

The Lithgow Arms LA102 CrossOver

- a remarkable centrefire

by senior correspondent John Dunn



When you are working with a rifle like the LA102 CrossOver, test firing is a real pleasure. Photo taken by remote control means.

One of the great joys of reviewing firearms for magazines like *Australian Shooter* and *Australian Hunter* is that you are able to handle really interesting gear. Some firearms arrive with little fanfare, others you hear about long before they are available. These tend to be slightly more intriguing, simply because you have to wait to satisfy your curiosity. You think you might know what's coming, but you're never sure what it is you are getting until you finally open the box. That's how it was with the Lithgow Arms LA102 CrossOver centrefire.

Essentially, the LA102 is a somewhat larger, lookalike version of the LA101 CrossOver .22 rimfire rifle that was introduced in 2014. Its modern styling shows both military and sporting influences,

which is what you would expect given the makers' stated intent of producing a rifle that was capable of excelling across a range of shooting disciplines. In some ways, it reflects the 100-plus years of proud military heritage that Lithgow Arms has behind it. There are also hints of European sporting rifle looks apparent, notably those of the modern Mannlicher rifles. To ensure users become familiar with the different aspects of the rifle, a comprehensive owner's manual is supplied with each model.

The receiver

The receiver starts out as a cylinder of high-tensile steel, 35mm in diameter with a length of 228mm and a wall thickness of 6.5mm. The top is drilled and tapped to accept a one-piece Weaver-style Picatinny rail for scope attachment.

The sides are machined at an angle of 60 degrees to top dead centre to give the receiver a round-bellied but generally triangular cross-section when viewed from the rear. This serves a number of purposes. It reduces the overall weight of the receiver without diminishing its strength, provides a rather distinctive profile and produces flat surfaces that carry the Lithgow Arms insignia on the left-hand side and an Australian-made logo behind the ejection port on the right-hand side.

Weight is further reduced by longitudinal flutes machined on either side in the bottom hemisphere of the receiver. The rear of the receiver is laterally rounded and machined to match the contour and wrist angle of the stock. A magazine port is cut into the bottom dead centre of the receiver. A magazine well incorporating a

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The component parts of the rifle.

spring-loaded latch is secured to the bottom in front of the port, while the trigger group is attached at the rear.

Other cuts in the bottom of the receiver include a dovetail slot at the rear to house the rear recoil lug and a slot in the bottom of the receiver ring that locates a flat recoil plate between the front action screw and the magazine well. The receiver is secured in the stock by two cap-head Allen key screws - the front one engaging the bottom of the receiver ring and the back one screwing into the rear recoil lug. When the receiver is set up and properly tightened into the stock mortise, the barrel is free floating from the front of the receiver forward.

The test rifle was chambered in .308 and the barrel had a one in 11" right-hand twist. The rifle is also available in .223 with a one in 9" right-hand twist and .243 with one in 10" right-hand twist.

The trigger

The trigger is adjustable for weight of pull, sear engagement and trigger over-travel. As it comes from the factory, the weight of pull is set at 1.5kg. The manufacturer recommends that adjustments should only be made by a qualified gunsmith.

The bolt

The massive, push-feed bolt has a one-piece, bright steel body with a diameter of 21.88mm and an overall length of 220mm. It is front locking with three lugs that give the handle a lift of 60 degrees. The black bolt handle has a round knob with a flat base and grooves for grip. The bolt cocks on opening.

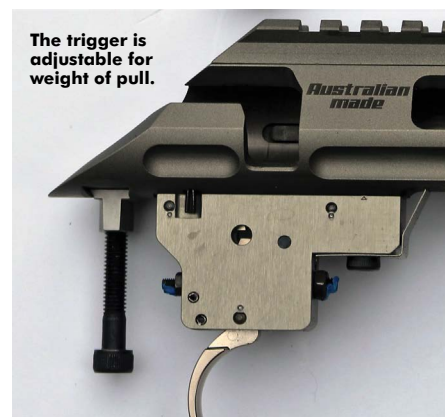
Lock-up is achieved when the lugs on the front of the bolt engage a locking bush housed in the receiver ring at the rear of the barrel. The bolt face is recessed with a single claw extractor and a spring-loaded plunger ejector.

When the bolt is cocked, a red indicator is visible at the rear of the bolt shroud. Inside the receiver the bolt is guided by a longitudinal slot in the left side of its body that engages a lug on the bolt stop. The bolt stop is located at the rear of the receiver.

The safety catch

The three-position lever safety catch is mounted on the bolt shroud. It can only be engaged when the firing pin is cocked. When the catch is pushed forward to sit at 90 degrees to the axis of the bolt, a red indicator is visible and the rifle can be fired.

At 45 degrees to the bolt axis, the safety mechanism over-cocks and blocks firing pin

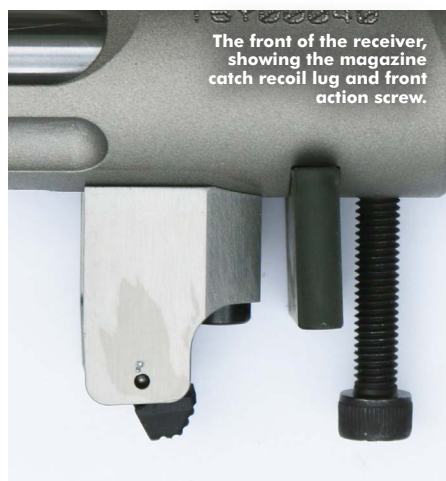


The trigger is adjustable for weight of pull.

travel. The bolt is also locked and cannot be opened. When the lever is turned back in line with the axis of the bolt, the trigger is locked but the bolt can be opened.

The magazine

The black polymer magazine holds three rounds of ammunition in a single column. It clips directly into the belly of the rifle. It is held in place by a spring-loaded latch in the magazine well that engages a lug on the front of the magazine, assisted by a flat steel retaining spring attached to the front of the trigger group.



The front of the receiver, showing the magazine catch recoil lug and front action screw.



The bolt face showing the recessed face, the plunger ejector and the claw extractor set up in the locking lug.



The muzzle of the barrel is threaded M14x1 with a cover.

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The Lithgow Arms LA102 CrossOver as it comes from the box.

The triggerguard

The black polymer triggerguard is attached to the stock by the receiver screws. Brass shims sit between the guard and the wood of the stock - I surmise to act as spacers to prevent the stock screws bottoming in their respective holes, perhaps to act as load-spreading surfaces to prevent damage to either the stock or the guard itself should the screws be overtightened. If that's not the case and someone knows better, I'm happy to be corrected on that.

The barrel

The barrel is cold hammer forged to military specifications. It is of medium varmint weight with a target crown and the

muzzle threaded M14x1 to accept a range of accessories. With a length of 560mm, it has a nominal diameter of 29mm at the Knox form, tapering down to 18.3mm at the muzzle. No sights are fitted and it floats from the Knox form forward. Both the barrel and the receiver have a grey Cerakote finish applied.

The stock

There are three stocks available for the LA102: an adjustable polymer option as used on the original LA101 CrossOver rimfire, a timber laminate and a walnut version as fitted to the review rifle - a good piece of wood with a dense, figured grain under a semi-gloss finish.

The butt was fitted with a rubber recoil pad and black spacer. For the want of a better word, there is a 'bump' on the toe of the stock that extends towards the pistol grip. It looks a little unusual at first but in fact carries the multipurpose CrossOver concept through into stock design.

It does nothing to detract from the hunting capabilities of the rifle yet acknowledges the fact that some owners or users will want to flop down on their bellies and use the rifle in conjunction with a good bipod and a rear sandbag. Alternatively, in the absence of a sandbag the design allows the stock to be rested in the web of the hand, forward of the bump.

That utility is further reflected in the

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placement of the sling swivel base. It is out of the way on the leading edge of the bump. If it was placed anywhere along the length, it would act as a pivot point to destabilise the best of set-ups.

The pistol grip and has a stippled panel on both sides and the cap of the grip has an impressed Lithgow Arms logo.

The belly of the stock runs more or less parallel to the top edge of the forearm, tapering up towards the fore-end to provide a broad, hand-filling grip with stippled panels on either side. A pair of swivel bases for attaching either a sling or a bipod are provided.

Internally, the receiver mortise and barrel channel are very cleanly cut. The finish is no doubt due in part to the density of the wood itself but nonetheless great care has been taken to ensure the wood was cleanly machined. In point of fact, I would have to say this is probably the best internally finished factory wood stock that I have come across on my travels. In line with the quality of the walnut used in the stock, the wood-to-metal fit throughout was excellent.

Testing

For testing I fitted the LA102 with a Leupold VX-6 3-18x44 scope, set up in Warne mounts. The scope usually lives on my Ruger No. 1 in .22-.250 and I reckoned it would sit pretty well on the CrossOver.

On the bench, it only took three shots to sight the rifle so it was striking dead centre on a standard rimfire target at 50m using Federal Premium 130-grain HP loads. At 100m the first three shots with the same ammo went into 21mm. Changing over to the Federal Fusion

Bench testing Ammunition	Bullet Weight & Type	100m (mm)	Average (mm)
Federal Premium	130-grain Speer HP	19-23	20
Federal Power Shok	150-grain SP	25-43	26
Federal Fusion	165-grain SP	13-22	16
Winchester Super-X	150-grain Power-Point	35-41	37
Australian Outback	165-grain Sierra SBT Game King	18-23	19
Australian Outback	168-grain Sierra HPBT Match King	4-26	18



The rear of the bolt showing the cocking indicator and safety catch.

165-grain SP load, the next three shots went into 16mm in more or less the same place. At that point I decided the LA102 was probably going to be a good shooter and that certainly proved to be the case.

I managed five three-shot groups with each of the ammunition types I had on hand and the results are listed in the accompanying table. The best group was shot with the Australian Outback 168-grain

HPBT Match King with three shots going into 4mm. I am no Benchrest shooter so I'm happy to admit that was probably nothing more than a crazy fluke but if you are going to have a fluke, it's nice if it happens when you are testing a review rifle. In total I put just more than 100 shots through the rifle on the range and it seemed to be shooting better the further I went.

Summary

No matter how you look at it, the Lithgow Arms LA102 CrossOver is a rather special rifle. The fact that it is made in Australia is a bonus, of course, but in real terms it will have no problems competing with all of the more popular brand centrefire rifles currently available in our market place.

It functioned perfectly during testing, even if the bolt seemed a little hard to close at first. If I owned the rifle I would ease the weight of the trigger pull a little, but even at 1.5kg it broke very cleanly and was easy to manage.

Those who enjoy wringing the best out of a rifle with handloads will no doubt find the rifle a joy to own and shoot. Those who would rather go hunting will undoubtedly react the same way. It's a very practical and precise product that will surely win a wide following in Australia. Given its



Both the pistol grip and the forearm have stippled panels for grip.

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The best test groups shot with the rifle were 4mm at 100m using the Australian Outback 168-grain HPBT Match King load and a 13mm group shot with the Federal 130-grain Speer HP load.

origins, that's exactly how it ought to be. Lithgow Arms has got it right and I for one hope they have all the success with the LA102 CrossOver it deserves.

The LA102 CrossOver is distributed by Outdoor Sporting Agencies and retails for around \$1300. For more information, ask at your local gunshop or visit www.osaaustralia.com.au and www.lithgowarms.com ●

Specifications

Manufacturer: Lithgow Arms

Model: LA102 CrossOver

Action: Grey Cerakote coated front locking, push feed bolt action

Barrel: Proprietary Lithgow barrel, grey Cerakote coated, cold hammer forged, military grade, floating, medium varmint weight, 560mm long with M14x1 threaded muzzle

Calibres: .223, .243, .308 (tested)

Sights: None fitted. Rifle supplied with Weaver-type Picatinny rail on receiver

Trigger: Single-stage, three-way adjustable set at 1.5kg

Magazine: Detachable, polymer construction, four-round capacity in .223 and three-round capacity in .243 and .308

Overall Length: 1077mm

Weight: Polymer/walnut stock 3.5kg, laminated stock 3.7kg

Stock: Adjustable polymer, walnut (tested), laminated wood

Distributor: Outdoor Sporting Agencies

RRP: \$1300