Schrdth®

SCHROTH

INSTALLATION & OPERATING INSTRUCTIONS BMW E82 / E92 / E92 LCI Quick Fit & Quick Fit Pro Harnessbelts



Safety through Technology

Edition 10/2013

Imported by:

USA: HMS MOTORSPORT 9A Electronics Ave. Danvers, MA 01923 Toll Free (888) 467-3269 Phone (978) 774-1615 FAX (978) 774-1548

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This manual contains important information as well as DANGERs, WARNINGs and SAFETY INSTRUC-TIONs regarding the proper installation, effective use and maintenance of the SCHROTH harnessbelt. Please be sure to read and thoroughly understand its contents before beginning installation and before using the system. Follow all instructions and Safety Instructions carefully and be especially sure to heed all Dangers and Warnings.

Always keep this manual in your car for reference and be sure to leave it with the car if you sell it with the harness belt system installed.

Important information and instructions in this manual are shown:



lead to serious personal injury or death.



WARNINGS deal with important issues about installation, use, misuse or modification of the SCHROTH harnessbelt.

Ignoring these Warnings will significantly reduce the performance of the harness belt system. This can result in serious personal injury or death during an accident.



 Safety instructions contain important nints to help you effectively install, use and maintain the SCHROTH harnessbelt.

Always carefully read and follow the information in this manual, especially those highlighted as above.

INSTALLATION & OPERATING INSTRUCTIONS

Approvals:

BMW E82/E92/E92 LCI Rallye 4 Harnessbelts

USA:

Tested in accordance with applicable provisions of FMVSS 209

US model tested and inspected by

E LESLING Engineers International SALT LAKE CITY, UTAH LISTING No. 15693

Made in Germany by:

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Congratulations!

With the purchase of this SCHROTH asm harnessbelt, you have chosen a sophisticated restraint system, which represents a further advance in harness restraint technology. Extensive research, testing and field experience has shown it to offer, when properly installed and worn, high levels of protection in head-on collisions.

SCHROTH BM W specific asm-Rallye 4 Series harnessbelts are only intended for installation at the left and right outboard front seating positions of designated BMW model passenger cars which have been specifically evaluated by SCHROTH engineers for anchor point locations and suitability of available front seats.

Before attempting installation, please first answer the following questions and carefully follow the instructions which accompany them.



 Is your vehicle a BMW 1 series manufactured from 2007 to 2013 (E82) or a 3 series coupe manufactured from 2005 to 2013 (E92/E92LCI)
 YES □ NO □



Proper harness belt geometry requires that seat belt anchor points be located within narrowly defined areas. Therefore SCHROTH harnessbelts may only be installed in SCHROTH approved vehicles for which proper anchorage location and belt geometry has been determined to exist.

2. Have you maintained your original equipment factory provided seats and factory harness mounting points? YES □ NO □



These belts are only approved for use in the designated BMW models in conjunction with the factory provided seat and factory provided DOT mounting points. This belt must not be used if either the seat and/or the factory mounting locations or mounting hardware have been changed or modified in any way.

Do you have a left belt for the driver's side and/or a right belt for the passenger's side? (See illustrations on page 5.)
 YES □ NO □



Left and right belts are not interchangeable! Installation of harness belts on wrong side of vehicle can cause severe head injury or death during rebound phase of frontal collision! Make sure black asm-cartridge is on the inboard shoulder strap, see illustration on page 6.

If your answer to any of these 4 questions is [NO], do not install the SCHROTH harnessbelt system.

If you have answered <u>ALL</u> questions with [YES], you may install the SCHROTH harnessbelt system in your BMW.

Please remember that installation procedures will require you to perform a variety of operations requiring familiarity with tools and mechanical procedures. If you have any doubt about your ability to properly install the SCHROTH asm harnessbelt system, take this manual and all parts supplied to a competent mechanic for installation.



Please follow these instructions carefully while installing and before using the belt! Failure to follow instructions can not only damage and reduce the performance of the system, but may also result in the denial of warranty claims.

SAFETY INSTRUCTIONS

• SCHROTH asm harnessbelts are designed to be installed in addition to the stock restraint systems. Always heed Country/State laws governing the use of seat belts.



This SCHROTH asm harnessbelt is only suitable for adults on front outboard seating positions.

SCHROTH asm harnessbelts are not intended or suited for use by children under 12 years of age, or persons who weigh less than 88 lbs (40 kg) or those who are less than 4'11" tall (1.50 meters), regardless of age. Such persons will not be adequately protected by the harness system and may receive more severe injury than would otherwise be expected.

SCHROTH U.S. model harnessbelts have been tested in accordance with performance parameters of Federal Motor Vehicle Safety Standard 209 with the exception of Paragraph S 4.6 (full scale impact testing as described in FMVSS 208). FMVSS 209 deals with lap and three point restraints and does not expressly refer to harness belts. SCHROTH has nevertheless applied the performance criteria specified in FMVSS 209 to the system to the extent applicable.

These belts, when properly installed and used according to applicable instructions can mitigate injury. The ability of any restraint system to mitigate or prevent injury is directly related to the type and severity of the accident. SCHROTH asm harnessbelts have been tested in dynamic sled tests utilizing a 75 kg (165 lbs) Hybrid II anthropometric dummy to simulate head-on collisions at 50 km/h (31 mph). They also have been dynamically tested utilizing a 75 kg mass dummy in accordance with European Safety Standard ECE-R 16.04.

PACKAGE CONTENTS

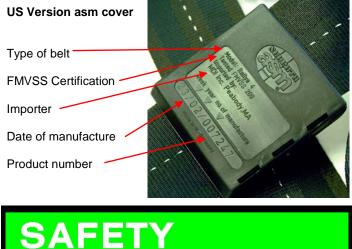
The contents of each package is as detailed in the table below for each belt.

BMW Rallye 4 Left		BMW Rallye 4 Right	
BMW Left Belt	1x	BMW Right Belt	1x
Left side lap belt connector	1x	Right side lap belt connector	1x
Left side tail strap connector	1x	Right side tail strap connecto	r1x
Reduction collar	2x	Reduction collar	2x
SCHROTH asm sticker	1x	SCHROTH asm sticker	1x
SCHROTH Racing sticker	1x	SCHROTH Racing sticker	1x
-		-	

All BMW Rallye 4 belts re-use factory mounting bolts for the outside lap belt mounting points and Schroth provided replacement bolts for the outside rear mounting points

MANUFACTURING INFORMATION

Each SCHROTH belt is manufactured to exacting standards. Specific manufacturing information of each belt is printed on the back side of the plastic **asm** cartridge cover.



INSTRUCTIONS

Always keep this manual in the vehicle so that others can thoroughly familiarize themselves with the proper use of the system.

INSTALLATION INSTRUCTIONS

1 General Instructions

Always leave original equipment seat belts in place and available for use.

We strongly recommend that you leave in place all BMW factory provided 3-point restraint systems originally supplied for the front and rear seating positions of your vehicle when you install the SCHROTH asm harnessbelt. Removal of original equipment restraint systems may also violate applicable State or Federal law.

To carry rear seat passengers, you must use your standard 3point factory provided front seat belts. To use the factory installed seat belts after a SCHROTH BMW Rallye 4 belt has been installed you must first release (un-clip) all four points of the SCHROTH belt and remove it.

Leaving original equipment restraint systems in place and fully functional will enable you to choose either the SCHROTH Rallye 4 OR the vehicle's standard seat belts when it is necessary to transport passengers in any of the rear seats or when either harness belt is not suited for use by the driver or front seat passenger.



When using the SCHROTH harnessbelts, folding front seat backrests will be restricted in their range of motion. Evacuation or rescue of rear seat passengers can be restricted or even impossible after an accident and severe injuries or death may occur. DO NOT CARRY REAR SEAT PASSENGERS WHEN USING SCHROTH RALLYE BELTS.



Separate SCHROTH asm harnessbelts are supplied for the left and right sides. The black "asm cartridge" must be on the inboard shoulder strap when system is installed (see illustration). Never install a belt on wrong side of vehicle. System will not function properly in an accident and serious injury or death may occur.





Use of improper attachment points will impair system performance.

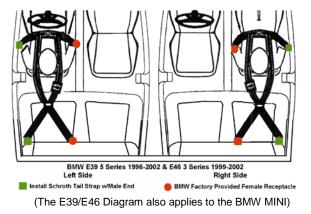
Weak tail strap anchor points will not withstand the forces in an accident and increase the risk of personal injury.

Never attach the tail strap to anchorages intended for the tether straps of child seats that are found on the filler panels behind the rear seats of some passenger cars or the luggage area of some hatchbacks or station wagons. These anchor points are not strong enough to withstand the forces of an accident and are not intended for adult belts.

Harness belt systems may only be installed at suitable anchor points for seat belt systems as originally installed by the vehicle manufacturer.

For suitable anchor points for make, model and model year of your vehicle, see Certified Vehicle List (Vehicle Reference List). If in doubt, ask your dealer to show you where these anchor points are located.

These figures show the general location and suitability of seat belt anchor points installed as standard equipment in specific E46, E39, and MINI model passenger cars.



Green Squares represent points where SCHROTH provided male connecting tail straps are to be installed at factory mounting points along with factory provided harnessbelts.

• Red Circles represent points where the SCHROTH BMW Rallye 4 belts are designed to plug into BMW factory provided seatbelt female receptacles.





Never drill or tap or make a new attachment point in the body or chassis in order to mount a SCHROTH Quick Fit harness at that location. Such attachment points are inadequate, may be improperly located and can seriously impair the function and effectiveness of the system.

Please compare the mounting locations on your car with the illustration on page 6 and verify the "Model Tag" as pictured above (sewn into the tail strap) matches the model of your vehicle.

Original equipment belts with swivel attachments must never be bent, modified, impeded or restricted in their range of motion.

2 Anchorage bolts & SCHROTH Rallye Bolt on bracket

Where additional SCHROTH connecting tails are to be installed (referenced by the Green Boxes on the diagrams on this page), the SCHROTH connector will be bolted to the factory mounting point along with the factory belt using the factory provided bolts. You should be able to tighten each bolt a minimum of nine (6) full 360 degree turns. Tighten all anchorage bolts to a torque of 30 ft.lbs. (40 Nm)

3 Installation of the outside lap belt connectors

The front outboard lap belt mounting points are located at the front of the metal rail that holds the factory seatbelt.

□ Using a nylon window trim tool, or flat head screwdriver, pry up on the plastic cover to expose the torx bolt holding down the front of the metal rod that the stock seatbelt slides along.



□ Using a T50 torx head socket, remove the bolt.



Bend the SCHROTH bracket as shown in the pictures below and place the SCHROTH bracket just under the bolt head.





- Reinstall the bolt.
- □ Before tightening the bolt, align the SCHROTH connector so that the webbing is pulling in the same direction that the belt will pass over your lap when connected.
- □ Torque the bolt to 30 ft.lbs.
- □ Trim the plastic torx bolt cover so that it can fit back in place over the Schroth bolt in bracket. See picture below.



4 Installation of inside lap belt and tail strap connectors

Simply plug the SCHROTH BMW "male" buckles (both front and rear) into the factory provided female receptacle.

5 Installation of SCHROTH rear outside tail strap buckles – Left & Right (Driver and Passenger) belts.

- □ Remove the four plastic covers that hide the child seat mounting points. Lift up each cover at the front edge pull up and out towards the front of the vehicle.
- Unclip the front edge of the seat bottom cushion by lifting the front edge directly upwards.



(Photo of the E82)



(Photo of the E92)

- Holding up the forward edge of the cushion while pressing down on the back center rearmost portion of the cushion just behind the seat belt receptacles. (See picture above).
- □ Lift out the cushion while maintaining pressure on the rear to clear the retaining clip on the back of the seat cushion.
- □ Locate and remove the outermost BMW lap belt anchor bolts at the outside corners just below the rear seatback bolsters.



(Photo of the E82)

Bend and mount the SCHROTH tail strap connector as shown in the picture below. Install the Schroth tail strap connector just under the bolt head, and on top of the factory seat belt bracket.





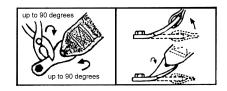
Replace the rear seat bottom cushion being sure that it is "snapped" in place at the front edge attachment points and under the rear retaining clip. The SCHROTH tail strap connector should stick out slightly between the bottom and top cushions.



6 Flexible range of the seat belt mounting brackets



Repeated bending could weaken the bracket and cause it to fail when loaded in an accident. Never bend the bracket back and forth several times. Any pivoting brackets of the stock 3-point belts must not be limited in their range of motion.



OPERATING INSTRUCTIONS

1 General instructions

Most states require that all passengers wear seat belts when a car is in motion. Please check with your local authorities for further information! Regardless of the law in your State, it only makes sense to buckle up, so before you start your car, make sure that you and all of your passengers are properly restrained.

The SCHROTH asm harnessbelt system when properly installed and used according to applicable instructions can mitigate injury. Of course, the ability of any restraint system to mitigate or prevent injury is directly related to the type and severity of the accident.



Only the Quick Fit Pro is designed to be used with a HANS device. Standard Quick Fit Harnesses are not designed and tested to be used with HANS[®] or other head and neck restraints e.g. Hutchens device.

Shoulder belts may slip off the HANS[®] and crotch straps e.g. of a Hutchens device cannot be properly attached to the lap belt. Malfunction can result in serious personal injuries or death.



Improper use of any seatbelt can cause serious personal injury or death.

- To help reduce the risk of serious injury in an accident:
- Never strap more than one person in place, with each harness system.
- Never wear the harness system at the same time as the original equipment seat belts.
- Never use the lap belt portion of the harness system without the shoulder belts.
- Always make sure that lap belt and shoulder belts are not twisted when worn.
- Never use the harness belt system for children under the

- age of 12 years or to install an infant seat or child seat.
- Never use the harness belt system for persons who weigh less than 88 lbs or those who are less than 4`11" tall, regardless of age.
- Always wear the lap belt portion of the harness system low and tight across the pelvis. This is also recommended for the stock 3-point belt whenever it is worn.
- Never wear the belts over heavy clothing as it can interfere with proper positioning and adjustment of the belts, reducing the overall effectiveness of the system.
- Never wear the belts over rigid or breakable objects in or on your clothing, such as eye glasses, pens, jewelry keys etc. as these may cause injury.
- Never allow lap or shoulder belts to rub against sharp objects.
- Never allow the belts to be damaged by becoming caught in door or seat hardware.

The following pictures show the correct installation and use of SCHROTH asm harnessbelts:

2 Routing of the shoulder belts

It is important to be sure to route the SCHROTH shoulder belts between the two posts of the headrest as pictured to the right.



3 QUICK FIT – ClipIn/ClipOut attachment points

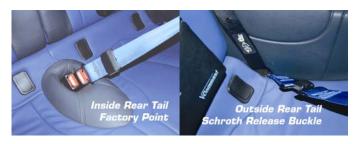


Front Inside Lap Belt Mount Points

Clip the SCHROTH Lap Belt harness end with the MINI male latch into the factory female receptacle as pictured above left.

Front Outside Lap Belt Mounting Points

Plug in the SCHROTH female receptacle on the outer end of the lap belt to the male end of the connecting strap that you bolted to the factory mounting point as pictured above right.



Inside Rear Tail Strap Mount Points

Clip the SCHROTH Tail Strap end with the MINI male latch into the factory female receptacle as pictured above left.

Outside Rear Tail Strap Mount Points

Plug the outside (far right or far left) tail strap with the of the SCHROTH belt with SCHROTH male buckle into the SCHROTH "separation buckle" that you bolted into chassis.

4 Adjustment of the seating position

Choose your most comfortable seating position for safe driving. Driving and Safety Instructors recommend:

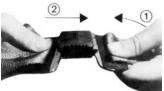
"Select your seating position in the vehicle so that you can fully grip the upper edge of the steering wheel with your elbow still slightly bent and without moving your upper body from the seatback. With the clutch (automatic transmission-brake) fully depressed your knee should still be slightly bent."

Remember: A "laid back" seating position might look 'cool', but does not contribute in any way to better or safer handling of your vehicle! No racing or rally driver is "laid back" in his vehicle!

5 How to close and release the buckles

5.1 Lap belt buckle and all "Click-In" points where the standard BMW Female Receptacle is used.

- <u>To close:</u> Insert the latch into the buckle until you can hear a distinct clicking sound.
- <u>To open:</u> Depressing the red button marked "PRESS" will open the buckle.
- 5.2 Buckle between tail strap and the outer most rear tail strap of the shoulder belts (separation buckle).
- <u>To close:</u> Insert the latch underneath the plastic cover until it locks in (1) and the plastic cover slides back into its normal position (2).



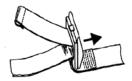
<u>To open:</u> Slide the plastic cover in the direction of the arrow to the stop (1). Tilt the latch downwards and remove it from the buckle (2).



6 How to adjust the belt

6.1 Lengthen the belt

Hold the adjuster at right angles - 90° - to the belt and pull in direction of the arrow (see illustration beside).



6.2 Shorten the belt

Pull the end of the strap in direction of the arrow (see illustration beside).



SCHROTH offers accessory adjusting grips which can make the adjustment even more convenient (see page 18, Accessories).

Adjustment of the headrest and initial adjustment 7 of the tail strap





wrong way Belts must not have any sag.

wrong way The tail strap must not be misdirected by upholsteries or the rear seat cushions.

right way The headrest is properly adjusted and the shoulder belts can move freely without slack.

- a) After choosing the correct seating position, put the belt on and adjust the lap belt so it fits tightly in the bend between the pelvic crest and the upper thigh. The release buckle should be located in the center in front of your body. If necessary, lengthen the tail strap first.
- b) Next adjust the shoulder belts: Make sure there is approx. 4 inches (10 cm) of loose belt protruding from each shoulder belt adjuster.
- One of the two shoulder belts should now be tight against C) the shoulder; the other shoulder belt should be looser.
- d) Tighten the looser shoulder belt until both shoulder belts have the same pressure over the shoulders and in the chest area.

Make sure the shoulder straps are properly adjusted whenever the SCHROTH harnessbelt is worn.

For lap belt adjustment see following paragraph.

Putting on the belt 8

After choosing the correct seating position, put on the belt a) and adjust the lap belt so it fits tightly in the bend between the pelvic crest and the upper thigh. The release buckle should be located in the center in front of your body. (HINT- slide the seat back - tighten the lap belt move the seat forward to maximize lap belt tightness.)



close buckle



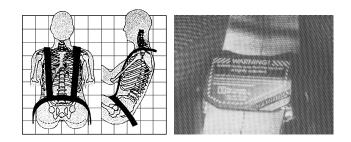
tighten lap belt





ALWAYS make sure that the lap belt is tightly adjusted. A lap belt in a harness or 3-point system that is too loose will impair the performance of the system.

- The lap belt must fit tightly in the bend between the pelvic crest and the upper thigh!
- Make sure belt is properly adjusted when a different person uses the belt or each time the seat is readjusted. (Heed WARNING on adjuster.)



UCTIONS

- In order to get an even tighter fit of the lap belt, we recommend that you move your seat back a little, adjust the length of your belt as described above and move the seat forward to its normal position. This will help to tighten the lap belt even more. This recommendation applies only to two door coupe models where one lap belt mounting point s is attached directly to the chassis.
- b) Adjust the length of the inboard shoulder belt until both belts exert equal pressure against the upper torso.



equal pressure RIGHT

Use of the rear seats a



Never wear the SCHROTH harnessbelt if any rear seating position is occupied. Both front seat occupants must then use original equipment 3-point belts. The rear seat occupant could interact with the tail strap of the SCHROTH harnessbelt during an accident and cause serious injury to himself or to the wearer of the harness belt.



right way

right way

9

SAFETY INSTRUCTIONS

• As a constant reminder, the enclosed transparent sticker must be attached to the rear side window in a prominent place. The sticker cannot be removed without damage to chromate tinted glass. On such vehicles, you may affix the transparent sticker at a different, prominent location so that it will serve as a constant reminder.

10 Stowing the belts when not in use

If you use the stock 3-point belt instead of the SCHROTH harnessbelt, be sure to properly stow the SCHROTH harness belt so that it is not exposed to seat tracks, liquids, sun light, or any other area where the belt could possibly be damaged.

When not in use we recommend that you unhook all four points are remove the entire belt for proper storage.

11 Using the Quick Fit Pro with a HANS® Device

The geometry of the Quick Fit Pro creates optimum capture of the HANS® device and provides for the occupant the highest level of Head and Neck restraint possible.

Always be sure your HANS® attachment points are installed correctly in the helmet and that your device is in good working order before using.

To use the Quick Fit Pro with a HANS® Device, be sure to make note of the following points:

- Install the belt as you would normally
- Place the HANS® device on your shoulders
- Carefully place the shoulder belts of the Quick Fit Pro over the yoke of the HANS®
- Be sure that the shoulder belt adjusters fall either entirely on or entirely off the yoke of the HANS®. If necessary, adjust the length of the tail strap to the correct length.
- Tighten lap belts and shoulder belts as you normally would, making sure that the shoulder belts stay on the yoke of the HANS® while doing so.
- Once the belts are tight, they will stay on the HANS® device without any further adjustments.

The following picture depicts correct use of the Quick Fit Pro with a HANS® Device:



CARE and MAINTENANCE

1 Inspection

Check the safety belt once a month for any damage. Cuts, tears and other damage to the belt will greatly reduce its effectiveness. Replace the belt or damaged parts immediately with original Spare Parts (see page 18, Spare Parts). Never use a damaged harness belt, use the standard 3-point belts which remain available for use.

Make sure the buckles are free of any obstruction and lock securely.



Only original SCHROTH Accessories may be used with the harness belt system. Use of non-authorized parts and Accessories can reduce the

effectiveness of the harness belt system.

SAFETY INSTRUCTIONS

• Any changes made to the belt will automatically void the warranty.



Never use any restraint system that does not function properly. If questions arise, immediately contact your importer or the manufacturer!



during installation process. Even to run the harness belt through the openings at racing seats disassembling is not necessary.

If for any reason the length adjuster is disassembled, strictly follow the procedure step by step as described below to reassemble the adjuster. 2 Accident



A safety belt which was in use during an accident has been weakened and is unfit for further use and must be replaced! One indication that the belt was exposed to excess strain and therefore requires replacement is when the stitches of the asm-system are ripped open and are protruding from underneath the asm-plastic cover.



under any circumstances.

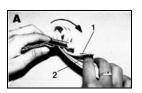
After an accident, in addition to replacing seat belt which were in use, also be sure to ask your car dealer for carefully check all seatbelt attachment points for deformation or cracks. Always make sure that the guidelines of the car manufacturer are followed if a repair is necessary.

3 Re-assembling the length adjuster4 Cleaning

To clean the belt, use soap and warm water. Do not use any solvents! Do not dry the belt in the sun or near a radiator.

Figure A:

[2].



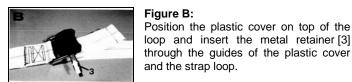






Figure D:

frame.

Figure C:

Check by pulling both stress taking straps [2] and [2`] the adjustment device will lock safely.

Keep the metal retainer positioned between your thumb and forefinger.

Slide the plastic cover backwards onto the metal frame as indicated until both ratchets [4] locks with a distinct clicking sound into the detentions in the metal

Fold the strap to a loop and insert it

upwards throughout the metal frame and

Note: The strap part protruding from the adjuster for further adjustment [1] must

be located above the stress taking strap

turn the loop as indicated.



Improper cleaning or drying of the harness belts can weaken them, reduce their effectiveness and can result in serious personal injury or death.

5 Installation Accessories

Color key:

black=0, blue=1, red=2, yellow=3, purple=5, green=8 The x in PINs must be substituted by the color key of the color you want to order!

Shoulder belt pads, pair of	black with yellow flock printing	00109
Shoulder belt pads, pair of red, yellow, purple	blue with black flock printing , green with black flock printing	01109 0 X 109
Shoulder belt pads, pair of	black with gray flock printing	09109
Shoulder belt pads, pair of	silver-gray w. black flock printing	09209
Shoulder belt pads, pair of	black with black flock printing	09309
Adjusting grips for length adjuster, 4 pcs./package		00092

6 Spare Parts

If any part of your harness needs replacement, please contact your nearest dealer. USE ONLY GENUINE SCHROTH PARTS.

Cover for adjuster, including metal retainer

01084

We reserve the right to incorporate any technical changes or further development in this product without notice.

If you need additional information or have any comments or questions about the SCHROTH asm harnessbelts, please contact your dealer or the importer. [see www.schrothracing.com]

In North America please contact:

HMS MOTORSPORT

9A Electronics Ave. Danvers, MA 01923 Toll Free (888) 467-3269 Phone (978) 774-1615 Fax (978) 774-1548

To locate you nearest dealer call: (800) 884-BELT

REMEMBER:

For safety's sake, always buckle up.

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