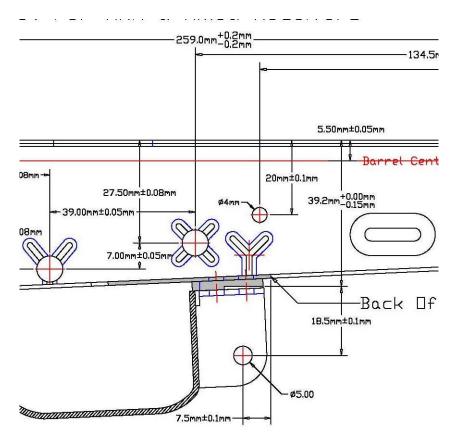
Relationship of Selector Stop Depression and Magazine Height

The procedure detailed below is the measurement and possible modification of the selector stop plate found on all rifles and carbines with stamped frames and some rifles and carbines with milled frames. This covers the most of the Kalashnikova variants but while the measurement and modification procedures are the same for the Romanian PSL and the Zastava M76, the values for those rifles are different and are not published in this document. There are certain rifles and carbines of the milled frame variety that have a raised boss on the lower plate and do not use a selector stop. These frames have the milled depression in the raised boss and the procedure of measurement is the same, and the modification of depth is similar.



Above is a cross-sectional view of the assembly, with a dimension of 39,2mm +0,0mm/-0,15mm that is measured from the top rail to the bottom of the depression in the selector stop. If one has several selector stops, through measurement one may determine that the depth of this depression varies part-to-part. Why? Because the depth of the depression is determined by test measurement of a frame with a chosen selector stop, and if the aforementioned dimension is not obtained, the selector stop is exchanged for one with a different depression depth or the selector stop is machined until the aforementioned dimension is obtained.

Why is this critical? The depth of this depression determines the height of an installed magazine - measured at the rear. If the magazine resides too low there can be minor to serious cartridge feeding problems. The $7,62 \times 39$ cartridge is quite forgiving due to its broad base, but the smaller base of the $5,45 \times 39$ and especially $5,56 \times 45$ cartridges can cause much grief if their respective magazine resides too low - the bolt will travel over the cartridges and not reliably pick them from the magazine. Often it is the $5,56 \times 45$ rifle or carbine that has the majority of feeding issues, and in most cases the insufficient height of the

rear of the magazine is the cause. *

There are normally minor differences regarding the "height" of any stamped or milled frame measured from the top rail to the area where the selector stop resides, and varying the depth of the depression in the selector stop is the method of adjustment. Since many of these selector stops are from used kits assembled elsewhere, there may be dimensional issues when mounted onto a new frame.



In the photograph above, a selector stop is shown touching a stamped frame. There are a couple of rivets helping to keep it in its correct position while a 10,0mm thick plate and Vernier beam caliper are used to make the measurement. Note - the plate does not have to be 10,0mm thick and the beam caliber need not be of the Vernier type. I prefer the 10,0mm plate since "10" is an easy value to mentally subtract from the total reading. The measurement indicates 49,95mm which translates to 49,95mm - 10,0mm = 39,95mm. So, the chosen selector stop for this frame will not work correctly. Since a selector stop with the correct depth of depression is not available it must be machined to the correct depth.

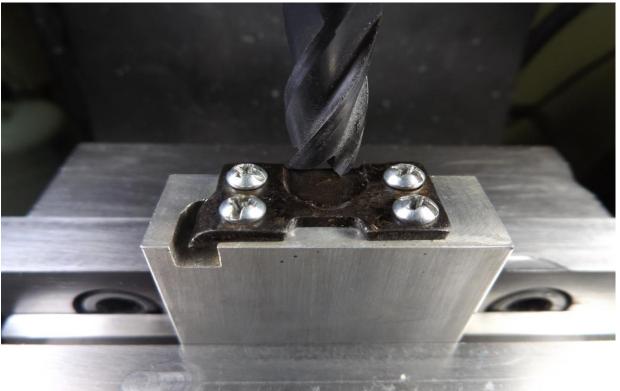
In the case of this selector stop and frame assembly, the depth of the depression must be increased 0,75mm.



In the photograph above, you can see a simple tool that allows holding the selector stop while the depression depth is increased. It is made from aluminium with a pattern of tapped Nr. 6-32 UNC holes. The top of this fixture has an angle of 2-degrees 30-minutes to closely match the 2-degree 33-minute theoretical angle of the lower plane of the stamped or milled frame.



In the photograph above, the selector stop is fastened to the fixture with the screws. In the photograph immediately below, a diameter 0.500" endmill is centered to the depression, touched off, lowered to the correct depth and the cut is usually made in a single pass. Note that the specification of the width of the depression is 12,6mm and the diameter 0.500" endmill will give a slight width increase to 12,7mm. This does not affect function.



The machined selector stop is again placed on the frame and a measurement made to verify that it is correct. Once verified the selector stop is assembled with the triggerguard and all is riveted in place.

*It is my practice for a $5,56 \times 45$ rifle or carbine to arrive as close to 39,05mm (39,2mm - 0,15mm) as possible in order to raise the magazine to the maximum allowed height.

J. Robert Forbus Ing. Robert Forbus 28, December 2018