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TECHNICAL NOTE 38: INSPECTING AND SERVICING 20 ROUND MAGAZINES

BACKGROUND:

ArmaLite® has conducted an extensive test of 20 round M-14/M1A magazines that have been converted into AR-10B series rifle magazines. The purpose of this Technical Note is to record the findings and publicize the results for the convenience of AR-10 owners. Three malfunctions occurred during the tests:

Failure to feed: This malfunction (bullet tip stubbed low into the feed ramp) can have four causes. First, the full-length 20 round magazine spring can be too long for the AR-10. Second, if the magazine bolt catch hole in the side of the magazine is too high; the magazine can be held so low in the receiver that the bullet tip strikes the feed ramp low. Third, in rare cases the feed ramp may be rough, causing the bullet to catch instead of feeding. Fourth, the feed lips of the magazine may be too close together, keeping the rounds low.

Corrections: First, the top coil of the magazine spring (the coil with the rounded end) must be cut off. (The new top front section of spring thus crosses under the front of follower from left to right when viewed from above) without extending beyond the follower's side. This reduces the pressure on the top round in the loaded magazine. A trained gunsmith can polish the feed ramp with a rubber-based polishing cylinder. Feed lips can be SLIGHTLY widened. If stubbing continues, the magazine must be returned to ArmaLite for measurement and replacement if needed.

Failure of the bolt to remain open when the last round is fired: The bolt catch trip can fail to engage the bolt catch, which therefore doesn't catch and hold the bolt open at the last round.

Correction: The slot of the bolt catch trip must be lengthened toward the flat end of the trip. This allows the trip to stick out farther from the back of the magazine box and contact the bolt catch.

Follower jams in the magazine box: This occurs when the bolt catch plunger hole in the follower is too shallow. The hole is supposed to be 1.5 inches deep. The problem can also occur if the magazine is too dirty, if the follower has burrs that catch in the magazine box, or the phosphated box is too rough.

Correction: Press a ¼ inch diameter rod or drill bit into the bolt catch plunger hole to see if the hole is too shallow. If so, deepen the hole to the proper depth or cut two coils off of the plunger spring to reduce spring pressure. Remove any burrs from the follower. The interior of the magazine box, especially the front and back panels, should be smoothed or, better yet, degreased and painted with teflon-bearing Solid Film Lubricant (available through ArmaLite). The topmost point of the magazine spring should be to the REAR of the follower, holding the bolt catch trip in place.

RECOMMENDATION:

Most converted M-14 magazines function well in the AR-10. However, if the magazine has problems the corrective measures listed above should cure them.

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