

Remington Model 700 Titanium Lightweight



The Remington 700 Titanium Lightweight is a highly specialized rifle offering powerful chamberings in an extremely light, handy package. Stiff recoil is the price paid for the Titanium Lightweight's extreme lightness.

In recent years, titanium has received increasing attention from gunmakers, as its combination of strength and light weight makes it ideal for weight-sensitive applications such as handguns for concealed carry. Titanium offers the additional benefit of being impervious to corrosion from water, sweat and other substances to which guns are often exposed.

Despite its advantages, titanium has been used for major structural components of bolt-action rifles by only a handful of custom and semi-custom gunmakers. The introduction in 2001 of the Remington 700 Titanium Lightweight marks the first time a major American manufacturer has entered the titanium rifle derby.

The Titanium Lightweight is essentially a Model 700 Mountain Rifle with additional weight-reducing features. Both short- and long-action variants are

offered, with the former chambered in .260 Rem. and 7 mm-08 Rem. and the latter in .270 Win. and .30-'06 Sprg. The rifle's capacity is three rounds in the blind internal magazine in its ADL-style stock.

Despite its name, only the receiver of the Titanium Lightweight is made of titanium; the rest of the rifle is of steel. While the gun's titanium receiver is in large part responsible for its light weight—some 1½ lbs. less than its Mountain Rifle sibling—other modifications also contribute to weight reduction. For example, the bolt has six 0.25" wide spiral flutes around its body, a skeletonized bolt handle and a hollowed-out bolt knob. Furthermore, the rifle sports a new Bell & Carlson carbon fiber/Kevlar composite stock that is both trimmer and lighter than its Mountain Rifle counterpart. That stock, which is

designed to exert upward pressure on the barrel at the fore-end tip, features quick-detach sling swivel studs, a 3/4" rubber butt pad and aluminum bedding pillars around the stock screws.

The Titanium Lightweight's main story, however, is its receiver. The exact titanium alloy used is proprietary, but is described by Remington as a "commercial aerospace-grade titanium alloy." According to the company, the titanium receiver is fully as strong and as hard as receivers made of the more familiar chrome-moly and stainless steels used in gunmaking. Shooting tests seem to confirm that, as the Titanium Lightweight passed the same 10,000-round factory endurance test to which other Remington rifles are subjected.

We shot a .30-'06-cal. Model 700 Titanium Lightweight for accuracy at 100 yds. off sandbags using Federal

MODEL 700 Ti

MANUFACTURER:

Remington Arms Co., Inc.
(Dept. AR),
870 Remington Drive,
P.O. Box 700, Madison,
NC 27025-0700;
(800) 243-9700;
www.remington.com.

CALIBER: .260 Rem.,
.270 Win., 7 mm-08 Rem.,
.30-'06 Sprg. (tested)

ACTION TYPE: bolt-action
center-fire rifle

RECEIVER: titanium alloy

OVERALL LENGTH: 42¼"

BARREL: 22"

RIFLING: six-groove, 1:10"
RH twist

WEIGHT: 5¼ lbs. (short-
action), 5½ lbs. (long-action)

MAGAZINE: internal, three-
round capacity

SIGHTS: none, receiver
drilled and tapped for
scope mounting

TRIGGER: single-stage,
5¼ lbs. pull

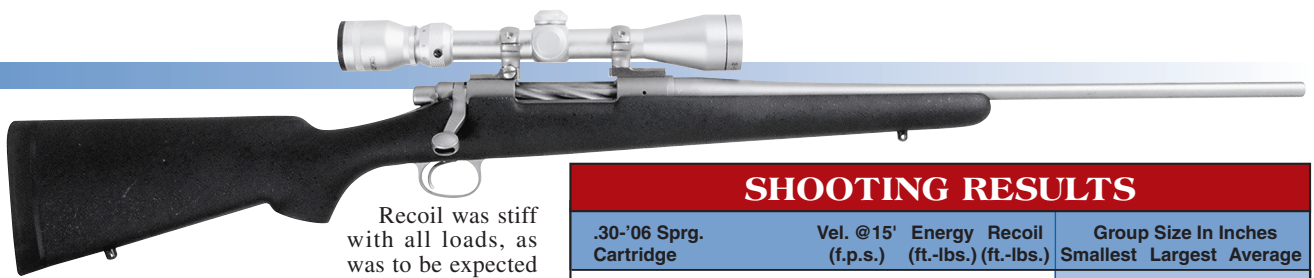
STOCK: Bell & Carlson car-
bon fiber/Kevlar compos-
ite: length of pull, 13¼";
drop at heel, 1¼"; drop at
comb, 1⅝"

SUGGESTED RETAIL

PRICE: \$1,199

The *American Rifleman* has used the phrase "Dope Bag" at least since 1921, when Col. Townsend Whelen first titled his column with it. Even then, it had been in use for years, referring to a sack used by target shooters to hold ammunition and accessories on the firing line. "Sight dope" also was a traditional marksman's term for sight adjustment information, while judging wind speed and direction was called "doping the wind."

WARNING: Technical data and information contained herein are intended to provide information based on the limited experience of individuals under specific conditions and circumstances. They do not detail the comprehensive training procedures, techniques and safety precautions absolutely necessary to properly carry on similar activity. Read the notice and disclaimer on the contents page. Always consult comprehensive reference manuals and bulletins for details of proper training requirements, procedures, techniques and safety precautions before attempting any similar activity.



SHOOTING RESULTS

.30-'06 Sprg. Cartridge	Vel. @15' (f.p.s.)	Energy (ft.-lbs.)	Recoil (ft.-lbs.)	Group Size In Inches		
				Smallest	Largest	Average
Federal P3006Y Sierra 165-gr. BTSP GK	2968 Avg. 16 Sd	3,228	20.6	1.34	2.22	1.77
Remington ER3006C 178-gr. FB SP	2739 Avg. 13 Sd	2,966	20.4	2.14	3.32	2.81
Winchester SHV30061 150-gr. Power-Point Plus	3034 Avg. 18 Sd	3,066	18.4	1.89	2.77	2.48
Average Extreme Spread						2.35
Measured average velocity for five rounds from a 22" barrel. Range temperature: 91°F. Humidity: 71%. Accuracy for five consecutive, five-shot groups at 100 yds. from sandbags. Abbreviations: BTSP (boat-tail soft point), FB (flat base), GK (GameKing), Sd (standard deviation), SP (soft point).						

Premium High Energy loads with 165-gr. Sierra GameKing BTSP bullets, Remington Extended Range loads with 178-gr. flat-base soft-point bullets and Winchester High-Velocity loads with 150-gr. Power Point Plus projectiles. There were no malfunctions of any kind. The results of those tests are given in the accompanying table.

Best grouping was obtained with the Federal load, which produced a 1.77" average for five consecutive, five-shot groups. That load also boasted the most power, pushing a 165-gr. bullet to an average of 2968 f.p.s. and 3,228 ft.-lbs. of energy. Average groups of 2.81" and 2.48" were produced by the Remington and Winchester loads, respectively.

Recoil was stiff with all loads, as was to be expected with a rifle that weighs only about 6½ lbs. with a 3-9X scope installed. We test-fired the rifle using a PAST recoil pad; even so, the Titanium Lightweight's kick made shooting technique more critical and likely limited the degree of accuracy we were able to obtain.

The gun's recoil made scope mounting (and scope quality) more critical as well. The scope originally mounted on the gun had to be replaced because its reticle began to wander, possibly as a result of recoil. We also found that we had to tighten the rifle's scope rings more secure-

ly than usual to prevent the scope from creeping forward with each shot.

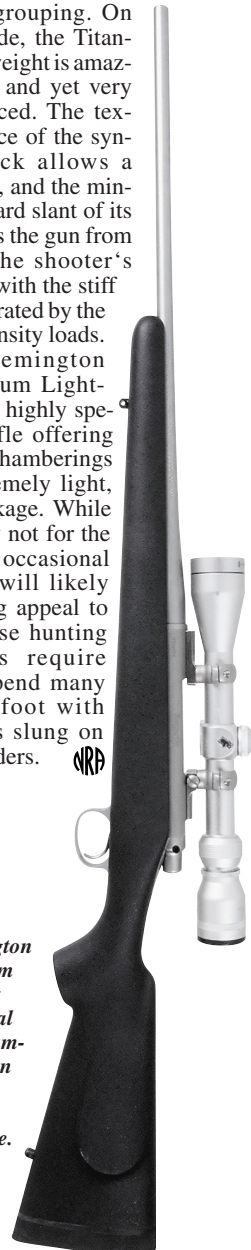
Another factor that may have influenced performance was the speed with which the barrel became hot. Typically, after only about five to seven rounds were fired at a moderate pace, the barrel became far too hot to touch comfortably. Even

the synthetic fore-end became noticeably warm. This level of heat could produce variations in the barrel/stock contact, affecting grouping. On the plus side, the Titanium Lightweight is amazingly light and yet very well-balanced. The textured surface of the synthetic stock allows a secure grip, and the minimal rearward slant of its comb keeps the gun from slapping the shooter's face, even with the stiff recoil generated by the higher-intensity loads.

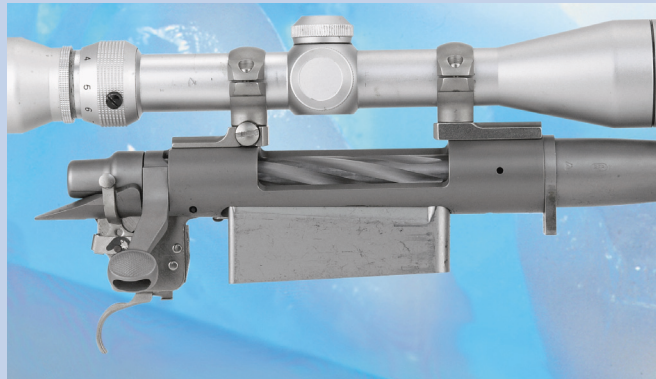
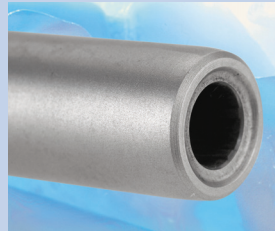
The Remington 700 Titanium Lightweight is a highly specialized rifle offering powerful chamberings in an extremely light, handy package. While it is clearly not for the plinker or occasional hunter, it will likely have strong appeal to those whose hunting conditions require them to spend many hours on foot with their rifles slung on their shoulders.



The Remington 700 Titanium Lightweight offers several popular chamberings in an extremely light, all-weather rifle.



The Titanium Lightweight's bolt features six spiral flutes, a skeletonized bolt handle, and a hollowed-out bolt knob to further reduce weight (r). The bolt shroud incorporates the company's firing-pin block safety lock. The Titanium Lightweight retains the Mountain Rifle's slender 22" barrel with a recessed muzzle crown (top r.). The barrel measures only 0.550" in diameter at its muzzle. The new rifle faithfully adheres to the familiar Remington 700 pattern. The Titanium Lightweight features an ADL-style new Bell & Carlson composite stock. Note the aluminum bedding pillars (arrows) around stock screw holes (below).





DPMS Lo-Pro Rifle

Many shooters looking for an accurate AR-15-type rifle have found price to be a major obstacle. With the cost of a service-grade rifle or carbine running \$850 to \$1,000, some shooters have settled for less-expensive, less-capable rifles while others have chosen to go without. DPMS, a manufacturer of AR-15-style rifles and components since 1986, hopes to reach out to those consumers with the Lo-Pro.

The idea behind the company's Lo-Pro was to create an affordable AR-15-style rifle with the features shooters want, and drop those that inflate cost yet offer little benefit in terms of performance. A number of factors drive up the cost of an AR-15-type rifle, including forged alu-

minum receivers as well as a number of vestigial military requirements, some of dubious utility to the average gun owner. They include the forward assist plunger, ejection port dust cover and other features that are outright detrimental to the performance most shooters want. For instance, a chrome-lined bore limits accuracy and a carrying handle hinders the use of a scope. One could always count on desirable custom features such as unlined barrels and flat-top uppers adding even more to the cost.

The DPMS Lo-Pro, chambered for .223 Rem., features a round-contour 0.92"-diameter 16½" long, 4140 chrome-moly bull barrel. To maximize its accuracy potential, there is no chrome lining, and it has a recessed muz-

zle crown to protect the rifling's origin. The lower receiver is investment cast from aircraft-grade aluminum alloy, while the upper receiver is an aluminum alloy extrusion with 1/4" thick wall dimensions for extra strength. Each is Mil-Spec hard coat anodized, and DPMS goes a step further by adding a black Teflon coating to aid durability and lubricity. Both upper and lower receivers of the example sent to us were free of voids and pits from casting.

In lieu of screws, the upper and lower receivers are connected by standard captured pins at the front and rear. To provide the firer with a more solid feel, a polymer Accu-wedge makes for a tighter fit between the two. To maximize economy,



The Lo-Pro will accommodate commercial and surplus AR-15/M16-style magazines and is provided with two clear synthetic magazines with a capacity of 10 rounds each.

LO-PRO

MANUFACTURER: DPMS Panther Arms (Dept AR), 13983 Industry Ave., Becker, MN 55308; (800) 578-DPMS, www.dpmsinc.com

CALIBER: .223 Rem.

ACTION TYPE: gas-operated, semi-automatic center-fire rifle

RECEIVER: extruded aluminum upper, investment-cast aluminum lower

OVERALL LENGTH: 34½"

BARREL: 16½" chrome-moly steel, 0.92" diameter, round contour

RIFLING: 6 grooves, 1:9" RH twist

WEIGHT: 7 lbs., 2 ozs.

MAGAZINE: detachable box, double-column, synthetic, 10-round capacity

SIGHTS: none, Picatinny rail for attachment of Weaver-style rings

TRIGGER: single-stage, 6½-lb. pull

STOCK: synthetic: length of pull, 13"; drop at heel, 1/2"; drop at comb, 1/2"

ACCESSORIES: two 10-round-capacity magazines, G.I.-style nylon sling and cleaning kit

SUGGESTED RETAIL

PRICE: \$655

SHOOTING RESULTS

.223 Rem. Cartridge	Vel. @ 15' (f.p.s.)	Energy (ft.-lbs.)	Recoil (ft.-lbs.)	Group Size In Inches		
				Smallest	Largest	Average
Black Hills 50-gr. V-Max	2985 Avg. 17 Sd	990	2.6	0.78	1.52	1.13
Remington R223R6 62-gr. BTHP	2588 Avg. 29 Sd	925	2.9	1.27	2.79	2.01
Winchester X223R 55-gr. PSP	2640 Avg. 27 Sd	852	2.5	0.77	1.14	0.97
Average Extreme Spread:				1.37		
Measured average velocity for 10 rounds from a 16.5" barrel. Range temperature: 75° F. Humidity: 21%. Accuracy for five consecutive, five-shot groups at 100 yds. from a sandbag. Abbreviations: Sd (standard deviation), BTHP (Boat-Tail Hollow Point), PSP (pointed soft-point).						

The Lo-Pro's butt-trap provides space for a G.I.-style cleaning kit that is included as an accessory.



the Lo-Pro has no forward assist, brass deflector or ejection port cover.

The inherent accuracy potential of an AR-15-style rifle cries out for a scope, yet scope bases that attach to the carrying handle tend to shift or wobble, and the height of the carrying handle requires a cheek pad to raise the shooter's head high enough to see through the scope and still maintain contact with the stock. Strap-on cheek pads can shift and interfere with the retraction of the charging handle. Whatever means one uses to cope just seems to trade one problem for another. Accordingly, DPMS dispensed with the traditional carrying handle and rear sight base in favor of a flat-top Picatinny rail better suited for the attachment of a scope or the holo- or reflex-type sights that are growing in popularity.

Two polymer 10-round magazines are included with

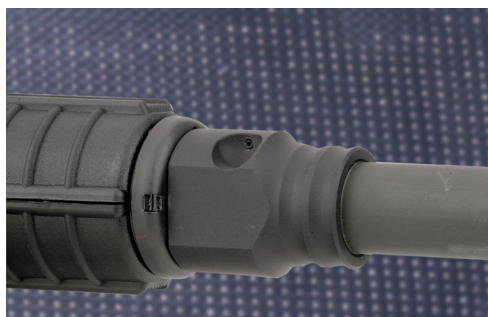
the Lo-Pro, but its magazine well accepts all commercial and military surplus AR-15/M16 magazines. Ribbed for strength, the walls of the Lo-Pro's magazines are clear, allowing the firer to see how many rounds remain.

Internal components of the Lo-Pro's upper and lower receivers, such as the bolt assembly, charging handle, magazine release and single-stage trigger components, are common to most commercial AR-15 clones. No iron sights are provided and the gas block is machined from a solid aluminum billet and secured to the barrel by two set screws. The gas block holds a standard carbine-length gas tube protected by a ribbed thermoplastic hand-guard with an internal aluminum heat shield. External furniture is finished off with an A2 pistol grip with finger rest and an M16A2-length synthet-

ic black buttstock with an A1-style buttpad containing a trap door compartment for a G.I.-style cleaning kit that is included as an accessory.

We fitted a Leupold M8 Compact 6X scope to the DPMS Lo-Pro's Picatinny rail for accuracy testing. Results shown in the accompanying table compare favorably with other commercial AR-15 carbines. As expected with the 1:9" twist, the Lo-Pro shot well with 62- to 69-gr. loads, but did best with cartridges loaded with lighter 50- to 55-gr. bullets. At 6½ lbs. pull, the trigger was a little heavier than desirable, but was free of any stacking or creep. We function fired the Lo-Pro with its provided magazines, as well as military surplus and commercial units that had proven reliable in previous tests. Empty magazines dropped free of their own weight, and there were no failures of any kind.

The Lo-Pro's lack of certain features limit its utility as a tactical/law enforcement carbine. It has no forward sling loop, no shell deflector for weak-hand shooting from barricades, no dust cover to limit fouling from a hostile environment and no back-up iron sights for use in an emergency. Furthermore, if you are of a mind to add those features there is no place to put them. However, the Lo-Pro is suitable for Three Gun matches and is already proving popular in that capacity. The Lo-Pro is a rifle best suited for recreational use such as competition, plinking and varminting, where performance is the bottom line and there is no sense in buying more gun than you need.



A red polymer Accu-wedge (below l.) reduces play between the upper and lower receiver and provides the firer with a more solid-feeling gun. The Lo-Pro's gas-block (l.) is machined from an aluminum billet and secured to the barrel with two set-screws. The Lo-Pro's investment-cast lower receiver contains standard single-stage trigger components that yielded at a pull-weight of 6½ lbs (below).

