

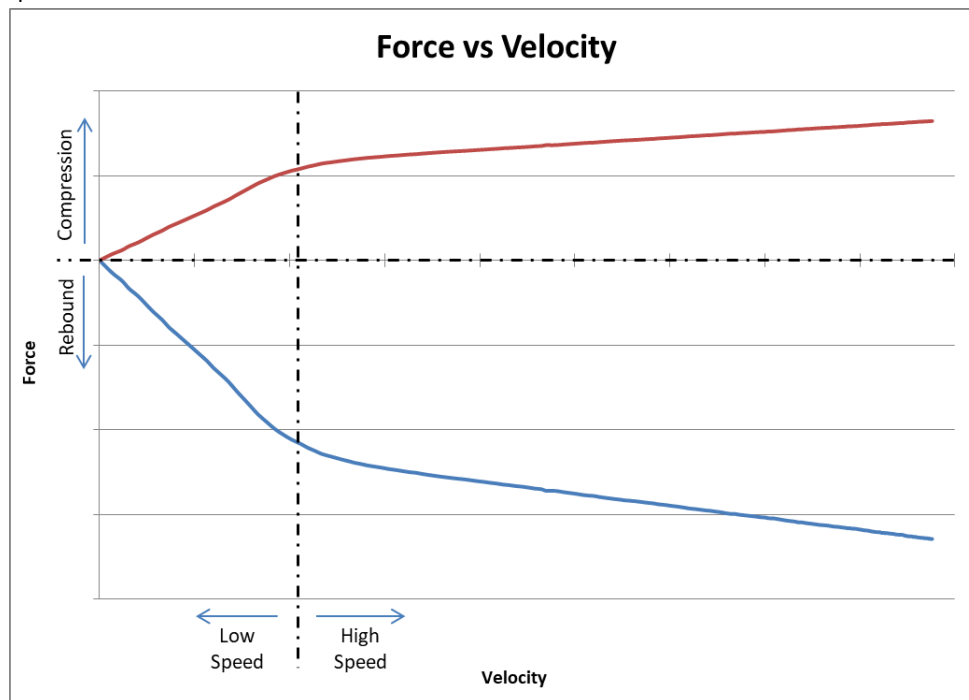
Selection and Tuning

JRi Shocks offers a wide range of adjustability options which can be configured to suit your needs. This document explains the various adjustments available, how they can be configured and what effect they have on the shock.

Shock Mode Basics

To understand how shock adjustments work, we first need to understand the various modes the shock operates in. Shocks are velocity (speed) dependent. This means the resisting force they create changes with the speed they are moved at. Therefore, a common shock plot is Force versus Velocity, as shown below. Shocks are typically tuned to create different forces depending on the direction they are moved in, compression or rebound. Shocks can also be tuned for speed ranges, low speed or high speed. Low speed is also commonly referred to as the “bleed range”. Low speed typically controls handling and body motions; roll, pitch, etc. Low speed adjusters work by changing the orifice (or “bleed”) area.

High speed typically controls sharper inputs such as bumps or race track curbing. High speed adjusters work by changing the preload on the shim stack.



Adjuster Types

JRi offers the following 3 shaft and reservoir adjustment levels: non-adjustable, single adjustable and double adjustable.

Adjustments are measured in one of two ways depending on the type of adjuster. ‘Click’ adjusters have detents which are felt as clicks when adjusting. Settings are measured as the number of clicks from the end of the adjustment range. ‘Sweep’ adjusters do not have detents and are measured by each movement of the adjuster in the eyelet window. Sweep adjusters require the JRi pin tool shown below (JRi part number: JRi11109115-A).



JRI Pin Tool for Sweep Adjusters

Shaft adjusters can be built to adjust compression, rebound, or both. Reservoir adjusters only adjust compression. By combining these shaft and reservoir adjusters, a variety of adjustable shocks can be created. This allows the shock to be configured based on the type of adjustment desired.

Low speed adjustments are referenced with the 'zero' setting being full stiff. High speed adjustments are referenced with the 'zero' setting being full soft. To check or set the adjusters count the number of clicks or sweeps from these 'zero' settings.

Shaft Adjusters

Two main styles of shaft adjusters are available: low speed and high speed. This is referring to the shock speed range which is being adjusted, as discussed above. The double adjustable shaft is the combination of these two adjusters. These options are covered below.

Low Speed Shaft Adjusters

Low speed adjusters can be 'jetted' per customer specification. This means the adjuster can be configured to adjust compression only, rebound only, or both together. Please note since compression forces are typically lower than rebound forces, smaller adjustments will be seen from compression-jetted adjusters.

Low speed adjusters are referenced with the 'zero' setting being full stiff (all the way to the "+"). Do not force the adjuster past its stop.

The low speed adjustments move a needle within a seat, changing the stiffness. For any of the styles mentioned below, 3 needles are available: "1-2-3", "2-5-8", "or high-flow". "2-5-8" is the standard needle. The "1-2-3" needle offers more fine adjustment steps with less total adjustment range. The "high-flow" needle offers more adjustment range with more coarse adjustment steps.

- 'Clicker' (or 'blue knob') adjusters make low speed adjustments with 16 clicks per turn and a total of 60 clicks. The knurled knob can be adjusted by hand.
- 'Sweeper' adjusters are used in applications which packaging space is limited, and a knob would interfere with the chassis or a mount. A JRI pin tool is required to adjust a sweeper style shock. 8 clicks per turn
- 'Bayonet' adjuster is used in applications which use a bayonet mounting style (the shaft mounts through a bushing). The exposed adjuster can be adjusted with a JRI pin tool or the optional knob shown below. 8 clicks per turn



Clicker



Sweeper



Bayonet

High Speed Shaft Adjusters

The HSRD (High Speed Rebound Damping) adjuster changes high speed rebound forces by adjusting shim stack preload over a total of 20 clicks.

High speed adjusters are referenced with the 'zero' setting being full soft (all the way to the "-"). Do not force the adjuster past its stop.



HSRD

Double Adjustable Shafts

Double adjustable shafts combine the low speed and high speed adjustments above. The low speed adjustment has the same jetting options mentioned above: compression, rebound, or both. The high speed adjuster is for rebound.

Low speed adjusters are referenced with the 'zero' setting being full stiff (all the way to the "+"). High speed adjusters are referenced with the 'zero' setting being full soft (all the way to the "-"). Do not force the adjuster past its stop. When adjusting high speed, the low speed adjuster will move along with the high speed adjuster, but is not adjusting the low speed during that time.

Double adjustable shafts offer the same low speed needle options mentioned above.

- Sweeper – A JRi pin tool is required to adjust a sweeper style shock. There are 30 clicks of low speed adjustment and 12 sweeps of high speed.
- Bayonet – As with the low speed bayonet option, the double adjustable bayonet can be adjusted with either a JRi pin tool or the optional knobs shown below. When using a pin tool, the high speed adjustment is measured by aligning a pin hole to a wrench flat on the shaft (6 flats per turn). When using the knob, the high speed adjustment is measured in fractions of a turn, (When referencing dyno data, 1/6 turn is equivalent to one sweep). The low speed adjustment is measured in clicks with both styles.



Sweeper



Bayonet

Reservoir Adjusters

When a reservoir is added to a shock, additional adjustments are available. Reservoirs only affect compression, and are available in single and double adjustable configurations.

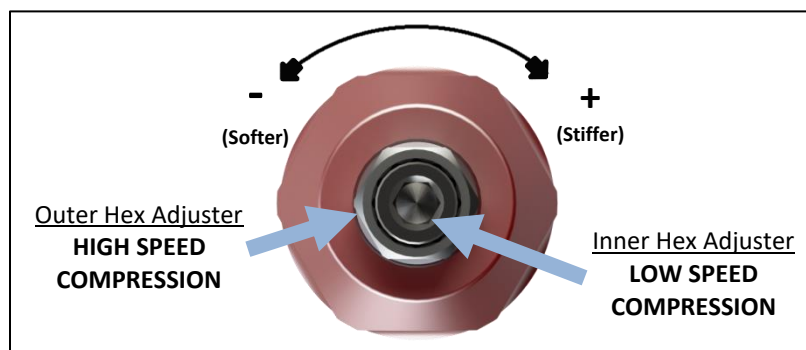
Single Adjustable Reservoir

The single adjustable reservoir provides 6 compression settings. Setting 1 is the softest, 6 is the stiffest.

Double Adjustable Reservoir

The double adjustable reservoir provides 60 clicks of low speed compression and 50 clicks of high speed compression adjustment. Low speed is adjusted with a 3/16" allen wrench and high speed with a 1/2" hex wrench. The large red hex is used only for assembly, do not attempt to adjust it.

Low speed adjusters are referenced with the 'zero' setting being full stiff (all the way to the "+"). High speed adjusters are referenced with the 'zero' setting being full soft (all the way to the "-"). Do not force the adjuster past its stop.



Double Adjustable Reservoir Adjusters

JRide

JRi also offers an electronically adjustable system called JRide. This system offers the user independent adjustment of compression and rebound stiffness via a touchscreen located inside the vehicle. Settings can be stored into presets.

JRi Shocks Adjustment Options

Shock Adjustability: Category of overall shock adjustability

Shaft/Res: Dashed black outline signifies a remote reservoir is required

Shaft Type: Low speed or high speed shaft

Shaft Jet: Valve in shaft adjuster that determines which direction (compression/rebound) the adjuster affects

Adjustments:

LSC = Low Speed Compression

LSR = Low Speed Rebound

LSO = Low Speed Open (Compression & Rebound)

HSC = High Speed Compression

HSR = High Speed Rebound

If you have rules limiting adjustability and/or presence of a reservoir, follow from left to right.

If you know what adjustments you would like to be able to make, follow from right to left.

