



Technical  
Manual  
2012



# 2012

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THIS DOCUMENT ONLY COVERS NEW PRODUCTS FOR 2012.

THIS DOCUMENT UPDATES YOUR TECHNICAL INFORMATION AND SHOULD THEREFORE BE KEPT CAREFULLY WITH THE MANUALS FROM PREVIOUS YEARS, WITH NO TIME LIMITATION.

ALL INFORMATION ON PRODUCTS ALREADY INCLUDED IN PREVIOUS RANGES CAN BE FOUND IN THE TECHNICAL MANUALS PUBLISHED SINCE 1997.

PLEASE VISIT THE INTERNET SITE [WWW.TECH-MAVIC.COM](http://WWW.TECH-MAVIC.COM) TO FIND ALL EDITIONS OF THIS MANUAL PUBLISHED SINCE 1997.

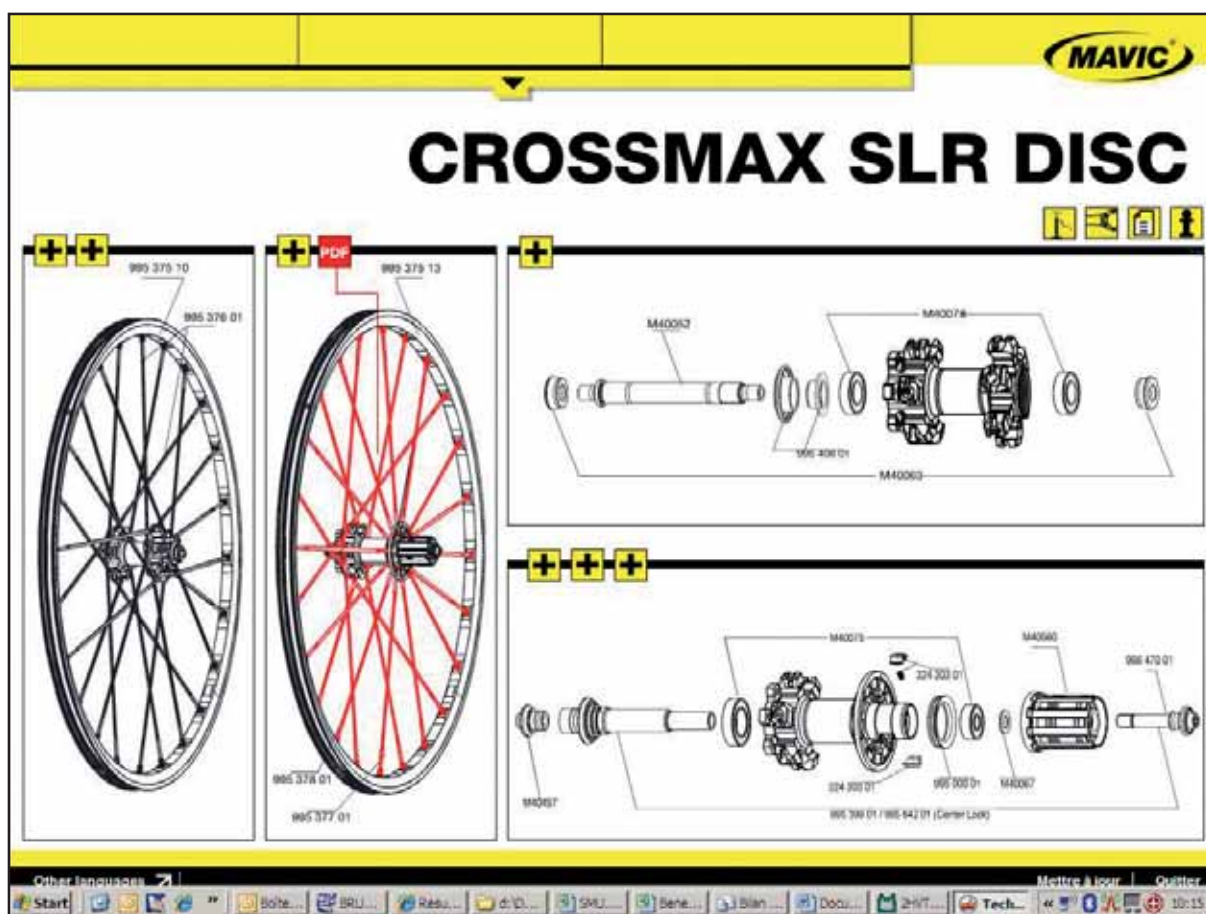
This website (in English, French, German, Spanish, Italian and Japanese) is at your complete disposal. All information about Mavic products released since 1997 is available in PDF format and downloadable from this easily accessible and user-friendly site.

Visit: [www.tech-mavic.com](http://www.tech-mavic.com), where you will find all this information. To connect to this website you will need a user name and password:

User name: **mavic-com**  
Password: **dealer**

**Among other things on the website, you will find:**

- The technical details on all Mavic products marketed since 1997 - wheels, rims, components - arranged by discipline and by product.
- 4 recap charts of spoke lengths and references for all our wheels, which will help you to manage your spoke stock.
- A program for calculating spoke length: starting with a Mavic rim, select the drilling, lacing pattern and the width of your hub, as well as the diameter of the flanges and the distances between the flange and the frame or fork support; the spoke length required to build your wheel will be calculated automatically.



We hope that this tool will meet your needs.

Do not hesitate to point out any malfunctions you identify or improvements that you would like to see.

# COSMIC CARBONE SLE

**Use:** for road bike use only. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

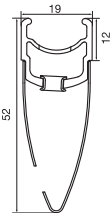



Recommended maximum weight of the cyclist and equipment: 100 kg.

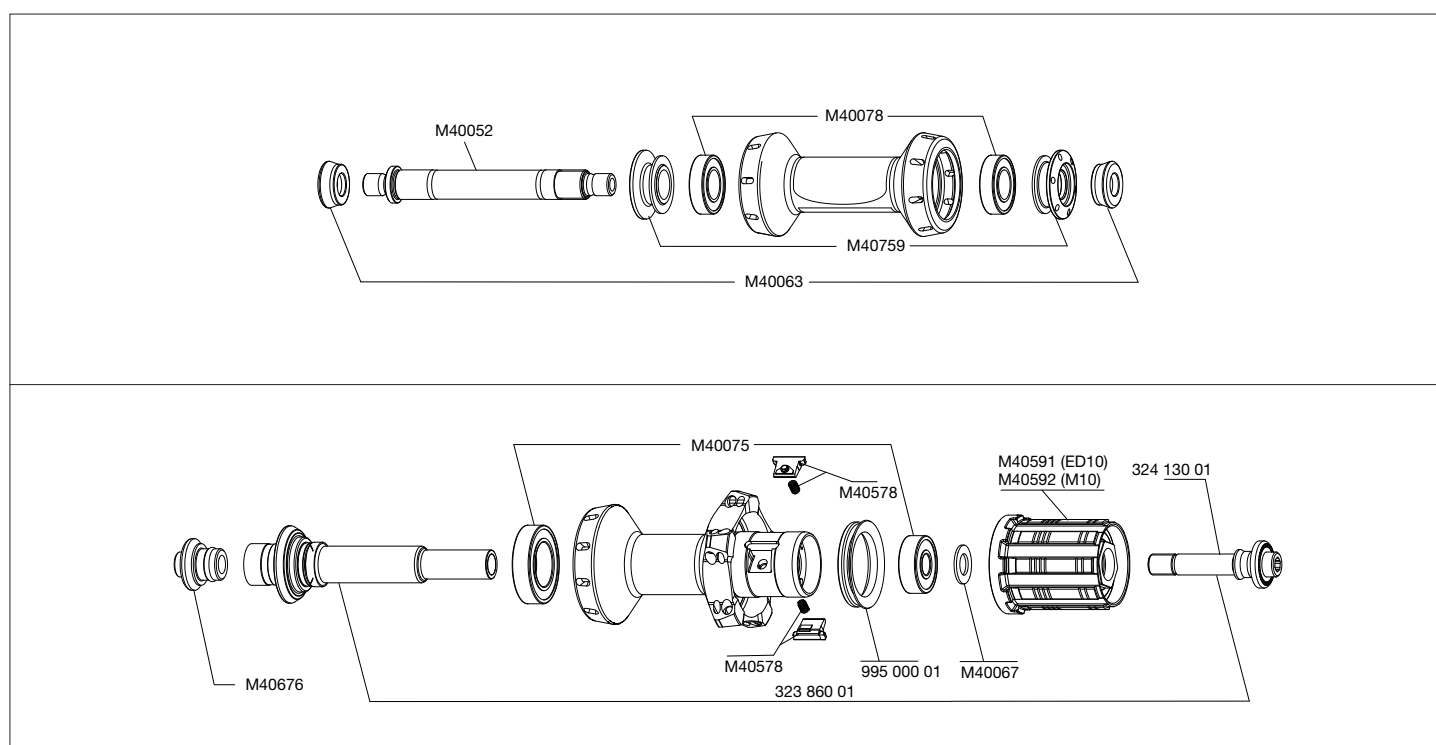
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER AND WITHOUT TYRE

Front 770 g  
Rear M10 965 g

## WHEEL REFERENCES

Front 308 735 10  
Rear M10 308 736 11  
Pair M10 308 737 14

RIMS	SALES REFERENCES	
	 <b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 55 mm	 <b>RECOMMENDED TYRE WIDTH</b> Dimensions: ETRTO 622 x 13C Recommended tyre width: 19 to 28 mm
	<b>When replacing the rear rim:</b> 1. With the valve hole near you, turn the rim so that the "infobloc" label can be seen. 2. The first spoke to the right of the valve hole is a non-traction spoke and should be inserted in the drive side hub.	
	 <b>Exalith:</b> for efficient and long-lasting braking performance, use only the special Mavic® Exalith® brake pads supplied with your wheels. The use of other brake pads may be dangerous for the user and may void the warranty. Please carefully read the "Exalith Warning" provided with your wheels. Clean with a dry cloth or soapy water if necessary. The brake pads can be ordered separately using the following references 120 164 01 (HG, Sram, Mavic) and 120 165 01 (ED).	
HUBS	<b>MAINTENANCE:</b> Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.	



WHEEL BUILDING	<b>REFERENCES AND LENGTHS:</b> Front: 996 841 01, length 289 mm (per 8, integrated nipples) Drive side: 996 842 01, length 306 mm (per 10, integrated nipples) Non-drive side: 996 843 01, length 288 mm (per 10, integrated nipples)	
<b>FEATURES:</b> Black steel straight pull spokes with ABS spoke nipples	<b>LACING PATTERN:</b> Front: radial Rear: 2-crossed drive side, radial non-drive side	<b>TENSION:</b> Front: 80 to 100 kg Rear drive side: 150 to 170 kg

ACCESSORIES	MAINTENANCE
<b>WHEELS SUPPLIED WITH:</b> <ul style="list-style-type: none"> <li>• BR 301 front quick-release 996 939 01</li> <li>• BR 301 rear quick-release 996 940 01</li> <li>• Spoke wrench M40001 (with rear wheel)</li> <li>• 2 multifunction adjustment wrenches 325 423 01</li> <li>• Valve extender 118 952 01</li> <li>• Rim tape</li> <li>• 2 wheel bags M40135</li> <li>• Yksion White GripLink front tyre (129 268 01)</li> <li>• Yksion White PowerLink rear tyre (129 783 01)</li> <li>• 2 Mavic butyl inner tubes (127 385 01)</li> <li>• 2 pairs of Mavic Exalith brake pads for Exalith brake track: HG/Sram/Mavic 129 886 01 or ED 129 887 01</li> <li>• Wheel user guide</li> <li>• Tyre user guide</li> </ul>	Replacing the front axle See 2005 TM, page 20 Replacing the front bearings See 2005 TM, page 20 Replacing the rear axle See 2003 TM, page 19 Replacing the free wheel mechanism See 2003 TM, page 21 Replacing the rear bearings See 2003 TM, page 22 Replacing a spoke See 2005 TM, page 23 Replacing the front rim See 2005 TM, page 24 Replacing the rear rim See 2005 TM, page 27 Replacing the tyre See Mavic tyre user guide Important notes about Exalith rims See 2011 TM, page 28
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>	

# R-SYS 12

**Use:** for road bike use only. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

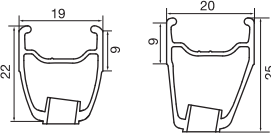


Recommended maximum weight of the cyclist and equipment: 100 kg.

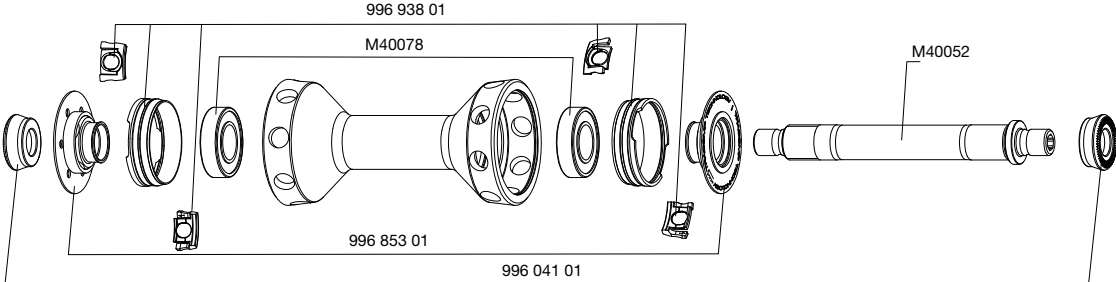
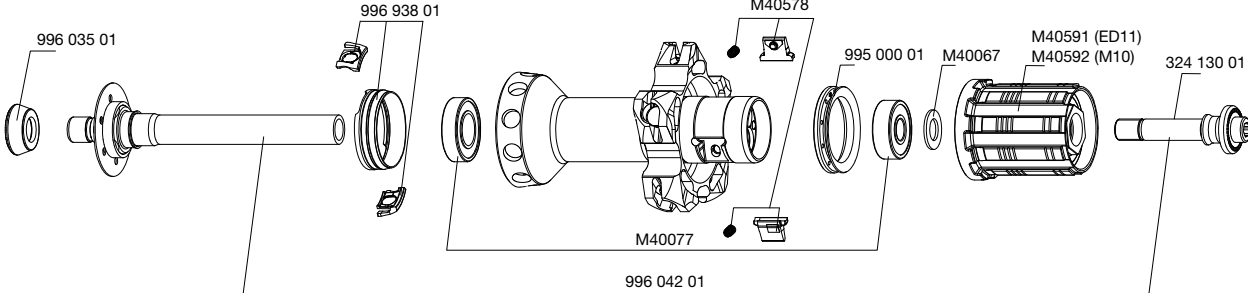
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER AND WITHOUT TYRE


Front	590 g
Rear M10	815 g
Rear ED11	800 g

## WHEEL REFERENCES

Front	127 959 10
Rear M10	127 960 11
Rear ED11	127 961 12
Pair M10	127 962 14
Pair ED11	127 963 14

RIMS	SALES REFERENCES	<i>Clincher</i>	Front: 308 607 13 Rear: 308 607 10
	 <b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	 <b>RECOMMENDED TYRE WIDTH</b> Dimensions: ETRTO 622 x 15C Recommended tyre width: 19 to 32 mm	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-traction spoke and should be introduced in the drive side.			

HUBS	MAINTENANCE: Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.		
			
			

WHEEL BUILDING	REFERENCES AND LENGTHS:	Front: 107 958 01, length 285 mm (per 9 + 1 decorated, integrated nipples) Drive side: 996 073 01, length 294.5 mm (per 10, integrated nipples) Non-drive side: 107 959 01, length 284 mm (per 10 + 1 decorated, integrated nipples)
<b>FEATURES:</b> Front and rear non-drive side: carbon tubular spokes (Tracomp) - new generation Rear drive side: black round, straight pull Zicral spokes with integrated, self-locking M7 nipples	<b>LACING PATTERN:</b> Front: radial, Tracomp system Rear: 2-cross lacing drive side, radial non-drive side, Tracomp system	 <b>TENSION:</b> Front: 70 to 90 kg Rear drive side: 90 to 110 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>BR 601 front quick-release skewer M40149</li> <li>BR 601 rear quick-release skewer M40150</li> <li>Removable computer magnet (front wheel) 105 416 01</li> <li>2 multifunction adjustment wrenches 325 423 01</li> <li>Tracomp ring tool 996 080 01</li> <li>ED11 12D locking ring (with rear wheel ED11) 108 317 01</li> <li>2 wheel bags M40135</li> <li>Yksion White GripLink front tyre (129 268 01)</li> <li>Yksion White PowerLink rear tyre (129 783 01)</li> <li>2 Mavic butyl inner tubes (127 385 01)</li> <li>Wheel user guide</li> <li>Tyre user guide</li> </ul>		Replacing the front axle and bearings See 2005 TM, page 20 Replacing the rear axle See 2008 TM, page 24 Maintaining and replacing the free wheel mechanism See 2003 TM, page 21 Replacing the rear bearings See 2008 TM, page 24 Important note for fitting Tracomp spokes See 2008 TM, page 28 Removing/Refitting the Tracomp ring See 2009 TM, page 36 Truing and replacing a Tracomp spoke See 2008 TM, page 30 Replacing the front rim See 2008 TM, page 30 Replacing the rear rim See 2008 TM, page 31 Mounting the tyre See Mavic tyre user guide
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>		

Never turn a Tracomp spoke nipple without having first removed the Tracomp rings from the hub, otherwise the spoke may be irreversibly damaged.

Never fit a computer magnet other than the one supplied with the wheel.

Only transport the wheels in the wheel bags supplied. Avoid side shocks to the Tracomp spokes.

# KSYRIUM SLR

**Use:** for road bike use only. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

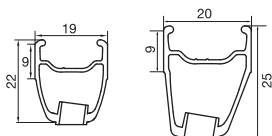



Recommended maximum weight of the cyclist and equipment: 100 kg.

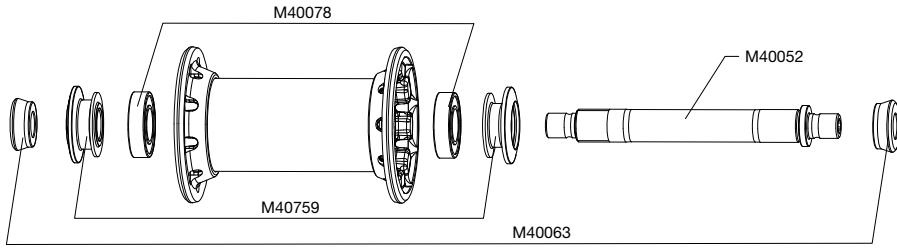
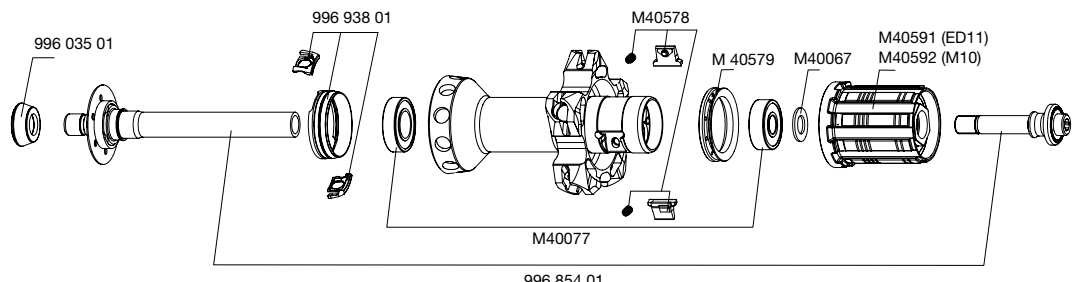
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER AND WITHOUT TYRE


Front	635 g
Rear M10	780 g
Rear ED11	765 g

## WHEEL REFERENCES

Front	129 514 10
Rear M10	129 515 11
Rear ED11	129 516 12
Pair M10	129 517 14
Pair ED11	129 518 14

RIMS	SALES REFERENCES	Front: 120 208 10 Rear: 308 610 13
	 <b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	 <b>RECOMMENDED TYRE WIDTH</b> Dimensions: ETRTO 622 x 15C Recommended tyre width: 19 to 28 mm
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-traction spoke and should be inserted in the drive side.		
 <b>Exalith:</b> for efficient and long-lasting braking performance, use only the special Mavic® Exalith® brake pads supplied with your wheels. The use of other brake pads may be dangerous for the user and may void the warranty. Please carefully read the "Exalith Warning" provided with your wheels. Clean with a dry cloth or soapy water if necessary. The brake pads can be ordered separately using the following references 120 164 01 (HG, Sram, Mavic) and 120 165 01 (ED).		

HUBS	MAINTENANCE:
	Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
	
	

WHEEL BUILDING	REFERENCES AND LENGTHS:	Front: 120 302 01, length 284.5 mm (per 12, integrated nipples) Drive side: 120 294 01, length 294.5 mm (per 10, integrated nipples) Non-drive side: 120 295 01, length 283.7 mm (per 10, integrated nipples)
<b>FEATURES:</b> Front: black bladed, straight pull Zicral spokes with integrated and self-locking M7 nipples Rear drive side: black round, straight pull Zicral spokes with integrated, self-locking M7 nipples Rear non-drive side: carbon tubular spokes (Tracomp)	<b>LACING PATTERN:</b> Front: radial Rear: 2-cross lacing drive side, radial non-drive side, Tracomp system	 <b>TENSION:</b> Front: 110 to 130 kg Rear drive side: 90 to 110 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>BR 601 front quick-release skewer M40149</li> <li>BR 601 rear quick-release skewer M40150</li> <li>Computer magnet M40540</li> <li>Spoke wrench 996 079 01 (with rear wheel)</li> <li>2 multifunction adjustment wrenches 325 423 01</li> <li>Tracomp ring tool 996 080 01</li> <li>ED11 12D locking ring (with rear wheel ED11) 108 317 01</li> <li>Wheel bags M40135</li> <li>2 pairs of Mavic Exalith brake pads for Exalith brake track: HG/Sram/Mavic 129 886 01 or ED 129 887 01</li> <li>Yksion GripLink SSC front tyre 23 118 498 01</li> <li>Yksion PowerLink SSC rear tyre 23 118 502 01</li> <li>2 Mavic butyl inner tubes 127 385 01</li> <li>Wheel user guide</li> <li>Tyre user guide</li> </ul>		Replacing the front axle and bearings See 2005 TM, page 20 Replacing the rear axle See 2008 TM, page 23 Maintaining and replacing the free wheel mechanism See 2003 TM, page 21 Replacing the rear bearings See 2008 TM, page 24 Important note for fitting Tracomp spokes See 2008 TM, page 28 Identifying a damaged Tracomp spoke See 2008 TM, page 28 Removing/Refitting the Tracomp ring See 2009 TM, page 36 Truing and replacing a Tracomp spoke See 2008 TM, page 30 Replacing a spoke See 2003 TM, page 23 Replacing the front rim See 2003 TM, page 27 Replacing the rear rim See 2008 TM, page 31 Important notes about Exalith rims See 2011 TM, page 28 Tyre replacement See Mavic tyre user guide
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>		

Never turn a Tracomp spoke nipple without having first removed the Tracomp rings from the hub, otherwise the spoke may be irreversibly damaged.

Never fit a computer magnet other than the one supplied with the wheel.

Only transport the wheels in the wheel bags supplied. Avoid side shocks to the Tracomp spokes.

# KSYRIUM SR (tubular version)

**Use:** for road bike or cyclo-cross bike use only. Any other use (such as on a tandem or off-road bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

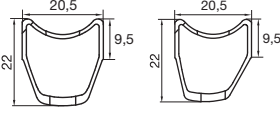


Recommended maximum weight of the cyclist and equipment: 100 kg.

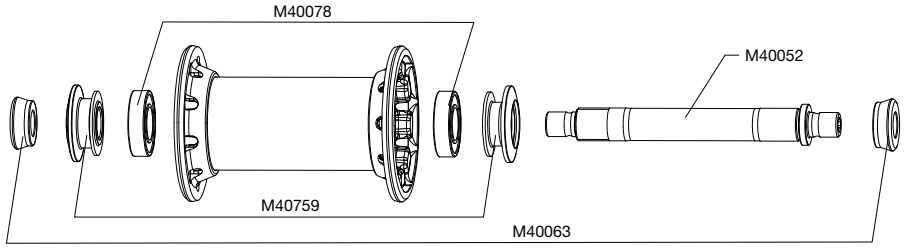
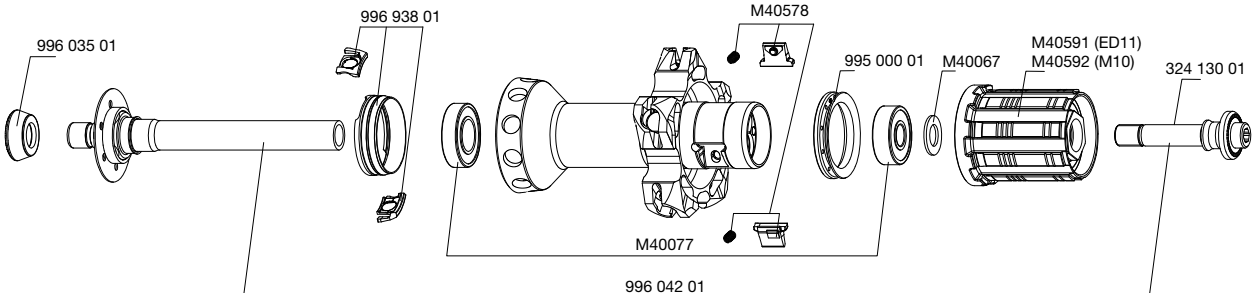
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER AND WITHOUT TUBULAR


Front	645 g
Rear M10	815 g
Rear ED11	800 g

## WHEEL REFERENCES

Front	307 562 10
Rear M10	307 563 11
Rear ED11	307 564 12
Pair M10	307 565 14
Pair ED11	307 566 14

RIMS	SALES REFERENCES	Front: 308 611 10 Rear: 308 611 13
	 <b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	 <b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 700 633 tubular only Recommended tubular width: 19 to 23 mm
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-traction spoke and should be inserted in the drive side.		

HUBS	MAINTENANCE: Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
	
	

WHEEL BUILDING	REFERENCES AND LENGTHS:	Front: 120 302 01, length 285 mm (per 12, integrated nipples) Drive side: 308 637 01, length 297.5 mm (per 9 + 1 decorated, integrated nipples) Non-drive side: 120 293 01, length 286.7 mm (per 11, integrated nipples)	TENSION: Front: 110 to 130 kg Rear drive side: 90 to 110 kg
<b>FEATURES:</b> Front: black bladed, straight pull Zicral spokes with integrated and self-locking M7 nipples Rear drive side: black round, straight pull Zicral spokes with integrated, self-locking M7 nipples rear non-drive side: carbon tubular spokes (Tracomp)	<b>LACING PATTERN:</b> Front: radial Rear: 2-cross lacing drive side, radial non-drive side, Tracomp system		

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>BR 601 front quick-release skewer M40149</li> <li>BR 601 rear quick-release skewer M40150</li> <li>Computer magnet M40540 (with front wheel)</li> <li>2 multifunction adjustment wrenches 325 423 01</li> <li>Zicral spoke wrench M40567</li> <li>ED11 12D locking ring (with rear wheel ED11) 108 317 01</li> <li>Wheel user guide, tubular user guide</li> </ul>		Replacing the front axle and bearings See 2005 TM, page 20 Replacing the rear axle See 2008 TM, page 24 Maintaining and replacing the free wheel mechanism See 2003 TM, page 21 Replacing the rear bearings See 2008 TM, page 24 Important note for fitting Tracomp spokes See 2008 TM, page 28 Removing/Refitting the Tracomp ring See 2009 TM, page 36 Truing and replacing a Tracomp spoke See 2008 TM, page 30 Replacing a spoke See 2003 TM, page 23 Replacing the front rim See 2008 TM, page 30 Replacing the rear rim See 2008 TM, page 31
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>		

Never turn a Tracomp spoke nipple without having first removed the Tracomp rings from the hub, otherwise the spoke may be irreversibly damaged.

Never fit a computer magnet other than the one supplied with the wheel.

Only transport the wheels in the wheel bags supplied. Avoid side shocks to the Tracomp spokes.

# AKSIUM 12 (White and Red)

**Use:** for road bike use only. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

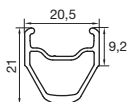


Recommended maximum weight of the cyclist and equipment: 100 kg.

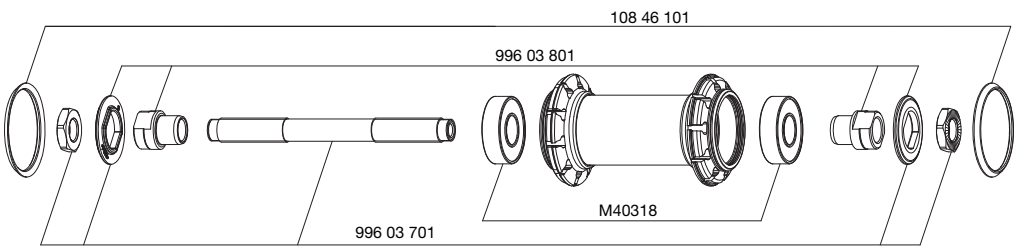
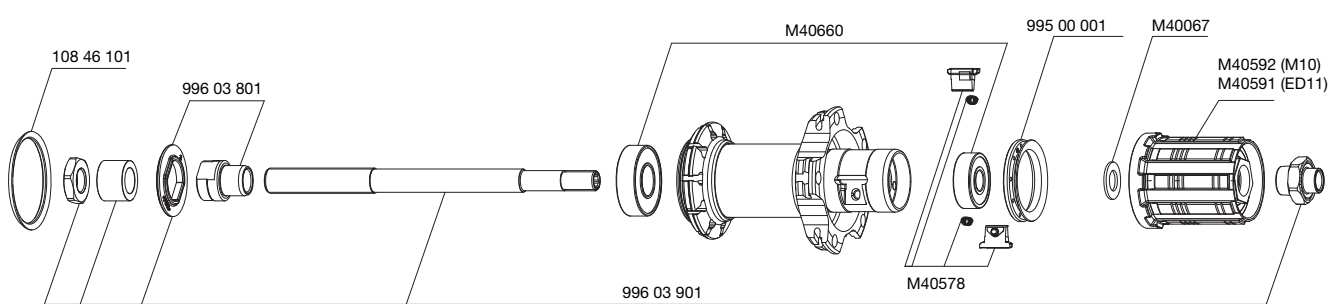
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER AND WITHOUT TYRE

Front	800 g
Rear M10	950 g
Rear ED11	935 g

## WHEEL REFERENCES

	WHITE	RED
Front	127 969 10	128 064 10
Rear M10	127 970 11	128 065 11
Rear ED11	127 971 12	128 066 12
Pair M10	127 972 14	128 067 14
Pair ED11	127 973 14	128 068 14

RIMS	SALES REFERENCES	White:	Front and Rear:	Red:	Front and Rear:	
	 <p><b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm</p>		308 608 15		308 609 15	
				 <p><b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 700: ETRTO 622 x 15C Recommended tyre width: 19 to 32 mm</p>		

HUBS	MAINTENANCE:
	Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
	
	

WHEEL BUILDING	REFERENCES AND LENGTHS:	Front and rear non-drive side:	108 449 01, length 282 mm (per 10, with nipples)
		Rear drive side:	108 450 01, length 298 mm (per 10, with nipples)
<b>FEATURES:</b>			
Front wheel: Selflock type black bladed straight pull steel spokes with standard nipples.			
Rear wheel: black bladed straight pull steel spokes with ABS nipples.			
	<b>LACING PATTERN:</b>		
	Front: radial		
	Rear: radial on the non-drive side, in a 2-cross pattern on the drive side		
	<b>TENSION:</b>		
	Front: 80 to 90 kg		
	Rear drive side: 150 to 165 kg		

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>Conventional aluminum quick-release skewer on front M40350</li> <li>Conventional aluminum quick-release skewer on rear M40351</li> <li>ED11 12D locking ring (with rear wheel ED11) 108 317 01</li> <li>2 Mavic Aksion 23 tyres (White: 129 480 23 / Red: 127 388 23)</li> <li>2 Mavic butyl inner tubes 127 385 01</li> <li>2 rim tapes 18x622</li> <li>Wheel user guide</li> <li>Tyre user guide</li> </ul>		Replacing the front axle and bearings Replacing the rear axle Maintaining and replacing the free wheel mechanism Replacing the rear bearings Replacing a spoke Replacing the front rim Replacing the rear rim Mounting the tyre
		See 2004 TM, page 19 See 2004 TM, page 20 See 2004 TM, page 21 See 2004 TM, page 22 See 2008 TM, page 25 See 2008 TM, page 25 See 2010 TM, page 22 See tyre user guide
		Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>



# CROSSMAX SLR DISC 12



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 85 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

Front: 660 g  
Rear: 780 g

## WHEEL REFERENCES

Front: 127 754 10  
Rear: 127 755 13  
Pair: 127 756 14

RIMS	SALES REFERENCES
	Front: 308 613 10 Rear: 308 613 13
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm</p> </div> <div style="width: 45%;"> <p><b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3"</p> </div> </div> <p><b>When replacing the front rim:</b></p> <ol style="list-style-type: none"> <li>1. With the valve hole near you, the raised indicator bump must be to the <b>right</b> of the valve hole.</li> <li>2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.</li> </ol> <p><b>When replacing the rear rim:</b></p> <ol style="list-style-type: none"> <li>1. With the valve hole near you, the two raised indicator bumps must be to the <b>right</b> of the valve hole.</li> <li>2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.</li> </ol>

HUBS	MAINTENANCE: Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.

WHEEL BUILDING	REFERENCES AND LENGTHS
	Front and rear non-drive side: 308 642 01, length 269 mm (per 10 + 1 decorated, integrated nipples) Rear drive side: 308 641 01, length 239 mm (per 10, integrated nipples)
<b>FEATURES:</b>	<b>LACING PATTERN:</b>
Black swaged, straight pull Zicral spokes (with one decorated per wheel, disc side) with integrated, self-locking M7 aluminum spoke nipples	Front: 2-cross lacing on both sides Rear: Isopulse
	<b>TENSION:</b>
	Front disc side: 110 to 135 kg Rear drive side: 115 to 145 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>• BX 601 front quick-release M40140</li> <li>• BX 601 rear quick-release M40141</li> <li>• 2 Removable round UST valves 129 838 01</li> <li>• 2 Mavic wheel bags 857 144 01</li> <li>• Axle reducers 15=&gt;9 mm 996 941 01 (mounted on front wheel)</li> <li>• Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>• Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>• Computer magnet M40540 (with front wheel)</li> <li>• 2 multifunction adjustment wrenches 325 423 01</li> <li>• Chain disc 308 755 01 (mounted on rear wheel)</li> <li>• 2 sets of specific disc screws (6 screws per set) 308 719 01</li> <li>• User guides</li> </ul>		Front hub assembly diameter conversion Replacing the front axle and bearings Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim
		See 2009 TM, page 25 See 2003 TM, page 18 See 2012 TM, page 20 See 2009 TM, page 29 See 2003 TM, page 24 See 2009 TM, page 37 See 2006 TM, page 17
		Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>

# CROSSMAX SLR DISC 12 Center Lock



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 85 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

Front: 660 g  
Rear: 780 g

## WHEEL REFERENCES

Front: 127 762 10  
Rear: 127 763 13  
Pair: 127 764 14

RIMS	SALES REFERENCES	Front: 308 613 10 Rear: 308 613 13
	<b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	<b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3".
	<b>When replacing the front rim:</b> 1. With the valve hole near you, the raised indicator bump must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.		

HUBS	<b>MAINTENANCE:</b> Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.	

WHEEL BUILDING	REFERENCES AND LENGTHS	Front and rear non-drive side: 308 642 01, length 269 mm (per 10 + 1 decorated, integrated nipples) Rear drive side: 308 641 01, length 239 mm (per 10, integrated nipples)
<b>FEATURES:</b>	Black swaged, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples	
	<b>LACING PATTERN:</b>	Front: 2-cross lacing on both sides Rear: Isopulse
		<b>TENSION:</b> Front disc side: 110 to 135 kg Rear drive side: 115 to 145 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>• BX 601 front quick-release M40140</li> <li>• BX 601 rear quick-release M40141</li> <li>• 2 Removable round UST valves 129 838 01</li> <li>• 2 Mavic wheel bags 857 144 01</li> <li>• Axle reducers 15=&gt;9 mm 996 941 01 (mounted on front wheel)</li> <li>• Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>• Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>• Computer magnet M40540 (with front wheel)</li> <li>• Chain disc 308 755 01 (mounted on rear wheel)</li> <li>• 2 multifunction adjustment wrenches 325 423 01</li> <li>• User guides</li> </ul>		Front hub assembly diameter conversion Replacing the front axle and bearings Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim
		See 2009 TM, page 25 See 2009 TM, page 27 See 2012 TM, page 20 See 2009 TM, page 29 See 2003 TM, page 24 See 2009 TM, page 37 See 2006 TM, page 17
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>		

# CROSSMAX SLR DISC LEFTY



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 85 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

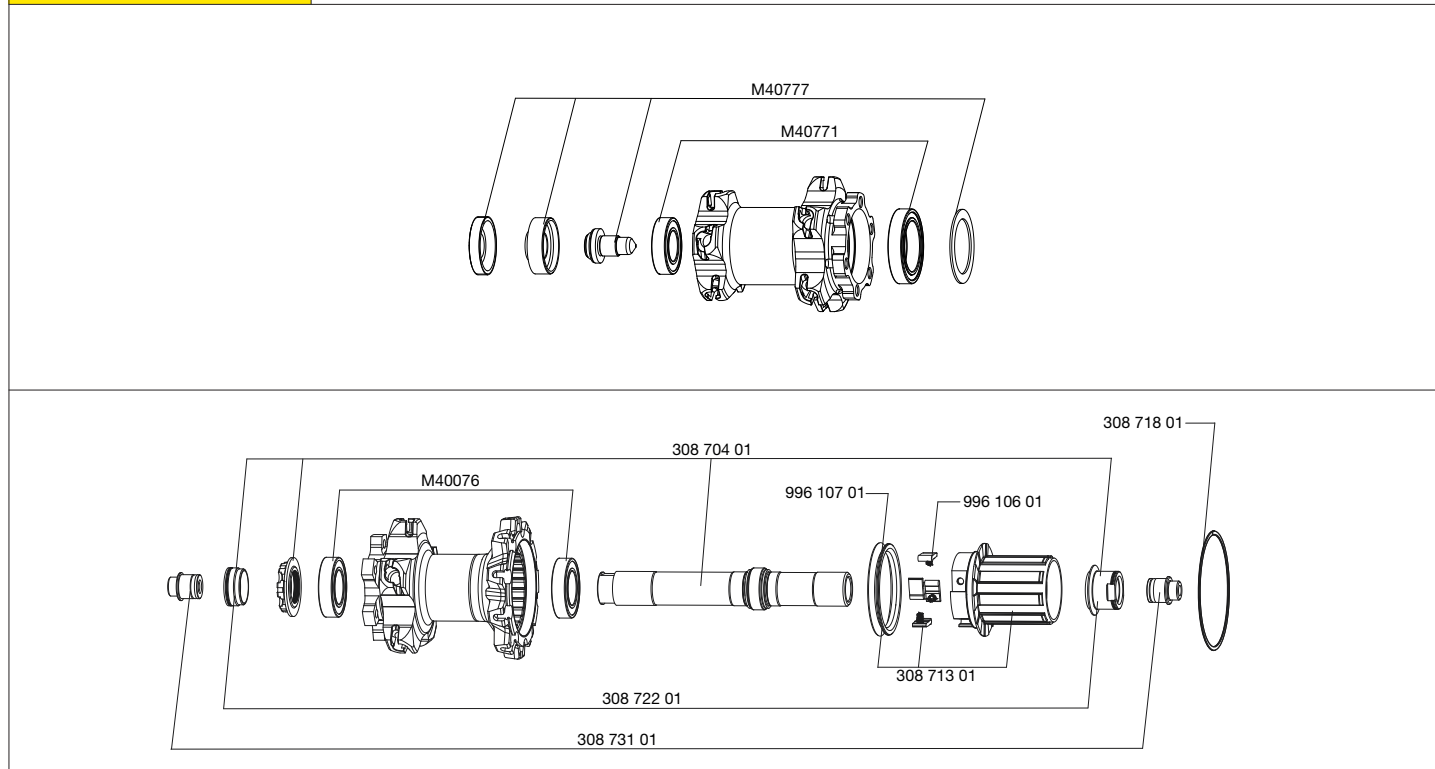
Front: 650 g  
Rear: 780 g

## WHEEL REFERENCES

Front: 307 568 10  
Rear: 127 755 13  
Pair: 307 569 14

RIMS	SALES REFERENCES	Front: 308 613 10 Rear: 308 613 13
	<b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	<b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3".
	<b>When replacing the front rim:</b> 1. With the valve hole near you, the raised indicator bump must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the right of the valve hole. 2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.		

HUBS	MAINTENANCE: Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
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WHEEL BUILDING	REFERENCES AND LENGTHS	Front and rear non-drive side: 308 642 01, length 269 mm (per 10 + 1 decorated, integrated nipples) Rear drive side: 308 641 01, length 239 mm (per 10, integrated nipples)
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<b>FEATURES:</b> Black swaged, straight pull Zical spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples	<b>LACING PATTERN:</b> Front: 2-cross lacing on both sides Rear: Isopulse	<b>TENSION:</b> Front disc side: 110 to 135 kg Rear drive side: 115 to 145 kg
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ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>Lefty assembly accessories M40777</li> <li>BX 601 rear quick-release M40141</li> <li>2 Removable round UST valves 129 838 01</li> <li>2 Mavic wheel bags 857 144 01</li> <li>Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>Computer magnet M40540 (with front wheel)</li> <li>2 multifunction adjustment wrenches 325 423 01</li> <li>Chain disc 308 755 01 (mounted on rear wheel)</li> <li>2 sets of specific disc screws (6 screws per set) 308 719 01</li> <li>User guides</li> </ul>		Fitting and removing the front wheel on the fork Replacing the front axle and bearings Lefty front wheel clearance adjustment Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim
		See 2004 TM, page 18 See 2009 TM, page 26 See 2011 TM, page 32 See 2012 TM, page 20 See 2009 TM, page 29 See 2003 TM, page 24 See 2009 TM, page 37 See 2006 TM, page 17
		Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>

# CROSSMAX ST DISC 12



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 100 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

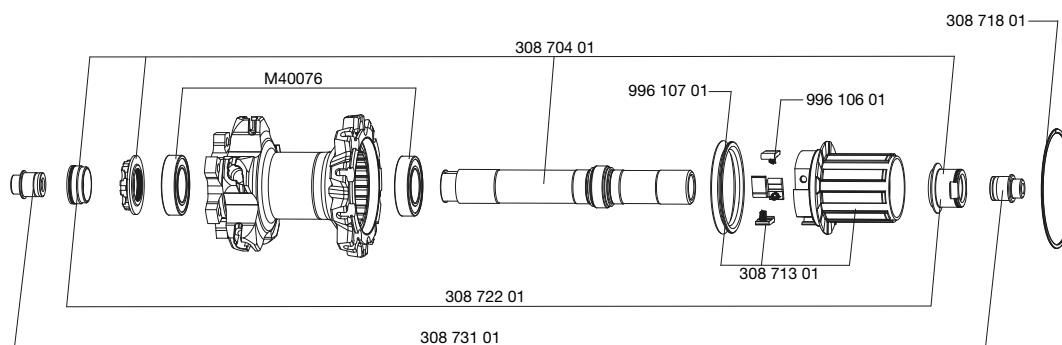
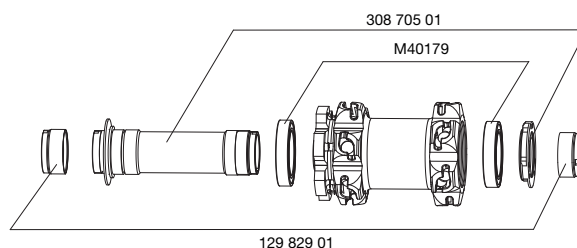
Front: 765 g  
Rear: 825 g

## WHEEL REFERENCES

Front: 129 541 10  
Rear: 127 789 13  
Pair: 129 577 14

RIMS	SALES REFERENCES	Front: 308 616 10 Rear: 308 616 13
	<b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	<b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3".
	<b>When replacing the front rim:</b> 1. With the valve hole near you, the raised indicator bump must be to the <b>right</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the <b>right</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.		

HUBS	MAINTENANCE: Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
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WHEEL BUILDING	REFERENCES AND LENGTHS	Front: 308 645 01, length 261.5 mm (per 12 + 1 decorated, integrated nipples) Rear drive side: 308 643 01, length 239 mm (per 10 + 1 decorated, integrated nipples) Rear non-drive side: 308 644 01, length 269 mm (per 10, integrated nipples)
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### FEATURES:

Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples

### LACING PATTERN:

Front: 2-cross lacing on both sides  
Rear: Isopulse



### TENSION:

Front disc side: 95 to 130 kg  
Rear drive side: 90 to 120 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> <li>• BX 301 rear quick-release M40352</li> <li>• 2 Removable round UST valves 129 838 01</li> <li>• Adapters 15 mm 129 828 01 (with front wheel)</li> <li>• Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>• Chain disc 308 755 01 (mounted on rear wheel)</li> <li>• Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>• Computer magnet M40540 (with front wheel)</li> <li>• 1 multifunction adjustment wrench 325 423 01</li> <li>• 2 sets of specific disc screws (6 screws per set) 308 719 01</li> <li>• User guides</li> </ul>		Replacing the front axle and bearings Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim
		See 2003 TM, page 19 See 2012 TM, page 20 See 2009 TM, page 29 See 2003 TM, page 24 See 2007 TM, page 22 See 2006 TM, page 17
		Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>

# CROSSMAX ST DISC 12 Center Lock



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 100 kg.

### WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

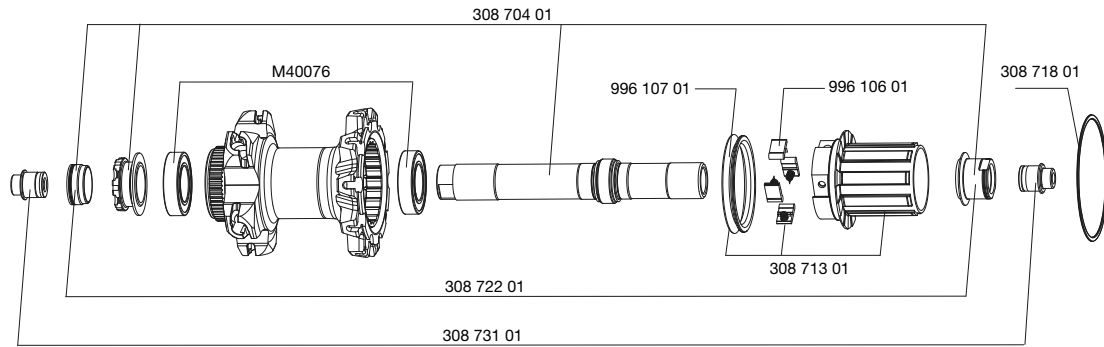
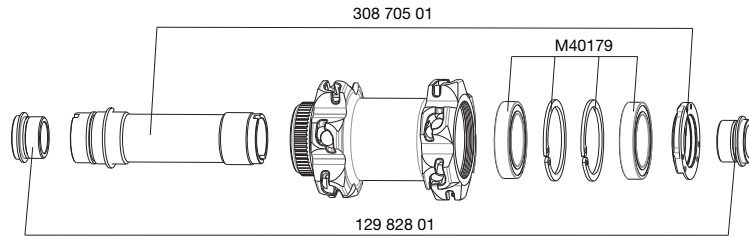
Front: 760 g  
Rear: 830 g

### WHEEL REFERENCES

Front: 129 545 10  
Rear: 127 795 13  
Pair: 129 581 14

RIMS	SALES REFERENCES	Front: 308 616 10 Rear: 308 616 13
	<p><b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm</p>	<p><b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3".</p>
	<p><b>When replacing the front rim:</b></p> <ol style="list-style-type: none"> <li>1. With the valve hole near you, the raised indicator bump must be to the <b>right</b> of the valve hole.</li> <li>2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.</li> </ol> <p><b>When replacing the rear rim:</b></p> <ol style="list-style-type: none"> <li>1. With the valve hole near you, the two raised indicator bumps must be to the <b>right</b> of the valve hole.</li> <li>2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.</li> </ol>	

HUBS	<p><b>MAINTENANCE:</b> Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.</p>
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WHEEL BUILDING	<p><b>REFERENCES AND LENGTHS</b></p> <p>Front: 308 645 01, length 261.5 mm (per 12 + 1 decorated, integrated nipples) Rear drive side: 308 643 01, length 239 mm (per 10 + 1 decorated, integrated nipples) Rear non-drive side: 308 644 01, length 269 mm (per 10, integrated nipples)</p>
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<p><b>FEATURES:</b> Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples</p>	<p><b>LACING PATTERN:</b> Front: 2-cross lacing on both sides Rear: Isopulse</p>	<p><b>TENSION:</b> Front disc side: 95 to 130 kg Rear drive side: 90 to 120 kg</p>
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ACCESSORIES	<p><b>WHEELS SUPPLIED WITH:</b></p> <ul style="list-style-type: none"> <li>• BX 301 rear quick-release M40352</li> <li>• 2 Removable round UST valves 129 838 01</li> <li>• Adapters 15 mm 129 828 01 (with front wheel)</li> <li>• Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>• Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>• Computer magnet M40540 (with front wheel)</li> <li>• Chain disc 308 755 01 (mounted on rear wheel)</li> <li>• 2 multifunction adjustment wrenches 325 423 01</li> <li>• User guide</li> </ul>	MAINTENANCE	<p>Replacing the front axle See 2003 TM, page 19</p> <p>Replacing the front bearings See 2012 TM, page 19</p> <p>Replacing the rear axle and bearings See 2012 TM, page 20</p> <p>Maintaining and replacing the free wheel mechanism See 2009 TM, page 29</p> <p>Replacing a spoke See 2003 TM, page 24</p> <p>Replacing the front rim See 2007 TM, page 22</p> <p>Replacing the rear rim See 2006 TM, page 17</p>
<p>Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a></p>			

# CROSSMAX ST DISC *LEFTY*



**Use:** use only on a Cross-country or Cross-mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 100 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

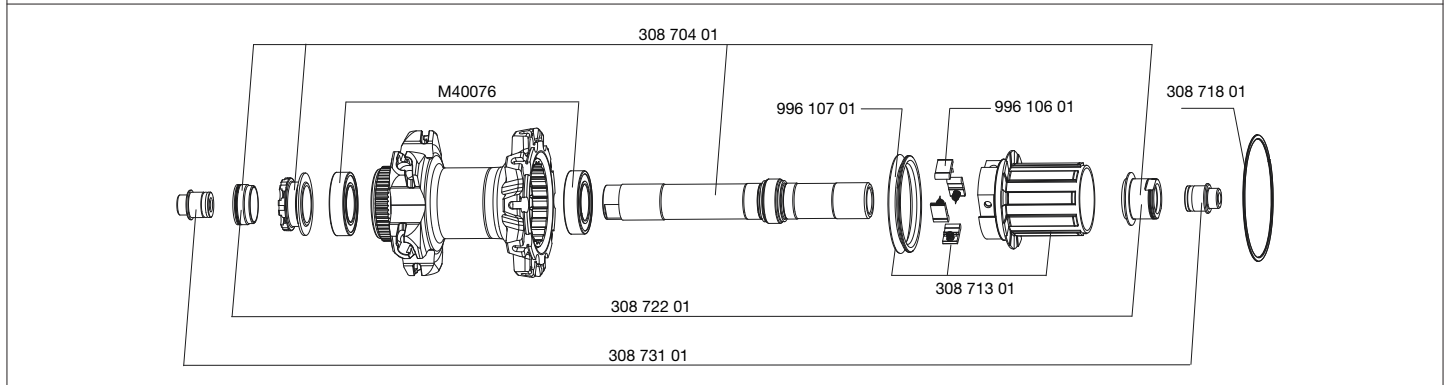
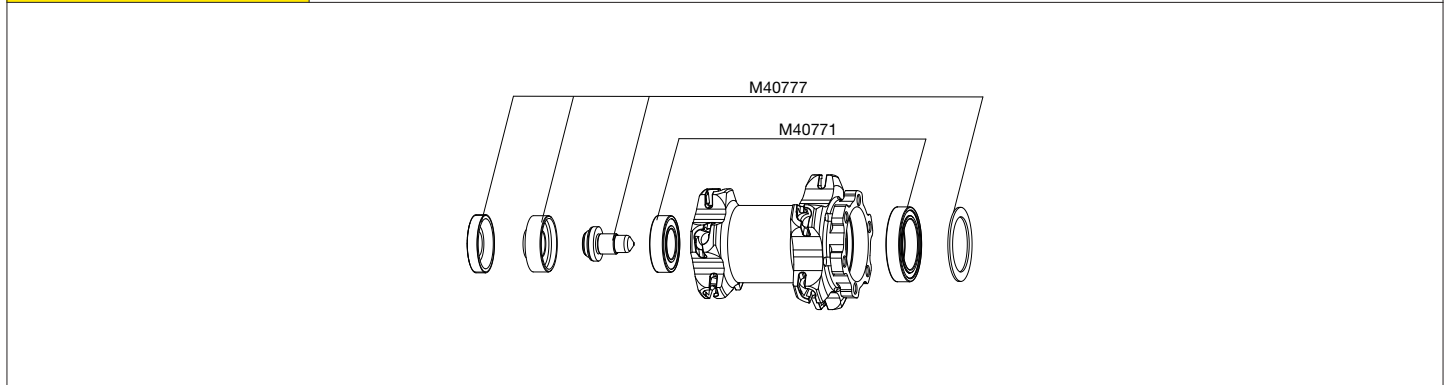
Front: 750 g  
Rear: 825 g

## WHEEL REFERENCES

Front: 307 571 10  
Rear: 127 789 13  
Pair: 307 572 14

RIMS	SALES REFERENCES	Front: 308 616 10 Rear: 308 616 13
	<b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm Dimensions:	<b>RECOMMENDED TYRE WIDTH</b> Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tyre width: 1.5" to 2.3"
	<b>When replacing the front rim:</b> 1. With the valve hole near you, the raised indicator bump must be to the <b>right</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the <b>right</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole should be introduced into the drive side in a marked hole on the hub.		

HUBS	<b>MAINTENANCE:</b> Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.
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WHEEL BUILDING	<b>REFERENCES AND LENGTHS</b> Front: 308 645 01, length 261.5 mm (per 12 + 1 decorated, integrated nipples) Rear drive side: 308 643 01, length 239 mm (per 10 + 1 decorated, integrated nipples) Rear non-drive side: 308 644 01, length 269 mm (per 10, integrated nipples)
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<b>FEATURES:</b> Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples	<b>LACING PATTERN:</b> Front: 2-cross lacing on both sides Rear: Isopulse	<b>TENSION:</b> Front disc side: 95 to 130 kg Rear drive side: 90 to 120 kg
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ACCESSORIES	<b>WHEELS SUPPLIED WITH:</b> <ul style="list-style-type: none"> <li>• BX 301 rear quick-release M40352</li> <li>• Lefty assembly accessories M40777</li> <li>• 2 Removable round UST valves 129 838 01</li> <li>• Adapters 12x142 mm 308 593 01 (with rear wheel)</li> <li>• Axle reducers 12=&gt;9.5 mm 308 731 01 (mounted on rear wheel)</li> <li>• Computer magnet M40540 (with front wheel)</li> <li>• Chain disc 308 755 01 (mounted on rear wheel)</li> <li>• 2 multifunction adjustment wrenches 325 423 01</li> <li>• 2 sets of specific disc screws (6 screws per set) 308 719 01</li> <li>• User guides</li> </ul>	MAINTENANCE	Fitting and removing the front wheel on the fork Replacing the front axle and bearings Lefty front wheel clearance adjustment Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim	See 2004 TM, page 18 See 2009 TM, page 26 See 2011 TM, page 32 See 2012 TM, page 20 See 2009 TM, page 29 See 2003 TM, page 24 See 2007 TM, page 22 See 2006 TM, page 17
Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>				

# CROSSMAX SX DISC 12



**Use:** use only on a Enduro-Freeride MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 100 kg.

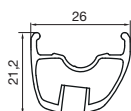
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

Front: 825 g  
Rear: 930 g

## WHEEL REFERENCES

Front: 127 808 10  
Rear: 127 809 13  
Pair: 127 813 14

## RIMS



### SALES REFERENCES

Front: 308 617 10  
Rear: 308 617 13



**Ø VALVE HOLE**  
Ø: 6.5 mm  
Length: ≥ 32 mm



**RECOMMENDED TYRE WIDTH**  
Dimensions: Ø 26"  
ETRTO 559 x 21C compatible and Tubeless UST.  
Recommended tyre width: 2.1" to 2.5".

### When replacing the front rim:

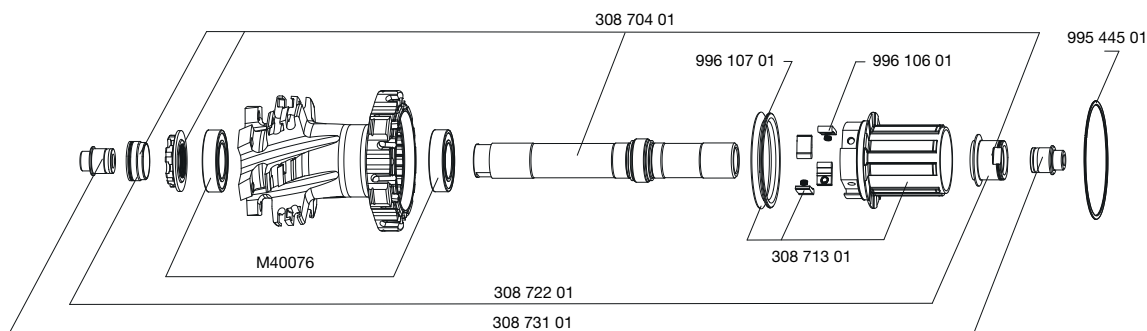
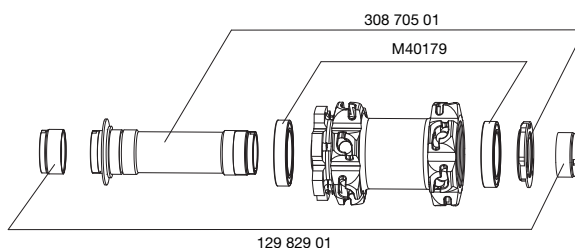
1. With the valve hole near you, the raised indicator bump must be to the **right** of the valve hole.
2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.

### When replacing the rear rim:

1. With the valve hole near you, the two raised indicator bumps must be to the **right** of the valve hole.
2. The spoke in the first hole to the right of the valve hole is a non-traction spoke and should be inserted in the drive side.

## HUBS

**MAINTENANCE:** Clean with a dry cloth or soapy water if necessary.  
Do not use a high-pressure washer.



## WHEEL BUILDING

### REFERENCES AND LENGTHS

Front: 308 645 01, length 261.5 mm (per 12 + 1 decorated, integrated nipples)  
Rear drive side: 308 646 01, length 247 mm (per 12 + 1 decorated, integrated nipples)  
Rear non-drive side: 308 647 01, length 266.5 mm (per 12, integrated nipples)

### FEATURES:

Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples

### LACING PATTERN:

Front and rear: 2-cross lacing on both sides

### TENSION:

Front disc side: 95 to 130 kg  
Rear drive side: 90 to 120 kg

## ACCESSORIES

### WHEELS SUPPLIED WITH:

- BX 301 rear quick-release M40352
- 2 Removable round UST valves 129 838 01
- Adapters 15 mm 129 828 01 (with front wheel)
- Adapters 20 mm 129 829 01 (mounted on front wheel)
- Adapters 12x142 mm 308 593 01 (with rear wheel)
- Axle reducers 12=>9.5 mm 308 731 01 (mounted on rear wheel)
- Computer magnet M40540 (with front wheel)
- Chain disc 308 757 01 (mounted on rear wheel)
- 1 multifunction adjustment wrench 325 423 01
- User guides

## MAINTENANCE

Replacing the front axle and bearings  
Replacing the rear axle and bearings  
Maintaining and replacing the free wheel mechanism  
Replacing a spoke  
Replacing the front rim  
Replacing the rear rim

See 2003 TM, page 19  
See 2012 TM, page 20  
See 2009 TM, page 29  
See 2003 TM, page 24  
See 2003 TM, page 29  
See 2003 TM, page 30

Refer to the website for quick and convenient access to information: [www.tech-mavic.com](http://www.tech-mavic.com)

# CROSSLINE



**Use:** use only on a Enduro-Freeride MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 100 kg.

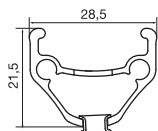
## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

Front: 970 g  
Rear: 1,085 g

## WHEEL REFERENCES

Front: 995 566 10  
Rear: 308 509 13  
Pair: 308 510 14

## RIMS



## SALES REFERENCES

Front and rear: 996 902 15



**Ø VALVE HOLE**  
Ø: 8.5 mm  
Length: ≥ 32 mm

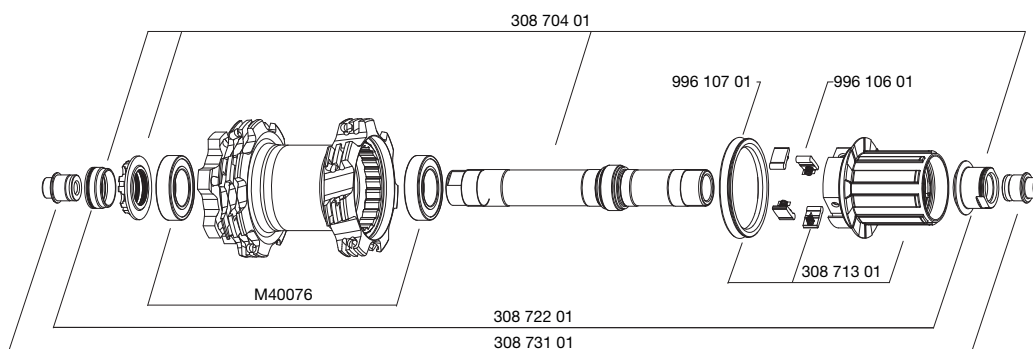
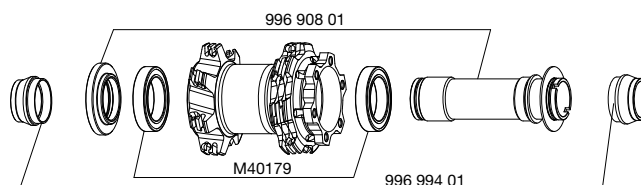


## RECOMMENDED TYRE WIDTH

Dimensions: Ø 26"  
ETRTO 559 x 21C compatible and Tubeless UST.  
Recommended tyre width: 2.1" to 2.5".

## HUBS

**MAINTENANCE:** Clean with a dry cloth or soapy water if necessary.  
Do not use a high-pressure washer.



## WHEEL BUILDING

### REFERENCES AND LENGTHS

Front and rear: 996 903 01, length 273 mm (per 14, with nipples)

### FEATURES:

Black steel round straight pull spokes with Self Lock system and conventional spoke nipples

### LACING PATTERN:

Front and rear: 2-cross lacing on both sides

### TENSION:

Front disc side: 110 to 130 kg  
Rear drive side: 110 to 130 kg

## ACCESSORIES

### WHEELS SUPPLIED WITH:

- Conventional aluminum quick-release skewer on rear M40351
- Multifunction adjustment wrench 325 423 01
- Adapters 20 mm 996 994 01 (with front wheel)
- Adapters 9 mm 995 039 01 (with front wheel)
- Axle reducers 12=>9.5 mm 308 731 01 (with rear wheel)
- Rim tape 20x559 (1 per wheel)
- User guide

## MAINTENANCE

Replacing the front axle and bearings  
Replacing the rear axle and bearings  
Maintaining and replacing the free wheel mechanism  
Replacing a spoke  
Replacing the front rim  
Replacing the rear rim

See 2003 TM, page 19  
See 2012 TM, page 20  
See 2009 TM, page 29  
See 2003 TM, page 24  
See 2007 TM, page 22  
See 2006 TM, page 17

Refer to the website for quick and convenient access to information: [www.tech-mavic.com](http://www.tech-mavic.com)



# DEEMAX ULTIMATE + REAR 12x150



**Use:** use only on a MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

Recommended maximum weight of the cyclist and equipment: 115 kg.

## WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

Front:	910 g
Rear 9/12x135:	1,055 g
Rear 12x150:	1,065 g

## WHEEL REFERENCES

Front:	129 521 10
Rear 9/12x135:	128 081 13
Rear 12x150:	129 522 13
Pair 9/12x135:	128 082 14
Pair 12x150:	129 523 14

RIMS	SALES REFERENCES	Front: 996 919 10 Rear: 996 919 13
	<b>Ø VALVE HOLE</b> Ø: 6.5 mm Length: ≥ 32 mm	<b>RECOMMENDED TYRE WIDTH</b> Dimensions: Ø 26" ETRTO 559 x 21C compatible and Tubeless UST. Recommended tyre width: 2.1" to 2.5".
	<b>When replacing the front rim:</b> 1. With the valve hole near you, the raised indicator bump must be to the <b>left</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-braking spoke and should be introduced into the disc side.	
<b>When replacing the rear rim:</b> 1. With the valve hole near you, the two raised indicator bumps must be to the <b>right</b> of the valve hole. 2. The spoke in the first hole to the right of the valve hole is a non-traction spoke and should be inserted in the drive side.		

HUBS	MAINTENANCE:
	Clean with a dry cloth or soapy water if necessary. Do not use a high-pressure washer.

WHEEL BUILDING	REFERENCES AND LENGTHS	Front: 308 638 01, length 271 mm (per 14, integrated nipples) Rear drive side: 308 639 01, length 266 mm (per 16, integrated nipples) Rear non-drive side: 308 640 01, length 268 mm (per 16, integrated nipples)
<b>FEATURES:</b>	Black stainless steel flat straight pull spokes with integrated, self-locking M7 aluminum spoke nipples	<b>LACING PATTERN:</b> Front and rear: 3-cross lacing on both sides
		<b>TENSION:</b> Front disc side: 100 to 120 kg Rear drive side: 110 to 130 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE	
<ul style="list-style-type: none"> <li>BX 601 rear quick-release M40141 (with 135 mm rear wheel)</li> <li>2 Removable UST valves 995 282 01</li> <li>Adapters 20 mm 129 829 01 (mounted on front wheel)</li> <li>Adapters 12x142 mm 308 593 01 (with 135 mm rear wheel)</li> <li>Axle reducers 12=&gt;9.5 mm 308 731 01 (with 135 mm rear wheel)</li> <li>2 multifunction adjustment wrenches 325 423 01</li> <li>User guide</li> </ul>		Replacing the front axle and bearings Replacing the rear axle and bearings Maintaining and replacing the free wheel mechanism Replacing a spoke Replacing the front rim Replacing the rear rim	See 2003 TM, page 19 See 2012 TM, page 20 See 2009 TM, page 29 See 2009 TM, page 41 See 2009 TM, page 42/43 See 2009 TM, page 44/45
			Refer to the website for quick and convenient access to information: <a href="http://www.tech-mavic.com">www.tech-mavic.com</a>

# WHEEL MAINTENANCE

## WARRANTY REMINDER

Before any repair of a Mavic wheel (or any other Mavic product), please note that it is guaranteed against manufacturing or material defects for a period of two years from the date of purchase by the original user.

This means that:

- During the warranty period and when it is clearly covered by the warranty (first contact your MSC), you must return the Mavic wheel (or any other Mavic product) directly to your MSC to benefit in full from the Mavic warranty.
- However, if you decide to repair the wheel (or any other Mavic product) yourself, your customer will no longer benefit from the Mavic warranty.
- For repairs after the warranty period has expired, we advise you to refer to the following pages before carrying out work on the Mavic wheel. When replacing the rim, please note the new serial number of the rim on the original warranty card and the date of replacement.

Your customer's new rim will only be covered by the Mavic warranty if this procedure is followed.

## REPAIRS

The following pages will help you maintain the wheels of the 2012 range and are laid out as follows:

Replacing bearings on Crossmax ST 12 Center Lock front wheels.....	Page 19
Replacing the axle and bearings on rear wheels with ITS-4 2012 hub.....	Page 20
ITS-4 upgrade kit .....	Page 21

**Any maintenance operation not detailed in the following pages can be found in the technical manuals from previous years. Refer to the product sheets (pages 4 to 17 of this manual) for further details.**

**All these procedures can also be found on [www.tech-mavic.com](http://www.tech-mavic.com)**

### Before any operation, we recommend removing:

- the wheel from the bike by releasing the quick-release skewer
- the skewer, the tyre
- the cassette and chain disc (if necessary) for the rear wheel
- the brake disc (if necessary)

## HUB MAINTENANCE

### REPLACING BEARINGS ON CROSSMAX ST 12 CENTER LOCK FRONT WHEELS

#### Tools needed:

- 1 multifunction wrench 325 423 01
- bearing removal kit 308 732 01
- 1 mallet
- 1 internal circlip pliers

The axle must be removed in order to access the front hub bearings. Follow the "Replacing the front axle" procedure.



Remove the non-disc side bearing with the press kit.



Using an internal circlip pliers, remove the two bearing retaining circlips.



Using the press kit, remove the disc side bearing by the non-disc side.



It is recommended that the Center Lock lock nut be mounted so as not to damage the hub body.



Using the press kit 308 732 01, introduce the new disc side bearing via the non-disc side.



Using an internal circlip pliers, refit the two bearing retaining circlips by positioning them in the notches provided.



Introduce the non-disc side bearing with press kit 308 732 01.

To finish the operation, refit the wheel axis following the procedure "Replacing the front axle".

## REPLACING THE AXLE AND BEARINGS ON REAR WHEELS WITH ITS-4 2012 HUB

### Tools needed:

- 1 multifunction wrench 325 423 01
- Bearing press kit M40119
- 1 mallet
- 1 internal circlip pliers
- Mavic mineral oil for the free wheel system 996 136 01

The cassette does not need to be removed to perform this operation.



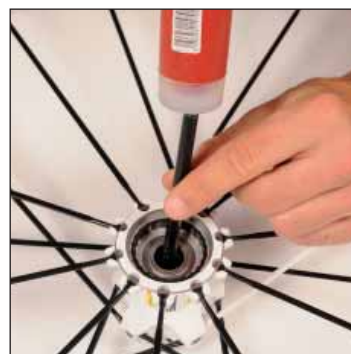
Remove the disc side frame support by pulling on it.



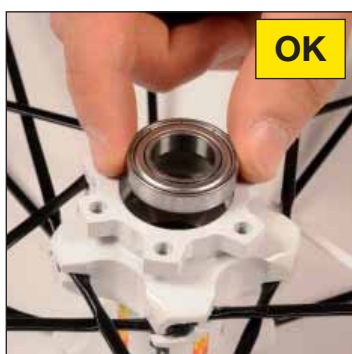
Completely unscrew the adjustment nut with the hub wrench 325 423 01.



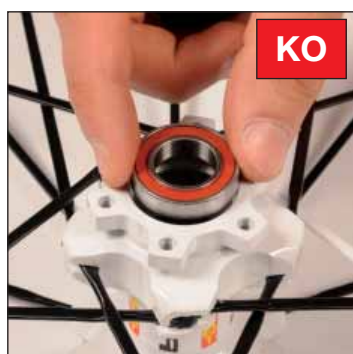
You can now remove the axle and free wheel mechanism assembly.



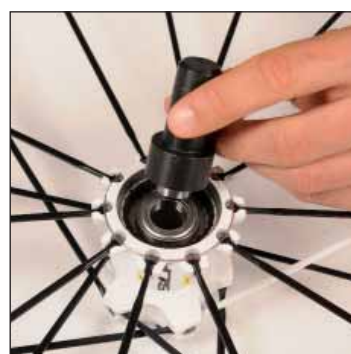
Using the press kit, remove the two bearings from the inside. Clean with a dry cloth if necessary.



In order to ensure a perfect seal of the free wheel mechanism, the bearings of the hub body must be mounted with the disc side seal.



Fit the new non-drive side bearing with press kit M40119.



Position the drive side bearing with the disc side bearing seal. Refit the bearing with press kit M40119.



Clean the hub body and fill three ratchet teeth with oil 996 136 01 and refit the axle and free wheel mechanism assembly.



Push the free wheel body gently, rotating it anti-clockwise.



Refit the adjustment nut and the frame support.

## UPGRADE ITS-4 2012

In order for our customers to benefit from the latest developments of the Mavis ITS-4 free wheel system, a complete range of upgrade kits including the axle, bearings, free wheel mechanism and the appropriate frame supports is available.

These kits are intended only for wheels already equipped with the ITS-4 free wheel system.

For information concerning the operations to be performed, refer to the Technical Manual of each wheel. Follow the instructions below:

- Maintaining and replacing the free wheel system;
- Replacing the rear axle and bearings.

Compatible models:

### **ITS-4 135/142 upgrade kit: ref. 308 715 01**

- Crossmax SX 09 INTL
- Crossmax SX 09 DCL
- Crossline 09
- Deetraks 09
- Deemax 09 135 mm

### **ITS-4 150 upgrade kit: ref. 308 714 01**

- Deetraks 09 150 mm
- Deemax 09 150 mm
- Deemax Ultimate 10

## NEW RIMS FOR 2012

ROAD		MTB			
Road & Triathlon	All-road	Cross-country Racing	Cross-mountain	Enduro FR	Extreme MTB
CXP 33	A 719	XC 717 Disc	XM 819 UB + Disc	EN 521 Disc	EX 823 Disc
OPEN PRO		XC 717	TN719 Disc	EN 321 Disc	EX 729 Disc
REFLEX			XM 719 UB + Disc		EX 721
					EX 325 Disc
	A 317		TN 317 Disc		
			XM 319 Disc		
			XM 317		
CXP 22	A 119				
OPEN SPORT			XM 119 Disc		
			XM 117		

## GENERAL POINTS

### CONDITIONS OF USE FOR A RIM

#### CONDITIONS OF USE TO BE GIVEN TO YOUR CUSTOMERS

Mavic uses the most advanced technology in the design of its rims and wheels. However, a rim cannot last forever and wears down according to its use: type of riding, terrain, brake pad, spoke tension, tires, tyre pressure, weather conditions, etc.




**Each rim has been designed for a specific use and discipline (Road, Cross-country, Freeride, Downhill, Touring...). Any other use of a rim for which it has not been designed is highly inadvisable, the sole responsibility of the user and voids the Mavic warranty.**

Please advise your customers of the following points:

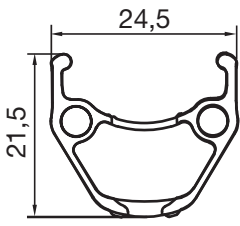
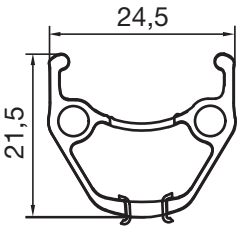
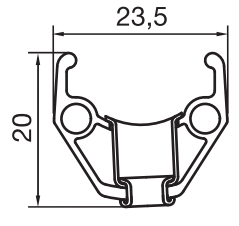
- Choose a suitable rim designed for the type of riding you wish to do: do not use a road rim on an MTB, do not use Cross-country rims to build wheels for a bike to be used for freeride, downhill...;
- You must follow the instructions in this technical manual for tyre pressure and sizes (see following charts);
- Respect the appropriate spoke tensions; Mavic recommends spoke tensions between 70 and 90 kg (for a front or rear wheel on the free wheel side with a crossed 3 pattern). Inappropriate spoke tension can generate too much stress and damage the rim;
- Clean the rims regularly using the Mavic soft stone (M40410);
- Remove stones and metal particles from the brake pads;
- Replace the brake pads when they are worn;
- Do not use a rim if the braking surfaces are worn, if eyelets are missing, or in any other case where safety might be compromised. The rim is a part that wears out as do brake pads, and must be replaced if it is worn (sidewall hollowed by wear, or cut out, cracked rim...);
- For rims fitted with a wear indicator (internal or external) do not continue to use the rim if the indicator appears (internal wear indicator) or disappears (external wear indicator) on at least one of the 2 braking surfaces;
- For rims not fitted with a wear indicator, use a depth gauge to check that the maximum wear on each side is not more than 0.4 mm;
- Check or have your rims checked regularly, at least at the start of each season and if possible after intensive use or if you have a doubt about spoke tension or the type of tyre used. When checking, look inside (especially under the rim tape) and outside the rim. Check for signs of fatigue or wear: damage to braking surfaces, appearance or disappearance of the wear indicator (only on rims fitted with a wear indicator), cracks in the sidewalls or around the eyelets...;
- The total weight of the rider and his/her equipment (not including the bike) must not exceed the following values:
  - Road rims: 100 kg;
  - All Road rims: 105 kg for A 119, A 319 and A 317 Disc rims, 125 kg for the A 719 rim;
  - MTB rims: 90 kg for XM 117, XM 119 Disc, XM 317, XM 319 Disc, XM 517, XC 717 and XC 717 Disc rims; 115 kg for XM 719, XM 719 Disc, TN 719 Disc, XM 819, XM 819 Disc, EN 521 Disc, EN 321 Disc, EX 325 Disc, EX 721, EX 729 Disc and EX 823 Disc rims.

Following these recommendations will guarantee longer product life for the rims, maximum performance and riding enjoyment.

### RECOMMENDATION FOR MAXIMUM TYRE PRESSURE


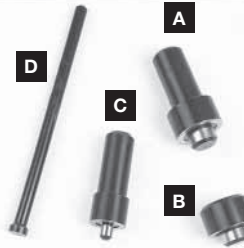
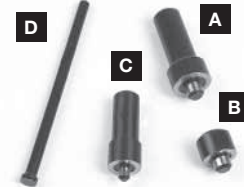






 <b>Bars MAX</b> <b>PSI MAX</b>																													
		mm	18	20	23	25	28	30	32	35	37	40	42	44	47	50	52	54	57	60	61	63	66	69	71	74	76		
		In."	0.70	0.80	0.90	1.00	1.10	1.20	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00		
	13 C	10 146	9.5 138	9.5 138	9.0 131																								
	15 C			9.5 138	9.0 131	8.0 117	7.0 103	6.7 99																					
	17 C				9.0 131	8.0 117	7.0 103	6.7 99	6.3 93	6.0 88	5.7 83	5.5 80	5.2 76	4.8 71	4.5 66	4.3 63													
	19 C					8.0 117	7.0 103	6.7 99	6.3 93	6.0 88	5.7 83	5.5 80	5.2 76	4.8 71	4.5 66	4.3 63	4.0 59	3.7 55	3.4 50										
	21 C								6.3 93	6.0 88	5.7 83	5.5 80	5.2 76	4.8 71	4.5 66	4.3 63	4.0 59	3.7 55	3.4 50	3.2 47	3.0 44	2.8 41	2.7 39						
	23 C									6.0 88	5.7 83	5.5 80	5.2 76	4.8 71	4.5 66	4.3 63	4.0 59	3.7 55	3.4 50	3.2 47	3.0 44	2.8 41	2.7 39	2.5 36	2.4 34	2.1 30			
	25 C											5.5 80	5.2 76	4.8 71	4.5 66	4.3 63	4.0 59	3.7 55	3.4 50	3.2 47	3.0 44	2.8 41	2.7 39	2.5 36	2.4 34	2.1 30			
	27 C													4.8 71	4.5 66	4.3 63	4.0 59	3.7 55	3.4 50	3.2 47	3.0 44	2.8 41	2.7 39	2.5 36	2.4 34	2.1 30			
	29 C																4.3 63	4.0 59	3.7 55	3.4 50	3.2 47	3.0 44	2.8 41	2.7 39	2.5 36	2.4 34	2.1 30		

## FEATURES OF THE NEW 2012 RIMS

		CROSS-MOUNTAIN MTB		
		XM 119 Disc	XM 319 Disc	TN 317 Disc
Rim cross section				
Material		6106	6106	6106
Valve hole diameter (in mm)		8.5 including valve adaptor	8.5 including valve adaptor	8.5 including valve adaptor
ETRTO compatibility		559x19	559x19	622x17
Recommended tyre width (in inches)		1.5 to 2.3	1.5 to 2.3	1.0 to 2.1
Eyelets		-	Single	Double
Nominal weight (in grams)		480	490	538
Finish and drilling	Black 32 holes	128 188 32	128 185 32	129 379 32
	Black 36 holes	128 188 36	128 185 36	129 379 36
Recommended spoke nipple length (in mm)		12	12	12
Spoke support diameter (in mm)		532	533	600
Recommended rim tape (ETRTO x width x thickness)		559 x 20 x 0.6	559 x 20 x 0.6	622 x 20 x 0.6



# TOOLS

REFERENCE	DESCRIPTION	PRODUCT
323 477 01	Multifunction tool: Removing the UST Tubeless rim tape (A) Fitting the UST® rim tape Adjusting the front axles on the Cosmos, Ksyrium Equipe, Crossland, Crossmax Enduro, Crossmax Enduro Disc, Cosmic Elite 05 and Speedcity 05, Aksium, and Crossride 06 wheels Crossride Disc, Crosstrail, Crosstrail Disc, Aksium 08, Ksyrium Equipe 08, Crossride UB Disc 08, Crossride UB (B), Aksium 10, Aksium MY12	
M40119	Bearing press kits for bearings: M40075 M40076	
M40120	Bearing press kits for bearings: M40077 M40078	
323 909 01	Bearing press kit for R-System SL bearings	
M40373	Guide ring and bearing press kit for bearings: M40318 M40660	
M40218	Bearing press kit for bearings: M40179	
308 732 01	Bearing press kit for front bearings of Center Lock 20 mm hubs	
323 945 01	Bearing press kit for Lefty bearings: M40771	
996 887 01	Bearing press kit for hub bearings 9/15: 996 885 01 et 996 886 01	











A+B: Press kit for the front wheel.





A+C: Press kit for the rear wheel.

D: Press kits for the front and rear wheels.

E: Press kits for the front and rear wheel bearings.

F: Guide ring for the 12 mm Allen wrench required to remove the free wheel from Crossroc UST, Crossroc UST Disc, Crossride, Crossride Céramic, Cosmos and Cosmic Élite wheels.

REFERENCE	DESCRIPTION	PRODUCT
324 300 01	Deemax 12x150 bearing press kit	
996 901 01	Bearing press kit for bearings M40076 used in ITS4 free wheel system hubs	
996 080 01	Tracomp ring tool	
M40001	Spoke adjustment wrench for Cosmic Carbone, Cosmic Carbone SSC, Cosmic Carbone SL, Cosmic Carbone SLR and Cosmic Carbon SR wheels	
101 295 01	R2R spoke head tool	
323 908 01	Carbone Pro spoke wrench + retaining wrench	
996 079 01	Tracomp spoke wrench kit and new M7s (starting in 2011)	
M40652	Zamak spoke tightening wrench kit for Fore M7 pierced wheels prior to 2011 (except R-Sys)	
M40630	Screw-in eye tightening wrench kit for Fore M9 pierced wheels and rims	
996 220 01	Cosmic Carbone Ultimate spoke wrench kit	

REFERENCE	DESCRIPTION	PRODUCT
<b>325 423 01</b>	Multifunction adjustment wrench: - Adjustment of QRM+ bearings - Flat spoke retainer - Spoke wrench M7 - Tyre lever	
<b>996 136 01</b>	Mavic mineral oil for lubricating FTS, FTS-L, FTS-X and ITS4 free wheel bodies. Content 60 ml.  Use this oil only for lubricating FTS, FTS-L, FTS-X and ITS4 free wheel bodies.	
<b>996 204 01</b>	Mavic threadlocker. Content 5 ml.	
<b>M40410</b>	Mavic abrasive rubber rim stone for cleaning the braking surface of the rim, Céramic or UB Control.	

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Photos: Didier Brandelet/Blue, Christian Chaize.  
Graphic design: Pop Machine / Realization: Blue - blue-down.com

[www.mavic.com](http://www.mavic.com)