

GROUND FORCE

2015 & UP F-150 FRONT 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
EMBRITTLMENT. THIS KIT HAS A LIMITED LIFETIME WARRANTY.

NOTE: YOU WILL NEED A HEAVY DUTY STRUT COMPRESSOR TO COMPLETE THIS INSTALLATION.

CHECK TO SEE THAT ALL PARTS LISTED ARE INCLUDED.

2-STRUT UPPER URETHANE SPACERS	1-PARTS PACK
2-STRUT LOWER STEEL SPACERS	1-GROUND FORCE WARNING DECAL

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

LF _____ RF _____ LR _____ RR _____

1. BEFORE GETTING UNDER VEHICLE, REMOVE THE KEYS FROM THE IGNITION. DISCONNECT THE
NEGATIVE BATTERY TERMINAL FROM THE BATTERY. DO NOT MOVE THE STEERING OR TIE RODS
LEFT OR RIGHT WHILE DOING THIS INSTALLATION AS **MISALIGNMENT OF THE ELECTRONIC
STEERING SYSTEM** MAY RESULT. 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 UPPER CONNECTING LINK HARDWARE FROM THE SWAY BAR ON BOTH SIDES OF
VEHICLE, SAVE HARDWARE.

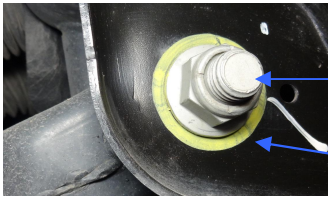


UPPER SWAY
BAR LINK
HARDWARE

SPLASH SHIELD
HARDWARE



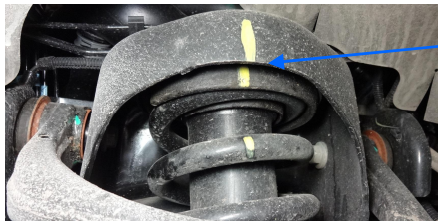
4. LOCATE THE SPLASH SHIELD BEHIND THE LOWER CONTROL ARM REAR BOLTS AND REMOVE THE FOUR BOLTS HOLDING THE SPLASH SHIELD TO THE FRAME BRACKETS (THIS WILL ALLOW YOU TO LOOSEN AND REMOVE THE REAR SET OF LOWER CONTROL ARM BOLTS).
5. LOOSEN THE OUTER TIE ROD NUT, TAP ON THE SPINDLE WITH A Mallet TO POP THE TIE ROD JOINT LOOSE FROM THE SPINDLE. REMOVE THE OUTER TIE ROD FROM THE SPINDLE, SAVE NUT, REPEAT TO THE OTHER SIDE OF VEHICLE.
6. 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 BELOW**
 - 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.



LOWER CONTROL ARM TO FRAME MOUNTING HARDWARE.

PAINT STICK MARK SHOWING FACTORY HARDWARE

7. 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.



UPPER AND LOWER STRUT INDEX MARKS



8. LOOSEN AND REMOVE THE TWO LOWER STRUT MOUNTING NUTS LOCATED UNDER THE LOWER CONTROL ARM, SAVE HARDWARE.



LOWER STRUT MOUNTING HARDWARE LOCATION.

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

9. LOOSEN THE UPPER THREE OUTER NUTS ATTACHING THE STRUT ASSEMBLY TO THE VEHICLE FRAME.
10. SUPPORT THE LOWER CONTROL ARM (UNDER THE CROSS BRACE) NOTE THE DIRECTION OF THE MOUNTING HARDWARE THAT ATTACHES THE LOWER CONTROL ARM A TO FRAME MOUNTS. REMOVE THE LOWER CONTROL ARM TO FRAME HARDWARE (**REFER TO PHOTOS ON THE NEXT PAGE**).

11. LOWER THE JACK SLIGHTLY UNDER THE LOWER CONTROL ARM, REMOVE THE UPPER OUTER THREE STRUT TO FRAME NUTS AND REMOVE THE STRUT ASSEMBLY FROM THE VEHICLE.

DRIVERS SIDE FRONT SHOWN WITH STRUT REMOVED

LOWER CONTROL ARM CROSS BRACE

LOWER CONTROL ARM BEING LOWERED AWAY FROM LOWER STRUT MOUNTING STUDS



12. REPEAT STRUT REMOVAL PROCEDURE TO OTHER SIDE OF VEHICLE.

13. NEW URETHANE UPPER SPRING SPACER INSTALLATION PROCEDURE.

14. COIL SPRING INDEXING.

A. AGAIN IT IS VERY IMPORTANT TO PLACE INDEX MARKS ON THE UPPER AND LOWER STRUT SPRING MOUNTS SO THAT ONCE THE STRUT IS DISASSEMBLED AND REASSEMBLED YOU CAN ALIGN THE UPPER AND LOWER MOUNTS IN THE CORRECT LOCATION.

15. COMPRESS THE STRUT ASSEMBLY STOCK COIL SPRING USING A STRUT/COILOVER COMPRESSOR. FOLLOW THE STRUT/COILOVER COMPRESSOR INSTRUCTIONS.

WARNING: THE COIL IS UNDER PRESSURE. EXTREME CARE MUST BE TAKEN WHEN REMOVING AND INSTALLING THE COILS TO AVOID INJURY.

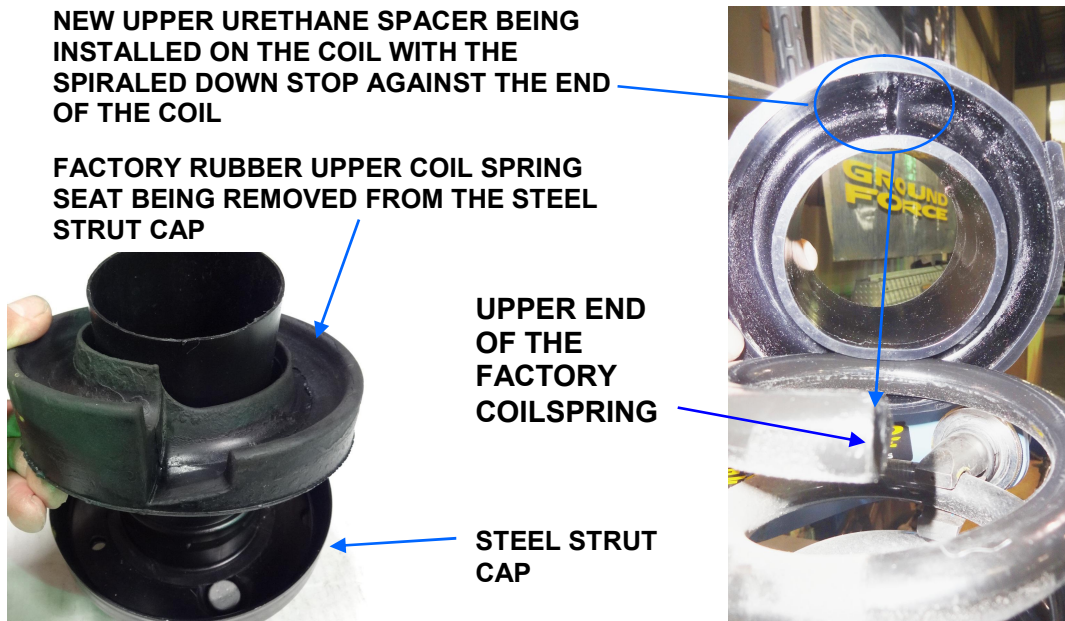


UPPER STRUT CAP INDEX MARK

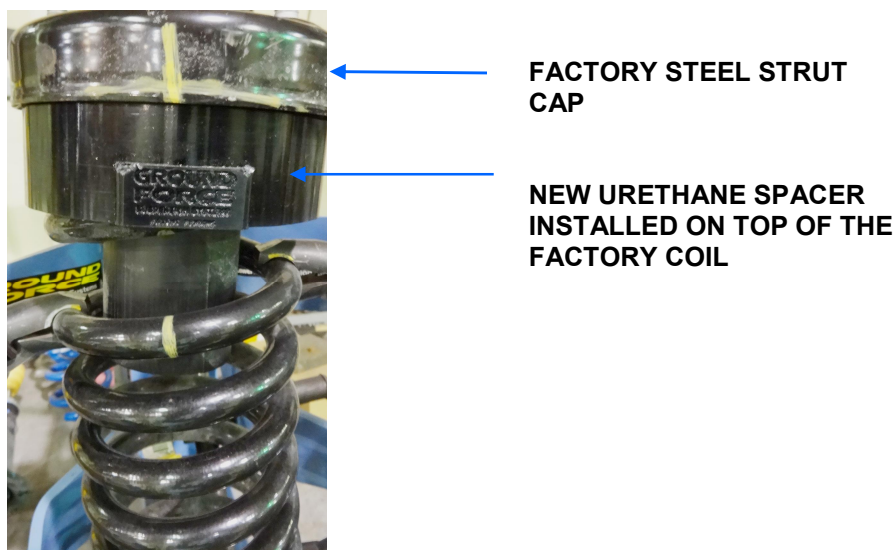
STRUT ASSEMBLY COMPRESSED IN A STRUT COMPRESSOR.

LOWER STRUT MOUNT INDEX MARK

16. ONCE THE SPRING IS COMPRESSED REMOVE THE CENTER UPPER STRUT ROD NUT WHILE HOLDING THE STRUT SHAFT FROM SPINNING INSIDE OF THE STRUT.
 - A. REMOVE THE UPPER STRUT MOUNT FROM THE STRUT.
 - B. REMOVE THE UPPER RUBBER SPRING SEAT FROM THE STRUT.
 - C. REMOVE THE STRUT FROM THE COIL SPRING.
17. NEW URETHANE UPPER SPRING SPACER INSTALLATION PROCEDURE.
 - A. REMOVE THE FACTORY RUBBER UPPER COIL SPRING SEAT FROM THE FACTORY STEEL UPPER STRUT CAP AND DISCARD THE FACTORY RUBBER SPRING SEAT AS IT WILL NOT BE REUSED.
 - B. INSTALL THE SUPPLIED URETHANE COIL SPRING SPACER ON TOP OF THE COIL SPRING AND SPIN THE URETHANE SPACER UNTIL IT IS AGAINST THE SPIRAL DOWN STOP.

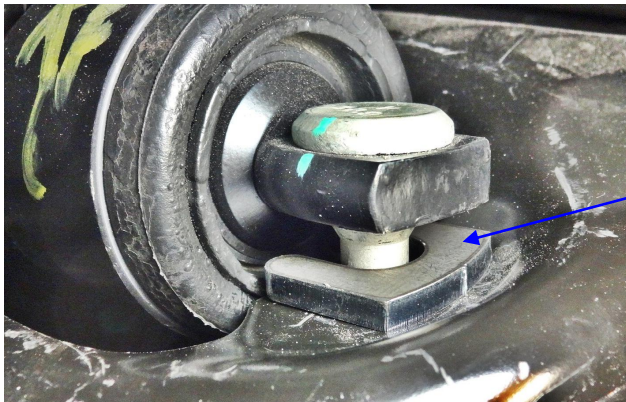


- C. INSTALL THE FACTORY UPPER STEEL STRUT CAP ON TOP OF THE NEW URETHANE SPACER.



- D. MAKING SURE THE COIL IS SECURE IN THE STRUT COMPRESSOR, CONTINUE TO COMPRESS THE COIL JUST FAR ENOUGH TO BE ABLE TO INSTALL THE FACTORY UPPER STRUT HARDWARE.

- E. INSTALL THE STOCK STRUT UP THROUGH THE COIL.
 - F. LOCATE THE INDEX MARKS MADE IN STEP 7 ON THE UPPER STRUT CAP AND LINE IT UP WITH THE INDEX MARK ON THE LOWER STRUT MOUNT.
 - G. INSTALL THE FACTORY UPPER STRUT CENTER RETAINING NUT TO THE STRUT SHAFT AND TORQUE THE STRUT SHAFT RETAINING NUT TO SPEC.
 - H. ONCE THAT YOU ARE SURE THE COIL AND NEW URETHANE SPACER IS LOCATED CORRECTLY ON THE STRUT, REMOVE THE STRUT/COIL ASSEMBLY FROM THE STRUT COMPRESSOR. FOLLOW THE STRUT COMPRESSOR INSTRUCTIONS.
 - I. REPEAT SPACER INSTALLATION TO THE OTHER STRUT.
18. STRUT TO VEHICLE INSTALLATION.
- NOTE: SOME OF THE 2015^ F-150 PICKUPS WILL ONLY REQUIRE APPROXIMATELY 1.5" TO LEVEL THE VEHICLE AND SOME WILL REQUIRE APPROXIMATELY 1.8 TO 2.0" TO LEVEL THE VEHICLE.** WE HAVE INCLUDED LOWER STRUT MOUNT STEEL SPACERS THAT CAN BE INCLUDED DURING THIS STEP IF YOU NEED THE MAXIMUM AMOUNT OF LEVELING.
- 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 FACTORY THREE UPPER STRUT LOCKNUTS (JUST **START** THE NUTS AS THE UPPER STRUT MOUNT WILL NEED TO MOVE SOME WHEN THE LOWER STRUT STUDS ARE BEING LINED UP WITH THE LOWER CONTROL ARM).
 - D. USING THE LCA CROSS BRACE AS A JACKING POINT, JACK UP THE LOWER CONTROL ARM AND LINE UP THE LOWER STRUT MOUNTING STUDS INTO THE LOWER CONTROL ARM AND **JUST START** THE FACTORY LOWER STRUT RETAINING NUTS, IF YOU ARE GOING TO INSTALL THE SUPPLIED LOWER STRUT STEEL SPACERS, MOVE TO THE NEXT STEP BEFORE INSTALLING THE LOWER STRUT RETAINING NUTS.
 - E. IF YOU ARE LOOKING FOR THE MAXIMUM AMOUNT OF LEVELING, INSTALL THE SUPPLIED METAL SPACERS BETWEEN THE BOTTOM OF THE STRUT MOUNT AND THE TOP OF THE LOWER CONTROL ARM STRUT MOUNT, OVER THE FACTORY STRUT STUD AS SHOWN BELOW AND JUST START THE FACTORY LOWER STRUT RETAINING NUTS.



SUPPLIED LOWER METAL STRUT SPACER BEING INSTALLED BETWEEN THE BOTTOM OF THE LOWER STRUT MOUNT AND THE TOP OF THE LOWER CONTROL ARM.

- F. CONTINUE TO JACK UP THE LOWER CONTROL ARM LINING UP THE CONTROL ARM INTO THE FRAME MOUNTING POCKETS, REINSTALL THE FACTORY LOWER CONTROL ARM TO FRAME MOUNTING HARDWARE IN THE SAME DIRECTION AS REMOVED JUST **START** THE NUTS.
- G. INSTALL THE CONNECTING LINK UP INTO THE SWAY BAR AND JUST START THE FACTORY RETAINING NUT.
- H. REPEAT STRUT INSTALLATION PROCEDURE TO THE OTHER SIDE OF VEHICLE.
- I. TORQUE THE LOWER STRUT MOUNTING HARDWARE TO SPEC.

19. REPOSITION THE JACK OUT TOWARD THE SPINDLE SIDE OF THE LOWER CONTROL ARM AND JACK THE SUSPENSION UP TO RIDE HEIGHT (MAKE SURE YOUR SAFETY STANDS ARE SECURE UNDER THE VEHICLE. WITH THE HELP OF AN ASSISTANT LINE UP THE LOWER CONTROL ARM MOUNTING HARDWARE TO THE MARKS MADE IN STEP NO 6 AND TORQUE THE LOWER CONTROL ARM TO FRAME MOUNTING BOLTS TO SPEC. REPEAT TO THE OTHER SIDE OF VEHICLE.
20. TORQUE THE UPPER THREE STRUT NUTS TO SPEC.
21. WITH THE STRUT AND LOWER CONTROL ARM NOW TIGHTENED TO SPEC LOWER THE JACK UNDER THE LOWER CONTROL ARM UNTIL THE SUSPENSION IS FREE HANGING.
 - A. WITH THE STEERING TIE RODS **STILL DISCONNECTED** TURN THE STEERING KNUCKLES FROM COMPLETE LEFT LOCK TO COMPLETE RIGHT LOCK BY HAND AND VERIFY THAT YOU HAVE **CLEARANCE** BETWEEN THE LOWER STRUT MOUNT AND THE OUTER CV BOOT AS SHOWN BELOW. THIS SYSTEM WAS DESIGNED TO HAVE CLEARANCE WITH FACTORY CV BOOTS. IF YOU WOULD HAVE CONTACT BETWEEN THE OUTER CV BOOT AND THE LOWER STRUT MOUNT REMOVE THE LOWER STRUT METAL SPACERS THAT WERE INSTALLED IN STEP 18 E. RECHECK THE CLEARANCE.



CLEARANCE BEING CHECKED BETWEEN THE OUTER CV BOOT AND THE LOWER STRUT MOUNT. MAINTAIN A MINIMUM OF 1/8" AT THE CLOSEST POINT WITH THE SUSPENSION HANGING IN THE FULL DROOP POSITION.

22. REINSTALL THE TIE RODS TO THE SPINDLES AND TORQUE TO SPEC.
23. TORQUE THE UPPER CONNECTING LINK NUTS TO SPEC ON BOTH SIDES OF THE VEHICLE.
24. REINSTALL THE SPLASH SHIELD INTO THE FACTORY POSITION AND INSTALL THE FACTORY HARDWARE AND TORQUE TO SPEC.
25. MAKE SURE ALL FASTENERS AFFECTED BY THIS PROCEDURE ARE TORQUED TO SPEC.
26. REINSTALL TIRE AND WHEEL ASSEMBLY AND TORQUE TO SPEC.
27. CHECK AND MAKE SURE THAT ALL INSTALLATION STEPS HAVE BEEN COMPLETED. CHECK ALL NUTS AND BOLTS FOR TORQUE AFTER THE FIRST 300 MILES.
28. JACK THE VEHICLE UP AND REMOVE STANDS, THEN LET THE VEHICLE DOWN AND RECONNECT THE NEGATIVE BATTERY TERMINAL ON THE BATTERY.
29. MAKE SURE THERE ARE NO CLEARANCE PROBLEMS. ROTATE THE STEERING LOCK TO LOCK UNDER FULL WEIGHT OF THE VEHICLE AND FULL SUSPENSION TRAVEL.
30. ROAD TEST VEHICLE.
31. **MAKE SURE TO INSTALL THE SUPPLIED WARNING DECAL FOLLOWING THE INSTRUCTIONS INCLUDED WITH THE WARNING INFORMATION SHEET.**
32. MAKE SURE TO KEEP THESE INSTRUCTIONS WITH THE VEHICLE.
33. THE VEHICLE NEEDS TO HAVE A FRONT END ALIGNMENT PERFORMED IMMEDIATELY AFTER THE INSTALLATION OF THIS KIT IS COMPLETE. THE FACTORY ADJUSTING BOLTS WILL NEED TO BE SET TO THE FACTORY SPECIFICATIONS.
34. READJUST THE HEADLIGHTS TO THE PROPER SETTINGS.

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, 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 you questions about Ground Force products by calling our hot line 724-430-2068. 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
PO 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 you owner's manual!

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

Ground Force Registration Dept
PO 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/Purchase _____ / _____ Make/Model: _____ / _____
VIN # _____ Year of Vehicle: _____ Vehicle GVW: _____

Signature: _____



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

(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.