

FIGS Engineering Installation Guide

Rear Lower Control Arms (MEGA ARMS)

Rev A

DISCLAIMER

Attention: This part is designed for OFF-ROAD use only. This product has not been certified by the DOT for highway use and purchaser accepts all risk associated with the installation as use of this product on a motor vehicle. This document is a general guide for the intended use of these parts as in no way an expression of warranty and or liability on the part of FIGS Engineering or any of its subsidiaries. Products are offered “as is” and the end consumer will accept all liability related to their use and installation.

Kit Components

This Kit includes the following, please note which version you have purchased and what options you have chosen Static or On-Vehicle-Adjustment-System.

1-Set (2) Welded Assembly with threaded end fitting

1-Set (2) PTFE Lined Alloy Spherical Rod End Bearings. $\frac{3}{4}$ -16 Thread.

RH Thread (Static) and LH Thread (OVAS Version)

2-Sets (4) High Misalignment Rod-End spacers.

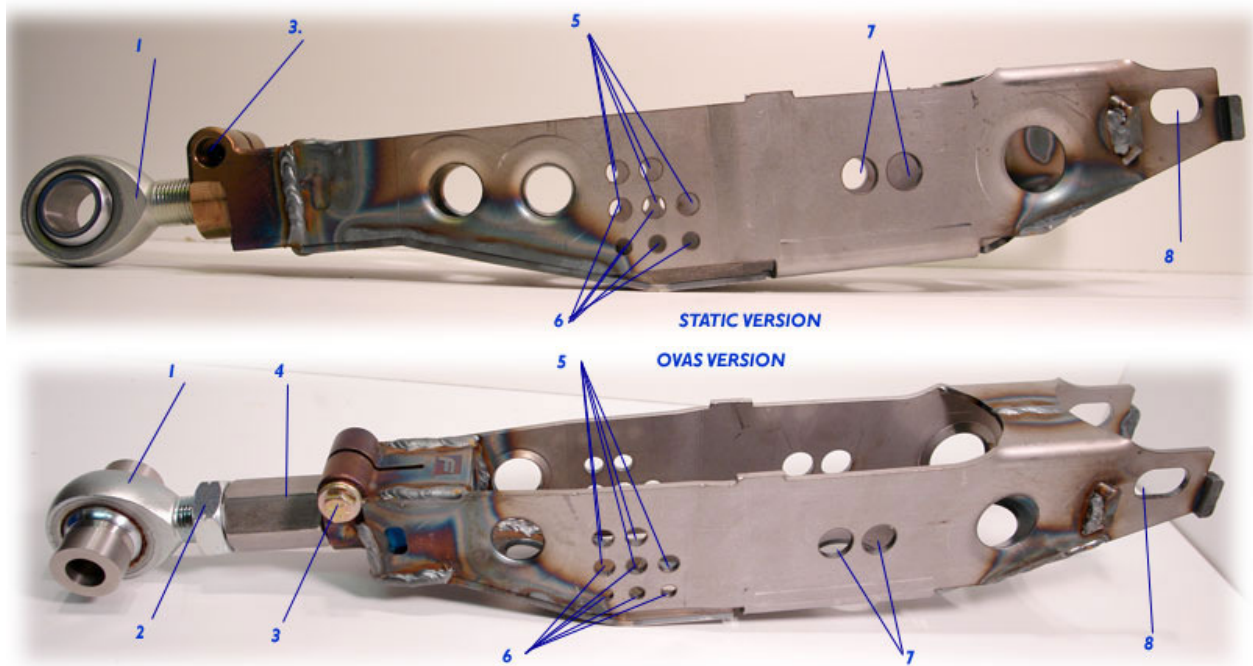
1-Set (2) Pinch Fitting Fasteners and 4 Washers (Grade 8 yellow zinc) $\frac{1}{4}$ -28-1.25"

1-Set(2) Thread Coupler. LH Female to RH Male $\frac{3}{4}$ -16.(OVAS only)

1-Set(2) Rubber Rod End Boot (**OPTIONAL**)

Arm Anatomy

FIGS suspension arms have a few key features described below. The usage of these features depends on the individual goals for the vehicle's suspension and ride-height. Ultimately, you will need to decide which mounts will suit your needs best. Recommendations are made based on the most typical application of a 2" lowered ride height and a static camber setting of -1.2 degrees.



1. Rod end
2. Jam nut
3. Pinch Bolt
4. Adjuster Coupling (OVAS only)
5. Sway end link mount (Note some holes are dual purpose)
6. Auto leveling bracket tab mount (Note some holes are dual purpose)
7. Strut mount
8. Rear hub eccentric mount

Before Installation

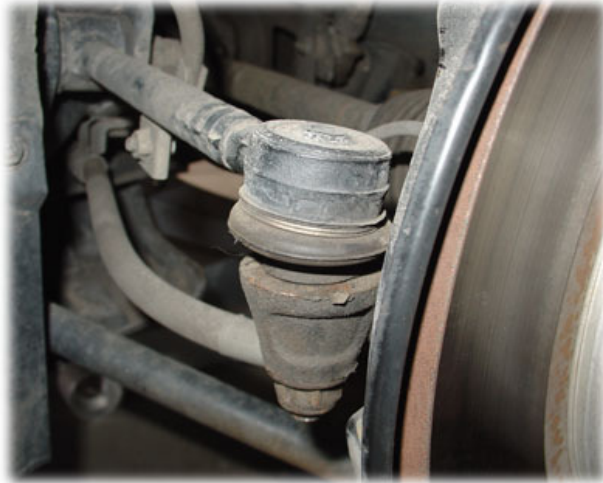
Before you start the installation you will need the following tools:

| | | |
|--|---|--|
| <p>Sockets-</p> <ul style="list-style-type: none"> 19mm standard 19mm deep 17mm impact 14mm standard 21mm standard 21mm impact 7/16" standard | <p>Ball joint service tools-</p> <p>Required for toe link removal. This could also be an air hammer with a pointed tip.</p> | <p>Torque Wrench with 20ft-lb and 75 ft-lb ranges.</p> |
| <p>Box end wrenches-</p> <ul style="list-style-type: none"> 19mm 17mm 14mm 7/16" | <p>½" Pointed chisel-(optional) for positioning mounting locations and hole alignment assistance</p> | <p>Adjustable wrenches with 1.25" range 1-Static and 2-OVAS for adjustment coupling/ Jam nut tightening.</p> |
| <p>Small bottle jack- for position arms for sway link mounting</p> | <p>Rubber mallet- for fine positioning and removal of factory arms.</p> | <p>Alignment tools- A full alignment will be necessary after the installation of these parts however a "sight" alignment is possible prior to transport to an alignment shop. String and a level can be used for sight aligning the rear to the front.</p> |

Installation

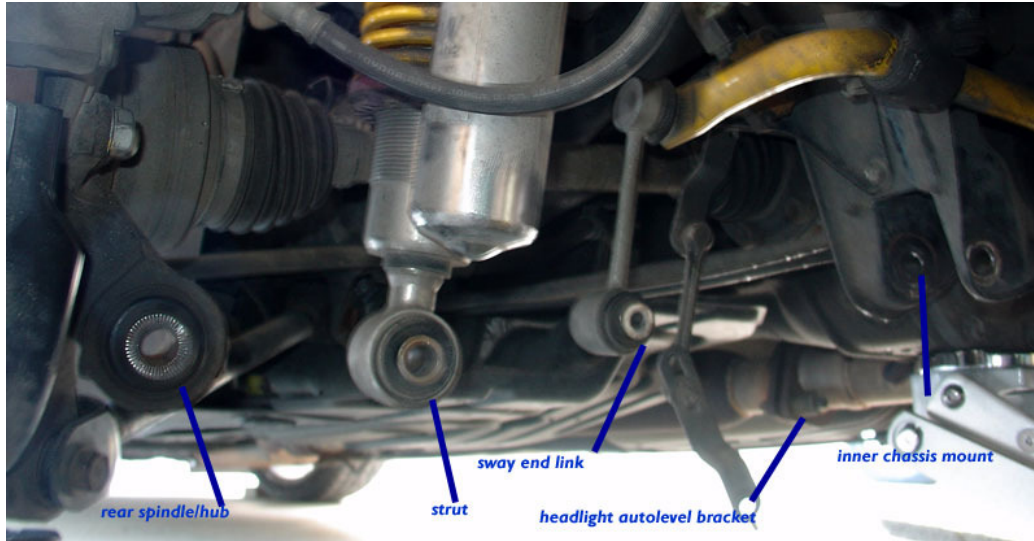
1. Find a flat level surface to work on the vehicle.
2. The first part of the installation should be to note your existing alignment settings. This can be via sight-lining the face of the rear wheels to the front wheels or similar reference on the body of the car or wheel well. This will be an important reference for after the installation to approximate the alignment prior to taking in for a complete rack alignment. Note Camber, Toe and relative strut and sway link angles while the vehicle is flat on the ground. Camber settings can be recorded via tick marks on the eccentric washers. Write settings down for reference later or take pictures.
3. **Chock both front wheels to prevent any movement. Jack rear of vehicle up and place on jack stands.** Make sure that vehicle is **absolutely stable** as the rear of the vehicle will be elevated during the installation. For easiest installation and removal of the rear sway links, both rear wheels will need to be off the ground at some point to release tension on the rear sway bar.

4. Unbolt the Factory control arms starting from the spindle/hub and moving towards the inner mount. Releasing the hub will cause the factory strut to push the arm slightly. If strut bolt will not come out readily apply pressure on the arm to allow the strut tension to release. Always unthread bolts to free them and do not hit the end with a hammer as it may damage the threads. Remove Sway end link bolts and chassis inner mount.
5. Remove front toe link as this will allow free movement of the hub and easier installation.

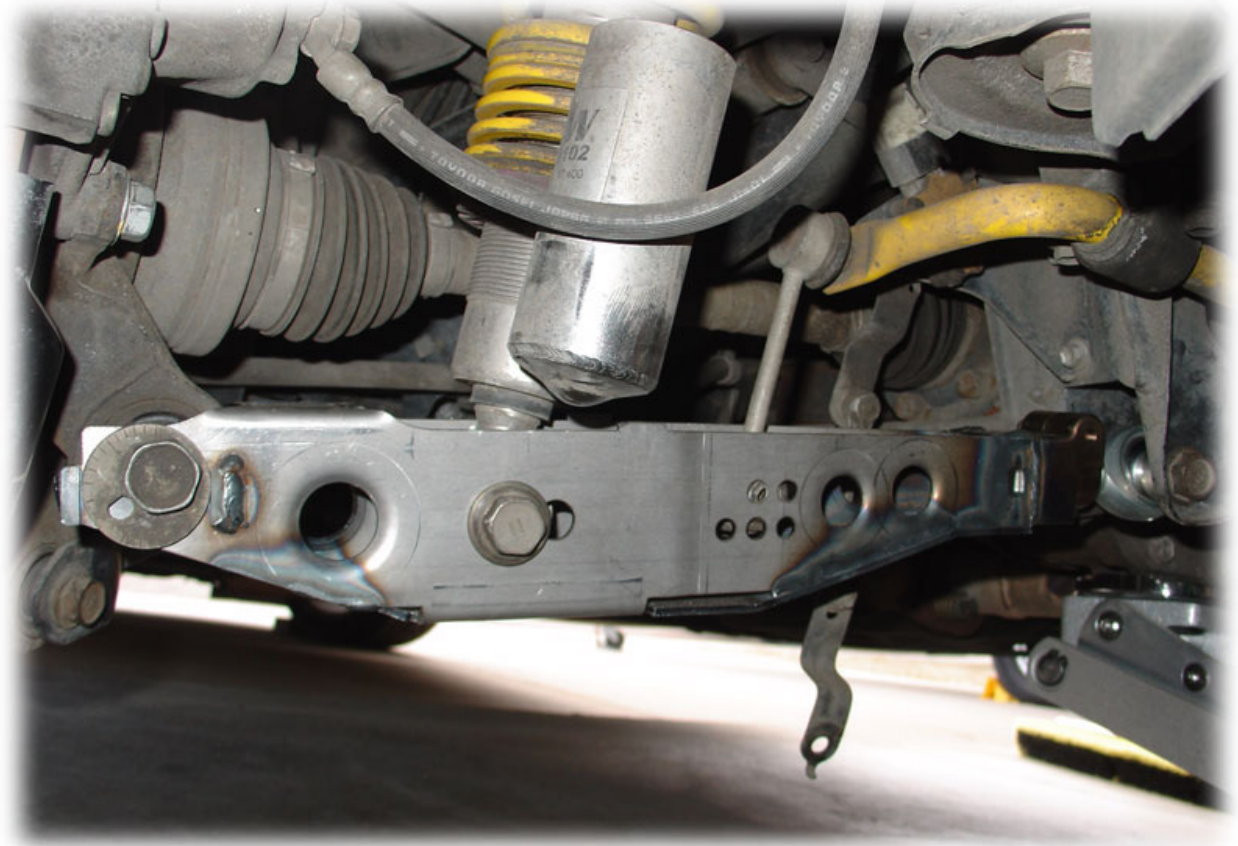


6. Your suspension elements are now freely hanging as shown in the picture below. The mounting of the FIGS rear control arms is done from the inside out but you should skip the sway end link at this time as it will require a mounting hole selection, which could be iterative and require the secondary jack to cycle the suspension. Assemble inner chassis mount, then strut mount (choose inner mount initially), then the hub/spindle. Static: Optionally you may leave the inner chassis mount loose to “hold” the arm position if adjustments are needed. The bolt must be tightened and torqued after final adjustment of the rod end.

Free-Hanging Suspension Components

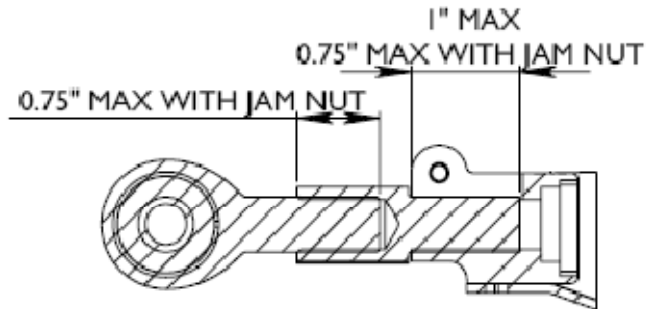


7. After the installations steps, the installed arms will look like the picture below:



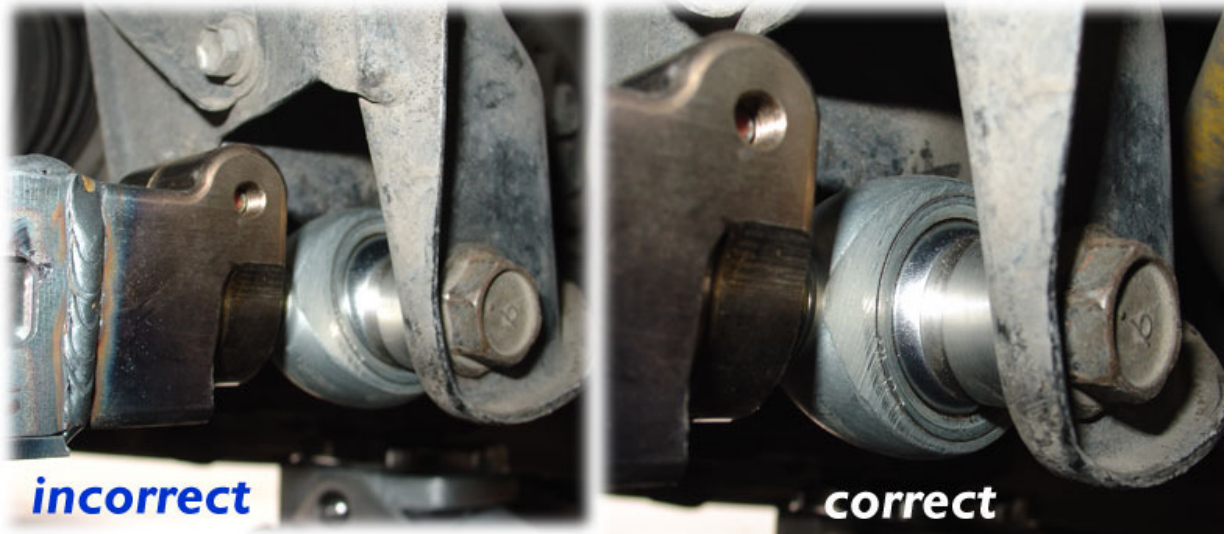
8. **NOTE on THREAD ENGAGEMENT** : Static: If max adjustment range is required the use of the jam nut may not be applicable. When possible, use the jam nut to add additional security to your installation. Jam nut should be used to hold torque and position on the rod end. Rod-end is depicted here without a jam nut. OVAS: Always use a jam nut on the rod end thread to secure the thread position. Without the jam nut, the out rod end will be free to spin and rotate and the

threads may fail under cyclic stress if the threads are not held tightly. Rod-Ends have a minimum engagement of 1". This means that 1" of threads on the rod-end should always be within the mounting coupling or pinch end fitting. If a Jam nut is used, then the total thread engagement should still be 1" min but because the jam nut has a nominal thickness of 0.25", this reduces the thread engagement to .75" into the coupler and 0.25" on the jam nut.



OVAS Version Depicted

- At this point the inner rod end should be aligned such that the ball and races are vertical and not off-axis.



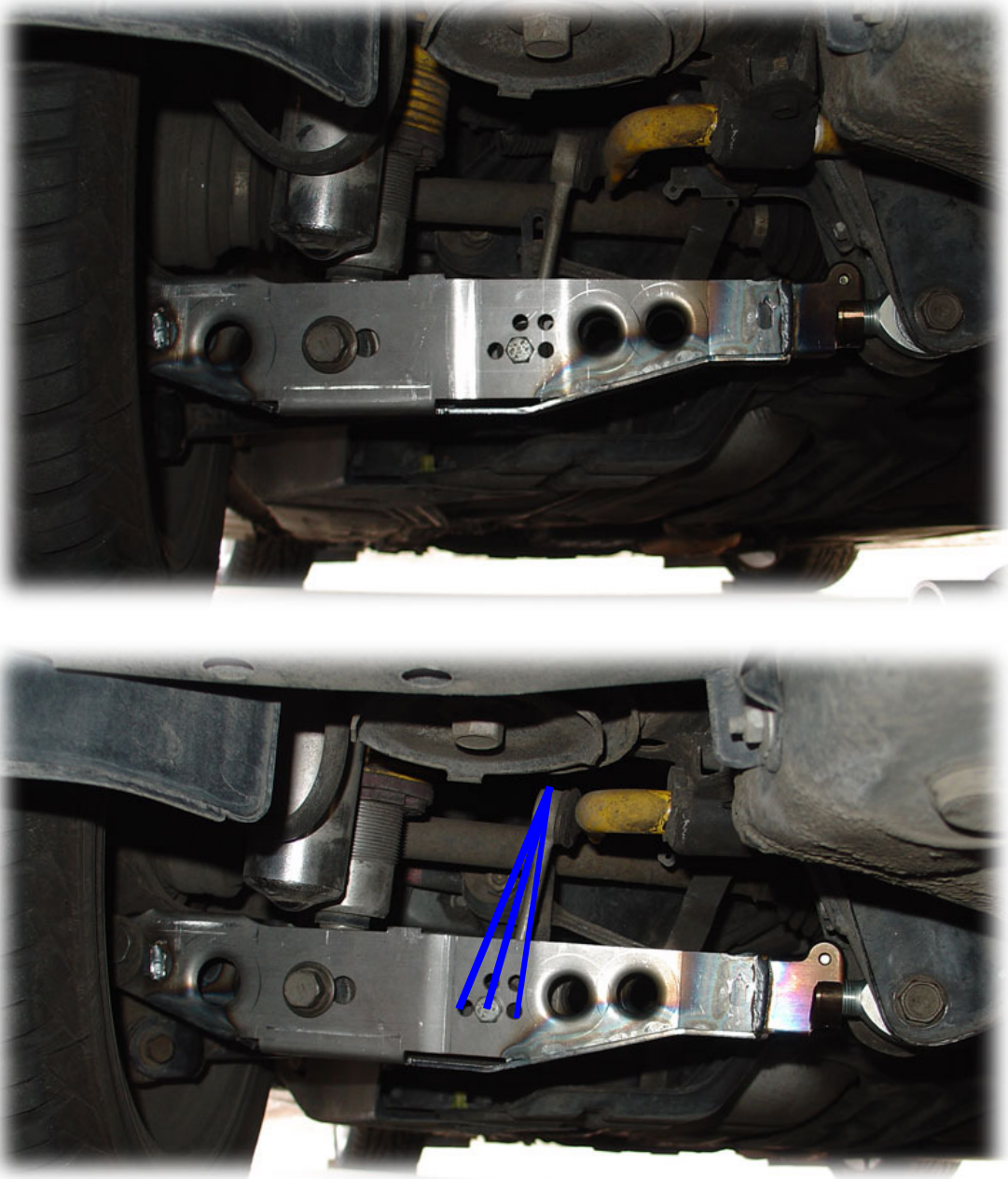
- Static: Set the pinch bolt at this point Torque to 20ft-lbs with 7/16" socket or box end wrench as space allows. OVAS: Tighten pinch bolt but do not torque until final adjustment is reached.

11. Mounting the sway end link will require a jack on the bottom of the spindle/hub to raise the arm slightly until the sway link lines up with the preferred hole.



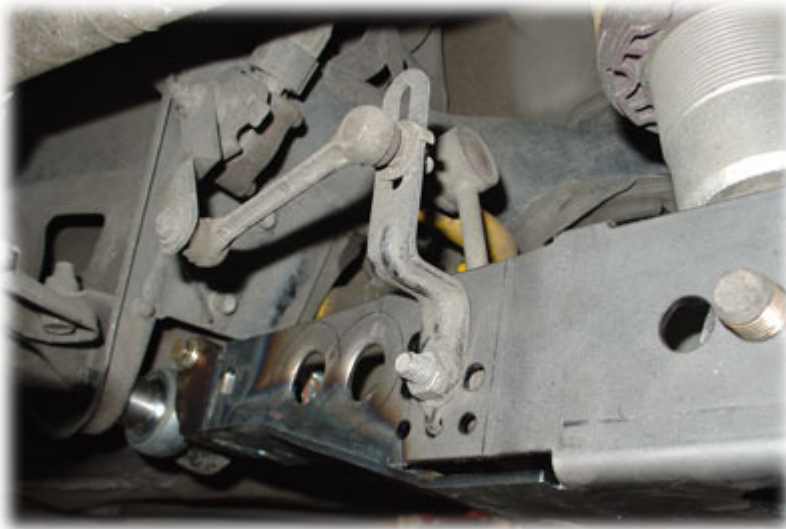
12. There are 5 mounting locations for the sway link and the selection of the mount depends on several parameters. The first is the amount of drop the suspension will have. Drops below 1.75" should use the lower three holes, above should use the two upper holes. This is due to sway end link length. The next selection will dictate how much influence the sway will have on the suspension travel. More vertical, the sway will act directly with suspension travel. More off-angle, it will act less initially and more directly under full compression. This may be more desirable depending on shock and spring selection as well as damper settings. Through various combinations, it will be possible to create different non linear suspension behaviors to suit the driver. A good initial setting is to keep the sway vertical with respect to the arm. Note the picture below; the sway link would be vertical if it were moved one link to the right. This is shown at two different droop heights to demonstrate the change in this angle during travel. The link will move towards the inner mount as the suspension compresses. The lower the suspension, the more outward the sway link should be mounted. Below are two examples of

different ride heights and the influence on the sway link angle.

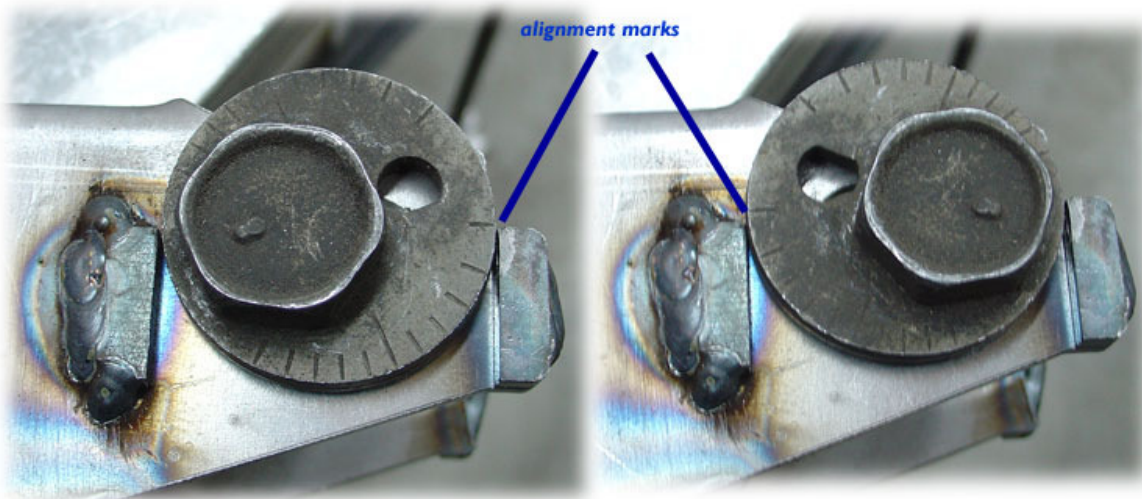


13. Final sway mount and auto headlight leveling bracket. Install the bracket as shown. The location holes are only on the required side for these holes. The two upper mounts use the first two of

the lower mounts as alignment holes.



14. Eccentric adjustments. The factory adjustment is retained with the installation of these arms. During sight alignment, use the factory adjustment to get within an allowable range after the major step is taken out with the rod end. Adjustment should be mark to mark as shown in the picture. OVAS: Adjustment is possible while arms are fully installed without need for removal of the inner chassis mount. By varying the eccentric and rod end mount, the strut angle can be refined to personal preferences.



15. OVAS Adjustment: The OVAS allows for adjustment without the removal of the inner chassis mount. When initially installed, all components should be completely tightened together. This will ensure the synchronized adjustment of both threads. To adjust, loosen left-hand thread jam nut as make sure Pinch bolt is free such that the coupler can turn. If rod end rotates during adjustment, just make sure it is realigned before final settings are reached. At the end of adjustment, tighten Jam nut against coupler face and tighten pinch such that the coupler does

not rotate with a reasonable amount of force. Typical torque settings on pinch bolt should be 20-25ft-lbs.

16. Tighten all Bolts to torque spec. Re-install toe link, OVAS versions should now tension the pinch bolt.

INSPECTION AND MAINTENANCE

Inspect all parts after 10 miles, 100 miles and then inspection should take place every 1000 miles to ensure proper alignment of rod end and integrity of parts, tension on jam nuts as pinch bolts as well as noticeable sign of fatigue. If the vehicle is involved in any type of collision, inspect part thoroughly to insure all components are not damaged before use. Adjust settings as suspension requirements change. Rod ends have a permanent PTFE (Teflon) Lining and should not require maintenance. If parts are finished and the finish should show signs of deterioration, the parts should be removed and a recoated to avoid destruction oxidation (rust) from affecting the part's performance.

No warranty is expressed or implied on these parts due to normal wear. Rod ends will wear out, however we have designed these components with the highest grade parts available boasting the most favorable long-term wear characteristics in the industry. Parts are used at the risk of the purchaser and all inspection, installation and communication is the sole liability of the purchaser. FIGS Engineering shall warranty parts for issues related to craftsmanship or materials on a limited case-by-case basis and the discretion of FIGS Engineering for a period of 90 days from the date of purchase.

Replacement parts can be sourced from FIGS Engineering through email or phone contact.

FIGS Engineering
Golden CO 80403
(303) 949-5729
contact@figsprops.com
www.figsprops.com