SCHROTH

SAFETY THROUGH TECHNOLOGY

Hardware Guide

A Guide to Hardware for Schroth Harnessbelts

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Hardware for seatbelts is something that many people take for granted. Most people don't even think twice about it. The old adage – "only as strong as your weakest link" really does apply here. If your hardware isn't right, your harness isn't right. If you don't have your hardware wrapped or sewn correctly, then your harness integrity is compromised. Logistically, the right hardware can make the difference between a clean and elegant installation that goes smoothly and a kludged setup that causes great frustration and heartache. Nothing is worse than getting a new part and realizing that it doesn't work the way you need it to.

The reason most people don't think twice about harness hardware is usually because options don't exist. What comes on the belt is what you get, and you usually just have to make it work. Schroth approaches things a little differently by engineering hardware that will solve specific problems that are encountered on a regular basis. This document should shed some light on the options available from Schroth, and how you can use them to your advantage to end up with a harness that fits your vehicle application perfectly.

It will be very useful for you to have a clear idea of what the attachment points look like in your car. Make note of bolt diameters as well as bolt angles, i.e. whether your bolt is perpendicular to the ground, parallel to the ground, or off axis. Correct harness installation techniques are beyond the scope of this document. You should refer to the latest Competition Harness Installation manual from Schroth that can be found on Schrothracing.com. That document will give you a greater understanding of the angles and geometry required to get maximum performance from your restraint system.

Your concern should be that the hardware chosen should be used to achieve the correct geometry and overcome any obstacles that present themselves with your specific installation. Be sure to notice the angles present in your application, especially if you are having bolt-in brack-

END FITTINGS

Part Number	B24.15.13
Locations	Lap, Shoulder, Sub
Webbing	2” & 3”
Approvals	FIA, SFI 16.1, SFI 16.5 with Part Number B24.15.13 NC
Wraps	LV4, LV10, LV11NC, LV7 (3”)

The B24 is the most economical bolt-in bracket offered. It is a heavy-duty Steel bracket that cannot be bent to aid installation. Dimensions are 5mm thick, 69x46mm with a 13mm (1/2”) bolt hole. There is a slight 10° bend so that this bracket can be bolted directly to a flat surface and leave room for webbing wrapped into it. It can be sewn in, or wrapped with an LV4 (recommended), LV10 or LV11. FIA and 16.1 approved. Cannot be used for a Lap Belt bolt-in bracket under SFI 16.5. 3” webbing must be folded at the edges for use with this bracket.

Part Number	B59.XX.YY
Locations	Lap, Sub
Webbing	2”
Approvals	FIA, SFI 16.1, SFI 16.5 (only for Sub-strap Installation)
Wraps	Pinch Wrap

The B59 brackets are designed to be used as a double pinch bracket. You need two brackets per bolt in location. They are available with either an 8mm or 10mm bolt hole and a 20° or 45° bend. These are generally not recommended for lap belts but can be used to solve problems in some formula chassis or prototype racers. Change XX to either 20 or 45 depending on desired angle, and yy to 08 or 10 depending on desired bolt hole size. FIA, 16.1 and 16.5 approved (only 16.5 approved at the Sub-strap location).

Part Number	B64
Locations	Lap, Shoulder
Webbing	2” & 3”
Approvals	FIA, SFI 16.1
Wraps	LV4, LV10, LV11NC, LV7 (3”)

The B64 is a lightweight option that is the same bracket used to interface with the Cam locks. Dimensions are 3mm thick, 67x56mm with a 10mm (3/8”) bolt hole. There is a slight 10° bend so that this bracket can be bolted directly to a flat surface and leave room for webbing wrapped into it. It can be sewn in, or wrapped with an LV4 (recommended), LV10 or LV11. FIA and 16.1 approved.

Part Number	B63
Locations	Lap, Shoulder
Webbing	2”
Approvals	FIA, SFI 16.1
Wraps	Incorporates 3-Bar Slide

The B63 bracket is commonly used in formula and prototype applications where there are no in-line adjusters on the lap belts. This bracket incorporates a 3 bar slide into the bracket – allowing you to adjust the length at the bolt in location. Note: you cannot adjust length once a driver is in the car. Dimensions are 4mm thick, 68x72mm with a 13mm (1/2”) hole. There is a slight 10° bend so that this bracket can be bolted directly to a flat surface and leave room for webbing wrapped into it. This bracket can only be wrapped in. FIA and 16.1 approved.

Part Number	B23B
Locations	Lap
Webbing	2”
Approvals	FIA, SFI 16.1
Wraps	N/A Must Be Sewn

This bracket, commonly referred to as the “Rallye Bracket” is taken from the parts bin of the Street Legal harnesses. It must be sewn in or used in conjunction with a snap-in bracket (B14). Its main feature is that it is designed to be bent 90° in any direction while still retaining its strength. Commonly used to solve inboard lap belt mounting difficulties, the is a very popular bracket in sedans being converted into track cars. Dimensions are 2mm thick, 34x86mm with a 13mm (1/2”) bolt hole. The larger hole diameter is 19mm. FIA and 16.1 approved.

Part Number	B45 & B40 NC
Locations	Lap, Shoulder
Webbing	3”
Approvals	FIA, SFI 16.1, SFI 16.5 (Lap Location Only)
Wraps	Incorporates 3-Bar Slide

The B45 bracket is commonly used in formula and prototype applications where there are no in-line adjusters on the lap belts. This bracket incorporates a 3 bar slide into the bracket – allowing you to adjust the length at the bolt in location. Note: you cannot adjust length once a driver is in the car. Dimensions are 4mm thick, 94x76mm with a 13mm (1/2”) hole. There is a slight 10° bend so that this bracket can be bolted directly to a flat surface and leave room for webbing wrapped into it. This bracket can only be wrapped in. FIA and SFI 16.1 Approved. Use Part number B40 NC for SFI 16.5 approval.

Part Number	B23C
Locations	Lap, Shoulder
Webbing	3”
Approvals	FIA, SFI 16.1
Wraps	LV7

The B23C shares design with the B23B. Its main feature is that it is designed to be bent 90° in any direction while still retaining its strength. Dimensions are 3mm thick (uncoated) and 4mm thick (coated) - 61x 81mm with a 13mm (1/2”) hole. It can be sewn in, or wrapped with an LV7. 3” webbing must be folded at the edges for use with this bracket. FIA and SFI 16.1 approved.

Part Number	B14
Locations	Lap, Shoulder, Sub
Webbing	2” & 3”
Approvals	FIA, SFI 16.1
Wraps	LV4, LV10, LV11NC, LV7 (3”)

The B14 Snap-In bracket snaps to Eyebolts and Bolt-in Bracket B23B. It can be sewn into 2” and 3” webbing, or wrapped with an LV4, LV10 or LV11. When wrapped into 3” webbing, one must fold the edges of the webbing in and use an LV7. Can be used on any point of a harness - lap belt, sub strap, or shoulder belt. FIA and SFI 16.1 approved.

Part Number	?
Locations	Lap, Sub
Webbing	3”
Approvals	FIA
Wraps	N/A Must Be Sewn

The lightest snap in bracket available anywhere on the market. This bracket features a threaded collar that locks around either an Eyebolt or B23B Bolt-in Bracket. Must be Sewn in – there are no wraps that work with this piece.

IMPORTANT: while this may look like something you can buy at your local hardware store it isn’t! It is a highly specialized bracket that is built to with-stand the extremely high forces generated by impacts!

WRAPPING BRACKETS

Part Number	LV10
Locations	Lap, Shoulder, Sub
Webbing	2”
Approvals	FIA, SFI 16.1
Wrap Type	Standard 3-Bar Slide

The most common bracket used in applications where 2” webbing wraps around a bar of the roll-cage. Cans also be used in place of LV4 with a traditional wrap where the thickness of a non-microslip wrap is too great, or to gain a couple inches of length in the belt (standard wrap uses less webbing than non-microslip wrap). FIA and SFI 16.1 Approved.

Part Number	LV4
Locations	Lap, Shoulder, Sub
Webbing	2”
Approvals	FIA, SFI 16.1
Wrap Type	Non Micro-slip 2-Bar Slide

This is our Most Common bracket used with Wrap in end fittings. It uses a unique non micro-slip wrap to achieve greater strength than sewn end fittings. Can also be used around bars. FIA and SFI 16.1 Approved.

Part Number	LV11 NC
Locations	Lap, Shoulder, Sub
Webbing	2”
Approvals	FIA, SFI 16.1, SFI 16.5
Wrap Type	Standard 3-Bar Slide

See LV10. LV11NC needed if you require SFI 16.5 approval. FIA, SFI 16.1 and 16.5 approved.

Part Number	LV7
Locations	Shoulder
Webbing	3”
Approvals	FIA, SFI 16.1
Wrap Type	Standard 3-Bar Slide

The standard 3 bar slide for use with B24.15.33 and B23C on 3” webbing. Most commonly used to wrap 3” shoulder belts around a bar of the roll cage. Uses the standard wrapping technique.

Part Number	LV17
Locations	Shoulder
Webbing	3”
Approvals	FIA, SFI 16.1
Wrap Type	Non Micro-slip 2-Bar Slide

Lightweight 2 bar slide for use with 3” webbing being wrapped around a bar of the roll cage. Uses unique Non Micro-slip wrap.

EXTRA HARDWARE

Eyebolts

Part Number	Bolt Size	Thread Length
SG 22	7/16”	22mm
SG 23	7/16”	38mm
SG 35	M10	25mm

Offered in lengths shown. Designed to be used with Schroth B14 Snap-in brackets.

Bolts

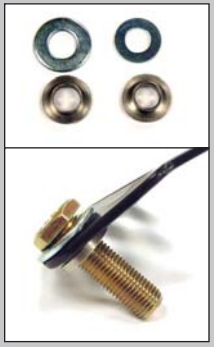
Part Number	Bolt Size	Thread Length
SG 10	7/16”	25mm
SG 29	7/16”	38mm
SG 33	M10	25mm
SG 57	M8	25mm

Offered in lengths shown, Grade 8.8

Backing Plates

Part Number	Bolt Size
SG 39	7/16”
SG 55	M10
SG 54	M8

Essential for any application where you are drilling through a floor and creating mounting points. Available with bolt sizes shown.



Bolt Reducing Collars & Washers

Hole Size	Sleeve Part #	Washer Part #
7/16”	S65	S82
3/8”	S64	S83
5/16”	S85	S86

Schroth offers high quality machined bolt size reducing sleeves that fit into all 13mm (1/2”) bolt holes. These apply for B24, B63, and B45 brackets. On the B63 and B45 brackets, they allow the bracket to swivel to follow the correct webbing path. When used with a B24, due to the 5mm bracket thickness, they are only a size reducer. Shown with SG29 38mm bolt. FIA, SFI 16.1 and SFI 16.5 approved (when used with SFI 16.5 approved bracket).

B23B Bolt-In Bracket

This bracket can be bolted into a hard-to reach place in your car, and then you can use B14 or Sewn Triangular Snap-in Brackets to fix your belt to this point. Common on sedans being turned into race cars from street cars.

WRAPS

Integrated 3-Bar Slide (B63, B45, B40NC)

Non Micro-slip 2-Bar Slide (LV4 shown with B24) Can subsititute B14, B64 or a Bar.

Standard 3-Bar Slide (LV10 shown with B24). Can substitute B14, B64 or a Bar.