150m then down in the last seconds to hit the target almost vertically – most vehicles' (even tanks) most vulnerable aspect. The missile has two warheads – the first to set off explosive-reactive armour, the second to penetrate base armour.

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#### Support Weapons





Weight 32.9kg Length 1090mm

Barrel length 413mm

Cyclic rate 325-375 of fire rounds/

minute

Effective 1500m

range

Max range 2000m

Mk 19 is a belt-fed, blowback-operated, air-cooled, crew-served, fully automatic grenade launcher, firing 40mm grenades, with a practical rate of fire of 60 rounds per minute (rapid) and 40 rpm (sustained). Mk 19 can fire beyond 2000m, though sight graduation means it is

Mk 19 can fire beyond 2000m, though sight graduation means it is limited to an effective range of 1500m for a point targets.

While it is a man-portable crew-served weapon that can fire from a tripod, vehicle mounting is preferred because the weapon alone weighs 33kg and ammunition comes in 32- or 48-round tins weighing 19kg and 27kg respectively.

Primary ammunition is the high-explosive dual-purpose M430 grenade, which has a 5m kill radius and 15m danger area. It can also punch through 5cm of light armour with a direct hit.

Mk 19 ammunition is not interchangeable with the M203.

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The General Dynamics Mk 47 Striker Next Generation Lightweight Automatic Grenade Launcher (LWAGL) is a man-portable 40mm grenade-launcher system with devastating accuracy.

LWAGL's accuracy is assured by a lightweight video sight (LVS) with eye-safe laser range-finding capability from 40 to 2000m and margin of error of 1m. It also provides third-generation image intensification for both day and night firing, a thermal imaging camera and a ballistic computer to facilitate detection, recognition and first-round engagement of targets. The use of programmable air-burst ammunition means targets are not safe even behind cover.

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Training Weapon

RHS



Length 790mm
Muzzle velocity N/A
Effective range N/A

Painted rectangular hollow section (RHS) steel tube is heavy, highstrength cold-formed hollow steel tubing that can be bought at any hardware store and cut, bent and welded into any shape.

Cut, bent and welded to roughly resemble the silhouette of an F88 Steyr, this cold, inert steel shape's sole purpose is to replicate the feel and heft of a rifle so that soldiers may continue physical training to defend their country without using real weapons.

Despite being utterly useless as a weapon, however, this inert shape has been known to cause mass hysteria and 'public nuisance' when carried off base.

CONTACT does not recommend carrying fake 'weapons' in public, but stands behind any soldier wrongfully punished because of other peoples' ignorance, while going the extra mile in his training.

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# CONTACT AIR LAND & SEA

#### About Us

**CONTACT Air Land & Sea** reports on the people, platforms and operations of the world's defence forces, particularly Australia. We are dedicated to presenting stories, photos and video that capture the essence of serving-members' lives, as far as possible in their own words. We welcome story submissions via editor@militarycontact.com

**CONTACT Air Land & Sea web site** is our internet-based headquarters where we publish daily news and other interesting, related items. We are also active on Facebook, Twitter, Google+, Pinterest and YouTube as where we engage audiences, inviting them back to our headquarters.

**CONTACT Air Land & Sea newsletter** is a free fortnightly email that draws attention to recent news stories. It highlights the best of the previous fortnight and updates developments in older stories in a handy-reference format, linking back to the original story on our web site.

**CONTACT Air Land & Sea magazine** is a high-quality, full-colour, features-based magazine published four times per year. Initially launched in March 2004 as a traditional paper-based magazine, it switched to digital in 2013 and is now only available by FREE subscription from www.aussiecontact.com

Paper copies of issues 1 to 40 of **CONTACT Air Land & Sea** magazine, can still be purchased from our web site.

All our magazines will also eventually be added to our digital archive.

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