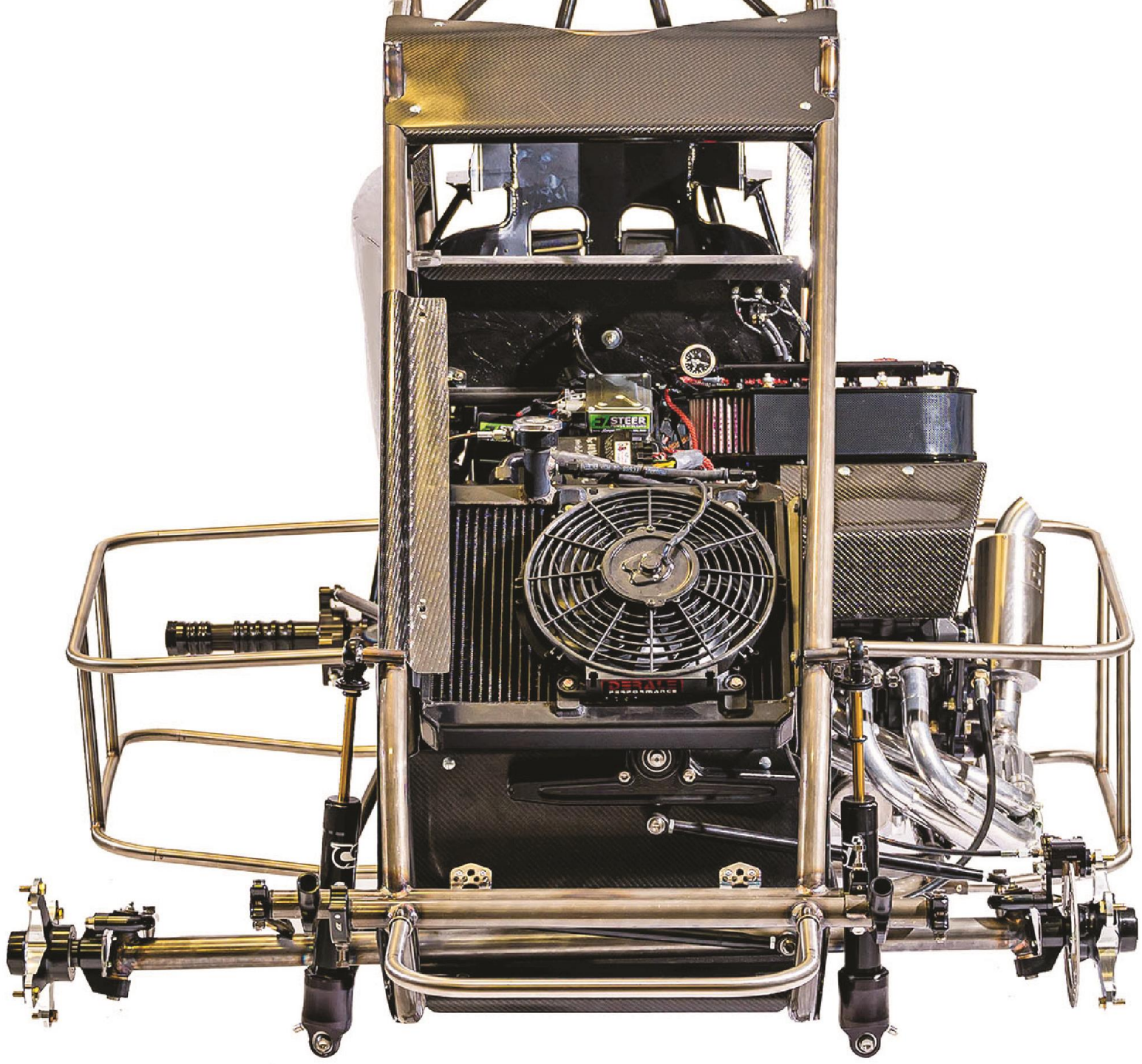
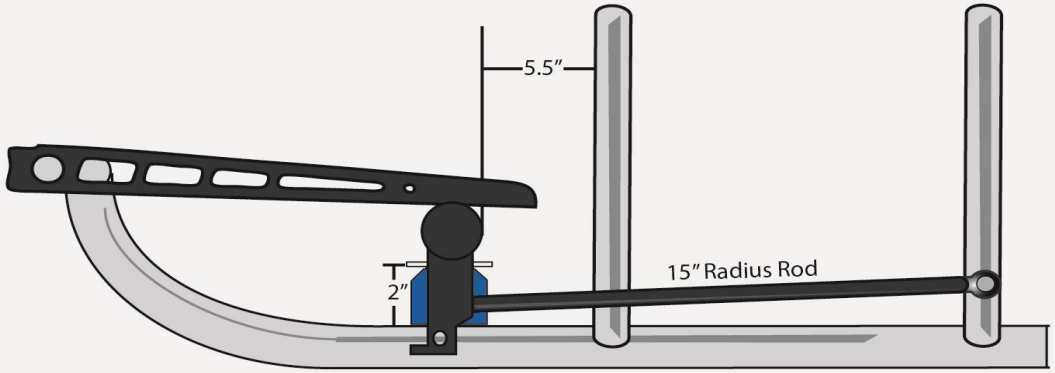
DRIVEN

SQUARING & ASSEMBLY

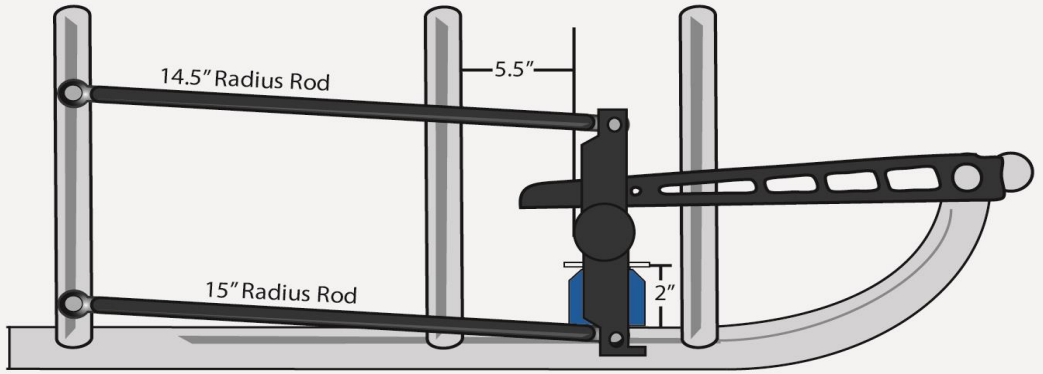
TRICKS & TECHNIQUE


EZSTEER

Front Axle Squaring Guide - 2022



LEFT
(side view perspective)



RIGHT
(side view perspective)

RIGHT
(front view perspective)

LEFT
(front view perspective)

Squaring the Front Axle

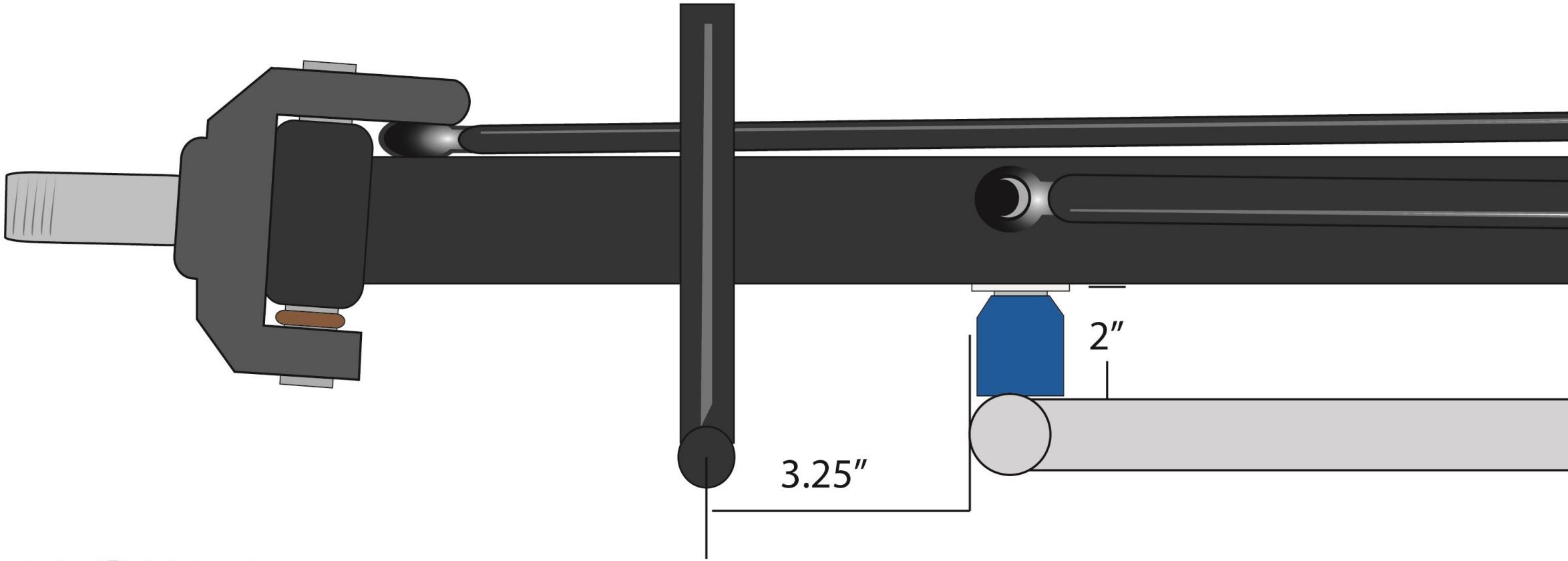
1. After assemblying your front axle, insert into front of car on 2" set up blocks

2. Fasten the front radius rods, pan hard bar, and steering rod

3. Once installed, use a tape measue to find 5.5" from the face of the radiator upright, to the back of the axle (as shown)

4. Adjust the length of the front radius rods to find this measuement on both the left and right front of the car

5. Keep in mind, spindle castor must still be achieved correctly (next step)



RIGHT

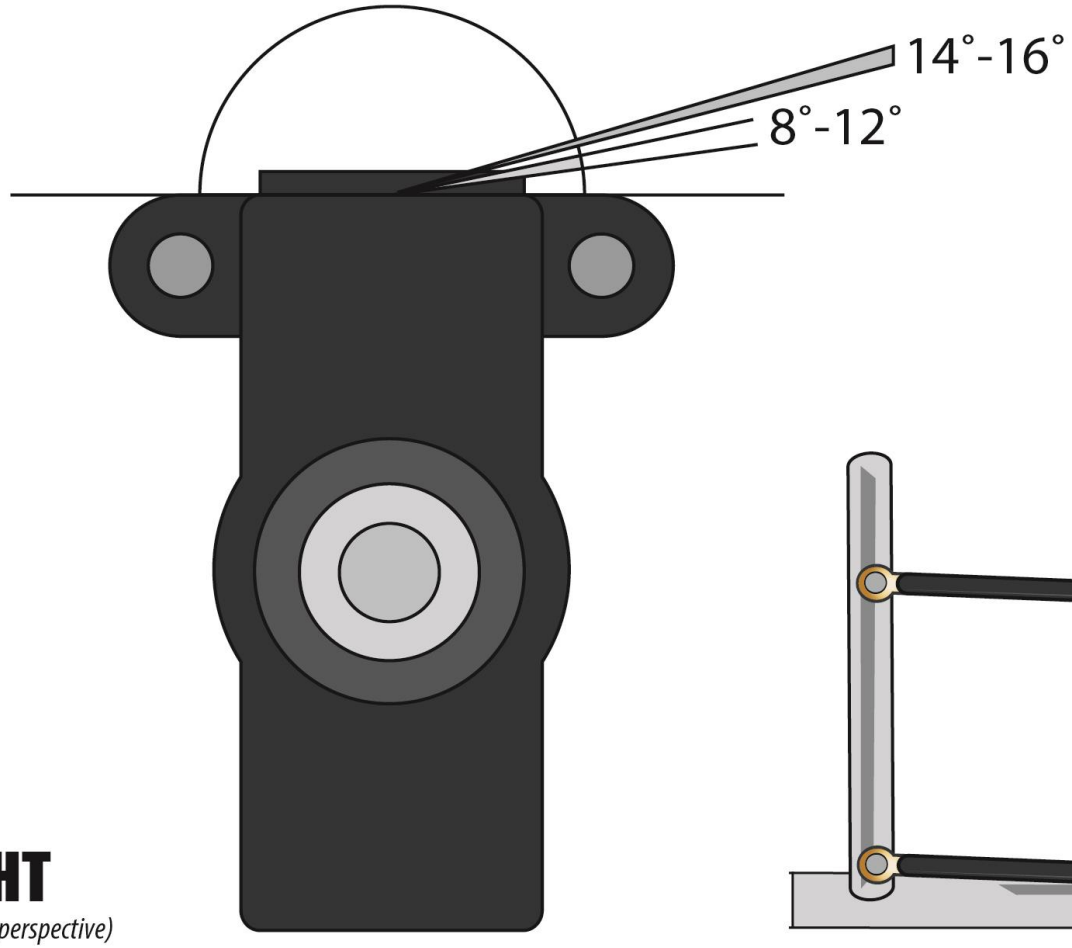
(front view perspective)


1
2
ft
12ft
in
3
4
5
6

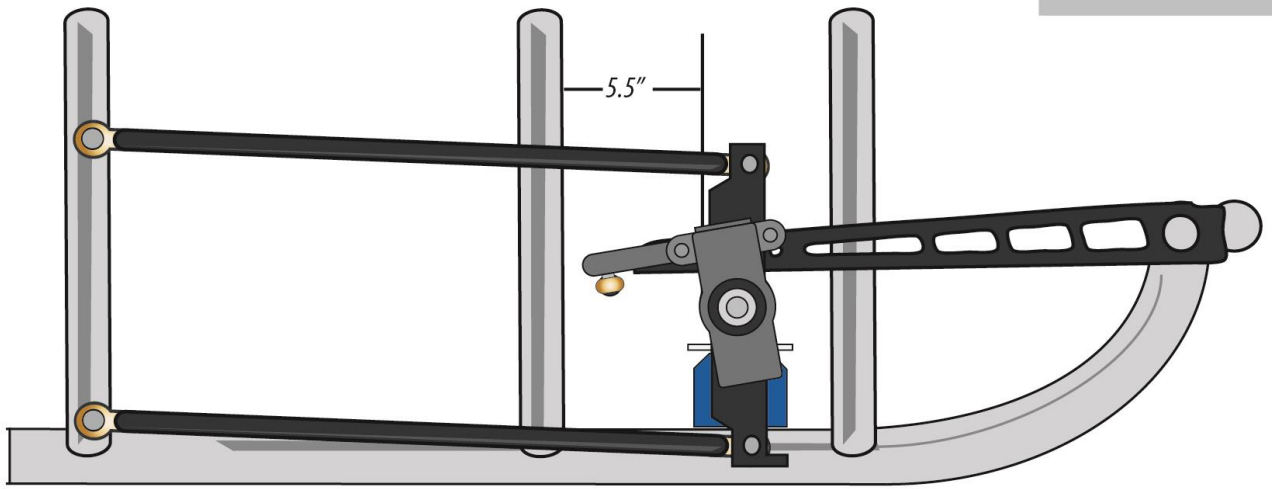
Spindle Castor Guide

Setting Spindle Castor Angle

1. After the intial squaring of the front axle, castor angle needs to be set.
2. Smaller drivers: 8˚-10˚ (No PS)
   Standard: 10˚-12˚ (No PS)
   *Power Steering: 14˚-16˚
3. Right side radius rods are used to adjust this angle in the spindle
4. Using 2" set up blocks, use an angle finder to achieve the desired castor setting on the right front spindle
   *refrain from using aPhone App as an angle finding tool
5. When adjusting top and bottom radius rods, keep in mind the axle needs to maintain it's square position in the race car. Do this by alternating adjustments; (ex. +1 turn on top radius, -1 turn on bottom radius rod)
6. After achieving the desired castor setting, double check to make sure the front axle has remained square



RIGHT
(side view perspective)



RIGHT
(side view perspective)

Setting Spinde Castor Angle

1. After the intial squaring of the front axle, castor angle needs to be set.

2. Smaller drivers: 8˚- 10˚ (No Power Steering)
   Standard: 10˚- 12˚ (No Power Steering)
   Power Steering: 12˚- 16˚
   Non-Wing: 16˚- 18˚ (Not suggested for High Speed tracks with Wing)

3. Right side radius rods are used to adjust this angle in the spindle

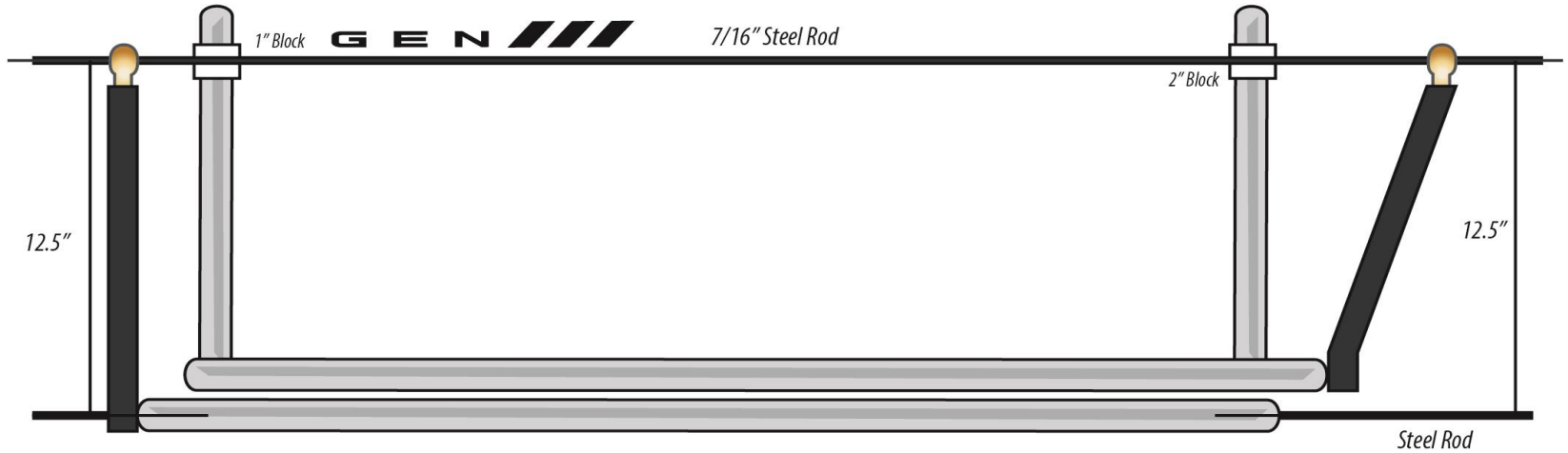
4. Using 2" set up blocks, use an angle finder to achieve the desired castor setting on the right front spindle (*refrain from using a Phone App as an angle finding tool)

5. When adjusting top and bottom radiuS rods, keep in mind the axle needs to maintain it's square position in the race car. Do this by alternating adjustments; (ex. +1 turn on top radius, -1 turn on bottom radius rod)


0.0
ON/OFF
ZERO
CASTER
HOLD
LIGHT
AccuLevel™
DIGITAL LEVEL


15.2
AccuLevel™
DIGITAL LEVEL
ON/OFF
ZERO
CASTER
HOLD
LIGHT
DRIVEN BRF

Rear Axle Squaring Guide

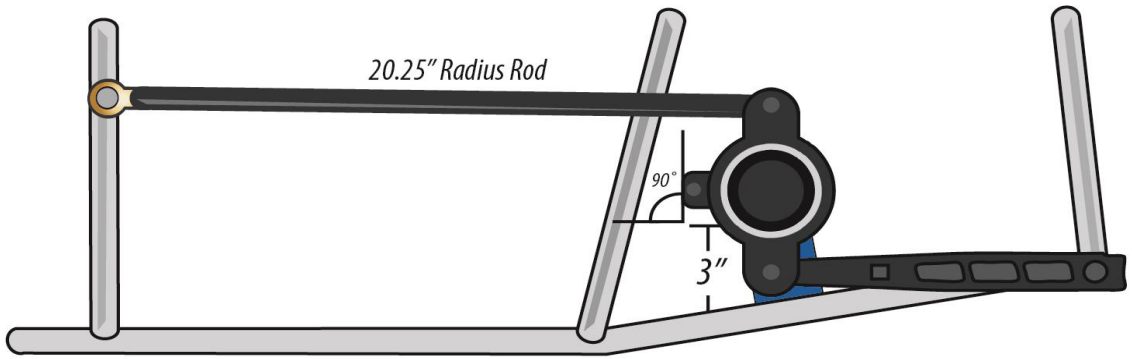


LEFT
(top view perspective)

RIGHT
(top view perspective)

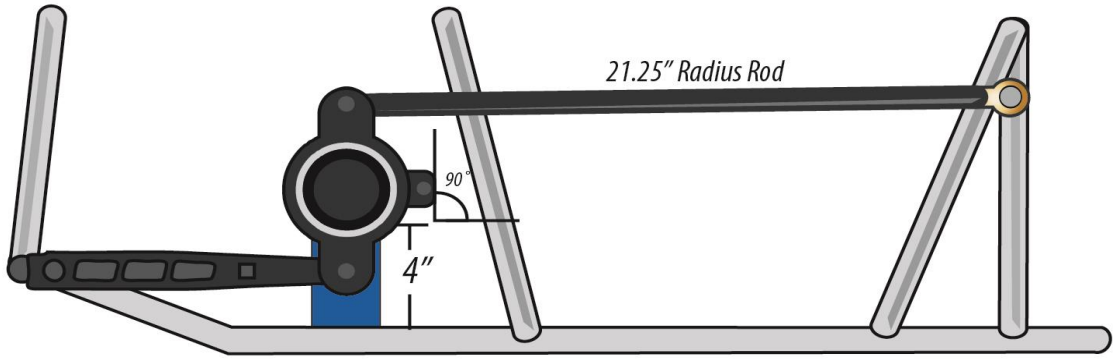
Setting the Torsion Arm Lengths

1. Prior to installing the rear axle, insert the rear torsion arms in rear tosion rack (w/ bushings installed)
2. Fasten rear tosion arms (as shown)
3. Insert the 7/16" Steel Rod or the like, through the torsion arm heims to act as an aligning tool, use 2" set up blocks to allow the rod to rest on the blocks
4. Insert the 2nd steel rod through the right rear torsion bar to act as the rear aligning tool
5. Measuring from the center of the front rod, to the center of the rear rod find 12.5" (center line to center line, as shown)
5. Adjust torsion arm heims as need to square the arm lengths



LEFT
(side view perspective)

GEN III



RIGHT
(side view perspective)

Setting the Torsion Arm Lengths

1. Prior to installing the rear axle, insert the rear torsion arms in rear tosion rack (w/ bushings installed) Bushings must be reamed, bar must move/spin freely

2. Fasten rear tosion arms (as shown)

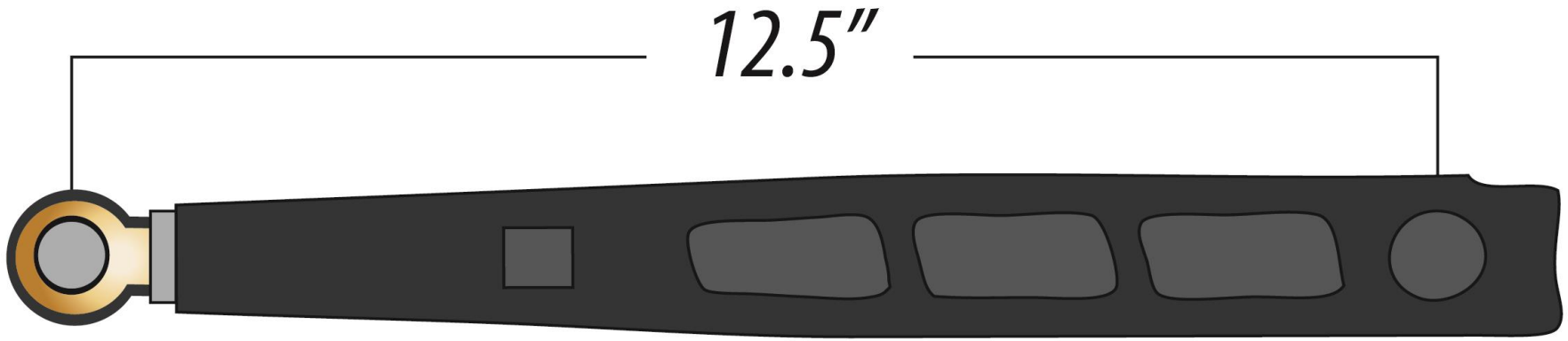
3. Insert the 7/16" Steel Rod or the like, through the torsion arm heims to act as an aligning tool, use 2" set up blocks to allow the rod to rest on the blocks

4. Insert the 2nd steel rod through the left rear torsion bar to act as the rear aligning tool

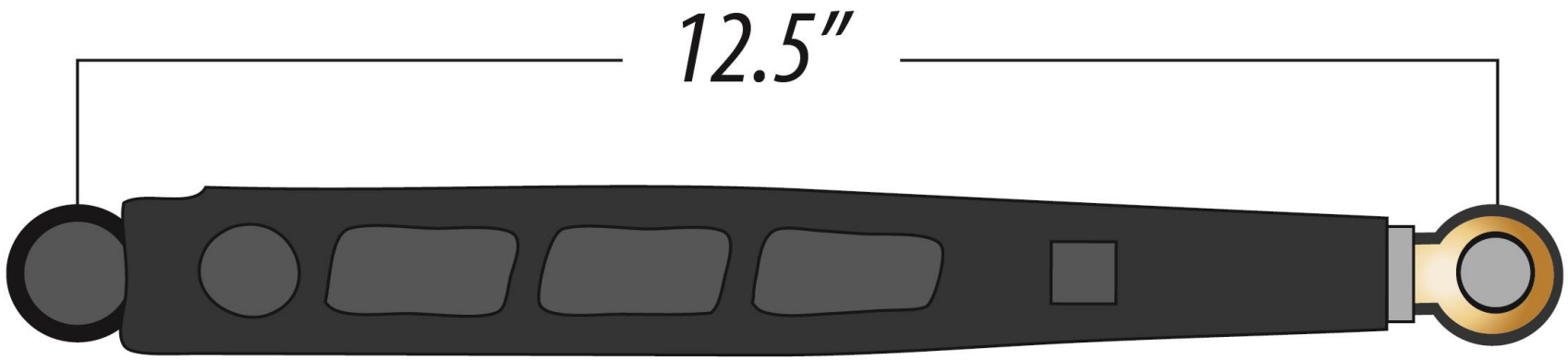
5. Measuring from the center of the front rod, to the center of the rear rod find 12.5" (center line to center line)

6. Adjust torsion arm heims as need to square the arm lengths

LEFT REAR ARM

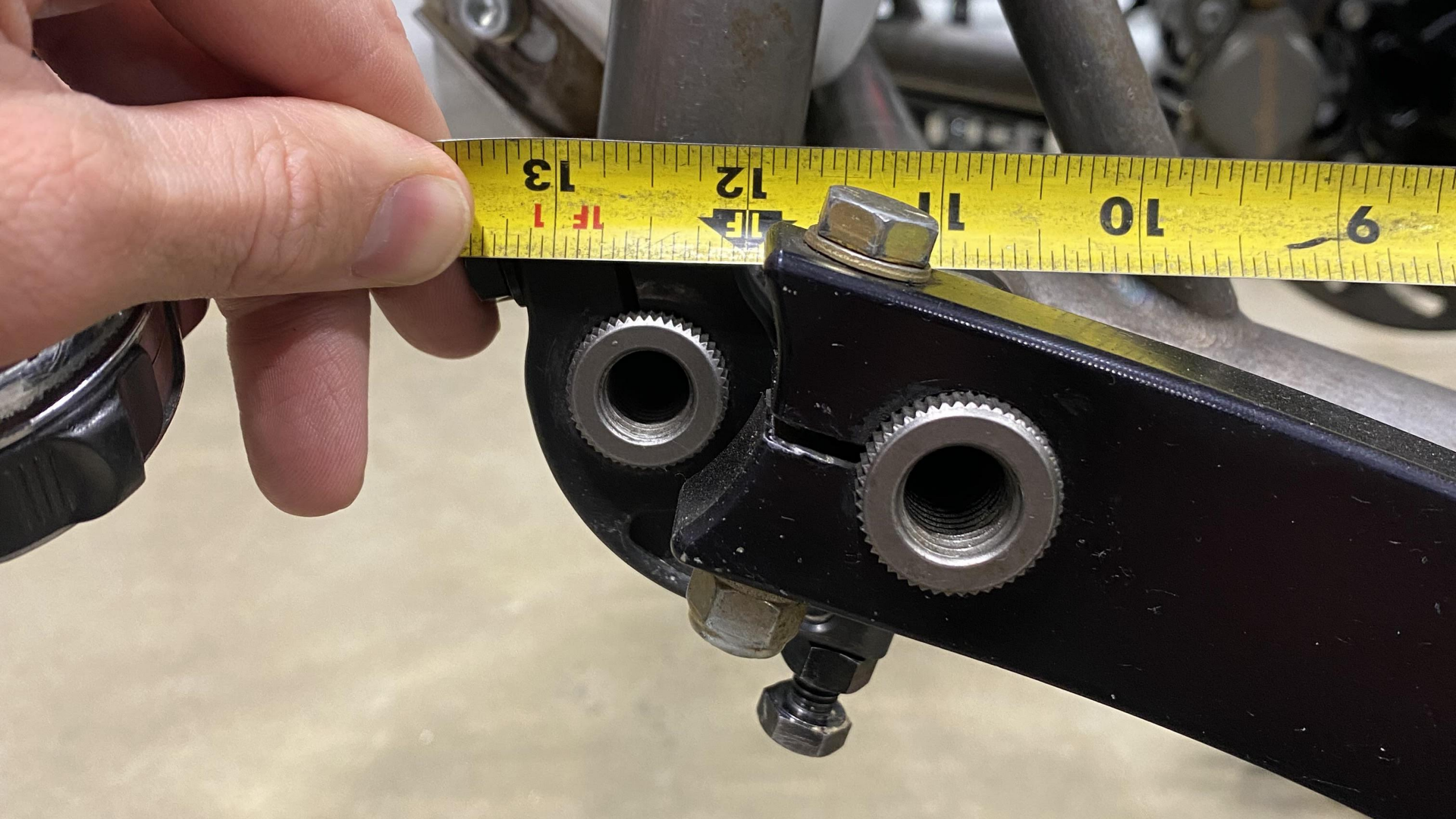


RIGHT REAR ARM



Measuring to LR Rack Tube (back)


1F
11
12
1F
1
13
1F


13
12
11
10
9

Timing the Rear Axle Bird Cages

1. Fasten the rear radius rods, brake control rod, and Jacob's ladder to the axle

2. Without torsion stops installed, fasten the rear torsion arms to the rear birdcage pick ups.

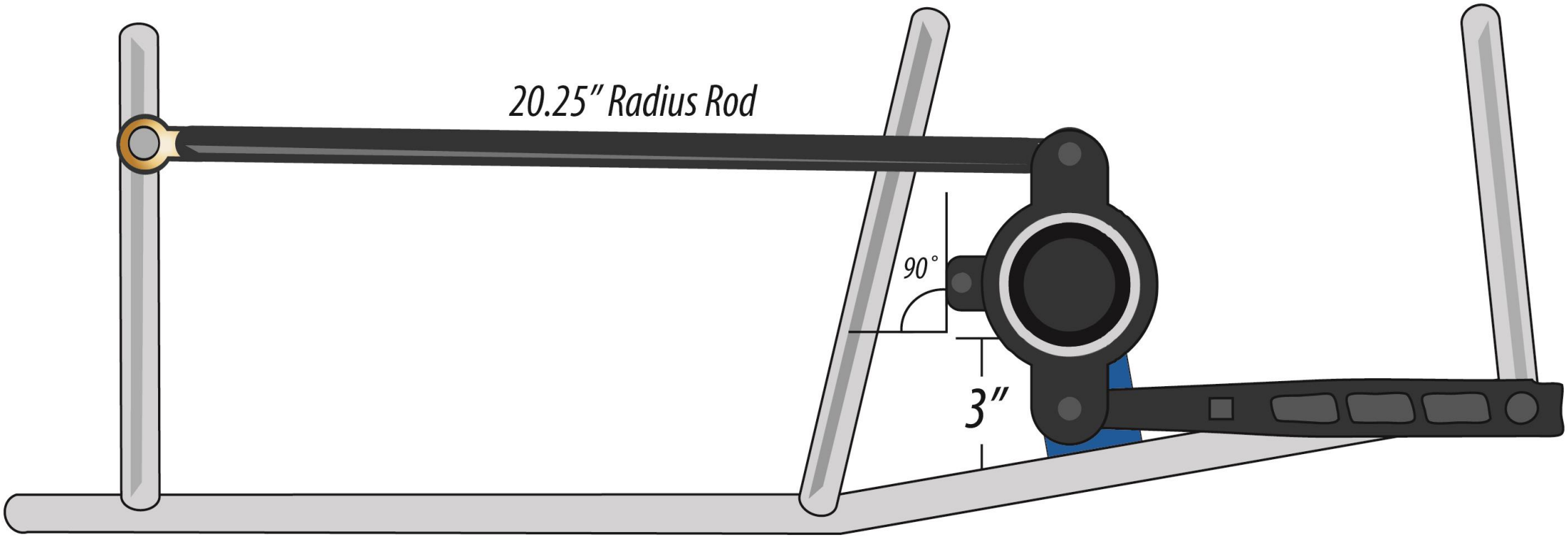
3. Place the rear axle on "Ride Height" Blocks, these blocks emulate the car on the ground

4. Left Rear (3.0") for Raised Rail/GEN3 Cars

5. Right Rear (4.0")

6. To time the rear birdcages, use an angle finder on the front portion of the birdcage that is flat

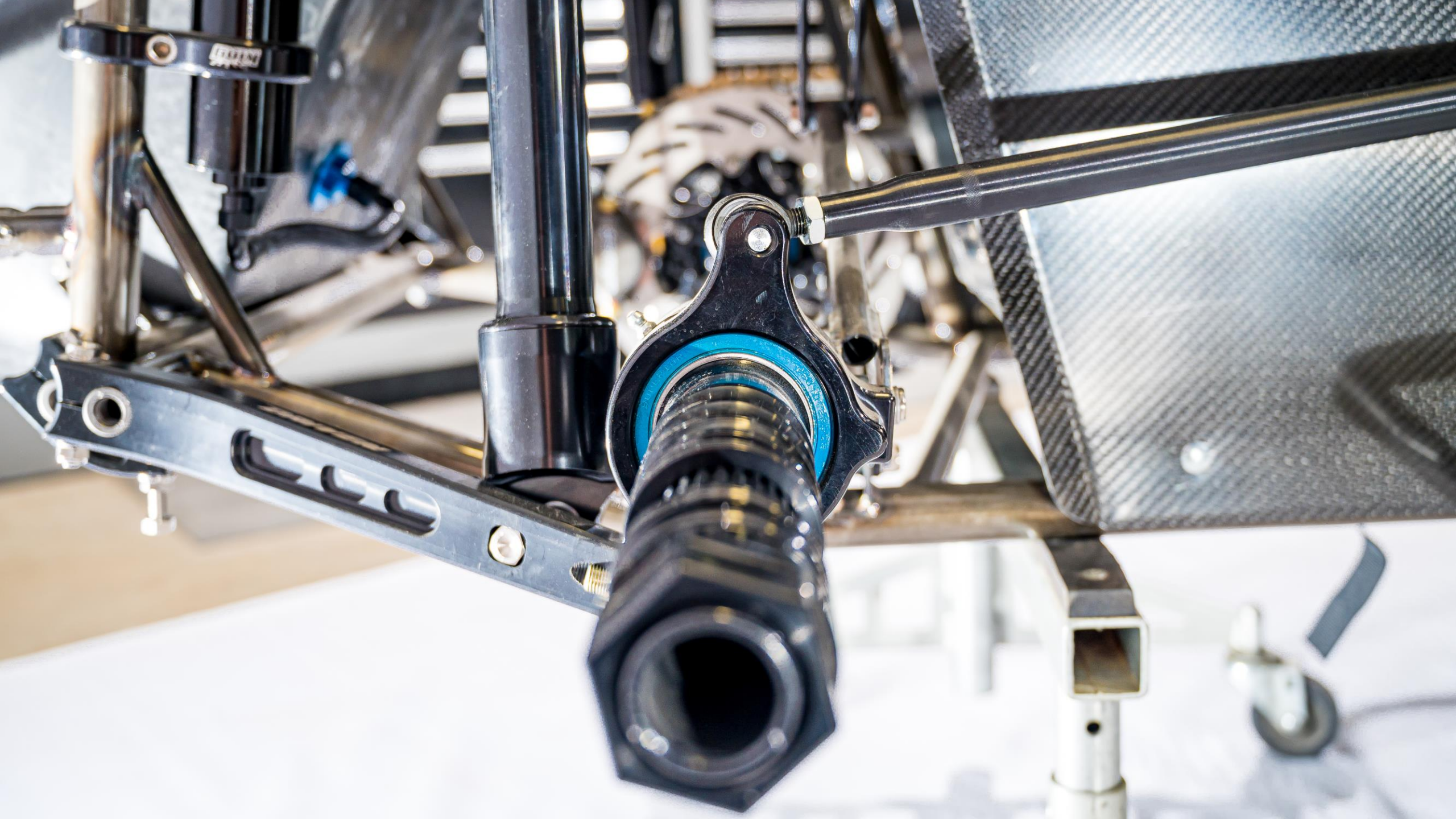
7. Find 90˚ by adjusting the length of the rear radius rod (refrain from Phone Apps)

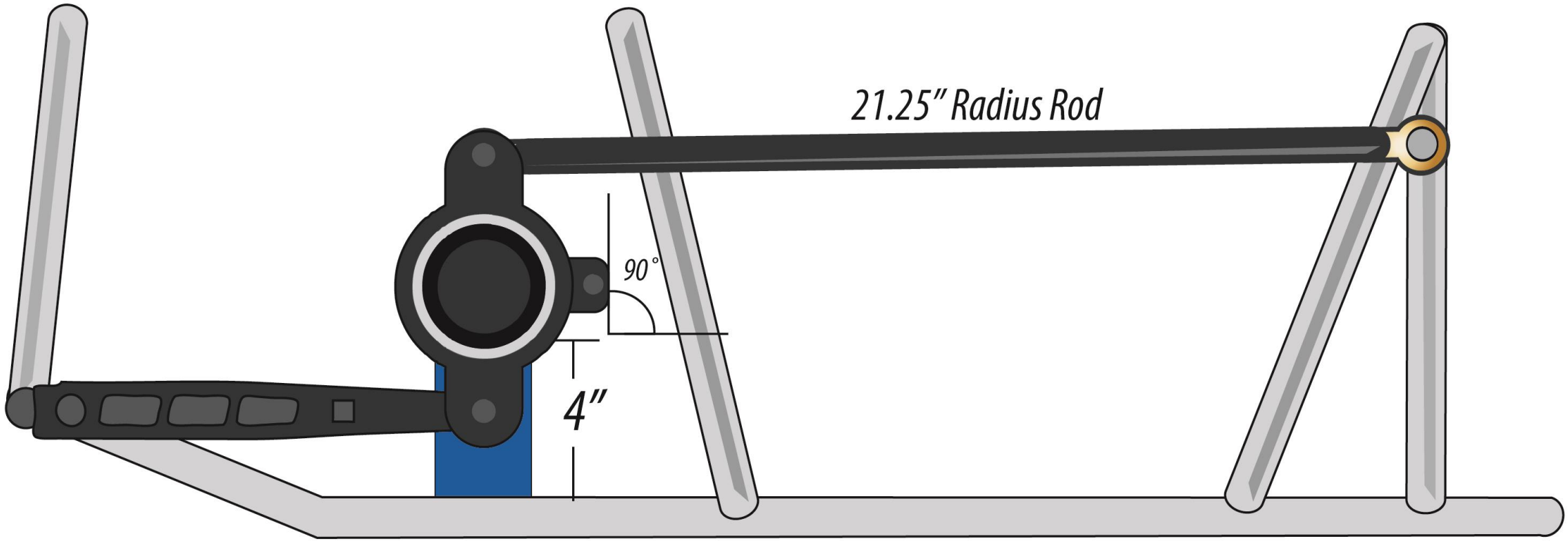


LEFT

(side view perspective)

GEN III





RIGHT

(side view perspective)

Sprocket Alignment

1. Rear Axle must be Spaced accroding to our Rear Axle Diagram

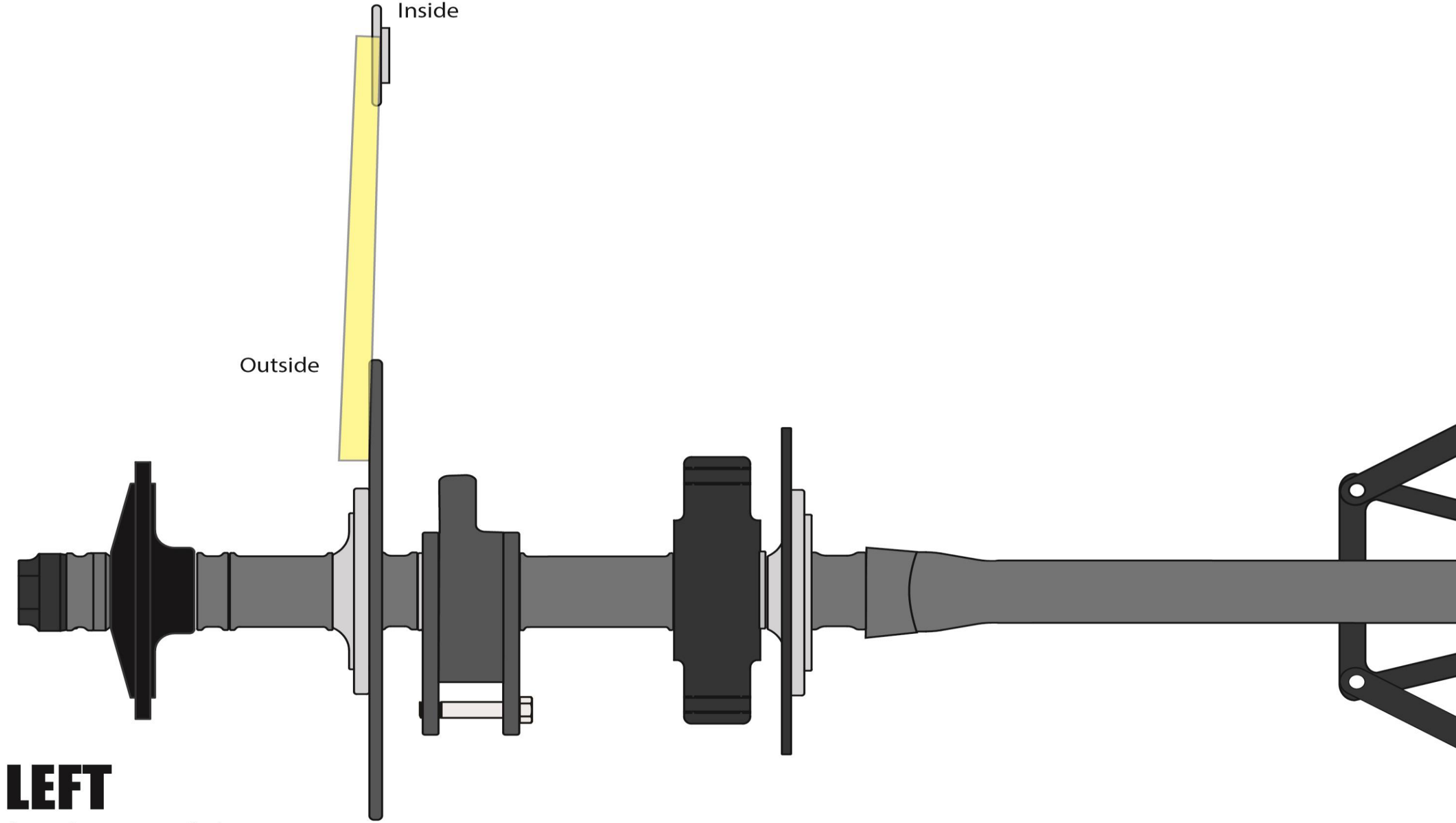
2. Car must be on Ride Height Blocks (3" LR - 4" RR) [no torsion stops]

3. Assuming the Rear Arms are Centered in the Birdcages (this is achieved by adjusting the Right Rear Jacobs Ladder Heim) [1" from Housing to C/L of Heim]

3. Outside of the Left Rear Bird Cage, Spacing is variable depending on Engine Model (1" is Standard, but it could be .875" or 1.125")

4. Engine is mount should be tight to Chassis, engine sprocket should be tight, rear axle spacing just be tight.

5. Using a proper, trustworthy straight edge, sight the outside face of the Rear Sprocket to front sprocket



LEFT

(rear view perspective)

Setting Chain Tension

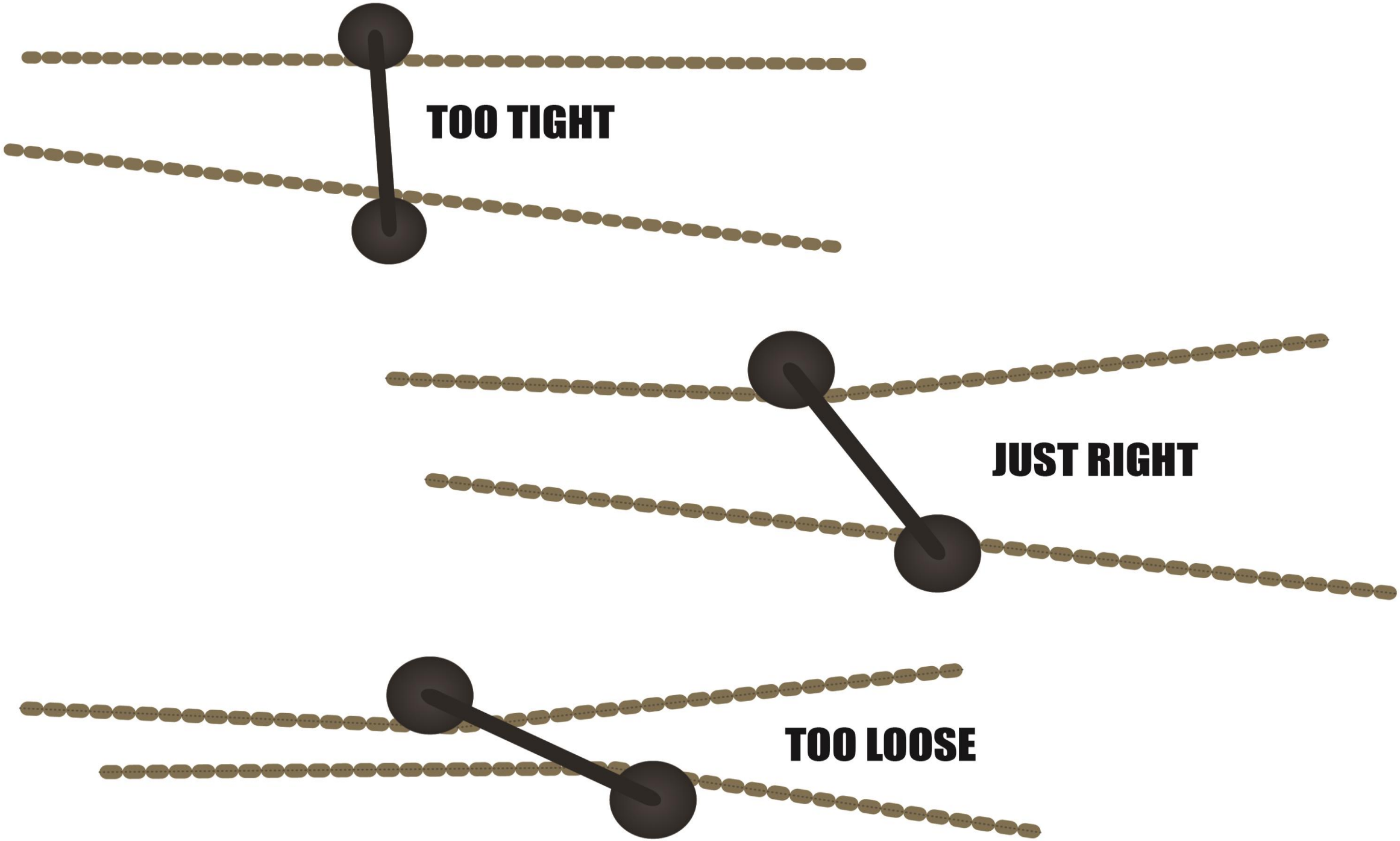
1. Chain Tension is very much a visual setting.

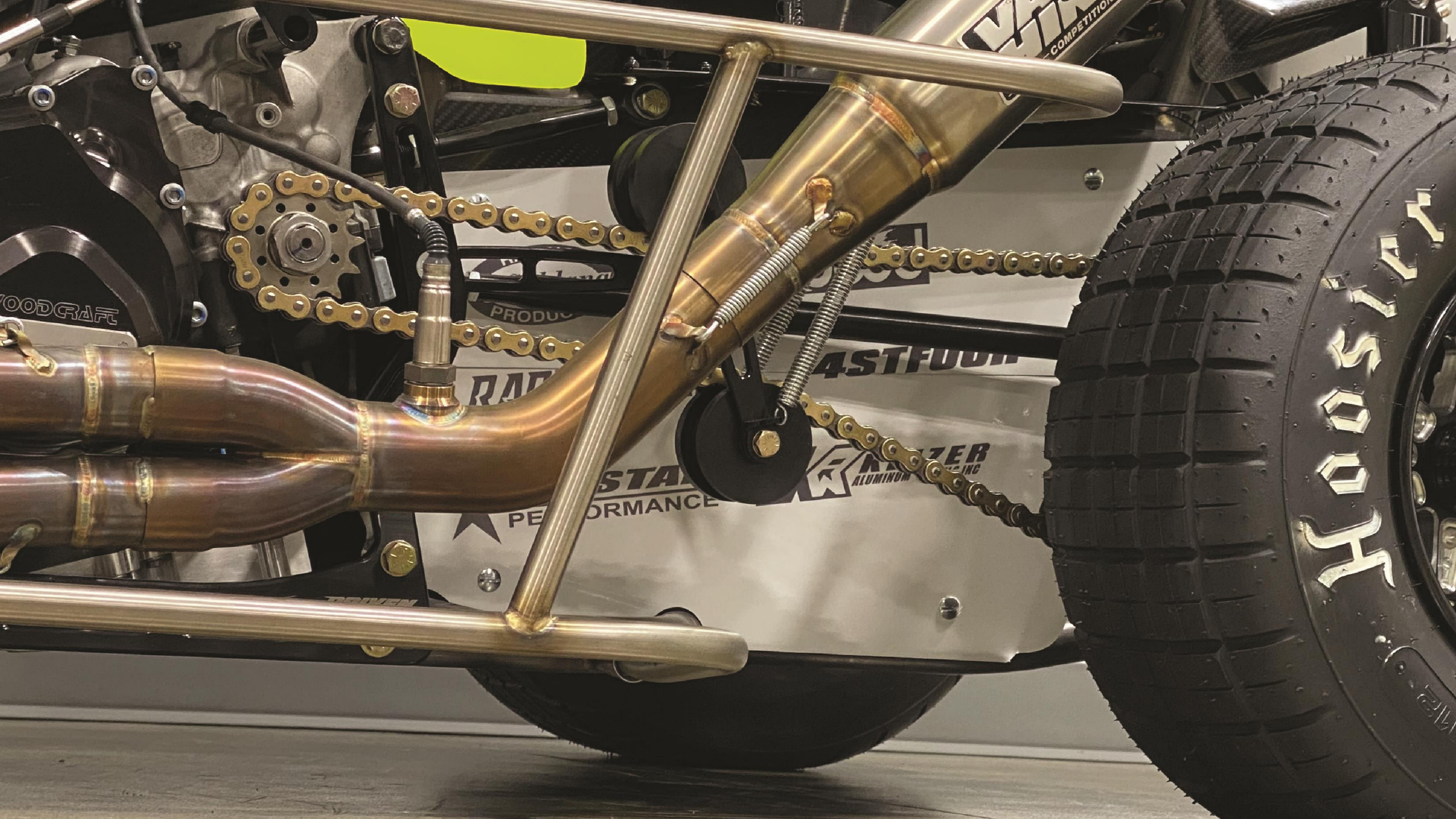
2. There is no exact measurement, but there are tricks to achieve the most consistent and efficient setting.

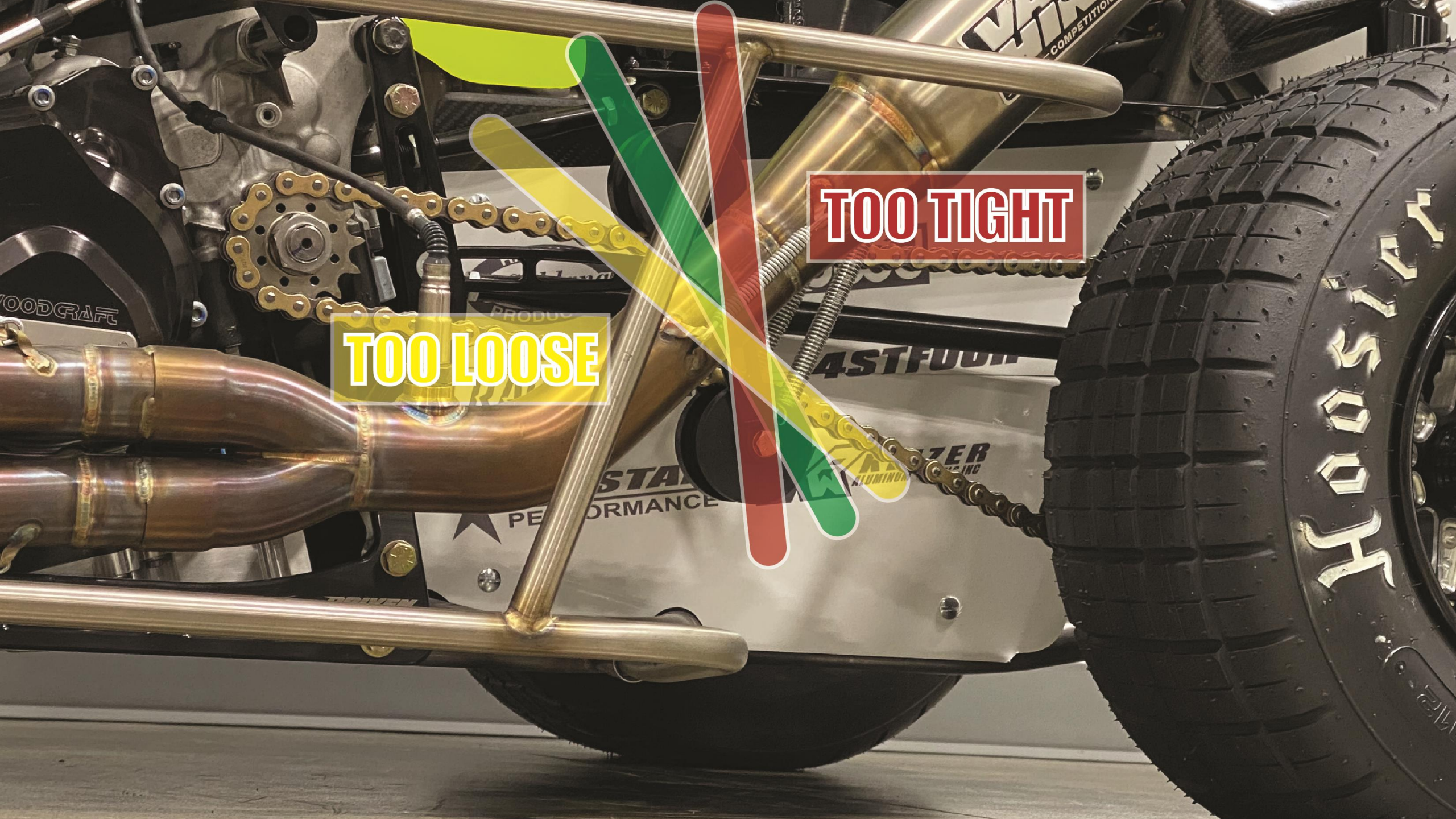
3. If you think of the Tensioner as Hands on a Clock, we can visualize the proper tension.

4. 9:00-10:00 = Too Loose
   11:00-12:00 = Too Tight
   10:00-11:00 = Just Right

5. Chain Tension can be set one of two ways
   1 - Car On the ground
   2 - On Ride Height Blocks


TOO TIGHT
JUST RIGHT
TOO LOOSE


PERFORMANCE
ALUMINUM
HOOSIER


TOO TIGHT
TOO LOOSE

What causes a skipping Chain?

1. A skipping or clicking noise can be a number of things

2. Most often we blame a skipping chain on lack of tension or misalignment

3. However, if these settings are performed properly and the chain is still skipping, we have overlooked the Chain Guide Block Assembly

4. The Chain Guide Block is designed to “direct” or “guide” the chain back to the rear sprocket as it makes its revolution from the engine.

5. If the Chain Guide Block is too low, this will cause the Rear Sprocket teeth to “pass” by the chain, and ultimately the chain link is “skipping” a tooth

6. We can adjust the height of the Chain Guide Block on the Chain Guide Plate to prevent this from happening