

SKS Project: The Rifleman's SKS



Bipod for photo reasons only (what self respecting rifleman would use one of those things)

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Intro: The purpose of this project was to come up with an economical center fire alternative to the .22 rimfire for Appleseed purposes. The SKS is an inexpensive, robust rifle chambered for the also (at least for now) inexpensive 7.62x39 cartridge. However in its issue form it has a number of glaring shortcomings (described by The Guy as an inlited 2x4 topped by an ingot of pig iron), which we have attempted to address and correct. We feel we have succeeded. We have actually gained the official “The Guy” stamp of approval. He was able to fire a sub 1” group at 25 meters having never seen the rifle before. The ultimate endorsement was his statement “You guys have taken a total piece of s**t and turned it into a rifle that ANYONE could shoot a rifleman’s score with”.

The build-up is NOT a drop-in, bolt-on project. Some proficiency with hand tools (saws, files, drills, grinders, etc.) is necessary, along with a basic understanding of shop procedures and the workings of the SKS rifle. All the work can be accomplished in the average garage or home workshop. A vise and Dremel tool will greatly simplify the procedure. Certain procedures (trigger job, etc.) should be undertaken only by those with proper knowledge.

We chose the YUGO SKS as are base platform because of its superior quality, current low cost/availability and updated features. However most of the modifications below should be applicable to other SKS models.

Materials and Suppliers List:

Tapco- www.tapco.com

- * T-6 Fusion Rifle Stock System without bayonet (DO NOT get the stock with bayonet cut, this will make sling swivel mounting nearly impossible).
- * 20 rd magazines
- * Extended mag release (opt.)
- * Rubber butt pad for T-6 stock (opt.)
- * Front sight tool
- * Tapco sells all of the above packaged as a 922r compliance kit, which may be a better value for some builders

Tech-Sights- www.Tech-SIGHTS.com

- * SKS rear sight (either model will do)
- * Narrow front sight post (opt.)
- * Rear sight adjustment tool

KNS- www.knsprecisioninc.com

- * SKS crosshair front sight (opt.)

Freds M-14 stocks: www.fredsm14stocks.com

- * Front and rear M-14 swivels
- * Slings

Numrich Gun Parts Corp.- www.e-gunparts.com

- * Front and rear M-14 swivels: Rear- 411470A Front- 724640
- * Slings: Black Nylon M-14- 984970
- * Takedown latch pin (opt.)- 490720

Brownells- www.brownells.com

- * Wulff SKS spring kit- 969-301-900AA
- * Kasenit case hardening compound (opt.)- 479-001-100

American Gunsmithing Institute (AGI)- www.americangunsmith.com

- * SKS trigger job DVD

www.ricks muzzlebrakesandgunstuff.com

- * SKS muzzle brakes

Teardown: The rifle should be completely CLEANED before proceeding: Removal of grenade launcher and front sight assembly are not necessary if you do not feel like trimming several pounds of excess pig iron off the front of your rifle.

1-Remove the action from the stock.

2-Remove the bayonet. The bayonet screw is staked in place and may take grinding or drilling to remove.

3-Remove grenade launcher. The grenade launcher is pinned AND threaded (RH) onto the barrel. To remove, drive out pin (may have to use a hacksaw to relief cut pin for removal, I.E. rusted badly). Secure barrel assembly in vise clamping around the front sight block or receiver. Heat grenade launcher using propane torch if it does not break free easily. A pipe wrench will usually break it free with little trouble. Remember to take care so as not to twist barrel while doing this.

4-Remove front sight assembly. It is pinned on the barrel in two places. Drive out both pins and use a gear puller or shop press to remove from barrel. When removing sight, protect the crown of the barrel (the grenade launcher makes a good protector).

5-Remove rear sight. On a YUGO model the pin is a cast part of the sight, prying downward at the pin will allow the sight to be withdrawn from the rear. Save the spring/cover, the tech sight comes with a pin to hold it in place to act as a dust cover for the op-rod. NOTE: Other SKS models may differ.

6-Remove take-down latch from upper receiver. Grind the small, stubby pin off (refer to tech sight installation instructions). Purchasing a take-down latch pin (see parts list) will allow you to re-assemble the original latch if you desire to do so. Only do this modification if you will be using the Tech-Sights for the SKS rifle.

7-Remove the trigger group tensioning spring from the bottom side of factory stock and SAVE. Remove carefully with a counter-clockwise screwing/pulling motion.

Stock Install:

1-Handguard installation. Before installing the Tapco hand guard, the picatinny rail should be removed to provide a proper sight picture. This can be done using a hacksaw, Dremel tool, belt sander, etc. Remove the rail completely and sand to finish. The pin retaining the factory guard to the gas tube is peened on both sides. Grinding one side is required to remove the pin. DO NOT over grind. This will allow the pin to be re-peened on assembly. If new hand guard is not completely secure, applications of an epoxy can correct this. Refer to installation instructions provided with stock.



Epoxy should be forced into area after re-assembly for best results (and to keep you from getting gooey).

2-Relief cut for tech sight. The Tapco stock must be relieved at the receivers rear to allow mounting of the tech sight. This easily accomplished with a flat file or Dremel tool (see photo).



3-Front sling swivel. We chose to use the M-14 front sling swivel, other types may be used if desired. All swivels will require the following stock modification, using fiberglass resin, epoxy, or similar compound (see photo). Fill the bottom inside of the forearm to a depth of at least ½” in the area where the swivel will be mounted.



When the compound has set, mark and drill the necessary holes for your swivel type. If using M-14 type swivels, holes may be through drilled and swivel attached with machine screws and nuts.

4-Rear sling swivel. The factory rear swivel on the Tapco stock is adequate, however , as it is made of plastic, we chose to replace it with a steel M-14 rear swivel. The M-14 swivel requires filing/grinding to fit into the slot on the stock. The screw that is in the stock will work with the new swivel.

5-Pistol grip modification. As supplied, the Tapco stock requires removal of the pistol grip for action removal from stock. The pistol grip is easily modified to circumvent this, using hacksaw, file or Dremel tool, remove only enough material to allow trigger group tang to slide into pistol grip opening and to rise approximately 3/8" when the catch is released (see photo).



Remove material equally from both sides.

6-Installation of trigger group tensioning spring. The factory spring should be installed to apply proper tension to the trigger group to prevent action movement/looseness in the Tapco stock. To do this locate and drill a 5/16" hole in the same position as the factory stock. Drill to a depth of 5/8" and install spring. If there is too much tension, simply trim spring to desired height. A dab of silicone or epoxy at bottom of hole will help to retain spring.

7-Magazine well relief. The magazine well on the Tapco stock needs to be modified slightly to allow for takedown and use with detachable magazines. A Dremel tool or small flat file are useful to accomplish this. Material should be removed from the forward end of the mag well near the magazine front retaining lug. Trim and test to test for fit/function (see photo).



8-Break sharp corners and edges. Using sandpaper or small file deburr mold marks, mag well edges, pistol grip, etc. for comfort and looks.

Front sight modifications: The following modifications were done for weight reduction and aesthetics (see photos).

1-Bayonet lug removal. Bayonet lug can be removed with a hacksaw or bandsaw and dressed with files or belt sander. DO NOT cut so deep as to expose any of the lower retaining hole.

2-Remove the bayonet/grenade launcher ring. Using a hacksaw/bandsaw cut flush to the sight block and finish as above.

3-Remove grenade launcher ladder sight. The pivot pin may or may not be driven out with a punch. It may require a press to remove or grinding the ends of the pin flush to the night sight block. The small flip up night sight may be left in place as desired.

4-If you are going to install the KNS crosshair front sight it will be necessary to open the hole on the top of the hood to 3/8" to allow for installation.



Note pin relief cuts in barrel. This example still has the flip up night sight.

Assembly of the rifle:

- 1-Re-blue the barrel around the front sight/grenade launcher area.
- 2-Press front sight assembly back on to barrel and reinstall lower retaining pin (upper pin hole will not be there if you have removed bayonet latch ring off of sight).
- 3-Install muzzle brake per instructions. If using Rick's muzzle brake, apply thread locking compound and index carefully.
- 4-Install rear sight as per instructions.
- 5-Install action in stock (see photos for proper alignment and procedure).



Top: Slide trigger group through stock and align front pins in lug. Make sure that disconnect bar aligns properly in upper receiver.

Bottom: Hinge action together by first inserting rear tang of trigger group into pistol grip and then hooking front of stock to ferrule. Continue hinging stock together, keeping the trigger group front pins aligned in the lug.

All this may seem difficult, but after a couple of times it becomes second nature.



Factory magazine modification: To make the factory magazine detachable and for ease of re-assembly.

1-The small spot-welded lug on the rear of the magazine must be removed. This is best accomplished using a Dremel tool with small cut-off wheels. Cut through the lug in several places (DO NOT cut into magazine body), pry each segment loose one at a time.

2-Install the magazine and trigger group to action without stock.

3-Locate and drill a 1/8" hole 1 1/2" from the forward end of the magazine and 1/8" below the top edge of the hinged cover.



4-Install 1/8"x3/16" pop rivet into hole. Be sure follower bar inside magazine clears rivet.

Trigger Info:

1-Installation of Wulff spring kit (see parts list) will lighten felt trigger pull considerably.

2-Further modifications to trigger system DEMAND more extensive knowledge and a basic knowledge of metallurgy. The sear on the SKS rifle is case-hardened. Any modifications done to the sear will require re-hardening. Kasenit case-hardening compound (see parts list) can be used for this purpose. American Gunsmithing Institute (AGI) has available a DVD specifically for the SKS trigger job. As nearly all SKS rifles come from the factory with horrible triggers, this is something that should be taken into consideration.

In closing, this rifle has been tested at 25m on an AQT and successfully shot a rifleman's score. We have also performed tests on the full distance range with successful results using the flip model Tech Sight. Sighting in for 6-O hold for the first three stages and then holding COT for the final stage produced excellent results with no further sight adjustments. Any doubts about the abilities of this cartridge were laid to rest when, firing at a ½" steel plate at 400yds with 122gr FMJ ammunition, we had 50% penetration of the steel plate.

If there any technical questions, please PM either *Longshot* or *Thor's Hammer* on the RWVA Appleseed Forums (<http://www.rwva.org>) with your questions.

