

Retractable Seatbelts in Volvo Amazon

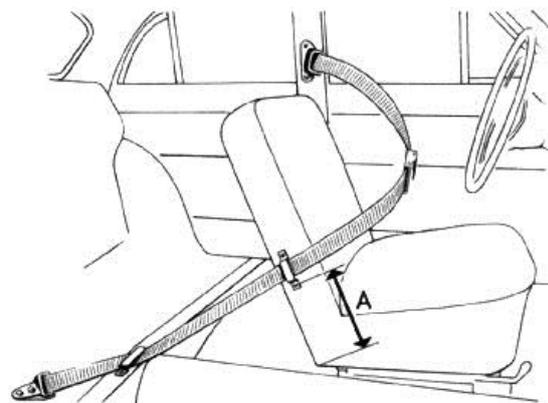


IN 1959 VOLVO WAS THE FIRST automobile manufacturer in the world to have static three-point seatbelts installed in a series produced car, but the brand had a reputation for putting safety first long before that. When introducing the Volvo Amazon in 1956, Volvo wrote:

"IMPORTANT NEWS! Fittings for safety belts. Doctors and car experts agree that many accidents would have ended less unfortunate should those in the front seat have worn safety belts. Volvo have therefore equipped the Amazon with strong fittings for safety belts of a new, comfortable and reliable kind. The belts are available as extra option."

Nils Bohlin, head of Volvo's safety work, demonstrates the three point seat belt on the picture to the left – an invention by Volvo that today is acknowledged as one of the most important for mankind during the 20th century.

The Volvo Amazon had fittings for statics two-point seatbelts in the front seats from the point production started (i.e. model year 1957) and many resellers equipped the cars with front seat belts. Late during the model year 1958 they become factory installed standard equipment, first on the new Amazon Sport (122 S) and later also on the Amazon (121). These seatbelts had a different design compared with what many of us are used to today, and often caused unnecessary tissue damage due to the buckle being placed at the center of the chest:



P 1200 A=155mm, 6"

Nils Bohlin, recruited to Volvo from SAAB, invents and patents the static three-point seatbelt and these are factory installed from ch.-no. 24039 (i.e. model year 1959) on some markets, including Sweden but excluding USA. The three-point seatbelts has one additional anchoring point in the car's body. At the same chassis number, fittings for rear seatbelts are introduced. This two-point diagonal belt is similar as the one previously used in the front seats and is sold as accessory under part number 279495 (later 277599). Later in the same model year (at ch.-no. 28000) the fittings at the B-column are changed from 100 mm to 80 mm. Fittings for three-point static rear seatbelts are introduced with model year 1967.

When the P 130 and P 220 are introduced in 1962 they have fittings for rear seatbelts. They become standard on the export cars to the USA in 1968 as a two-point lap belt and in Sweden (and several other markets) in 1970 as a three-point belt. Both are driven by legal demands.

Today three-point inertia-reel seatbelts are standard in all seats in all new cars and many Amazon owners feel that replacing the older, somewhat clumsy static seatbelts with newer inertia reel seatbelts goes without saying. The replacement is easy, inexpensive and very much in line with the spirit in which Volvo build their cars.

Retractable seatbelts from early models in Volvo's 240-series fits without modification, even if the bolts from the old belts will have to be used if the thread dimension does not match. There are also new belts on the market, for the front seats as well as for the back seat.

The replacement in the front seats is reversible, while the back seat requires a more thorough, more time consuming installment. Parts needed are except for the belts also the locking mechanism and bolts in the right quantity and dimension.

Front seats

WORK WITH ONE SIDE AT A TIME and start with removing the old belt, using a box spanner set. Save washers and bolts. There are two fittings on the B-column and one on the tunnel between the seats. Fit the new belt with the bolts from the old belt. The inertia-reel is placed at the lower fitting on the B-column. Replace the locking mechanism and be very careful that all bolts are secured tight and correctly.



Back seat

THESE INSTRUCTIONS ARE FOR the sedan models of the cars, the P 120 and P 130. It is possible to use the old belts from the front seats in the back seat, provided that a proper locking mechanism can be found. The fittings are located at the lower end of the B-column (in front of the wheel housing), on the C-column between the rear wind shield and the side windows, and in the middle behind the back support of the back seat.

Use the index finger to feel and find the fitting on the C-column behind the roof vinyl. It is located in the middle, approximately 2" (5 cm) above the back support of the back seat. The delicate problem with retractable seat belts in the back seat is the fact that there is a fourth fitting needed for the reel itself. There is no such fitting. Some choose to weld these fittings (one for each side) in the metal under the rear shelf. Besides proper welding training, this requires both that the reel allow the belt to run also when lying down and that a supporting sheet of metal is welded under the rear shelf (or the car will not pass the mandatory inspection that many countries have).



From the 1969 accessories catalogue

The solution suggested here does not require welding. Instead, the inertia-reels will be placed in the trunk, on top of the wheel housings. A hole big enough to fit the bolt is drilled from inside the trunk out to the wheel housing and the reel is secured with rust protected bolt and washers with the head of the bolt facing the wheel. The bolt and washers are coated with Vaseline (grease) from outside and covered with thick layers of undersealing. If the car is equipped with the trunk basket (277249) the reels will hold this in place while at the same time be protected from any luggage.

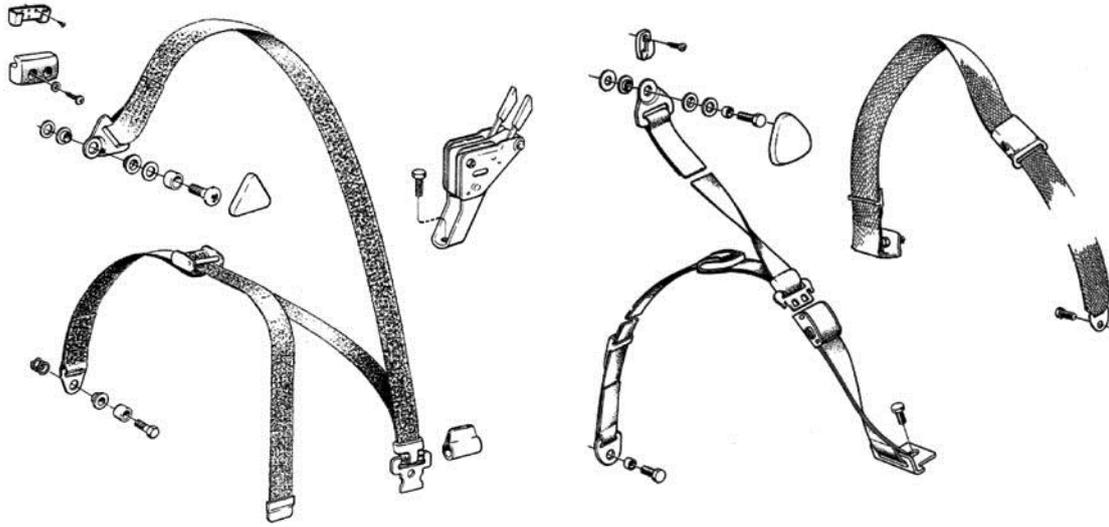


In the rear shelf metal, there are holes on each side of approximately 1.6" x 3.2" (4.0 x 8.0 cm). Slit the mat (1965-1968) or cardboard (1969-1970 and Favorit) from the corner in the sheet metal that is closest to the back seat and closest to the middle to the diagonally opposite corner (closest to the window and to the side of the car). The reason for making the slit diagonal is to allow for the belt to run more smoothly. Make the slit 0.15" – 0.20" (0.4 – 0.5 cm) wide. If the mat/cardboard of the rear shelf is replaced at the same the belts are installed, try to practice on the old one first. Pull the belts through the hole and through the slit from the trunk into the car. Fasten the end of the belt in the fitting at the front of the wheel housing to prevent it from being pulled back into the trunk by the reel. Secure the locking mechanisms for both belts in the fitting behind the back support. Use the index finger to find the fitting for the belt-runner under the roof vinyl on the c-column, and carefully use a knife to make a hole big enough for the bolt. Secure the belt-runner in place.



Two holes in the roof vinyl, slits in the rear shelf mat/paper and holes drilled in the wheel housing are the permanent changes made to the car using this solution. The result is good and above all safe.

Static seatbelts from Volvo's spare parts catalogue:



Front...

...back

Waiver. The text in this summary has been prepared with uttermost care but is, despite of this, strictly a guide to be used in conjunction with normal and cautious vehicle shop practice, including the safe operation of electric equipment. I cannot accept liability for your actions. Work smart! Work safely!