



Leatt[®] MotoGPX User Manual



the helmet for your neck[™]

www.leatt-brace.com










Note: The products depicted in this user manual may vary to some degree in product graphics or color.

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! WARNING !

Motor Sports and racing can be dangerous. Participation in these activities can result in severe brain, head and neck injuries which may result in paralysis or death. Although the Leatt-Brace[®] is designed to help reduce the risk of such injuries, there is no guarantee that any injury will be prevented by the use of this or any other safety equipment. Read all instructions prior to use. Before putting on your Leatt-Brace[®] each time, please review and comply with the following cautions and instructions below.



-  The Leatt-Brace[®] cannot protect against all possible impacts and/or injuries. Although the Leatt-Brace[®] is designed to help reduce the risk of such injuries, there is no guarantee that any injury will be prevented by the use of this equipment. Perform any motor sport activity with caution and use/wear appropriate safety equipment.
-  For maximum performance, the Leatt-Brace[®] must be properly fitted and attached according to the instructions in the user manual. It is recommended that this product be used only in conjunction with a helmet with a permanent fixed chin part (e.g full-face helmet, motocross helmet, DO NOT USE WITH A JET HELMET). Use at your own risk.
-  For maximum performance, the Leatt-Brace[®] must be inspected prior to each use. **STOP** using the Leatt-Brace[®] if any components show signs of damage or are worn, cracked, and/or deformed, or if the inside padding is deteriorated. **Leatt[®] Corporation recommends that the Leatt-Brace[®] be replaced every two 2 years under normal racing conditions.**
-  Should you experience a collision or if the Leatt-Brace[®] or any component shows any signs of damage, cracking, deformity and/or the inside padding is deteriorating, return the Leatt-Brace[®] to the seller for inspection or destroy and replace the Leatt-Brace[®].
-  Common substances applied to this brace (solvent, cleaners, hair tonics, etc.) can cause damage that may be invisible to the user and compromise the effectiveness/safety of the Leatt-Brace[®]. Wash only with gentle soap or detergent in cold water, rinse in cold water and dry with a soft cloth.
-  Do not drill holes, paint, cut, heat, bend, apply decals or stickers, or make any other modifications to the Leatt-Brace[®] unless authorized in advance by the Seller. Doing so may compromise the effectiveness/safety of the Leatt-Brace[®].
-  The brace has been tested using various static and dynamic tests, but has not been tested on riders under race conditions for instrumented impact assessment; this product is of a new design.
-  The brace has been tested on a wide range of users and vehicle types and should fit you and your vehicle, if not, minor adjustments may be required for proper fit. Failure to properly adjust the brace before use may compromise rider safety and brace effectiveness.
-  Always attach your helmet correctly according to seller's guidelines. Ensure that all of your safety equipment has not passed beyond its recommended life span. Travel/race with safety as your primary principle.

If you have any questions regarding this product or its proper use, please contact Leatt[®] Corporation at:

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Leatt-Brace[®] MotoGP Club/Sport

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WARRANTY DISCLAIMER

NO EXPRESS WARRANTIES WITH RESPECT TO THE BRACE OTHER THAN THOSE EXPRESSLY SET FORTH HEREIN HAVE BEEN PROVIDED.

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Instruction manual introduction Leatt-Brace® MotoGP

Welcome to the world of Leatt-Brace® and thank you for choosing our product. The Leatt-Brace® you have purchased is based on years of academic research, extensive evaluation of the mechanisms of head and neck injuries, together with testing, both in test facilities and with simulation software, and also in conjunction with top drivers and riders.

Our design philosophy has always been to produce an effective neck injury prevention device with practical appeal as determined by our test riders. We will therefore always appreciate your feedback with regards to comfort and practicality for your chosen application of our product.

Please e-mail any comments you might have to info@leatt-brace.com.

The Leatt-Brace® MotoGP (Figure 1) has been designed to be set up in stages to suit your requirements. Please follow the fitment process which should take you a few minutes to complete.

Figure 1



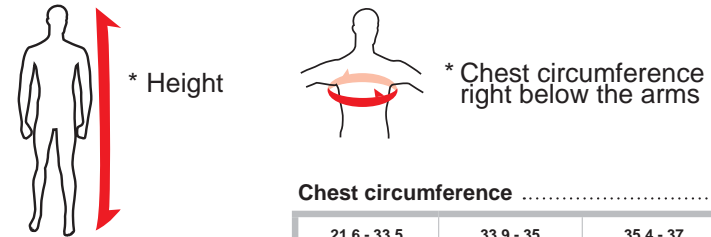
Please note: The product shown may vary in colour. Brace components are illustrated in contrasting colours to indicate individual identification.

Leatt-Brace® sizing chart

The size of the brace you have purchased should be correct for your body shape and allows for adjustability to ensure correct fitment and comfort, no matter what your application is.

Please follow the below mentioned sizing chart to ensure that you have purchased the correct size Leatt-Brace®. The sizing chart is based on your height as well as your chest circumference right below the arms therefore make sure that you take the correct measurements before utilizing the chart below.

Sizing Chart



Height	Chest circumference				Inches cm
	21.6 - 33.5	33.9 - 35	35.4 - 37	37.4 - 43.3+	
55 - 85					
86 - 89					
90 - 94					
95 - 110+					
3'6" - 4'7"	106 - 139	sml			
4'7" - 5'1"	140 - 155	sml	sml/med		
5'1" - 5'4"	156 - 163	sml	sml/med	med	
5'4" - 5'5"	164 - 166	sml	sml/med	med	med
5'6" - 5'7"	167 - 169	sml	sml/med	med	med
5'7" - 5'8"	170 - 172	sml	sml/med	sml/med	med
5'8" - 5'9"	173 - 175	sml	sml	sml/med	med
5'9" - 5'10"	176 - 178	sml	sml	sml/med	med
5'10" - 5'11"	179 - 181	sml	sml	sml/med	med
5'11" - 6'	181 - 183		sml	sml/med	med
6' - 6'1"	183 - 185			sml/med	med
6'1" - 6'3"+	185 - 190+				med

ft cm * sml/med refers to either a medium on the smallest setting or a small on the biggest setting

Leatt-Brace® fitment - step 1

The brace has been supplied with three different pins; the medium pin is in position. Fit the brace on your shoulders and chest as shown in *Figure 2*.



Figure 2

- Change pin to short or long according to fit
- Ensure comfortable fit to chest
- Ensure comfortable fit to shoulders
- Brace fitted without strut and thoracic member on rear

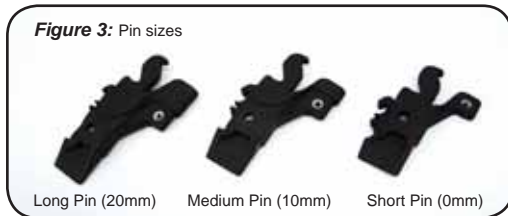


Figure 3: Pin sizes

Adjustment with Pins

If the brace is too loose around your neck with the fitted Medium Pin and does not sit comfortably on your shoulders and chest, fit the Short Pin (see *Figure 3*). If the brace is too short and therefore too tight, simply fit the Long Pin.

Strut and thoracic assembly - step 2

Now attach the strut onto the thoracic member as shown in *Figure 4*. You have been supplied with two struts, a 10 degree and 17.5 degree strut.

We recommend that you start with the 10 degree strut (the shallow angled strut).

This is the most commonly fitted strut; the 17.5 degree strut is usually used by thin individuals only.

Figure 4



Strut and thoracic assembly - step 2 (Continued)

Insert the strut into the rear member of the brace, starting with one shim on either side of the strut. The strut and shim will always be contained within the brace so that you can adjust the brace at any time. There is no need to fit the locking cap screw at this time. Now refit the brace. If the brace is pulled slightly backward, place the two shims before the strut (towards the front of the brace), if the brace has become too loose, place the two shims behind the strut (towards the rear of the brace). If the lowermost portion of the thoracic member is sitting away from your back, use the 17.5 degree strut.

Figure 5



Place one shim on each side of strut as it is inserted into brace

Figure 6



Opening and Closing the Leatt-Brace®:
You can either hinge open the Leatt-Brace® from the left or right or remove the front member completely (Figure 6).

Padding insert

When the 10 and 20mm pin is used, fit padding insert to cover exposed pin on the inner brace structure.

1. Peel back rear padding to expose velcro
2. Place padding insert over exposed pin
3. Re-apply padding



Torque settings for screws

All screws except the clip hinge countersunk screws should be maintained at 2Nm. The clip hinge screws should be maintained at 1Nm.

Adjustment screws - step 3

With the brace sitting comfortably on your shoulders, sit on/in your vehicle to determine the range of movement you require to ride/drive comfortably.

Both the front and rear members are adjustable to your requirements in terms of range of head movement front to back (even at extremes, this range of movement is acceptable, as a general rule, set up the brace in the highest position comfortable).

Once you have determined this by moving the front member up and down, hand tighten the locking screws as shown in Figure 7 (front) and Figure 8 (rear).

Figure 7



Front adjustment screws

Figure 8



Rear adjustment screws



Fitting the MotoGPX brace with body armor

The Leatt-Brace® Moto GPX brace can be used with a leather road racing suit. If your suit has an aerodynamic hump, you will need to unstitch a small portion of the stitching between the collar and the hump in order to slide the thoracic member in-between the hump and your leathers/back.



1. Thoracic placed in incision in hump



2. Thoracic fitted securely in hump

If you use a body armor system, place the thoracic member under your back protector and then choose whether you wish to place the front member of your Leatt-Brace® under or over the padding of the body armor.



May be worn under or on top of body armor as long as thoracic is under the back protector.

If you use a chest protector, the lower front member should be inside the chest protector and the upper front member should be outside the chest protector (*Figure 9a*). The same applies to the rear upper and lower members (*Figure 9b*).

If your chest protector is a smaller size, you may have to widen the head opening of the chest protector. Most chest protectors allow for this adjustment. In the case of very small children, allow the front lower portion to rest on the outside of the chest protector. Some junior riders elect to remove the hard outer portion of the shoulder padding from their chest protectors for comfort.

Figure 9a



Figure 9b



Chest strap

Once your MotoGPX is set up correctly to your body size and shape, you also have the option of attaching the Chest Strap. Although this is not a vital component, the Chest Strap can provide additional stability and comfort. The rear part of the Chest Strap has no stretch and should be attached to the Velcro on the thoracic member. The front part of the Chest Strap has controlled stretch and should be attached to the Velcro on the underside of the front lower member with the adjusters on either side of your chest. Adjust for comfort and stability (*Figure 10*).

Figure 10



Manufacturer's Instructions for use of the Leatt-Brace®

Testing and approval of this product

The Leatt-Brace® has been tested against the manufacturer's specifications and EC Type - Examination certification has been issued by SGS United Kingdom, Ellesmere Port CH65 3EN, England UK; Notified Body No. 0120. It is CE marked to denote compliance with the EU Personal Protective Equipment Directive 89/686/EEC.

Manufacturer's specifications

The Leatt-Brace® you have purchased is based on years of academic research, extensive evaluation of the mechanisms of head and neck injuries, together with testing, both in test facilities and with simulation software, and also in conjunction with top drivers and riders. The brace has been tested using various static and dynamic tests, but has not been tested on riders under race conditions for instrumented impact assessment.

Test specifications including the following have been used in the evaluation of this product:

- Eurotype Hybrid III instrumented sled tests (Land Mobility Technologies document No.P/2/00/00431, May 2004)
- BMW Pendulum Testing and Validation Model using Lifemod™ – BMW Test Facilities, Munich, Germany (2006)
- Innovations at BMW Motorrad in the development of equipment for motorcycle riders to reduce the risk of injuries based on the example of the Neck Brace System (proceedings of the 6th International Safety - Environment - Future Conference; Cologne, Germany, 9 – 10 October 2006)
- Side Impact Simulations Using a Validated Pendulum Test Methodology (Leatt® Corporation Biomechanics Division)
- Leatt® Manufacturing Test Specification Issue 2
- EN 340 – "Protective clothing – General Requirements"

The first five test specifications listed assess the ability of the Leatt-Brace® to reduce forwards and backwards movement of the wearer's head and neck in a collision, or when impacting the road surface. "Leatt® Manufacturing Test Specification Issue 2" includes evaluations of the resistance of the Leatt-Brace® fastenings to opening in the event of an impact. The chemical content of the materials and components used in the construction of the Leatt-Brace® has been assessed in accordance with the requirements of EN 340.

Protection provided by the Leatt-Brace®

Motor Sports and racing can be dangerous. Participation in these activities can result in severe brain, head and neck injuries which may result in paralysis or death. There is currently no other neck protection system available for motorcyclists that can effectively help prevent all of the above potential injuries.

The design rationale behind the Leatt-Brace® is to bring the head to a controlled stop. This is achieved by providing a padded rigid structure that acts as an alternate load path for neck forces. Helmet impacts otherwise transmitted from the helmet to skull and then to the neck are re-directed from the helmet to the brace to other body structures in a safe way. The design of the Leatt-Brace® prevents the helmet/head from projecting over the brace and therefore prevents a fulcrum action, which has been documented in literature pertaining to the use of collar devices. The Leatt-Brace® works with most types of body armour and chest protectors. Over long distances, the Leatt-Brace® will also offer some relief from neck fatigue.

The Leatt® GPX neck brace system prevents the following extreme movements:

- head, forward – HyperFlexion
- head, rearward – HyperExtension
- head, sideways – Lateral HyperFlexion
- head/helmet, rearward on the neck – Posterior HyperTranslation
- spinal column compression – Axial loading, due to the effect of force on the helmet

Although the Leatt-Brace® is designed to help reduce the risk of such injuries, there is no guarantee that any injury will be prevented by the use of this or any other safety equipment. Read all instructions prior to use. Before putting on your Leatt-Brace® each time, please review and comply with the following cautions and instructions.

Perform any motor sport activity with caution and use/wear appropriate safety equipment.

For maximum performance, the Leatt-Brace® must be properly fitted and attached according to the instructions in the user manual. Use at your own risk.

Model range

Variant	Application
• MotoGPX Club	Un-Restrained or Un-harnessed uses, such as: Motorcycles, ATV's Bicycles: Down Hill, BMX
• MotoGPX Sport	Un-Restrained or Un-harnessed uses, such as: Motorcycles, ATV's, Jetskis Bicycles: Down Hill, BMX. Lighter than the "Club" model
• ADventure™	Entry level motorcycle brace
• Moto KART	Go-kart and karting

Size Range

Small: 4 - 16 years old (thin build) to fit wearer height: 97.5 – 165 cm

Medium: 16 years + (average to bigger build) to fit wearer height: 165 cm +

The brace has been tested on a wide range of users and vehicle types and should fit you and your vehicle. If not, minor adjustments may be required for proper fit. Failure to properly adjust the brace before use may compromise rider safety and brace effectiveness. When correctly-adjusted and worn with the user's safety helmet, the Leatt-Brace® should allow the full range of normal head and neck movements (i.e. looking up, looking down and looking side-to-side, such as when performing an over-the-shoulder check); the Leatt-Brace® and the helmet only coming into contact with each other as the full range of normal movement is reached.

If any resistance or discomfort is experienced when attempting to complete the full range of head and neck movements, or if the brace does not make contact with the helmet when the full range of movement is reached, further adjustment or an alternative size of Leatt-Brace® may be required.

In extreme circumstances, it may be necessary to purchase an alternative model of safety helmet in order to achieve the required level of compatibility and safety.

Please ask the retailer or contact Leatt-Brace® if you require further advice on sizing, adjustment or fitting.

Cleaning

Wash only with gentle soap or detergent in cold water, rinse in cold water and dry with a soft cloth. Common substances applied to this brace (solvent, cleaners, hair tonics, etc.) can cause damage that may be invisible to the user and compromise the effectiveness/safety of the Leatt-Brace®.

Always refer to the material content label on the Leatt-Brace®. None of the materials used are known to contain anything that might cause an allergic reaction or be dangerous to health.

Storage and transportation

Place on a clean, dry surface and store in a dry, well-ventilated environment away from direct sunlight and extremes of temperature. Do not place heavy objects on top of the Leatt-Brace®.

Maintenance and Obsolescence

For maximum performance, the Leatt-Brace® must be inspected prior to each use. Stop using the Leatt-Brace® if any components show signs of damage or are worn, cracked, and/or deformed, or if the inside padding has deteriorated. Leatt® Corporation recommends that the Leatt-Brace® be replaced every 2 years under normal use conditions.

Should you experience a collision or if the Leatt-Brace® or any component shows any signs of damage, cracking, deformity and/or the inside padding is deteriorating, return the Leatt-Brace® to the seller for inspection or destroy and replace it. Please dispose of it in an environmentally friendly manner.

Do not drill holes, paint, cut, heat, bend, apply decals or stickers, or make any other modifications to the Leatt-Brace® unless authorized in advance by the Seller. Doing so may compromise the effectiveness/safety of the Leatt-Brace®.

Use with other Personal Protective Equipment

The Leatt-Brace® is part of the protective equipment ensemble available for use by participants in cycle and motor sports activities. It is recommended that this product be used only in conjunction with a compatible full-face helmet. Always attach your helmet correctly according to manufacturer's guidelines. Ensure that all of your safety equipment has not passed beyond its recommended life span. Travel/race with safety as your primary principle.

Looking after your Leatt-Brace®

You may want to wash your Leatt-Brace® after hard riding. The brace and padding can be washed with a gentle soap or detergent in cold water, rinsed in cold water and dried with a cloth. The Sport and Pro braces have removable padding.

To ensure that you obtain peak performance from your Leatt-Brace®, please be advised that regular inspection of the various hardware components is recommended.

We wish you many safe hours of enjoyable racing and riding with your Leatt-Brace®. Please do not hesitate in contacting us with any questions or comments at info@leatt-brace.com.

We recommend that you replace your Leatt-Brace® every two to three years of normal use and replace any components that are damaged in a serious accident.



INDEMNITY

As a condition of purchase/receipt of the Leatt-Brace®, the user has fully read and understood the User Manual and understands that although the brace is designed to help reduce brain, head and neck injuries when worn in conjunction with a full-faced helmet, there is no guarantee that any injury will be prevented by the use of the brace. Each brace must be set up for the individual user and be of the correct size and fit.

As a condition of purchase and/or receipt of the Leatt-Brace®, the user has read and familiarized himself/herself with the technical aspects, research and test results relating to the Leatt-Brace® provided at Leatt® Corporation's website (www.leatt-brace.com) and understands the nature of the brace and its intended use and correct fitment.

As a condition of purchase and/or receipt of the Leatt-Brace®, the user understands and recognizes that the brace has not been tested on humans in race conditions for instrumented impact assessment and that this is a new design.

Should you not wish to accept the terms of this Indemnity, please return the Leatt-Brace®.

Always attach your helmet correctly according to manufacturer's guidelines, ensure all your safety equipment has not passed its recommended lifespan and travel/race with safety as an important principal.

As a condition of purchase and/or receipt of the Leatt-Brace®, the user waives any claims against Leatt® Corporation, the inventor, manufacturer, any subcontractor, agent or Global Distributor. Leatt® Corporation, the inventor, manufacturer, any subcontractor, agent of Global Distributor will under no circumstances be liable to any person for any damages, direct, indirect, bodily or otherwise including injury or death, that may be sustained by any person as a result of the use of the Leatt-Brace®, any alleged defect therein or its alleged failure to afford the protection offered by it or for any consequential loss of profits or damages suffered by any person, however such loss or damage may arise or for any other reason of from any other circumstances of whatsoever nature.

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In co-operation with Wings For Life. A percentage of your Leatt-Brace® purchase price is donated to the Wings For Life spinal cord research foundation. www.wingsforlife.com