

.22 LR Rifle Malfunction Troubleshooting Guide

For SBI C-71 and ST-22 rifles — diagnosing and correcting the four most common failure-to-feed and failure-to-eject stoppages.

Before you begin: Always point the muzzle in a safe direction, remove the magazine, and visually and physically confirm the chamber is empty before inspecting, clearing, or disassembling any part of the rifle. Treat every firearm as if it is loaded.

Rimfire semi-automatics are simple blowback actions, but that simplicity means feeding and ejection reliability depends heavily on a clean action, healthy springs, a good magazine, and quality ammunition. The four stoppages below cover the great majority of cycling issues seen in the field. Work through the root causes in order—most malfunctions trace back to fouling or a worn/damaged magazine before anything more serious.

New rifles: new rifles are shipped with a packing oil applied to prevent corrosion during storage and shipping. This oil is not intended as a lubricant and must be fully removed from the action and chamber before use, or the issues described in this document can occur. See the Cleaning Guide.

1

Failure to Eject

Spent case is caught sideways in the ejection port



Spent case tipped sideways and jammed in the ejection port after firing.

LIKELY ROOT CAUSES

- Chamber, bolt face, or extractor claw fouled with carbon/lead buildup, causing the case rim to slip out of the extractor's grip mid-cycle
- Weak, worn, chipped, or broken extractor (or a fatigued extractor spring) that can't hold the rim long enough for the ejector to strike it squarely
- Insufficient bolt velocity/energy — excess oil/grease drag or a short-stroking action from low-powered ammunition
- Out-of-spec or damaged case rims (thin, split, or crushed rims common in some bulk-pack ammunition) that tear free of the extractor early
- An optic, scope rail, or mount that overhangs or narrows the ejection port, physically deflecting the case as it exits

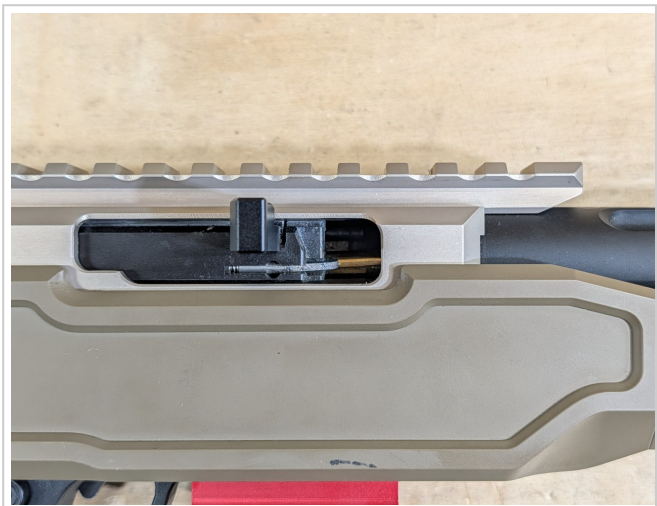
SOLUTIONS

- Field-strip and clean the bolt face, extractor hook, ejector, and chamber throat; a rimfire-specific chamber brush removes the carbon ring that ordinary cleaning misses
- Inspect the extractor for chips or rounded hooks and the extractor spring for proper tension; replace if worn
- Switch to a different ammunition brand/lot to rule out oversized, thin-rimmed, or underpowered cartridges
- Check that no optic, rail extension, or mount intrudes into the ejection path; reposition or use a lower-profile mount if it does

2

Failure to Feed

Round is only partway into the chamber



Round stopped partway into the chamber, bolt not fully forward.

LIKELY ROOT CAUSES

- Carbon ring or lead fouling built up at the chamber throat, narrowing the opening so the round can't seat fully
- Excess friction or dirt on the bolt, robbing it of the forward energy needed to fully chamber the round
- Bolt binding due to dirt or lack of lubrication, causing it to stop short before the round is fully chambered

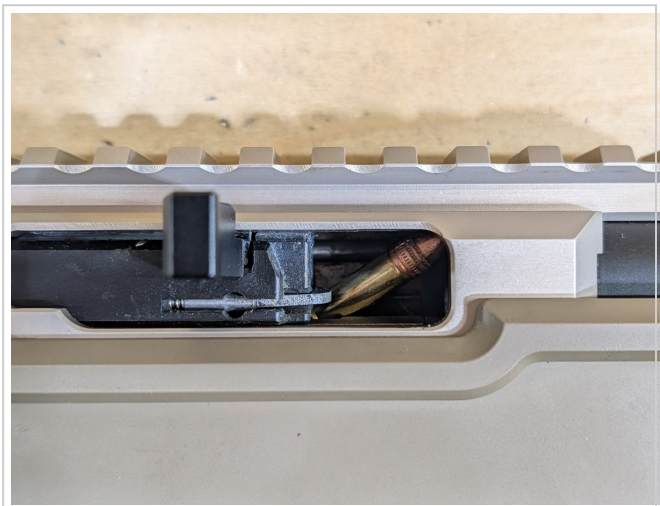
SOLUTIONS

- Clean the chamber thoroughly with a rimfire chamber brush and solvent to remove the carbon ring, then dry and lightly oil
- Clean and apply a light film of lubricant to the bolt
- Try quality, consistent ammunition — some blowback .22 LR actions are sensitive to inconsistent bulk-pack rounds

3

Failure to Feed

Round is nose-up in the action and not feeding into the chamber



Cartridge tipped nose-up in the action instead of feeding level into the chamber.

LIKELY ROOT CAUSES

- Ammunition-related issues are by far the most common cause — an oversized, out-of-spec, or oddly profiled bullet nose that doesn't align properly as it feeds, or inconsistent bulk-pack ammunition
- A defective magazine (rarely the cause, but possible) — a damaged, worn, or incompatible aftermarket magazine, or a weak/damaged magazine spring or follower that doesn't hold the round level as the bolt strips it forward
- Magazine not fully seated/locked into the magazine well, letting the round present at the wrong angle

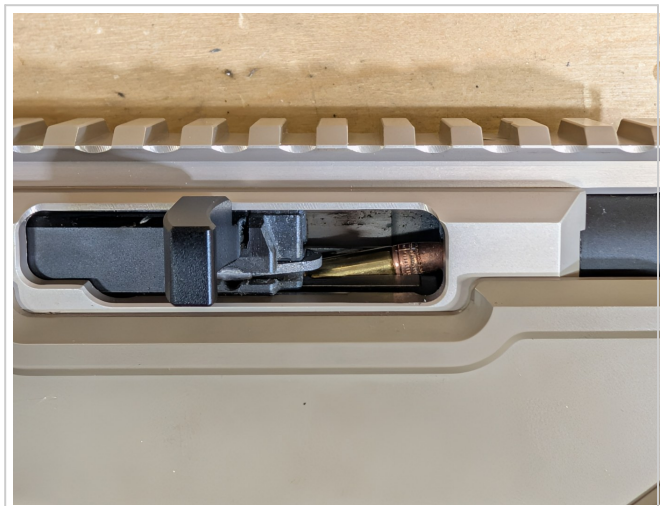
SOLUTIONS

- Try a different ammunition brand or lot first — this resolves the great majority of nose-up feed issues on these rifles
- If the issue persists across multiple ammunition types, inspect the magazine for damage, wear, or a weak spring/follower, and try a factory magazine to rule out a defective unit
- Reseat the magazine fully and confirm it locks positively into the magazine well

4

Failure to Feed

Round is nose-down and stuck in the magazine



Cartridge tipped nose-down, binding inside the magazine instead of rising to be stripped by the bolt.

LIKELY ROOT CAUSES

- Ammunition-related issues are the most common cause — an oversized, out-of-spec, or oddly profiled bullet nose that doesn't align properly as it feeds, or inconsistent bulk-pack ammunition
- A dirty or fouled magazine interior or magazine well — carbon, lead, or grease buildup preventing the round stack from rising and presenting correctly, similar to the chamber/bolt fouling that causes issue #2
- A dirty action causing the bolt to cycle too slowly to properly strip and control the round as it comes off the magazine
- A defective or incorrectly assembled magazine (rarely the cause, but possible) — a weak or damaged spring, a tilted or damaged follower, a dented/deformed magazine body, or the magazine's internal components reassembled incorrectly after cleaning/disassembly

SOLUTIONS

- Try a different ammunition brand or lot first — this resolves the great majority of nose-down feed issues on these rifles
- Clean the magazine interior and magazine well to remove carbon, lead, and grease buildup
- Clean and lightly lubricate the action if it's fouled or cycling sluggishly
- If the issue persists across multiple ammunition types, inspect the magazine spring, follower, and body for damage, confirm it was reassembled correctly if it had been taken apart, and try a factory magazine to rule out a defective unit

General note: the majority of rimfire cycling issues are resolved by (1) cleaning the chamber, bolt face, and action, and (2) replacing a worn or damaged magazine. If stoppages continue after working through the steps above, have the rifle inspected by a qualified gunsmith.



Recommended Ammunition

Ammunition choice is the single biggest factor in reliable cycling

Winchester and Remington ammunition — not just their bulk-pack lines, but all .22 LR ammunition from these brands — is not recommended for use in these rifles. In our testing and field experience, these loads are disproportionately associated with the failure-to-feed and failure-to-eject issues covered in this guide.

Hyper-velocity ammunition (rated above 1300 fps) should also be avoided. These loads can cycle the action too fast and too hard, which may cause the same failure-to-feed and failure-to-eject issues described in this guide.

The three ammunition types below have shown consistently reliable performance and are recommended as a starting point:



Lapua SK .22 LR
40gr Lead Round Nose
1056 fps
500-round tin



CCI Blazer .22 LR
38gr Lead Round Nose
1235 fps
425-round pack



Federal Champion .22 LR
36gr Copper-Plated HP
1260 fps
525-round value pack

Other ammunition may function well in these rifles — every rifle and magazine combination has its own preferences. Users should test several types of ammunition to find what works best for their individual rifle.

Rimfire ammunition is also sensitive to environmental conditions. Temperature, humidity, and storage conditions can all affect how consistently a given load cycles, so a round that runs reliably on one day may behave differently under different conditions.

B

Cleaning Guide

Most rimfire malfunctions in this guide trace back to a dirty action or chamber

1

Field strip the rifle

Remove the action from the stock and separate the major components so each can be cleaned properly.

2

Clean the action, guide rod, spring, and bolt

Clean these parts well with solvent, paying special attention to the bolt face, and remove all carbon and lead buildup.

3

Clean the chamber

Use a copper brush and solvent. A copper brush with a brass rod is ideal. Never use a steel brush in the chamber or bore.

4

Run patches down the barrel

Run a patch with solvent down the barrel, followed by dry patches to mop up any excess solvent and residue. Cleaning from either the chamber end or the muzzle end is acceptable – as long as a brass rod and copper brush/jag are used, no damage will occur. Some people believe you should only clean from the chamber end; in reality, it doesn't matter.

5

Lubricate everything

Apply a light, even coat of oil to the action, bolt, guide rod, spring, and other moving parts before reassembly.

Cleaning frequency: depending on the ammunition used, quickly running a bore snake down the barrel every 200–300 rounds may be required for optimal reliability. A full cleaning as described above is recommended every 1,000 rounds.

Recommended products: Hoppe's No. 9 (solvent) and Ballistol (oil). Other quality cleaning products may work as well.