

REMINGTON M/725
HIGH POWER CENTER FIRE RIFLE
CYCLE OF OPERATIONS

The Remington M/725 is a bolt action, repeating rifle. This basic handle operation of the bolt is common in most respects with similar type rifles.

The Cycle of Operations may start as the magazine is loaded and a cartridge locked by the bolt in the chamber. The trigger is pulled to fire each cartridge and the bolt handle is raised to turn and pull the bolt rearward. The return of the bolt forward to reload the next cartridge and then the handle turned down to lock the bolt against the chambered cartridge, completes the operation cycle.

Each cycle is summarized briefly, then in detail the movement of related parts is described more fully. For reason of a safe operation cycle, the Three Position Safety Lock is explained to preface this Cycle of Operations.

SAFETY LOCK

Safe "S" (mark on receiver) - The rifle cannot be fired nor the bolt handle raised to unlock the bolt from the barrel when the safety lock thumbpiece is rotated fully rearward to the "S" mark on the receiver. In detail, the thumbpiece, locks a safety cam component of the trigger assembly up and against the "cocked" firing pin assembly to prevent its forward release. A bolt lock component is also

rotated into a bottom channel in the locked bolt. This bolt lock prevents the bolt and bolt handle from turning to unlock.

Unlock position (no mark on receiver) - The rifle cannot be fired; however, the bolt handle can be raised to unlock and withdraw the bolt, when the safety lock thumbpiece is rotated to a stop position between the Safe "S" and Fire "F" mark on the receiver. In detail, the firing pin assembly continues to be held "cocked" by the safety cam component. However, the bolt lock is rotated from engagement with the bottom channel in the bolt and the bolt handle can be raised to turn and withdraw the bolt.

Fire "F" (mark on receiver) - The rifle can be fired or the bolt handle raised to turn and unlock the bolt when the safety lock thumbpiece is rotated fully forward to the "F" mark on the receiver. In detail, the safety cam component within the trigger assembly is no longer held against the "cocked" firing pin assembly. The bolt lock, as in the Unlock Position, is rotated from engagement with the bottom channel in the bolt. The bolt is free to turn and unlock if the handle is raised.

FIRING (Safety Lock in "F" position)

The firing cycle is simply the pull of the trigger each time to release a spring-loaded or "cocked" firing pin to fire the cartridge. In detail, this pull of the trigger carries

forward a connector component from beneath the sear. This forward movement of the connector leaves the sear unsupported against the "cocked" firing pin. With support removed, sear is cammed downward by the spring-urged firing pin. The mainspring then thrusts the firing pin forward to strike the cartridge.

NOTE: The design and movement of the connector is to adjust for the shortest possible pull of the trigger with absolutely no over-travel.

UNLOCKING

The unlock cycle is the raising of the bolt handle to disengage the bolt from the breech of the barrel. In detail, this upward swing of the bolt handle turns the bolt to unseat the locking lugs on the head of the bolt from the recoil shoulders in the receiver.

COCKING

The "cocking" cycle may be summarized as two movements: (1) the "cocking" of the bolt which occurs during the unlocking cycle; and (2) the "cocking" of the rifle which occurs during the locking cycle. In detail, the first movement is the withdrawal and notching of the firing pin against the pressure of the tensed mainspring in the bolt. The final movement is the holding or sustaining of the withdrawn or "cocked" pin until the trigger is pulled.

The first or withdrawal movement is caused by the turning of the bolt as the handle is raised. During the turning, a cam cut at the rear of the bolt forces the firing pin assembly rearward, to locate in a notch on the rear rim of the bolt. The final or sustaining movement is simply the transfer of this "cocked" position of the firing pin from the bolt to the sear in the trigger assembly. This transfer to the sear occurs as the bolt handle is lowered in the locking cycle.

The sear then holds the firing pin or rifle "cocked" until the trigger is pulled during the firing cycle or the bolt handle is raised to re-transfer the "cocking" of the firing pin to the bolt rim.

EXTRACTING

The extracting cycle consists of the "freeing" of the fired cartridge case (or live round) from the cartridge chamber walls in the barrel breech and the pulling of the case from the chamber. In detail, as the bolt handle is raised to unlock the bolt, the final upturn motion engages a camming surface in the receiver. This rearward camming motion of the bolt will disengage the fired case from tight contact with the barrel chamber. Further rearward pull on the bolt handle extracts the fired case completely from the chamber. During the extraction cycle the fired case is gripped firmly to the bolt face by an extractor component. This extractor is recessed within the rim on the bolt head.

FEEDING

The feeding cycle is the lift and forward movement of the top most cartridge from magazine to barrel breech. In detail, as the bolt clears the magazine opening, the top cartridge in the magazine is pressed upwards by the magazine spring and into feeding position. The return movement of the bolt pushes against the rear of the cartridge. The bullet end of the cartridge moves up the bullet incline and the rear is leveled out free of the feeding lip on the receiver.

LOADING

The loading cycle is rather brief and comprises the movement of the free cartridge as it is pushed forward by the bolt and loaded completely into the barrel chamber.

LOCKING

The locking cycle occurs as the downward turn of the bolt handle rotates the bolt and locks it against the chambered cartridge. In detail, four engagements are made by this locking cycle: (1) the two locking lugs on bolt head are firmly seated against the recoil shoulders in the receiver; (2) the base of the loaded cartridge is recessed within the bolt face, depressing the ejector and flexing the extractor to snap the claw over the base rim of the cartridge; (3) the sear engages a camming surface to the rear of the firing pin, on the firing pin head; and (4) the sear is supported from beneath by the connector to hold the firing pin back and the rifle "cocked" until the trigger is pulled.

CONCLUSION:

The safe operation of Remington M/725 with directions for loading and unloading of cartridges is contained in the Instruction Folder packaged with each rifle. The adjustment of sights and proper care of this rifle is also contained in this folder.

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R&D Div.

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