

GROUND FORCE

04 & 14 F-150 2.0" FRONT 1.0" REAR LEVELING KIT INSTALLATION

READ INSTRUCTIONS COMPLETELY THROUGH BEFORE STARTING.

FAILURE TO ADHERE TO THE INSTRUCTIONS WILL VOID ANY GROUND FORCE WARRANTY
IT IS RECOMMENDED THAT INSTALLATION BE DONE BY A QUALIFIED MECHANIC.

REPLACE ALL STOCK PARTS THAT ARE DAMAGED OR WORN.

INTERMIXING OF PARTS IS NOT RECOMMENDED AND WILL VOID THE WARRANTY.

ALWAYS WEAR EYE PROTECTION.

ALWAYS USE PROPERLY RATED SAFETY STANDS WHENEVER A PROCEDURE REQUIRES
YOU TO BE UNDER A VEHICLE. KNOW AND FOLLOW ALL SAFE WORK PRACTICES TO AVOID
SERIOUS INJURY OR DEATH.

NOTE: WE WANT TO THANK YOU FOR PURCHASING A *GROUND FORCE* PREMIUM LEVELING KIT.
THIS KIT IS MANUFACTURED FROM HIGH QUALITY MADE IN THE USA MATERIALS. THE HIGH
STRENGTH URETHANE THAT WE USE FOR OUR SPACERS IS HEAT RESISTANCE, IMPACT
RESISTANCE AND ALSO HAS A EXCELLENT RESISTANCE TO OIL, SOLVENTS AND MANY OTHER
CHEMICALS. WE ALSO USE HIGH STRENGTH 4140 MATERIAL FOR OUR STRUT EXTENDERS THAT
HAS BEEN HEAT TREATED, BLACK ZINC COATED AND AFTER BAKED TO RELIEVE ANY HYDROGEN
EMBRITTELEMENT. THIS KIT HAS A LIMITED LIFETIME WARRANTY.

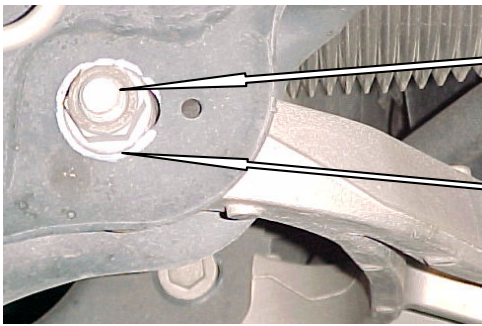
CHECK TO SEE THAT ALL PARTS LISTED ARE INCLUDED.

2-STRUT POLY SPACERS	1-PARTS PACK
6-STRUT EXTENDERS	1-GROUND FORCE WARNING DECAL
2 LEAF SPRING PACKERS	4-U-BOLTS

MEASURE AND DOCUMENT THE VEHICLE HEIGHT FROM FLOOR TO FENDER LIP.

LF _____ RF _____ LR _____ RR _____

1. BEFORE GETTING UNDER VEHICLE, JACK THE FRONT OF VEHICLE UP AND PLACE STANDS UNDER THE FRAME RAILS. LOWER THE VEHICLE ONTO JACK STANDS AND MAKE SURE STANDS ARE SECURELY HOLDING THE VEHICLE.
2. REMOVE TIRE AND WHEEL ASSEMBLY.
3. REMOVE THE SWAY BAR TO LOWER CONTROL ARM CONNECTING LINK BOLT ON BOTH SIDES OF VEHICLE, SAVE HARDWARE.
4. REMOVE THE HARDWARE HOLDING THE BRAKE LINE BRACKET TO THE STRUT TOWER.
5. THE LOWER CONTROL ARM FRAME MOUNTS HAVE FACTORY ALIGNMENT SLOTS AND MUST BE MARKED BEFORE LOOSING. THIS PROCEDURE WILL AID IN ADJUSTING THESE BOLTS BACK TO THE CORRECT LOCATION DURING FINAL ASSEMBLY. **REFER TO THE PHOTO ON THE NEXT PAGE.**
 - A. USING A PAINT STICK MARK ALL FOUR LOWER CONTROL ARM MOUNTING BOLT LOCATIONS.
 - B. LOOSEN BUT DO NOT REMOVE THE FOUR LOWER CONTROL ARM TO FRAME MOUNT BOLTS. THIS NEEDS TO BE DONE SO THAT THE LOWER CONTROL ARM WILL SWING DOWN FAR ENOUGH TO BE ABLE TO REMOVE THE STRUT ASSEMBLY FROM THE VEHICLE. SUPPORT THE LOWER CONTROL ARM. **REFER TO THE PHOTOS ON THE NEXT PAGE.**



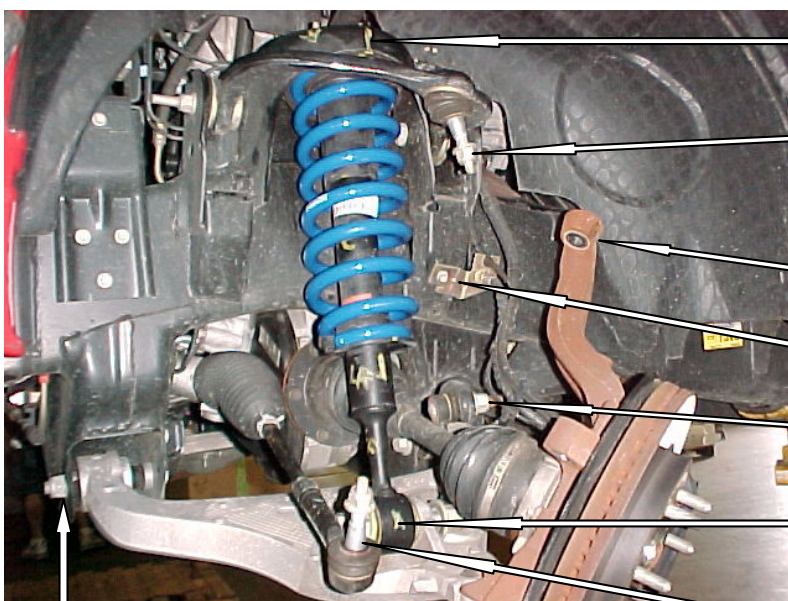
LOWER CONTROL ARM TO
FRAME MOUNTING
HARDWARE.

PAINT STICK MARK
SHOWING FACTORY
HARDWARE LOCATION.

6. LOOSEN THE OUTER TIE ROD NUT, TAP ON THE SPINDLE WITH A Mallet TO POP THE TIE ROD JOINT LOOSE FROM THE SPINDLE. REMOVE THE OUTER TIE ROD FROM THE SPINDLE, SAVE NUT.
7. SUPPORT THE LOWER CONTROL ARM, LOOSEN THE UPPER BALL JOINT NUT, TAP ON THE SPINDLE WITH A Mallet TO POP THE UPPER BALL JOINT LOOSE FROM THE SPINDLE. REMOVE THE UPPER BALL JOINT NUT AND REMOVE THE UPPER BALL JOINT FROM THE SPINDLE, SAVE THE BALL JOINT NUT FOR REASSEMBLY.
8. MARK THE UPPER AND LOWER STRUT MOUNTS SO THAT WHEN YOU INSTALL THE NEW STRUT SPACERS YOU WILL BE ABLE TO ALIGN THE UPPER AND LOWER STRUT MOUNTS IN THEIR CORRECT LOCATION. MARK THE STRUT ASSEMBLY LEFT AND RIGHT.
9. LOOSEN THE LOWER COILOVER MOUNT NUT (THE LARGE NUT/BOLT THAT ATTACHES THE **LOWER** STRUT TO THE LOWER CONTROL ARM) AND REMOVE THE HARDWARE, SAVE HARDWARE.

WARNING: THE COIL SPRING ASSEMBLY IS UNDER PRESSURE, DO NOT REMOVE THE CENTER UPPER STRUT ROD NUT.

10. REMOVE THE UPPER THREE NUTS ATTACHING THE STRUT ASSEMBLY TO THE VEHICLE FRAME.
11. LOWER THE JACK SLIGHTLY UNDER THE LOWER CONTROL ARM, REMOVE THE STRUT ASSEMBLY FROM THE VEHICLE.
12. SUPPORT THE LOWER CONTROL ARM/SPINDLE ASSEMBLY SO THAT THE CV AXLE AND BRAKE LINES ARE NOT OVER EXTENDED.
13. REPEAT STRUT REMOVAL PROCEDURE TO OTHER SIDE OF VEHICLE.



UPPER STRUT INDEX
MARK

UPPER BALL JOINT

SPINDLE
DISCONNECTED
FROM BALL JOINT

BRAKE LINE BRACKET

SWAY BAR LINK

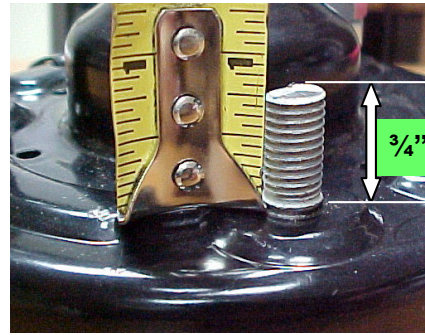
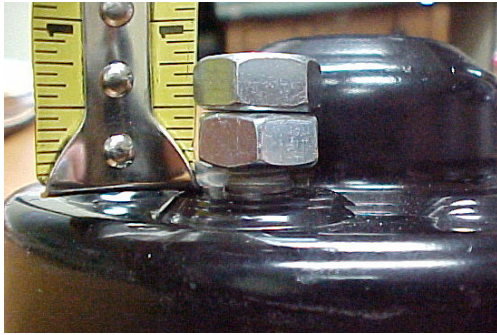
LOWER STRUT
MOUNT/ INDEX MARK

TIE ROD
DISCONNECTED
FROM SPINDLE.

LOWER CONTROL ARM TO FRAME
MOUNTING HARDWARE

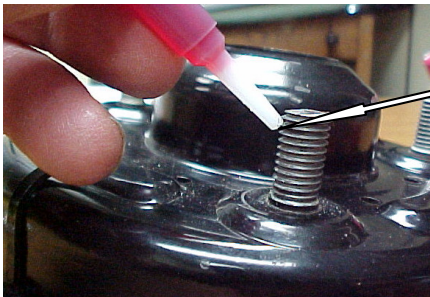
14. UPPER STRUT STUD TRIMMING PROCEDURE.

- A. INSTALL THE SUPPLIED TWO **FREE RUNNING** M10-1.50 HEX NUTS ONTO ONE OF THE FACTORY UPPER STUDS.
- B. MEASURE AND LOCK THE NUTS DOWN .750" ABOVE THE TOP OF THE STRUT MOUNT.
- C. CUT THE EXCESS STUD OFF USING A FINE TOOTH SAW OR CUT OFF WHEEL.
- D. REMOVE THE TWO FREE RUNNING NUTS AND REPEAT THIS PROCEDURE TO THE REMAINING FIVE STUDS. DISCARD THESE TWO FREE RUNNING NUTS AFTER ALL SIX STUDS HAVE BEEN TRIMMED.



15. STRUT EXTENDER INSTALLATION PROCEDURE.

- A. APPLY A FEW DROPS OF THE SUPPLIED THREAD LOCKER TO EACH OF THE FACTORY STRUT STUDS.



HIGH STRENGTH
THREAD LOCKER
BEING APPLIED TO
LOCK THE NEW STRUT
EXTENDERS IN PLACE.

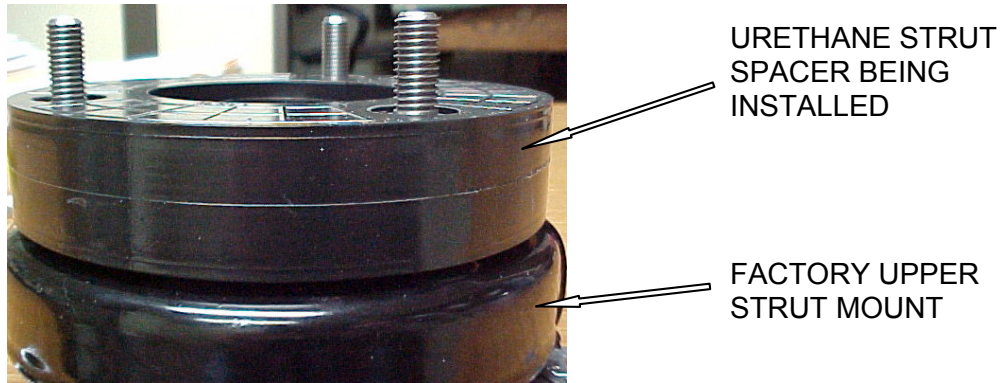
- B. INSTALL THE THREE SUPPLIED STRUT EXTENDERS PER STRUT AND TORQUE TO 35 FT LBS USING A 17MM SOCKET. (**DO NOT USE AIR TOOLS TO TIGHTEN THE UPPER STRUT HARDWARE**).



STRUT EXTENDERS BEING
INSTALLED OVER THE TRIMMED
STRUT UPPER MOUNTING
STUDS.

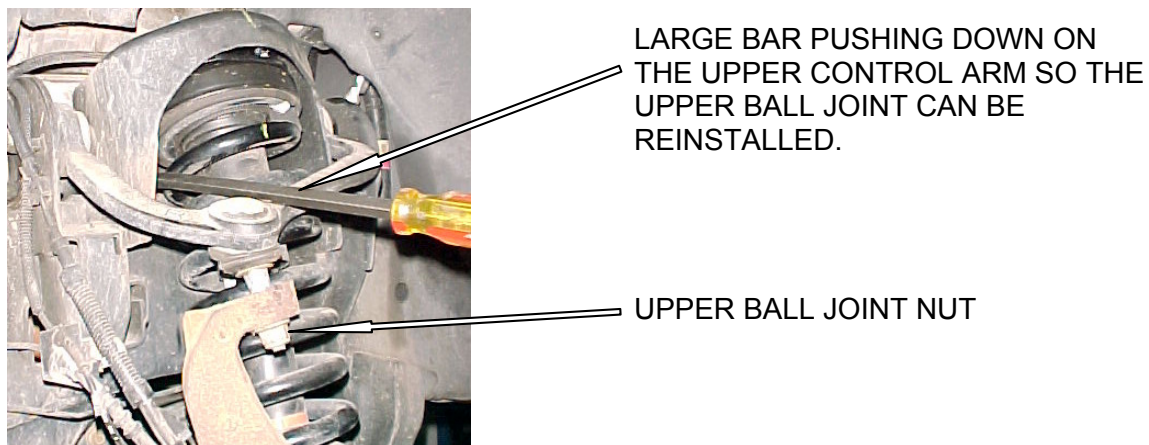
FACTORY UPPER STRUT
MOUNT.

16. INSTALL THE SUPPLIED URETHANE STRUT SPACER OVER THE STRUT EXTENDERS ON TOP OF THE FACTORY STRUT MOUNT.



17. STRUT AND NEW STRUT SPACER ASSEMBLY INSTALLATION.

- A. INSTALL THE STRUT ASSEMBLY UP INTO THE STOCK LOCATION.
- B. ALIGN AND INSTALL THE THREE STUDS UP INTO THE THREE HOLES IN THE FRAME UPPER MOUNT.
- C. INSTALL THE SUPPLIED THREE UPPER STRUT FLANGE LOCK NUTS (JUST SNUG).
- D. INSTALL THE LOWER STRUT INTO THE LOWER CONTROL ARM MOUNT, INSTALL THE STOCK LARGE MOUNTING BOLT (**WITH THE NUT TOWARD THE REAR**) AND INSTALL THE STOCK NUT (JUST SNUG). **NOTE: THE USE OF A PRY BAR MAY BE NEEDED TO POSITION THE LOWER CONTROL ARM IN THE CORRECT POSITION SO THAT YOU CAN INSTALL THE FACTORY LARGE STRUT TO CONTROL ARM BOLT AND NUT.**
- E. JACK THE LOWER CONTROL ARM UP SLIGHTLY AND SECURE. USING A LARGE BAR, PRY DOWN ON THE UPPER CONTROL ARM AND REINSTALL THE UPPER BALL JOINT INTO THE SPINDLE. INSTALL THE FACTORY UPPER BALL JOINT NUT AND TORQUE TO **85 FT. LBS.**



- F. TORQUE THE UPPER THREE STRUT NUTS TO **35 FT. LBS.**
 - G. TORQUE THE LOWER STRUT BOLT/NUT TO **105 FT. LBS.**
 - H. REPEAT STRUT ASSEMBLY INSTALLATION PROCEDURE TO THE OTHER SIDE OF VEHICLE.
18. REINSTALL THE TIE RODS TO THE SPINDLES AND TORQUE TO **70 FT. LBS.**
19. LINE UP THE LOWER CONTROL ARM MOUNTING HARDWARE TO THE MARKS MADE IN STEP NO 5 AND TORQUE THE LOWER CONTROL ARM TO FRAME MOUNTING BOLTS TO SPEC.

20. REINSTALL THE SWAY BAR CONNECTING LINKS INTO THE LOWER CONTROL ARM SWAY BAR MOUNTS, LINE UP, INSTALL THE FACTORY HARDWARE AND TORQUE TO SPEC.
21. REINSTALL THE BRAKE LINE BRACKET TO THE STRUT TOWER USING THE FACTORY HARDWARE AND TORQUE TO SPEC.
22. MAKE SURE ALL FASTENERS AFFECTED BY THIS PROCEDURE ARE TORQUED TO SPEC.
23. REINSTALL TIRE AND WHEEL ASSEMBLY.
24. CHECK AND MAKE SURE THAT ALL INSTALLATION STEPS HAVE BEEN COMPLETED. CHECK ALL NUTS AND BOLTS FOR TORQUE AFTER THE FIRST 300 MILES.
25. JACK THE VEHICLE UP AND REMOVE STANDS, THEN LET THE VEHICLE DOWN.

REAR LEAF SPRING PACKER INSTALLATION

26. JACK UP THE REAR OF THE VEHICLE AND PLACE JACK STANDS UNDER THE FRAME RAILS. LOWER THE VEHICLE ONTO THE JACK STANDS AND MAKE SURE THE STANDS ARE SECURELY HOLDING THE VEHICLE. SUPPORT THE REAR AXLE WITH A FLOOR JACK AND SMALL JACK STANDS.
27. REMOVE THE REAR TIRE WHEEL ASSEMBLY.
28. REMOVE THE STOCK REAR SHOCKS FROM THE LOWER MOUNT.
29. REMOVE THE ANTILOCK BRAKE LINE CLIPS FROM THE FACTORY U-BOLTS.
30. LOOSEN ALL EIGHT U-BOLTS NUTS AND REMOVE THE STOCK U-BOLTS FROM ONE SIDE AND DISCARD.
31. REMOVE THE FACTORY LOWER SPRING PLATE (SAVE).
32. LOWER THE AXLE FAR ENOUGH TO ALLOW THE STOCK SPACER BLOCK TO BE REMOVED.

WARNING: THE LEAF SPRING IS UNDER PRESSURE. EXTREME CARE MUST BE TAKEN WHEN AND UNBOLTING THE CENTER PINS TO AVOID INJURY.

33. CLAMP THE SPRING PACK TOGETHER



CLAMPS HOLDING THE LEAF SPRING TOGETHER WHILE REMOVING STOCK CENTER BOLTS

LEAF SPRING

FACTORY SPRING PACKER

TWO FACTORY CENTER BOLT HEADS



ONE OF THE LEAF SPRING CENTER BOLTS

FACTORY LEAF SPRING PACKER

VICE GRIPS HOLDING THE HEAD OF THE CENTER PIN

34. MAKING SURE THE LEAF SPRING IS CLAMPED TOGETHER **SECURELY**, REMOVE THE STOCK LEAF SPRING CENTER BOLTS AND DISCARD. **NOTE** IF THE NUTS ARE RUSTED YOU MAY NEED TO HEAT THE NUTS OR SPLIT THE NUTS OPEN WITH A THIN CUTOFF DISC TO BE ABLE TO REMOVE THEM FROM THE FACTORY CENTER PINS. BE VERY CAREFUL NOT TO DAMAGE THE LEAF SPRING WHILE DOING THIS PROCEDURE.
35. NEW 1.0" THICK LEAF SPRING PACKER INSTALLATION.

- A. INSTALL TWO OF THE SUPPLIED 1/2" CENTER PINS UP THROUGH THE NEW SUPPLIED LEAF SPRING PACKER.
- B. IF EQUIPPED INSTALL THE FACTORY LEAF SPRING PACKER ON TOP OF THE NEW LEAF SPRING PACKER.
- C. INSTALL THIS ASSEMBLE TO THE BOTTOM OF THE FACTORY LEAF SPRING.
- D. INSTALL THE SUPPLIED 1/2" CENTER PIN NUTS AND TORQUE TO 41 FT LBS.



FACTORY LEAF SPRING PACKER

NEW LEAF SPRING 1.0" THICK PACKER BOLTED TO THE BOTTOM OF THE FACTORY LEAF SPRING

NEW CENTER BOLTS

36. INSTALL THE FACTORY BLOCK MAKING SURE THE BLOCK PINS GO INTO THE AXLE CENTER PIN HOLES AND RAISE THE AXLE SLOWLY. MAKE SURE THE CENTER PIN HEADS ON THE BOTTOM OF THE LEAF SPRING PACK GOES INTO THE TOP OF THE FACTORY BLOCK CENTER PIN HOLES. JACK THE AXLE UP SLIGHTLY AND SECURE.



FACTORY BLOCK

37. INSTALL THE SUPPLIED U-BOLTS DOWN OVER THE LEAF SPRING, NEW LEAF SPRING PACKER, FACTORY BLOCK AND AXLE.
38. INSTALL THE FACTORY LOWER U-BOLT PLATE UP OVER THE U-BOLTS AND INSTALL THE SUPPLIED U-BOLT WASHERS AND TALL HEX NUTS, JUST **SNUG** THE NUTS AT THIS TIME.
39. REPEAT PROCEDURE TO THE OTHER SIDE OF THE VEHICLE.
40. CROSS TIGHTEN THE U-BOLT NUTS EVENLY AND THEN TORQUE ALL EIGHT NUTS TO 74 FT. LBS



COMPONENT LOCATION

- FACTORY LEAF SPRING
- FACTORY SPRING PACKER
- SUPPLIED 1.0" SPRING PACKER
- FACTORY BLOCK
- NEW SUPPLIED U-BOLTS
- ANTILOCK WIRE
- FACTORY U-BOLT SPRING PLATE
- TALL HEX NUTS

41. REINSTALL THE STOCK SHOCK INTO THE LOWER MOUNT AND TORQUE THE LOWER SHOCK HARDWARE TO SPEC.
42. REINSTALL THE ANTILOCK WIRE/CLIPS TO THE U-BOLTS.
43. REINSTALL THE REAR TIRE AND WHEEL ASSEMBLY. TORQUE THE LUG NUTS TO SPEC. CHECK THE CLEARANCE BETWEEN THE REAR AXLE AND ALL REAR COMPONENTS ADJUST IF NECESSARY. JACK VEHICLE UP, REMOVE THE STANDS AND LET THE VEHICLE DOWN.
44. GO BACK AND CHECK THAT ALL INSTALLATION STEPS HAVE BEEN COMPLETED.
45. **MAKE SURE TO INSTALL THE SUPPLIED WARNING DECAL FOLLOWING THE INSTRUCTIONS INCLUDED WITH THE WARNING INFORMATION SHEET.**
46. MAKE SURE TO KEEP THESE INSTRUCTIONS WITH THE VEHICLE.
47. THE VEHICLE NEEDS TO HAVE A FRONT END ALIGNMENT PERFORMED IMMEDIATELY AFTER THE INSTALLATION OF THIS KIT IS COMPLETE. THE FACTORY LOWER CONTROL ARM BOLTS WILL NEED TO BE ADJUSTED TO SET THE FACTORY ALIGNMENT SPECIFICATIONS.
48. READJUST THE HEADLIGHTS TO THE PROPER SETTINGS.
49. ROAD TEST VEHICLE.
50. CHECK THE TORQUE OF ALL NUTS AND BOLTS AFFECTED BY THIS PROCEDURE. RECHECK ALL NUTS AND BOLTS FOR TIGHTNESS AFTER THE FIRST 300 MILES AND AT EVERY ROUTINE SERVICE INSPECTION.

WARNING: AGAIN CHECK TIRE AND WHEEL CLEARANCE BEFORE MOVING VEHICLE.
ALSO CHECK CLEARANCE IF INSTALLING NEW TIRES AND/OR WHEELS.

NOTE: INSTALLATION OF WHEELS WITH BACKSPACING OTHER THAN STOCK
MAY CHANGE THE VEHICLE HEIGHT AND ALSO EFFECT THE FRONT END
ALIGNMENT.

WARNING:
INSTALLER/DEALER IT IS YOUR RESPONSIBILITY TO INSTALL THE SUPPLIED WARNING LABEL
WHERE VISIBLE TO ALL OCCUPANTS AND FORWARD THE SUPPLIED WARNING SHEET & AND
INSTALLATION INSTRUCTIONS TO THE END USER. FOR MORE INFORMATION PLEASE REFER TO
PART NO 15237 WARNING SHEET THAT IS INCLUDED WITH THESE INSTRUCTIONS.

IF YOU WOULD HAVE ANY QUESTIONS CONCERNING THIS KIT PLEASE CALL 724-430-2068 AND ASK
FOR CUSTOMER SERVICE.

GROUND FORCE

Limited Lifetime Warranty

North America Only

GROUND FORCE WARRANTY (LIMITED) AND REMEDY LIMITATIONS

TO: WHOLESALERS, JOBBERS, RETAILERS, INSTALLERS, AND VEHICLE OWNERS.

Ground Force warrants to vehicle owners that its products are from material defects in workmanship and materials as long as the installing vehicle owner owns the vehicle. Ground Force makes no other warranty. Ground Force makes no application or use recommendations for its products and is not responsible for such decisions. Excluded from the warranty are the finish, poly boots, and steering Stabilizers* (90 days from purchase, only). Ground Force gas shocks have a limited warranty: One year from date of purchase.

Ground Force retains the exclusive right to determine whether a Defect is material and replacement appropriate.

MATERIAL TO PARTICIPATION IN THIS WARRANTY PROGRAM IS THE DISCLAIMER OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE SOLE REMEDY FOR ANY CLAIM OF PRODUCT DEFECT EITHER IN BREACH OF WARRANTY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE IS LIMITED TO REPAIR OR

REPLACEMENT OF THE PRODUCT AT GROUND FORCE'S DISCRETION.

EACH SELLER, INSTALLER AND USER OF THE PRODUCT AGREES THAT THIS LIMITATION OF REMEDIES IS A CONDITION OF THE SALE OF THE GROUND FORCE PRODUCT. EACH DISTRIBUTOR AND/OR SELLER OF GROUND FORCE PRODUCTS IS REQUIRED TO FORWARD WARRANTY/REMEDY INFORMATION TO EACH PURCHASER.

SELLERS, INSTALLERS AND USERS OF THIS PRODUCT(S) UNDERSTAND AND AGREE THAT REPAIR/REPLACEMENT REMEDY DOES NOT FAIL OF ITS ESSENTIAL PURPOSE. HOWEVER, IF DETERMINED TO FAIL OF ITS ESSENTIAL PURPOSE, SELLERS, INSTALLERS AND USERS AGREE, IN THE ALTERNATIVE, TO ACCEPT A REFUND OF THE PURCHASE PRICE AS A SOLE REMEDY.

Ground Force is not liable to sellers, installers or users of its products for incidental or consequential damages occasioned by any defect, malfunction, sale or use of any product, whether in breach of warranty, contract, strict liability or otherwise.

THIS DOES NOT APPLY TO PRODUCT WHICH HAVE BEEN ABUSED, MISUSED, IMPROPERLY INSTALLED OR TO VEHICLE OWNERS SUBSEQUENT TO INSTALLING PURCHASE.

VALIDATION AND CLAIM PROCEDURE

Answer your questions about Ground Force products by calling our hot line at (724) 430-2068. To take advantage of our warranty/remedy program, complete and return the warranty registration card attached, along with a copy of your receipt, within thirty days (30) of purchase.

To make a warranty claim, notify Ground Force at:

Attn: Ground Force Warranty Claim Department
P.O. Box 149
Mt. Braddock, PA 15465

Providing your name, address, vehicle make and model, product sold and installing dealer, if any. For your convenience, we suggest you keep this warranty/remedy certificate with your owner's manual!

To register part, tear off card below and mail to:

Ground Force Registration Dept.
P.O. Box 149
Mt Braddock, PA 15465

GROUND FORCE WARRANTY/REMEDY REGISTRATION

Yes!! I want to take advantage of Ground Force's warranty/remedy program. I have read the warranty/remedy certificate and certify that the enclosed receipt evidences my purchase of a Ground Force product.

Name: _____
Address: _____
Products: _____
Part#: _____ Dealer/Location: _____ Installer: _____
Date of Purchase: _____ Make & Model: _____
VIN #: _____ Year of Vehicle: _____ Vehicle GVW: _____
Signature: _____

Part #15080
REV. C

GROUND FORCE®

WARNING

MODIFYING AN ORIGINAL EQUIPPED VEHICLE WILL RESULT IN A VEHICLE HANDLING DIFFERENTLY. ALL TYPES OF SUSPENSION MODIFICATIONS WILL AFFECT REACTION, RIDE, HANDLING AND WEAR AND TEAR RATE OF A VEHICLE AND ITS COMPONENTS. ABRUPT MANEUVERS, SHARP AND SUDDEN TURNS AND WEATHER CONDITIONS WILL INCREASE THE VEHICLE'S SUSCEPTIBILITY FOR LOSS OF CONTROL. DEATH AND SERIOUS INJURY COULD BE THE RESULT IF YOU FAIL TO OPERATE A MODIFIED VEHICLE SAFELY. KNOW AND FOLLOW THE LAWS OF THE STATES.

GROUND FORCE Mailing Address:
P.O. Box 149
Mt. Braddock, PA 15465

GROUND FORCE Shipping Address:
714 Braddock View Drive
Mt. Braddock, PA 15465

GROUND FORCE Phone Numbers:
(724) 430-2068
(724) 430-2075 Fax

ENCLOSED WITH THIS PRODUCT IS A WARNING LABEL WHICH IS TO BE AFFIXED ON THE VISOR OF THE VEHICLE WHERE VISIBLE TO ALL OCCUPANTS.