

ROADMASTER ACTIVE SUSPENSION

These Fitting Instructions must be read and followed step by step

FOR CHEVY & GMC PASSENGER VANS 2007 TOPRESENT

1500, 2500 & 3500 PASSENGER VANS MK2-XVM Item 2613M

Patents USA 5,540,417 Canada 21,29,275

THIS VAN HAS A KIT FOR THE PASSENGER SIDE REAR LEAF SPRING AND A SLIGHTLY DIFFERENT KIT FOR THE DRIVERS SIDE REAR LEAF SPRINGS. THE DRIVERS SIDE ON THIS VAN HAS REAR AIR & HEATING TUBING LINES WHICH WILL BE AVOIDED WITH THIS SIDE KIT.

ALWAYS START THE INSTALLATION ON THE PASSENGER SIDE FIRST

The RAS kit must never be fitted while the vehicle is standing with the rear wheels on the ground. In this position the rear leaf springs will be under load and the Roadmaster Coil Tension Spring settings cannot be achieved, resulting in the Roadmaster not working correctly. Always install with the rear axle and leaf springs hanging free.

CHECK THE LEAF SPRINGS FOR ANY EXCESS WEAR, FATIGUE, CRACKED OR BROKEN LEAF SPRING BLADES OR WORN BUSHINGS - ESPECIALLY OLDER SPRINGS, THESE MUST BE REPLACED WHERE NECESSARY.

WHEN FITTING TO OLDER VEHICLES, THE U/BOLTS NUTS COULD BE BADLY CORRODED, MAKING IT IMPOSSIBLE TO REMOVE THEM. IF THIS IS THE CASE, THE U/BOLTS MUST BE REPLACED.

ANY DEVIATION FROM THESE INSTRUCTIONS WILL RENDER THE WARRANTY VOID. THIS KIT WILL NOT BE WARRANTIED IF INSTALLED ON ANY VEHICLE WHERE THE REAR SUSPENSION HAS BEEN MODIFIED IN ANY WAY. WE STRONGLY RECOMMEND TO ACHIEVE THE MAXIMUM SAFETY ADVANTAGE THE FOLLOWNG MUST BE ADHERED TO:

- 1) THE TIRES MUST BE IN GOOD CONDITION AND THE CORRECT PRESSURE MUST BE MAINTAINED AT ALL TIMES.
- 2) THE MANUFACTURER'S GROSS VEHICLE WEIGHT (GVW) SHOULD NOT BE EXCEEDED.
- 3) THE DRIVER SHOULD BE COMPETENT AND EXPERIENCED IN THE HANDLING OF THIS TYPE OF VEHICLE.
- 4) ALL OCCUPANTS MUST WEAR SEAT BELTS AT ALL TIMES.
- 5) ALLOW LONGER FOLLOWING AND STOPPING DISTANCES AND AVOID SHARP MANEUVERS.

ROADMASTER ACTIVE SUSPENSION ASSEMBLY COMPONENTS FOR THE PASSENGER SIDE



ROADMASTER ACTIVE SUSPENSION ASSEMBLY COMPONENTS FOR THE DRIVER'S SIDE

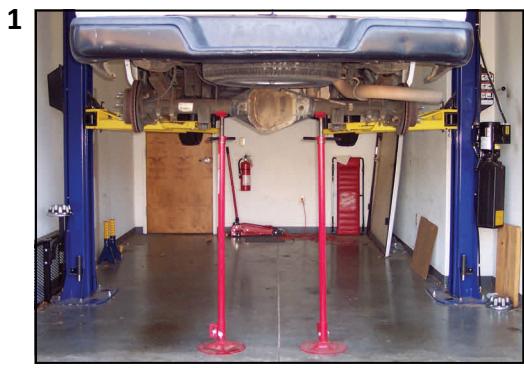


PASSENGER SIDE

| | |
|----------------------------------|---|
| A. AXLE SIDE THREADED ROD | 1 |
| B. CUP BEARING | 1 |
| C. EYE BRACKET | 1 |
| D. TENSION SPRING | 1 |
| E. EYE BRACKET SIDE THREADED ROD | 1 |
| F. AXLE CONNECTING BRACKET & | 1 |
| G. ASSEMBLY | 5 |

DRIVERS SIDE

| | |
|---|---|
| A. AXLE SIDE THREADED ROD | 1 |
| B. CUP BEARING | 1 |
| C1. EYE BRACKET LONG | 1 |
| D. TENSION SPRING | 1 |
| E. 1. EYE BRACKET SIDE THREADED ROD SHORT | 1 |
| F. AXLE CONNECTING BRACKET & | 1 |
| G. ASSEMBLY | 5 |

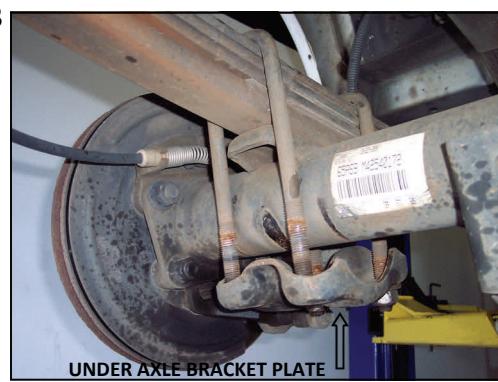


1) WHEN FITTING TO A VEHICLE USING A LIFT THAT WILL ALLOW THE REAR AXLE TO HANG FREE WITHOUT RESTRICTION.

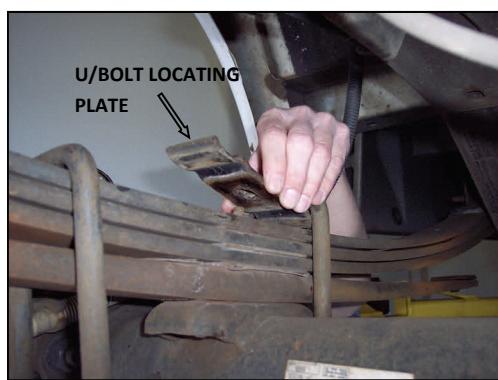
RAISE THE VEHICLE ON THE LIFT AND REMOVE THE TWO REAR WHEELS. THE REAR LEAF SPRINGS WILL NOW BE IN THEIR MAXIMUM BOWED POSITION. NEXT PLACE TWO AXLE SUPPORT STANDS UNDER THE AXLE AS SHOWN, **TO JUST SUPPORT THE WEIGHT OF THE AXLE AND REAR SUSPENSION ONLY.**



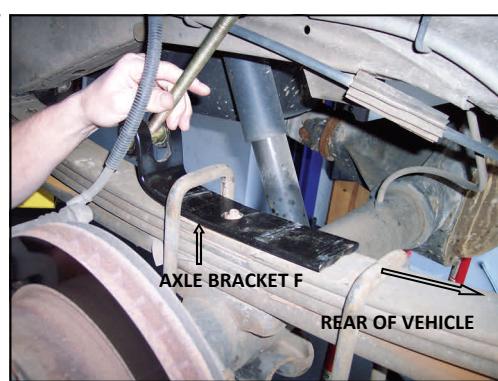
2) WITH THE AXLE NOW WELL SUPPORTED, REMOVE THE TWO U/BOLT NUTS AS SHOWN IN ILLUSTRATION IN (3)



3) THE TWO NUTS ON THE OTHER U/BOLT DO NOT HAVE TO BE REMOVED COMPLETELY. LOOSEN THESE NUTS AND ALLOW ABOUT 1/8" OF THREAD TO STILL PROTRUDE AT THE BOTTOM OF THE U/BOLTS. THIS WILL PREVENT THE U/BOLT UNDER AXLE BRACKET PLATE FROM HAVING TO BE REMOVED.



4) NEXT, WITH THE TWO NUTS NOW REMOVED FROM THE ONE SIDE U/BOLT, RAISE THE U/BOLT OUT OF THE UNDER AXLE BRACKET PLATE, THEN REMOVE THE U/BOLT LOCATING PLATE FROM ONTOP OF THE LEAF SPRING.

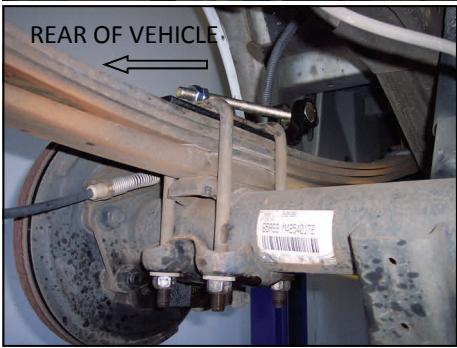


5) LOCATE THE AXLE BRACKET (F) THAT HAS THE THREADED ROD ATTACHED, AS ILLUSTRATED, UNDER THE U/BOLT THAT STILL HAS THE NUTS ATTACHED. THE (F) BRACKET HAS A 22mm HOLE IN THE CENTER, THIS HOLE IN THE BRACKET MUST BE POSITIONED DIRECTLY OVER THE LEAF SPRING CENTER LOCATING BOLT NUT, AS SHOWN.

NOTE THE THREADED ROD MUST FACE THE REAR OF VEHICLE

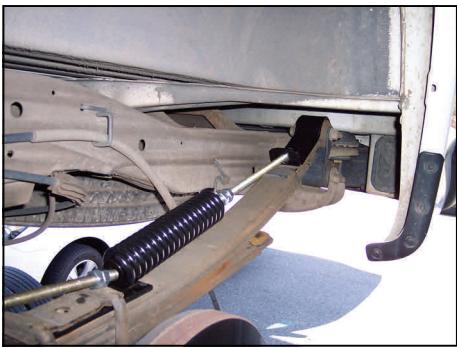


- 6) WITH THE BRACKET (F) POSITIONED ON TOP OF THE LEAF SPRING, NEXT LOCATE THE U/BOLT LOCATING PLATE ON TOP OF THE BRACKET (F). THEN RELOCATE THE OTHER U/BOLT, AS SHOWN, THROUGH THE TWO HOLES IN THE UNDER AXLE BRACKET PLATE AND ONTO THE U/BOLT LOCATING PLATE, AS SHOWN.

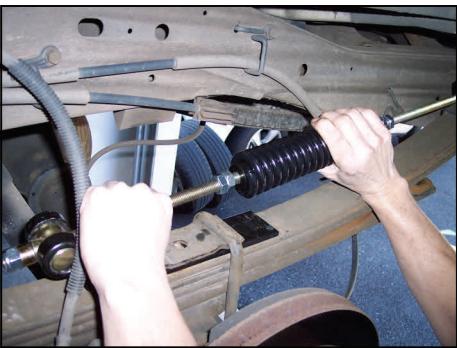


- 7) RELOCATE THE FOUR NUTS ON THE U/BOLTS AND TORQUE TO 110 FT LBS. THE TWO NUTS LOCATED ON THE THREADED ROD ARE LOCKED TOGETHER AND MUST NOT BE MOVED, AS THEY ARE LOCATED IN THE CORRECT POSITION.

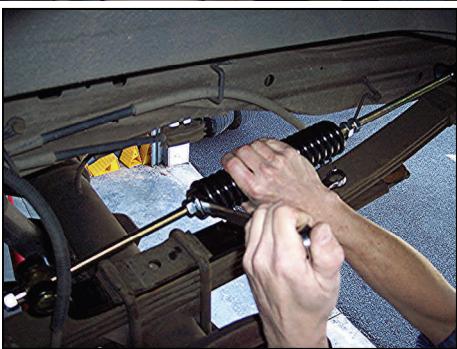
NOTE THE THREADED ROD MUST BE FACING THE REAR OF VEHICLE



- 8) NEXT POSITION THE EYE HOOK BRACKET WITH THE COIL SPRING ATTACHED, OVER THE REAR LEAF SPRING EYE AS SHOWN.



- 9) THEN ATTACH, BY SCREWING THE THREADED ROD, WHICH IS ATTACHED TO THE BRACKET (F) INTO THE COIL SPRING UNTIL THE NUTS ON THE THREADED ROD ARE AGAINST THE COIL SPRING. TWO NUTS ON THE OTHER THREADED ROD ATTACHED TO THE EYE HOOK BRACKET MUST BE POSITIONED ABOUT 4" FROM THE COIL SPRING. THESE NUTS WILL BE USED, AFTER THE COIL SPRING HAS BEEN ADJUSTED TO THE CORRECT TENSION.



- 10) NEXT LOCK THE ONE NUT ON THE THREADED ROD ATTACHED TO THE BRACKET (F) HARD AGAINST THE COIL SPRING. TO DO THIS, HOLD THE COIL SPRING TIGHTLY WITH HAND AND USING A 22mm OR 7/8" WRENCH, THEN LOCK THE OTHER NUT HARD AGAINST THE FIRST.

AT THIS STAGE DO NOT ADJUST THE TENSION ON THE COIL SPRING, THIS WILL BE DONE LATER WHEN BOTH THE DRIVER AND PASSENGER SIDES HAVE BEEN INSTALLED.

DRIVER'S SIDE INSTALLATION



THIS DRIVER'S SIDE KIT COMES OUT OF THE BOX WITH **TWO** PARTLY ASSEMBLED SECTIONS. THE LONG EYE HOOK BRACKET (**C1**) AND THE SHORTER THREADER ROD (**E1**) COME CONNECTED AND ASSEMBLED.

THE OTHER SECTION HAS THE AXLE ANCHOR BRACKET (**F**) THE AXLE SIDE THREADED ROD (**A**) AND THE COIL SPRING (**E**) (ALL CONNECTED AND ASSEMBLED).

AXLE CONNECTION SIDE

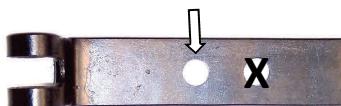
THE DRIVER'S SIDE HAS AIR AND HEATING TUBING THAT RUN TOWARDS THE REAR OF THE VAN, IN ORDER TO PREVENT THE ROADMASTER MAKING CONTACT AND INTERFERING WITH THESE LINES, A LONG EYE BRACKET (**C1**) IS USED.

11



- 11) START THE INSTALLATION THE SAME WAY AS ON THE **PASSENGER SIDE**, AS ILLUSTRATED, WITH THE BRACKET (**F**) UNDER THE TWO U/BOLTS. THIS SIDE AXLE CONNECTING BRACKET, COMES WITH THE THREADED ROD (**A**) ATTACHED TO THE COIL SPRING, WITH THE THREADED ROD (**A**) SCREWED INTO THE COIL SPRING, THE TWO NUTS ON THE THREADED ROD COME SECURELY LOCKED TOGETHER AGAINST THE COIL SPRING.

ONCE AGAIN USE THIS HOLE



12



- 12) WITH THE AXLE CONNECTING BRACKET NOW SECURELY LOCATED. NEXT POSITION THE LONG EYE HOOK BRACKET (**C1**) WITH THE SHORT THREADED ROD (**E1**) ATTACHED OVER THE REAR LEAF SPRING EYE. THE BRACKET (**C1**) MUST AT ALL TIMES BE LOCATED IN THE CENTER OF THE LEAF SPRING EYE, AS SHOWN BELOW.



THE EYE BRACKET (**C1**) POSITIONED IN THE CENTER OF THE LEAF SPRING EYE.

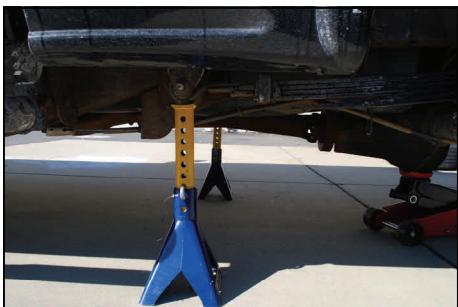
13



- 13) NEXT ATTACH, THE TWO SECTIONS TOGETHER, BY SCREWING THE SHORT THREADED ROD (**E1**) ATTACHED TO THE LONG EYE BRACKET (**C1**) INTO THE COIL SPRING. THE ONE NUT ON THE THREADED ROD (**E1**) MUST BE POSITIONED IN THE MIDDLE OF THE THREADED ROD AND WILL BE USED LATER WHEN THE COIL SPRING HAS BEEN CORRECTLY TENSIONED. CONTINUE TURNING THE SHORT THREADED ROD INTO THE COIL SPRING, UNTIL THE COMPLETE SIDE IS SUPPORTED, THE NUT WILL BE USED LATER, AFTER THE COIL SPRING HAS BEEN ADJUSTED TO THE CORRECT TENSION.

WITH BOTH THE PASSENGER AND DRIVER SIDE NOW INSTALLED, CONTINUE BY TENSIONING THE COIL SPRINGS

14



- 14) WHEN FITTING ON A LIFT WITH BOTH SIDES INSTALLED AND THE VEHICLE WELL SUPPORTED, REMOVE THE AXLE STANDS SO THE LEAF SPRINGS CAN HANG FREE IN THEIR MAXIMUM BOWED POSITION.

WHEN FITTING ON THE GROUND

WITH BOTH SIDES NOW INSTALLED, BEFORE APPLYING TENSION TO THE COIL SPRINGS, THE LEAF SPRINGS MUST BE HANGING FREE AND IN THE MAXIMUM BOWED POSITION. TO DO THIS THE AXLE STANDS MUST BE REMOVED FROM UNDER THE AXLE AND RE POSITIONED AS SHOWN, UNDER THE FRAME OF THE VAN. ILLUSTRATION SHOWS UNDER THE EYE OF THE LEAF SPRING CONNECTED TO THE FIXED SHACKLE.

15



- 15) **WITH BOTH THE AXLE HANGING FREE, START ON THE PASSENGER SIDE.** THE THREADED ROD (E) ATTACHED TO THE EYE HOOK BRACKET (C) HAS TWO NUTS THAT COME LOCKED TOGETHER AT THE END OF THE THREADED ROD. USE A 22mm OR 7/8" WRENCH ON THE NUTS, TO PREVENT THE THREADED ROD FROM TURNING YOU CAN WEDGE THE WRENCH AGAINST THE UNDER SIDE OF THE FLOOR OF THE VEHICLE, THIS WILL FREE ONE HAND.

16



- 16) IN ORDER TO SCREW THE THREADED ROD (E) ATTACHED TO THE EYE HOOK BRACKET (C) INTO THE COIL SPRING, USE A 22mm OR 7/8" SOCKET AND RATCHET ON THE NYLOC NUT THAT HAS BEEN ATTACHED TO THE END OF THE THREADED ROD (A) WITH LOCTITE.

BY TURNING THE THREADED ROD (A) ATTACHED TO THE COILSPRING AS ILLUSTRATED IN (15), THE COIL SPRING WILL TURN AND THE STATIONERY THREADED ROD (E) ATTACHED TO THE EYE HOOK BRACKET WILL NOW SCREW INTO THE COIL SPRING.

17



- 17) KEEP TURNING THE COIL SPRING UNTIL THE GAP BETWEEN THE COILS OPEN SUFFICIENTLY TO ALLOW THE SMALL WHITE PLASTIC DISC GAUGE (INCLUDED IN THE KIT) TO JUST FITS BETWEEN THE COILS.

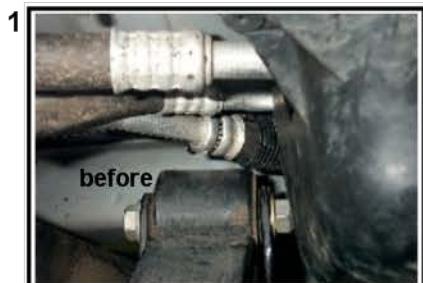
18



- 18) NOW THAT THE COIL SPRING HAS BEEN SET TO THE CORRECT TENSION, THE NUTS ON THE THREADED RODS, ON EITHER SIDE OF THE COIL SPRING, MUST BE SECURELY LOCKED AGAINST THE COIL SPRING. TO DO THIS, USE TWO WRENCHES IN OPPOSITE DIRECTIONS AS SHOWN ON PAGE (15)

WITH THE INSTALLATION ON THE PASSENGER SIDE NOW COMPLETE REPEAT ON THE DRIVERS SIDE. THEN CHECK THAT ALL NUTS ARE SECURE.

ON SOME CHEVY 2500 AND 3500 PASSENGER VANS, THE REAR A/C AND HEATER LINES ARE LOCATED VERY CLOSE TO THE DRIVER'S SIDE REAR LEAF SPRING EYE. IF THESE LINES WILL INTERFERE WITH THE ROADMASTER KIT WHEN INSTALLED, THE FOLLOWING WILL OVERCOME THIS PROBLEM.



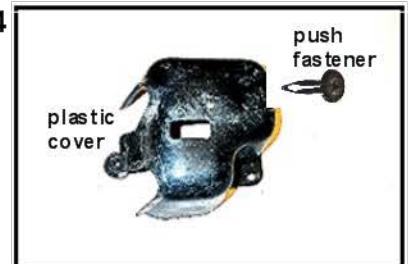
1) ILLUSTRATION SHOWING HOW ON SOME VANS, THE A/C AND HEATER LINES ARE LOCATED VERY CLOSE TO THE REAR LEAF SPRING EYE.



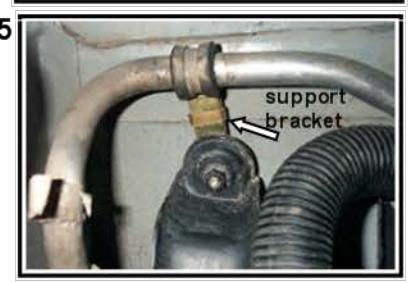
2) ILLUSTRATION SHOWING HOW THE LINES LOOK AFTER THEY HAVE BEEN RE LOCATED. THE ROADMASTER KIT CAN NOW BE INSTALLED WITHOUT INTERFERING WITH THE REAR A/C AND HEATER LINES.



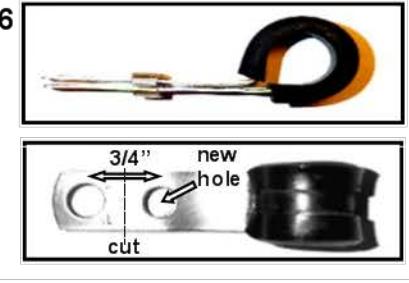
3) ON SOME VANS GM HAS FITTED A PLASTIC COVER LOCATED ON THE REAR DRIVERS SIDE. THIS COVER MUST FIRST BE REMOVED BEFORE THE LINES CAN BE REPOSITIONED. THE COVER IS FASTENED TO THE UNDERSIDE OF THE VAN WITH ONE NUT, LOCATED ON A STUD ON THE UNDERSIDE OF THE FLOOR PAN. THIS STUD IS ALSO USED TO HOLD THE SUPPORT BRACKET FOR ONE OF THE A/C LINES. THERE ARE ALSO TWO PLASTIC PUSH FASTENERS HOLDING THE COVER, THAT MUST ALSO BE REMOVED.



4) ILLUSTRATION SHOWING THE PLASTIC COVER AND WHAT THE TWO PLASTIC PUSH FASTENERS LOOK LIKE

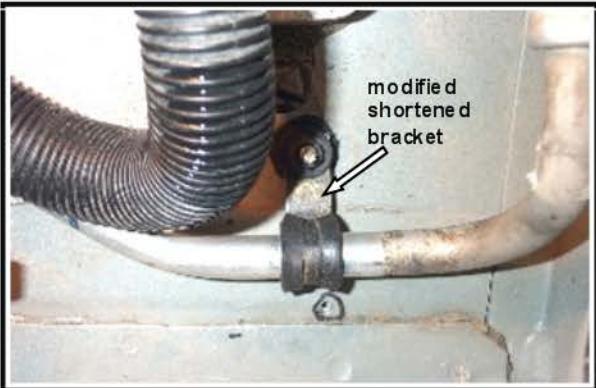


5) ILLUSTRATION SHOWING THE SUPPORT BRACKET FOR ONE OF THE A/C LINES. ONCE THE PLASTIC COVER HAS BEEN REMOVED, REMOVE THIS BRACKET. THIS LINE IS CONNECTED TO A RUBBER LINE WITH A PLASTIC STRAP TIE, ABOUT 8" FURTHER ALONG THE LINE.



6) WITH THE BRACKET NOW REMOVED, DRILL A NEW HOLE TO BE LOCATED 3/4" (CENTER TO CENTER) FROM THE EXISTING HOLE. NEXT CUT THE BRACKET SHORTER, BETWEEN THE TWO HOLES, AS SHOWN IN THE ILLUSTRATION. A SHORTER BRACKET IS REQUIRED TO REPOSITION THE LINES.

7



7) NEXT REPLACE THE MODIFIED SHORTENED SUPPORT BRACKET. THIS WILL PULL THE TWO LINES FURTHER AWAY FROM THE SPRING EYE.

8



8) THE ILLUSTRATION AS IN (7) BUT WITH THE PLASTIC COVER RELOCATED.

9



9) ILLUSTRATION SHOWING THE TWO LINES NOW AWAY FROM THE LEAF SPRING EYE. NOTE PLASTIC STRAP TIE HOLDING BOTH LINES TOGETHER.

WITH THE TWO LINES NOW RELOCATED AND AWAY FROM THE REAR LEAF SPRING EYE, ON THE DRIVERS SIDE, THE ROADMASTER ACTIVE SUSPENSION KIT CAN NOW BE INSTALLED.