Metering Rod Guide v4.0

Thank you for being a SmartCarb customer. Refer to this guide for a better understanding of our patented metering rods. Official SC2 and SC3 SmartCarb metering rod selection and tuning baselines are fequently updated at **smartcarb.com/technical-support**

Introduction

The SmartCarb is a single circuit fuel system using only a metering rod to provide fuel flow through the entire throttle range. SmartCarb metering rods are precision machined with an angled flat on the down-stream side of the metering rod. The flat, called a grind angle or **fuel profile**, varies between different metering rods in order to suit the fueling needs of a huge variety of applications, engine characteristics, modifications, and fuel selections. Note that elevation and temperature changes are not considered in metering rod selection due to the SmartCarb's patented air density compensation features.



The A-Q11 is a commonly used metering rod.

Optimum performance from the SmartCarb requires both the correct metering rod fuel profile for the given application's fueling needs and correct positioning of that profile using the Clicker adjuster on top of the SmartCarb. **The bottom end or idle and off idle response is tuned first with assessment of the mid to top performance occurring after.**

SmartCarb Expertise

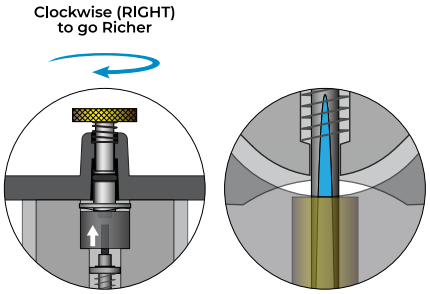
Every new SmartCarb ships pre-adjusted specifically for the application for which it is ordered based on information provided about any engine/exhaust modifications, how you ride (riding style), and what fuel selection/oil mix ratio (if applicable) you use.

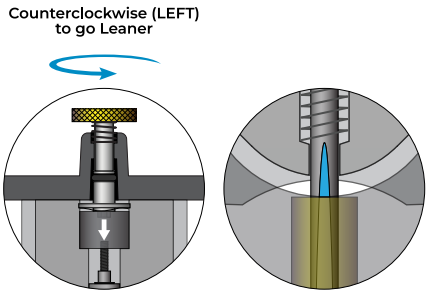
As industry experts we are happy to provide the latest metering rod selection and baseline tuning information for any SmartCarb owner whether you purchased direct, second-hand, through an authorized dealer, or are moving your SmartCarb to a new application.

Contact Us at **smartcarb.com/contact-us** or reference our official baselines at **smartcarb.com/technical-support**

Clicker Adjustments

The Clicker raises or lowers the metering rod independent of the throttle slide. Clicking to the right or clockwise raises the metering rod which moves the fuel profile in the richer direction. Clicking to the left or counterclockwise lowers the metering rod, moving the fuel profile in the leaner direction. In short, click Right for Rich (RR) and Left for Lean (LL).



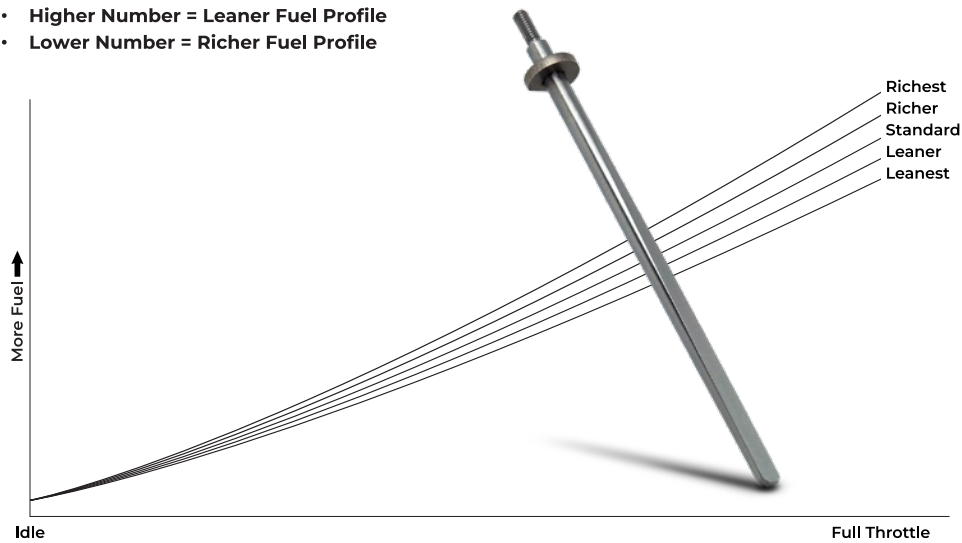


Remember that the bottom end performance is tuned first. **Should the application require either more or less fuel through the mid to top range, a different metering rod selection may be advised.**

Fuel Profiles

Note that the fueling differences between rods in a series are minimal if not identical at idle. Two different rods will progressively diverge from one another in how much or little fuel they provide through the throttle range relative to one another with the biggest differences being at full throttle or wide open. Within a given series of SmartCarb metering rods:

- **Higher Number = Leaner Fuel Profile**
- **Lower Number = Richer Fuel Profile**



Fuel Profile Variance

Most applications will use one of two or three metering rods, depending on a few factors. Applications with higher than stock compression may require a richer metering rod fuel profile, especially if race or higher octane fuel is required. Similarly, high ethanol content fuel or oxygenated race fuel may require a richer metering rod.

Contact Us direct at **smartcarb.com/contact-us** for the latest metering rod fuel profile selection or tuning baselines or reference our official baselines via the QR code below.

Disclaimers

- This document is intended only to be a general guide to understanding the basic differences between SmartCarb metering rods within a given series.
- SmartCarb metering rods are patent protected. Do NOT attempt to create or modify a metering rod for use in any SmartCarb. Doing so will void your warranty and may consitute an intellectual property violation. SmartCarb Fuel Systems, Inc retains all rights.
- Optimum SmartCarb tuning requires proper SmartCarb installation and that your application is in good working order and up to date on maintenance. Failing any of these requirements may make tuning difficult, if not impossible.
- Fuel composition may vary by region and even seasonally which can affect tuning baselines and in some cases metering rod selection.
- We are available to advise you on metering rod selection for unique applications. We do not offer custom metering rods.

Contact

support@smartcarb.com
+1(816) 255 2328

@SmartCarb
#smartcarbequipped

SmartCarb Fuel Systems, Inc
9900 E 56th St
Raytown, MO 64133
USA

Online Resources

Manuals, Videos, Guides, & More

smartcarb.com/support/