



1511 Hancel Parkway Mooresville, IN 46158 317-837-2444

## Long Bar Traction System 1997-2004 F-150 (2WD)/1999-'04 Lightning & Harley Davidson (LLB-FT01)

**Get a grip and stop spinning your wheels!** Stiffeners Long Bar Traction System will get you hooked up and put the power to the ground where it belongs. Our system is designed for both street and track applications. Mounting brackets allow for six possible combinations of adjustability to help fine tune the system to your driving style or current track conditions by minimizing axle rotation (leaf spring wrap) and maximizing front end lift. Additionally, the extra strong and stiff chromoly bars are adjustable and equipped with high strength rod ends to hold up against the most demanding conditions. This system can be used alone or combined with our Stiffening System for maximum performance from your Lightning.

### Kit Includes:

- (1) Front Brkt. (Driver)
- (1) Front Brkt. (Pass.)
- (2) Rear Brackets
- (2) Long Bars
- (2) Rod End Assembly Kits
- (8) 1/2"-13x1.25" Hex Cap Screws

- (4) 1/2"-13x3.5" Hex Cap Screws
- (4) 1/2"-20x7" Hex Cap Screws
- (24) 1/2" SAE Washers
- (12) 1/2" Square Washers
- (12) 1/2"-13 Nyloc Nuts
- (2) 1/2"-20 U-Bolts
- (8) 1/2"-20 High Hex Nuts

**Required Tools:** Basic hand tools  
Drill with 1/8" & 9/16" bits  
Torque Wrench

**Install Time:** Approximately 2~3hrs.

### Installation:

- 1) Raise rear of vehicle to allow access for installation. [NOTE: It is recommended the vehicle's weight be supported by the suspension during installation. This can be accomplished by using a drive on style lift, ramps or raising the truck and positioning jackstands under axle housing between center section and shock mounts.]
- 2) Beginning with driver's side, loosen and remove inner U-bolt only (Fig.1).
- 3) On rear of axle housing locate and gently pry retaining tab up to free brake line (Fig.2).
- 4) Place supplied U-bolt over axle housing just to the outside of brake line retaining tab (Fig.5). Gently pull brake line away from housing to allow U-bolt to pass.
- 5) Using high hex nuts and SQUARE washers loosely secure axle bracket to housing. (Fig.11)
- 6) Loosely install supplied long bolts using SQUARE washers (top & bottom) and high hex nuts. (Fig.4&11)
- 7) Snug bracket into place against housing. Confirm bracket is square with leaf spring retaining plate by measuring as shown in Fig.4 at both bolt locations. Adjust bracket until dimensions are within 1/8" of each other.
- 8) Using a torque wrench, evenly tighten fasteners to 75~80 ft-lbs.





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- 9) **Optional Mounting** – Stifflers does not recommend welding the bracket to the axle housing simply because you may want to change housings or relocate the system to another truck at some point. However for those who want an extra degree of anti-rotation for the bracket we suggest welding a small piece of metal to act as a stop on the back side of the housing once the bracket location has been confirmed (Fig.5).
- 10) Gently adjust retaining tab to secure brake line into position (Fig.5)
- 11) Repeat steps 2-10 for passenger side axle bracket.
- 12) Place driver's front bracket into position and loosely secure using supplied ½"-13x1.25 bolts, washers and nyloc nuts through existing holes "A" & "B" (Fig.6). *[NOTE: If X-Brace is already installed remove bolt from shared hole "A" and loosen the four crossbar mounting bolts to allow bracket to be slid into place.]*
- 13) Push up on bracket to make sure it is snug against bottom of frame and mark location of hole "C" with a scribe. Remove bracket. Mark center of hole with punch (Fig.7).
- 14) Drill new hole starting with 1/8" and then 9/16" bit. This hole will slightly overlap smaller existing hole in frame. *[NOTE: Wiring harnesses and lines run on the backside of the frame rail just under the new hole location. Make sure these items are clear before drilling.]*
- 15) Locate existing hole "D" on bottom of frame and enlarge to 9/16" (Fig.8 – Shown through bracket)
- 16) Position bracket into place and install bolts from the outside, securing with washer and nyloc nut. Torque bolts to 70~75 fl-lbs.
- 17) Repeat Step 12 using only existing hole "A" to position bracket.
- 18) Repeat Step 13 marking holes "B", "C" and "D" and drill the holes.
- 19) Repeat Step 16 for passenger side.
- 20) Thread jam nuts completely onto rod ends then install into long bar. Leave ½" of thread showing between nut and end of bar. *[NOTE: Each bar requires one right (RH) & left (LH) hand rod end. LH thread is identified with machined groove (Fig.10).]*
- 21) Beginning with front bracket, assemble misalignment spacers onto rod end, squeeze together and insert into bracket. Insert bolt from the outside, recommended starting location is top hole (Fig.9). Torque bolt to 70~75 fl-lbs.
- 22) Repeat process for rear bracket using the bottom hole. If hole does not line-up rotate bar until correct (Fig.10) Torque bolt to 70~75 fl-lbs.
- 23) Repeat Step 21~22 for remaining side.
- 24) **BAR ADJUSTMENT** – With truck sitting at ride height, confirm jam nuts are loose. **Lengthen** bars by rotating them **by hand** until a firm resistance is felt. You have now put a small amount of preload in the system. Tighten jam nuts.
- 25) **STAND ON THE GAS!**

**NOTE: Re-torque axle bracket bolts after initial 50 miles, then periodically re-check.**



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Fig.1

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Fig.2



Fig.3

Fig.4

Square Washers

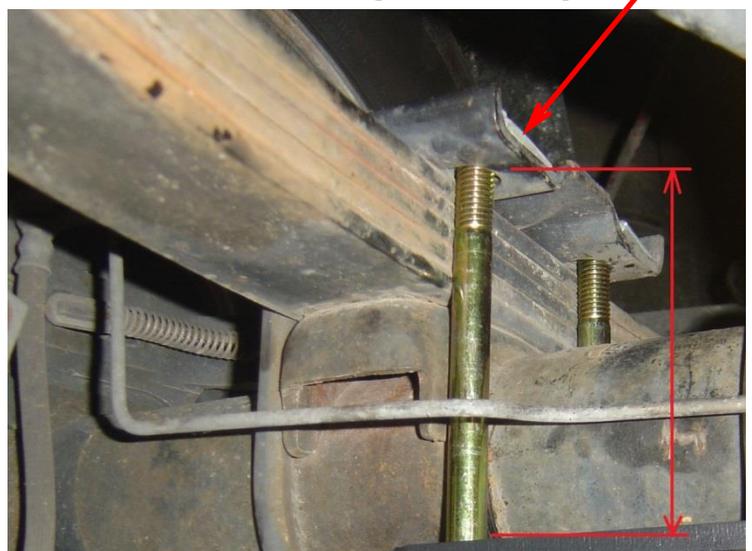


Fig.5

Fig.6

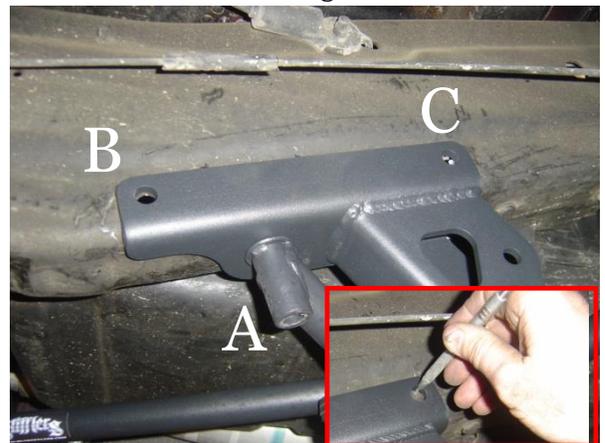
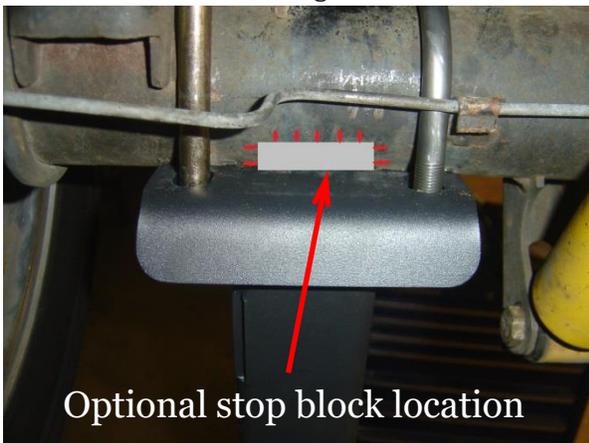


Fig.7



Fig.8

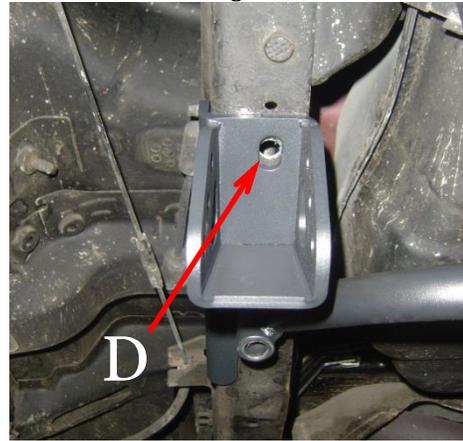


Fig.9



Fig.10

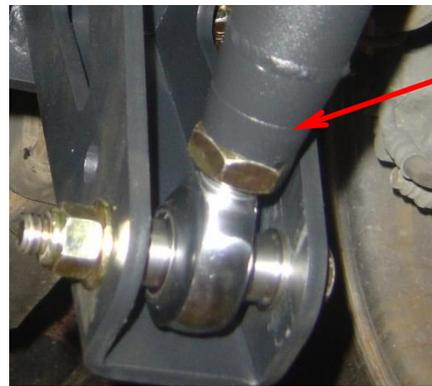


Fig.11

