

# INSTALLATION INSTRUCTION

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**Part #SAS003**

## Notice to Dealer / Consumer

**Important! Read all instructions before attempting any work on the vehicle.**

**Disclaimer Notice:** Installing this suspension system on any vehicle implies that you are in agreement with the following term and conditions with respect to that vehicle, the vehicle owner, and any or all occupants of said vehicle at any time:

- Off-Road Direct is not responsible, and cannot be held responsible for any conditions of said vehicle including, but not limited to the following: 1) Any and all adverse behavior, premature failure, or breakage caused by oversized tires and wheels, improper installation, failure to follow instructions, or any general negligence caused by installer or owner of said vehicle. 2) Any breakage or premature failure caused by racing or driver negligence. 3) Any incident determined to be caused by an increase height in said vehicle's center of gravity. 4) Any incident determined to be caused by improper installation. 5) Any incident determined to be caused by a failure of materials.
- Off-Road Direct is to be held harmless by the installer of this suspension component, owner of said vehicle, and any parties related directly or indirectly to said vehicle or owner of said vehicle. Off-Road Direct is to be held harmless by all parties mentioned during the course of any and all circumstances or incidence resulting from the installation of this suspension component.
- It is not the intention of Off-Road Direct that said vehicle be modified for use on public highways sanctioned by the Department of Transportation, or any state or local governing body. Vehicle owner accepts sole responsibility for ensuring that said vehicle is not in violation of local, state, or federal laws or vehicle code. Please check local vehicle laws and regulations before modifying your vehicle.

**By installing this kit or having this kit installed on your vehicle, you are implying that you agree to the above terms and conditions. Please do not install this system if you do not agree.**

### **WARNING:**

Vehicle modified for Off-road use may handle differently and vehicle may roll-over.

Vehicles modified for off-road are generally not designed to improve cornering or maneuverability on the highway, therefore it is imperative to familiarize yourself and all operators of the vehicle of the special driving characteristics of the vehicle. Failure to operate vehicle in a safe and conservative manner may cause you, your passengers and third parties to suffer serious injury or even death if control is lost and vehicle overturns.

Always wear your seatbelt and shoulder harness. Seatbelts not only help to protect occupants from injury but also keep the driver behind the wheel and in control when operating in rough terrain. Always remain on trails and observe conservation techniques while operating your vehicle.

**Straight Axle Conversion Kit – SAS003  
Bill of Materials**

<b>Part #</b>	<b>Qty</b>	<b>Description</b>
SAS003-1	1	Drivers side front hanger
SAS003-2	1	Passengers side front hanger
SAS003-3	1	Drivers side rear hanger
SAS003-4	1	Passengers side rear hanger
SAS003-5	1	Drivers side dual shock hoops
SAS003-6	1	Passengers side dual shock hoops
SAS003-7	2	Spring U-bolt plates
SAS003-8	2	HD ORD shackles
SAS003H	1	Hardware Pack

<b>Hardware Pack</b>	
2	½" x 5" hex bolts
12	½" x 2" hex bolts
6	½" x 1.25" hex bolts
22	½" locknuts
24	½" washers
2	9/16" x 4.5" hex bolts
2	9/16" locknuts
2	M16 x 120 hex bolts
2	M18 x 120 hex bolts

<b>Grade 8 nut torque specifications</b>			
<b>Standard</b>		<b>Metric</b>	
5/16" nuts	20 ft. lbs.	M6	9 ft. lbs.
3/8" nuts	35 ft. lbs.	M8	23 ft. lbs.
7/16" nuts	60 ft. lbs.	M10	45 ft. lbs.
½" nuts	90 ft. lbs.	M12	75 ft. lbs.
9/16" nuts	160 ft. lbs.	M14	120 ft. lbs.
5/8" nuts	175 ft. lbs.	M16	165 ft. lbs.

**INSTALLATION NOTES:**

- **Kit is designed to use the 99-04 Ford Superduty front springs.**
- Inspect the contents of the kit and read the entire instructions before proceeding.
- We recommend this installation be performed by a qualified technician
- Torque all hardware to factory specifications
- We recommend using red Loctite on all bolts
- When removing wheels, support vehicle with jack stands
- Use only factory approved fluids

1. Block the rear wheels, raise the front end of the vehicle and support the frame with jack stands behind the front wheels.
2. Remove all front suspension components including, brake calipers, rubber brake lines, steering assembly, sway bar (retain sway bar brackets), shocks and front drive shaft. Remove upper and lower A-arms and front differential (refer to the service manual for a more complete description of suspension component removal). Remove front tow hooks. Leave steering box attached.
3. Locate the passenger and drivers side rear lower control-arm mounting bracket. Using a die grinder or plasma cutter, cut off lower portion of factory bracket flush with bottom of frame and grind frame smooth. **DO NOT** remove factory upper control arm mounting brackets and front shock mounts as these will be used to mount the front shock hoops. **DO NOT** remove factory front cross member.
4. Remove factory front tow hooks. Locate front hanger and align with factory holes. The spring mounting hole should be towards the front of the truck.



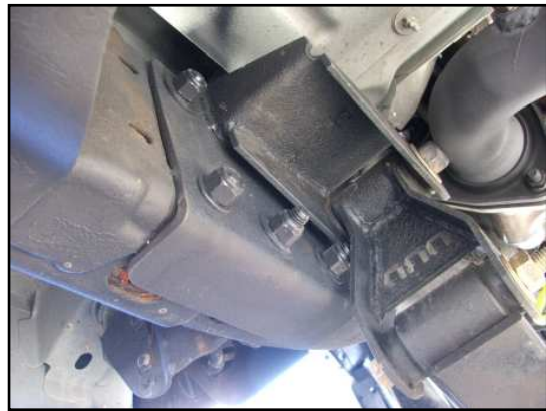
5. Insert tow hooks and secure front hangers using using the  $\frac{1}{2}$  x 5" and  $\frac{1}{2}$  x 1.25" bolts.



6. Once the Front hangers are properly mounted. Locate the passenger's side rear hanger bracket (SAS003-4) and hold it up inside the frame rail flush with the frame rail. Measure from center of front spring hanger bolt back to the rear shackle pivot bolt hole 54" and clamp in place.

7. Once the passenger's side rear hanger bracket is properly located on the frame, Drill the 1/2" mounting holes. Use caution when drilling to avoid cutting wires. Install 1/2" x 2" hex bolts and washers. Torque to specification.

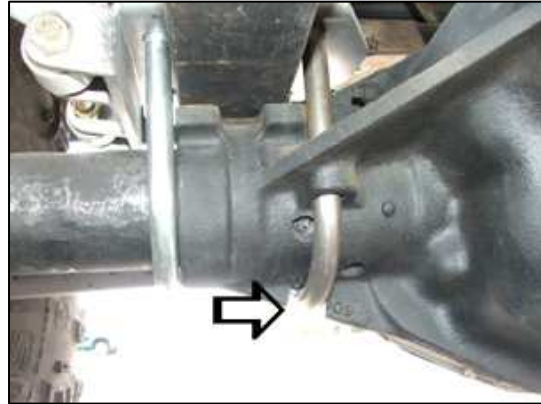
8. Repeat steps 7-8 for driver's side rear shackle bracket (SAS003-3).



9. Install rear spring shackles (SAS003-8) into the rear shackle brackets using M16 X 120mm bolt and locknut. Install new front leaf springs (NOT SUPPLIED IN KIT) into front spring hanger using M18 X 120mm bolts and nylocks.



10. Strip the front axle housing of all factory shock and sway bar mounts. On Ford Dana axles, you will need to grind a notch in the casting for the drivers side inner U-bolt to sit in. Half the depth of the U-bolt will be adequate.



11. Install front axle assembly to leaf springs using new U-bolts plates (U-bolts are not supplied in kit). Shock mounts on the spring plates should face down.



12. Slide the dual front shock hoops (SAS003-5, SAS003-6) into the factory A-arm mounts. You will need to trim part of the plastic inner fender flap for the support stringer to mount flush on top of the factory shock mount. Install shock hoop using factory A-arm bolts and  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " hex bolts and locknuts. Torque to specifications.



13. Install new front shocks (NOT SUPPLIED IN KIT) into lower shock tabs using  $\frac{1}{2}$ " x  $2\frac{1}{2}$ " bolt and locknuts. Secure upper shocks using  $\frac{1}{2}$ " x  $2\frac{1}{2}$ " bolt and locknut.



14. The use of a track bar is recommended (NOT SUPPLIED IN KIT).

15. Check and retighten u-bolts after first 100 miles.