This guide includes several valuable resources:

Understanding Bilstein Valve Ratings

Damping forces of Bilstein valvings for Off-Road are measured in Newtons at a velocity of 0.52 meters/seconds (approximately 20 inches/second). The ratings shown correspond to those measurements; rebound force is the first number, followed by compression force **(rebound / compression)**. Conventionally, the ratings are written as **one tenth** the damping force in Newtons.

EXAMPLE: Valve rating: 275 / 78

Rebound force is 2750 Newtons at 0.52 m/s

Compression force is 780 Newtons at 0.52 m/s

Higher numbers mean higher (firmer) damping forces. For example, 360/80 has *more* control (is firmer) that 275/78, while 170/60 has *less* control (is softer) than 275/78.

For valving recommendations please refer to the Valving Guide.

Determining how many shocks to put on a vehicle.

A shock absorber transforms mechanical energy (suspension movement) into kinetic energy (heat). If a shock absorber builds up too much heat, it will not function properly. Shock absorbers exposed to excessive heat will fade (soften) or fail.

If you are experiencing excessive shock failure or fading, it may be time to add another shock.

By adding another shock, you are spreading the work load from one shock to multiple shocks. Increase cooling capability will be achieved from the following factors:

Decreased Friction

Dampening causes friction. When you use a multiple shock set up, lighter valved shocks can be used which will decrease friction.

Increased Oil Capacity

The more oil, the better. Higher oil volumes take longer to heat.

Other methods to consider which will increase oil capacity are to utilize a remote reservoir or to use a larger diameter shock.

Determining Which Shocks to Use

Bilstein Off-Road Shock Absorbers are recommended for both race and non-race applications as listed below.

Special Note: Vehicle designs do vary. This is a starting guide to assist you in choosing an application.

			Valving					
Description	**Setting**	**Position**	**150/50**	**170/60**	**180/75**	**255/70**	**275/78**	**36**
Buggy	**Single Shock**	**Front**			**1X**			
		Rear						
	Double Shock	**Front**						

		Rear						2X
Baja Bug	Sport	Front			1X			
		Rear						
	Double Shock	Front						
		Rear						2X
5/1600 Baja	Race Setting	Front			1X			
		Rear				2X		
1/2 1600	Race Setting	Front			1X			
		Rear						3X

			Valving					
Description	**Setting**	**Position**	**150/50**	**170/60**	**180/75**	**255/70**	**275/78**	**36**
Fullsize Truck / Sport Utility w/ Solid Front Axle	Single Shock	Front				1X		
		Rear				1X		
	Double Shock	Front		2X				
		Rear	2X					
	Race Setting	Front				2X		
		Rear						2X
Fullsize Truck / Sport Utility w/ IFS	Single Shock	Front	(Recommend Special Order Valving - 326/149 Digre					
		Rear				1X		
	Double Shock	Front						2X
		Rear		2X				
	Race Setting	Front						
		Rear						2X
		Rear						3X

			Valving					
Description	**Setting**	**Position**	**150/50**	**170/60**	**180/75**	**255/70**	**275/78**	**36**
Mini-Truck / Sport Utility w/ Solid Front Axle	Single Shock	Front				1X		
		Rear				1X		
	Double Shock	Front		2X				
		Rear	2X					
	Race Setting	Front			2X			
		Rear		2X				
Mini-Truck / Sport Utility w/ IFS	Single Shock	Front						
		Rear				1X		
	Double Shock	Front			2X			
		Rear		2X				

	Race Setting	Front				2X		
		Rear			2X			
		Rear					3X	

			Valving					
Description	Setting	Position	150/50	170/60	180/75	255/70	275/78	36
RockCrawler/Jeep Leaf Spring	Single Shock	Front				1X		
		Rear					1X	
RockCrawler/Jeep Coil Spring / 1/4 Elliptic	Single Shock	Front						
		Rear				1X		
TJ Long Arm Valving	Single Shock	Front	(Recommend Special Order Valving - 161/72 Digres					
		Rear	(Recommend Special Order Valving - 162/66 Digres					

Legend

1X = one shock per wheel **2X** = two shocks per wheel
3X = three shocks per wheel

***If your Prerunner more resembles a race application, use recommendtions accordingly.**