

85303



2003-2010 HUMMER H2 / SUT 4WD 8 LUG 12" BASIC KIT

BOX 1

- 1) Rear cross member
- 1) Driver differential drop
- 1) Passenger differential drop
- 2) Torsion bar drops
- 2) Torsion bar L brackets
- 1) Steering center link 21"
- 2) Offset u brackets
- 2) Standard u brackets

Box 2

- 1) Front cross member
- 1) Front lower cross member
- 1) Right upper a arm drop
- 1) Left upper a arm drop
- 2) Compression struts 32"

Box 3

- 1) Hardware pack
- 8) Compression strut bushings
- 4) Compression strut sleeves
- 1) Third idler
- 8) Alignment cams
- 2) Tie rod couplers 16"
- 2) Inner tie rods T520
- 2) Outer tie rods T530
- 2) Right hand jam nuts
- 2) Left hand jam nuts

Rear Box Kit

- 2) Coil Spacers
- 2) Upper Trailing Arm Drop
- 2) Lower Trailing Arm Drops
- 1) Track Bar Bracket
- 2) Sway Bar End Links
- 1) Track Bar Support
- 1) Hardware Pack



FRONT SUSPENSION INSTRUCTIONS

1) Disconnect the negative terminal on the battery. With the vehicle on level ground and the emergency brake set, block the rear tires. 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) If there are factory skid plates installed, remove them.

3) Measure the torsion bar adjusting screw depth and record this dimension for use when replacing the torsion adjuster arm on reassembly. Remove the torsion bar adjusting screw. Apply a small amount of lubricating grease to the puller (See note above) threads and the puller shaft-to-adjuster arm contact point. Load the puller and torsion adjuster arm until the adjuster nut can be easily removed from the cross member. Back the puller off to unload the torsion bar and set the puller aside. With the bar unloaded, slide it forward into the lower control arm until the adjuster arm falls free. If the bar seems stuck, use a Hammer and punch through the hole in the rear of the cross member to dislodge it. Repeat this procedure on the other side of the vehicle.

Mark the orientation of both torsion bars (i.e., left side, right side, and front). They must be reinstalled exactly as removed!

4) Remove the torsion bar cross member . Retain the hardware for reinstallation. Remove the torsion bar cross member by removing the through bolts on each side of the vehicle. With the cross member out of the way, the torsion bars can be pulled from the lower control arms and removed. Save these nuts and bolts for re-use on reassembly. Do not attempt to unload or remove torsion bars without the proper torsion bar tool. Torsion Bars are under extreme spring load.

Steps 5 through 14 are performed one side at a time:

5) Disconnect the ABS sensor wire and secure it out of the way to prevent damage to the wiring or connector ends.

6) Remove the brake caliper assembly from the rotor and secure it away from the work area.

7) Remove the 6 bolts that attach the CV axle to the differential. Save these for reassembly

8) Remove the nut on the tie rods; disconnect the tie rod ends from the steering knuckle by striking the knuckle to dislodge the tie rod end.

9) Remove the sway bar end link that connect the sway bar to the lower a arms , Save this hardware for reassembly

10) Remove the shock absorber mounting bolts from the lower A-arm. Save this hardware for reassembly

11) Remove the upper shock nuts and remove the stock shock absorbers. Discard these parts.

12) Remove the upper and lower A-arm pivot nuts. Save this hardware for reuse on reassembly.

13) Remove the wheel stud clips and discard. Remove bearing cover, 36mm axle nut, washer, and rotor with hub bearing. **(DO NOT REMOVE THE HUB FROM THE ROTOR)**. Retain parts and hardware for reinstallation.

14) Support the A-arm assembly and carefully remove the pivot bolts. Lower the assembly to the floor and set aside. This assembly is relatively heavy and not a rigid assembly. Be very careful when removing. Save the pivot bolts for reuse.

15) Detach the front drive shaft from the differential yoke and secure it out of the way. Disconnect the electronic sensor and vent line from the differential and secure them out of the way.

16) Remove the factory bump. Save bump stops for reassembly

17) Remove drag link from the pitman arm and idler arm. It may be easier to remove the Idler arm from the frame with the drag link. Set this assembly aside. Save the nuts for reuse.

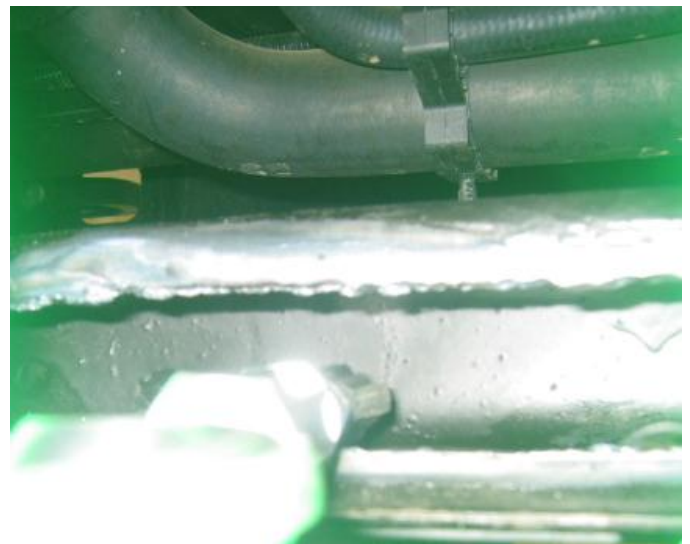
18) Remove the front differential lower mounting bolt. Save this nut and bolt for reuse.

19) Remove the passenger side differential mounting bolts. Save this hardware for reuse.

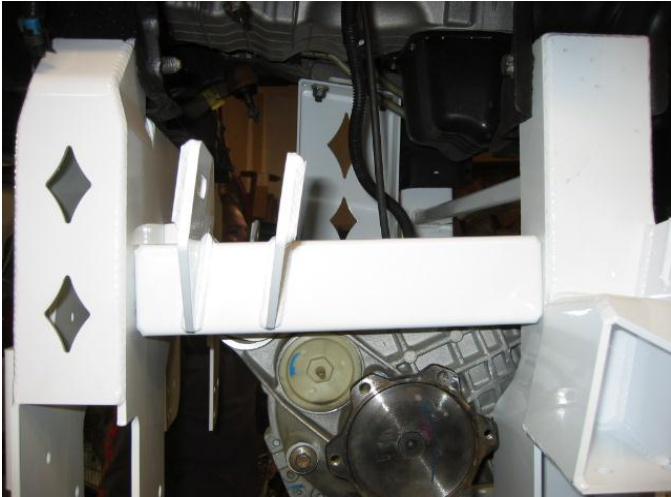
20) Remove the differential cross member and discard this hardware.

21) While supporting the differential, remove the upper mount bolt and carefully lower the differential to the ground. Retain this nut and bolt for reuse on reassembly.

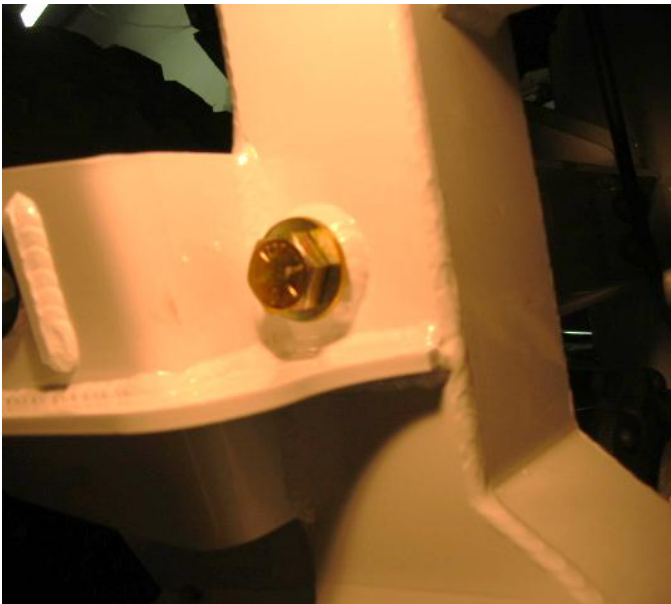
22) ATT: ON 1500HD 2500HD AND 3500HD YOU MUST CUT FOR CLEARANCE FOR YOUR THIRD IDLER AS SHOWN IN THE PIC BELOW:



23) Hang rear lower cross member into place using factory hardware.



24) Install the upper a arm drop bracket to the rear cross member using the 5/8 x 6" bolts and hardware.



25) Install the factory bump stops into the holes on both sides of the rear lower control arm cross member

26) Install the drive differential drop into place with concave part toward the front of the vehicle

27) Position passenger differential drop into place.

28) Clearance the fins on the left side of the differential housing at the area where it will be closest to the inside of the rear lower control arm drop bracket.

29) Carefully raise the differential into position using transmission jack, (this is a two man job). Attach differential at mounting ears and flanges using supplied hardware, DO NOT tighten at this time. Use two 5/8" x 2" bolts for the right side, and 9/16 x 4" bolt for the left side

30) After starting the bolts enough to support the differential, check the clearance between the left side of the housing and the inside of the drop bracket as shown below right. If you cannot see daylight between them or approximately 3/16" clearance, remove differential and repeat the clearance process as in step 26 until it fits with adequate clearance.

31) After ensuring adequate clearance, torque all fasteners starting with the larger rear cross member bolts (rear lower control arm drop bracket), then the upper bolts for the differential drop brackets, and lastly the bolts holding the differential housing.

32) Take a few minutes to check the assembly for potential binding or rubbing, make sure the unit looks centered correctly and the horizontal sections look parallel as shown

33) Check each side axle flange relative to the adjacent bolt hole in the lift kit bracket to make sure they are comparable side for side. This can be done with a straightedge as shown in the picture below right, (sides should be within 1/8" of each other).

34) Once the unit is tightened in place, gently draw the actuator wiring and plug down from the vehicle chassis to gain enough slack to reconnect the plug, and re-clip the harness as shown

35) Once the wiring is reconnected, GENTLY pull enough slack in the rubber vent hose to reach and reconnect to the vent plug on the left side.

36) Install the front cross member into front lower control arm pockets, using factory hardware.

37) Install the FTS front lower cross member using the 7/16 x 1 1/4 bolts supplied do not tighten at this time

38) Install the upper a arm drop bracket to the rear cross member using the 5/8 x 6" bolt and hardware, attach the front of the bracket to the rear of the front cross member using the 1/2 x 1 1/2 bolts and hardware

39) Install the sway bar to the FTS front cross member using the 3/8 x 2 1/4" bolts and nuts. Maintain the **FACTORY ORIENTATION** of the sway bar.



40) Position lower control arms into drop brackets using two 5/8 x 5" and two 5/8 x 6" bolts and nuts, DO NOT TIGHTEN at this time.



41) Reinstall sway bar end links connecting lower control arms to sway bar on both sides of vehicle, and tighten the link hardware to factory spec. CAUTION: do not over-tighten sway bar links; the bushings do not need to "squeeze out" the sides, this is a common misconception.

42) Install upper control arms using cam bolts and the supplied oversized eccentric "D" washers. DO NOT TIGHTEN at this time. Optional tubular control arms available.

43) Install and torque the six CV axle flange bolts on each side to factory specification using Loctite on the threads use factory hardware.

44) Install the steering knuckle and torque ball joints to factory specs.

45) Tighten lower 5/8" arm bolts to 125 ft-lbs and the 7/16" lower cross member bolts to 55 ft lbs.

46) Reinstall the rotor and hub bearing assembly using the stock hardware and torque flange bolts to 125 ft lbs. Reinstall brake rotor and caliper. Torque caliper bracket bolts to 90 ft lbs. Install front brake lines

47) Screw on the CV axle nut and also torque to factory specs. USE LOCKTITE

48) Install supplied front brake line brackets using the 5/16 x 3/4 bolts and hardware.

49) Install supplied steering drag link onto idler arm and pitman arm using factory nuts as shown. TIGHTEN nuts to factory specification. Install the FTS supplied 3rd idler kit to the front cross member using the 5/8 x 3 hardware and the 5/8 x 2 1/2" bolt to the steering drop, Do not tighten you will need to make sure there is no binding when steering left to right.

50) If installing dual front shock kit, install lower shock mount brackets around factory upper control arm. NOTE: The UPPER HALF of the LOWER shock mount bracket can be positioned by bolting into place using the factory brake line retaining bolts that thread into the upper control arm. Once the upper half is positioned by the OE bolts, through-bolt the lower half to the upper half using 1/2" x 2-1/2" bolts and nuts.

51) (Dual Shocks ONLY). Next install the shock hoops as shown below using 1/2" x 4 1/2" bolts & nuts, first through the frame and then a 5/8" x 2 1/2" to mount the upper support bracket to the stock upper shock mount as shown below. Mount the shock absorbers using 1/2" x 7" bolts and nuts, first through the top mounts, then through the bottom bracket.

52) Carefully bend and locate brake line and ABS wiring to create enough slack to remount to existing connection points along the upper control arm.

53) Using factory hardware, reconnect all ABS and brake line retaining brackets to existing mounting points on upper control arm and spindle.

IF VEHICLE HAS AUTOTRAC

54) Remove rubber boot from the front output shaft of transfer case and slide new CV style driveline onto output shaft splines. WARNING: replacement Cardan "CV" style driveshaft MUST be used if the vehicle has an "AUTO 4WD" button on the dash, and an NP-246 transfer case.

55) Reattach front of drive driveshaft to front differential with factory hardware and tighten. Use "Blue" Loctite on front drive shaft bolts.



56) Center up the eccentric alignment washers within the range of the upper control arm drop brackets, then tighten the nuts as shown. NOTE: the alignment shop will likely change the position after final assembly, this is just a preliminary setting.

57) Tighten the front lower cross member to 55 ft lbs

58) Install the FTS torsion bar drops directly below the factory one in the frame. Hold the torsion bar drop 1 bracket below the frame and mark the 2 hole with a scribe it pick.



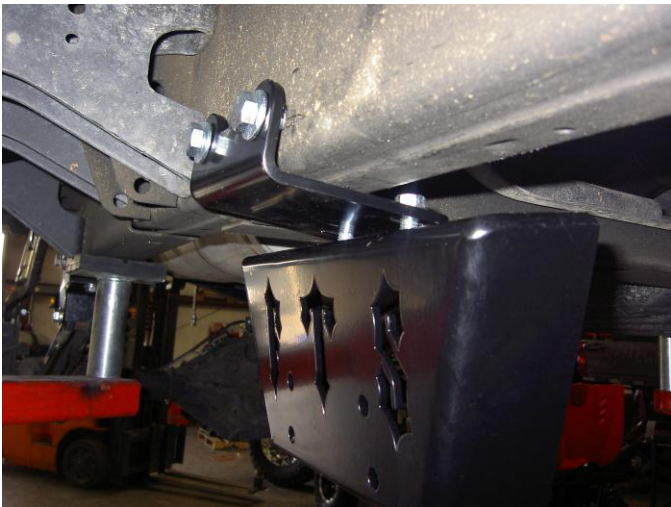
62) Slide torsion bars through the socket holes in the lower control arms, then slide them back through the front holes in the cross member and engage them into the “pork chop” keyway as shown. **WARNING!:** Install the torsion bars the exact same as their factory original orientation, keeping them the consistent end-for-end and side-for-side. **NOTICE:** if using the extra lift leveling keyways, install them instead of the factory keyways at this time.

63) Using suitable tool, load torsion bars and reinstall and set the torsion bar adjusting bolts. Start with the original bolt setting, and then make minor adjustments to fine tune the vehicle’s front ride height.

If you purchased Heim’s Joint Steering skip steps 64-68

**SEE HEIMS JOINT STEERING INSTRUCTIONS
PART#85443**

59) Drill the previous marked holes with ½” drill bit, **BECAREFULL** not to drill into the hard line on the frame



64) Unless tie rod assemblies were shipped as complete units, they must be assembled, (if already assembled, skip to the next step). Otherwise thread left and right hand thread jamb nuts onto their appropriate tie rod ends. Coat the tie rod **ANTI-SEIZE**. Engage tie rod ends into left and right hand threaded ends of adjusting sleeves and run each end in approximately 1-1/4”. **DO NOT FORCE TIE ROD ENDS** if they do not thread in easily, then they are cross threaded; this may occur if attempting to engage the tie rod ends into the wrong threaded end of the adjusting sleeve. If threads become galled or damaged from forcing, tie rod assembly might become loose and unsafe to use.

65) Install inner tie rod ends through the tapered holes in the steering drag link (steering bar) from **FRONT TO BACK** with the nuts on the back side of steering drag link plate . Install outer tie rod ends through knuckles from top to bottom and torque all tie rod end nuts to factory specification. Insert cotter pins.



66) Adjust toe-in to center the steering knuckles by turning the adjusting sleeves. Tighten the jamb nuts when an adequate temporary toe-in is achieved.

67) The front lift is now complete. Double-check **ALL** fasteners and cycle the steering all the way left and right to make sure there is no binding or physical contact between parts. Turn both front hubs to make sure no binding exists within the CV axles. The hubs should rotate freely with **NO BINDING** with the suspension at full droop and the torsion bars tight (as shown below). If CV axle bind exists, the droop stops can be adjusted – wait until after the truck is aligned at a qualified alignment shop before attempting to adjust the droop stops, binding may sometimes be caused by the preliminary alignment condition.

60) Mount the torsion bar drops with the 7/16 x 1 ¼ bolts and hardware supplied, **DO NOT** tighten at this time

61) Install torsion bar cross member to the FTS torsion bar drops with the large holes **FACING FORWARD** using factory hardware . Once the torsion bar cross member is in place, all hardware may be torque to specification

68) Make sure that the flexible brake hose has adequate slack and is not pulled tight with rear lift installed and rear axle hanging in the air. Recheck all fasteners and make sure all hardware is torqued. Torque lower control arm nuts after placing vehicle on the ground.

69) Install wheels and place vehicle on the ground. **CHECK**

ALL FLEXIBLE BRAKE LINES making sure they are clear of moving parts when the suspension cycles up and down. Make preliminary adjustments to camber and toe-in as needed to get front wheels visually straight. Recheck all fasteners and components again to make sure everything is tight. REMEMBER TO TORQUE THE LUG NUTS. Reconnect battery.

REAR SUV SUSPENSION INSTRUCTIONS:

1.) Jack up the rear end of the vehicle and support the frame rails with jack stands. Supporting the rear differential, remove and discard the rear shocks, u bolts and blocks. Disconnect the brake line bracket at the differential and save the hardware. Remove the ABS line clip from the top of the frame and at the axle. Remove the e-brake cable bracket on the driver's side of the frame and save the hardware. Lower axle down slowly. Use care not to over extend the brake hose.

2.) Disconnect the sway bar end links from the frame and sway bar; discard the end links, save the hardware. Remove the

Bolt securing the brake line support tab to the differential housing and save. Remove the ABS wiring from the frame mounts on both sides. Save all the hardware.

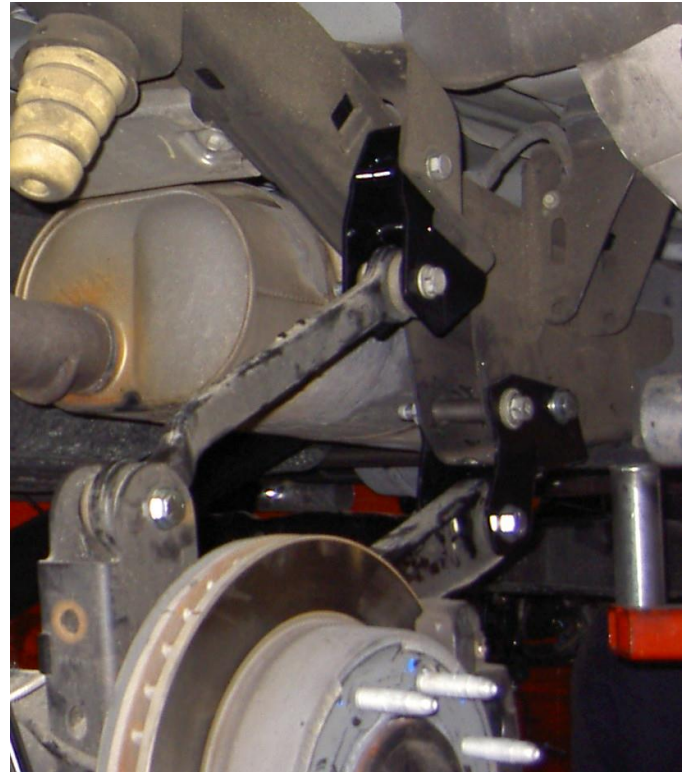
3) Using a floor jack, raise the differential just enough to slightly compress the rear shocks. Remove the bolts securing the top of the shocks to the frame (if equipped with the Auto Ride System, unplug the electric and air line connections). Remove the lower pivot bolt that attaches the track bar to the axle bracket and save.

4) Lower the floor jack to release the coil springs. Remove the coil springs from the vehicle and save the rubber upper and lower coil insulators.

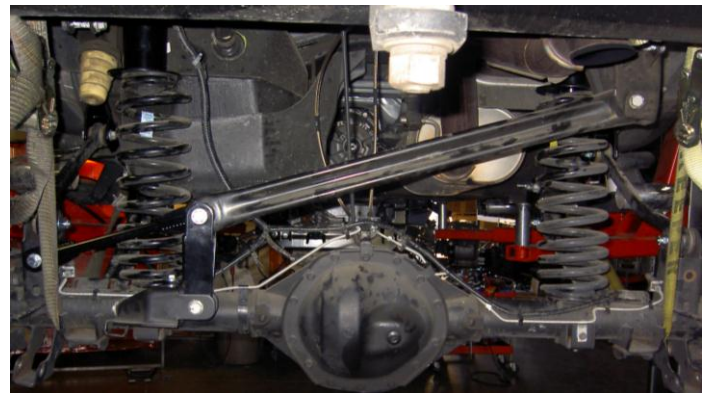
5) Install the rear coil spacer to the frame using the $\frac{1}{2}$ " x $1\frac{1}{4}$ " hardware.



6) Install upper and lower trailing arm drop brackets as show



7) Position the trac bar bracket into the factory mount on the axle and install with the factory bolt and hardware. Leave loose. Using a drill with a $\frac{1}{2}$ " bit, drill the holes in the factory track bar mount that lines up with the hole in the track bar bracket. Install the $\frac{1}{2}$ " x $1\frac{1}{2}$ " hardware. Insert the $\frac{9}{16}$ " x $3\frac{1}{2}$ " bolt into the trac bar bracket. Torque the $\frac{9}{16}$ " hardware to 95 ft-lbs and the $\frac{1}{2}$ " hardware to 70 ft-lbs.



8) Place a floor jack under the rear axle. Set the upper coil insulator on top of the coil spring and position the top of the coil into the frame pocket. Push the bottom of the coil spring onto the axle pad and raise the floor jack under the axle to hold the coil spring in position. Repeat this with the opposite coil spring.

USE CAUTION WHEN WORKING WITH COIL SPRING COMPRESSORS, THEY CAN BE UNDER EXTREME LOAD

9) Install lower shock bracket as show in picture below using 9/16" x 3 1/2" hardware

10) Connect the top sway bar end link using the factory hardware and the bottom of the sway bar end link onto the sway bar using the supplied 1/2" x 3 bolts, 1/2" flat washers and nylock nuts. Install the brake line extension tab using the original bolt and the supplied 5/16" hardware.

11) Recheck all bolts for proper torque. Recheck brake hoses and lines for proper clearances.

12) 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 tires may require trimming of the front plastic bumper valance.

13) Check front end alignment and set to factory specifications. Re-adjust headlights.

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.

Reservoir 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, powder coating, 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 manufacturer's 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.

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Thank You for choosing Full Throttle Suspension

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