SRAM®

2015-Present MTB Wheel Lacing Service Manual

GEN0000000004913 Rev C

SRAM LLC WARRANTY

EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, or fitness for a particular purpose) are hereby disclaimed.**

LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).

b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

For Australian customers:
This SRAM limited warranty is provided in Australia by SRAM LLC, 1333 North Kingsbury, 4th floor, Chicago, Illinois, 60642, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, rockshox.com, avidbike.com, truvativ.com, or zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- Dust seals
- Bushings
- Air sealing o-rings
- Glide rings
- Rubber moving parts
- Foam rings
- Rear shock mounting hardware and main seals
- Upper tubes (stanchions)
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake sleeves
- Brake pads
- Chains
- Sprockets
- Cassettes
- Shifter and brake cables (inner and outer)
- Handlebar grips
- Shifter grips
- Jockey wheels
- Disc brake rotors
- Wheel braking surfaces
- Bottomout pads
- Bearings
- Bearing races
- Pawls
- Transmission gears
- Spokes
- Free hubs
- Aero bar pads
- Corrosion
- Tools
- Motors
- Batteries

Notwithstanding anything else set forth herein, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

TABLE OF CONTENTS

SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing SRAM products.
Protect yourself! Wear your safety gear!

Wheel Build and Spoke Replacement

We recommend that you have your SRAM Wheels serviced by a qualified bicycle mechanic. This portion of the service guide covers general wheel build and spoke replacement. There are many different methods for measuring spoke tension. The following information provides the final spoke tension you should achieve using your preferred method for spoke tensioning.

For the latest technical information along with exploded diagrams and part number information available in the Spare Parts Catalog, please visit our website at sram.com. For order information, please contact your local SRAM® distributor or dealer. Information contained in this publication is subject to change at any time without prior notice.

Parts and Tools Needed for Service

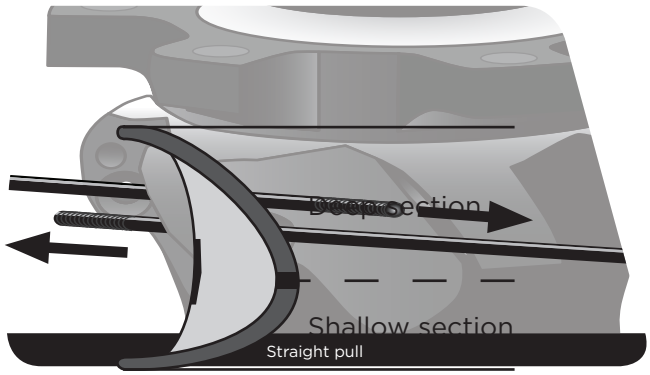
- Safety glasses
- Bladed spoke adjustment tool (ex. Park Tool BSH-4)
- Internal nipple wrench with a 5.5 mm hex socket
- Tensiometer with conversion chart
- Truing stand

Wheel Model Chart

		Spoke length				Final spoke tension	
Wheel model	Spoke count	26 inch wheel size	27.5 inch wheel size	29 inch wheel size		Drive side	Non-Drive side
Rise XX	24	N/A	N/A	296 mm	Front wheel	85 kgf ± 10 kgf (833 N ± 98 N)	110 kgf ± 20 kgf (1078 N ± 196 N)
					Rear wheel	110 kgf ± 20 kgf (1078 N ± 196 N)	85 kgf ± 10 kgf (833 N ± 98 N)
Rise XX Predictive Steering				294 mm	Front wheel	85 kgf ± 10 kgf (833 N ± 98 N)	110 kgf ± 20 kgf (1078 N ± 196 N)
Rise 60			278 mm	298 mm	Front wheel	85 kgf ± 10 kgf (833 N ± 98 N)	110 kgf ± 20 kgf (1078 N ± 196 N)
					Rear wheel	110 kgf ± 20 kgf (1078 N ± 196 N)	85 kgf ± 10 kgf (833 N ± 98 N)
Rise 60 Predictive Steering			N/A		Front wheel	85 kgf ± 10 kgf (833 N ± 98 N)	110 kgf ± 20 kgf (1078 N ± 196 N)
Roam 60		268 mm	280 mm		Front wheel	90 kgf ± 15 kgf (883 N ± 147 N)	110 kgf ± 15 kgf (1078 N ± 147 N)
					Rear wheel	110 kgf ± 15 kgf (1078 N ± 147 N)	82 kgf ± 15 kgf (804 N ± 147 N)
Roam 40 Roam 30		264 mm	276 mm	294 mm	Front wheel	90 kgf ± 15 kgf (883 N ± 147 N)	110 kgf ± 15 kgf (1078 N ± 147 N)
					Rear wheel	110 kgf ± 15 kgf (1078 N ± 147 N)	82 kgf ± 15 kgf (804 N ± 147 N)
Roam 50 Rail 50		270 mm	281 mm	300 mm	Front wheel	90 kgf ± 15 kgf (883 N ± 147 N)	110 kgf ± 15 kgf (1078 N ± 147 N)
					Rear wheel	110 kgf ± 15 kgf (1078 N ± 147 N)	82 kgf ± 15 kgf (804 N ± 147 N)
Roam 50 Predictive Steering		N/A	N/A		Front wheel	90 kgf ± 15 kgf (883 N ± 147 N)	110 kgf ± 15 kgf (1078 N ± 147 N)

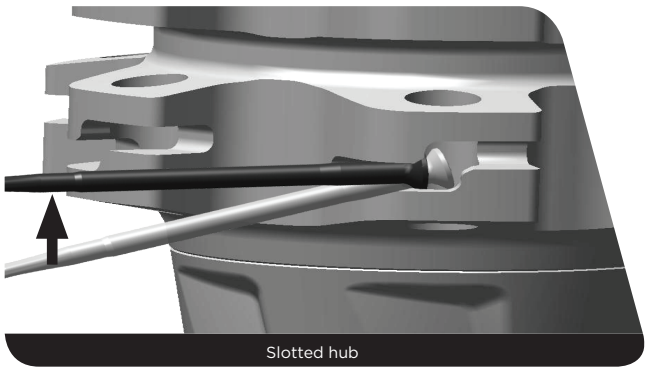
2 Refer to the Wheel Model Chart for the correct spoke length used on the front drive side and non-drive side of your wheel.

Straight pull hub: Install a spoke into each of the countersunk holes of the non-drive side and drive side hub flange.



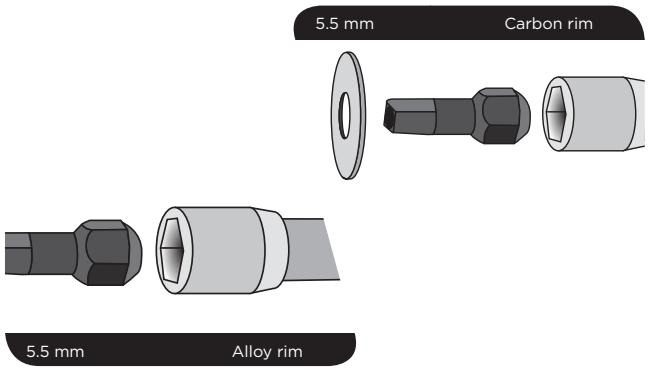
Straight pull

Slotted hub: Install a spoke, at an angle, into each of the countersunk holes of the non-drive side and drive side hub flange. Rotate the spoke so the head inserts under the tab and into the slot. Pull the spoke tight against the inside of the tab.

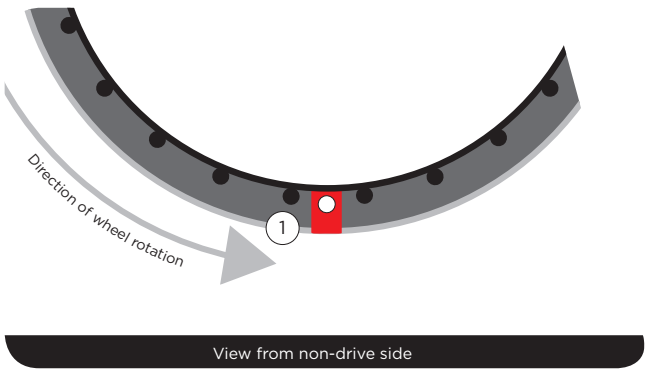

Slotted hub

3 Install a spoke nipple into the 5.5 mm internal nipple wrench.

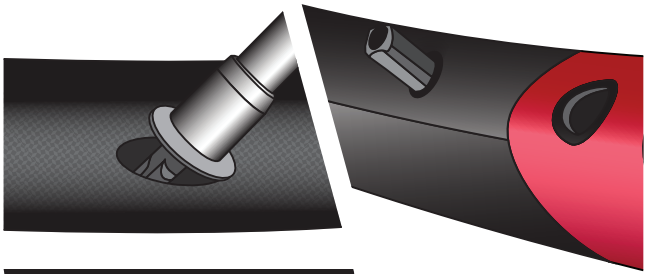
Carbon Rims: Install a washer onto the spoke nipple.



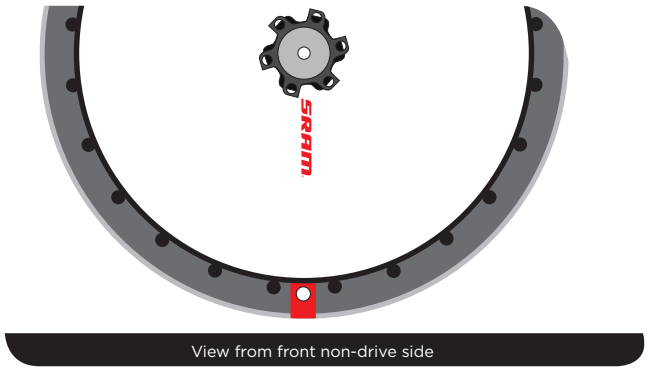
4 Locate spoke hole 1 on the spoke bed. Insert the end of the spoke nipple into spoke hole 1, and guide the spoke nipple and washer (carbon rims only) into the spoke hole and the end of the spoke nipple out of the inner wall of the rim.



View from non-drive side



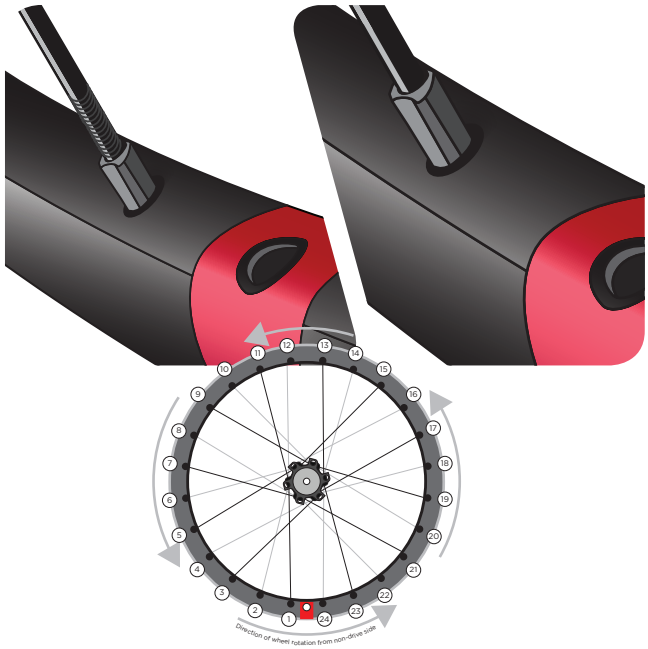
5 Align the SRAM logo on the hub with the valve stem hole in the rim.



View from front non-drive side

6 Thread the end of spoke 1 into the spoke nipple. Continue to thread the spoke into the nipple until no threads are showing on the spoke.

7 Repeat steps 4 & 6, following the illustrated lacing pattern, to finish installing the remaining 23 spokes.



View from front non-drive side

8 Use a spoke wrench or an internal nipple wrench to turn each of the **drive side spokes** in 1/2 turn increments until the **drive side spoke tension** is at approximately 30-40% of the final value according to the Wheel Model Chart.

Install the wheel into a truing stand. Use a spoke wrench to turn each of the the **non-drive side spokes** in 1/2 turn increments to increase the spoke tension until the **non-drive side spoke tension** is at approximately 30-40% of the final value according to the Wheel Model Chart.

Continually check for roundness (vertical movement) and trueness (side-to-side movement). Control the wheel roundness

by tightening/loosening the drive side spokes. Control the wheel trueness by tightening/loosening the non-drive side spokes.

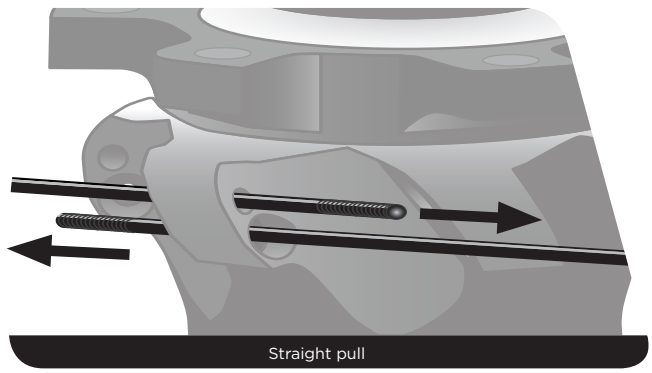
Continue tightening both drive side and non-drive side spokes in 1/8 - 1/4 turn increments until you achieve the final spoke tension in the Wheel Model Chart, and the wheel is round and true.

Rear Wheel Lacing

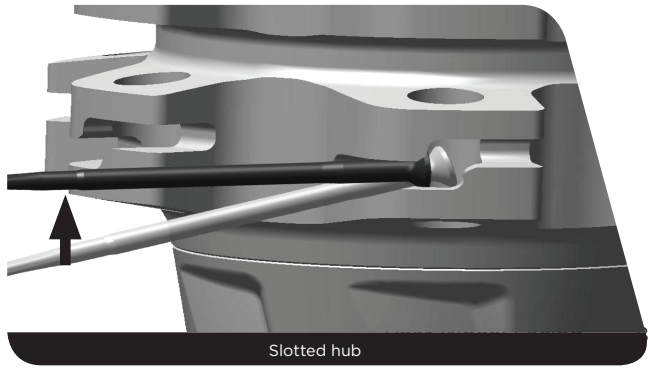
1 Position the rear wheel rim so the deep section of the rim is facing up, and the driver body of the hub (drive side of the hub) are also facing up.

2 Refer to the Wheel Model Chart for the correct spoke length used on the front drive side and non-drive side of your wheel.

Straight pull hub: Install a spoke into each of the countersunk holes of the non-drive side and drive side hub flange.

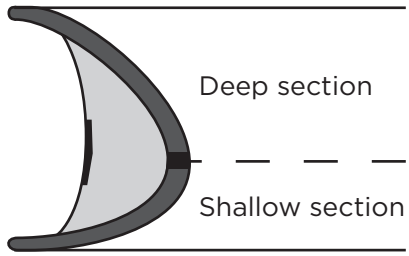


Straight pull



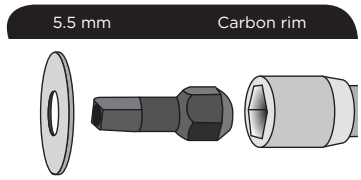
Slotted hub

Slotted hub: Install a spoke, at an angle, into each of the countersunk holes of the non-drive side and drive side hub flange. Rotate the spoke so the head inserts under the tab and into the slot. Pull the spoke tight against the inside of the tab.

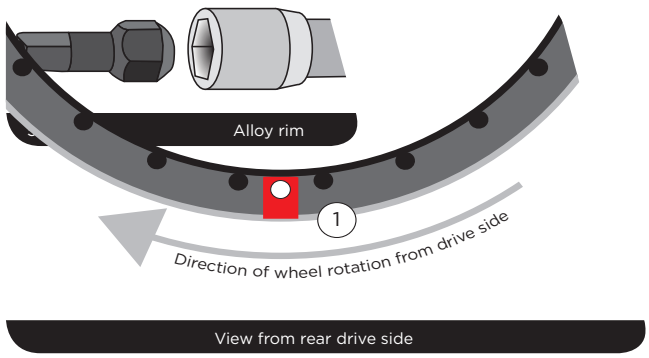


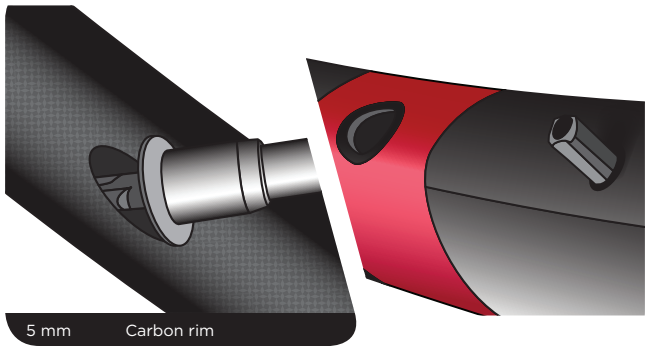
3 Install a spoke nipple into the 5.5 mm internal nipple wrench.

Carbon rims only: Install a washer onto the spoke nipple.

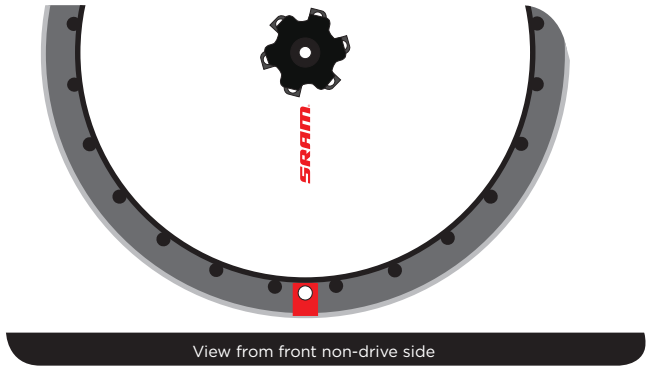


4 Locate spoke hole 1 on the spoke bed. Insert the end of the spoke nipple into spoke hole 1, and guide the spoke nipple and washer (carbon rim only) into the spoke hole and the end of the spoke nipple out of the inner wall of the rim.





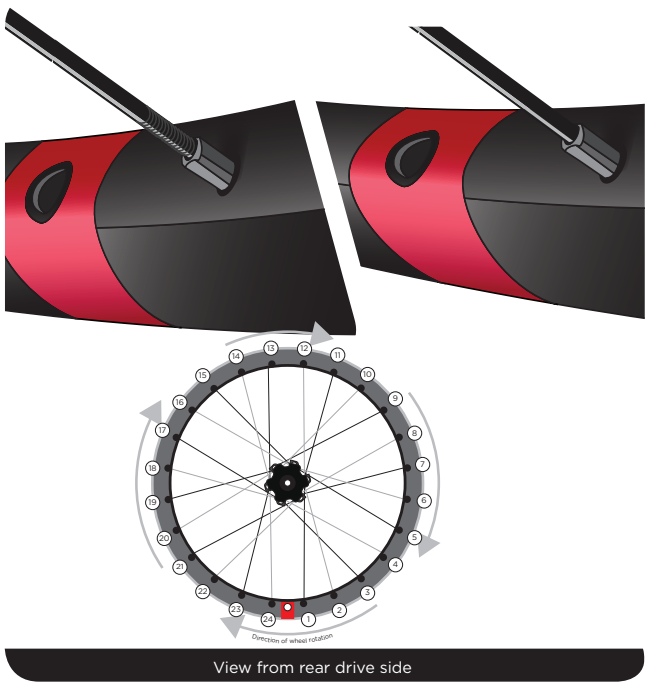
5 Align the SRAM logo on the hub with the valve stem hole in the



rim.

6 Thread the end of spoke 1 into the spoke nipple. Continue to thread the spoke into the nipple until no threads are showing on the spoke.

7 Repeat steps 4 & 6, following the illustrated lacing pattern, to finish installing the remaining 23 spokes.



View from rear drive side

8 Use a spoke wrench or an internal nipple wrench to turn each of the **drive side spokes** in 1/2 turn increments until the **drive side spoke tension** is at approximately 30-40% of the final value according to the Wheel Model Chart.

Install the wheel into a truing stand. Use a spoke wrench to turn each of the the **non-drive side spokes** in 1/2 turn increments to increase the spoke tension until the **non-drive side spoke tension** is at approximately 30-40% of the final value according to the Wheel Model Chart.

Continually check for roundness (vertical movement) and trueness (side-to-side movement). Control the wheel roundness by tightening/loosening the drive side spokes. Control the wheel trueness by tightening/loosening the non-drive side spokes.

Continue tightening both drive side and non-drive side spokes in 1/8 - 1/4 turn increments until you achieve the final spoke tension in the Wheel Model Chart, and the wheel is round and true.

Tubeless Rim Tape

We recommend that you have your SRAM wheels serviced by a qualified bicycle mechanic. Servicing SRAM products requires knowledge of bicycle components as well as the special parts and tools used for service.

For the latest technical information along with exploded diagrams and part number information available in the Spare Parts Catalog, please visit our website at sram.com. For order information, please contact your local SRAM® distributor or dealer. Information contained in this publication is subject to change at any time without prior notice.

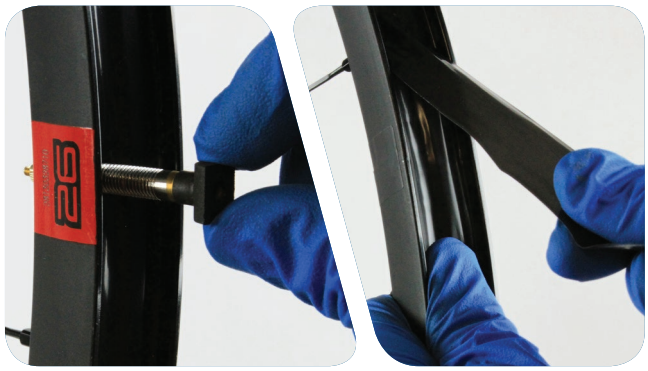
Your product's appearance may differ from the pictures/diagrams contained in this publication.

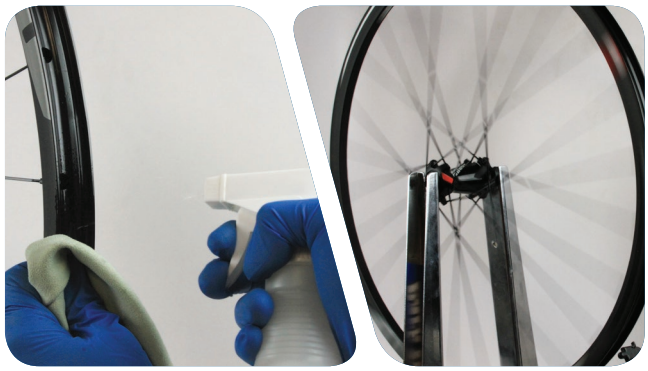
Parts and Tools Needed for Service

- Rise and Roam rims: 26 mm rim tape
- Rail rims: 28 mm rim tape
- Nitrile gloves
- Apron
- Clean, lint-free rags
- Wheel truing stand
- Isopropyl alcohol
- Small flashlight
- Small knife
- Scissors

Tubeless Rim Tape Installation

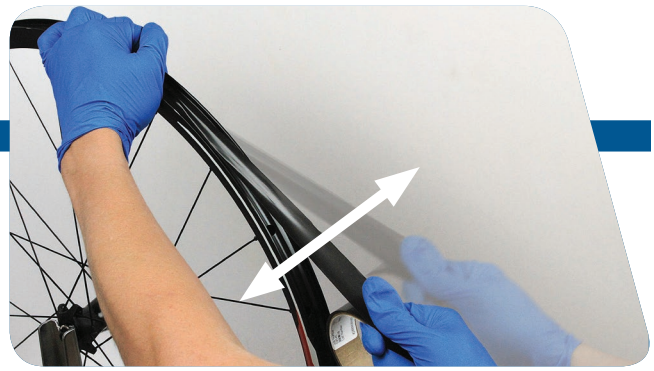
1 Remove any existing rim strips or rim tape from the rim. Remove the valve stem. Install the wheel into a truing stand. Thoroughly clean the rim with isopropyl alcohol and a clean rag. Make sure that the rim is dry and free of alcohol. Spin the wheel rapidly in the stand to help remove alcohol from the spoke holes.





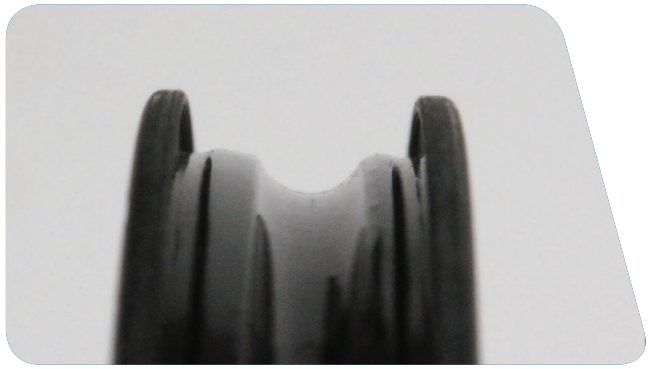
2 Apply the beginning section of tape between the two spoke holes that are 180 degrees opposite from the valve stem hole. Press 4-5 inches (10-13 cm) of tape into the channel of the tire bed.

3 Apply tension to the tape by rotating the wheel away from you while rapidly "shaking" the tape from side to side about 2-3 inches (5-8 cm). This will seat the tape into the channel and keep it centered in the rim.

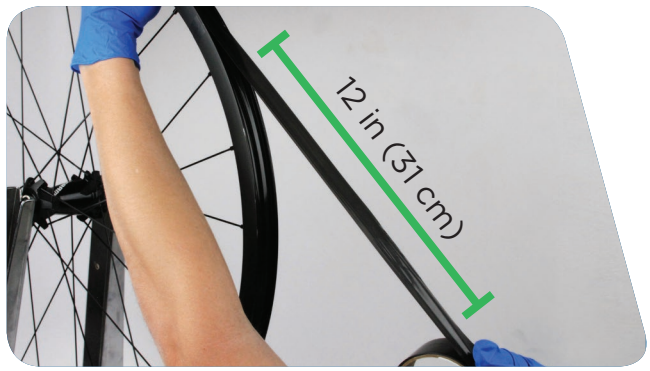


NOTICE

The tubeless tape must be seated into the channel to create an air tight seal. If the tape is not seated into the channel, the tire may leak air.



4 Continue the process of rotating the wheel and shaking the tape side to side while keeping an even tension on the tape roll until the tape meets the beginning edge of tape from step 2. Overlap the beginning edge with another 12 inches (31 cm) of tape to the wheel.



5 Cut the tape. Use your fingers or a tire lever to press the leading edge of tape against the rim. This will help prevent sealant from getting under the tape.

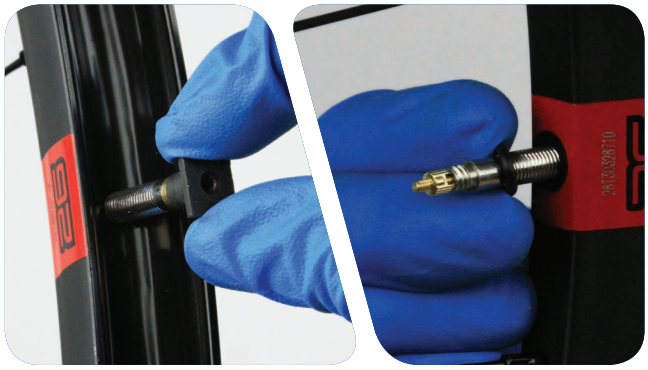
Valve Stem Installation

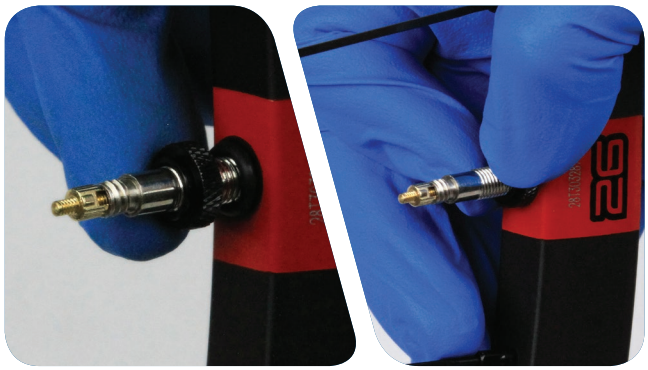
1 Shine a flashlight through the rim to illuminate the valve stem hole. Use a small knife to cut the tape from the valve stem hole.

2 Remove the nut and o-ring from the valve stem. Insert the valve stem through the rim.

Install an o-ring onto the valve stem.

Thread the nut, with the recessed side facing the rim, onto the valve stem. This will allow the o-ring to seal against the nut and prevent air from leaking out of the wheel.





This concludes the Wheel Lacing and Tape Installation service. Install the tire according to the manufacturer's instructions.

Visit SRAM Tech's YouTube Channel to view the video.

www.sram.com

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