

# **READYLIFT**<sup>®</sup>

**SUSPENSIONS**

**69-21350 2021-up Ford F-150 3.5" SST Kit**

**IF your ReadyLIFT<sup>®</sup> product has a damaged or missing part, please contact customer service directly and a new replacement part will be sent to you immediately. For warranty issues, please return to the place of installation and contact ReadyLIFT.**

**(877) 759-9991**

**MON-FRI 7AM-4PM PST**

**OR**

**EMAIL: [support@readylift-ami.COM](mailto:support@readylift-ami.COM)**

**WEBSITE: [ReadyLIFT.COM](http://ReadyLIFT.COM)**

**\*\*Please retain this document in your vehicle at all times.\*\***

## **Limited Lifetime Warranty**

This unique product warranty proves our commitment to the quality and reliability of every product that ReadyLIFT manufactures. The ReadyLIFT product warranty only extends to the original purchaser of any ReadyLIFT product, if it breaks, we will give you a new part. Warranty does not apply to discontinued parts.

Our Limited Lifetime Warranty excludes the following ReadyLIFT items; bushings, bump stops, ball joints, tie rod ends, heim joints and shock absorbers. These parts are subject to wear and are not considered defective when worn. They are warranted for 12 months from the date of purchase for defects in workmanship.

**This product warranty is voided if the vehicle is not aligned after kit installation and proper maintenance is routinely done.**

Product purchased directly from ReadyLIFT has a 90 day return policy on uninstalled products from the date of purchase (may be subject to restocking fee). Uninstalled product returns must be in the original ReadyLIFT packaging. Please call **(877) 759-9991** to get an RGA# for any return. Customer is responsible for shipping costs back to ReadyLIFT. **Returns without RGA# will be refused.** Contact ReadyLIFT directly about any potentially defective parts prior to removal from vehicle.

ReadyLIFT products are **NOT** intended for off-road abuse. Any damage or failure as a result from off-road abuse voids the warranty of the ReadyLIFT product. ReadyLIFT is **NOT** responsible for any subsequent damages to any related vehicle parts due to misuse, abuse, improper installation, or lack of maintenance. Furthermore, ReadyLIFT reserves the right to change, modify or cancel this warranty without prior notice.



**READ INSTRUCTIONS THOROUGHLY AND COMPLETELY BEFORE BEGINNING INSTALLATION.**

**INSTALLATION BY A CERTIFIED PROFESSIONAL MECHANIC IS HIGHLY RECOMMENDED.**

**READYLIFT® IS NOT RESPONSIBLE FOR ANY DAMAGE OR FAILURE RESULTING FROM IMPROPER INSTALLATION.**

### **Safety Warning**

MISUSE OF THIS PRODUCT COULD LEAD TO INJURY OR DEATH.

Suspension systems or components that enhance the on and off-road performance of your vehicle may cause it to handle differently than it did from the factory. Extreme care must be used to prevent loss of control or vehicle rollover during abrupt maneuvers.

Always operate your vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Failure to drive safely may result in serious injury or death to driver and passengers.

Driver and passengers must ALWAYS wear your seat belts, avoid quick sharp turns and other sudden maneuvers. ReadyLIFT Suspension does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your vehicle under the influence of alcohol or drugs.

Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off-road use.

It is the responsibility of the retailer and/or the installer to review all state and local laws, with the end user of this product, related to bumper height laws and the lifting of their vehicle before the purchase and installation of any ReadyLIFT products.

It is the responsibility of the driver/s to check their surrounding area for obstructions, people, and animals before moving the vehicle.

All raised vehicles have increased blind spots; damage, injury and/or death can occur if these instructions are not followed.

### **Installation Warning**

All steps and procedures described in these instructions were performed while the vehicle was properly supported on a two post vehicle lift with safety jacks.

Use caution during all disassembly and assembly steps to insure suspension components are not over extended causing damage to any vehicle components and parts included in this kit.

Included instructions are guidelines only for recommended procedures and are not meant to be definitive. Installer is responsible to insure a safe and controllable vehicle after performing modifications.

ReadyLIFT Suspension recommends the use of an OE Service Manual for model/year of vehicle when disassembly and assembly of factory and related components.

Unless otherwise specified, tighten all bolts and fasteners to standard torque specifications listed within the OE Service Manual.

Suspension components that use rubber or urethane bushings should be tightened with the vehicle at normal ride height. This will prevent premature wear or failure of the bushing and maintain ride comfort.

Larger tire and wheel combinations may increase leverage on suspension, steering, and related components.

Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle ride height. Always measure the vehicle ride height prior to beginning installation.

### **SAEJ2492 Warning**

By installing this product, you acknowledge that the suspension of this vehicle has been modified. As a result, this vehicle may handle differently than that of factory-equipped vehicles. As with any vehicle, extreme care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts, and drive safely, recognizing that reduced speeds and specialized driving techniques may be required. Failure to drive this vehicle safely may result in serious injury or death. Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications (and combinations of modifications) are not recommended and may not be permitted in your state. Consult your owner's manual, the instructions accompanying this product, and state laws before undertaking these modifications. You are responsible for the legality and safety of the vehicle you modify using these components.

Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle ride height. Always measure the vehicle ride height prior to beginning installation.

*A lifted vehicle may have different headlight aim performance. ReadyLIFT recommends marking and recording the headlight beam position before kit installation and then adjusting, if necessary, the headlamps to the same height settings after kit installation. Set the vehicle on a level surface 10' to 15' from a solid wall or garage door. (This is a general distance with some manufacturers requiring different distances.) Note the top height of the low beam's bright spot, the top of the most intense part of the beam, for driver and passenger side. Height may vary from side to side. Repeat this procedure and adjust after lift kit is installed. Adjust if the aim is off by turning the adjusters gradually (a quarter of a turn) and looking to see where the new alignment falls. It may be easier to block one headlamp while adjusting the other. Consult the owner operation manual for procedures to adjust headlights - many automakers offer headlight aiming specs. Some states have their own specifications when it comes to headlight aim, so it's best to follow those rules when aligning headlights.*

This suspension system was developed using a 295-60R20 tire with 20" x 9" wheel and a offset of +18. If wider tires are used, offset wheels may be necessary and trimming may be required. Factory wheels can be used but are not recommended with tires over 11.5" wide.

The stock spare rim can be run in an emergency - exercise extreme caution under stock spare tire operating conditions. Please note that, if running the spare factory tire, it is done for short distances and a speed not to exceed 45mph or damage to differentials may occur.

## **IMPORTANT NOTE:**

Due to the nature of Ford's lane keeping/lane departure features, it may be necessary to have the vehicles camera and sensors recalibrated to ensure these systems functions as they did prior to install. Please contact your local Ford dealership to set up an appointment.

# **PRE-INSTALLATION MEASUREMENTS:**

It is imperative that you record the following measurements and factory components in the tables below. ReadyLIFT tests and records as much data from each application as available at the time of product development. Vehicle manufacturers may change components or add models with different options. Recording and not exceeding the fender-to-hub-center ReadyLIFT calls out will ensure the lift on the vehicle is correct.

These measurements will affect the performance of this lift kit. Failure to ensure proper stock conditions may result in over lifting, causing premature failure of axles, CV boots and drivetrain. Over lifting a vehicle will also result in an incorrect wheel alignment. This will wear tires incorrectly. Incorrect alignment will cause poor vehicle handling issues including but not limited to under steer. Over lifting will also cause a shock top off condition resulting in poor ride quality accompanied by pops and clunks which are symptoms of prematurely wearing components.

Failure to adjust head lamps may cause dangerous driving conditions for you and other drivers on the road. Record the head lamp position before the installation of this lift or leveling kit and adjust to original factory position after the completion to ensure a safe and enjoyable experience.

## **VEHICLE HEIGHT MEASUREMENTS**

	<b>Driver Before</b>	<b>Driver After</b>	<b>Passenger Before</b>	<b>Passenger After</b>
<b>Front</b>				
<b>Rear</b>				

**\*\*MEASUREMENT IS TO BE PERFORMED FROM CENTER OF HUB TO FENDER EDGE STRAIGHT UP FROM HUB.\*\***

## **RECORD HEAD LAMP MEASUREMENTS**

<b>Driver Before</b>	<b>Driver After</b>	<b>Passenger Before</b>	<b>Passenger After</b>



# **BILL OF MATERIALS**

COMPONENTS	QTY
Front Strut Extension	2
Pre-Load Spacer	2
Upper Control Arm, Left	1
Upper Control Arm, Right	1
Control Arm Clamp	2
Ball Joint Boot Spacer	2
Alignment Cam	4
Alignment Plate	4
Fabricated Rear Block	2
U-Bolt Retainer Plate	2
Rear Leaf Sensor Spacer	2
Rear Shock Extension	2
Carrier Bearing Drop	1
U-Bolts	4
M14 Serrated Flange Nut	8

HARDWARE	QTY
M10 - 1.5 Flange Nut	6
M12-1.75 x 80mm Hex Bolt	2
M12-1.75 Locking Nut	2
M12 Flat Washer	4
7/16"-14 x 2 1/4" Hex Bolt	2
7/16" Flat Washer	2
M5-.8 x 16mm Button Head Allen	2



***Before starting installation:*** ReadyLIFT Suspension highly recommends that the installation of this product be performed by a professional mechanic with experience working on and installing suspension products. Professional knowledge and skill will typically yield the best installation results. If you need an installer in your area, please contact ReadyLIFT Suspension Customer Service or check out the dealers tab on our Website for authorized installers .

### **INSTALLATION BY A PROFESSIONAL IS HIGHLY RECOMMENDED.**

- A Factory Service Manual for your specific Year / Make / Model is highly recommended for reference during installation.
- All lifted vehicles may require additional driveline modifications and / or balancing.
- A vehicle alignment is REQUIRED after installation of this product.
- Speedometer / Computer recalibration is required if changing +/- 10% from factory tire diameter.
- A vehicle lift or hoist greatly reduces installation time. Installation time estimates are based on an available vehicle hoist.
- Vehicle must be in excellent operating condition. Repair or replace any and all worn or damaged components prior to installation.

ReadyLIFT recommends all steps and procedures described in these instructions be performed while the vehicle is properly supported on a two post vehicle lift with safety jacks.

Otherwise, park vehicle on a clean flat surface and block the rear wheels for safety. Engage the parking brake.

Disconnect the vehicle power source at the ground terminal on the battery.

Lock the steering wheel in the straight forward position with the column lock or steering wheel locking device.

Raise the front of the vehicle and support with safety jack stands at each frame rail behind the lower control arms.

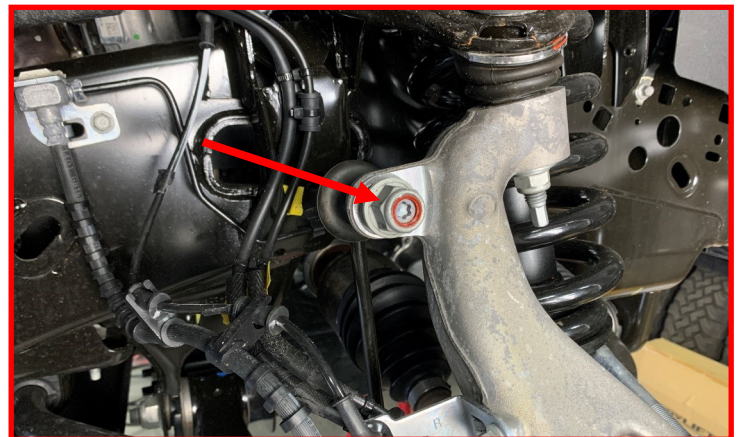
Remove the front wheels.

Using an appropriate jack, support the knuckle.



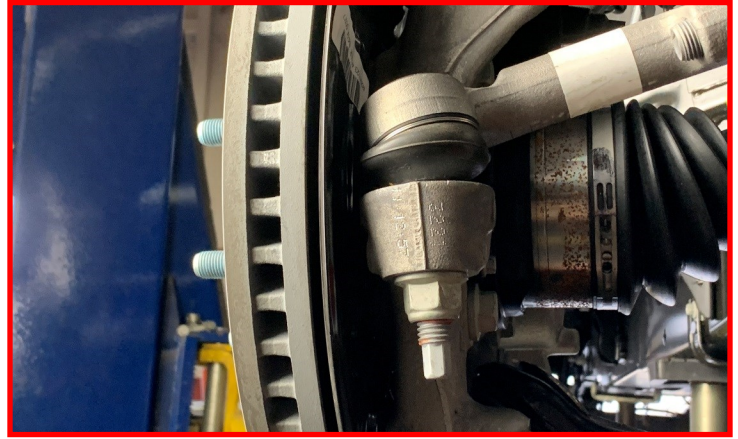
Remove the **sway bar end link** from the knuckle.

Retain the factory mounting hardware.



Remove the **tie rod end** on the knuckle.

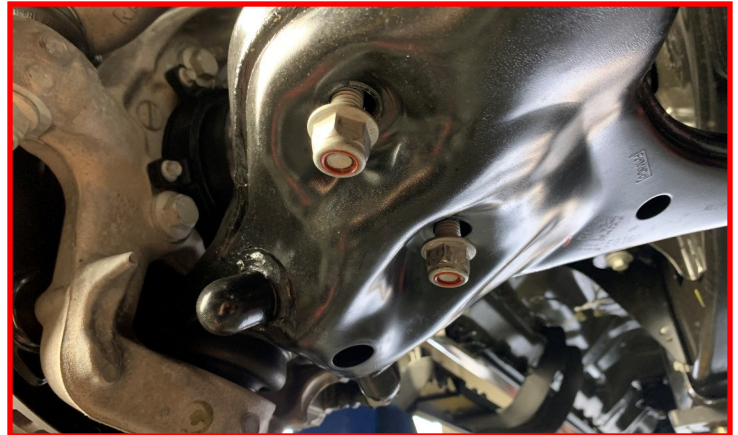
Retain the factory nut.



Loosen but do not remove the **top strut nuts**.

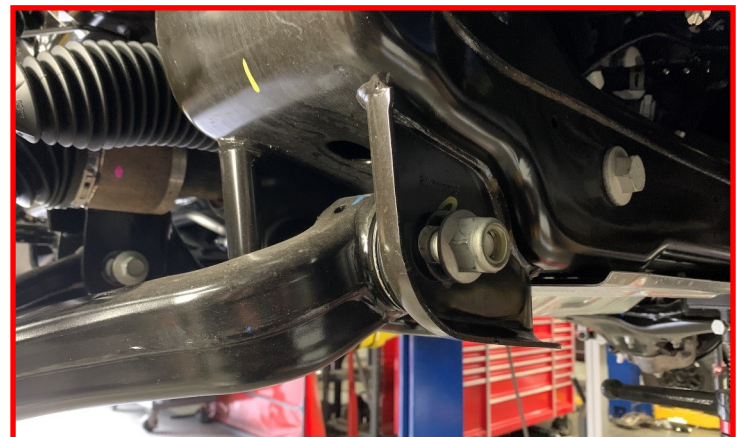


Remove the **lower strut nuts**. Retain the factory mounting hardware.



Loosen and remove the **lower control arm pivot bolts**. Retain the factory bolts.

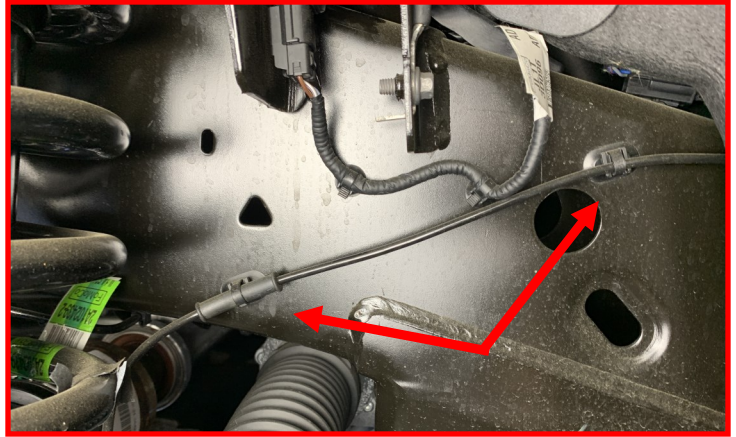
**Note:** Discard the factory nuts. Provided alignment cam nuts will be installed during installation.





**NOTE: IF INSTALLING ON A VEHICLE EQUIPPED WITH CCD, PLEASE BE SURE TO FOLLOW THE NEXT FEW STEPS TO ENSURE THE PROPER STRUT REMOVAL IN LATER STEPS.**

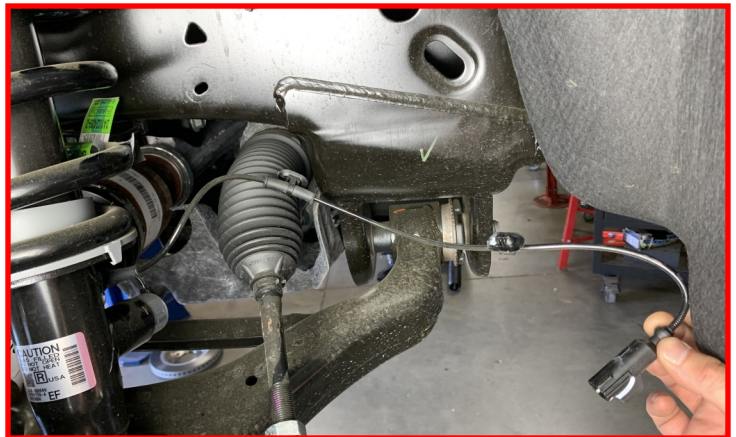
Remove the (2) retaining clips that secures the CCD solenoid harness to the frame.



Disconnect the CCD solenoid harness connector located on top of the frame behind the inner fender liner.

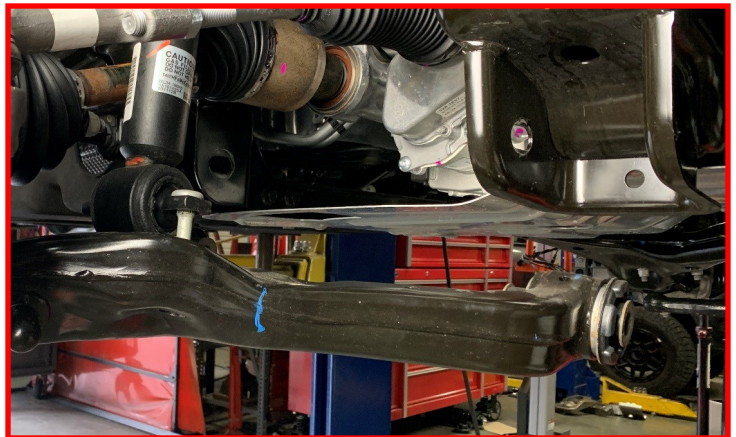


Ensure the harness is free of any snags and let hang out of the way.



Remove the lower control arm pivots from the frame side pivot pockets.

Swing the lower control arm down while removing the lower strut studs from the control arm.

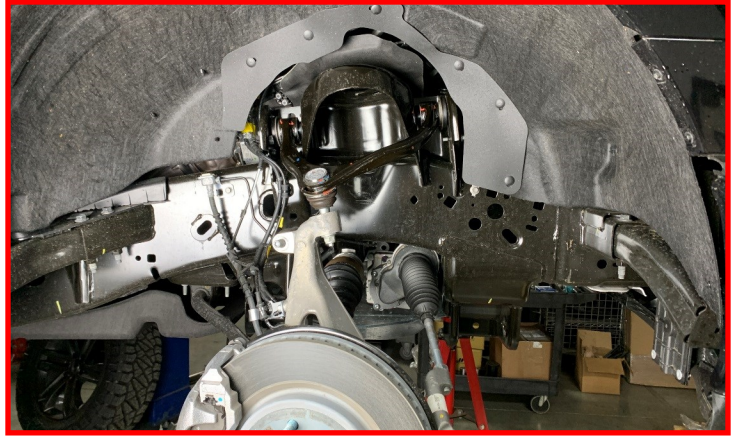




**NOTE: USING A MARKING DEVICE LIKE A PAINT PEN, MARK THE STRUT AT THE OUTBOARD POSITION. THIS MARKING WILL BE MOUNTED IN-BOARD DURING LIFTED STRUT INSTALLATION.**

Remove the (3) top strut nuts and carefully remove the strut assembly from the vehicle. Retain the factory hardware.

**CAUTION: BE SURE TO SUPPORT THE STRUT WHILE REMOVING THE TOP STRUT NUTS.**



**CAUTION: THE SPRING IS UNDER EXTREME PRESSURE AND CAN CAUSE BODILY INJURY AND/OR DEATH IF HANDLED IMPROPERLY.**

Place the strut into a spring compressor. Mark the top hat to spring location for re-assembly. Take care as the strut is under extreme pressure. Relieve the tension on the spring and remove the top hat.

**CAUTION: TAKE SPECIAL CARE WHEN DISASSEMBLING AND ASSEMBLING THE STRUT ASSEMBLIES. DAMAGE TO THE STRUT CAN OCCUR IF DONE INCORRECTLY.**



Install the factory top hat/rubber isolator 180 degrees from the previously made marks for orientation. This will orient the spring in its original location to prevent the CCD actuator from hitting the CV axle. When tightening, make sure the top of the strut shaft is fully seated into the top hat.

Torque the top strut hardware to **35 ft-lbs.**



Install the top strut spacer onto the strut assembly using the factory nuts.

Torque the factory nuts to **30 ft-lbs.**





**NOTE: IF INSTALLING KIT ON A VEHICLE EQUIPPED WITH AUTO ADJUSTING HEADLIGHTS OR CCD, REMOVE THE BALL STUD MOUNTED TO THE FACTORY CONTROL ARM BRACKET. RETAIN THE MOUNTING HARDWARE.**



Remove the factory upper control arm and discard.

Retain the factory pivot bolts.

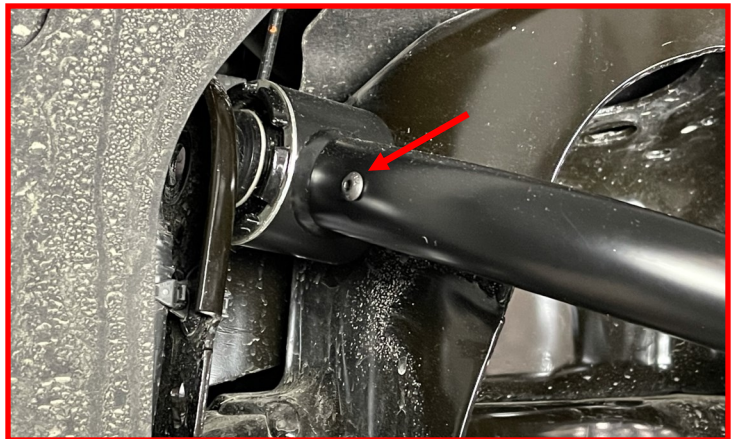


Install the supplied upper control arm in the factory orientation.

Torque the factory hardware to **120 ft/lbs.**

Unless you are installing kit on a auto head light leveling or CCD equipped vehicle, Install the supplied M5 button head allen into the hole on the front side of the control arm.

Torque the M5 Allen bolt to **4 ft/lbs.**



**NOTE: IF INSTALLING KIT ON A VEHICLE EQUIPPED WITH AUTO ADJUSTING HEADLIGHTS OR CCD INSTALL THE SUPPLIED UPPER CONTROL ARM CLAMP USING THE SUPPLIED M5 ALLEN BOLT.**

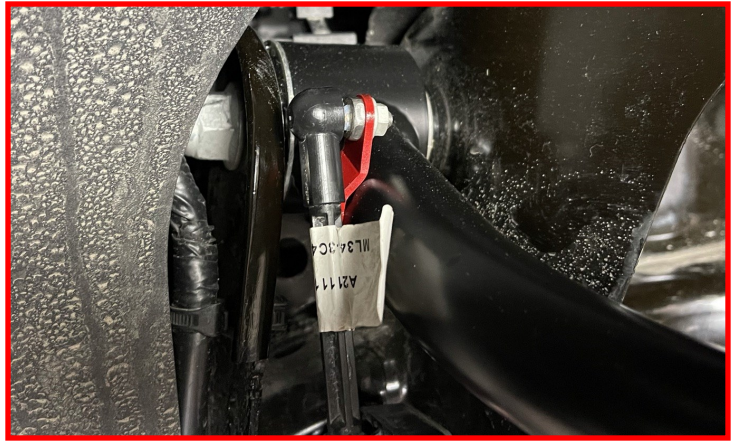
Torque the M5 Allen bolt to **4 ft/lbs.**



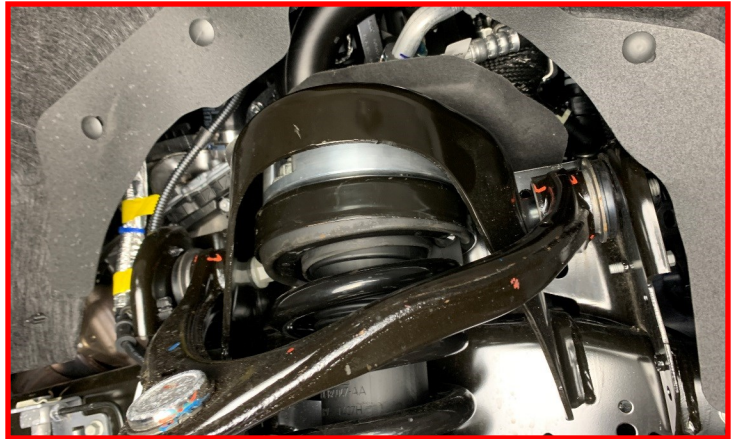


Install the front sensor ball stud into the upper control arm clamp using the factory hardware.

Torque the ball stud hardware to 5 ft/lbs.



Using the supplied M10 nuts, install the completed strut assembly into the frame 180 degrees from the original orientation making sure that the offset of the top spacer is going in towards the frame and that the stamped word "OUT" on the spacer is going towards the outside of the vehicle. Do not tighten at this time.



Install the ball joint boot spacer between the bottom of the boot and the top of the knuckle and raise the knuckle high enough to install the ball joint into the knuckle.

Install the supplied nut on the ball joint. Do not tighten at this time.



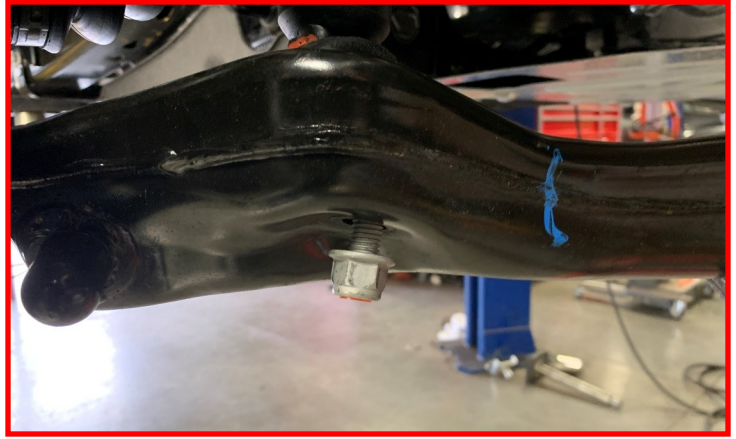
Raise the lower control arm up and guide the lower strut studs into place.



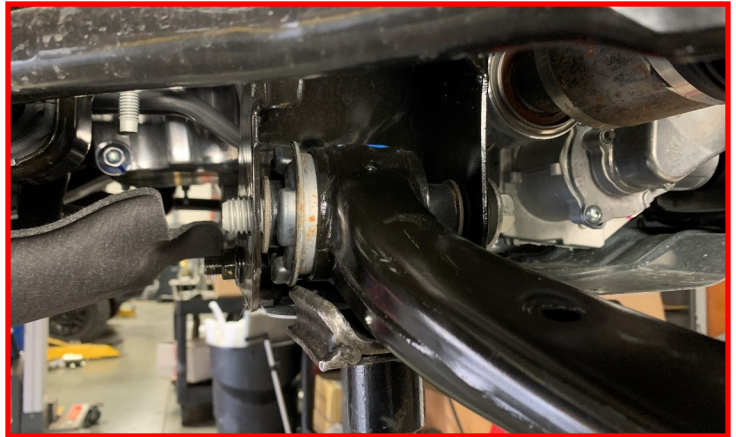


Continue to raise the lower control arm up until you are able to install the factory lower strut nuts.

Torque the factory nuts to **45 ft-lbs.**



Using an appropriate jack, carefully jack the lower control arm into the frame side pivot pockets. Install the factory pivot bolts.



Install the supplied alignment cam plate over pivot bolt so pin fits in existing small hole in frame and then install alignment eccentric cam nut by threading bolt into nut.

Install alignment cam nut towards the center of the vehicle (Most positive camber position of wheel) and tighten slightly.

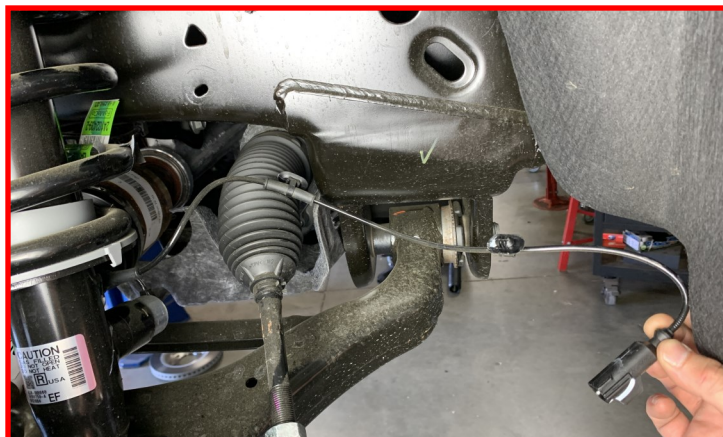


Tighten the top strut nuts.

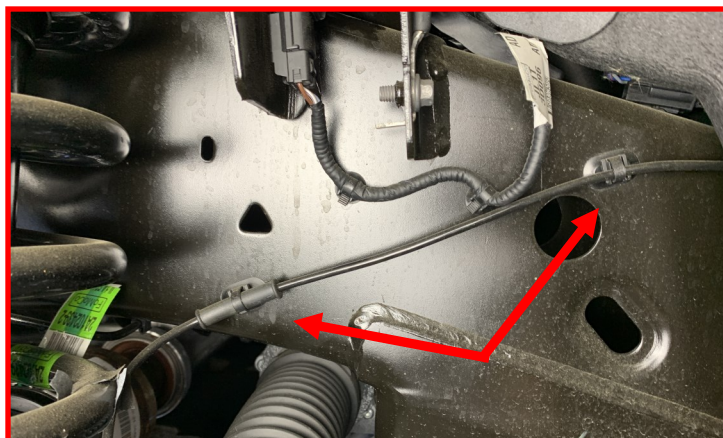
Torque the M10 nut to **35 ft-lbs.**



Carefully route the CCD solenoid harness over the tie rod.



Install the (2) retaining clips that secures the CCD solenoid harness to the frame.



Connect the CCD solenoid harness connector.



Install the tie rod end into the knuckle using the **factory hardware**.

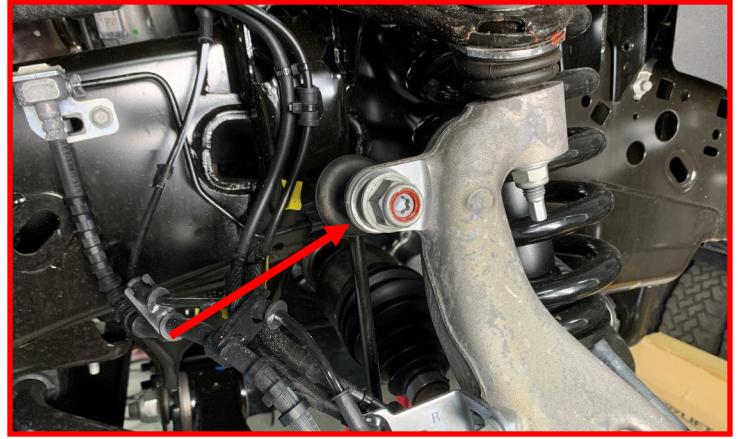
Torque the factory nut to **60 ft-lbs**.





Install the sway bar end link into the knuckle using the **factory hardware**.

Torque the factory nut to **45 ft-lbs**.



With everything tightened and torque to the specified specifications, install front tires and lower vehicle.

With the steering wheel centered, turn the tie rod ends until the tires are straight. If the steering wheel is not centered properly, the ABS/traction control lights may activate. Turn the wheels from lock to lock and make sure the brake lines and ABS routing clears all suspension components adequately. Reposition if necessary.

Using the appropriate tool, grease the upper ball joint just until the boot just starts to expand. **Do not over grease. Over grease can cause pre-mature wear.**

## Rear Installation

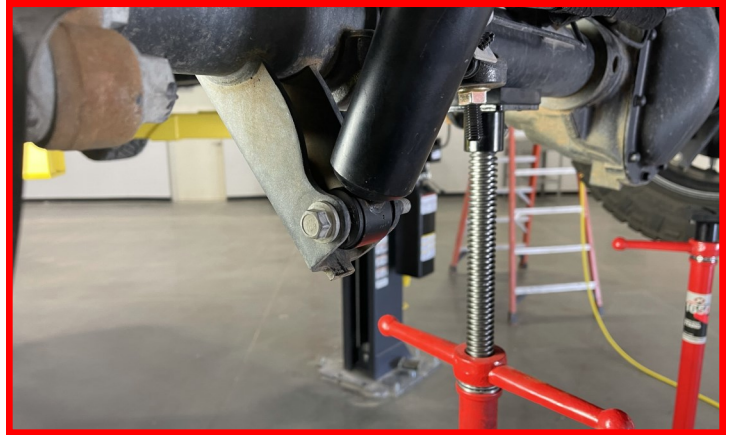
Block the front tires and raise the rear of the vehicle using a suitable jack.

Support with jack stands at each frame rail in front of the rear leaf spring hangers.

Remove the rear wheels.

Using an appropriate jack, support the axle.

With the axle supported, remove the rear shock. Retain both the factory mounting hardware and the shock.



Remove the rear sensor bracket from the forward axle center pin.

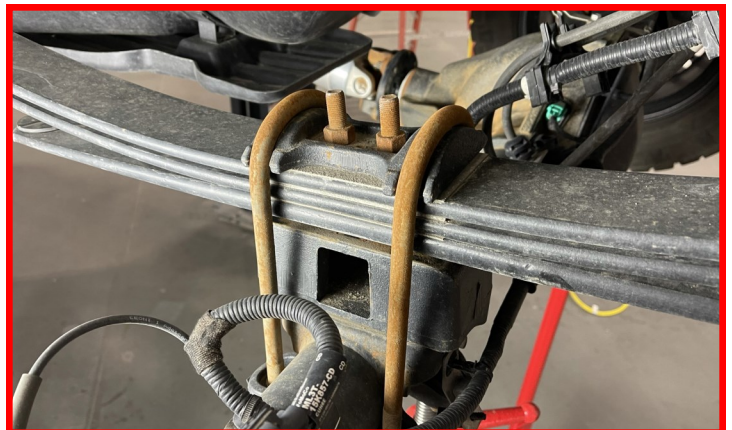
Retain the factory mounting nut.

**NOTE: THIS STEP IS ONLY NECESSARY WHEN INSTALLING ON VEHICLES EQUIPPED WITH AUTO HEADLIGHT LEVELING OR CCD.**



Slightly loosen but do not remove the Passenger side u-bolts.

Remove the driver side u-bolts completely and discard. Lower the axle enough to remove the factory lift block making sure that all brake lines and ABS lines do not get over extended.

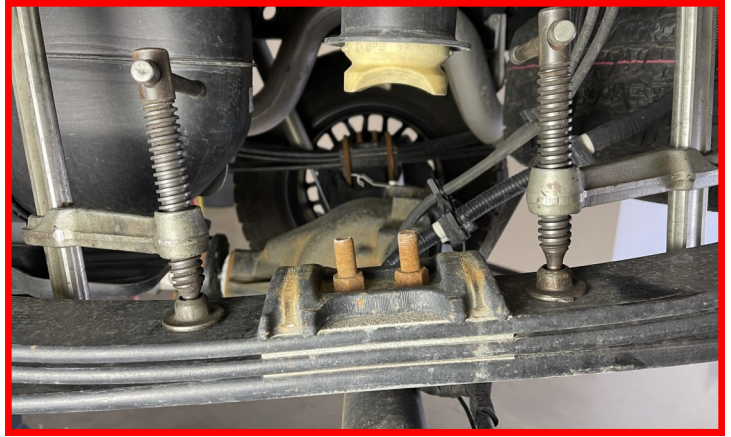




\*\*\*Parts shown in red for picture clarification only\*\*\*

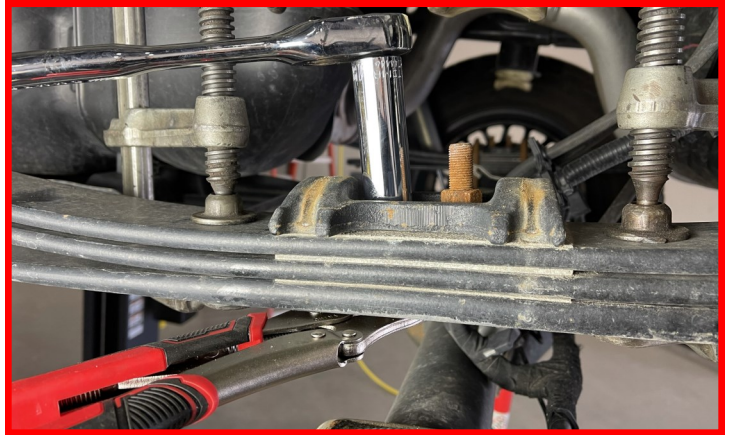
Using the appropriate clamping device, clamp the leaf pack together.

NOTE: THIS IS TO HOLD THE LEAF PACK TOGETHER WHEN REMOVING THE CENTER PINS.

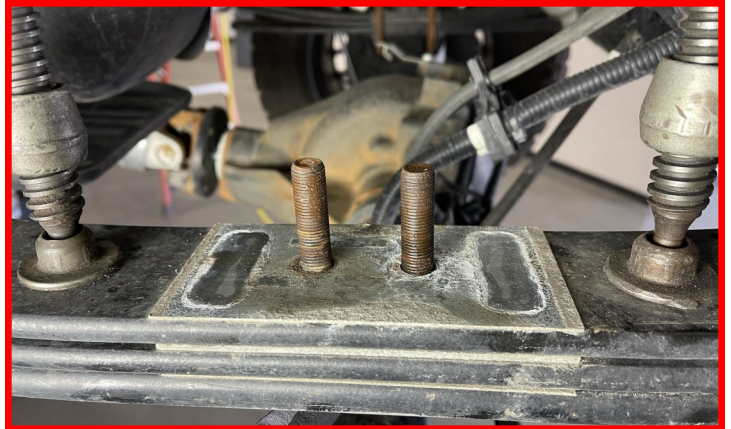


With the leaf pack clamped, remove the center pins.

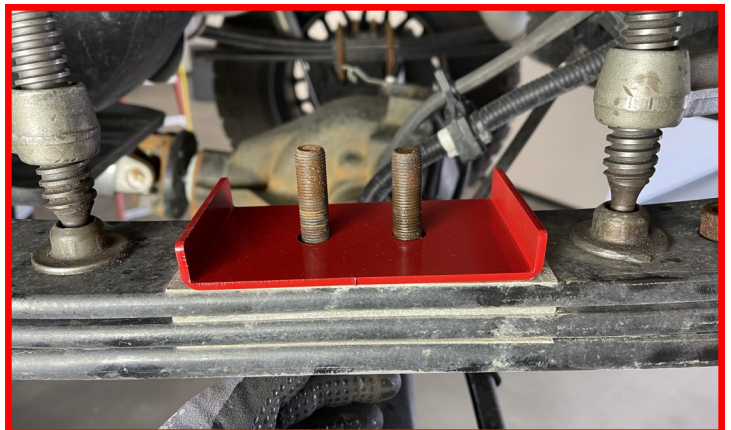
Retain the factory center pins.



Remove the factory u-bolt retainer plate.



Install the supplied u-bolt retainer plate, Using the factory center pins.

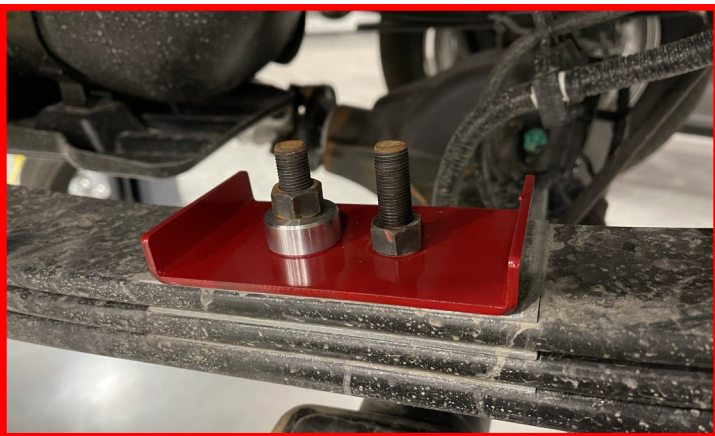




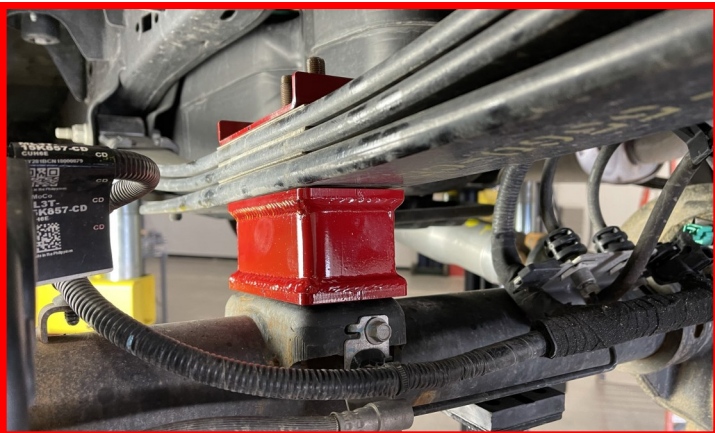
Install the **leaf spring sensor spacer** in the forward center pin using the factory nuts.

Torque the center pin nuts to **45 ft/lbs.**

**NOTE: INSTALLING THE SPACER IS ONLY NECESSARY WHEN INSTALLING ON VEHICLES EQUIPPED WITH AUTO HEADLIGHT LEVELING OR CCD.**



Install the provided lift block making sure the bump tang is facing inboard of the vehicle. Raise the axle and the block up to the spring while aligning the center pins.



Install the provided u-bolts, and nuts. Snug the u-bolt nuts but do not fully tighten at this time.

Repeat steps for passenger side.



Install the rear sensor bracket on the forward axle center pin in the factory orientation.

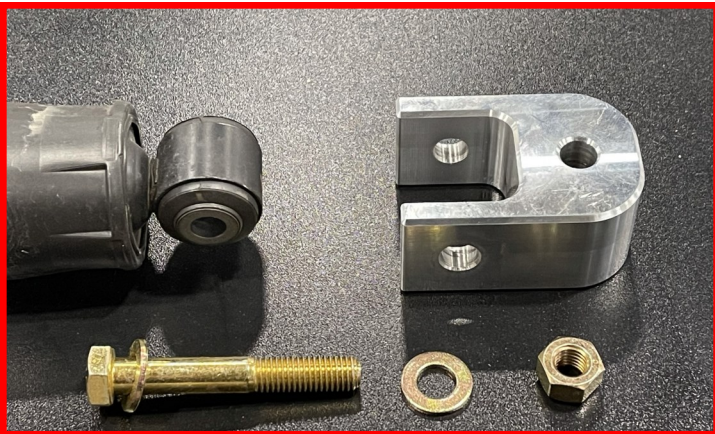
Torque the factory nut to **35 ft/lbs.**

**NOTE: THIS STEP IS ONLY NECESSARY WHEN INSTALLING ON VEHICLES EQUIPPED WITH AUTO HEADLIGHT LEVELING OR CCD.**



Install the **shock extension** using the provided **M12 bolts, washers, and nuts** to the top of the factory shock.

Do not tighten at this time.



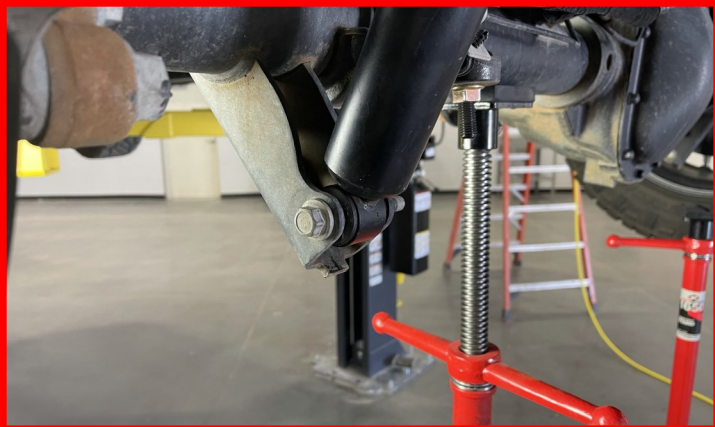
Install the shock into the frame using factory hardware. Ensure you are installing with the extension up.

Do not tighten at this time.



Install the lower shock to the axle using factory hardware.

Do not tighten at this time.



Prior to installing wheels, complete all installation steps on the opposite side. Install the wheels and lower the vehicle to the ground. Torque the lug nuts to the wheel manufacturers specs. Jounce the vehicle to settle the suspension to the new ride height. Torque the lower control arm hardware to **200 ft-lbs**, u-bolts to **110-ft/lbs** and all shock hardware to **75-ft/lbs**.

Reconnect the battery ground terminal. Start the vehicle and turn the steering wheel lock to lock and verify all clearances between tire, body and suspension components. Adjust as necessary.

Have wheel alignment performed by qualified alignment technician. Have the alignment set to the recommended specs at the end of the instructions.





**FAILURE TO PERFORM THE POST INSPECTION CHECKS MAY RESULT IN VEHICLE COMPONENT DAMAGE AND/OR PERSONAL INJURY OR DEATH TO THE DRIVER AND/OR OTHERS.**

### **Final Checks & Adjustments**

Once the vehicle is lowered to the ground, check all parts which have rubber or urethane components to ensure proper torque. Torque lug nuts to the wheel manufacturer specs. Move vehicle backwards and forwards a short distance to allow suspension components to adjust. Turn the front wheels completely left then right and verify adequate tire, wheel, brake line, and ABS wire clearance. Test and inspect steering, brake and suspension components for tightness and proper operation. Inspect brakes hoses and ABS lines for adequate slack at full extension, adjust as necessary.

**RECHECK ALL HARDWARE FOR PROPER TORQUE VALUES AFTER 500 MILES, AND THEN PERIODICALLY AT EACH SERVICE INTERVAL THERAFTER.**

### **Vehicle Handling Warning**

Increasing the height of your vehicle raises the center of gravity and can affect stability and control. Use caution on turns and when making steering corrections.

Vehicles with larger tires and wheels will handle differently than stock vehicles. Take time to familiarize yourself with the handling of your vehicle.

### **Wheel Alignment/Headlamp Adjustment**

It is necessary to have a proper and professional wheel alignment performed by a certified alignment technician. Align the vehicle to factory specifications. It is recommended that your vehicle alignment be checked after any off-road driving.

In addition to your vehicle alignment, for your safety and others, it is necessary to check and adjust your vehicle headlamps for proper aim and alignment. If the vehicle is equipped with active or passive safety/collision monitoring and/or avoidance systems including, but not limited to, camera- or radar-based systems, check and adjust your vehicle's systems for proper aim and function.

## **RECOMMENDED ALIGNMENT SPECS**

Front	Driver	Passenger	Tolerance	Total / Split
Camber	-0.2	-0.2	+/- 0.5	+0.0
Caster	+4.5	+4.5	+/- 0.5	+0.0
Toe	+0.08	+0.08	+/-0.05	+0.14