



QUICKTRICK PRODUCT INSTRUCTIONS

Made in the USA

ALIGNMENT SIMPLE SOLUTIONS

Thank you for your support of QuickTrick products. You are supporting an American Dream business grown from the Garage and the race track to a World Wide small business. We pride ourselves on supporting the automotive community with quality solutions to everyday automotive issues. We enjoy helping you and others be their best on the track, in the garage, at the custom shop, on military deployment, your children's school bus maintenance departments and in your driveway. Thank you for your support!

Mr & Mrs QuickTrick

QuickTrick Alignment Tools

QuickTrick Alignment Kits are Professional quality tools designed for a lifetime of reliable service. QuickTrick Kits can be used on any vehicle for measurement of the alignment featuring angles of caster, camber and toe alignment.

The QuickTrick gauge contains an alt zero feature for smooth and effortless operation on any hard surface. The pieces are heavy duty aluminum and metal designed to last for years of accuracy and Made in the USA.



See your kit insert for your specific components

Specifications & Components:

- Metal and/or Aluminum frame
- 3" Aluminum Attachment Pin Set of 6 w/Protector Caps
- 3/16 Allen Wrench
- Tape Measures (Metric & Standard) 10' length
- Digital Gauge – (RoHS Certified) Batteries included
 - Measuring range from 0° ~ 90°; 4 x 90° (360°)
 - Resolution of 0.1° (1.75mm/M)
 - Accuracy of ± 0.1° at around 0° & 90° ; ± 0.2° at 1°~89°
 - Adjustable Clip-on design (patented)
 - Alternate zero feature
 - Digital display of angle in °(Degree) & %(slope)
 - Buzzer sound
 - 3 Minutes auto off

QuickTrick Case

- High-quality synthetic material for outer shell
- High-density foam for protection
- Velcro Straps for securing frame

Safety:

This tool should only be used by personnel who have the necessary skill, and tools to do the job correctly and safely. Incorrect usage can result in personal injury, vehicle damage and / or loss of vehicle control.

Ensure vehicle emergency brake is applied before starting measurements

Clear work area of potential hazards

Always use safety gear – (gloves, eye protection, footwear)

Use & Care:

QuickTrick Alignment kits are portable tools used to quickly and accurately measure caster, camber & toe.

For long tool life, make sure to wipe down the metal/aluminum after each use and properly store all components and frame pieces to ensure no damage to parts.

Ensure digital gauge batteries are in good condition

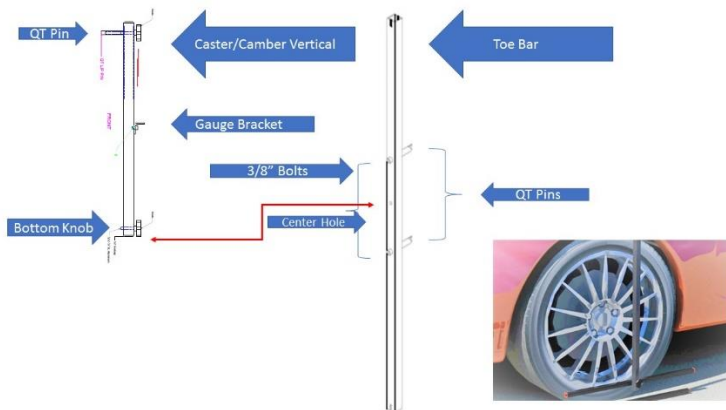
Calibrate gauge when needed following instructions:

http://www.youtube.com/embed/jLHIp_wKdQE

Assembly:

Unpack your QuickTrick system and verify all components are present using Packing list

- Empty all case pockets prior to checking parts
- Attach toe bars to caster/camber bars with bottom knob and center hole



- Ensure the gauge bracket on verticals is at 90 degrees.



- Attach Pins to toe bars (Pins with 3/8" bolt and washer) by sliding the bolt and washer on the smaller hole to the right and left of center, insert pin through larger hole on other side of toe bar and screw onto inserted 3/8" bolt.



- Attach 2 remaining Pins to Verticals by removing top nut and screwing onto the knob/bolt in the correct hole or slider depending on your system.



Attach Caster/Camber vertical to Toe bar to complete set up



Prior to Start: (Ensure you do not tighten down

- Test your QuickTrick gauge to ensure a repeatable measurement
 - Remember the gauge is accurate to within 1/10 degree which makes it very sensitive. If you believe you are not getting repeatable measurements, please go through the steps to recalibrate found at the video link below:
 - http://www.youtube.com/embed/jLHIp_wKdQE
- Make sure your vehicle is on a hard surface and emergency brake applied

- Determine if your QuickTrick wheel application will be best suited for QT Pins between wheel and tire for attachment or with red cap covered QT pins for inner lip.



For Outside Wheel attachment (No caps): Masking tape or Scotch Blue is recommended to protect your wheels and provide additional grip for the QT Pins without caps

Ensure you do not tighten down too hard with Aluminum systems as you will strip the threads

- Starting from the bottom of the wheel with horizontal toe bar
 - Slide QT pins between the bottom of your wheel and tire while moving your top QT pin into place last to tighten securely with knobs at top and bottom. Repeat on opposite side – (QuickTrick Verticals are adjustable for each wheel size by slider or 6 hole set up with each hole representing another wheel size. Adjust fit with bottom slot or slider depending on your QuickTrick system.)



For Inner Bead/Lip Attachment

- Slide a red cap over the tip of each QT Pin.
- Starting from the bottom of the wheel with the horizontal toe bar
 - Place bottom pins on inner bead of wheel and position top in the center inner bead.
 - Tighten with reverse tension to secure on the inner bead of wheel
 - Repeat on opposite side



Now you are ready to measure!

Caster, Camber & Toe (In that Order)

Always check tire pressure and settle your suspension prior to getting measurements.

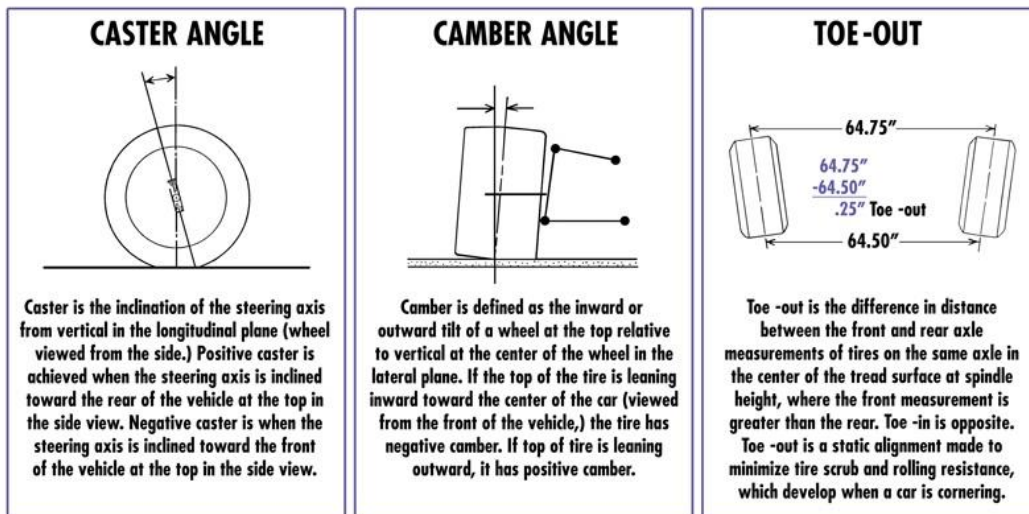
Unpack your QuickTrick system and verify all components are present.

- Please empty all case pockets prior to checking parts
- Test your QuickTrick gauge to ensure a repeatable measurement
 - Remember the gauge is accurate to within 1/10 degree which makes it very sensitive
 - If you believe you are not getting repeatable measurements, please go through the steps to recalibrate found at the video link below:
 - http://www.youtube.com/embed/jLHIp_wKdQE
- Ensure the gauge bracket on verticals is at 90 degrees.
 - The brackets can be off angle from shipping jolts
- Make sure your vehicle is on a hard surface
- Attach Pins to toe bars (Pins with 3/8" bolt and washer) by sliding the bolt and washer on the smaller hole to the right and left of center, insert pin through larger hole on other side of toe bar and screw on inserted 3/8" bolt.
- Attach 2 remaining Pins to Verticals by screwing onto the knob/bolt in the correct hole or slider depending on your system.
- Apply pressure on the bumper a few times to make sure your suspension settles
 - If you prefer...Inexpensive toe plates (floor tiles or 12x12" scrap metal with motor oil or salt in between)

- Make sure your tire pressure is correct
- Wheels with no lip – Use uncapped Pins (Use Scotch Blue or Masking Tape to protect Wheels)
- Wheels with lip – Use red caps on tips of pins to protect and add grip inside the wheel

Now you are ready to check your alignment

Caster, Camber & Toe (In that Order)



CASTER: With and without toe plates, Caster is a lot easier than most people think.

1. Center your steering wheel (use a small piece of tape for reference as you measure)
2. Place the QuickTrick frame on the wheel you are measuring
3. Use the gauge to determine the vertical is at 90 degrees (Make sure it is on the mode for degrees and not inches)
4. Make sure your tires are straight and center the steering wheel
5. Turn the wheel until the tire you are measuring is at 20 degrees (or about $\frac{3}{4}$ of a turn)
6. Place the gauge on horizontal bracket and zero out
7. Turn the steering wheel back to the center.. then 20 degrees in the opposite direction
8. Read the gauge (Disregard the up and down arrow for caster. Multiply the reading by 1.5 and this is your caster measurement. In most cases, your caster will always be positive. (The 1.5 is the closest calculation possible to actual caster as confirmed by MIT Engineers)
9. Caster is positive on most cars unless you have manual steering or an older vehicle model (pre 70's usually)

CAMBER:

1. Level the camber gauge. This is accomplished by placing the gauge in front of the tire and wheel you are checking. Turn the gauge on and the first reading you will see is the level of the surface you are working on. Example: If the reading on the gauge is 1.0 followed by the ^ arrow, this indicates the surface you're working on is 1.0 degrees positive, the opposite would show on the gauge as 1.0 v or negative. Simply hit the zero button and the gauge will recalibrate and show on the screen as 0.00 and will hold this recalibrated number until the zero button is pushed again.
2. Adjust for wheel height and size and attach the QuickTrick verticals to wheels. Make sure you are working on a hard surface against the wheel and the vertical is at 90 degrees prior to placing your gauge on the horizontal gauge bracket.

3. Checking Camber. Place the gauge on the gauge bracket and record your camber. Example: The only thing you need to remember when using the gauge is ^ is positive, v is negative.
4. Repeat on opposite side

TOE:

1. Extend the tapes one in front of the tire and one behind the tire. We have found working from right to left is easiest for us. Slide the clip of the tape measure into the slots of the left front and rear, return the right front and slide the extended tapes into the slots front and rear.
2. Gently pull the tapes at the same time making sure the opposite side is seated against the tire.
3. Read the tapes carefully. Typically you will have readings something like this:
Front measurement 75 1/4 – Rear measurement 75 1/8. This indicates that you have 1/8 of an inch of toe out. Easy way to remember this is if the front number is higher, you have toe out. If the rear number is higher then of course you have toe in.

****If toe adjustments are needed, we recommend you string the car to determine which or if both sides need adjustment.**

Also watch our videos at Youtube = MrQuick Trick and the website at www.quicktrickalignment.com

Troubleshooting & Useful information:

Suspension adjustment	Effect on vehicle balance, <i>extreme useable adjustment limit</i>	Symptom of TOO MUCH adjustment
Front spring rate increase	More understeer	Terminal understeer, front of car hops in corners, excess wheel spin in FWD car
Front spring rate decrease	Less understeer	Too much oversteer, oversteer then understeer if spring is so soft that the car bottoms under lean, car bottom excessively with a jolting ride
Rear spring rate increase.	More oversteer	Too much oversteer, hop in corners, twitchy
Rear spring rate decrease	Less oversteer	Car understeers, if way to soft car understeers then oversteers as car bottoms out under lean, car bottoms out excessively with a jolting ride
Front antisway bar stiffer	More understeer	Terminal understeer, Lifts inside front tire off the ground which can cause massive wheel spin, also not good for most effective tire usage as inside wheel is now doing nothing

Front antisway bar softer	Less understeer	Oversteer
Rear antisway bar stiffer	More oversteer	Big time oversteer, Can cause the inside rear tie to lift off the ground which is not too bad on a FWD car. On Classics, if this happens while trail braking into a turn, the abs can shut the brakes down which can be a bit scary
Rear antisway bar softer	Less oversteer	understeer
Front tire pressure higher	Less understeer Except with BFG R-1 tires. They will grip less and understeer more if the pressures are increased within a reasonable amount.	No traction as tire is crowned so more understeer, bad wheel spin, jarring ride, center of tires wear out
Front tire pressure lower	More understeer Except with BFG R-1 tires. They will grip more and understeer less if the pressures are decreased within a reasonable amount.	Edges of tires wear quickly because tire is folding over, feels mushy, tires chunk because low pressure means more heat build up
Rear tire pressures higher	Less oversteer Except with BFG R-1 tires. They will grip less and oversteer more if the pressures are increased within a reasonable amount.	No traction as tire is crowned so more oversteer, bad wheel spin on RWD cars, jarring ride, center of tire wears out
Rear tire pressures lower	More oversteer Except with BFG R-1 tires. They will grip more and oversteer less if the pressures are decreased within a reasonable amount.	Edges of tires wear quickly because tire is folding over and cupping upward, feels loose in back, tires chunk because low pressure means more heat build up
More negative camber on front wheels	Less understeer/ -3 degrees	Poor braking, car is road crown sensitive, twitchy, tires wear out on the inside edge
Positive camber on front wheels	More understeer, a little can make the tires last a little longer	Poor braking, car is road crown sensitive, twitchy, tires wear out on the outside edge You almost

		never want to have positive camber
More negative camber on rear wheels	Less oversteer, more rear grip, less breakaway warning when limit is exceeded/ <i>-3 degrees</i>	More oversteer, car feels twitchy in back, tires wear out on inside edge
More positive camber at rear	More oversteer, more forgiving at limit	Car feels twitchy in the back, tires wear out on outside edge
Ride height to low	Car twitchy with unpredictable dynamics, don't race on when you see it because they will crash, taking you out	Everything that could possibly be wrong, sudden over or understeer, twitchy due to bumpsteer
Toe-in front	Car is stable while going straight. Turn in is average/ <i>1/8-inch total toe-in</i>	Car has slow twitchiness under braking, feels odd, kills the outside edge of tires
Toe-in rear	car is less likely to suddenly oversteer when throttle is lifted/ <i>1/8-inch total toe-in</i>	Weird slow rocking movement in back, feels slow but still unstable, wears the outside edge of tires
Toe-out front	Car turns in well, works pretty good in FWD cars as they tend to toe-in under load/ <i>1/4-inch total toe out</i>	Car is real twitchy under braking, car is very road crown sensitive, car wanders on straight road, kills inside edge of tires.
Toe-out rear	Helps the car rotate, useful on tight low speed courses and slalom events/ <i>1/8-inch total toe out</i>	Not too good for street driving, causes lift throttle oversteer, car makes violent side to side rocking motions in rear, tires wear more on insides
Positive front caster	Helps both stability, steady state cornering and turn in because the suspension will get more negative camber when the wheel is turned/ <i>6-7 degrees positive, negative caster is not useable</i>	Can increase understeer, especially in cars with wide, low profile tires due to a non-linear increase in corner weight. Increases steering effort, SE-R's are not easily modified to make this adjustable, FWD cars can see an increase of torque steer with excessive positive caster

If you have any questions about the use of this product, please contact us:

ALSS QuickTrick Alignment Service Department at 205-475-2419 >>email: info@quicktrickalignment.com. PDF version is available online at quicktrickalignment.com/FAQs

FOR DAMAGED SHIPMENTS OR RETURNS, PLEASE CONTACT THE MANUFACTURER NOT THE DISTRIBUTOR
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A Made in the USA product

OTHER QUICKTRICK PRODUCTS:

