



## ***AMT Motorsport C7 Corvette Camber Kit User's Guide***

Thank you for purchasing the AMT Motorsport Camber Kit for the C7 Corvette. 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.

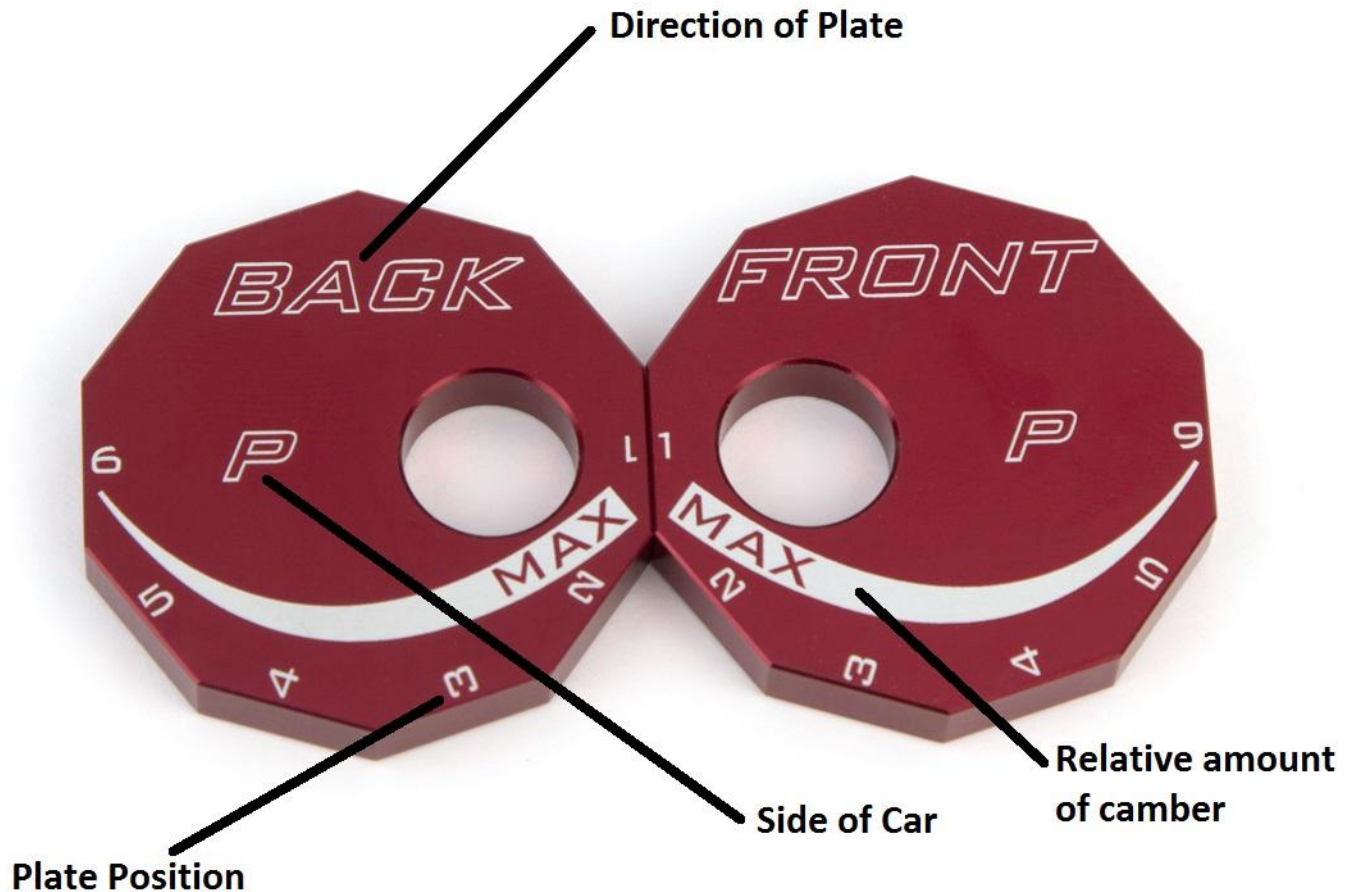


### **What's in the Box?**

- 16 – Adjustable camber plates, 8 Driver Side, 8 Passenger Side
- 8 – Grade 10.9 M14 X 120mm Bolts
- 8 – Grade 10.9 M14 Nuts and Lockwashers
- 32 – 1/16" and 32 1/32" thick shims for Front Upper Control Arm Adjustment
- 8 – Upper Control Arm Studs and hardware for rear upper control arm adjustments
- 8 – Upper Control Arm Studs and hardware for front upper control arm adjustments (**OPTIONAL**)

## 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.



**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.

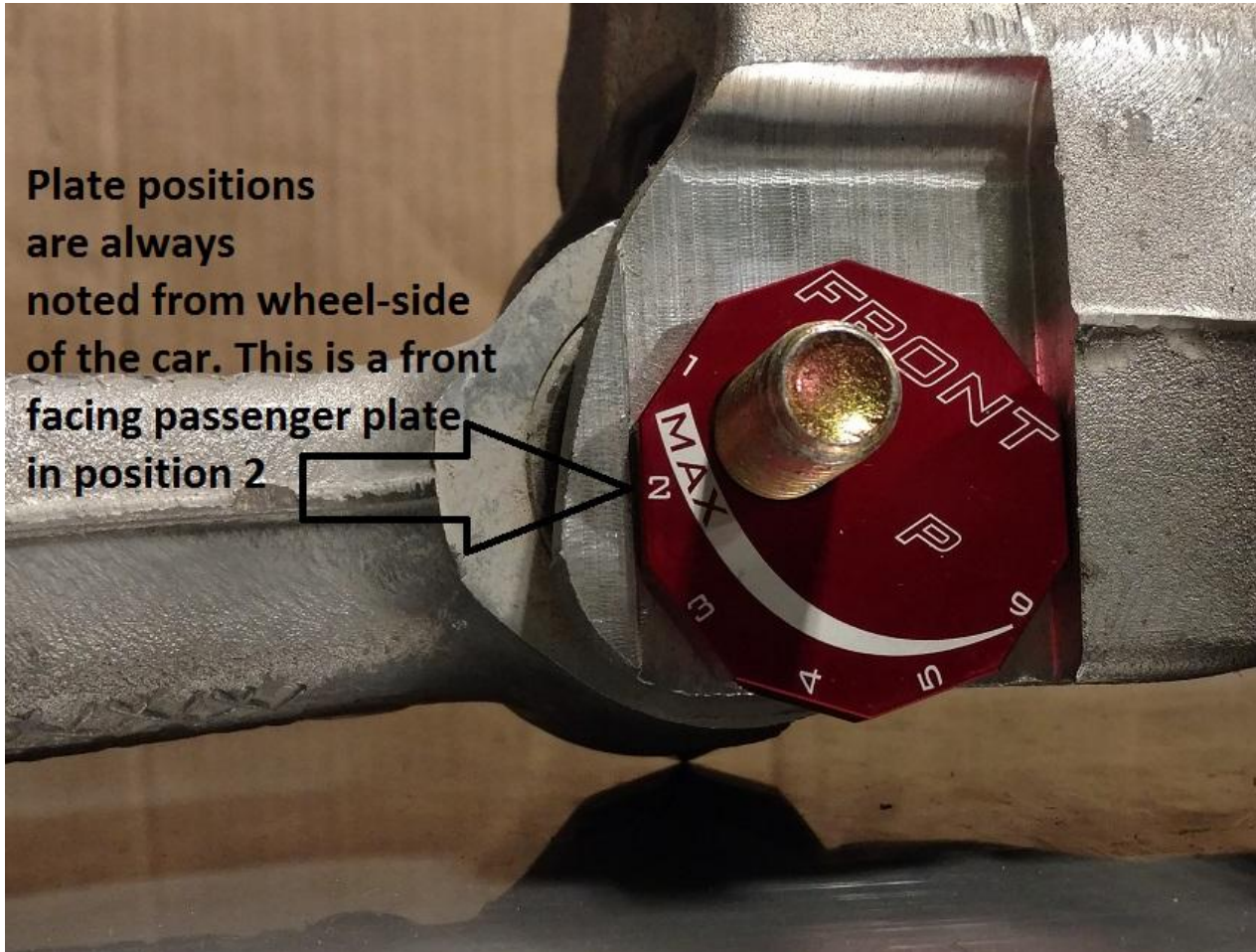
**Amount of Camber** – This is simply a visual aid to guide in the alignment of the car. The shape is meant to look like a volume gauge. The “louder” the gauge gets the more negative camber you will have. They work in conjunction with the Plate Position Holes. “MAX” is shown at plate position 1 and this is the maximum amount of negative camber available

**Plate Position Holes** – These are the numerical markings you will use to identify your camber settings. 1 is always maximum negative camber and 6 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.

## 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 on the bolt with the plates facing in the proper direction.

Below is a picture of the plate setup on an actual cradle with lower control arm. The numbered positions are always noted from the wheel side of the car/outside side of the car – however you prefer to think about it.



## Camber Adjustment

The table below shows the distance the control arm will travel in the slot per each adjustment. Again, position 1 is the most outward position from the slot towards the wheel.

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

Position	1	2	3	4	5	6
Distance from edge of slot	1.083	1.009	.818	.582	.390	.317
Distance from next position	-	-.074	-.191	-.236	-.192	-.073

The table shows that the distance between each position is not linear. This is due to the 10 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 3 and move to setting 2, your control arm will move in the slot .191”, creating a significant amount more of negative camber. However if you want max negative camber the travel from position 2 to position 1 is only .074”, so the negative camber gained is almost half as much as you gained from position 3 to position 2.

## **Important points about rear caster on the C7**

The C7 Corvette is the first Corvette that has fully adjustable rear control arms, meaning there are 2 lower control arm adjustments in the rear, as opposed to the C5 and C6 which only had one adjustment. This extra adjustment means you can really dial in or completely screw up your rear caster settings. While it’s common and normally advised to run the maximum amount of caster available in the front of the car, it is absolutely ***NOT*** advised to do this in the rear. Most knowledgeable alignment shops who are setting up C7s for track use as well as GM are recommending rear caster settings of 0 degrees. There have been some very public magazine reviews of the C7 where the track testers and reviewers found the car to be nearly undrivable at the limit and this behavior was attributed to rear caster settings that were way out of spec. Because rear caster is so important on the C7 our camber kit includes upper control arm studs to be used specifically at the rear of the car. Depending on your car setup, it may prove difficult to get 0 caster with the camber plates due to the 10 sided shape of the plates. For this reason we recommending dialing in caster using the included shims on the upper control arms. Please be sure that you’re taking your car to a qualified and knowledgeable shop for your C7 alignment. A professional and thorough track alignment can be expensive but it can be the difference between a fun, fast and predictable car and a slow, maniacal monster that wants to kill you.

## **Guidelines for Use**

Since the AMT Motorsport camber kit is fully adjustable it makes it easy to switch alignment settings based on the tire and intended use of the vehicle. 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 generally using 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 1 while the passenger side may need to be in position 2 in order to even out the camber as much as possible between the two sides of the car, if preferred. Again, adjusting the upper control arms with the provided shims will allow you to fully dial in your alignment settings.

## ***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 then you may find yourself in position 1 or 2 for the track but position 3 or 4 for the street. 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 upper control arms shims and mark your tie rods so you're always at the appropriate settings.

## **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 to perfectly even out your alignment settings. Should you choose to primarily align the car using the upper control arms only, we recommend purchasing the AMT Upper Stud Kit for the front of the C7 which replaces the upper bolts with hardened studs and hardware. Again, the rear upper stud kit is included with the kit to be sure your rear caster settings can be dialed in perfectly.

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

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

## Camber Kit Installation Instructions for front of car

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

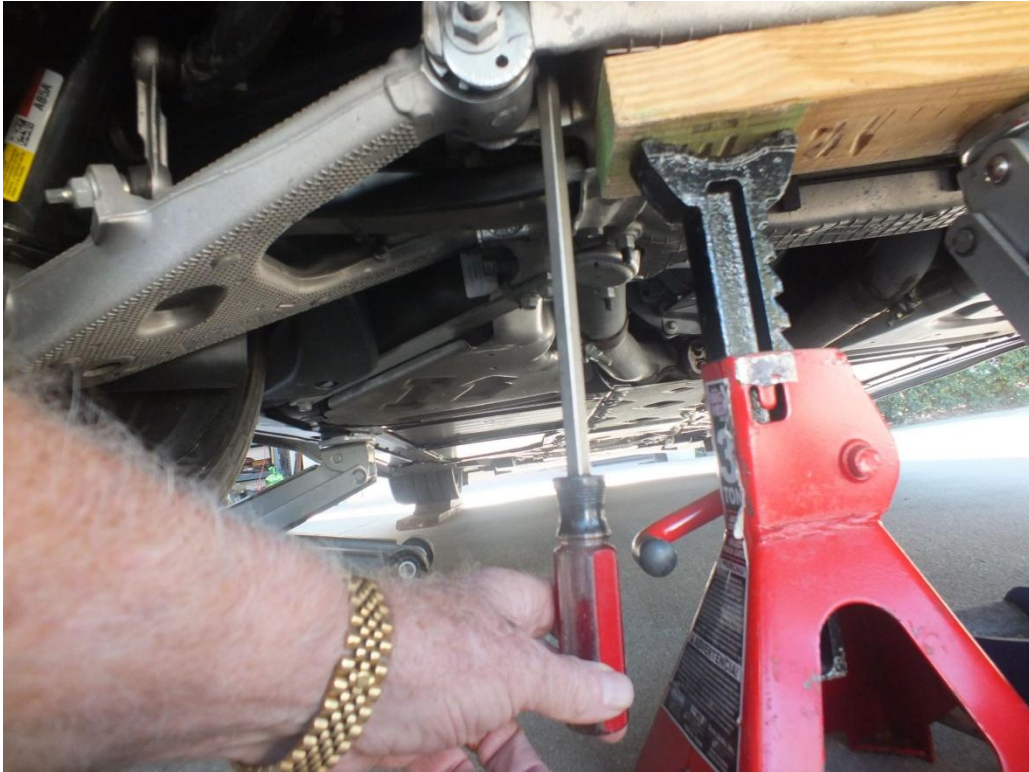
-The front lower control arms have two set of camber adjustment positions

**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.



-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. In the control arm position closest to the leaf spring, you will need to twist the stock eccentric in order to clear the factory leaf spring.

- 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 camber position 1.



**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 the plates are orientated correctly the camber “volume” gauge will always be towards the bottom of the car and never on top. If these plates are not orientated correctly you’ll go around in circles trying to set your alignment.

-Insert the M14 Bolt through the plate and thru the control arm bushing. Tap 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. The position markers will need to be the same on both sides of the bolt. You would not have one plate in position 1 and the opposing plate in position 2

-Insert lockwasher, nut, and torque to 130 ft lbs. This is the recommended torque spec for this size Grade 10 bolt and nut.

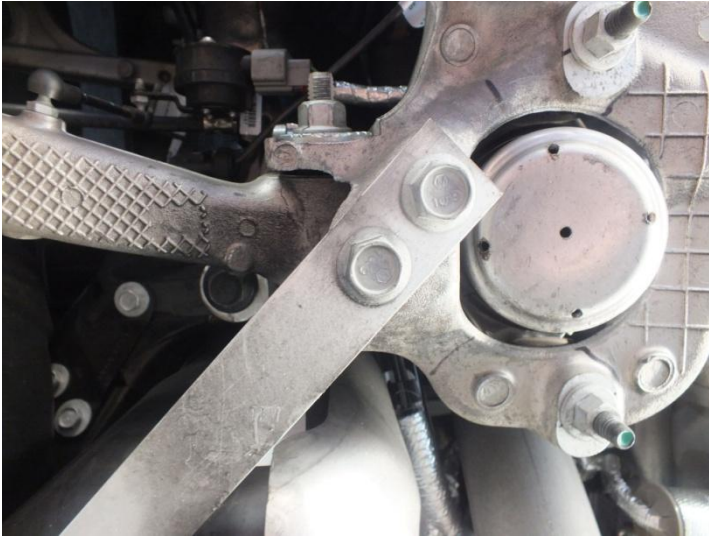
-Repeat process for the second camber position

**TIP** If you’re looking for the maximum caster you will probably use the camber plate in the front-most position with a less aggressive setting than the rear. Example: 2 in the front position and 1 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.

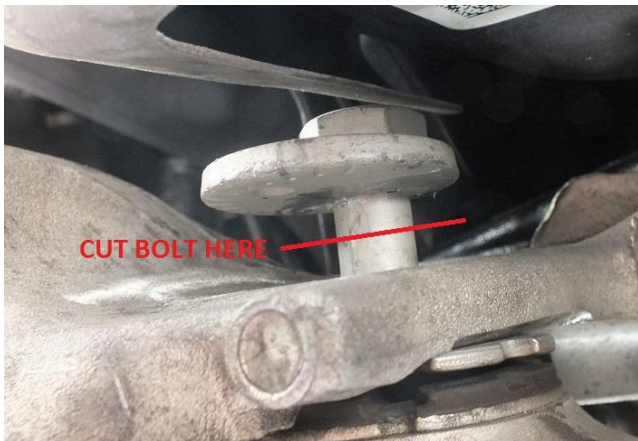
## Installation Instructions for rear of car

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

-Remove silly thin aluminum brace from bottom of control arm



-The front bolt will need to be cut in order to be removed. GM decided to put the bolt in from a direction that can't be removed without hitting the gas tank (thanks GM!). Another option would be to drop the rear subframe in order to get the bolt out. However 5 minutes with a Sawzall will make short work of the bolt head. A hacksaw may also work but will require a lot more time and patience.



-After you've decided which position you want to install the camber plate, seat camber plate in the cradle to get a sense of where you want to set your camber. Insert new bolt from side opposite gas tank.

-Once plate is orientated, seated in cradle, and bolt is thru, insert camber plate on opposite side.

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

-Install process is the same for the rear adjustment position, just without having to cut that stupid bolt.



## Upper Stud Installation Instructions for front of car

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

-Loosen both sets of M10 bolts on the upper control arms and remove bolts. You will not reuse these bolts.

- The AMT studs are 60mm long, which will be way more than enough for as many shims as you wish to use with any trunion available. Screw the studs in by hand, or with a 7mm socket on the hex, to approximate where you want the stud to screw in to the frame. Check length by placing the loose upper control arm over the studs to gauge your stud length, keeping in mind any shims you want to use.

-Once you know where you want the stud to be installed, put a drop or two of Loctite on the threads of the stud, and screw the stud into the frame. Go grab a beverage and give the Loctite 10 minutes or so to start to harden before you complete installation. **Note** – *The threads in the frame are only about 10mm long, so no need to cover the entire stud in Loctite. Also note the threads in the frame go all the way through, so you can feasibly thread the stud all the way through the frame and have the stud drop into the frame and rattle around in there in perpetuity. You'll want to sell your car if you have a stud rattling around in your frame. Don't do this.*



-With studs installed in frame and whatever shims you wish to use in place on the studs, re-install control arms over the studs. Then install hardened oversized washer, lockwasher, and nut, and torque nut to 45 ft lbs

-The hardened oversized washer is not needed on most trunions, however if you're using the AMT Spherical Bushing kit (or other inferior kits) the trunion will be narrower than stock, poly, or most delrin bushing kits. In this case the oversized washer is in place to spread the load of the lockwasher without having to worry about the lockwasher seating properly on the trunion. It's just an extra assurance to make the install as thorough as possible.



## Upper Stud Kit Installation for rear of car

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

-Loosen both sets of M10 bolts on the upper control arms and remove bolts. You will not reuse these bolts.

- The AMT studs are 60mm long, which will be way more than enough for as many shims as you wish to use with any trunion available. Screw the studs in by hand, or with a 7mm socket on the hex, to approximate where you want the stud to screw in to the frame. Check length by placing the loose upper control arm over the studs to gauge your stud length, keeping in mind any shims you want to use.

-Once you know where you want the stud to be installed, put a drop or two of Loctite on the threads of the stud, and screw the stud into the frame (see previous picture of Loctite example)

**-C7 Note** – Chevy put all kinds of nice felt in the wheel wells which can make getting a wrench on the rear-most bolt a pain. You can cut a small hole in the felt and use a 15mm socket on an extension to more easily remove the bolt.



-With studs installed in frame and whatever shims you wish to use in place on the studs, re-install control arms over the studs. Then install hardened oversized washer, lockwasher, and nut, and torque nut to 45 ft lbs.

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