3DPrintFreedom.com Supplementary Materials



This document details a few notes about parts for the VSG parts kits, including ways that these kits differ from the published BOM.

Please review each item below for details. Note that items mentioned here are also called out with a * symbol in the BOM.

- **HW1:** at time of writing, the documentation only calls for one of these bolts, meant to connect the trigger guard to the magazine baseplate and underlying magazine baseplate pillar. However, we noticed that you can use a second HW1 to connect the magazine baseplate pillar to the receiver proper holes are provided for this. While the documentation does not mention this, we found that doing this helps position the magazine properly. As such, we have included a second HW1.
- **HW21 / HW22:** In the BOM, a 3/16" OD 1" long spring is listed for both of these parts, the intent being to cut a single spring into two parts. We have found that a 4mm OD spring works better for HW22, and as such we have included one for that purpose. HW21 is therefore shortened from 1" accordingly.
- **HW23:** the BOM calls for a very stiff spring to act as your sear spring. We have found that, when opening the bolt after firing, the sear provides pressure on the bolt and makes it hard to open if the sear spring is too strong. We are therefore providing a spring that we have found is stiff, but not too stiff.
- **HW27:** the BOM calls for "maximum 4 coils" cut from an AR-15 spring. We are providing five coils to allow you to shorten to your desired length.

These coils are cut from an AR-15 magazine spring – as such, unless your kit contains the top piece from that spring, you will not have the bend at the top which can push through the hole on the follower bottom.

We have found that this bend is also not necessary – it serves solely to retain the follower to the spring in disassembly. The magazine will function acceptably without this retaining bend, but if you wish you can bend the wire yourself to recreate it.

• **HW28:** this sleeve slides over a government profile AR-15 .223/5.56 barrel to cover the gas port. I have found that it slides easily onto the barrel provided by 3D Print Freedom, but other barrels may fit differently. Some notes:

- If the sleeve is loose: some looseness is tolerable. The design of the VSG provides adequate pressure on the installed sleeve to prevent gas leakage. However, if you feel it is too loose, you can epoxy the sleeve in place.
- If the sleeve is tight: it may be challenging to install a tight sleeve onto the barrel. I have found that a piece of 1" OD EMT cut to 12" length makes a useful installation aid.
- If the sleeve is too tight: your barrel may have a wider diameter gas block journal, in which case you'll need to remove material from the inside of the sleeve to get it to fit. Create a sanding jig by finding (or printing) a rod slightly smaller than the sleeve's ID (say, 0.7"), wrapping the rod in sandpaper, chucking the rod in a power drill and using this to sand the inside of the sleeve.