AMT Motorsport C6Z/ZR1 Corvette Aluminum Frame Camber Kit User's Guide

Thank you for purchasing the AMT Motorsport Camber Kit. We believe this is the most versatile camber kit available on the market, but with that versatility comes some basic principles that must be met in order for your install and alignment to be an easy process. Please read these instructions fully before installing the camber kit. If you're having a shop do your alignment, please have the alignment tech read through these instructions.

What's in the Box?

12 – Adjustable camber plates, 6 Driver Side, 6 Passenger Side

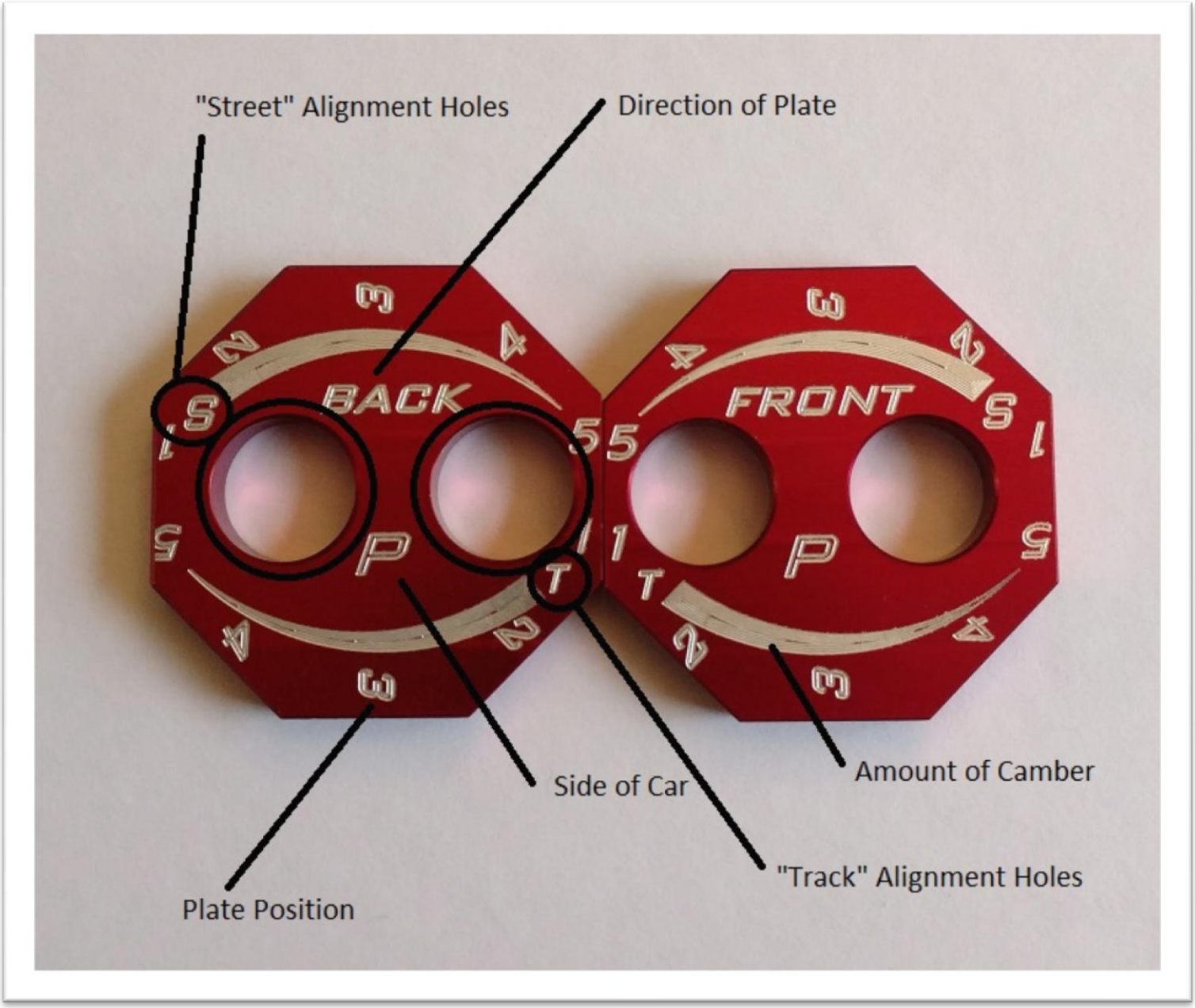
6 – Grade 10.9 M14 Bolts

6 – Grade 10.9 M14 Nuts and Lockwashers

24 – 1/16'' 32 - 1/32'' and 16 – 1/8'' thick shims for Upper Control Arm Adjustment

What Do The Markings Mean?

The plates are engraved with various markings to make installation and adjustment easier. There may be a lot of information on the plates themselves but once you can read all the hieroglyphics it should all make sense. Please note that all plate markings are the same, however the plates that go in the FRONT cradle of the C6Z/ZR1 are substantially larger than the rear plates.



Side Of Car – Each pair of plates is marked with either a “P” or a “D”. All plates with a “P” on them will be installed on the Passenger side of the car and plates with “D” on them will be installed on the Driver side of the car.

Direction of Plate – This notes which way the plate should be facing when installed on the front and rear cradles. You will have one plate facing the front of the car and one plate facing the back of the car for each control arm position. These markings do NOT denote that the plates are to be installed in the front of the car or the back of the car, only which way the plates should be facing at install.

Amount of Camber – This is simply a visual aid to guide in the alignment of the car. The shape is meant to look like a volume gauge. The "louder" the gauge gets, the more negative camber you will have. They work in conjunction with the Plate Position Holes.

Plate Position Holes – These are the numerical markings you will use to identify your camber settings. Regardless of which hole you are using, 1 is always maximum negative camber and 5 is always minimum negative camber. The numbers do NOT indicate the amount of camber you should expect. Unfortunately no 2 suspension setups are ever the same, so it would be impossible to mark the plates with an actual camber value on them.

"T" Track Alignment Hole – The Track holes give the most amount of camber. T1 will push your control arms out furthest away from the car, yielding the most amount of negative camber. Position T5 will move the control arms all the way toward the center of the car, yielding the least amount of negative camber. The T hole has the largest adjustment range of the 2 available holes. ***This hole will be most used by cars using Hoosiers or racing slicks seeking the max amount of negative camber.***

"S" Street Alignment Hole – The Street holes give less overall negative camber than the Track holes. However while the amount of camber is less, the adjustment with the "Street" range is more fine, making ***this hole most suitable for popular 200 Treadwear tires and those who drive on track and street with the same set of tires.***

Camber Adjustment

The table below shows the distance the control arm will travel in the slot per each adjustment. Again, T1 is the most outward position from the slot towards the wheel. Please note that position T3 and S3 are the same – both positions are at the same location in the slot and hence yield the same amount of camber

Max Neg. Camber----------> Minimum Neg. Camber

Position	T1	T2	S1	S2	T3/S3	S4	S5	T4	T5
Distance from Edge of Slot	1.266	1.127	1.052	.976	.792/.792	.608	.532	.456	.318
Change in Distance	0	-.139	-.075	-.076	-.154	-.184	-.076	-.076	-.138

The table shows that the distance between each position is not linear. This is due to the 8 sided shape of the plate and the "orbit" by which the hole travels within the slot. In an ideal world each adjustment position would yield the same amount of camber adjustment between each position number, but unfortunately that is not possible. So in example if you start at setting T3 and move to setting T2, your control arm will move in the slot .335'', creating a significant amount more of negative camber. However if you want max negative camber the travel from position T2 to position T1 is only .139'', so the negative camber gained is almost half as much as you gained from position 3 to position 2.

Adjustment Positions

The plates are engraved so that when the “front” and “back” plates are setup back to back, the engraved markings are mirrored. This way regardless of where you are under the car while making adjustments, the adjustment positions are the same on every plate at every corner of the car. The kits are shipped with the plates facing the in the proper direction and the bolt thru the T HOLE. Below is a picture of the plate setup on an actual cradle with lower control arm. This is a front facing plate on the passenger side of the car in position T2.

Guidelines for Use

Ideally you want to set the plates up so that you don’t need to remove the bolts when you want to change camber settings. Below are a few example setup scenarios.

Dedicated track car, trailered to the track

Most dedicated track or race cars will be using Slicks or R Comps, which will usually favor the most aggressive camber settings. You will want to set your car up using the ***T HOLE***, generally in position 1 or 2. This should get you to -2 to -2.5 in the back in -2.5 to -3 in the front. All of these numbers are dependent on your suspension setup and cannot be taken as gospel. Left and right sides of the car also vary from car to car, so it would not be at all uncommon to have the driver side of the car in position T1 while the passenger side may need to be in position T2 in order to even out the camber as much as possible between the two sides of the car, if preferred.

Dual Use Car, Using R Comps or Slicks

If you drive your car on the street with less aggressive rubber, but switch to sticky tires on the track the ***T HOLE*** is still where you want to be. Position T3 is right in the middle of the slot travel, which will put you in the -1 degree range front and rear. So if you drive your car to the track and switch to race rubber you'll have the car setup in the T3-T4 range for street driving, and T1 to T2 for the track. You will need to adjust your toe settings from street to track. Ideally you would have your alignment shop setup the car for both street and track settings, and take notes on camber plate position and mark your tie rods so you're always at the appropriate settings.

Dual Use Car, Mostly Street, Ultra High Performance Tires

Street tires are attaining higher and higher levels of grip, so this may be a car that drives to the track on a BFG Rival or Bridgestone RE-11 or Michelin Pilot Super Sport which may want -1 degree on the street but will last longer at -2 on the track. In this case you may want to consider the ***S HOLE*** which is more focused in the streetable camber range, around -1.7 to -.75 in the rear and -2.3 to -.8 in the front with finer adjustment in between setting than the T Hole. You would still want to have the car aligned with both settings for street and track.

Using the Shims

The whole point of the AMT Camber kit is that the lower control arms are where the adjustment occurs. Once your settings are known we feel it is easier to adjust the lower arms via the plates as opposed to adjusting the upper arms with shims. However shims are included with the kit should you choose to use them. The shims can be used to fine tune your alignment. Should you choose to primarily set the camber using the upper control arms only, we recommend purchasing the AMT Upper Stud Kit which replaces the upper bolts with hardened studs and hardware.

1/8'' thick shim reduces camber by approximately .6 degrees

1/16'' thick shim reduces camber by approximately .3 degrees

1/32'' thick shim reduces camber by approximately .15 degrees

Installation Instructions for front of car

-Lift car from front jacking point and insert jack stand. Remove front wheel

-The front lower control arms have two set of camber adjustment positions

HELPFUL TIP If your car is already setup with a track or factory alignment and you're happy with your settings, you can place the AMT camber plate on the bolt to visualize where the plates need to be in order to maintain your current camber settings. Before proceeding to the next step and removing the stock camber bolts, place the AMT plate over

the bolt and twist the plate to the closest corresponding position to your current settings. Use this plate position to most closely mimic your current alignment settings.

-The C6Z/ZR1 front eccentric bolts include a thin aluminum sleeve over the factory bolts. This sleeve is to isolate the steel bolt from the magnesium front cradle. This sleeve should be reused with the new AMT-supplied bolts if possible.

-Loosen both sets of M14 bolts so that the stock eccentrics are not seated in the cradle and the control arms can move in the slot. It may be easiest to install the AMT Camber Kit one position at a time, so after both bolts are loosened remove one of the factory M14 bolts, both eccentrics, and nut. You will not reuse any of these parts

- Seat the AMT Camber plate in the position you intend to use it. Now move the control arm so that you can see when the hole through the control arm bushing mostly lines up with the hole in the camber plate. You may need to pry the control arm with a large screw driver or pry bar if you intend to use the T1 camber position. ***IMPORTANT*** **Be mindful of the plate markings** – "FRONT" points towards the front of the car and "BACK" points towards the back of the car. "P" plates are installed on the passenger side and "D" plates are installed on the driver side. If these plates are not orientated correctly you'll go around in circles trying to set your alignment

-After replacing the aluminum sleeve on the new AMT bolt, insert the M14 Bolt through the plate and thru the control arm bushing. Tap the bolt it in so it's flush against the plate if necessary.

-Install the second camber plate from the opposite side, again being mindful of the plate markings

-Insert lockwasher, nut, and torque to 130 ft lbs

-Repeat process for the second camber position

TIP If you're looking for the maximum caster, you will probably use the camber plate in the front-most position one setting lower than the rear. Example: T2 in the front position and T1 in the rear position. By having more negative camber in the rear position you tilt the spindle upright towards the rear of the car creating more caster in the alignment. You can also adjust caster with the supplied shims on the upper control arm studs. In this case more shim in the front most control arm bolt will increase caster, again by tilting the spindle upright towards the rear of the car.

Installation Instructions for rear of car

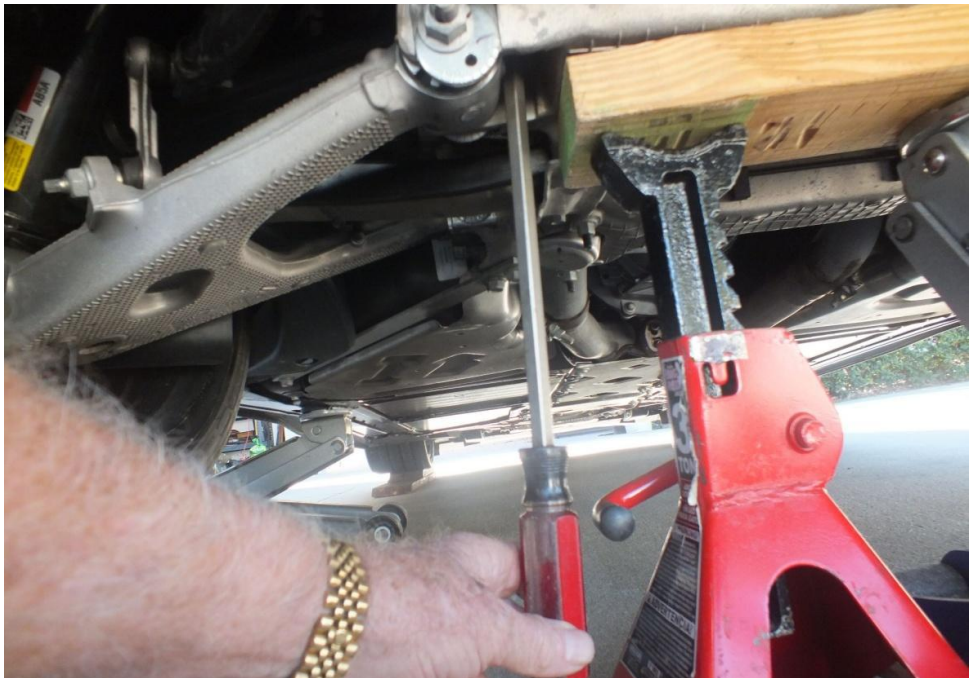
-Lift car from rear jacking point and insert jack stand. Remove rear wheel

-As with the front, you can place the AMT camber plate on the bolt to visualize where the plates need to be in order to maintain your current camber settings. Before proceeding to the next step and removing the stock camber bolts, place the AMT plate over the bolt and twist the plate to the closest corresponding position to your current settings. Use this plate position to most closely mimic your current alignment settings.

-Only the front bolt is adjustable in the rear lower control arm. Remove factory M14 bolt, nut, and both eccentrics. The bolt may require some finagling to be removed as it comes into contact with fuel lines.

-Seat camber plate in the cradle to get a sense of where you want to set your camber. Insert new bolt and camber plate from opposite direction to make life easier

-If you wish to set to T1, you WILL need to pry the bottom of the control arm away from the car with a big screwdriver or small pry bar. The stock rubber bushings want to keep the control arm closer to the center of the slot. T2 may require use of the pry bar as well.



-Once plate is orientated, seated in cradle, and bolt is thru, insert camber plate on opposite side. Be sure that you use the same Alignment Hole (T or S) and plate position (1-5) as you've used on the opposing side.

-Insert lockwasher and nut on end of bolt. Torque nut to 130 ft lbs

Thanks for your business! Any questions please call 518-877-8560 or e-mail Mark@amtmotorsport.com - See you at the track!