

#9387

Installation Instructions

3" Body Lift Kit

Ford SuperDuty

READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS PRIOR TO INSTALLATION OF SYSTEM AND OPERATION OF VEHICLE.

SAFETY WARNING

BDS Suspension Co. recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/reassembly procedures and post installation checks must be known.

PRODUCT SAFETY WARNING

Certain BDS Suspension products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. BDS Suspension Co. does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

PRE-INSTALLATION NOTES

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.

4. Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
5. BDS Suspension Co. body lifts are designed to be used on vehicles in good operating condition. It is not recommended that body lifts be used on vehicles in poor physical shape. This includes rusted body mounts, damaged or worn frame-to-body mounting brackets, and poor mechanical condition. Perform a visual inspection of the vehicle before beginning installation.

POST-INSTALLATION WARNINGS

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/replacement may result in component failure. Longer replacement hoses, if needed can be purchased from a local parts supplier.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 100 miles. Always inspect fasteners and components during routine servicing.

GLOSSARY OF TERMS

DRV: Driver's Side of the Vehicle

PASS: Passenger's Side of the Vehicle

OE: Original Equipment

PARTS LIST

Part#	Qty.	Description
3396	16	3" x 3" Body Blocks
01626	4	3"x2"x2" Metal Body Spacer w/hole
01602	1	Ground Cable Relocation Bracket
01671	1	Front Bumper Bracket
01672	1	Front Bumper Bracket
01670	2	Rear Bumper Bracket
01669	1	Transfer Case Shift Extension Bracket
01611	1	1 1/2"x5" Fuel Filler Extension
01618	1	Parking Brake Bracket
01655	2	Fan Shroud Drop Bracket
01699	1	Lower Fan Shroud Bracket
01625	2	Outside Bumper Bracket
	1	3/4" x 18" Fuel Vent Hose
49096	1	Steering Extension
240	2	#10 Hose Clamp
243	2	#28 Hose Clamp
099000	2	Cable Ties
342701	1	Loctite

Qty Description

Bolt Pack 421

4	12mm x 200mm bolt grade 8.8 clear zinc
6	12mm x 180mm bolt grade 8.8 clear zinc
2	12mm x 160mm bolt grade 8.8 clear zinc
4	12mm x 140mm bolt grade 8.8 clear zinc

Bolt Pack 418

1	3/8"-24 x 1 1/4" Allen head bolt
24	1 3/4" OD 1/2" ID 3/16" Thk washer
4	1/4"-20 prevailing torque nut clear zinc
5	1/4" SAE washer clear zinc
1	5/16"-18 x 1" self-tapping bolt clear zinc
1	1/4"-20 x 1" bolt grade 5 clear zinc
2	5/16"-18 x 1 1/4" bolt grade 5 clear zinc
16	5/16" SAE washers clear zinc
8	5/16"-18 prevailing torque nut clear zinc
6	5/16"-18 x 1" bolt grade 5 clear zinc
8	12mm prevailing torque nut clear zinc

Bolt Pack 419

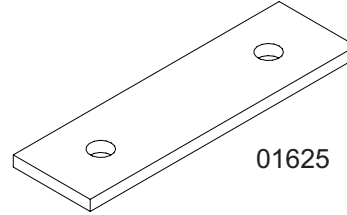
4	7/16"-14 x 1 1/2" bolt grade 5 clear zinc
10	7/16"-14 prevailing torque nut clear zinc
8	1 3/8" OD 1/2" ID 3/16" thk washer clear zinc
6	7/16"-14 x 3" bolt grade 8 clear zinc
12	7/16" USS washer clear zinc
2	3/8"-16 x 1-1/4" bolt grade 5 clear zinc
2	3/8"-16 prevailing torque nut clear zinc
4	3/8" USS washer clear zinc

Bolt Pack 420

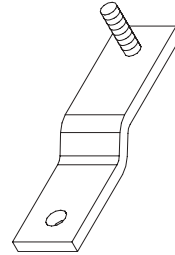
4	7/16"-14 x 1 1/2" bolt grade 5 clear zinc
4	7/16"-14 prevailing torque nut clear zinc
8	7/16" USS washer clear zinc

Fastener Max. Torque (ft-lbs)

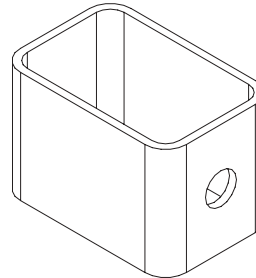
1/4"	10
5/16"	17
3/8"	30
7/16"-14	50
7/16"-20	55
1/2"-13	75
1/2" U-Bolt	65-80
9/16"	110
9/16" Grade 8	170
9/16" U-Bolt	75-90
5/8"	150
5/8" U-Bolt	85-110
3/4"	270
10mm	30
12mm	55



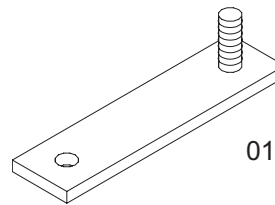
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01655



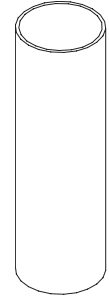
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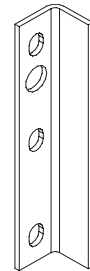
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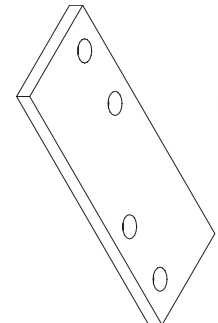
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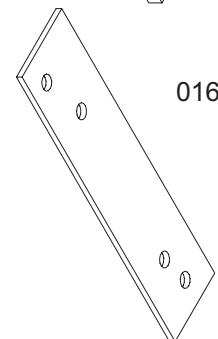
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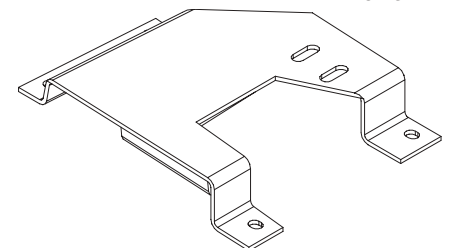
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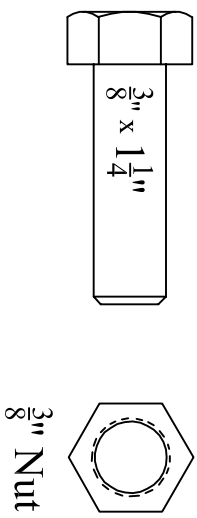
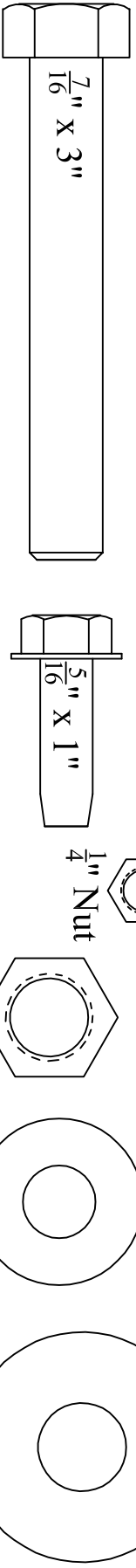
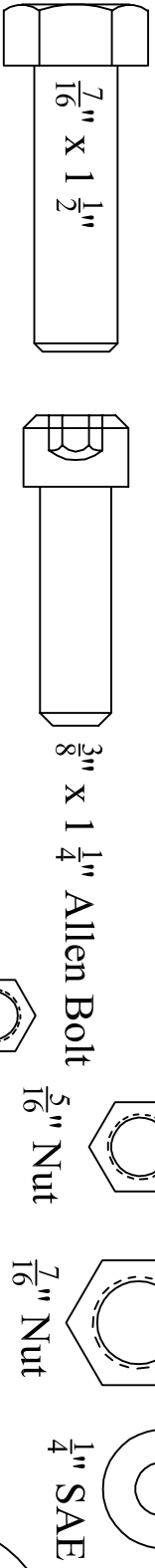
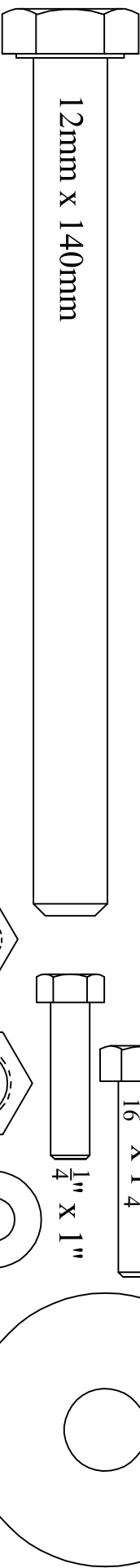
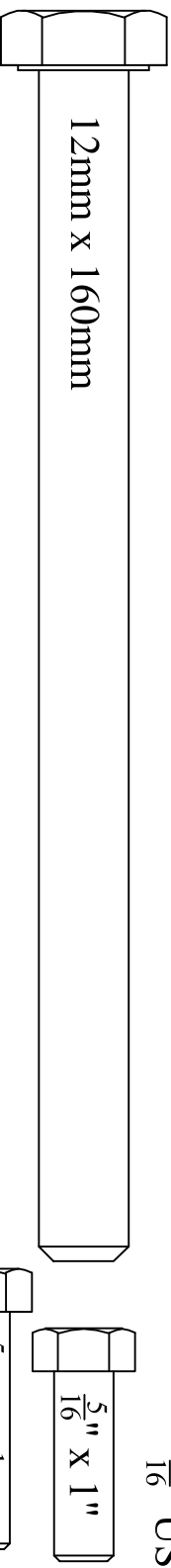
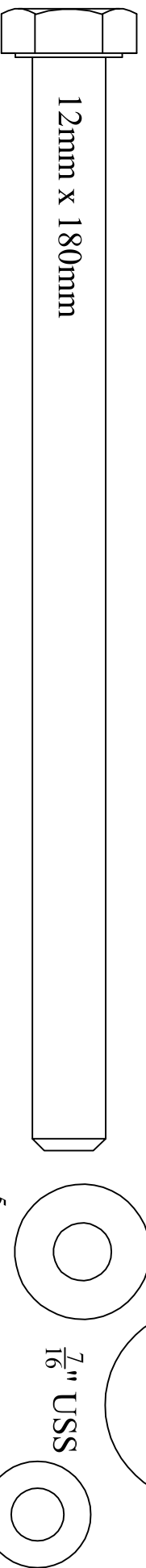
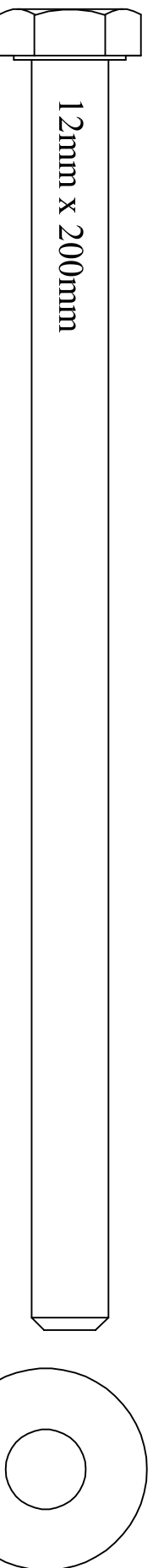
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01670



01672



INSTALLATION INSTRUCTIONS

1. Remove the negative battery cable first, then the positive battery cable. If equipped, the Supplemental Restraint System will be deactivated when the battery is disconnected.
2. Measure and record the space between the bumpers and the body as well as the space between the cab and bed for reference during installation of this kit.

FRONT INSTALLATION

INTERIOR REMOVAL

4-wheel drive models:

3. Remove the shift boot from the floorboard, if equipped with manual transfer case. Remove the four screws that mount the shift boot to the floor. Pull the boot up out of the way (It will not slip over the shift knob).
4. Remove the inner shift boot. Remove the four screws that mount the inner boot to the floor. Two are on top and two are on the side. Pull the boot up out of the way.
5. Remove the bolts that mount the shift lever to the transfer case shift linkage and remove the lever from the linkage.

All Models

6. Remove door jamb scuff plates by carefully pulling up on them to release the mounting clips from the floorboard. Remove the front kick panels by pulling them out to release the mounting clips.
7. Pull back the carpet at all four cab corners (standard cabs) to reveal the plastic mounting bolt covers. Remove the plastic covers. These bolts can be loosened at this time. See Figures 1 and 2.

Super cab models

8. Remove the rear scuff plates by pulling up on them to release them from the mounting clips.



FIG. 1—Front body mount bolt access

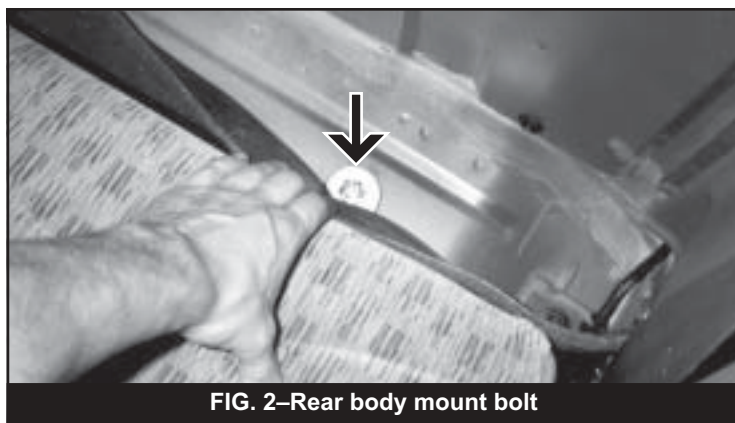


FIG. 2—Rear body mount bolt

9. Check under the cab to see if there are body mounts located behind the front seat. Some models will have mounts behind the front seat in addition to those at the rear of the cab and some won't. Figure 3 shows a cab without mounts behind the front seat.

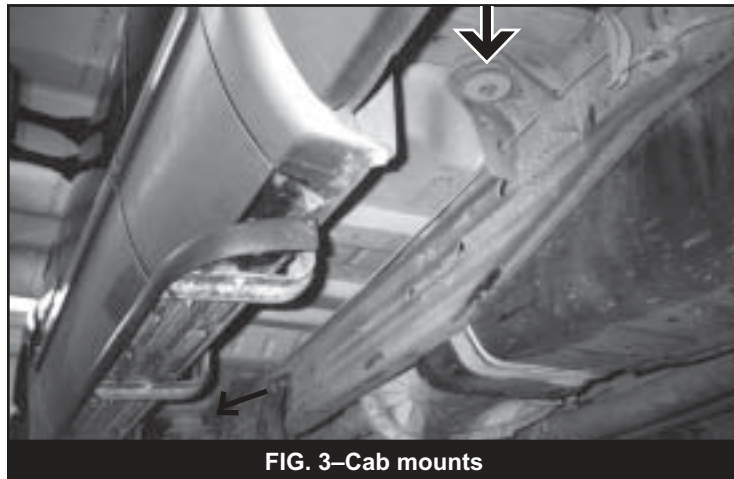


FIG. 3—Cab mounts

10. If there are mounts behind the front seat, the rear seat must be removed. Remove the nuts and bolts that mount the seat to the floorboard. Lift the seat up off the studs and carefully remove it from the vehicle. Pull back the carpet to expose the two mounting bolts on each side. These bolts can be loosened at this time.
11. If the vehicle is not equipped with cab mounts behind the front seat, the rear seat does not need to be removed. Lift up on the rear seat back to unlatch it from the back wall of the cab and remove it from the vehicle. The mounting bolts can now be accessed behind the rear seat (Fig. 2). These bolts can be loosened at this time.

STEERING EXTENSION

12. Install steering extension. Lock the steering wheel so that it cannot move independently from the steering shaft.
13. Located under the dash, remove the bolt that mounts the steering shaft universal joint to the steering column. Slide the shaft down away from the steering column.
14. Install the steering extension to the steering column (It only goes on one way) and fasten using the 3/8" Allen head bolt (Fig. 4).
15. Slide the steering shaft up onto the steering extension and fasten using the stock hardware. Use *Loctite®* on all steering hardware.

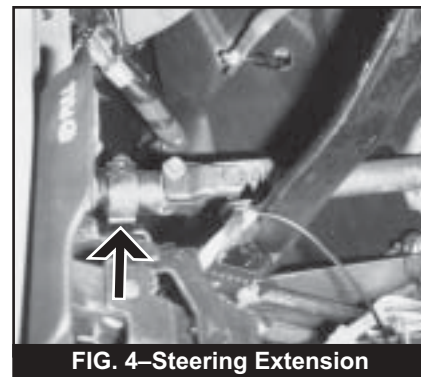


FIG. 4—Steering Extension

UNDER THE HOOD

16. Loosen the clamp that mounts the air intake tube to the throttle body. Release the clamp that attaches the two halves of the air filter housing. Move the intake tube back out of the way. **Note: The throttle body cover may need to be removed to access the air intake tube clamp.**
17. Remove the radiator. Take care to see that the radiator has sufficiently cooled before draining. Drain the radiator

into a clean container (The drain valve should be on the driver's side).

18. Remove the tire iron, jack accessories, and their mounting clamps from the top of the core support (Fig. 5).

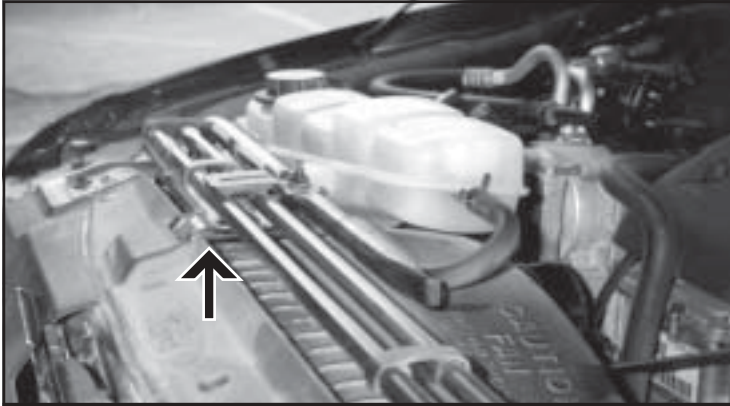


FIG. 5—Jack accessories

19. Remove the three screws that mount the overflow tank to the radiator and body. Set the tank out of the way.
20. Remove all of the hoses attached to the radiator. Some models will have transmission oil cooler lines attached to the bottom of the radiator. Properly plug all transmission lines.
21. Remove the two bolts that mount the fan shroud to the radiator. Pull up on the shroud to release it from the lower mounts. Set the shroud against the fan out of the way.
22. Remove the two radiator mounting brackets at the top of the core support. Pull up on the radiator to remove it from the lower mounts and remove it from the vehicle. Remove the fan shroud from the vehicle.
23. Check for any other wires or hoses that may bind while lifting. Check under the passenger's side door to see if the ground strap (if equipped) from the frame to the body has sufficient slack for 3" of lift. Make any necessary modifications.

GROUND CABLE

24. There is a ground bracket that mounts the ground cable running from the battery to the passenger's side of the frame. Remove the bolt that mounts the bracket to the frame.
25. Attach the ground cable relocation bracket (01602) to the original mounting hole in the frame using the stock bolt. Using a 1/4" nut and 1/4" SAE washer, mount the stock cable bracket to the relocation bracket (Fig. 6).

FRONT BUMPER REMOVAL

26. Pull down the air flap that is mounted between the core support and the front bumper. Take care not to damage the plastic mounting tabs. Disconnect any wires that are attached to the front bumper.
27. Remove the front bumper. Remove the four bolts (two on a side) that mount the bumper to the frame (Fig. 7). Remove the bumper from the vehicle.
Note: Some vehicles are equipped with additional side support bumper brackets. Remove the bolts mounting these brackets to the frame before removing the front bolts.
28. Remove the three bolts that mount each of the tow hooks to the frame. Remove the tow hooks from the vehicle.

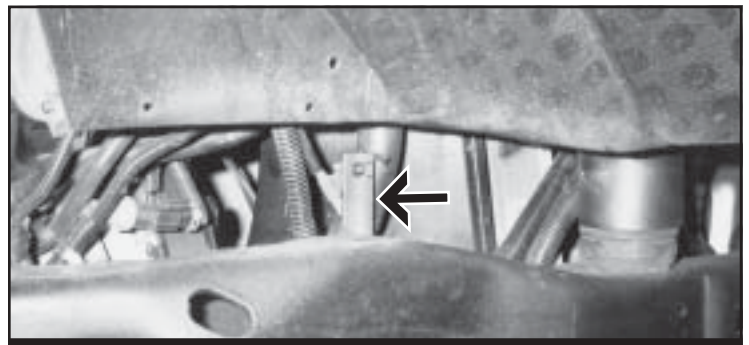


FIG. 6—Ground cable relocation

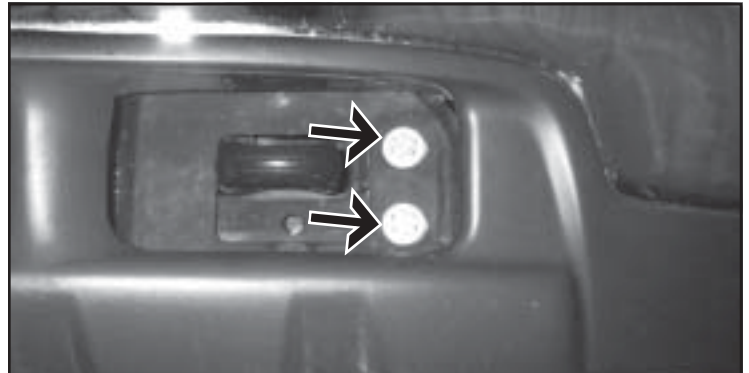


FIG. 7—Bumper bolts

BRAKE LINES

29. There is a steel brake line that runs along the driver's side frame rail. Remove this line from the two front brackets to allow it to flex during lifting.
30. Separate parking brake cable at the coupler below driver's side door. Loosen the parking brake adjuster to gain adequate slack in cable to separate the cable from the coupler.
31. Remove the parking brake cable from the frame mount by squeezing the retaining tabs and pull the cable from the mounting hole. The cable will be relocated later.

CAB LIFT

32. Loosen but do not remove all cab mounting bolts. They are located as follows: Next to the radiator mounted from the bottom up through an access hole in the frame (the forward spring hanger mounting bolt must be removed to access this bolt and it must be replaced after lifting the cab), in the front floor board, behind the seat, and on super cabs under the rear seat back.
33. Remove the cab mount bolts from the passenger's side of the cab. Make a visual check for any remaining hoses, wires, etc that may not have enough slack to compensate for the amount of lift.
34. Using a hydraulic jack and a block of wood lift the cab slowly while continuously checking for any binding hoses or wires. Lift the cab just high enough to place the body spacers on the OE frame mounts.
35. Before installing the front spacer block the OE cab bushing must be drilled out. Remove the bushing from the frame. Using a 1/2" bit, drill the threads out of the bushing. Remount the bushing and install the body spacer.
36. Install new mounting bolts with 1-3/4" diameter 1/2" washers in these positions: 12mm x 180mm in the front, 12mm x 140mm in the front floorboard and behind the front seat, 12mm x 200mm at the rear of super cab models. Use Loctite® on all mounting hardware.

37. Repeat lift procedure for driver's side of cab.
38. Align the cab to the bed using the measurements taken earlier. Tighten mounting bolts to proper torque.

FRONT BUMPER INSTALLATION

39. The frame horn must be trimmed to provide clearance for the lifted bumper. Cut off the bottom of the frame bumper brackets (Fig. 8). Use the lower edge of the bracket opening as a guide.
40. Mount the new bumper brackets to the frame using the lower hole in the bracket and the outside hole in the frame. Mark the location of the center of the upper bracket hole on the frame.
41. Remove the bracket from the frame and drill a 1/2" hole in the frame at the mark (Fig. 8).
42. Remove the OE bumper brackets from the bumper. Attach the new brackets to the bumper using the OE hardware (Fig. 9).
43. The bumper must be trimmed to clear the front spring hangers. Remove the material located between the legs of the bumper brackets down to bend in the bumper (Fig. 10).
44. If desired, the tow hooks can be reinstalled. Drill out the mounting holes in the tow hooks with a 7/16" drill bit.
45. Invert the hooks (nuts facing down) and place them in the frame. Attach the hooks using six 7/16" x 3" grade 8 bolts,

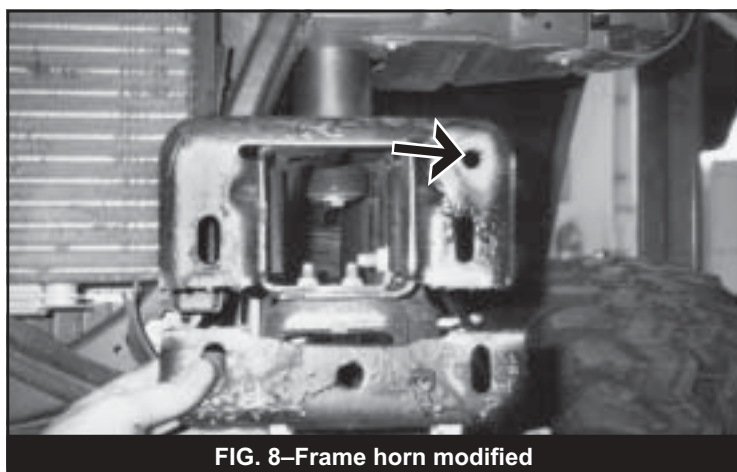


FIG. 8—Frame horn modified

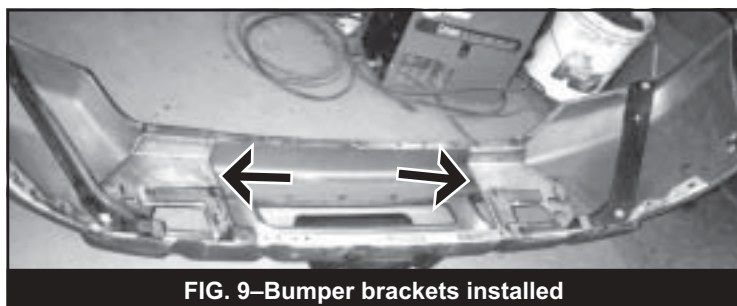


FIG. 9—Bumper brackets installed

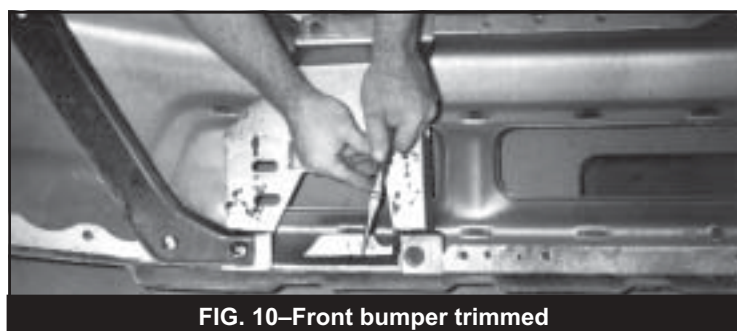


FIG. 10—Front bumper trimmed

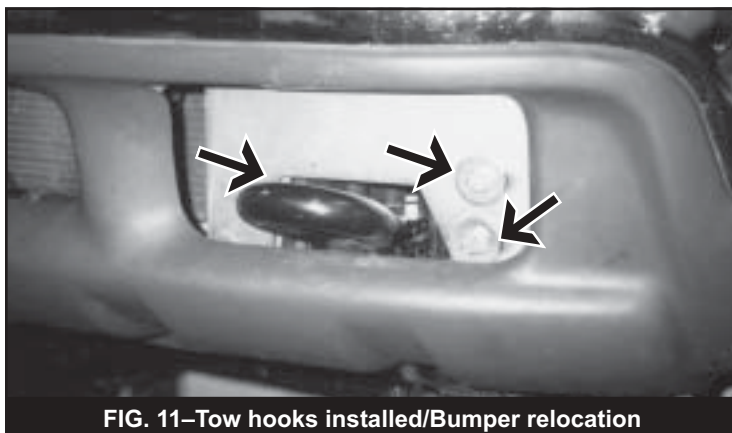


FIG. 11—Tow hooks installed/Bumper relocation

nuts, and twelve 7/16" USS washers (Fig. 11). Tighten to proper torque specs. *Use Loctite® on all mounting hardware.* **Note: On some vehicles the tow hooks may need to be spaced up more to have adequate clearance from bumper.**

46. Install the front bumper on the vehicle using four 7/16" x 1-1/2" bolts, four nuts, and eight 1-3/8" diameter 1/2" washers (Fig. 11). Adjust the bumper according to the measurements taken earlier and tighten to proper torque specs. *Use Loctite® on all mounting hardware.*
47. If equipped with side support bumper brackets, loosen the bolts mounting the brackets to the bumper. Install the provided outside bumper brackets to the original frame mount with the OE hardware and to the side support bracket with a 3/8" x 1-1/4" bolt, nut and 3/8" USS washers. Adjust the brackets as necessary and tighten hardware at the frame and bumper securely.
48. Reattach the air flap between the core support and the front bumper with the OE plastic fasteners.

RADIATOR AND FAN SHROUD INSTALLATION

49. The fan shroud requires modification to adequately clear the lower radiator hoses and lines (Fig. 12). Measure in from the driver's side of the shroud 4-1/2" and make a mark. From there measure 4" and mark. Measure back 4" into the shroud and mark. Remove the section of the shroud that has been marked.
50. From the passenger's side measure in 4-1/2" and make a mark. From there measure 7" and make a mark. Measure back 4" into the shroud and mark. Remove the section of the shroud that has been marked.
51. The top of the shroud must also be trimmed for adequate clearance of the new shroud relocation brackets (Fig. 13). Trim the top lip of the shroud above the mounting holes back flush with the vertical surface in which the holes are located. Using the relocation bracket as a guide, cut the slots wide enough for the relocation bracket to mount flush.
52. Set the fan shroud in the vehicle over the fan and out of the way.

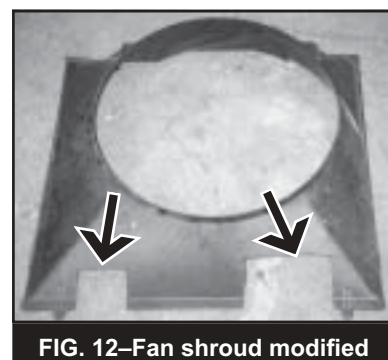


FIG. 12—Fan shroud modified



FIG. 13—Fan shroud modified

53. Reinstall radiator in the vehicle. Take care that the radiator fits back into the lower mounts correctly. Install the top OE radiator brackets to the core support using stock hardware.
54. Install the fan shroud relocation brackets to the stock shroud mounting locations using stock hardware.
55. Mount the fan shroud on the relocation bracket studs and fasten with 1/4" nuts and 1/4" SAE washers. Check fan-to-shroud clearance.
56. Install the overflow tank back in its original position.
57. Install the tire iron, jack accessories, and their mounting clamps to the core support.
58. Reattach all hoses and lines to radiator.
59. Attach the lower fan shroud bracket (Fig. 14). Hold the bracket in the proper location and use the bracket as a template to mark the hole locations. Drill 9/32" holes at the marks on the core support and fan shroud. **Note: It may be necessary to pull back on the air flap mounted to the core support to locate mounting hole for the bracket.**

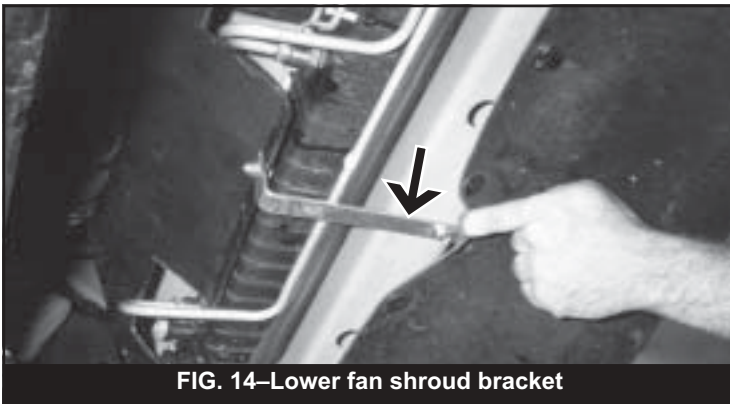


FIG. 14—Lower fan shroud bracket

60. Mount fan shroud bracket to the core support using a 5/16" x 1" self-tapping bolt. Mount the shroud to the bracket using a 1/4" x 1" bolt, nut, and two 1/4" SAE washers.
61. Fill radiator. It will need to be checked and topped off after vehicle is started.
62. Replace the air intake tube to its original location. Replace throttle body cover if applicable.

PARKING BRAKE RELOCATION

63. Install the parking brake relocation bracket (Fig. 15). Attach the bracket to the stock cable mounting hole using a 5/16" x 1-1/4" bolt, nut, and two 5/16" SAE washers. Do not tighten.
64. A new 5/16" hole must be drilled through the bracket and frame mount below the stock mounting hole. The hole

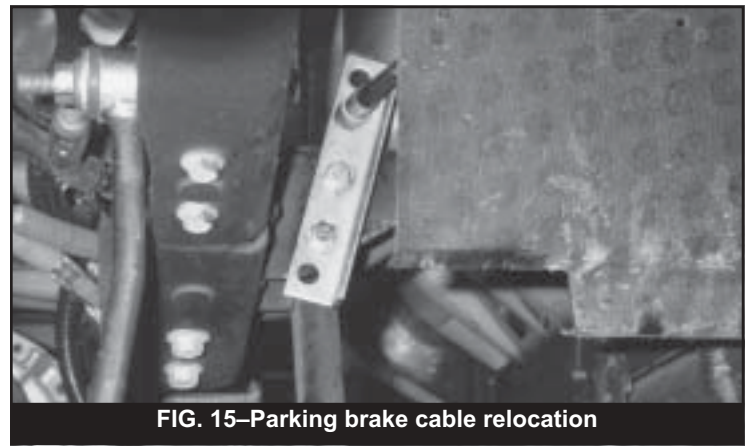


FIG. 15—Parking brake cable relocation

- should be located about 1" above the lower hole in the bracket. See figure.
65. Install a 5/16" x 1-1/4" bolt, nut, and two 5/16" SAE washers in the new hole and tighten all mounting hardware.
 66. Run the parking brake cable through the large hole in the bracket and lock it in place.
 67. Reattach the two sections of cable at the coupler and adjust the parking brake to the manufacturer's specifications.

TRANSFER CASE LEVER EXTENSION

Vehicles with manual transfer case only

68. Attach the transfer case lever extension bracket to the transfer case lever with two 5/16" x 1" bolts, four 5/16" SAE washers, and two nuts.
69. Reinstall the modified shift lever to the shift linkage using the stock hardware.
70. Install the inner and outer shift boots in their original locations using OE hardware.

INTERIOR INSTALLATION

All models

71. Insert the rubber access plugs back in the mounting bolt holes and replace the carpet back to its original position.
72. Reinstall the kick panels then the scuff plates.

Super cab models

73. Replace the carpet back to its original location.
74. If the rear seat was removed replace the seat in the vehicle on the mounting studs in the floorboard. Fasten the seat to the floorboard with OE hardware.
75. If the rear seat back was removed replace the seat back in the vehicle. Mount the seat to the back of the cab by aligning the mounting tabs and pushing down on the seat back to latch it in place.
76. Install the rear scuff plates.

REAR INSTALLATION

FUEL FILLER DISASSEMBLY

77. Remove the fuel fill cap. Remove the three screws mounting the filler neck to the plastic body housing.
78. Loosen the hose clamp holding the fuel filler tube to the body (about half way down the filler tube). Slide the clamp away from the mounting tab on the body freeing the tube.

REAR BUMPER REMOVAL

79. Remove the license plate lights from the rear bumper. Remove any remaining wires that are attached to the bumper.
80. Remove the rear bumper. Remove the four bolts (two on each side) that mount the rear bumper brackets to the frame. Remove the bumper from the vehicle.

BED LIFT

81. Loosen but do not remove all bed mounting bolts. The bolts mount from the top down and require a torx socket to remove.
82. Remove the bolts from the passenger's side of the vehicle. Using a hydraulic jack and a wooden block, slowly lift the passenger's side of the bed while continuously checking for any hoses or wires that may be binding. Lift the bed just high enough to place the body spacers. The small block goes on the rear mount. **Note: If the vehicle is equipped with 14mm mounting bolts it is necessary to remove the stock nut clips from the frame before placing the body blocks.**
83. Install the mounting bolts with 1-3/4" diameter 1/2" washers in the following locations: 12mm x 200mm at the front, 12mm x 180mm in front of the axle and at the rear, and 12mm x 160mm behind the axle. **Note: If frame clips were removed, install 1-3/4" diameter 1/2" washer and 12mm nuts on the bed bolts.** Do not tighten at this time. Use *Loctite®* on all mounting hardware
84. Repeat the bed lifting procedure on the driver's side of the vehicle. While lifting the driver's side, take care to see that the fuel filler neck slides down through the body.
85. Place the metal body spacers under the cross supports of the bed (Fig. 16). There are four on long beds and two on short beds. Attach the blocks with 5/16" x 1" bolts, nuts, and 5/16" SAE washers.
86. Align the bed to the cab using measurements made earlier and tighten all mounting bolts.

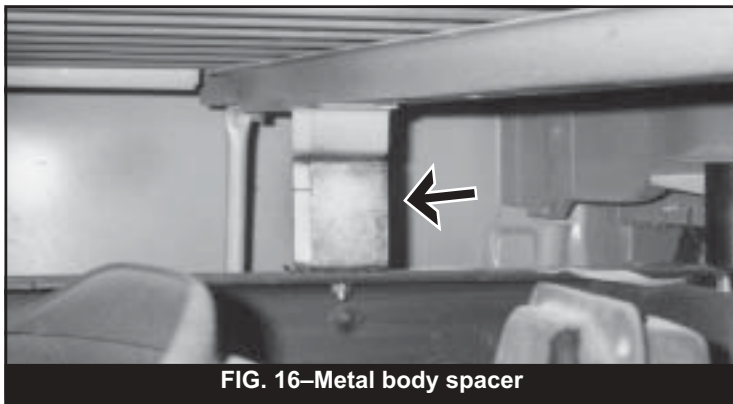


FIG. 16—Metal body spacer

FUEL FILLER EXTENSION

87. Loosen the hose clamps mounting the filler hose and vent hose to the fuel tank.
88. Remove the filler and vent hoses from the fuel tank and remove the filler assembly from the vehicle.
89. Remove the stock vent hose from the filler neck and install the new vent hose using a #10 hose clamp.
90. Cut the filler hose in two pieces in about the middle of the hose.

91. Install the filler extension and attach using two #28 hose clamps. Do not tighten the clamps at this time.
92. Install the modified filler assembly in the vehicle (Fig. 17). Attach the filler hose to the fuel tank using the stock clamp. Attach the vent hose to the tank using a #10 hose clamp provided. Adjust the length of the extension and tighten all the clamps.
93. Reattach filler neck to the body mounting tab using the OE clamp, attach the filler neck to the plastic body housing using OE screws, and install fuel cap.

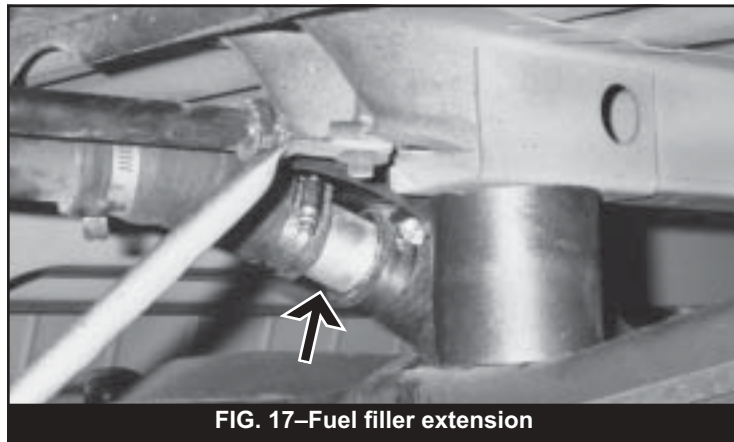


FIG. 17—Fuel filler extension

SPARE TIRE WINCH RELOCATION

94. Spare tire winch will not be accessible once the body is lifted. Remove spare tire at this time.

REAR BUMPER RELOCATION

95. Remove the stock bumper brackets from the rear bumper.
96. Using the stock hardware, install the new bumper brackets on the bumper by matching the hole locations on the bracket to those on the bumper. Do not tighten at this time.
97. Mount the bumper to the vehicle using four 7/16" x 1-1/2" bolts, eight 7/16" USS washers, and nuts (Fig. 18). Do not tighten.
98. Adjust the clearance between the bumper and the body. Make certain the tailgate can open without making contact with the bumper. Tighten all hardware. Use *Loctite®* on all mounting hardware.
99. Reattach license plate lights and any other wires that were removed from the bumper.
100. Reattach battery cables. Attach the positive cable first, then the negative.

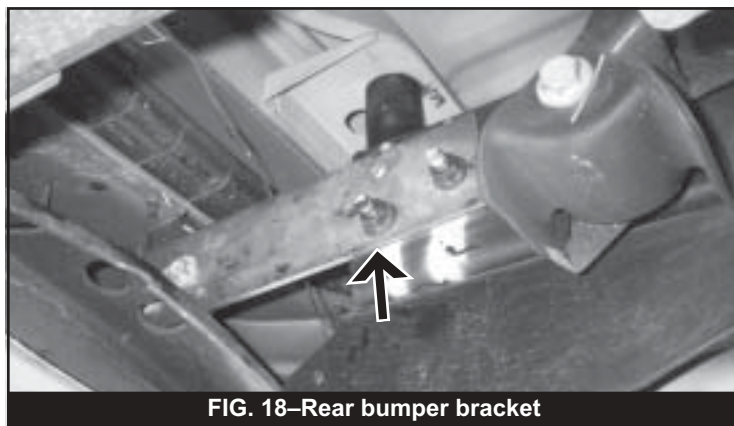


FIG. 18—Rear bumper bracket