CLAIMS:

1. A casing ejection system for a firearm employing a bolt carrier assembly, the system comprising:

an elongate bolt disposed to move along and rotate about a longitudinal axis in a bolt carrier, with a front face of the bolt having an extractor for holding a casing thereon;

an elongate actuator rod disposed above and parallel to the longitudinal axis of the bolt and bolt carrier, with a front end of the actuator rod having a L-shaped deflector, and a rear end having a cam pin and an engaging cam slot in a sleeve disposed around the rear end, wherein the L-shaped deflector is at a home position that is forward and clear from the front face of the bolt;

an ejection chute that is parallel to the actuator rod and having a longitudinal opening for receiving a casing held by the extractor at the front face; and

an ejector extends from the bolt carrier into the ejection chute near a rear end of the longitudinal opening and is movable to a front end of the longitudinal opening according to a longitudinal stroke of the cam pin in the cam slot;

wherein, after an initial predetermined rearward motion, further rearward motion of the cam pin in the engaging cam slot causes the actuator rod to rotate and to strike and to push the casing laterally into the ejection chute, therethrough the longitudinal opening, so that the casing in the ejection chute is pushed forward by the ejector to eject a safe distance forward and to one side of the firearm.

2. The casing ejection system according to claim 1, wherein the initial predetermined rearward motion of the actuator rod is accompanied by a combined longitudinal motion and rotation of the bolt, with the combined longitudinal and rotation of the bolt being generated by a transverse pin on the bolt engaging with a curved slot formed in the bolt carrier.

3. The casing ejection system according to claim 2, wherein the initial predetermined rearward motion of the actuator rod is generated by the cam pin traveling in an initial straight longitudinal section of the cam slot.

4. The casing ejection system according to any one of claims 1-3, further comprising a piston subassembly to drive the bolt carrier rearward, and a recoil spring in the piston subassembly drives the bolt carrier forward.