

ROCKWELL HARDNESS

Will you please give me the definition of the term "24 Rockwell C"? What does this mean?—J.R.D.

Answer: It refers to the Rockwell method of testing the hardness of steel or other hard materials. For metals of average hardness, such as mild steel, the Rockwell machine forces a point, 1/16" in diameter, into the material under a load of 100 kilograms. This is called the "Rockwell B Test". For harder materials a conical diamond point is used, with a load of 150 kilograms, called the "Rockwell C" test.

The Rockwell hardness number is read directly from a numbered dial on the Rockwell machine and an advantage of the Rockwell hardness test over some other hardness tests is that only a small indentation is produced. A piece of steel with a hardness of "Rockwell 24 C" would be comparatively soft. Rifle actions are commonly in a hardness range of about "Rockwell 40 C" or "Rockwell 65 C".—H.E.M.

M14 MAGAZINE

What is the method of filling the 20-round magazine of the M14 rifle?—A.L.S.

Answer: The M14 rifle magazine can be filled either on or off the rifle.

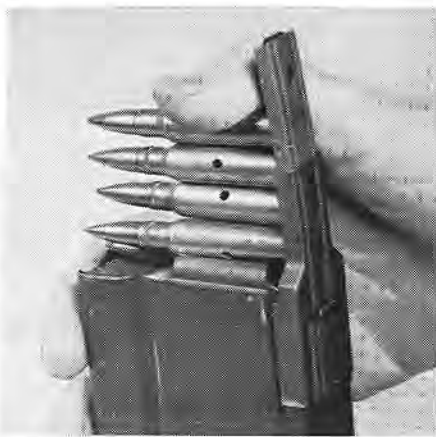
The regular method of filling is from a 5-round stripper clip much like that for the M1903 Springfield rifle. Four clips are required to fill the magazine.

When the magazine is in place on the rifle, one end of the loaded clip is inserted in the clip slots on top of the rifle receiver, and the 5 rounds swept down into the magazine in one motion. Long experience with the bolt-action rifle showed that practice is required to perform this reliably.



(l.) 5-round M14 clip with charger and magazine shown separately and (r.) M14 charger on magazine with clip in place ready for loading

The 5-round clip for the M14 rifle is more strongly constructed than the old Springfield one, also the cartridges are shorter and less tapered, and breaking cartridges out of the clip during this loading should be somewhat less likely.



Stripping rounds into M14 magazine

For loading magazines out of the rifle, a charger duplicating the rifle receiver clip slots is placed over the magazine mouth and the ammunition loaded from 5-round clips in the same way.

In case of need the magazine can be filled with single rounds, and this can be done either on or off the rifle.

U. S. cal. 7.62 mm. NATO ammunition is packed in 5-round stripper clips, metallic link belts for ground and tank machine guns, and 20-round cardboard boxes. Magazine chargers are included in each case of ammunition of the clip pack. The 20-round carton pack supplies ammunition which can be used for either rifle or machine gun.—E.H.H.

RIFLED SLUGS

Does the rifled shotgun slug rotate in flight? I have heard gunsmiths express the opinion that the helical grooves on these soft slugs would be flattened out during firing, especially during passage through the choke, and be useless for producing any rotation.—D.P.S.

Answer: The shotgun slug does rotate in flight, though rotation is not very fast.

It should be noted that this rotation is not necessary to make the slug stable—that is, to keep it flying nose-forward. The very large hollow in the base makes the slug stable in the manner of an arrow. Experiments by THE RIFLEMAN Staff showed that slugs without the helical grooves remained nose-forward in flight to about the same approximation as rifled slugs. However, these smooth slugs made materially larger groups than slugs of the same type but with the regular outside helical grooves.

On inquiry, the 2 largest ammunition manufacturers very kindly gave their experience in this connection. Both pointed out that even a small rotation of the slug would improve its grouping. Such rotation minimizes the effect of unsymmetries in the slug as delivered from the muzzle.

In particular, the Winchester-Western Div. of Olin Mathieson stated that investigations made by them some years ago had shown that the rifled slug did rotate in flight. Before answering THE RIFLEMAN inquiry, Winchester-Western made additional experiments by marking slugs and firing them through paper screens, and confirmed that a slow spin exists.—E.H.H.

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