



# MARLIN CRAWLER H.D. LCA FRAME MOUNT UPGRADE

## OVERVIEW

Thank you for purchasing our HD LCA Frame Mount Upgrade Kit. This Installer shows how to install our patent-pending Heavy Duty Lower Control Arm Frame Brace Kit onto a 09/1995 – 08/2004 PreRunner or 4WD 2<sup>nd</sup> gen Tacoma or 1996-2003 3<sup>rd</sup> gen 4Runner

## HOW TO USE THIS INSTALLER

Before beginning, please read entire install guide and ensure all parts are present. The procedures are presented in a step-by-step format:

- The photo or illustration shows *what* to do and *where* to do it
- The task heading tells *what* to do

The detailed text tells *how* to perform the task and gives other information such as specifications and warnings

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Kit Part Number **MCAR-5511**

Installer version: **0.01** (12/29/2023)



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## GENERAL REPAIR INSTRUCTIONS

1. Use fender, seat, and floor covers to keep the vehicle clean and prevent damage
2. During disassembly, keep parts in order to facilitate reassembly
3. Carefully observe all specifications for bolt tightening torques. Always use a torque wrench
4. Use a certified or experienced welder/fabricator whenever possible
5. Care must be taken when jacking up and supporting the vehicle
  - a. If the vehicle is to be jacked up only at the front end, be sure to block the rear wheels to ensure safety
  - b. After the vehicle is jacked up, be sure to support it on stands



## INSTRUCTIONS



### 1. REMOVE LOWER CONTROL ARMS (optional)

- (a) Mark positions of all camber (cam) eccentrics prior to removal.
- (b) Refer to Factory Service Manual for specific application.

NOTE: This step is **optional and may be skipped** to avoid loss of suspension alignment



### 2. PREPARE FRAME FOR WELD ADHESION

- (a) Hold plates against frame



- (b) Using sand paper or grinder with flap disc, remove paint or debris from frame exposing bare metal for best welding performance



### 3. WELD EACH PLATE TO FRAME

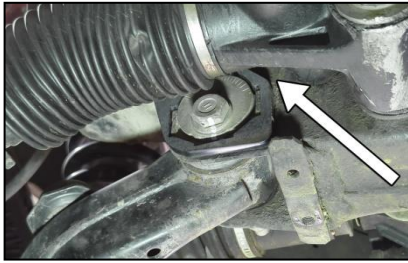
Take care not to get weld splatter on CV and Steering rack boots

NOTE: If you removed your LCA, then re-insert cam eccentric hardware to ensure they may be rotated from neutral alignment a total of 85-degrees in both CW and CCW directions without interference. Adjust position of HD Uprights as needed

NOTE: If you did not remove your Lower Control Arms, then weld in small increments at a time, moving from mount-to-mount to minimize heat soak to suspension components. Periodically monitor the temperature of each Control Arm bushing areas and use a spray bottle to mist water onto each arm for temperature control as necessary.

Bouncing around from mount-to-mount during welding allows parts to cool between each pass thus preventing heat soak from reaching control arm bushings





Limited weld clearance

In order to properly weld both rear control arm plates, you'll likely need to temporarily reposition the steering rack and axle shafts

**4. DRESS WELDS (recommended)**

- (a) Using painters tape or similar, cover areas nearby all newly welded surfaces to limit overspray of paint
- (b) Paint over welds as directed by the paint manufacture

**TIP:** If you did not remove your Lower Control Arms, then first apply grease to exposed camber bolt and eccentric hardware with a small brush, then apply spray paint. After the paint has dried, use a towel or rag to easily wipe away the painted grease exposing the hardware in its original unpainted condition

**5. REINSTALL LOWER CONTROL ARMS (if necessary)**

- (a) Refer to Factory Service Model for specific application

## BREAK IN PROCEDURE

There is no break in procedure for this product. If you dressed your welds, please allow the paint to fully dry

Thank you for choosing Marlin Crawler for your Rock Crawling and Off-road needs!



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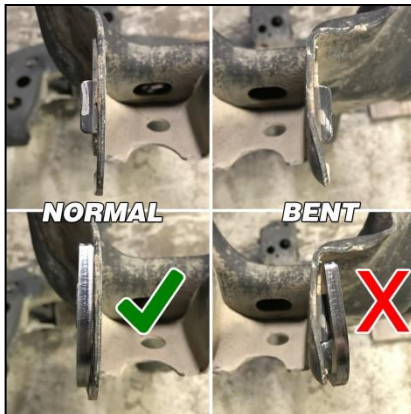
## TROUBLESHOOTING



Hardware Upside Down

Toyota alignment hardware is supposed to be upright and away from objects passing underneath, not upside down as shown in this example from forum member *HawaiianSON*

In this case, you must rotate your eccentrics up in order to install our Heavy Duty Kit, potentially requiring an alignment check *at preferably a new alignment shop!*



Single Flange Bent

From the factory, the bottoms of each flange pair is slightly flared to aid lower control arm installation. These flared or radiused lower sections are normal; Each HD Upright simply rests against and is welded directly to each unmodified factory flange (see: NORMAL)

You may have, however, flanges that are bent from miles and miles of normal trail abuse (see: BENT). In such case, you'll need to bend or hammer the flange back to its original shape



Flange Pair Bent

In the severe case of completely displaced flanges, you'll have to do your best to hammer the flanges back into their vertical and parallel position. Compare with an undamaged mount or another vehicle for reference