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This document is intended to explain the function and importance of the M14/M1A firing pin safety bridge. This is merely an informative article which requires no tools.



The Safety Bridge: What it is, and why it's so important...

From time to time, you will hear "The Experts" talk about the safety bridge. To a new M14/M1A owner, the safety bridge can be a bit of a mystery. Here is an explanation of what it is:

Just above the magazine latch, there is a groove in the area of metal just below the bolt that we call the "Safety Bridge". The M1 Garand and the M14 designs use a free-floating firing pin inside the bolt. If the firing pin channel is clogged or dirty, the firing pin may jam up, protruding from the face of the bolt.

If there is no safety bridge, then there lies a possibility that when the rifle chambers a new round, it can ignite the round before the bolt is fully locked. This will result in an "out of battery explosion" (not to be confused with a slam-fire). If the locking lugs of the bolt are not engaged into the locking recesses of the receiver, there will be nothing holding the bolt in place if there is an out of battery explosion.

The bolt will, in essence, act as a high speed battering ram and slam into the heel of the receiver. This can typically result in the catastrophic disassembly of the receiver, automatic magazine and trigger guard removal and shearing of the bolt roller and operating rod at one or more stress points. Considering the close proximity of the shooter's face to the heel of the receiver, it is highly recommended that you ensure that your safety bridge is functioning properly.

This is the safety bridge...



When the bolt is fully engaged into the bolt lug recesses, the firing pin will line up with the slot in the safety bridge allowing the firing pin to move forward and strike the primer.



Left image: bolt fully engaged; firing pin free to strike the primer. Right image: bolt fully forward but not engaged; firing pin blocked by the safety bridge.

If the bolt is not fully engaged, the firing pin will be blocked by the safety bridge and prevent a premature detonation of the unchambered cartridge.

Over time, the tail of the firing pin may begin to deform and it may begin to advance sooner than a new firing pin.

If the safety bridge is mis-shaped, it may take excessive force to unlock the bolt which can cause cycling issues. If the rifle does not pass “The Tilt Test”, remove the firing pin and see if it passes. If it passes with no firing pin but fails with the firing pin installed, then there is not enough relief cut to allow the firing pin to rotate in or out of alignment with the safety bridge. The tail of the firing pin will begin to wear very fast. This may or may not cause safety issues.

If you have any questions, please feel free to send me an e-mail and I will point you in the right

direction or post a question in the general forum and I am sure an expert will be along to help answer questions. It is also suggested that you seek the consult of a reputable gunsmith that specializes in M14's or M1 Garands.

Here is a commentary sent to me by an anonymous, but credible, contributor...

"When the M1a first came out, not Devine's as I recall, but the people after Elmer, many of the receivers, maybe all of them, had the firing pin cam cut in the wrong place. The pin would catch and fail to go fully into battery. At that time, it was common practice to round off the matching area on the Firing pin.

It was not unusual to see rifles where the cam area was gouged out from this misalignment. Other Brand receiver's had the same problem only worse.

It was suggested that a non chrome pin should be used thus transferring the wear to the pin only. I think this helped. I did see several rifles that fired on going into battery from worn cam areas. There was NO correction for this situation short of a new receiver.

There is a special gauge to check another situation, called Bridge advancement, this was during the M1 days. The bridge can and has advanced over years that produces slam fires. Ted Brown has the only gauge that I know about."

-TonyBen