Bedding Your Tikka T3

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Frequently Asked Questions:

1. What is pillar bedding vs glass bedding?

Most actions have (2) action screws that go through the stock from the bottom and screw up into the action pulling the action down onto the stock. Pillar bedding is when aluminum or steel tubes ('pillars') are inserted into the existing holes in the stock where the action screws go. New action screws are used that match the tubes. Pillar bedding allows for better contact between the action and the stock, and allows more precise torque setting on the action screws.

Glass bedding in an epoxy compound is put on the stock that gets sandwiched in between the stock and the action. This provides a 100% surface area contact between the action and stock. Without glass bedding, the only contact between the action and stock would be few contact points where they action happens to rest or mate to the stock. Glass bedding can be done in conjunction with pillar bedding.

Note that on a T3, the recoil lug just sits in a slot milled in the stock. On a Tikka T3, glass betting locks the recoil lug into place, preventing it from moving over time. This is very important on a T3, and can affect the accuracy on many of the T3 rifles as the barreled action recoils against this lug sandwiched in the stock.

2. On a Tikka t3, do I pillar bed or glass bed?

Short answer is you do both. They both improve accuracy but in different ways. Pillar bedding is easier and cleaner to do if you want to try this first. Pillar bedding serves to reduce compressive stress onto the stock from overtightening the screws. It also ensure perfect action to floorplate or DBM spacing (for reliable magazine function).

3. What bedding compound should I use?

Short answer is Devcon #10110. Search the web and you will find people use lots of different compounds. Lots of them are good, some are better than others. I use Devcon 10110 because:

- Devcon sets harder than some of the others, which I like,
- Devcon is proven not to shrink over time,
- Devcon has the consistency of peanut butter so it doesn't drip when working it in.

I bought a 1 lbs can and was able to do 3 or 4 stocks.

4. What release compound should I use?

Short answer is Kiwi Neutral Shoe Polish. Again, search the web and you will find people use lots of different compounds. Lots of them are good, some are better than others. I use Kiwi Neutral Shoe Polish because:

- Kiwi works,
- Kiwi is cheap.

Note that you need Neutral otherwise you will stain your stock.

5. Should the barrel free float or do I bed the entire length?

I recommend ensuring your barrel is free floated completely. Some folks say 1" around the lug area (including in front). I recommend as in the picture (including in front of the dotted red line). Even with sporter weight barrels, that extra bit of support makes a difference and takes a bit of strain off the action screws in my view. I don't find that the barrel chamber/ taper gets real hot, so it doesn't need to be free floated in my view. However, you want to make sure the rest of your barrel is floating. If not, just use a half-round rasp to clean up your barrel channel if need be. Whilst doing this, have a good look at the inlettting around the action to ensure everything looks right.

6. How does the action fit in after the bedding?

The whole barreled action should just sit right down easily without force into the stock inlet. You need to wobble the barreled-action back and forth a little to get the recoil lug to snap into the slot of the action - especially with aftermarket lugs which can be slightly thicker. If you cannot screw in the front action screw, or if there is a large gap between the front of your barrel channel and barrel, it means the lug isn't sitting into the mating slot of the action properly (easy to do and not notice with Tikka T3s).

7. How do I tighten the action to the stock while bedding is drying?

Use surgical tubing (or electrical tape) around the action. Tighten whatever you use around the action by the ejection port. Do not just wrap tape around the barrel and forearm. This will press the barrel into the forearm and not allow the barrel to free float. Forster also sell various sets of stockmaker's and inletting guide screws including in the M6 x 1mm thread to suit the tikka T3. The guide screws are useful for ensuring the pillars line up with the action holes of the stock. The stock maker's screws go a step further and index the pillar inline with the action hole due to their conical head, as well as secure everything together during bedding. Some argue the stockmaker's screws exert too much pressure when glass bedding causing the action to flex somewhat if left in place. The Tikka action is pretty rigid with a very small ejection port. I use tubing for holding the action into place during the bedding but these bedding screws (pictured) are useful for getting everything sitting firmly in place to start off and I believe on the Tikka action they can be left in place as long as they are no overtightened. Be sure to put plenty of release compound on the threads and stem.

Forster Inletting guide screws (M6 x 1 thread)
(Brownells #:319-415-270WB)

Forster stockmaker's screws (M6 x 1 thread)
(Midway USA #: 134179)

8. Do I tighten the action screws if I do not have the stockmaker's screws, while the bedding is drying?

You can. However do not tighten them too much. I just tighten them by hand to what feels tight enough to make sure the action is in place - no more. I don't have a specific tightness I torque when waiting for the bedding to cure – I do it by feel. It is important to be able to get them out again. I first push the action in as hard as possible, then tightening just gets it firm and locked in for the curing. You need to make sure the barrel is sitting down where it should. Make sure there are no gaps where the tape is.

Make sure you apply plenty of release agent to the action screws and action screw holes. When you insert the screws to tighten the action into the bedded stock, bedding compound will find its way into the pillars as well as all the screw threads. This isn't a problem as long as you have applied liberally the agent into the threads.

9. How do I keep the barrel centered in the stock and at the correct height while compound dries?

Around a single point on the barrel, wrap several layers of electrical tape until it is a tight fit between the barrel channel in the stock. This way, when you lay the action onto the stock during drying, the barrel will center itself in the forend, and wont "sink" into the barrel channel. This also makes sure the barrel floats afterwards. Wrap the tape approximately 2 inches back from the forearm. Don't wrap too much tape or the barrel will sit too high. The barrel should fit in snug but not tight. It should need to be press in, but lightly, not need to be forced in. BEFORE you glass bed, test this a few times, by wrapping tape and tightening the action screws to the proper torque settings a few times to make sure it all fits together that way it should. Unwrap little bits of the tape as necessary until the barrel is spaced against all sides of the channel equally (i.e. both sides as well as bottom).

10. How do I clean and trim the excess?

I clean up the excess bedding compound that squeezes out the sides of the action / barrel channel and under the bottom metal with lots of little damp / wet pieces of cloth (prepare before you start). I also have those ice cream sticks to clean away the bigger bits. Make sure you also have a small Xacto knife ready.

Make sure BEFORE you bed, to apply the release compound to the areas on the stock around the action and tang area to its easier to clean later.

Another option is to tape all the bits of the stock up beforehand, but I don't like this method as I have found it is easier to clean the excess priot to it setting (including on tape). I also use modelling clay to plug the various holes (around trigger recess, chamber vent hole, feed ramp etc).

11. How and when do I separate the action?

I let the bedding set for days to set completely. It is sometimes hard to separate afterwards (normal) but I use wood dowels from under the trigger guard / magazine well area to tap it out with a hammer so nothing gets damaged.

If when you break everything apart, you find the pillars are pull of bedding compound you can drill these out by slowly stepping up the drill bit size. Drill from the top down so you don't damage the bedding surface. If you want to avoid this, plug the pillars and action screw holes full of clay before you start bedding.

Note that plumbers putty is easier to clean up than modeling clay. Also remember NOT to use the clay that hardens!

12. What about the recoil lug?

On a Tikka bedding the lug is easier than on most other rifles. Just bed over the lug (see the picture from before). In this picture, the recoil lug is covered with Devcon, and you don't really see exposed titanium, but just a thin layer of Devcon covering the lug. In other words, the lug is "below" the Devcon. This method means the Devcon is in direct contact with the action, not the titanium. This is what I prefer and the rifle pictured still has the bedding intact after several years now. It doesn't peel off the lug.

Another method is put a drop of super glue / gorilla glue on the top of the lug and on the front face of the lug then glue the lug into the action slot (before you lay the action down in the bedding). This is a temporary step just to help keep the lug in place while you lay the action into the bedding. This way the lug is "above" the Devcon and the titanium is in direct contact with the action. Some guys will prefer this method as it is similar to taping the recoil lug up on rifles where it is sandwiched in between the barrel and action (such as a Remington or Savage)

Whatever you do, DON'T PUT COMPOUND ON THE BOTTOM OF THE LUG! This will make the lug sit too high up and thus the barrel will not seat properly. The lug should sit in the bottom the milled slot just fine and at the correct height. Put a small amount of bedding compound on the front and back side of the lug itself (not in the slot). Press the lug in gently. Any excess compound will move up and out, and will not wind up under the lug.

13. Anything special about the plastic stock?

Remember this is a co-polymer stock, which means nothing sticks to it. Clean the entire stock with acetone, CRC Brake Clean, or something to remove any oil. EVERYWHERE you're going to put bedding compound must be roughed up with very coarse sandpaper or a Dremel tool. Drill small holes to make mechanical locks for the bedding compound with a small drill. The same can be done with the timber stocks although they generally bond better if completely clean.

14. What if there are gaps when I am done?

If you find that the bedding is incomplete or there are gaps, just leave it as is, and rough up the surface a bit and skim bed again as above.

15. What are torque settings for the action bolts after the compound is dry?

If doing a full epoxy bed can get away with very little. I recommend starting at 40 in/lbs then gradually tighten the front action screw (first) until you find the best accuracy. In my experience, not much torque is necessary with a good bedding job. If not bedding, then you can tighten to up to 65 in/lbs if you want with the pillars in place (don't go this tight without pillars). I always adjust action screw tightness until I find the best accuracy when at the range.

I typically adjust in 5 in/lbs increments and start with the front screw. I don't know if this is the best method or not, but it works for me. I figure on a Tikka T3, that the front screw is what holds everything down into the recoil lug and has the most amount of bedding etc, so this is the best end to start.

16. How do I drill the pillar holes in the stock?

Use a drill press. Period! Use a 10mm bit. If you use a 3/8" bit, that's larger than the recommended 10mm. If you have a 9.9mm drill bit, this will result in a tighter 'press in' fit.

17. Friction doesn't keep the pillars in. They slide out.

If you did use a 3/8" or 10mm bit, the pillars won't wobble, but they may not stay in on their own. That's OK, See the section "Pillar Installation".

18. The pillars are slightly longer than the stock, is this normal?

The pillars are the correct length. Your stock (wood especially) may have compressed a little. See the section "Pillar Installation".

19. The pillars are slightly shorter than the stock, is this normal?

The pillars are the correct length. Your barreled action is sitting a little high in the stock or not engaging the top of the pillars. See the section "Pillar Installation".

20. What's the best way to install the pillars?

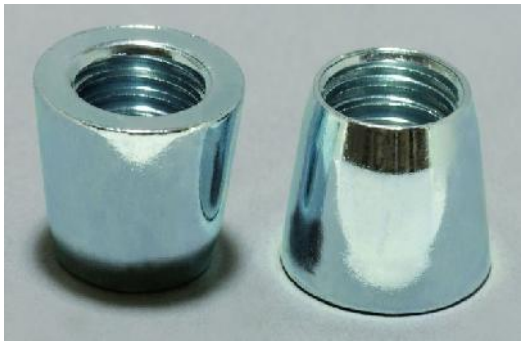
The pillars should push in. You should not need a press. Optionally, you can use regular 5 minute 2 part epoxy to set them in before the bedding (i.e. allow it to set before starting the bedding of the barreled action). I used a 3/8" bit to get a little extra space for glue. Use very little glue. Apply the glue from the top of the stock into the action screw holes. Put glue on with a tooth pick. Apply glue only ¾ of the way down. Don't put glue to the bottom of the holes because you don't want any excess dripping into the bottom area where the trigger guard goes. After glue is in the holes, push the pillars in from the bottom and push UP. Again, this way no excess glue is in the trigger guard area. The excess is pushed up and remains on the top side of the stock. Clean the excess with a rag and acetone. Don't soak the stock with acetone when you clean it up. This inhibits the bedding material later to bond to the stock.

Make sure when you insert the pillars, the floorplate or DBM is also in place and with adequate release compound or clay on the tangs. Also ensure to plug the top of the pillars so no glue enters the pillars. NO GLUE AT ALL should enter the pillar. You can put clay in the pillars. Plumbers putty is best, easier to clean. If it goes in, drill it out carefully when everything sets hard. Roll a pea sized ball and stick it into the top of the pillar before you insert the pillar. Cover the top of the pillar with putty. Shape it so the putty looks like a bullet in a cartridge. Use a razor so that there is no putty on the pillar. You don't want any putty to rub off and onto the holes. This would inhibit the glue bonding to the pillar.

Once the pillar is inserted, pop a dowel up from the bottom of the pillar to push the putty out. An even better method than putty, is to put painters tape on the top of the pillar. Use a razor blade to cut off excess tape and a perfect circle of tape remains on the top of the pillar.

After the pillars are in, push in your bottom metal/trigger guard by hand and hold it, then place the action on the stock. Insert the action screws and tighten. Hand tight evenly.

One alternative to plugging the pillars and holding them in place is (if the right equipment is on hand) to use the forster stockmaker's screws and a conical nut ('cone nut') in M6x1mm to sandwich the pillar between the two. Simply follow the above steps, but instead of filling the inside of the pillars with putty, put the nut on top of the pillar, then with the floorplate / DBM in place, screw the stockmakers screw into this nut from the bottom (i.e. through the bottom of the floorplate). This will clamp everything in place, align the pillars and ensure they are perectly positioned to index against both the floorplate and action.



Cone Nuts – M6x1mm

21. Are there videos or tutorials for me to watch before I start?

If you haven't bedded before, I recommend reading the following:

http://www.6mmbr.com/pillarbedding.html

https://www.youtube.com/watch?v=Q1Wbrj9yJpA

http://www.austargets.com/tikkabed.htm