



## VIKING CRUSADER™ DOUBLE ADJUSTABLE TUNING GUIDE

### WARNING!

**CRUSADER SERIES SHOCKS ARE DESIGNED FOR COMPETITION ONLY AND NOT INTENDED FOR STREET USE. WHEN VEHICLE IS OFF-TRACK OR BEING TRAIERED, CRUSADER SHOCKS MUST BE AT VIKING'S SPECIFIED OFF-TRACK SETTINGS ON BOTH COMPRESSION AND REBOUND. FAILURE TO USE THE SPECIFIED SETTINGS MAY DAMAGE THE SHOCK AND WILL VOID YOUR WARRANTY, AND MAY RESULT IN INJURY OR DEATH.**

Viking Crusader™ double adjustable shocks allow a huge range of adjustment on compression and rebound. They have the following positions of adjustment:

Compression ("C" knob)	19 positions (18 clicks plus a zero position) of adjustment
Rebound ("R" knob)	22 positions (21 clicks plus a zero position) of adjustment

Position zero is the softest setting and is found by turning the knob counterclockwise until the stop is located. Every click clockwise will increase dampening force to resist movement in compression (the collapsing direction), or rebound (extension direction). Only very light force is needed to adjust the knobs; **do not ever force the knob** past its intended stop, as doing so will damage the shock.

Recommended baseline points for adjusting your shocks are outlined below:

### Crusader™ Double Adjustable

	Front				Rear			
	Off Track	Handling	Drag (Front Tie-Down)	Drag (Weight Transfer)	Off Track	Handling	Drag (Rear Separation)	Drag (Weight Transfer)
	"AD" Valving - (Front)				"AJ" Valving (Rear)			
"C" knob	3-6	8-12	12-18	12-16	1-4	7-11	8-13	0-4
"R" knob	5-9	14-18	17-21	0-4	3-7	11-15	2-6	8-12
	"AK" Valving (Front)				"AM" Valving (Rear)			
"C" knob	3-6	8-12	12-18	12-18	1-4	7-11	10-14	0-4
"R" knob	3-5	10-14	15-19	2-5	0	12-16	3-8	7-14
	"GP" Valving (Front)				"GP" Valving (Rear)			
"C" knob	3-6	8-13	10-15	10-15	0-4	4-8	12-16	2-6
"R" knob	0	10-14	13-17	1-4	0	8-12	1-4	5-9

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⚠ **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**Additional tuning tips:****Off Track (e.g. Trailing):**

The rebound and compression settings must be at Viking's specified off-track settings or lower when the vehicle is off-track, such as when it is being trailered or driven off-track/off-road.

**Handling/AutoX:**

The handling and autocross settings will vary depending on spring rate. For example, if very firm springs are utilized, the compression setting might need to be set softer and the rebound setting firmer than indicated. In addition, the track condition will also have an impact on the settings (i.e. a rough track may need rebound softened).

**Drag with Front Tie-Down:**

First, stiffen compression until you do not see the car "dip" on the initial launch. The goal is to have the car go from ride height straight into separation where the rear quarter panel is lifting away from the rear tire. Next, stiffen rebound until times worsen, then dial back 1-2 clicks. Rebound should be adjusted anytime there is a change in track condition. If track prep is good, then increase rebound. If track prep is poor, then decrease rebound to promote more rear separation. Keep in mind that rear suspension geometry dictates what direction the suspension will move and how "reactive" that movement will be as power is applied. The shock absorber's job is to control this movement, not create it.

**Drag with Weight Transfer:**

To maximize weight transfer, the front will be set with a stiffer compression and soft rebound, while the rear will have a soft compression and stiffer rebound. These settings will cause the front to raise and the rear to squat. Track conditions will also impact the settings. In addition, as a general rule of thumb, if the tires spin at the hit, soften the rebound. If the tires spin after the initial hook, stiffen the rebound (the compression can also be stiffened in this instance).

**NOTE: The above recommended starting points are suggestions. These settings may or may not work for your application. Certain vehicle/driver/track combinations may have optimal shock settings completely outside of these ranges. That is the beauty of a double adjustable shock absorber... you can set it where it works the best for you and your set-up!**

**WARRANTY / DISCLAIMER**

Viking warrants that the products will be free from defects in material and workmanship for two years from date of sale to the original purchaser. Viking makes no other warranty of any kind, express or implied. Viking shall have no obligation under the foregoing warranty where the defect is the result of improper or abnormal use, your negligence, vehicle accident, improper or incorrect installation or maintenance, nor when the product has been repaired or altered in any way. Viking's liability in the case of defective products subject to the foregoing warranty shall be limited to the repair or replacement only, at Viking's option, of the defective products. In no event shall Viking be liable for the cost of procurement of substitute products, or liable for any indirect, special, incidental, consequential or exemplary damages for any reason. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. In order to be eligible for service under this warranty, return the defective part to Viking together with the pre-approved R.G.A. number issued by Viking. Tag each item with the part number and the specific explanation of defect. All returns must be shipped prepaid to: Viking Performance, Inc., RGA # \_\_\_\_\_, 21401 Hemlock Ave., Lakeville, MN 55044.

Purchaser acknowledges that parts and services sold by Viking are exposed to a wide variety of conditions, and that Viking does not have full knowledge of the intended use of the goods. Purchaser agrees to indemnify and hold Viking harmless upon demand against all claims, actions, loss, damage or injury resulting from the direct or indirect use of the products, or purchaser's inability to determine the proper use or application of the products. Viking shall not be liable for any claims, demands, injuries, damages, actions, or causes of action whatsoever to buyer arising out of or connected with the use of any Viking products. **MOTORSPORTS ARE DANGEROUS; AS SUCH, NO WARRANTY OR REPRESENTATION IS MADE AS TO THE PRODUCTS' ABILITY TO PROTECT THE USER FROM INJURY OR DEATH. THE USER FULLY ASSUMES THAT RISK. ALL PRODUCTS ARE INTENDED FOR RACING AND OFF-ROAD USE ONLY AND MAY NOT BE LEGALLY USED ON THE HIGHWAY IN CALIFORNIA AND/OR OTHER STATES.** We reserve the right to change specifications without notice.

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