

December 28, 1974

SUBJECT M/700

The 700C grade uses the Varmint Special Stock. The fore-end length is matched to the barrel length. The break even point for the "C" grade is about 15 hours per gun.

The left hand model 700 is a true left hand version of the standard gun. It has its own fire control assembly, bolt, ejector, extractor, stock (because of cheek piece needs its own former) and bolt body.

The 700 stocks are colored with a dark red wood filler.

The plastic butt plates which have replaced the aluminum butt plates tested out just as well under breaking and chipping conditions.

The bolt head is made of 4140 steel, while the bolt body is made of a medium carbon steel. The bolt body has an indexed thread to accept an indexed thread on the bolt plug which is not heat treated.

The firing pin cocking cam surface on the bolt body will gual if it is not properly lubricated. The cocking piece surface has to be smooth. The radius cut on the cocking piece has to be central or when the gun is fired the cocking piece will rub on the rails in the receiver and cuase low indent.

The bolt assembly is heat treated as a unit. The cocking cam surface on the bolt body is kept cool while the bolt handle is brazed on by induction brazing. On the 40X the whole bolt assembly is heat treated as a unit. The firing pin cocking cam has about the same hardness as the locking lugs.

The Springfield receivers made by Remington were made of 8620 steel. The 700 model guns were made of 8620 with only front part of the receiver being heat treated. It did not work becuase of a color line, so the receivers are made of 4140 with an austempering heat treat to get away from deformation. The rear section of the receiver always bends down in heat treat.

The bolt handles are cast in Canada of the same material used on the 600 bolt handles. The primary extraction cam on the top rear of the receiver showed some brinelling when the plant stopped using a 3% nickel steel for the bolt handle. The purpose of this cam is to pull the case out of the chamber after it is shot and expanded. The cam gives about .110 inches of travel to the bolt. This cam has to work in conjunction with the cam cuts on the inside of the receiver. The receiver lugs are on an eccentric with respect to the center of the bolt body. The sharp edge on the bolt lugs are broken so they will ride on the cam surface cut into the receiver without qualling (lead in angle cuts).

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There is .017" Max. clearance between the bolt face and the barrel face.

Concentricity Of Receiver to Barrel - The threads on the barrel should be machined from the chamber or the bore. The objective is to get the shell recess in the bolt to line up with the chamber in the barrel. There is a clearance between the bolt shroud and the barrel recess diameter to allow for concentricity between the barrel, receiver, and bolt. The blow up tests indicate that the bolt shroud will expand and fill the gap without shearing off the end of the bolt. If the concentricity is too great, the gun will have hard unlocking problems. The bolt diameter in the receiver diameter is all that guides or positions the bolt in the receiver.

The ejector tends to hang up because of inadequate cleaning of bluing salts when the gun is made. If properly cleaned out it would give no problems. If the braze is not cleaned out, if it should flow in the hole, it can cause ejection problems.

Bolt Head - The shell head recess is made with a butt mill. If the corner on the butt mill has a radius it will stop the shell head from seating on the bolt face and make the gun act like a min. header. It will also make the gun hard closing on shells which do not have a relief cut or chamfer.

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The front sights are not critical in M. H. Walker's view, because the majority of shooters fit scopes to their guns.

The barrel thread diameter is over 1" so the fit of the threads is not as important as on other models. The lock-tite holds the barrel and receiver together and prevents bleed out. The barrels are torqued at muzzle so torque is limited to 100 ft. lbs., but Mike would recommend a torque of 180 ft. lbs.

No problems have been encountered with the slings or swivels on the EDL model.

No problems with the ADL excursion. A bigger excursion was tried but did not look good and its benefits were marginal.

The center screw on the ADL, benefits are in question, but does not seem to be harmful.

40X Sporter - Rim fire sporter - Altered 700C to handle the 22 Rim Fire Cartridge. The 22 clips are bought from Ithaca. Everyone is shot for accuracy, custom made to order. 700C barrel supplied by production but lapped and special polish.

M/700 Safari - GFM barrels finished in Custom Shop. Shot for accuracy and point of impact in gallery.

Custom Shop guns made to order:

1. 700 "C" Center fire
2. 40X Sporter Rim fire
3. 700 Safari

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