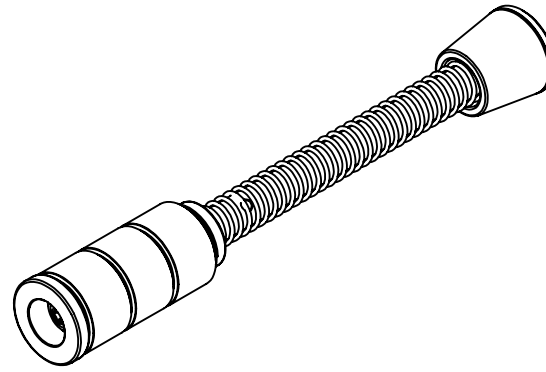
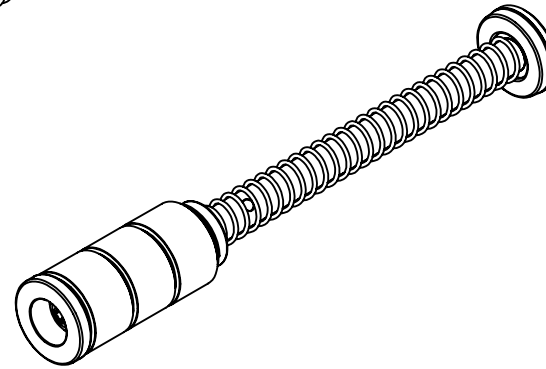


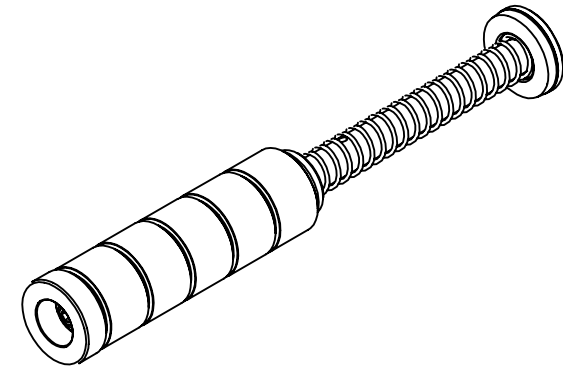
SILENT CAPTURED SPRING SELECTION GUIDE



JPSCS2-15



JPSCS2-10



JPSCS2-9MM-5H2

Ver. 11.24

This guide is intended to answer any questions about compatibility issues with the GEN 2 Silent Captured Spring System as well as help you determine which SCS unit is appropriate for your rifle.

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I SYSTEM COMPATIBILITY

The Silent Captured Spring System requires four dimensional compatibilities.

1: Bolt Carrier Channel: Minimum .530" bore

The guide rod of the Silent Captured Spring passes into the bolt carrier during cycling and must have adequate clearance. The Mil-spec bore for a bolt carrier is .625", and this is not a problem for most carriers. The only incompatibilities found to date are with Primary Weapon Systems MOD1 carriers and certain 9mm bolt assemblies. Some 9mm bolts have a removable mass, which will allow function with the 9mm SCS.

2: Bolt Carrier Channel: Minimum 3.75" depth

During cycling, the guide rod must be able to pass far enough into the bolt carrier without bottoming out on the rear of the firing pin.

The SCS2-15 requires a minimum depth of 3.75" which can be a problem with the HK 416 platform. The SCS2-10 requires a minimum depth of 4.4" which is incompatible with the DPMS GII, Remington R-25 GII, Daniel Defense DD5 and certain other rifles.

Workaround: For a rifle-length system, the included spacer can be modified to allow function. This involves opening up the central channel to accommodate the SCS guide rod and placing the spacer in front of the SCS in the buffer tube. See the Compatibility Modifications section.

3: Buffer Tube: Standard rifle, M4 carbine or pistol, DPMS .308 carbine (or something in between)

By itself, a Silent Captured Spring will fit a standard M4 carbine-length buffer tube (as well as an AR pistol buffer tube) or a DPMS .308 carbine-length buffer tube. With the included spacer, an SCS unit will fit exactly to a rifle-length buffer tube.

Many .308s are now using a mid-length buffer tube that is around 7 $\frac{3}{4}$ " long, which is not compatible with the SCS "out of the box."

Workaround: The included spacer can be shortened to accommodate a buffer tube length somewhere between rifle and carbine. See the Compatibility Modifications section.

4: Bolt Stroke: Non-standard

Certain platforms such as the Rock River Arms LAR-8 and certain older model Bushmasters have a longer than normal bolt stroke. Because of this, the Silent Captured Spring unit will bottom out and not cycle the system properly.

The JPSCS2-10 is not compatible with the HK MR762, the Sig Sauer 716, or the Rock River Arms LAR-8 because of its longer bolt stroke and subsequently longer extension tube. It is also not compatible with the POF Revolution DI due to its slightly altered geometry.

II SCS2-15 or SCS2-10?

The JPSCS2-15 (as well as JPSCS2-15H2) is intended for use with small-frame rifles while the JPSCS2-10 (and JPSCS2-10H2) are for use with large-frame rifles.

Small-frame rifles are often referred to as AR-15s and are the semi-automatic equivalent of the M16. These rifles are completely or semi-Mil-spec compatible. They are most commonly chambered in .223 / 5.56 NATO, though numerous other chamberings are common, including .204 Ruger, 6.5 Grendel and .300 AAC Blackout.

Large-frame rifles are scaled up versions of the AR-15, usually built upon the DPMS LR-308 or Armalite AR-10 patterns of receivers and components. These rifles are most commonly chambered in .308 / 7.62 NATO but can also be configured for any of the following:

- **.243 Winchester**
- **.260 Remington**
- **6.5 Creedmoor**
- **7mm-08 Remington**
- **.338 Federal**
- **.358 Winchester**
- **.45 RAPTOR**

III STANDARD or HEAVY SCS?

The extra weight of the heavy version Silent Captured Spring translates into more reciprocating mass (i.e., deadblow effect) against the carrier, which aids reliability. While this enlarges the rifle's operational window, it will not lessen the movement impulse as much.

The standard SCS2-15 has more buffering potential than a standard carbine buffer and roughly equal total mass. The standard AR-10 SCS2-10 model is a LMOS™ (Low Mass Operating System) component meant to run best with a low-mass carrier like our JPBC-4.

These standard models will yield dramatic performance improvements, but on some particular setups, they may lead to occasional failures such as the carrier not always going into battery.

Rifle configuration plays a larger role than caliber. That said, we generally recommend the H2 SCS for small-frame rifles in calibers larger than .223 / 5.56 unless the rifle is biased toward low mass operation. The notable exception to this is .300 Blackout, which typically functions better with a standard SCS2-15, especially if using subsonic ammunition.

The masses of the SCS2 models have been calibrated to correspond to standard H, H2, and H3 buffer weights for both the AR-15 and AR-10 models:

<u>Mass Configuration</u>	<u>Buffer Equivalent</u>
2 Steel, 1 Tungsten	H
1 Steel, 2 Tungsten	H2
3 Tungsten	H3

If you have an adjustable gas system, most any rifle can be made to function with either a standard or heavy SCS so long as it isn't:

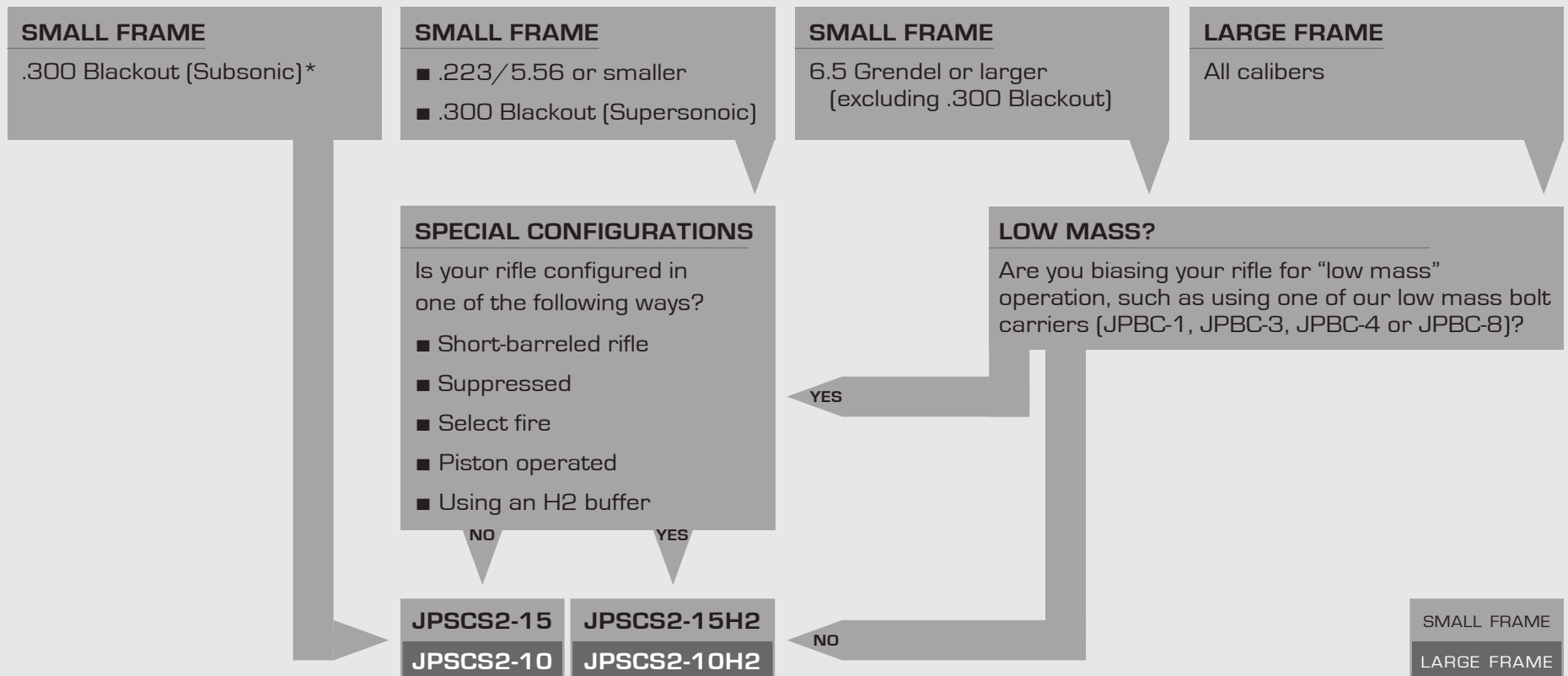
- **an SBR**
- **full-auto**
- **suppressed**
- **piston-operated**

Cont'd...

Refer to the flow chart below to determine which of our SCS preconfigurations is best suited to your rifle. This chart should only be used if your rifle/upper manufacturer does not recommend a specific buffer (e.g., an H2 buffer). Your manufacturer's recommendations take precedence over what we suggest here.

If you are replacing the existing buffer in your rifle, the simplest guideline is to exchange for an SCS with a similar buffer mass, which is shown in the table at right.

SCS Mass Configuration	Buffer Mass	AR-15	AR-10
3 Steel	2.9 oz.	JPSCS2-15	JPSCS2-10
1 Tungsten 2 Steel (H)	4.0 oz.	JPSCS2-15 + 1 Tungsten	JPSCS2-10 + 1 Tungsten
2 Tungsten 1 Steel (H2)	4.8 oz.	JPSCS2-15H3	JPSCS2-10H2
3 Tungsten (H3)	5.6 oz.	JPSCS2-15H3	JPSCS2-10H3



* Note rifles designed to run subsonic .300 Blackout ammunition should use the JPSCS2-15 regardless of configuration

IV 9MM SCS SELECTION

Silent Captured Springs for the 9mm AR platform are available in two stroke lengths: standard and short stroke. The current generation of our 9mm EnhancedBolt™ will function and allow last-round lockback in our GMR-15™ lower receiver with both.

Mass Configuration

Ammo choice, configuration and overall feel will dictate the ratio of steel and tungsten masses you choose for your 9mm Silent Captured Spring. Every combination will be different, but here are some general rules:

- Any 9mm SCS model will cycle most ammunitions. However, we recommend that if you are shooting standard full power loads out of a 14.5" or 16" barrel, you should choose a 5H2 model. For very low pressure ammo such as light target loads or dedicated competition PCC ammo like Federal Syntech, your SCS should have all or mostly steel masses.
- Very short barrels like our Ultralight 9mm barrel provide less port pressure than a longer barrel does. For the same reason as above, an all or mostly steel SCS is the better choice to ensure reliable cycling. Be aware that a combination of very low pressure ammunition and a very short barrel may lead to unreliable cycling even with the lightest SCS setup.
- A heavier (more tungsten) configuration will cycle more slowly with a softer felt recoil while a lighter (more steel) configuration will cycle more quickly with a "snappier" feel.

Compatibility: CMMG Radial Delay Operating System

The CMMG 9mm is unlike any other manufacturer's 9mm AR and does not use typical 9mm buffer and spring components. The radial delayed bolt causes their system to work more like a .223 AR with a .223 buffer and spring. Because of this, good results can be achieved with our standard .223 SCS (JPSCS2-15) using the heaviest .223 spring (15-100). The best way to obtain this is to order the JPSCS2-15K kit because the standard JPSCS2-15 comes with a lighter spring. If you intend to shoot suppressed, especially with heavy bullets, you may want to add additional tungsten weights.

V COMPATIBILITY MODIFICATIONS

This section details the modifications that can be made to the Silent Captured Spring to allow its use for certain applications or improve/optimize its function.

Changing Springs

Alternate spring packs are available for both the SCS-15s and SCS-10s. By switching to a heavier or lighter spring, you can optimize the cycling of your particular rifle. Further details and complete instructions can be found on our website. Before disassembly, note that the SCS screws are metric and require a 3mm hex key.

Changing Masses

The standard SCS units use steel masses while the heavy H2 versions use a combination of steel and tungsten masses. The number of tungsten weights corresponds to the standard buffer weight (H, H2, H3). See the table in Part III.

Any unit can be disassembled and the weights exchanged. Further details and complete instructions can be found on our website.

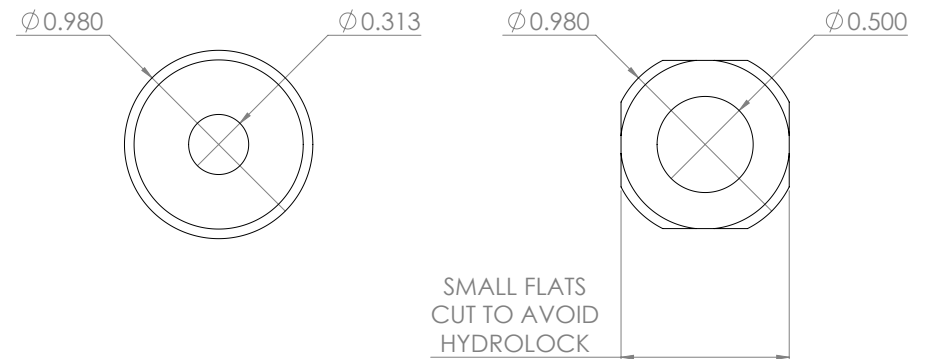
Boring the Spacer for Positioning in Front of SCS

Positioning the spacer in front of the SCS can compensate for restricted bolt carrier bore dimensions. To modify the SCS spacer for this use requires both opening up the central bore and planing the sides of the spacer to avoid hydraulic lockup.

Use of a lathe or mill is preferable for these modifications, but standard tools will suffice. Using a suitable drill bit, open up the central channel to .5 inches as shown. Creating the flats on the side

can be accomplished with a sander or grinding wheel, but make only brief contact as the plastic of the spacer will quickly begin to melt.

If you prefer not to perform this modification yourself, contact us to obtain a modified spacer for a nominal price.



Shortening the Spacer

To accommodate a buffer tube shorter than a full-length rifle tube but longer than a carbine, the SCS spacer can be shortened. This modification should only be performed with a lathe or other suitable machine to ensure a precisely level surface. If the spacer is cut unevenly, the SCS will not sit flush and may wear unevenly.

The easy alternative to modifying the spacer is to simply use suitably sized plastic washers to bridge the gap. These can be found easily online or at your hardware store.

VI KNOWN INCOMPATIBILITIES

This section details the modifications that can be made to the Silent Captured Spring to allow its use for certain applications or improve/optimize its function.

AR-15 SCS Models

- AR-15 SCS models will not cycle with the **Primary Weapon Systems (PWS) direct impingement bolt carrier**.
- Neither AR-15 nor AR-10 SCS models are compatible with the **Ruger SFAR** platform.

AR-10 SCS Models

- Note that **Armalite .308 carbines** use a slightly longer, non-standard carbine extension tube. The JPSCS2-10 can still be used with these extension tubes by installing the spacer, which must be modified to fit (see above). Alternately, the system will function readily if the longer Armalite carbine tube is replaced with a standard 7-inch .223 carbine extension tube.
- The JPSCS2-10 models are not compatible with the **HK MR762**, the **Sig Sauer 716**, or the **Rock River Arms LAR-8** because of their longer bolt stroke and subsequently longer extension tube.
- The JPSCS2-10 requires a minimum depth of 4.4" which is incompatible with the **DPMS GII**, **Remington R-25 GII** and certain other rifles.
- The JPSCS2-10 is not compatible with the **POF Revolution DI** due to its slightly altered geometry or the **Daniel Defense DD5** bolt carrier due to a lack of clearance for the guide rod.

AR-15/AR-10 Law Folder Models

- Not compatible with our JPBC-6, JPBC-7 models and JPBC-8 bolt carrier models.
- Not compatible with the Sylvan Arms folding stock adapter
- SCS models and conversation kit not compatible with JP 9mm operating system components.