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**INSTALL INSTRUCTIONS:**

Cognito 1" & .5" Front Shock Extender Kit for 2011-2019 GM 2500HD/3500HD 2WD/4WD trucks SKU: 110-90258 (Old SKU: SEK-2011-8-1) & 110-90259 (Old SKU: SEK-2011-8-2)

**PARTS LIST FOR SKU: 110-90258  
(Old SKU: SEK-2011-8-1)**

QUANTITY	PART #	DESCRIPTION
2	1581	Shock Extender Bracket
4	H-15211	½"x2" hex bolt
4	HARDWARE-M12X1.75-LOCKNUT	Zinc-Plated Steel Nylon-Insert Hex Locknut
4	HARDWARE-M12-FLATWASHER	Metric High-Strength Steel Flat Washer M12 Screw Size

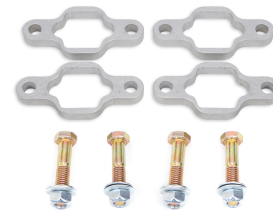
**PARTS LIST FOR SKU: 110-90259  
(Old SKU: SEK-2011-8-2)**

QUANTITY	PART #	DESCRIPTION
4	1581	Shock Extender Bracket
4	-	½"x2 ½" hex bolt
4	-	½" lock nut
8	-	½" flat washer

SKU: 110-90258



SKU: 110-90259



**WARNING**

Please read this entire instruction sheet before beginning installation. Proper installation of these components requires a qualified mechanic. Always wear safety glasses when using power tools, and take appropriate precautions when working under a vehicle. If these instructions are not properly followed you may jeopardize your, and your passenger's safety, and severe frame, suspension or tire damage may also result from improper installation.

**TECH NOTES**

- Some applications require the use of 2 spacers sandwiched together, please follow instructions carefully to ensure the proper setup for your vehicle.

**REQUIREMENTS**

- Installation requires a qualified mechanic.
- Read instructions carefully and study the pictures before attempting installation.
- Check the parts and any hardware packages against the parts list to assure that your kit is complete.
- If this kit is being installed on a lifted vehicle with a Cognito suspension lift package, refer to the instructions for that lift package to install this extender kit. If installing this kit on any other lift system, Cognito is not responsible for improper setup or adverse effects.
- A minimum amount of droop travel is required for proper ride quality and component life.

## INSTALLATION

First determine the setup that the truck will get. There are 4 leveling kit combinations so gather that info then refer to the appropriate section here for the combination. If this kit is being installed on a lifted vehicle with a Cognito Motorsports suspension lift system, refer to the instructions for that lift system to install this extender kit. If installing this kit on any other lift system, Cognito is not responsible for improper setup or adverse effects. IF THE COMBINATION IS EVER CHANGED YOU MUST REFER TO THIS INSTRUCTION SET TO DETERMINE THE NEW COMBINATION AND FOLLOW THOSE INSTRUCTIONS. FAILURE TO DO SO CAN CAUSE DAMAGE TO THE VEHICLE THAT CAN RESULT IN COMPONENT FAILURE AND A CRASH.

### **Combination 1: Stock front shocks and stock upper control arm, install 110-90258**

- 1.1. open the hood since access to the top shock mount is easier from the engine compartment. Remove the 2 nuts from the top mount of each factory shock.
- 1.2. push the shock body down to compress the shock and then insert one of the 1579 spacers over the studs. Repeat for other shock.
- 1.3. reinsert the studs thru the holes in the frame and install the new included nuts, torque to 70 ft/lbs. repeat for other shock.
- 1.4. this combination will allow cranking stock torsion keys or using aftermarket torsion keys to gain an additional 2" maximum of height safely from FACTORY height. Do not set height more than 2" over factory height with this combination.
- 1.5. raising the height of the truck affects the alignment, so a front end alignment is required. Also the headlights need to be adjusted, refer to your owner's manual for headlight adjustment screw, normally the screw needs to be turned 2 revolutions to lower the headlight for every 1" the front is raised without raising the rear.

### **Combination 2: Cognito specific front shocks by Bilstein or Fox and stock upper control arm, DO NOT install a spacer**

- 2.1 the Cognito shocks are longer than factory, so do not use a spacer with this combination.
- 2.2 this combination will allow cranking stock torsion keys or using aftermarket torsion keys to gain an additional 2" maximum of height safely from FACTORY height. Do not set height more than 2" over factory height with this combination.
- 2.3 raising the height of the truck affects the alignment, so a front end alignment is required. Also the headlights need to be adjusted, refer to your owner's manual for headlight adjustment screw, normally the screw needs to be turned 2 revolutions to lower the headlight for every 1" the front is raised without raising the rear.

### **Combination 3: Stock front shocks and Cognito upper control arms, install 110-90259**

- 3.1. the Cognito upper control arms provide more down travel than factory, therefore 2 spacers can be used with the FACTORY SHOCK.
- 3.2. refer to the Cognito upper control arm kit for instructions to install the arm kit.
- 3.3. open the hood since access to the top shock mount is easier from the engine compartment. remove the 2 nuts from the top mount of each factory shock. remove the nut and bolt holding the bottom shock mount to the lower control arm.

- 3.4. remove the shocks from the truck, the studs in the upper bar pin need to be removed since they are too short. use a deep socket to cup the flat end of the stud, then use a hammer to tap the stud out of the bar pin.
- 3.5. re-attach the shock to the lower control arm with the factory hardware, torque to 50 ft/lbs.
- 3.6. push the shock body down to compress the shock and then insert 2 of the 1579 spacers over the bar pin. guide the shock up into the top mounting pocket on the frame. use the repeat for other shock. use the 1/2" hardware provided to bolt the top shock mount together with the spacers sandwiched between the bar pin and the frame. Tighten to 50 ft/lb.
- 3.7. this combination will allow cranking stock torsion keys or using aftermarket torsion keys to gain an additional 3" maximum of height safely from FACTORY height. Do not set height more than 3" over factory height with this combination.
- 3.8. raising the height of the truck affects the alignment, so a front end alignment is required. Also the headlights need to be adjusted, refer to your owner's manual for headlight adjustment screw, normally the screw needs to be turned 2 revolutions to lower the headlight for every 1" the front is raised without raising the rear.

#### **Combination 4: Cognito specific front shocks by Bilstein or Fox and Cognito upper control arms, install 110-90258**

- 4.1. the Cognito shocks are longer than factory, so use only one spacer with this combination.
- 4.2. refer to the Cognito upper control arm kit for instructions to install the arm kit.
- 4.3. install the Cognito shock with only one spacer sandwiched between it and the frame. tighten hardware to 50 ft/lbs of torque.
- 4.4. this combination will allow cranking stock torsion keys or using aftermarket torsion keys to gain an additional 3" maximum of height safely from FACTORY height. Do not set height more than 3" over factory height with this combination.
- 4.5. raising the height of the truck affects the alignment, so a front end alignment is required. Also the headlights need to be adjusted, refer to your owner's manual for headlight adjustment screw, normally the screw needs to be turned 2 revolutions to lower the headlight for every 1" the front is raised without raising the rear.

#### **Completion:**

1. Setting the ride height, Record measurement (A) in chart below. Subtract 2 inches from (A) to determine maximum ride height (B). This will insure the proper amount of available down travel. **NOTE:** Maximum ride height is not required if you reach desired ride height below measurement (B). It is a good idea to record your final ride height after adjustments (C). See Figure 4.
2. While the chassis is lifted up and the tires are drooped out, check that the control arm clears the service perch which is under the front pivot of each upper arm. This perch is not a droop stop, it is a service perch and on some vehicles, they will contact the arm and will need to simply be cut off to avoid damaging the upper control arm. This instance is not common, the droop travel is needed to help provide a quality comfortable ride.

Figure 4: Distance between top of tire and fender lip.



**Record Measurement**

<b>Full Drop Out (A)</b>	
<b>Subtract 2 inches</b>	<b>-2 inches</b>
<b>Max Ride Height (B)</b>	
<b>Finished Ride Height (C)</b>	

3. Have the vehicle's front end professionally aligned to the vehicle, or lift kit (if it is lifted) manufacturer specification.

## WARRANTY / RETURN POLICY / SAFETY

### **Cognito Limited Lifetime Warranty**

Cognito Motorsports, Inc. hereinafter "Cognito," warrants to the original retail purchaser, that its suspension products are free from workmanship and material defects for as long as the purchaser owns the vehicle on which the product(s) were originally installed. This warranty will be void if any modifications are made to the components, including alterations to the surface finish, i.e.; painting, powder coating, plating, and/or welding, or if they are improperly installed. Cognito truck suspension products are not designed nor intended to be installed on "competition" vehicles used in race applications, stunt or for exhibition purposes that are outside of the intended operating conditions specified by the manufacturer. Racing and competition are defined as any contests between two or more vehicles; or vehicles competing individually on off road circuits in timed events (whether or not such contests are for an award or prize).

This warranty does not include coverage for police, taxi, government or commercial vehicles, and the warranty does not cover Cognito products sold outside of the USA. Cognito's obligations under this warranty are specified and applied at its sole discretion, and warranty coverage is limited to repair or replacement of the defective product(s). Any and all costs of removal, installation or reinstallation; freight charges, incidental or consequential damages associated with the covered products are expressly excluded from this warranty.

The following items are exempt from Cognito limited warranty coverage: bushings, bump stops, tie-rod ends (Heim joints) and limiting straps. These parts are "consumables" and designed to wear as a normal part of their duty cycle, therefore they are not considered defective when worn. The aforementioned products are warrantied separately against defects in workmanship, for 60 days from the date of purchase. As a condition of warranty validation, respective Cognito suspension components must be installed as a complete system (not combined with non-Cognito hardware or ancillary parts). Any substitutions or omission of required components will void the warranty. Some minor cosmetic wear and imperfections may occur to parts during shipping, which is not covered under this warranty. This limited warranty does not apply to any components that have been subjected to collision damage, negligence, alteration, abuse, or misuse, and coverage does not extend to products manufactured by third-party companies. Cognito reserves the right to supersede, discontinue, or change the design, finish, part number and/or application of its parts when deemed necessary, without notice.

### **Return Policy**

Product returns will not be accepted without prior written approval from an authorized Cognito representative. All products being returned must be shipped via trackable, prepaid freight. Returned products are subject to a 25% percent restocking fee. The eligible return period for products purchased directly from Cognito is 30 days from the verified date when the product(s) were originally received by the purchaser.

### **Product Safety Advisory**

The installation of Cognito steering and suspension components will modify your vehicle's original factory equipment and geometry, which may cause it to handle differently than a stock (unaltered) vehicle. Installation of these components is not intended to strengthen nor reinforce the vehicle's frame, nor are they designed to increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for proper attachment, torque specifications, operation, and for any potential unusual wear or damage. Installation of these parts will modify the height of the vehicle and may raise the center of gravity. Modifying vehicle height combined with off road operation may increase your vehicle's susceptibility to rollover conditions, which may cause serious injury or death. Many states regulate allowable vehicle height modifications, and it is your responsibility to know and comply with the legal requirements specified by the laws where you reside. Modifications to your vehicle's ride height may also affect the ride quality, driver input response, trackability and handling, and wear to your vehicle's suspension components and tires.