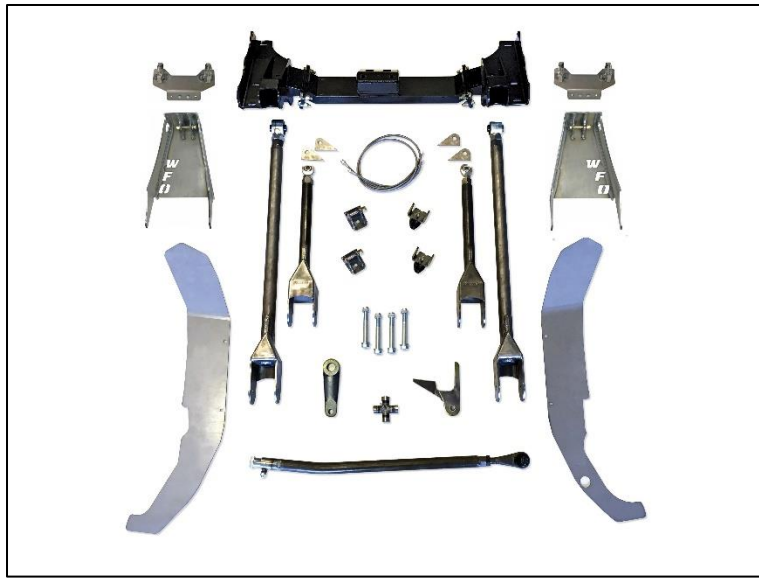




Part #	Description
WFO 9121	2000-2010 Chevy/GM HD 3" Front Lift Kit

10076 Streeter Road Suite #7, Auburn, CA 95602
 Phone: 530.268.9494 www.wfoconcepts.com

WFO 9121 – 2000-2010 Chevy/GM HD 3" Coilover Kit



BILL OF MATERIALS	
WFO DMAX-CM	3 Piece Crossmember
WFO FPC-HD-SB	Frame Plates
WFO 5410-PR	Coilover Towers
WFO 5405-KIT	Universal Coilover Reservoir Mounts
WFO 5360-KIT	Axle Side Coilover Mounts
PM536FPA-BU-6.25	Flat Piman Arm
WFO DMAX-FSD-LINKS-RADIUS ARM-KIT	Pair of Super Duty Radius Arm Links
WFO DMAX-FSD-Bolt Kit	Axle Side M18 Link Bolts
WFO DMAX-FSD-DL-3-KIT	Bent 1.5" DOM Draglink
WFO TBB-F-DMAX-3-KIT	Frame Side Track Bar Bracket
WFO DMAX-ABS-PIGTAIL-KIT	ABS Pigtails from 05-12 Ford to 00-10 Chevy/GM
WFO DMAX-BL-3-KIT	Pair of 45" long Brake Lines
WFO 1380	Front 2" Bump Stop Kit
2-1153	Front Driveline Conversion U-Joint
TOOLS NEEDED	
Full set of American & Metric sockets and wrenches	4.5" Grinder
½" Impact gun	Large Pitman Arm Puller
Floor Lift and jack stands OR Car Lift	Hammer
Plasma Cutter	Wire Snips
MIG Welder	Torque Wrench (Up to 200 Ft. Lbs.)
Tape Measure	Spray Paint (Preferably Black to match frame rails)
Torsion Key Remover Tool	1-3/8" Wrench or equivalent



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WARNING!

- *** Read all instructions thoroughly from start to finish before beginning the job! If these instructions are not properly followed, severe frame, suspension, tire, or body damage may result to the vehicle!
- *** WFO Concepts recommends that you exercise extreme caution when working under vehicles supported by jack stands.
- *** WFO Concepts recommends all installation to be performed by a professional shop/service technician. Product failure due to improper installation will not be covered under WFO's warranty policy.

TECH NOTES:

1. We recommend to have your 2005 + Superduty axle prepped and ready to go before you remove the IFS.
2. The installation of this IFS to Straight Axle kit requires major cutting, grinding and some drilling. Many of the major suspension brackets on the front half of the vehicle will need to be cut off and ground smooth. A plasma cutter or oxy-acetylene torch works best but you can also use a grinder with a cut off wheel.
3. Read the instructions before attempting IFS Removal and installation of WFO parts! You may need some additional tools that you currently do not have. This will save you a lot of extra work.
4. If you have any aftermarket performance products such as programmers or chips, you should check with the manufacturer regarding changing gears and tire size. There may be programming you need to do.
5. Secure and properly block vehicle prior to beginning the IFS removal.
6. Use caution when cutting under the vehicle. The factory undercoating, wires and your clothes are flammable! Take appropriate precautions.
7. Welding should be done by an experienced welder.
8. Before you begin, check the parts and hardware against the parts list to assure your kit is complete. Organize the parts according to the areas where they will be used and place the hardware with the components before you begin. This will save on installation time.
9. The stock wheels will not fit on the new Ford Superduty '05+ Axle due to lug pattern. 00-10 Chevy/GM pattern is 8x6.5". The 05-12 Ford Axle is 8x170mm. Your unit bearings can be drilled out to the correct pattern or WFO can sell you new pre drilled unit bearings. You need 4.25 back spaced wheels
10. WFO Concepts implies no guarantees or warranties and is not liable for improper installations.

REMOVE YOUR IFS (DEPENDENT FRONT SUSPENSION):

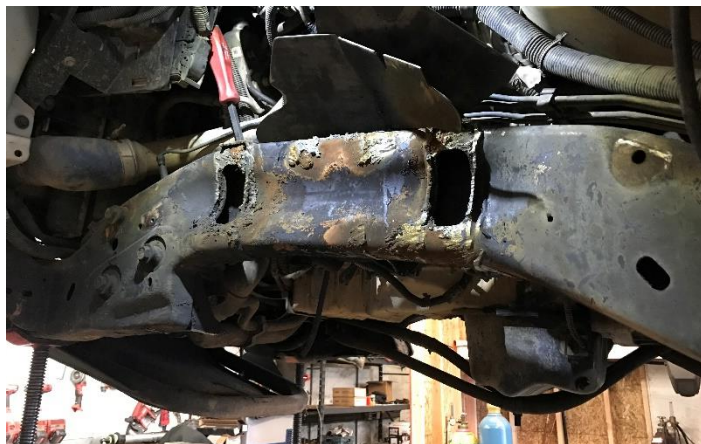
Note: Our instructions on removal of the IFS are generic and vague due to the variations of stock vs lifted IFS vehicles.

1. Pull truck onto a flat surface and make sure your steering wheel is straight and remove the key. You want the steering wheel to remain straight so the clock spring does not get damaged.
2. Disconnect the positive and negative battery cables.
3. Lift the front of the truck and support with jack stands under the frame rails. We recommend a jack stand by the first most forward body mount near the radiator and then again directly behind the body mount that is under the front doors.
4. Remove both front wheels.
5. Drain the fluid from the front IFS differential carrier assembly.
6. Remove the 4wd actuator from the front diff with a 1-13/16" wrench. Set aside and save! You will reinstall it later so warning lights won't come on your dash.
7. Remove the front two inner plastic fender wells. Set them aside, you will reinstall them at the end.
8. Use a torsion key remover tool, remove the key hold down pins. You can rent this tool from your local auto parts store or purchase one. Pound with a sledge hammer and punch torsion bars forward from the back side, out of the torsion key crossmember.
9. Remove torsion bars by pulling them towards the back of truck out of the control arms.
10. Up front, disconnect the ABS speed sensor wire from the connector at the top of the frame near the Upper IFS Arm.
11. Disconnect the front OEM brake lines from the hard line at the frame, and **IMMEDIATELY** cap the hard line with the provided 5/16 vacuum caps (in with the new WFO Brake Lines) to prevent fluid from draining out and taking in air. If you do not cap the lines and the fluid drains completely out of the system, you will need to take your truck a dealership or professional mechanic to cycle your ABS system with a programmer to bleed the ABS.
12. Start by removing items such as front driveline, sway bar, shocks and steering components.
13. Make sure you have the bottom of the IFS supported with a floor jack before unbolting. Then start from the top down, remove bolts from frame side attachment points first and work your way down leaving hubs and shafts still assembled. Remove sway bar completely and set aside for later. Remove drag link end from pitman arm and idler arm but keeping it attached to the knuckles.
14. On the passenger side, you will need to cut the two studs that are holding the front differential bracket onto the frame in order to remove the bracket.
15. After all hardware is removed, use pry bars and hammers to knock the IFS components free and away from the truck. Lower with caution watching for any brake lines, ABS wires, 4wd harness, diff breather tube, etc. to get caught.



CUT OFF IFS BRACKETS:

16. Using a plasma cutter, oxygen/acetylene torches, or grinder with a cutoff wheel, start removing the old IFS brackets.
17. You will want to remove items such as; upper shock mount, upper A-arm mount pivot tabs, front crossmember that held the lower A-arm pivots, bump stop brackets, and rear lower A-arm pivots brackets.



18. Remove as much as possible and grind clean in preparation for frame plates. * Note the front crossmember in the picture below, you need to remove only the lower half of the crossmember. Especially if you are going to be running a sway bar, this mount needs to stay intact. *



19. Completely grind clean and prep frame rail everywhere a weld will be. The prep is crucial! The better the prep you do now the better the weld will be, so take your time!

INSTALL FRAME PLATES:

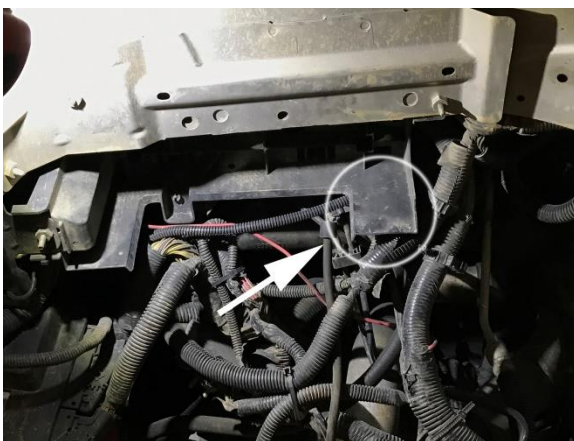
20. After frame is completely free of brackets and all edges are prepped for welding you can mock up each side frame plate. The Driverside will center around the upper steering box hole. We suggest clamping it tightly against the frame in a few areas down the frame rail.
21. Once tight with clamps, and the tops of the frame plates are parallel with top of the frame, tack it every 6" or so fully around the plate.



22. Start on Driver or Passengerside and weld small 6" stretch areas. Make sure to jump from Driverside to Passengerside as well as front and rear of the frame plate. As to not concentrate the welding area and have a possibility to warp the frame.
23. Do Not weld the 2 small squares in the tops of the frame plate. These are there to locate your shock towers.
24. Let the frame plates cool down. Proceed to wire wheel or grind any rough areas.

INSTALL SHOCK TOWERS:

25. The shock towers are side specific. On the backside of the towers, you will see a part number. The last letter will be a "D" for Driver Side or a "P" for Passenger Side to help you determine which side they get welded to.
26. Make sure to push any wires or hoses out of the way.
27. **NOTE:** On some models, on the driver side you may need to trim the plastic piece hanging down from the engine compartment. Otherwise, it will interfere with the top of the shock tower.



28. Use the two tabs that are on the back, lower side of the shock tower legs to locate them into the square holes that are on the top portion of the frame plates. The shock towers will slightly lean back towards the cab of the truck.
1. The vertical WFO cut out will be positioned to backside of the tower when looking at either side.
 2. The legs and bottom of the tower need to sit flush to the frame plate and top of frame rail.
 3. Once the towers are flush, tack them in place. Do NOT weld them on yet!



29. Before you completely weld the shock towers in place, you will need to locate the trackbar bracket on the driver side frame.
1. The trackbar bracket will be placed outside the front of the driver side shock tower. The inner wing will land on the front part of the old IFS mount on the inside of the frame. Tack in place.



30. Once you are satisfied with the trackbar bracket placement. You need to weld the shock towers and trackbar bracket in place.

31. Locate the WFO 1380 Bump Stop Brackets. Look at the following phot for placement. Approximately 4.25" from the back rib of the coilover tower is where they will be located.



32. At this point all welding is done on the frame and you can now prep all your welds with a wire wheel to get rid of any slag and final paint.

INSTALL CROSSMEMBER:

33. Refer to the instructions that are provided in the crossmember box containing the center section.

*** Install time is approximately 1 Hour for the crossmember section. This would also be a good time to install the WFO TCCR-KIT if you are going to clock your transfer case down for better driveline angles ***



INSTALL AXLE:

34. Before placing axle under vehicle, make sure you followed the axle prep instructions provided in this kit.
35. Place axle under vehicle roughly centered from left to right and directly under the shock towers.
36. Mock up the Lower and Upper links.
1. Upper link will measure approximately 25.25"
 2. Lower link will measure approximately 43"
37. Using the supplied axle link mount M18 hardware start with the lower link, making sure the cap of the clevis is facing down. Then slip the Duroflex joint up into the previously installed Crossmember using the provided Grade 8 - 5/8" hardware.
38. Repeat for the upper link, making sure the cap of the clevis now faces up. Leave all hardware loose at this time. **During final install the torque will be 250 ft-bs. Caster should be around 3*-5***



39. If you purchased the optional Steering Box Brace (WFO DMAX-SBB-KIT) it is now a good time to install that. Refer to the instructions that are provided with that kit.
40. Install supplied PM536FPA-BU-6.25 pitman arm. Make sure your steering wheel is still straight and the box is still aligned. If not, your alignment will be off and will be unsafe to drive. Torque Pitman Arm nut to 185 Ft. Lbs.
41. This 3" kit utilizes the factory track bar. Install to factory specs on the axle side ball joint and use the provided M20 bolt. **Final torque will be 420 ft-lbs.**
42. Install the provided draglink, WFO DMAX-FSD-DL-3-KIT. This draglink utilizes the factory draglink end on the axle. Thread the draglink double nut adjuster onto the factory end and leave about $\frac{1}{2}$ " of thread showing on both ends. The pinch bolt will be orientated in the vertical position. The final length will approximately be 41.25" end to end.



43. At this point it's a good idea to mock in your coilovers for final fitment. Be sure to remove the springs off of the coilover before mocking up on the vehicle. Pay close attention on how they came apart and the orientation of springs and spring sliders. Mock up with provided $\frac{1}{2}$ " G8 bolts.
44. With the vehicle still supported by jack stands under the frame, use a floor jack to cycle the suspension from full bump to full droop and check to see if there are any issues.
45. It's a good idea to mock up your wheel and tire package to check for fender and bumper interference especially near full bump. It's a good time to trim if needed.

46. Make any final adjustments needed. Finally pull all components that still need paint or powder coat. Make sure to note the dimensions before teardown.
47. Paint or powder coat all bare metal pieces and re assemble to your previous measurements. Remember to always use anti-seize on any threaded end when reassembling to prevent thread lock up or rusting over time and will be difficult to maintenance in the future.
48. Locate the brake lines that came with the kit. You will either be given 2 different packages:
 1. WFO DMAX-BL-3-KIT - Chevy/GM trucks from 2000-2007 are standard brake fittings
 2. WFO DMAX-BL-3M-KIT - Chevy/GM trucks from 2007-2010 are metric brake fittings
49. If the frame is painted, it's a good idea to grab a bunch of rags to put between the truck side fitting and the frame to prevent the brake fluid running down and peeling your fresh paint away. Install the larger side adapter on the truck side line and route the brake line behind the shock tower and down the back side. Quickly attach it the caliper with provided banjo and banjo bolt hardware.

ABS SYSTEM:

The ABS system can get tricky. There are a few different setups that can be ran:

There are two kinds of ABS sensors types, Active and Passive:

Active sensors receive a small voltage signal from the ABS module to read the tone rings in the hubs.

Passive sensors don't receive any voltage. Passive sensor creates an AC signal by the way of magnets that changes frequency as the wheel changes speed. The ABS control module converts this AC signal to a digital signal.

GM utilized **Passive** ABS sensors from 2000 to 2007-1/2. GM trucks 2007-1/2 and newer incorporated **Active** ABS sensors. The 2005+ Ford axles are all equipped with **Active** sensors only. Therefore, GM trucks 2000 to 2007-1/2 **will require** factory GM sensors to be installed into the Ford axles. GM trucks that are 2007-1/2 or newer, will require the use of factory Ford ABS sensors.

You cannot use an Active sensor in a Passive environment. Meaning if you install a newer Active sensor into a 2000-2007-1/2 truck, the sensor is looking for a small voltage input but the truck is trying to receive a magnetic frequency, running this setup will throw the ABS light on your dash.

2000-2007.5 year trucks, we've noticed that the wires coming out of the sensors either come out 90* or 45*. The 45* sensors will not work, they will rub the inner lip of the rotor and become faulty very quick. We have found purchasing new AC Delco # 19300584 from your local auto parts store will solve all your issues. This is a factory passive sensor with the correct Weather Pack connector on the other side. On larger lifts you will more than likely need Part # WFO DMAX-ABS-C2C-PIGTAIL-KIT, which is just an extension from your axle sensor to the truck side harness.

2007.5-2010 year trucks can run the factory 2005+ F-250 speed sensor. You will need part # WFO DMAX-ABS-PIGTAIL-KIT. Which converts the round style Delphi connector on the axle to the flat style Weather Pack connector on the frame.

Lastly, modifications such as bigger tire size and/or ring and pinion changes on GM trucks from 2000 to 2007-1/2 will need to have the ECM/BCM re-calibrated to fix the speedometer. The ABS system for the 2000 to 2007-1/2 trucks work off of 3 different sensors.

There is 1 **passive** ABS sensor in each front wheel hub. The ECM then reads input from the VSS (Vehicle Speed Sensor) off of the transmission. There are no sensors for the rear axle. In 2007-1/2 and newer trucks they went away from the VSS and added 2 more ABS sensors in the rear wheel hubs.

50. Once you have figured out the ABS wires to run, run them up your brake line and zip tie them together.

FINAL:

51. You will need to trim your previously removed inner fenders. Carefully tuck the fender back in the vehicle behind the shock tower and trace it with a paint pen or silver sharpie. Remove and trim with either a sharp box cutter or air powered body saw. Clean up the edges and re install with all the factory hardware.

52. Before re installing your coilovers, install WFO 5405-KIT, Universal Coilover Reservoir Mounts, onto your shock towers with supplied hardware. The tabs will stick down. In some cases, if the coilover you purchased has a straight fitting for the hose reservoir instead of a 90* then you will have to bend the WFO 5405 bracket up for it to clear.



53. Locate the Driveline Conversion U-joint part #2-1153. Either take this to a qualified driveline shop to swap out or you can attempt it yourself. The factory Chevy/GM u-joints are imbedded with plastic instead of a retaining clip. In order to remove the u-joint you must heat the cap up with a torch. You can see in the following picture, once hot enough, it squeezes out the small side holes. Once removed, clean thoroughly and install the new u-joint



54. Once all suspension components are installed, double check your alignment and that the axle is under the vehicle as square as you can. **We always recommend going to alignment shop after the initial test drive.** Tighten all hardware, check that all jam nuts are properly seated, all wires and brake lines are ran so they don't rub the tires or get pinched in the coilover, brakes are bled, and tires are torqued, all to factory specs.
55. Go for a test drive and check and/or re torque after 500 miles.



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