

JADE

This is the **Tuning** page for the Jade.

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JADE TUNING

JADE ADJUSTMENTS

Below is a quick list of features on the Jade. Every one of these features can aid in your tuning experience. Familiarize yourself with these features as we will be breaking them down and teaching you about each one.

- Coil Spring Preload
- High Speed Compression
- Low Speed Compression
- Bladder pressure can be adjusted from 170psi (lighter rider) to 200psi (heavier rider).

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UNDERSTANDING THE BLADDER

The next step in the setup of your Jade Coil shock is understanding the bladder. We have implicated the use of a bladder in all of our rear shocks for increased performance in many aspects. Bladders have been widely used in motocross shocks for years but haven't been seen too often in mtb shocks. Why is that? Bladders can be costly on the production side and take skilled technicians to properly bleed and install. On mass-produced suspension products that isn't something they're willing to invest in. At DVO we take pride in making high performance products and cutting corners in production at the cost of performance isn't what we're about.

Q: WHY USE A BLADDER?

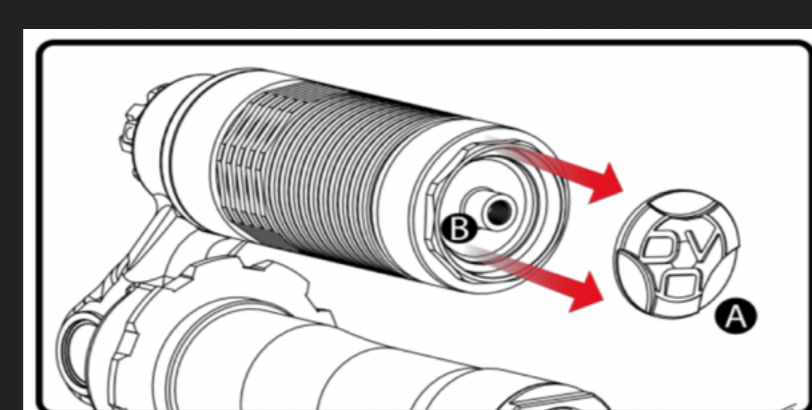
Bladders are located in the reservoir of the rear shock and take the place of a traditional IFP or internal floating piston. They both have the same purpose but completely different ways of executing it. That purpose is to separate the air from the oil. A bladder is basically a balloon which is filled with air and seated to the end cap. The bladder is charged with a high PSI to push back against the oil which creates pressure in the system. As the shock is compressed, oil flows through the the system and starts to compress the bladder.

When the shock goes to extend again, the bladder pushes the oil back in the opposite direction. This decreases the chances of what's called cavitation. Cavitation is when there is a gap in the oil caused from air bubbles and creates a temporary loss of damping. Here's an example of cavitation. Picture turning on a hose, what happens as the water is pushing the air out of the line? Water intermittently shoots out in between gaps of air. This same situation happens in suspension causing a loss of damping.

The real benefit of using a bladder over an IFP is when the shock is working dynamically or in "riding situations". As the shock is compressing and rebounding at a high velocity, it can sometimes have a difficult time changing directions. An IFP usually has a moment of hesitation in that situation due to stiction between the outer O-ring and the inside surface of the reservoir. With a bladder that can't happen and you get unmatched small bump sensitivity with a seamless transition from compression to rebound.

Q: CAN I ADJUST THE PRESSURE OF THE BLADDER ON MY SHOCK?

Absolutely. Changing the bladder pressure is easy and something you should check consistently. Just unscrew the air cap at the end of the reservoir and use a shock pump to adjust or check the pressure. (image below) When checking the pressure, the initial reading from the pump will be low. This is because air needs to fill the hose of the pump before the PSI can be determined.

**Q: HOW WILL THE PRESSURE AFFECT THE PERFORMANCE?**

The pressure within the bladder will have a drastic affect on performance. As we talked about before, the higher the pressure the less chance you have of cavitation. The pressure range of the bladder is 170-200PSI. The bladder pressure also has an effect on the entire stroke of the shock. The higher the bladder pressure the firmer the shock will be. The lower the pressure, the softer. Lighter riders can run a lower bladder pressure and heavier riders should ride a higher pressure.

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SAG AS A TUNING FEATURE

SAG can actually be a key tuning feature that's crucial to the handling of your bike and the position of your body while riding. Having a good understanding of SAG is extremely important. It will be the first thing you check after every adjustment you make.

WHAT IS SAG?

SAG is the amount the shock compresses under your own body weight. Make sure you check your SAG with all your riding gear on (riding shoes, hydration pack, etc). The ideal amount of SAG is best determined by your bike manufacturer, there are many linkage designs & each design works best according their design.

WHY IS IT SO IMPORTANT?

Insuring that your shock has the correct amount of SAG is crucial to the set up and performance of your shock. This is the easiest and best way to determine your shock is working in the most effective range for your rider weight.

HOW DOES THE SAG AFFECT PERFORMANCE?

Since SAG is the amount the shock compresses under your body weight, it allows the shock to be pre-compressed while riding. When riding on a flat surface and a hole is encountered, it allows the wheel to fall into the hole and absorb the up-face with the entire stroke of the shock. Having the correct amount of SAG allows the bike to track the ground and keep the feedback to the rider at a minimum.

CAN SAG AFFECT PEDALING?

SAG will determine the amount of squat your bike has. The less SAG you have, the pedal bob will be reduced but small bump compliancy will be negatively affected. The more SAG you have, the small bump compliancy will be increased but pedaling efficiency will decrease. It's beneficial to run less sag on hard packed pedaling trails since carrying momentum and pedaling is the priority. On rougher trails, more SAG actually carries more momentum by allowing the wheel to move over bumps rather than be hung up by them.

HOW DOES SAG EFFECT THE HANDLING OF MY BIKE?

It is very beneficial to test different SAG settings for various riding conditions. Increasing the amount of SAG on your bike drastically increases high speed stability but decreases front end traction and cornering ability. Increase your SAG on high speed or sandy tracks to improve stability. Too much SAG will cause your front end to be too light and deflect over bumps.

DOES SAG EFFECT MY BODY POSITION ON THE BIKE?

SAG definitely has a big affect on your body position. The more SAG you have the more your bike will squat while riding. This positions your center of gravity behind the seat which improves high speed stability but decreases front end traction. Riders can then compensate for this by moving their body weight forward while cornering. This set up is great for steep/rough trails where pedaling isn't as much of a priority.

Reducing SAG will create a "stink bug" effect and bring your body weight forward. This drastically improves cornering ability but decreases high speed stability. Riders can compensate for that by moving their body weight back in high speed sections of trail. This set up is great for hard-packed single track or trails with tight turns and pedaling.

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SPRING RATES

Getting the spring rate correct for your shock is extremely important. The spring rate determines whether your shock is or isn't working in the most effective range for your rider weight.

Q: How do I know if the spring rate is correct for me?

The best and easiest way to determine this is to check your sag. If you're unsure of how to do so, click [HERE](#). If you are unable to reach the desired amount of sag, your spring rate is incorrect. If the shock is sagging TOO much, you need to go up in spring rate. If the shock is sagging too little, go to a lower spring rate.

Q: Where can I get different spring rates?

It's a good idea to carry a couple different rate springs with you to suite different riding locations. If you are riding a trail on weekends that's really rough and technical, it may be a good idea to go up in spring rate for that riding location. Then you can go back down to a lower spring rate for your other trails that aren't as demanding. You can find different spring rates [HERE](#)

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BASE TUNES

Base Tunes for the Jade can be a bit tricky. The reason for this is the many different leverage rates on bicycle linkage. Leverage rate refer to the amount of leverage the linkage has on the spring. Bikes with a higher leverage rate will need a heavier spring regardless of rider weight. Bikes with a lower leverage rate will need a lighter spring regardless of rider weight.

The best way to determine a good starting point on spring rate is to contact your frame manufacturer and have them give you a suggestion.

Q: I have my proper spring rate, what about my compression and rebound settings?**Compression Setting for a High Spring Rate:**

On a high spring rate, you should run a softer compression setting. This will keep the shock from being too harsh. Start towards the open position on both High and Low speed compression and fine tune from there.

Rebound Setting for a High Spring Rate:

On a high spring rate, you should run a stronger rebound setting (clockwise on the adjuster). You will need more rebound damping to control the forces from the high spring rate.

Compression Setting a Low Spring Rate:

On a low spring rate, you should run a firmer compression setting. This will keep the shock from being wallowy or soft throughout the travel. If you are running the compression adjusters in the open position, your sag is correct and the shock is still too harsh, you most likely need a lighter compression shim stack. This can be done at your local DVO service center or through us directly.

Rebound Setting on a Low Spring Rate:

On a low spring rate, you should run a lighter rebound setting (counter-clockwise on the adjuster). You will need less rebound damping to control the forces from the low spring rate.

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