



## Redwood Motorsports Tesla Model 3 Rear Adjustable Control Arms



**Warning:** Parts of this installation are highly dangerous when performed improperly or with improper tools. This install is intended to be performed by a **certified professional technician**. In addition, due to the nature of the adjustability that is built into the Ohlins suspension, it is possible to adjust the suspension such that the battery-to-ground clearance is compromised. This suspension should be installed by a specialist if adjusting outside of the recommended parameters. Installation of this suspension on a vehicle is done at your own risk, and all liabilities associated with the performance and safety of the vehicle will be assumed by the owner of the vehicle.

**\*Important note about shock assembly, setup, and adjustment:**

All of our suspension kits must be assembled to the recommended free length. The dual-adjustable nature of the Redwood Motorsports Ohlins DFV's allow adjustment of vehicle height via both Free Length and Preload. This allows nearly infinite customization for advanced and or custom setups, however, it is possible to adjust the shocks to the point where battery to ground clearance becomes compromised. As with any lowered car, do so only at your discretion and be mindful of road hazards that would endanger a lowered car. Unlike other cars, the Tesla's battery pack is one of the lowest parts of the car - impacts, damage, or punctures will endanger the battery pack and or entire car itself. Height adjustment is therefore recommended to be done using spring preload only. While we have set our free length recommendations to protect the battery in most circumstances, lowering the car beyond the factory height must be done at the owners risk.

As the Redwood Ohlins DFV shocks have an additional method of adjusting ride height - by adjusting free length of the shock assembly - the installer setting up the car must be mindful of the ramifications of modifying these dimensions. Shortening the shock free length has the effect of lowering the car while preserving compression stroke, however, this will reduce battery-to-ground clearance during compression, and allow the wheel to travel further into the wheel well. For that reason Redwood Motorsports does not recommend reducing shock free length - only do so **at your own risk** for advanced setups - battery to ground clearance will be reduced and risk of battery damage and or potential for battery fire due to impacts will be increased.

Please keep in mind, all Redwood Motorsports adjustable suspension components such as our Camber+Caster FUCA, Rear Adjustable Camber and Toe Control Arms, sway bars, etc. are designed to be used in conjunction with the standard free lengths listed. Any deviation from these dimensions may cause damage or be incompatible with other components.

## Step One: Preparing For Installation:

- First things first, we're going to make life down the road a little bit easier. We ship these arms with the threads dry for ease of handling and shipping, but a coating of anti-seize while the arms are out will go a long way later down the road so first one at a time take the gold forks off and give the turnbuckles a nice coat of anti-seize. Note that one end of each arm is reverse threaded.



- Before installation you must ensure that each arm is the same length as the stock arm. This will allow you to retain as stock as possible bump toe and camber curves as possible. In order to set length, the first thing you need to do is to shorten all arms as much as possible. This will ensure even adjustment on both sides of the turnbuckle.
- With the arm shortened take one of the stock bolts for that arm and put it through one end of the stock arm and the opposite end of the corresponding Redwood Motorsports adjustable arm as shown below.



- Now turn the turnbuckle until the arms are the same length to the center of the bolt holes. With the arms the same length tighten down the lock nuts. Now you can install the arms in the car.

### **Step Two: Installation:**

- With the arms loosely mounted in the car you can now tighten both mounting bolts on the camber arm (the one on the top) as one end of this arm is now a spherical bearing and the other is the stock ball joint.
- The toe arm (the one towards the front of the arm with the eccentric adjusting bolt) must be left slightly loose as one end is on a rubber bushing that must be tightened with the wheel sitting at normal ride height and the other is the eccentric adjuster which will be adjusted during your upcoming alignment. Now your arms are installed and we can move on to the alignment.





### Step Three: Alignment:

- First, since both arms started at stock length you need to use the stock eccentric bolt adjuster to set the new arms to your desired toe value **DO NOT ADJUST CAMBER BEFORE DOING THIS.**
- Next, adjust camber to desired value. Last, use the turnbuckle to adjust toe to the desired value. This will keep the bump toe/camber curves as stock as possible by keeping the arm lengths as proportional as possible. In any given alignment you should only touch the eccentric adjuster once at the beginning of the rear alignment.
- Once it has been adjusted at the beginning, all other toe changes due to camber arm length changes should be addressed with the turnbuckle that changes the toe arm's length.



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