

Full Throttle Suspension

46108

2011-2013 CHEVY/GMC 2500 HD 7" Kit 4WD Torsion Bar Drop Kit

**RECOMMEND A 17X8 OR LARGER WHEEL WITH A MAXIMUM OF 5"
BACK SPACING WITH A 35x12.50r17 TIRE**

Disassembly

- 1) With the vehicle on level ground set the emergency brake and block the rear tires. Disconnect the negative battery cable from the battery (Note that some vehicles have 2 or more batteries you will need to disconnect the negative cables from all batteries). Jack up the front end of the truck and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE** Remove the front tires
- 2) Locate the torsion bar adjusting cams and threaded bolts. Measure exposed threads of torsion bar adjusting bolts and record for reinstallation. Mark torsion bars indicating driver and passenger. Using a torsion bar removal tool unload the torsion bars and remove the cross member and bars. Retain the hardware for reinstallation. (NOTE- Do not attempt to unload or remove torsion bars without the proper torsion bar tool. Torsion Bars are under extreme tension)
- 3) Remove the sway bar end links from the sway bar and lower control arm. Discard links but retain the bushings for reassembly later.
- 4) Remove the stock front shocks and discard.
- 5) Remove the stock lower rubber bump stops from the frame and retain for reassembly later.
- 6) Remove front factory differential skid plate and splash shield and discard.
- 7) Remove the nut retaining the outer tie rod to the steering knuckle then disconnect the tie rod ends from the steering knuckle by striking the knuckle boss with a hammer to dislodge the tie rod end. Use care not to damage the tie rod end when removing.
- 8) Unplug the ABS brake connection from the frame and control arm. Remove the brake hose bracket from the top of the steering knuckle. Remove the caliper from the rotor and place above the upper control arm.
- 9) Remove brake rotor from the steering knuckle. Remove axle nut, washer as well as the 4 hub bolts on backside of knuckle. Remove hub bearing assembly including O ring from inside the knuckle. Retain all parts and hardware for reinstallation later.
- 10) Loosen the upper and lower ball joint nuts then Disconnect the upper and lower ball joints from the steering knuckle by striking the knuckle with a large hammer next to each ball joint on the knuckle to dislodge the ball joints. Use care not to hit the ball joints when removing. Remove both upper and lower ball joint nuts and retain them for reassembly later. Discard the steering knuckles.
- 11) Remove the bolts retaining the CV axle to the front differential and remove the CV axle. Retain the nut and washer for reassembly but discard the flange bolts.
- 12) Remove the lower control arms. Retain the arms and all hardware for reassembly.

13) Disconnect front driveshaft from differential housing retain hardware. Disconnect the differential housing electrical connection and vent line from differential housing. Remove the stock differential rear cross member and discard.

14) Remove the differential housing assembly from vehicle and retain for reassembly. For easier removal turn the steering wheel to the left (driver side) for clearance. Disassembly is now complete.

Preparation

1) Cut the drivers side rear lower factory control arm mount as shown in PIC 1. This cut should be made using a sawzall or similar tool and as close to the cross member mounting hole as possible. Paint cut area with rust inhibiting paint.

2) Next locate the holes on the underside of the factory bump stop mounts where you removed the bump stops in step 5 of disassembly. Using the holes as a pilot drill all four of them out using an 11/16 drill bit. Now install the nut inserts provided with the kit as shown in PIC 2. With the nut insert slid up into the 11/16 hole hold the installation tool from spinning and using an impact gun tighten the installation bolt till the nut has securely clamped itself to the frame, see PIC3 for an example. This will be done to all 4 of the factory bump stop mounts.

Assembly

1) Install front lower bump drop brackets to the factory lower front bump stop brackets using the supplied 1/2" bolts into the previously installed nut inserts, and the factory differential mount bolts through the drop bracket support struts as seen in PIC 4

2) Install the drivers side differential drop bracket using the supplied 12mm allen bolts and 1/2" bolts as shown in PIC 4.

3) Next install the passenger side differential drop bracket as using the factory hardware at the top.

4) Now install the front differential to the drop brackets using the supplied 1/2" x 3 1/2" and 12mm allen bolts on the drivers side and 5/8" x 2" and 1/2" x 2" bolts on the passenger side.

5) Install the FTS rear lower control arm drop using the factory rear lower control arm bolts and supplied 18mm washers on the bolt head side.

6) Install the rear lower bump stop drop brackets using the supplied 1/2" bolts into the earlier installed nut inserts and 7/16" bolts to connect the drop bracket to the rear lower control arm drop cross member.

7) Once all four bump stop drop brackets are installed, install the factory bump stop rubbers into them by using light oil or soap as a lubricant and pushing up into the drop brackets till they pop into the retaining lip.

8) Next install the FTS front lower control arm drop using the factory lower front control arm bolts and supplied 18mm washers on the bolt head side.

9) Install the lower control arms using the supplied 18mm x 130mm in the front and the 18mm x 150 in the rear bolts hole. DO NOT tighten at this time.

10) Install the new steering knuckles to the control arms using the factory hardware. Now install the factory o-ring, wheel bearings and backing plate using the factory hardware and torque to factory specs.

11) Install the factory front drive axles using the factory nut and washer through the wheel bearing.

12) Install the axle spacer ONLY on the driver side using the 10mm x 50mm bolts supplied and torque

to factory specs.

- 13) Install the passenger drive axle using the factory axle flange bolts and tighten to factory specs.
- 14) Install the factory brake rotor and caliper using the factory hardware and torque to factory specs. Note we recommend new extended brake lines that can be purchased through us, but if you elect to not install extended lines be sure that you have routed the factory lines so that there is sufficient length and clearance for turning.
- 15) Reconnect the factory tie rod to the steering knuckle. Note that now the tie rod goes in from top to bottom.
- 16) Install the differential skid plate supplied with the kit using the supplied 7/16" x 1 1/4" bolts to secure it to the front and rear lower control arm drop brackets.
- 16) Install the compression strut to the rear lower control arm drop using the new lower control arm bolt as well as the supplied 7/16" x 1 1/4" bolts at the front and supplied 7/16" x 1 1/4" bolts at the rear to connect the strut to the transmission cross member frame mount.
- 17) Install the torsion bar cross member drop brackets using the supplied 9/16" x 3 1/2" bolts to secure them to the factory rubber frame mounts at the top. Note the offset of the brackets so that when installed they will move the torsion bar cross member forward in the vehicle. Install the torsion bar cross member to the drop brackets using the factory hardware as well as the supplied 3/8" x 1" bolts.
- 18) Reinstall the torsion bars as well as the torsion keys being sure that they are orientated just as they were originally removed from the vehicle. Load the torsion bars to the same height as they were set from the factory for a starting point.
- 19) Install the new sway bar end links using the factory rubber bushings with the supplied 7/16" large washers installed into them and supplied 7/16" x 2 3/4" bolts to secure them to the vehicle. Note use locktite or similar product to lock bolts into end links. Do Not over tighten
- 20) Install FTS front shocks.
- 21) Install front tires and wheels. Torque lug nuts to wheel manufacturers specifications.

Front Suspension Is Now Complete

REAR SUSPENSION INSTRUCTIONS

- 1) Jack up the rear end of the vehicle and support the frame rails with jack stands. Release the parking brake at this time. Supporting the rear differential, remove the rear shocks, u-bolts, blocks and lower axle down. Use care not to over extend the brake hose.
- 2) Install the rear lift blocks. The block is offset, Install the block so it pushes the axle forward. Using the provided u-bolts, nuts and factory washers, align the axle, lift blocks, and springs and torque u-bolts to 150 ft-lbs.
- 3) Install the rear shocks. Install the shocks using the factory hardware and torque upper and lower bolts to 45 ft-lbs.
- 4) Recheck all bolts for proper torque. Recheck the front and rear brake hoses and ABS lines for proper clearances.

5) Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance. Note -Some oversized tires may require trimming of the bumper and valance.

6) Check the front-end alignment and set to the factory specifications. Re-adjust vehicles headlights.

Optional FTS upgrades

- 48141 BALL JOINT UPPER A ARM KIT**
- 48140 DOUBLE SHOCK HOOP KIT**
- 48143 HEIMS JOINT STEERING KIT**
- 48139 DOUBLE SHOCK HOOPS W/ UPPER A ARM**
- 48146 63" BOLT ON TRACTION BAR KIT (CREW CAB/ XTRA CAB SHORT BED)**
- 48147 68" BOLT ON TRACTION BAR KIT (CREW CAB/ XTRA CAB LONG BED)**

PACKING LIST

BOX 1

- 1) Rear cross member
- 1) Front cross member
- 2) Rear bump stops
- 2) Front bump stop
- 1) Driver differential drops Bkt
- 1) Passenger Differential Drop Bkt
- 2) Sway bar end links 1 1/4
- 1) 8 Hole axle spacer
- 8) 10mm x 50mm bolts

HARDWARE

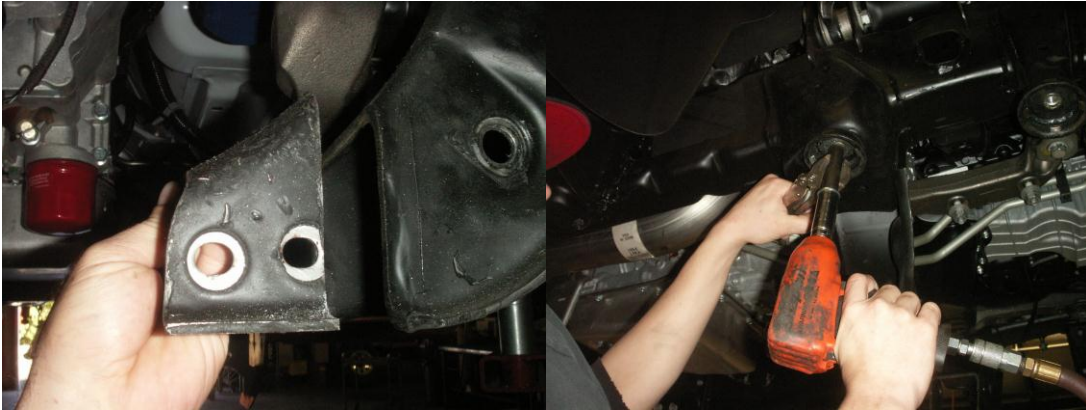
- 1) Left brake line bracket
- 1) Right brake line bracket
- 2) 18mm x 130mm bolts
- 2) 18mm x 150 mm bolts
- 4) 18mm nylock nuts
- 8) 18mm washers
- 1) 5/8 x 2 bolts
- 1) 5/8 nylock nut
- 2) 5/8 washers
- 2) 9/16 x 3 1/2 bolts
- 2) 9/16 nylocks
- 4) 9/16 washers
- 4) 1/2 nutserts
- 4) 7/16 x 2 3/4 bolts
- 8) 7/16 x thick washers
- 20) 7/16 X 1 1/4 bolts
- 20) 7/16 nylock nuts
- 40) 7/16 washers
- 4) 1/2 x 1 1/2 bolts
- 1) 1/2 x 2 bolt
- 2) 1/2 X 3 1/2 bolts
- 1) 1/2 X 4 bolts
- 8) 1/2 nylock nuts
- 16) 1/2 washers
- 3) 12 mm x 25 mm Allen bolts
- 4) 3/8 x 1 bolts
- 4) 3/8 nylock nuts
- 8) 3/8 Washers
- 2) 5/16 x 3/4 bolts
- 2) 5/16 nylock nuts
- 4) 5/16 washers

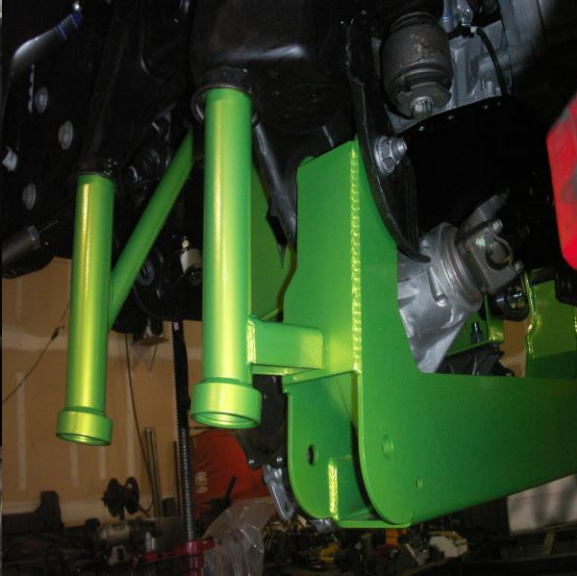
BOX 2

- 1) Left Compression Strut
- 1) Right Compression Strut
- 1) Left torsion bar drop
- 1) Right torsion bar drop
- 1) Skid plate
- 4) 3/4 x 3" x 15" Square U bolts
- 1) Left 4" Taper Block with bump stop
- 1) Right 4" Taper Block with bump stop
- 8) 3/4 Fine thread nuts

BOX 3

- 1) Left Steering Knuckle
- 1) Right Steering Knuckle







Product Warranty and Warnings-

FTS provides a Limited Lifetime Warranty to the original retail purchaser who owns the vehicle, on which the product was originally installed, for defects in workmanship and materials.

The Limited Lifetime Warranty excludes the following FTS items; bushings, bump stops, ball joints, tie rod ends, limiting straps, cross shafts, heim joints. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days from the date of purchase for defects in workmanship.

Take apart shocks are considered a serviceable shock with a one year warranty on leakage only. Service seal kits are available separately for future maintenance. All other shocks are covered under our Limited Lifetime Warranty.

FTS does not warrant any product for finish, alterations, modifications and/or installation contrary to FTS instructions. Alterations to the finish of the parts including but not limited to painting, powdercoating, plating and/or welding will void all warranties. Some finish damage may occur to parts during shipping which is considered normal and is not covered under warranty.

FTS products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities. (A "RACE" is defined as any contest between two or more vehicles, or any contest of one or more vehicle against the clock, whether or not such contest is for a prize).

This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America.

Installation of most suspension products will raise the center of gravity of the vehicle and will cause the vehicle to handle differently than stock. It may increase the vehicle's susceptibility to a rollover, on road and off road, at all speeds. Extreme care should be taken to operate the vehicle safely at all times to prevent rollover or loss of control resulting in serious injury or death.

FTS makes every effort to ensure suspension product compatibility with all vehicles listed in the catalog, but due to unknown auto manufacturers production changes and/or inconsistencies by the auto manufacturer,

FTS cannot be responsible for 100% compatibility, including the fitment of tire and wheel sizes listed. The Tire and Wheel sizes listed in FTS's catalog are only a guideline for street driving with noted fender trimming. FTS is not responsible for damages to the vehicle's body or tires.

FTS's obligation under this warranty is limited to the repair or replacement, at FTS option, of the defective product only. All costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty. FTS is not responsible for damages and/or warranty of other vehicle parts related or non related to the installed FTS product. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by FTS.

FTS suspension components must be installed as a complete system including shocks as shown on our current website. All warranties will become void if FTS parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket suspension parts may cause premature wear and/or product failure resulting in an accident causing injury or death. FTS does not warrant products not manufactured by FTS.

Installation of FTS product may void the vehicles factory warranty; it is the consumer's responsibility to check with their local vehicle's dealer for warranty disposition before the installation of the product. It is the responsibility of the distributor and/or the retailer to review all warranties and warnings of FTS products with the consumer prior to purchase.

FTS reserves the right to supercede, discontinue, change the design, finish, part number and, or application of parts when deemed necessary without written notice. FTS is not responsible for misprints or typographical errors within the catalog or price sheet.

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