MatchGrade Synthetic Stock Stabilizer instructions

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About MatchGrade synthetic stock stabilizer

MatchGrade synthetic stock stabilizer is a product that has been specifically designed and tested by Terminal Ballistics Research Ltd in conjunction with a leading New Zealand epoxy resin manufacturer. This product is designed to eliminate flexing in plastic synthetic rifle stocks to optimize accuracy.

For optimum accuracy, a rifle should always be bedded at the action and beginning of the barrel. Along with bedding, the barrel should always be free floated (not touching the stock forend). Nevertheless, regardless of efforts to free float the barrel, plastic rifle stocks often suffer fore end flexing. In some instances, flexing will cause direct pressure against the rifle barrel, in other cases, the stress is indirect. In either case, these stresses upset barrel harmonics with a drastically negative effect on rifle accuracy.

Stock stabilizer is a light weight polymer resin, has a rich black color and a runny consistency for easy pouring into cavities such as those found in the tang of SPS and Tikka stocks, as well as the forend.

Note!: Stabilizing needs to be done in conjunction with bedding. Stabilize first, then bed the rifle. If a plastic stock is stabilized but left unbedded, a flex point will occur at the recoil lug recess of the stock. This flex point will destroy any attempts to optimize accuracy. Bed the rifle action after stabilizing, bedding at least the first inch of the barrel (depending on contour) **for a fully rigid stock.**

Stabilizing is a relatively simple job that can be performed within 1 hour, leaving the stock to cure thereafter.

Stock Stabilizer instructions

You will need:

- Stock stabilizer part A and Part B
- Masking tape
- Knife or long piece of wire
- Gas cooker/Gas torch
- Plastercine from MatchGrade bedding kit (some situations)

Mixing instructions for Stock stabilizer

Pour part B into part A, stir well.

Clean up

Use citrus based cleaners or brake cleaner / degreaser type sprays. Hoppes is a good solvent for metal work.

Job planning

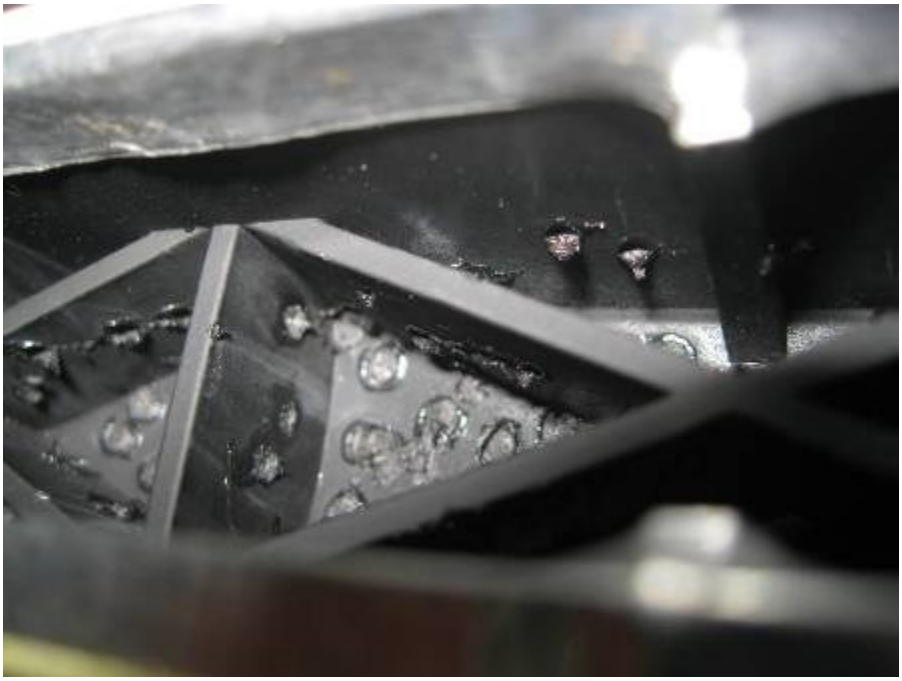
MatchGrade synthetic stock stabilizer should always be utilized in conjunction with full bedding for optimum rifle accuracy. The job of stabilizing the stock should be done prior to bedding but can be done afterwards if necessary.

All plastic synthetic stocks feature an internal skeleton through the forend. The skeleton sits low in the stock so as not to interfere with the barrel. Stock stabilizer is used to fill the stock level with the top of this skeleton. The finish will be a flat surface.

Stock preparation

Disassemble the rifle and put all small metal components into a suitable storage container. Once separated, the gunstock needs to be masked to protect it during the work process. It is best to use a layer of cling film or newspaper under the masking tape to minimize the amount of masking tape that actually contacts the stock. If a vice is to be used to hold the stock, ensure several layers of tape should be put onto the stock where the vice jaws will be in contact. Be sure to remove any oil residues from within the stock using a degreaser (citrus based household degreasers work well)

The next step is to key into the stock work so that the compound can obtain good adhesion to the stock. On synthetic stocks it is imperative that 'mechanical locks' are created by cutting (melting) overhangs in the side walls of the stock. For best results a knife or length of wire can be heated with a gas cooker or torch and used to key into the plastic. This gives a good mechanical lock without creating lots of dust and mess. The heat also helps to remove petroleum from the stock. For these reason, a hot knife or wire is preferable as opposed to the use of a dremel during the stabilizing phase.



Mid way through stock preparation. The more hot knife or hot wire pock marks the better. Avoid leaving any smooth areas of plastic.

Dams

If stabilizing the Howa / Hogue, you will find that it is best to plug the recoil lug recess with plastercine, thereby damming the action area of the stock, allowing for a good stabilizer fill. Failure to utilize a dam, resulting in a shallow stabilizer fill (to prevent overflow into the action), will result in less than optimal performance, also compromizing bedding operations. Plastercine dams can also be useful with other rifles, depending on the actual design. Common sense is all that is required.

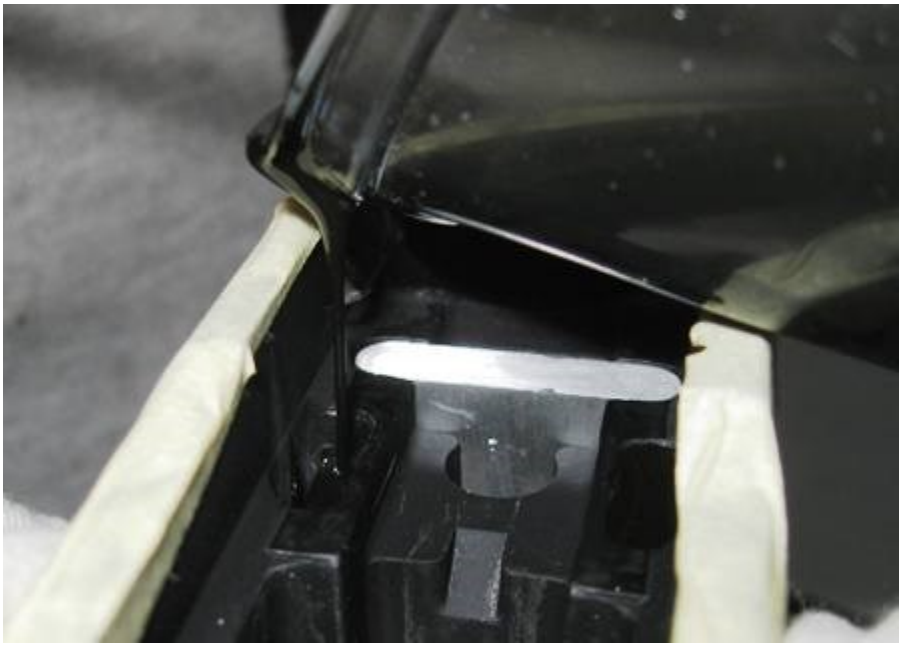
We have also noticed that some recent Remington SPS rifle stocks have holes leading from the skeletal sidewalls of the action into the front action screw hole. We therefore suggest filling the front action screw hole to prevent leakage prior to filling the skeletal areas of the action. Again, use plastercine to fill the action screw hole (supplied with MatchGrade bedding kit).

Mixing and applying stock stabilizer compound

Simply add part B to part A, mix thoroughly but try to avoid aggressive agitation (electric drills) which leads to air bubbling.
The mixed compound will be runny enough to simply pour into all areas that require filling. This product has an open time of over one hour (ambient temperatures will effect open time) without excess heat so there is no need to rush.

A slow and steady pour, note the container squeezed to create a pouring lip.

If there are any skeletal voids that need filling in the action area of the stock prior to bedding, fill these. But remember- do not fill the recoil lug recess.



Filling skeletal voids within the action area of a Sako A7 stock.

Curing

Ensure the gun stock is kept absolutely level until the compound becomes hard. Due to the liquidity of the product, it will follow any tilt of the stock. Within the first 10 minutes of pouring the compound, small air bubbles may appear on the surface. These bubbles can be eliminated by popping them with a heated needle. The bubbles make no difference to stock stability or the integrity of the compound, they are simply an aesthetic issue.

Once the desired surface finish is achieved (air bubbles removed, stock cant correct), the job should be put aside and allowed to initially cure without post heat.

In cold, winter conditions below 14 degrees celcius, post heat should be applied after approximately 7 hours. Warm hot water bottles and blankets are sufficient for this. In summer conditions, **post heat must be avoided** to prevent super heating. The job should simply be allowed to cure and harden at ambient temperatures.

Finishing the job

The filled stock needs very little attention once stabilized. Nevertheless, the rifle should be checked to see if the barrel is fully floating (not contacting the stock). If the job does not look as

aesthetically pleasing as planned, the cured compound can be sanded and shaped to suit. That said, due to the fact that MatchGrade synthetic stock stabilizer is a lightweight product and lacks the density of our metal filled bedding compound, very small air bubbles/ pin holes will occur when the surface is sanded. Exposure of pinholes does not have any negative effects other than visual appearances. These small pinholes can be ignored, filled with more compound or painted over.

If the fill was performed prior to full bedding as a separate operation, the area at the barrel parallel should now be roughed up again, in preparation for bedding

Congratulations, you now have a stabilized, useful, life long, all weather synthetic stock.

Good shooting!

A stabilized and bedded Sako A7.