



Technical
Manual



2010

WWW.TECH-MAVIC.COM

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THIS DOCUMENT ONLY COVERS NEW PRODUCTS FOR 2010.

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

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 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.

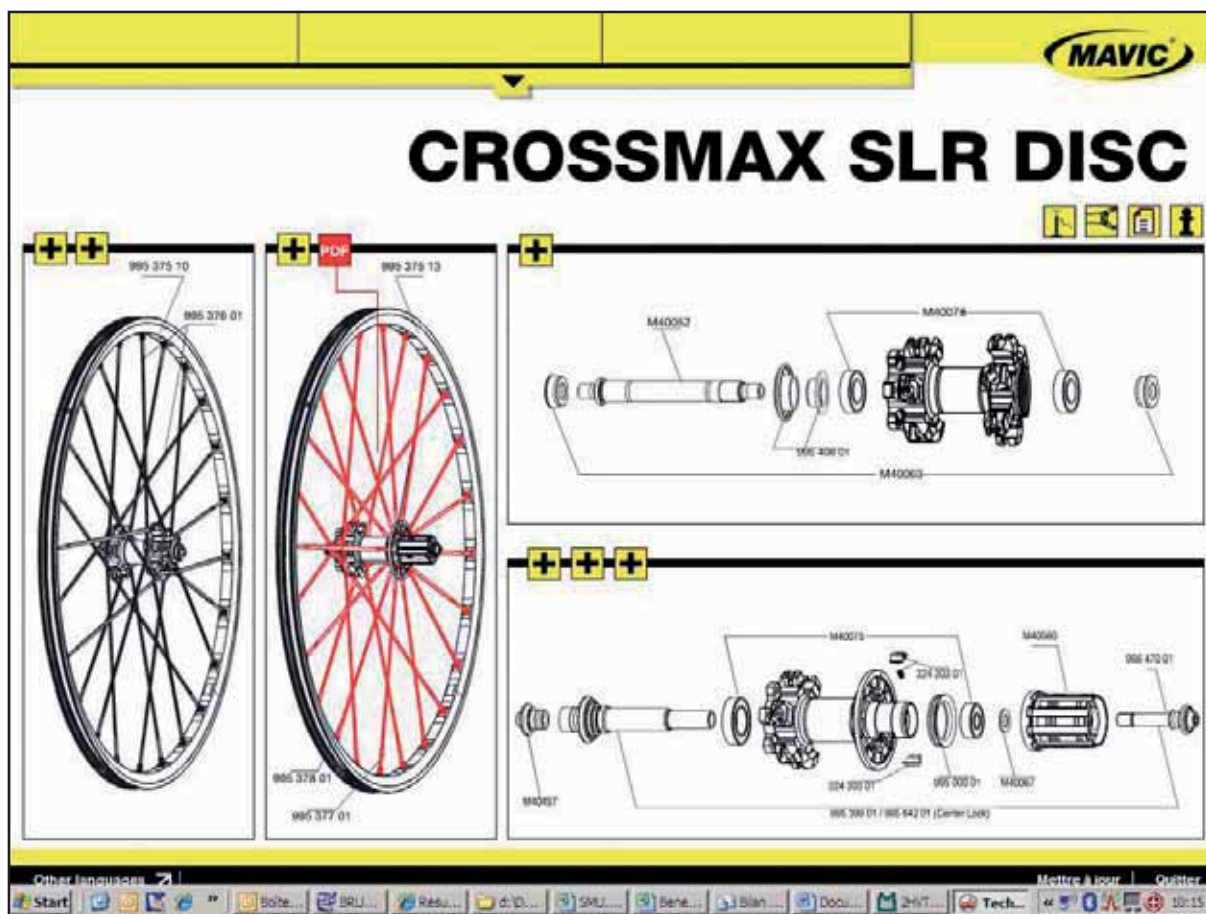
Visit: www.tech-mavic.com where you will find all this information. To connect to this website you will need a user name and password:

User name: **mavic-com**

Password: **dealer**

Among other things on the website, you will find:

- All 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 and 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 SL 09

USE: use only on a road bike. 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 his equipment: 100 kg.

WHEEL WEIGHTS WITHOUT QUICK-RELEASE SKEWER

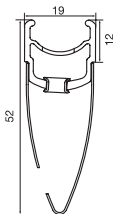


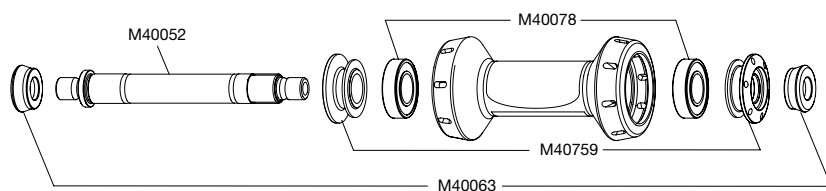
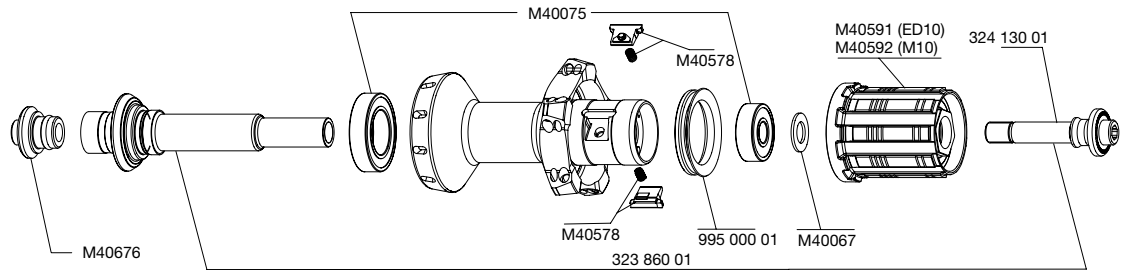
Front: 780 g
Rear M10: 975 g
Rear ED11: 960 g

WHEEL REFERENCES BLACK

Front: 995 530 10
Rear M10: 996 531 11
Rear ED11: 995 532 12
Pair M10: 995 533 14
Pair ED11: 995 534 14

WHEEL REFERENCES WHITE

Front: 111 045 10
Rear M10: 111 046 11
Pair M10: 111 047 14

RIMS	REFERENCES: Front: Black : 996 840 10 White : 111 686 10 Rear: Black : 996 840 13 White : 111 686 13	
	Ø VALVE HOLE  Ø: 6.5 mm Length.: ≥ 55 mm	RECOMMENDED TIRE WIDTH  Dimensions: ETRTO 622 x 13C Recommended tire width: 19 to 28 mm
HUBS	MAINTENANCE: Clean with a dry cloth or soap and water if necessary. Do not use a high-pressure washer.	
		
		
WHEELBUILDING	REFERENCES AND LENGTHS: Front: 996 841 01, length 289 mm (per 8, with nipples) Rear drive side: 996 842 01, length 306 mm (per 10, with nipples) Rear non-drive side: 996 843 01, length 288 mm (per 10, with nipples)	
FEATURES: Black steel straight pull spokes with ABS spoke nipples	LACING PATTERN: Front: radial Rear: crossed 2 drive side, radial non-drive side	TENSION: Front: 120 to 140 kg Rear drive side: 140 to 160 kg
ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • BR 301 front quick-release skewer 996 939 01 • BR 301 rear quick-release skewer 996 940 01 • ED10 12D locking ring M40640 (with rear wheel ED10) • Free play adjustment wrench M40123 (with rear wheel) • Spoke wrench M40001 (with rear wheel) • Aerodynamic spoke wrench M40567 (with rear wheel) • Valve extender M40013 • Rim tape • User guide 	<ul style="list-style-type: none"> • Replacing the front axle • Replacing the front bearings • Replacing the rear axle • Replacing the free wheel body • Replacing the rear bearings • Replacing a spoke • Replacing the front rim • Replacing the rear rim 	<ul style="list-style-type: none"> See 2005 TM, page 20 See 2005 TM, page 20 See 2003 TM, page 19 See 2003 TM, page 21 See 2003 TM, page 22 See 2005 TM, page 23 See 2005 TM, page 24 See 2005 TM, page 27
To consult this information quickly in a practical manner, refer to www.tech-mavic.com		

R-SYS SL- Clincher

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.

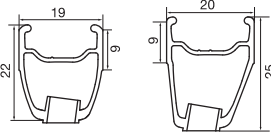


Recommended maximum weight of the cyclist and equipment: 100 kg

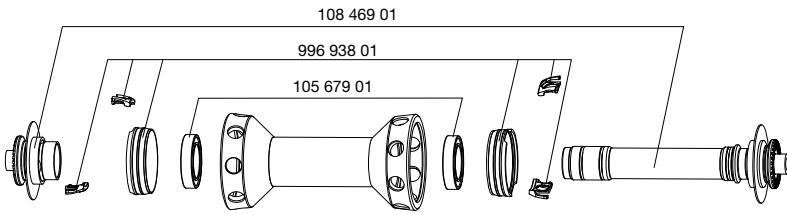
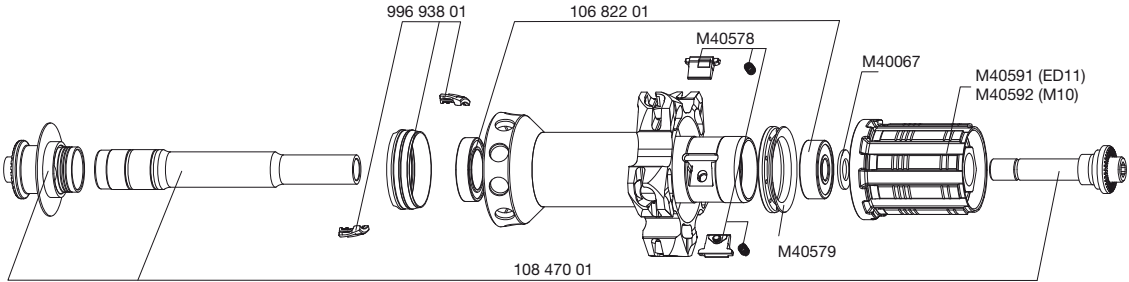
WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER


Front	545 g
Rear M10	765 g
Rear ED11	750 g

WHEEL REFERENCES

Front	995 487 10
Rear M10	995 488 11
Rear ED11	995 489 12
Pair M10	995 490 14
Pair ED11	995 491 14

RIMS	SALES REFERENCES	Clincher	Front: 108 424 10 Rear: 108 424 13
	 Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm	 RECOMMENDED TIRE WIDTH Dimensions: ETRTO 622 x 15C Recommended tire width: 19 to 32 mm	
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 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 10, integrated nipples) Drive side: 108 446 01, length 294.5 mm (per 10, integrated nipples) Non-drive side: 107 959 01, length 284 mm (per 11, integrated nipples)	
FEATURES: Front and rear non-drive side: carbon tubular spokes (TraComp) - new generation Rear drive side: black swaged, bladed, straight pull Zicral spokes with M7 integrated, self-locking nipples	LACING PATTERN: Front: radial, TraComp system Rear: 2-cross lacing drive side, radial non-drive side, TraComp system		TENSION: Front: 70 to 90 kg Rear drive side: 90 to 110 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE	
<ul style="list-style-type: none"> BR 601 Titanium front quick-release skewer 323 485 01 BR 601 Titanium rear quick-release skewer 323 486 01 Removable computer magnet (front wheel) 105 416 01 Spoke wrench (with rear wheel) 108 471 01 Zicral spoke wrench M40567 (with rear wheel) TraComp ring tool 996 080 01 ED11 12D locking ring (with rear wheel ED11) 108 317 01 Wheel bags M40135 User guide 		Adjusting QRМ SL hub bearings Replacing the front axle and bearings Replacing the rear axle Maintaining and replacing the free wheel mechanism Replacing the rear bearings Important note for fitting TraComp spokes Removing/Refitting the TraComp ring Truing and replacing a TraComp spoke Replacing the front rim Replacing the rear rim	See 2010 TM, page 16 See 2010 TM, page 17 See 2010 TM, page 18 See 2003 TM, page 21 See 2010 TM, page 19 See 2008 TM, page 28 See 2009 TM, page 36 See 2008 TM, page 30 See 2008 TM, page 30 See 2008 TM, page 31
Refer to the website for quick and convenient access to information: www.tech-mavic.com			

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.

R-SYS SL - Tubular

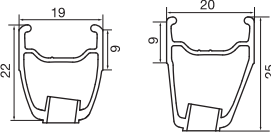


USE: for road bike use only. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.
Recommended maximum weight of the cyclist and equipment: 100 kg

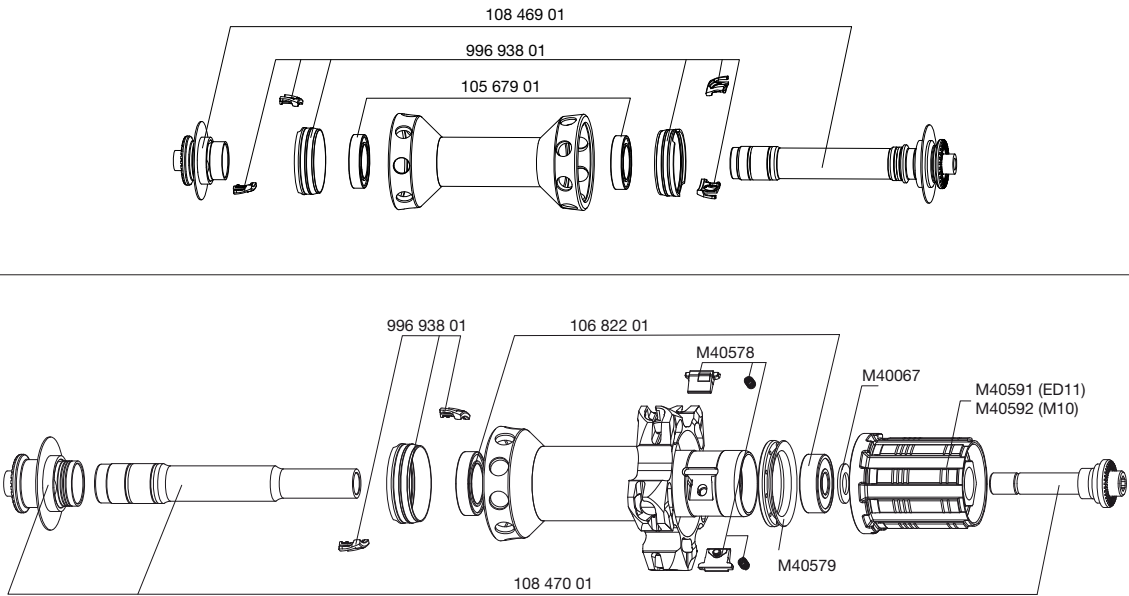
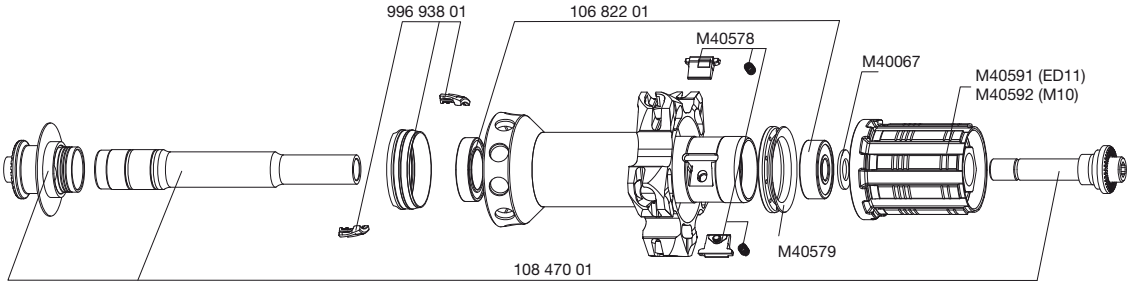
WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER


Front 550 g
Rear M10 740 g
Rear ED11 725 g

WHEEL REFERENCES

Front 995 520 10
Rear M10 995 521 11
Rear ED11 995 522 12

RIMS	SALES REFERENCES	Tubular	Front: 108 425 10 Rear: 108 425 13
	 Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm	 RECOMMENDED TIRE WIDTH Dimensions: Ø 700 633 tubular only Recommended tubular width: 19 to 23 mm	
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 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 10, integrated nipples) Drive side: 108 447 01, length 297.5 mm (per 10, integrated nipples) Non-drive side: 108 448 01, length 287 mm (per 11, integrated nipples)
FEATURES: Front and rear non-drive side: carbon tubular spokes (TraComp) - new generation Rear drive side: black swaged, bladed, straight pull Zicral spokes with M7 integrated, self-locking nipples	LACING PATTERN: Front: radial, TraComp system Rear: 2-cross lacing drive side, radial non-drive side, TraComp system	 TENSION: Front: 70 to 90 kg Rear drive side: 90 to 110 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> BR 601 Titanium front quick-release skewer 323 485 01 BR 601 Titanium rear quick-release skewer 323 486 01 Removable computer magnet (front wheel) 105 416 01 Spoke wrench (with rear wheel) 108 471 01 Zicral spoke wrench M40567 (with rear wheel) TraComp ring tool 996 080 01 ED11 12D locking ring (with rear wheel ED11) 108 317 01 Wheel bags M40135 User guide Adjusting QRM SL hub bearings 		Replacing the front axle and bearings Replacing the rear axle Maintaining and replacing the free wheel mechanism Replacing the rear bearings Important note for fitting TraComp spokes Removing/Refitting the TraComp ring Truing and replacing a TraComp spoke Replacing the front rim Replacing the rear rim
		See 2010 TM, page 16 See 2010 TM, page 17 See 2010 TM, page 18 See 2003 TM, page 21 See 2010 TM, page 19 See 2008 TM, page 28 See 2009 TM, page 36 See 2008 TM, page 30 See 2008 TM, page 30 See 2008 TM, page 31
Refer to the website for quick and convenient access to information: www.tech-mavic.com		

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.

R-SYS 10 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.

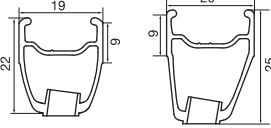


Recommended maximum weight of the cyclist and equipment: 100 kg

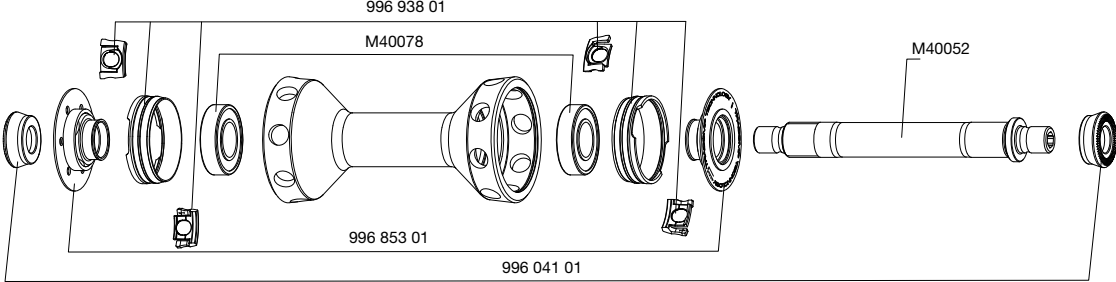
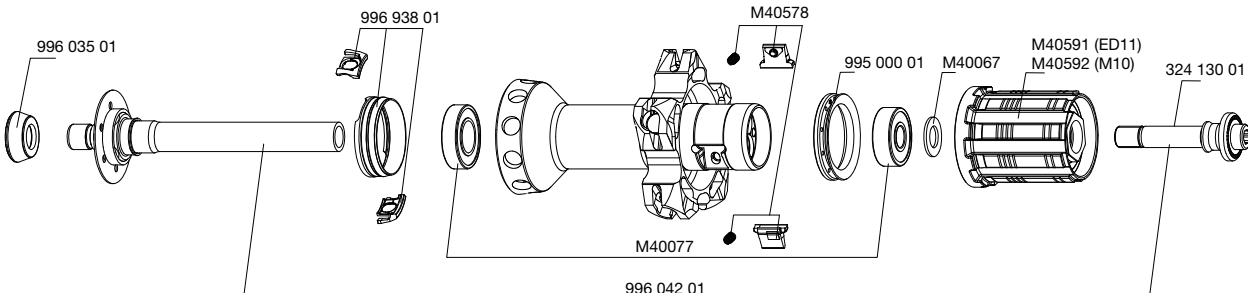
WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER


Front 575 g
Rear M10 805 g
Rear ED11 790 g

WHEEL REFERENCES

Front 104 447 10
Rear M10 104 448 11
Rear ED11 104 449 12
Pair M10 104 450 14
Pair ED11 104 451 14

RIMS	SALES REFERENCES	Clincher
	 Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm	Front: 108 423 10 Rear: 108 423 13
	 RECOMMENDED TIRE WIDTH Dimensions: ETRTO 622 x 15C Recommended tire width: 19 to 32 mm	
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 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: 108 437 01, length 285 mm (per 9, integrated nipples)	DRIVE SIDE: 108 445 01, length 294.5 mm (per 10, integrated nipples)	NON-DRIVE SIDE: 108 444 01, length 284 mm (per 10, integrated nipples)
FEATURES: Front and rear non-drive side: carbon tubular spokes (TraComp) - new generation Rear drive side: black round, straight pull Zicral spokes with M7 integrated, self-locking nipples				
	LACING PATTERN: Front: radial, TraComp system Rear: 2-cross lacing drive side, radial non-drive side, TraComp system			TENSION: Front: 70 to 90 kg Rear drive side: 90 to 110 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> BR 601 front quick-release M40149 BR 601 rear quick-release M40150 Removable computer magnet (front wheel) 105 416 01 Spoke wrench (with rear wheel) 108 471 01 Zicral spoke wrench M40567 (with rear wheel) TraComp ring tool 996 080 01 ED11 12D locking ring (with rear wheel ED11) 108 317 01 Wheel bags M40135 User guide 	Replacing the front axle and bearings Replacing the rear axle and bearings	Replacing the rear axle Maintaining and replacing the free wheel mechanism Replacing the rear bearings Important note for fitting TraComp spokes Removing/Refitting the TraComp ring Truing and replacing a TraComp spoke Replacing the front rim Replacing the rear rim
		See 2005 TM, page 20 See 2008 TM, page 24 See 2003 TM, page 21 See 2008 TM, page 24 See 2008 TM, page 28 See 2009 TM, page 36 See 2008 TM, page 30 See 2008 TM, page 30 See 2008 TM, page 30
Refer to the website for quick and convenient access to information: www.tech-mavic.com		

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.

K10

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

WHEELS WEIGHTS WITHOUT QUICK-RELEASE SKEWER

Front 638 g
Rear M10 847 g
Rear ED11 832 g

WHEEL REFERENCES

Front 106 715 10
Rear M10 106 716 11
Rear ED11 106 717 12
Pair M10 106 718 14
Pair ED11 106 719 14

RIMS	SALES REFERENCES	Black: Front: 111 877 10 Rear: 111 877 13
	<p>Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm</p>	<p>RECOMMENDED TIRE WIDTH Dimensions: Ø 700: ETRTO 622 x 15C Recommended tire width: 19 to 32 mm</p>
<p>When replacing the rear rim:</p> <ol style="list-style-type: none"> 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.

WHEEL BUILDING	REFERENCES AND LENGTHS:	Black	Front	324 178 01, length 284.5 mm (per 13, integrated nipples)
			Rear drive side	324 179 01, length 275 mm (per 13, integrated nipples)
			Rear non-drive side	324 180 01, length 298.5 mm (per 10, integrated nipples)

<p>FEATURES: Black bladed, straight pull Zicral spokes with M7 integrated, self-locking nipples</p>	<p>LACING PATTERN: Front: radial Rear: Isopulse</p>		<p>TENSION: Front: 110 to 130 kg Rear drive side: 120 to 140 kg</p>
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ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE	
<ul style="list-style-type: none"> • BR 601 front quick-release M40149 • BR 601 rear quick-release M40150 • Computer magnet M40540 (with front wheel) • Free play adjustment wrench M40123 (with rear wheel) • Spoke wrench M40494 (with rear wheel) • ED11 12D locking ring (with rear wheel ED11) 108 317 01 • Wheel bags M40135 • K10 tyres 112 206 01 • Mavic standard innertube 111 040 01 • User guide and warranty card 		<p>Replacing the front axle and bearings See 2005 TM, page 20</p> <p>Replacing the rear axle See 2007 TM, page 20</p> <p>Maintaining and replacing the free wheel mechanism See 2003 TM, page 21</p> <p>Replacing the rear bearings See 2003 TM, page 22</p> <p>Replacing a spoke See 2003 TM, page 23</p> <p>Replacing the front rim See 2003 TM, page 27</p> <p>Replacing the rear rim See 2006 TM, page 17</p>	
		<p>Refer to the website for quick and convenient access to information: www.tech-mavic.com</p>	

KSYRIUM SL *Black*

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.

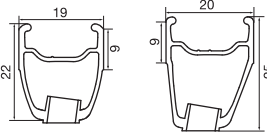


Recommended maximum weight of the cyclist and equipment: 100 kg

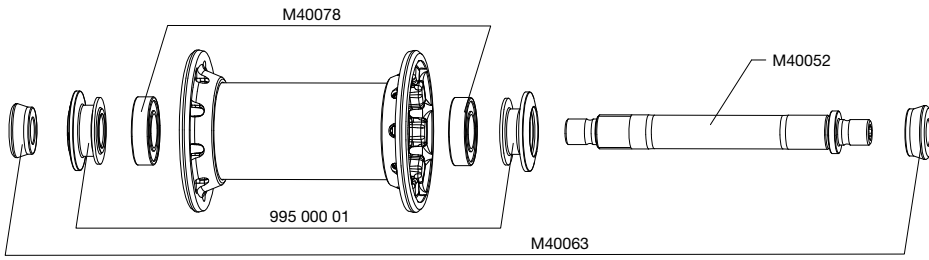
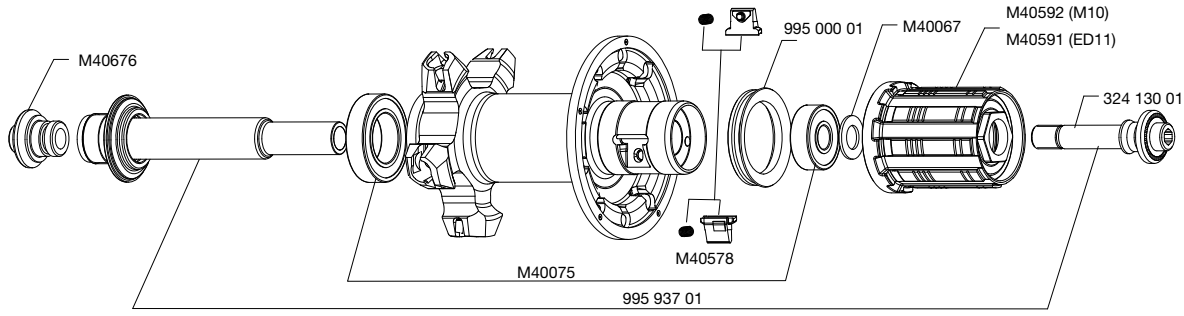
WHEELS WEIGHTS WITHOUT QUICK-RELEASE SKEWER

Front	645 g
Rear M10	855 g
Rear ED11	840 g

WHEEL REFERENCES

Front	107 970 10
Rear M10	107 971 11
Rear ED11	107 972 12
Pair M10	107 973 14
Pair ED11	107 974 14

RIMS	SALES REFERENCES	Black: Front: 108 426 10 Rear: 108 426 13
	 Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm	 RECOMMENDED TIRE WIDTH Dimensions: Ø 700: ETRTO 622 x 15C Recommended tire width: 19 to 32 mm
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 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.
	
	

WHEEL BUILDING	REFERENCES AND LENGTHS:	Black	Front	324 178 01, length 284.5 mm (per 12, integrated nipples)
		Rear drive side	324 179 01, length 275 mm (per 11, integrated nipples)	
		Rear non-drive side	324 180 01, length 298.5 mm (per 10, integrated nipples)	
	FEATURES:	Black bladed, straight pull Zicral spokes with M7 integrated, self-locking nipples		
	LACING PATTERN:	Front: radial Rear: Isopulse		
	TENSION:	Front: 110 to 130 kg Rear drive side: 120 to 140 kg		

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE	
<ul style="list-style-type: none"> BR 601 front quick-release M40149 BR 601 rear quick-release M40150 Computer magnet M40540 (with front wheel) Free play adjustment wrench M40123 (with rear wheel) Spoke wrench M40494 (with rear wheel) ED11 12D locking ring (with rear wheel ED11) 108 317 01 User guide and warranty card 		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	See 2005 TM, page 20 See 2007 TM, page 20 See 2003 TM, page 21 See 2003 TM, page 22 See 2003 TM, page 23 See 2003 TM, page 27 See 2006 TM, page 17
Refer to the website for quick and convenient access to information: www.tech-mavic.com			

AKSIUM 10

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

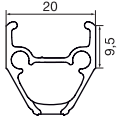


Front	830 g
Rear M10	980 g
Rear ED11	965 g

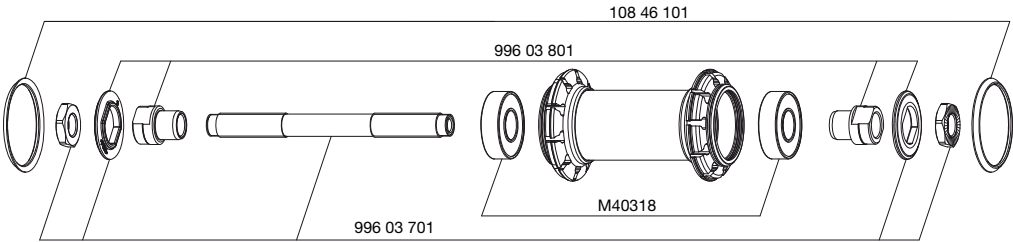
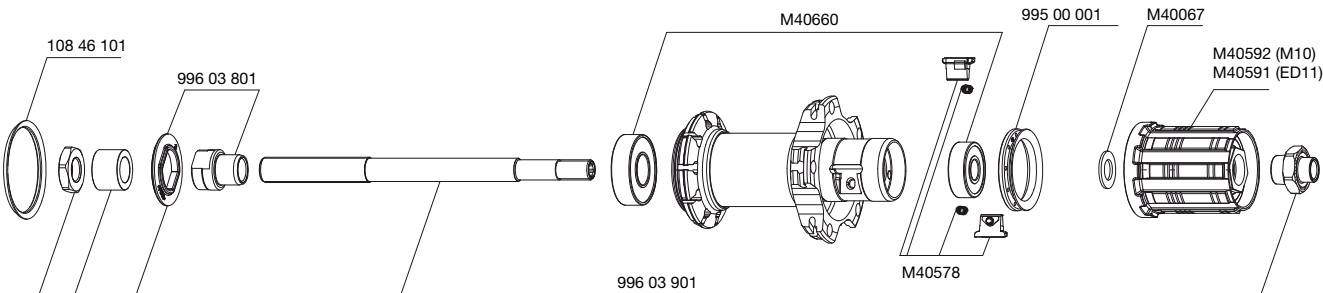
WHEEL REFERENCES BLACK

Front	996 967 10
Rear M10	996 968 11
Rear ED11	996 969 12
Pair M10	996 970 14
Pair ED10	996 971 14

WHEEL REFERENCES SILVER

Front	996 98010
Rear M10	996 981 11
Rear ED11	996 982 12
Pair M10	996 983 14
Pair ED11	996 984 14

RIMS	SALES REFERENCES	Front and rear	Black: 108 431 14 Silver: 108 432 14
	 <p>Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm</p>	 <p>RECOMMENDED TIRE WIDTH Dimensions: ETRTO 622 x 15C Recommended tire 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:	Black:	Silver:
	Front + rear non-drive side:	108 449 01, length 282 mm (per 10, with nipples)	108 451 01, length 282 mm (per 10, with nipples)
	Drive side:	108 450 01, length 298 mm (per 10, with nipples)	108 452 01, length 298 mm (per 10, with nipples)

FEATURES:	LACING PATTERN:	TENSION:
Rear Wheel: black steel or silver stainless steel bladed, straight pull spokes with ABS spoke nipples Front Wheel: self-locking black steel or silver stainless steel bladed, straight pull strokes with standard nipples	Front: radial Rear: 2-cross lacing drive side and radial non-drive side	Front: 80 to 90 kg Rear drive side: 150 to 165 kg



ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> Conventional alu quick-release skewer on front M40350 Conventional alu quick-release skewer on rear M40351 ED11 12D locking ring (with rear wheel ED11) 108 317 01 Rim tape User guide and warranty card 		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
		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
		Refer to the website for quick and convenient access to information: www.tech-mavic.com

CROSSMAX ST DISC 10

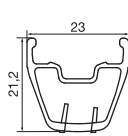


USE: use only on a Cross-country or Cross Mountain MTB fitted with disc brakes. Any other use (such as on a tandem, road bike, cyclo-cross bike, free-ride or downhill bike...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.
Recommended maximum weight of the cyclist and equipment: 100 kg

WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

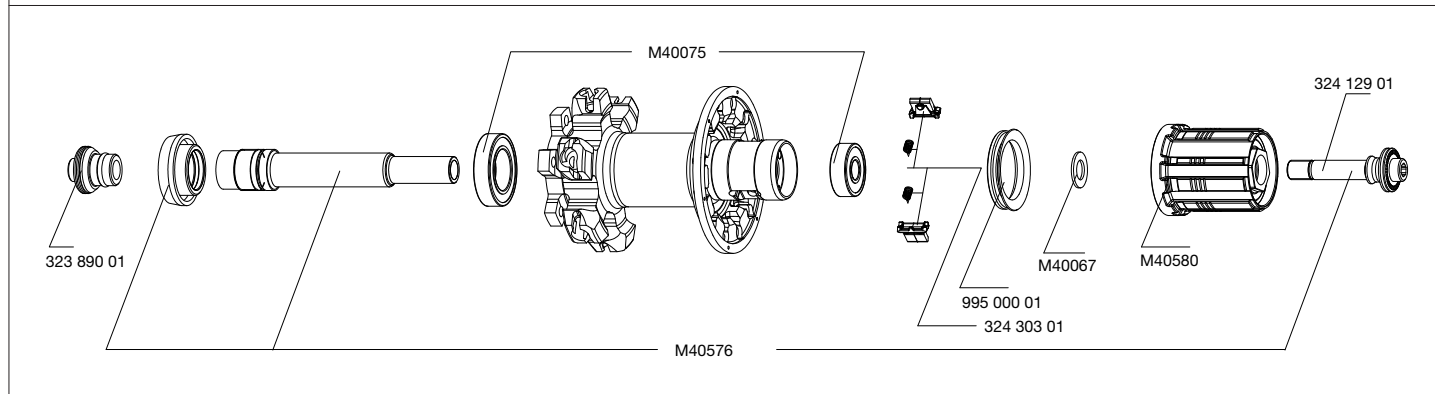
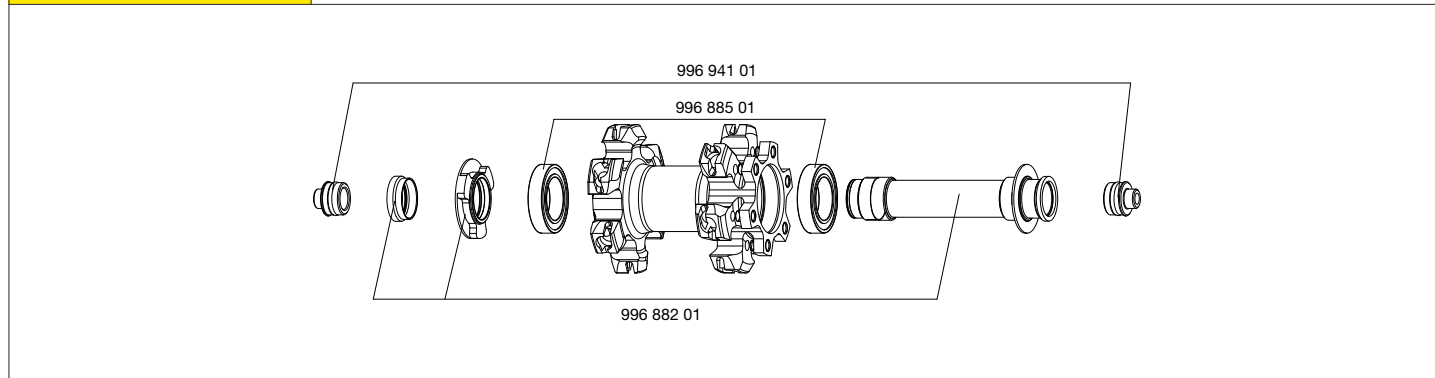
Front: 735 g
Rear: 880 g

WHEEL REFERENCES


Front: 105 350 10
Rear: 105 351 13
Pair: 105 352 14

RIMS	SALES REFERENCES	Front: 108 472 10 Rear: 108 472 13
	 Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm	 RECOMMENDED TIRE WIDTH Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST. Recommended tire width: 1.5 to 2.3
	When replacing the front rim: 1. With the valve hole near you, the raised indicator bump must be to the left 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 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: 995 401 01, length 261 mm (per 12 + 2 decorated, integrated nipples) Rear drive side: 995 402 01, length 248 mm (per 12, integrated nipples) Rear non-drive side: 995 403 01, length 263 mm (per 12 + 2 decorated, 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: 120 to 140 kg Rear drive side: 120 to 140 kg
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ACCESSORIES	WHEELS SUPPLIED WITH: <ul style="list-style-type: none"> • BX 601 front quick-release M40140 • BX 601 rear quick-release M40141 • Removable UST valve 995 282 01 • Computer magnet M40540 (with front wheel) • M7 spoke wrench M40494 (with rear wheel) • Anti-ejection plugs 996 065 01 (with rear wheel) • Free play bearing adjustment wrench M40123 (with rear wheel) • User guide and warranty card 	MAINTENANCE	Front hub assembly diameter conversion 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	See 2009 TM, page 25 See 2009 TM, page 26 See 2007 TM, page 20 See 2007 TM, page 21 See 2003 TM, page 22 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				

CROSSMAX ST DISC 10 - 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: 735 g
Rear: 870 g

WHEEL REFERENCES

Front: 105 356 10
Rear: 105 357 13
Pair: 105 358 14

RIMS	SALES REFERENCES
	<p>Front: 108 472 10 Rear: 108 472 13</p>
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm</p> </div> <div style="width: 45%;"> <p>RECOMMENDED TIRE WIDTH Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST Recommended tire width: 1.5 to 2.3</p> </div> </div> <p>When replacing the front rim: 1. With the valve hole near you, the raised indicator bump must be to the left 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.</p> <p>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 should be introduced into the drive side in a marked hole on the hub.</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
<p>FEATURES: Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples</p>	<p>Front: 995 401 01, length 261 mm (per 12 + 2 decorated, integrated nipples) Rear drive side: 995 402 01, length 248 mm (per 12, integrated nipples) Rear non-drive side: 995 403 01, length 263 mm (per 12 + 2 decorated, integrated nipples)</p>
	<p>LACING PATTERN: Front: 2-cross lacing on both sides Rear: Isopulse</p> <div style="text-align: center;"> </div> <p>TENSION: Front disc side: 120 to 140 kg Rear drive side: 120 to 140 kg</p>

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • BX 601 front quick-release M40140 • BX 601 rear quick-release M40141 • Removable UST valve 995 282 01 • Computer magnet M40540 (with front wheel) • M7 spoke wrench M40494 (with rear wheel) • Anti-ejection plugs 996 065 01 (with rear wheel) • Free play bearing adjustment wrench M40123 (with rear wheel) • User guide and warranty card 		<p>Front hub assembly diameter conversion See 2009 TM, page 25 Replacing the front axle and bearings See 2009 TM, page 27 Replacing the rear axle See 2007 TM, page 20 Maintaining and replacing the free wheel mechanism See 2007 TM, page 21 Replacing the rear bearings See 2003 TM, page 22 Replacing a spoke See 2003 TM, page 24 Replacing the front rim See 2007 TM, page 22 Replacing the rear rim See 2006 TM, page 17</p>
<p>Refer to the website for quick and convenient access to information: www.tech-mavic.com</p>		

CROSSMAX ST DISC 10 - 20 mm



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: 745 g
Rear: 880 g

WHEEL REFERENCES

Front: 105 390 10
Rear: 105 351 13
Pair: 105 391 14

RIMS	SALES REFERENCES
	<p>Front: 108 472 10 Rear: 108 472 13</p>
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm</p> </div> <div style="width: 45%;"> <p>RECOMMENDED TIRE WIDTH Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST Recommended tire width: 1.5 to 2.3</p> </div> </div> <p>When replacing the front rim:</p> <ol style="list-style-type: none"> 1. With the valve hole near you, the raised indicator bump must be to the left 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. <p>When replacing the rear rim:</p> <ol style="list-style-type: none"> 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.

WHEEL BUILDING	REFERENCES AND LENGTHS
<p>FEATURES: Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples</p>	<p>Front: 995 401 01, length 261 mm (per 12 + 2 decorated, integrated nipples) Rear drive side: 995 402 01, length 248 mm (per 12, integrated nipples) Rear non-drive side: 995 403 01, length 263 mm (per 12 + 2 decorated, integrated nipples)</p>
	<p>LACING PATTERN: Front: 2-cross lacing on both sides Rear: Isopulse</p>



TENSION:
Front disc side: 120 to 140 kg
Rear drive side: 120 to 140 kg

ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • BX 601 rear quick-release M40141 • Removable UST valve 995 282 01 • Computer magnet M40540 (with front wheel) • M7 spoke wrench M40494 (with rear wheel) • Anti-ejection plugs 996 065 01 (with rear wheel) • Free play bearing adjustment wrench M40123 (with rear wheel) • User guide and warranty card 	<p>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</p>	<p>See 2008 TM, page 24 See 2007 TM, page 20 See 2007 TM, page 21 See 2003 TM, page 22 See 2003 TM, page 24 See 2007 TM, page 22 See 2006 TM, page 17</p>

Refer to the website for quick and convenient access to information: www.tech-mavic.com

CROSSMAX ST DISC 10 - 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

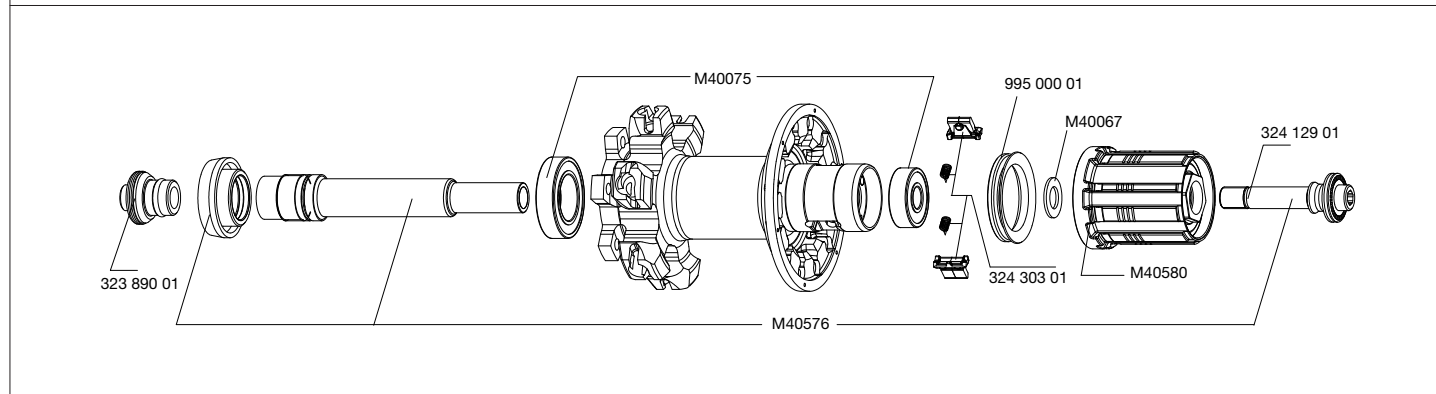
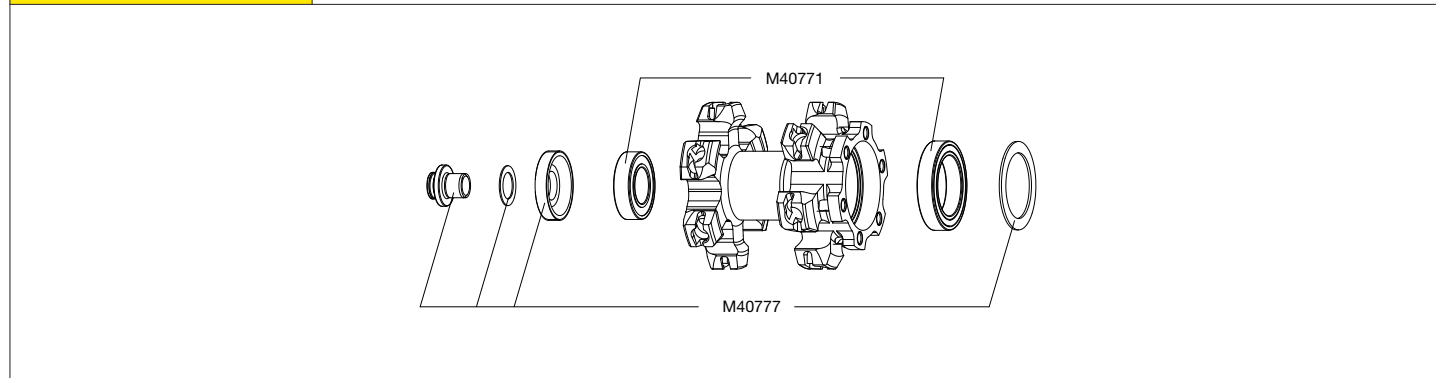
Front: 745 g
Rear: 880 g

WHEEL REFERENCES

Front: 105 408 10
Rear: 105 351 13
Pair: 105 409 14

RIMS	SALES REFERENCES
	Front: 108 472 10 Rear: 108 472 13
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Ø VALVE HOLE Ø: 6.5 mm Length: ≥ 32 mm</p> </div> <div style="width: 45%;"> <p>RECOMMENDED TIRE WIDTH Dimensions: Ø 26" ETRTO 559 x 19C compatible and Tubeless UST Recommended tire width: 1.5 to 2.3</p> </div> </div> <p>When replacing the front rim: 1. With the valve hole near you, the raised indicator bump must be to the left 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.</p> <p>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 should be introduced into the drive side in a marked hole on the hub.</p>

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: 995 401 01, length 261 mm (per 12 + 2 decorated, integrated nipples) Rear drive side: 995 402 01, length 248 mm (per 12, integrated nipples) Rear non-drive side: 995 403 01, length 263 mm (per 12 + 2 decorated, integrated nipples)

<p>FEATURES: Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples</p>	<p>LACING PATTERN: Front: 2-cross lacing on both sides Rear: Isopulse</p>	<p>TENSION: Front disc side: 120 to 140 kg Rear drive side: 120 to 140 kg</p>
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ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • BX 601 rear quick-release M40141 • Removable UST valve 995 282 01 • Computer magnet M40540 (with front wheel) • M7 spoke wrench M40494 (with rear wheel) • Anti-ejection plugs 996 065 01 (with rear wheel) • Free play bearing adjustment wrench M40123 (with rear wheel) • User guide and warranty card 		<p>Fitting and removing the front wheel on the fork 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</p> <p style="text-align: right;">See 2004 TM, page 18 See 2009 TM, page 26 See 2007 TM, page 20 See 2007 TM, page 21 See 2003 TM, page 22 See 2003 TM, page 24 See 2007 TM, page 22 See 2006 TM, page 17</p>
Refer to the website for quick and convenient access to information: www.tech-mavic.com		

C29SSMAX



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 WEIGHTS WITHOUT QUICK-RELEASE SKEWER

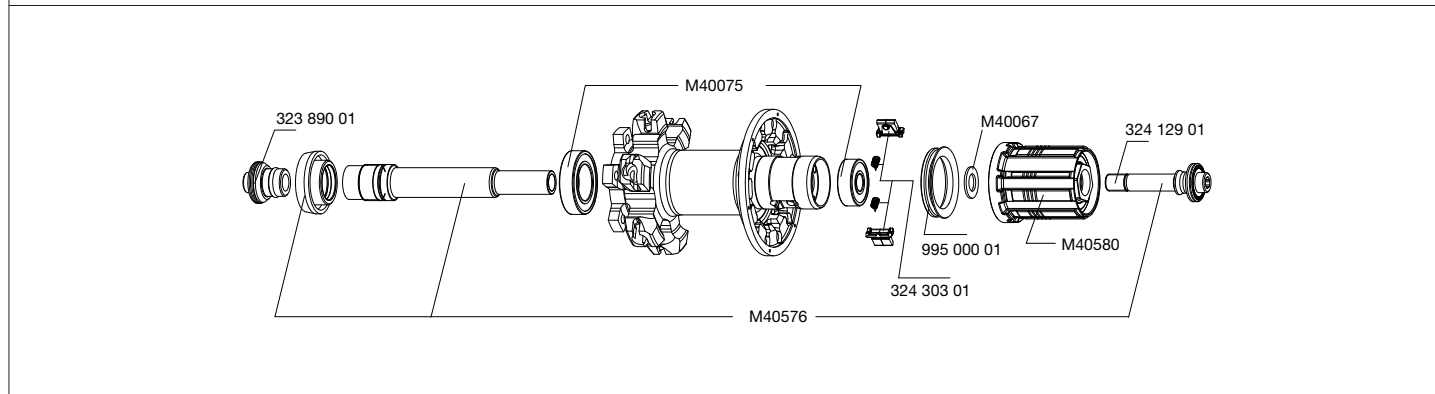
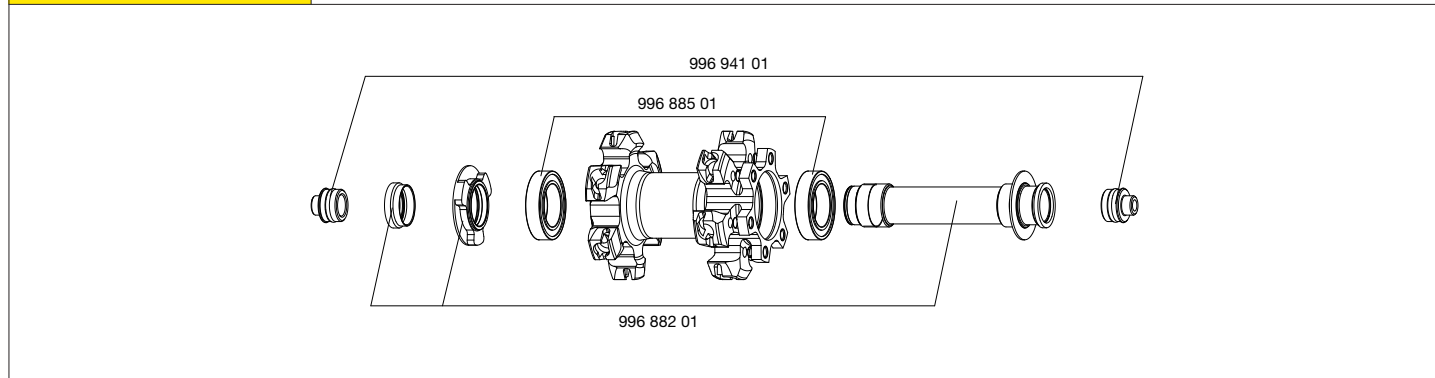
Front: 815 g
Rear: 935 g

WHEEL REFERENCES INTERNATIONAL STANDARD

Front: 995 886 10
Rear: 995 857 13
Pair: 995 858 14

RIMS	SALES REFERENCES	Front: 996 063 10 Rear: 995 063 13
	<p>Ø VALVE HOLE Ø: 8.5 mm with 6.5 mm valve adaptor Length: ≥ 32 mm</p>	<p>RECOMMENDED TIRE WIDTH Dimensions: Ø 29" ETRTO 622 x 19C compatible and Tubeless UST Recommended tire width: 1.5 to 2.3</p>

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: 996 066 01, length 292 mm (per 13, integrated nipples) Rear drive side: 996 067 01, length 279 mm (per 12, integrated nipples) Rear non-drive side: 996 068 01, length 293.5 mm (per 12, integrated nipples)
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<p>FEATURES: Black round, straight pull Zicral spokes (with one decorated per wheel) with integrated, self-locking M7 aluminum spoke nipples</p>	<p>LACING PATTERN: Front: 2-cross lacing on both sides Rear: Isopulse</p>	<p>TENSION: Front disc side: 110 to 130 kg Rear drive side: 120 to 140 kg</p>
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ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • BX 601 front quick-release M40140 • BX 601 rear quick-release M40141 • Computer magnet M40540 • M7 spoke wrench M40494 (with rear wheel) • UST valves 995 282 01 • Anti-ejection plugs 996 065 01 (with rear wheel) • Free play bearing adjustment wrench M40123 (with rear wheel) • User guide and warranty card 		<p>Front hub assembly diameter conversion See 2009 TM, page 25 Replacing the front axle and bearings See 2009 TM, page 26 Replacing the rear axle See 2007 TM, page 20 Maintaining and replacing the free wheel mechanism See 2007 TM, page 21 Replacing the rear bearings See 2003 TM, page 22 Replacing a spoke See 2003 TM, page 24 Replacing the front rim See 2007 TM, page 22 Replacing the rear rim See 2006 TM, page 17</p>
<p>Refer to the website for quick and convenient access to information: www.tech-mavic.com</p>		

CROSSRIDE DISC 15 mm

STANDARD
INTERNATIONALCENTER
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

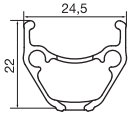
WHEEL WEIGHT WITHOUT QUICK-RELEASE SKEWER

	INT (adapt)	CL
Front:	855 g	835 g
Rear:	1,040 g	1,020 g

WHEEL REFERENCES

	INT (adapt)	CL
Front:	107 522 10	103 264 10
Rear:	996 180 13	106 546 13
Pair:	107 523 14	103 266 14

RIMS



SALES REFERENCES

Front and rear: 996 890 15



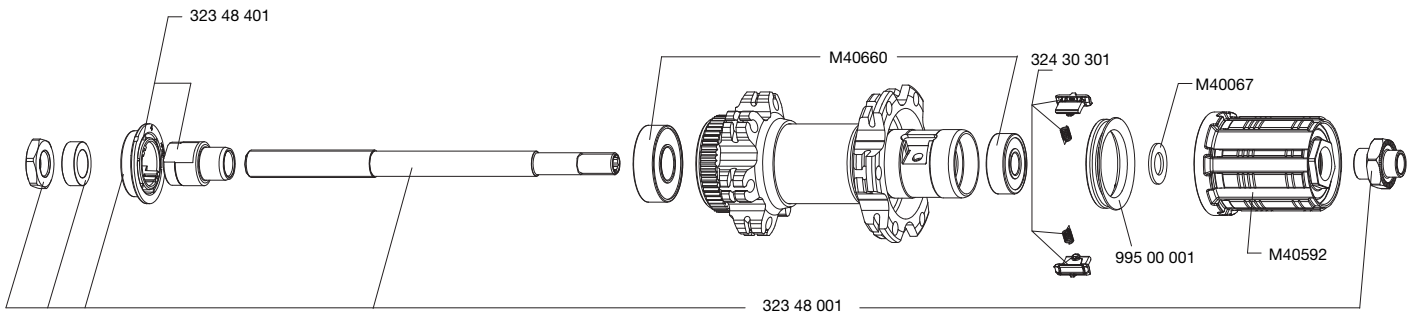
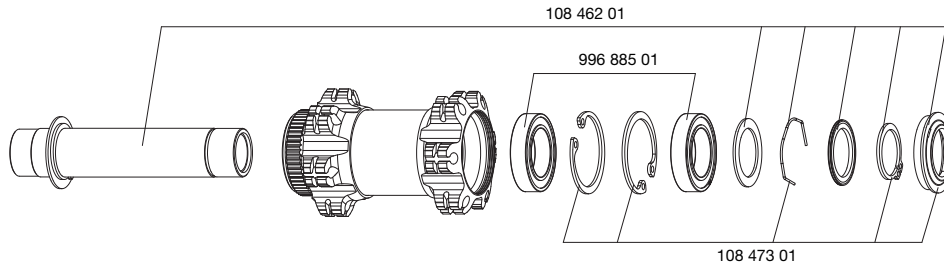
Ø VALVE HOLE
Ø: 8.5 mm with 6.5 mm valve adaptor
Length: ≥ 32 mm



RECOMMENDED TIRE WIDTH
Dimensions: Ø 26"
ETRTO 559 x 19C
Recommended tire width: 1.5 to 2.3

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: 995 435 01, length 271 mm (per 12, with nipples)

FEATURES:

Black bladed straight pull steel spokes with brass nipples

LACING PATTERN:

Front and rear: 2-cross lacing on both sides

TENSION:

Front: 100 to 120 kg
Rear drive side: 120 to 140 kg

ACCESSORIES

WHEELS SUPPLIED WITH:

- Conventional alu quick-release skewer on rear: M40351
- Rim tape 559x20x0.6
- User guide

MAINTENANCE

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

See 2010 TM, pages 21 and 22
See 2004 TM, page 20
See 2007 TM, page 21
See 2004 TM, page 22
See 2004 TM, page 25
See 2004 TM, page 28
See 2004 TM, page 29

Refer to the website for quick and convenient access to information: www.tech-mavic.com

DEEMAX ULTIMATE



USE: use only on a Cross Country or Cross Mountain MTB fitted with disc or rim 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 his equipment: 115 kg.

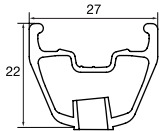
WHEEL WEIGHTS WITHOUT QUICK-RELEASE SKEWER

Front: 910 g
Rear: 1055 g

WHEEL REFERENCES

Front: 996 562 10
Rear: 996 563 13

RIMS	REFERENCES: Front: 996 919 10 Rear: 996 919 13
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Ø VALVE HOLE



Ø: 6.5 mm
Length.: ≥ 32 mm

RECOMMENDED TIRE WIDTH



Dimensions: Ø 26"
ETRTO 559 x 21C compatible and Tubeless UST
Recommended tire width: 2.3" to 3.0"

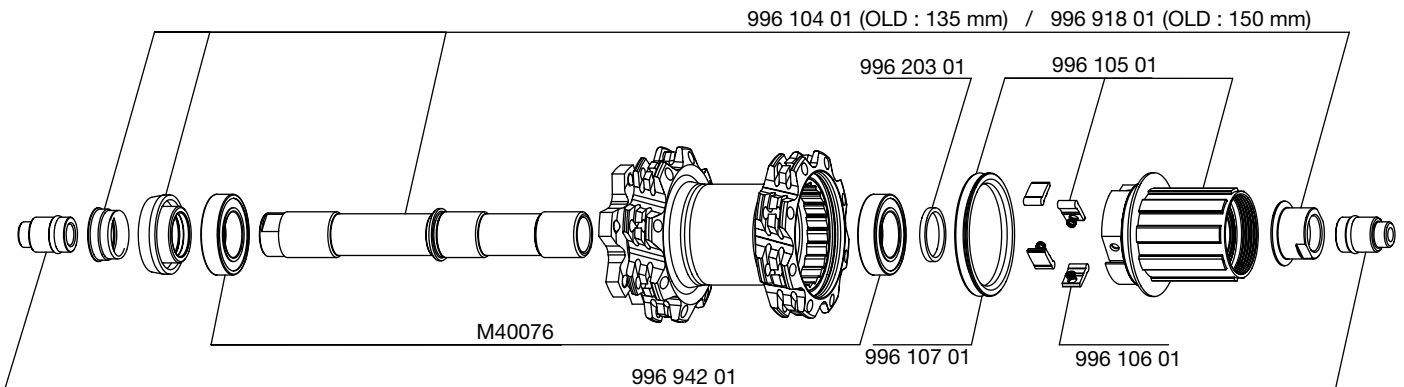
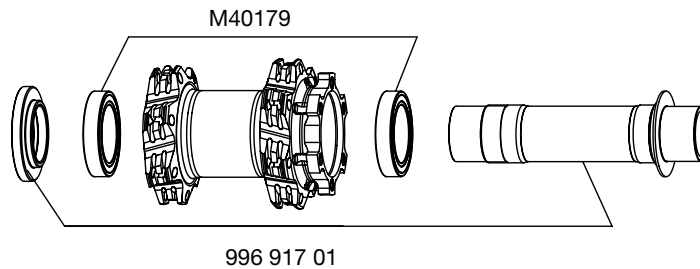
When replacing the front rim:

1. With the valve hole near you, the raised indicator bump must be to the left 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 inserted in the disc side of the hub

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-driving spoke and should be inserted in the drive side of the hub

HUBS	MAINTENANCE: Clean with a dry cloth or soap and water if necessary. Do not use a high-pressure washer.
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WHEELBUILDING	REFERENCES AND LENGTHS:	Front: 996 920 01, length 271 mm, (per 14, integrated nipples) Rear drive side: 996 921 01, length 266 mm, (per 14, integrated nipples) Rear non-drive side: 996 922 01, length 268 mm, (per 14, integrated nipples)
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FEATURES: Black stainless steel flat straight pull spokes with integrated, self-locking M7 aluminum spoke nipples.	LACING PATTERN: Front and rear: crossed 3 on both sides	TENSION: Front disc side: 100 to 120 kg Rear drive side: 110 to 130 kg
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ACCESSORIES	WHEELS SUPPLIED WITH:	MAINTENANCE
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- BX 601 rear quick-release M40141 (with 135 mm rear wheel only)
- Axle reducers 12=>9 mm 996 942 01 (with 135 mm rear wheel only)
- UST valves 995 282 01
- Spoke wrench M40494 (with rear wheel)
- Free play bearing adjustment wrench M40123 (with rear wheel)
- User guide

- Replacing the front axle and bearings
- Rear wheel assembly diameter conversion
- Maintaining and replacing the free wheel mechanism
- Replacing the rear axle and bearings
- Replacing a spoke
- Replacing the front rim
- Replacing the rear rim

- See 2008 TM, page 24
- See 2009 TM, page 25
- See 2009 TM, page 29
- See 2009 TM, page 30
- See 2009 TM, page 41
- See 2009 TM, pages 42/43
- See 2009 TM, pages 44/45

To consult this information quickly in a practical manner, refer to www.tech-mavic.com

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 in the 2010 range and are laid out as follows:

HUBS	Pages 16 to 21
Adjusting QRM SL hub bearings	Page 16
Replacing the front axle and bearings on R-Sys SL – Clincher and R-Sys SL – Tubular wheels	Page 17
Replacing the rear axle on R-Sys SL – Clincher and R-Sys SL – Tubular wheels	Page 18
Replacing the rear bearings on R-Sys SL – Clincher and R-Sys SL – Tubular wheels	Page 19
Replacing the front axle and bearings in the Crossride Disc 15 mm wheel	Pages 20 and 21
WHEEL BUILDING	Page 22 to 23
Replacing the rear rim of the Aksium 10 wheel	Page 22 to 23

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 0 to 14 of this manual) for further details.

All these procedures can also be found on www.tech-mavic.com

Before any operation, we recommend removing:

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

HUBS

ADJUSTING QRM SL HUB BEARINGS

Tools needed:

- None

If you note play in the hub:

- 1) Start by retightening the quick-release skewer.
- 2) If you feel that it is tightened excessively and play still remains, the axle and the frame/fork support must be replaced. Follow the procedure below:

Front hub: the axle comes with 4 fork supports, identified by how many grooves they have.
The length of the **fork support increases**, as the **number of grooves decreases**:



4 grooves = 15.00 mm



3 grooves = 15.10 mm



2 grooves = 15.20 mm



1 groove = 15.30 mm

Rear hub: the axle comes with 4 frame supports, identified by how many grooves they have.
The length of the **frame support increases**, as the **number of grooves decreases**:



4 grooves = 19.80 mm



3 grooves = 19.90 mm



2 grooves = 20.00 mm



1 groove = 20.10 mm

CAUTION: depending on the position of the bearings and the axle's machining tolerances, a frame/fork support that is too short may lead to play in the bearings. On the other hand, a frame/fork support that is too long can deform and irreversibly damage the bearings.

It is therefore important to use the correct length of frame/fork support. Proceed as follows:



By hand, remove the fork support (clipped onto the axle) from the label side of the hub.



First clip on the shortest fork support (4 grooves).



Install the quick-release and mount the wheel on the fork or the frame and tighten the quick-release with sufficient force.



Check to see if any play remains.

If play remains, repeat the previous operations with the next longer frame/fork support (3 grooves), and continue in this manner with the 4 frame/fork supports until the play disappears.

If play still remains with the longest frame/fork support (1 groove), the bearings and/or axle must be replaced. Consult the appropriate procedures for each wheel.

REPLACING THE AXLE AND BEARINGS ON FRONT WHEELS WITH QRM SL HUBS (R-SYS SL – CLINCHER AND R-SYS SL – TUBULAR)

Tools needed:

- Bearing press kit for bearings 323 909 01

Removal



By hand, remove the fork support (clipped onto the axle) from the label side of the hub.



Push the axle to remove it from the hub.



Use the bearing kit to extract the bearings 323 909 01.

Reassembly



Use the bearing kit to fit the bearings 323 909 01.



Introduce the axle into the side opposite the hub label.



Select the fork support optimizing the play adjustment using the QRM SL bearing play adjustment procedure.

REPLACING THE AXLE ON REAR WHEELS WITH QRM SL HUBS (R-SYS SL – CLINCHER AND R-SYS SL – TUBULAR)

Tools needed:

- 1 x 5 mm Allen wrench
- 1 x 10 mm Allen wrench

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

Nevertheless, it is no longer possible to remove the cassette when the free wheel body is no longer in place on the hub.

Removal



By hand, remove the frame support (clipped onto the axle) from non-drive side.



Fit the 5 mm Allen wrench in the axle on the drive side and the 10 mm Allen wrench on the non-drive side. Unscrew the axle.



Remove the axle by pushing on the screw at the end of the axle, drive side.

CAUTION: the free wheel body is now free and can be extracted easily.

Reassembly



Refit the new axle (tightening torque 15 Nm).



Select the fork support optimizing the play adjustment using the QRM SL bearing play adjustment procedure.

The axle end screw of all QRM SL type hubs now features a dry threadlocker compound on the threads. This prevents untimely loosening of the part.

This threadlocker becomes less effective after 4 to 5 removal/installation operations, after which the axle end screw should be replaced.

The axle end screws can be ordered separately from the complete axles using the following references:

Road bikes	Steel M10/ED11	324 130 01
	Titanium M10/ED11	995 469 01
MTB wheels	Steel HG9	324 219 01
	Titanium HG9	995 470 01



REPLACING QRM SL BEARINGS ON THE REAR WHEELS (R-SYS SL – CLINCHER AND R-SYS SL – TUBULAR)

Tools needed:

- 1 bearing press kit for SL bearings: 323 909 01

Remove the axle (see page 18) and remove the free wheel mechanism following the procedures specific to each hub (refer to www.tech-mavic.com or the technical manuals from previous years).



Use the bearing kit to extract the bearings 323 909 01.



Fit the new bearings using bearing kit 323 909 01.

Refit the free wheel mechanism following the procedures specific to each hub (refer to www.tech-mavic.com or the technical manuals of previous years) and fit the axle back in place (see page 18).

REPLACING THE FRONT BEARINGS AND AXLE OF THE CROSSRIDE DISC 15 MM WHEEL

Tools needed:

- 1 external circlip pliers (axle)
- 1 internal circlip pliers (bearings)
- 1 fine-tip flat screwdriver
- 1 standard bearing rod
- 1 bearing press kit 108 850 01
- 1 bearing press kit 996 887 01
- 1 hammer

Removing the axle



Remove the dust cover from the non-disc side:

- Insert a small flat screwdriver into the slots provided and gently and successively raise one side then the other.
- Finish the extraction by hand by pulling the cover parallel to the axle.



Remove the circlip using an external circlip pliers.



Remove the tapered washer, the pin and flat washer by taping gently on the axle, disc side (**Caution: be careful not lose these 3 elements!**).



Remove the axle from the disc side.

Removing bearings



Insert the bearing press from the disc side and remove the non-disc side bearing to the outside (be careful not to damage the circlip near the bearing).



From the non-disc side, using an interior circlip pliers, remove the first interior circlip (non-disc side) then the second interior circlip (disc side).



From the disc side, using the bearing press 108 850 01, remove the disc side bearing toward the outside.

CAUTION: the extraction operation may result in irreparable damaged to the bearings. In this case, the bearings must be replaced.

Replacing bearings



Insert the new disc side bearing via the non-disc side and push it home with press kit 996 887 01.



From the non-disc side, using an interior circlip pliers, refit the second interior circlip (disc side) in its groove, followed by the first interior circlip (non-disc side) in its groove.



Using press bearing kit 996 887 01, fit the new non-disc side bearing.

Replacing the axle



Insert the axle from the disc side.



Fit the non-disc side flat washer.



Assemble the pin and the tapered washer (the pin must fit into the groove on the edge of the tapered washer).



Mount the pin / washer assembly on the non-disc side by presenting the conical part toward the inside, and the grooved part toward the outside.



Using an external circlip pliers, replace the external circlip on the axle, non-disc side. Make sure that the circlip is correctly positioned in its groove by pressing on 3 points.



Maintain pressure on the axle, on the non-disc side, and simultaneously press on the pin at 3 points with a screwdriver (2 at the end + center) to slide it inside.



Release the pressure. The pin fits into position and adjusts the play automatically.



Replace the dust cover by pushing it parallel to the axle.

WHEEL BUILDING

REPLACING THE REAR RIM OF THE AKSIUM 10 WHEEL

Tools needed:

- Spoke wrench
- Aerodynamic spoke wrench M40567
- Mavic tensiometer 995 643 01 + tension-reading conversion chart supplied

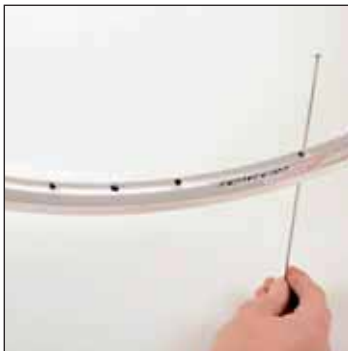
The spoke reference and length to be used are indicated in the product pages.

These wheels must be fitted as follows:

- The spokes are fitted radially on the non-drive side and in a 2-cross pattern on the drive side.
- Free wheel facing you: The driving spokes pass over the non-driving spokes, along their full length.

Prepare the spokes by screwing a nipple onto each spoke 3 turns.

Start with the non-drive side (shortest spokes).



With the valve hole near you, insert a spoke head first into the second hole to the right of the valve hole, then continue with every second hole.



The first spoke on the non-drive side must be placed in a notch located opposite a notch on the drive side.



Insert each spoke head into the housings of the non-drive hub, from the outside of the flange.



Clip the hub cap on the hub flange. (This will help you to keep the spokes in place during this operation)

Drive side, start building the wheel with the non-drive spokes.



Turn the wheel over, then insert the remaining spokes (the longer ones) into the hub's remaining holes.



The 2nd spoke to the right of the valve hole is a non-traction spoke and will be on the inside: Insert it into the slot of the hub notch and do the same for every fourth spoke.



The 4th spoke to the right of the valve hole is a traction spoke and will be on the outside: Insert it into the slot of the hub notch and do the same for all the remaining spokes.



OK



KO

Screw each of the nipples uniformly (1 spoke wrench turn for each spoke and per wheel turn) to tension the wheel, **while checking the proper position of their head in the bottom of the hub groove** to prevent spoke displacement or hub breakage.

Check that all the non-traction spokes are located on the inside of the layer and that the traction spokes are on the outside.

Tension the wheel and center it definitively respecting the spoke tension indicated on the product pages (page 08).

No threadlock is necessary since the spoke nipples of the rear Aksium 10 wheel are ABS.

WINTECH USB ULTIMATE

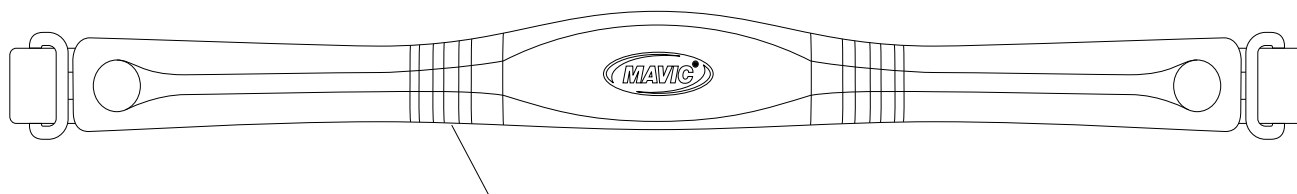
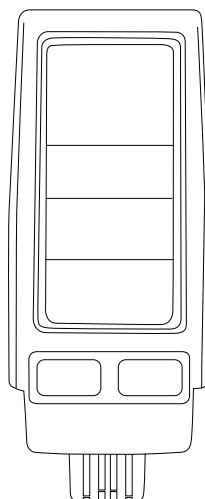
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Computer: 35 g
Heart belt: 55 g

REFERENCE: 107 627 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



995 444 01

ACCESSORY PART NUMBERS

Computer battery cover kit	996 100 01	1-battery kit CR2430 (computer)	996 099 01
Heart belt battery cover kit	995 442 01	10-battery kit CR2032 (heart belt)	M40412

OPERATING SCOPE

Power source:	Computer: battery CR2430 Heart belt: battery CR2032	Maximum receiving distances:	Speed: 2 meters
Circumference:	Minimum: 1,500 mm, Maximum: 2,500 mm	Cumulative odometer:	Rate: 2 meters
Units:	Metric (km, m, °C) or imperial (miles, ft, °F)	Trip distance:	Up to 99,999 km or miles Up to 1,999.99 km or miles
Time format:	24-hour display only	Stopwatch:	Up to 19:59:59
Water resistance:	Resistant to rainwater. The electronic components must not be fully submerged or subjected to a high-pressure washer.	Speed:	4 to 99 km/h or 2.5 to 62 mph
Operating temperature range:	-10 °C to +50 °C / 14 °F to 122 °F	Rate (optional):	10 to 180 rpm
		Altitude:	-500 m to +5,000 m or -1,640 ft to +16,400 ft
		Vertical speed:	0 to 2,500 mph or 0 to 8,200 fph
		Heart rate:	25 to 240 beats/minute
		Internal memory:	Up to 10 recordings of 5 hours each

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

WINTECH USB HR

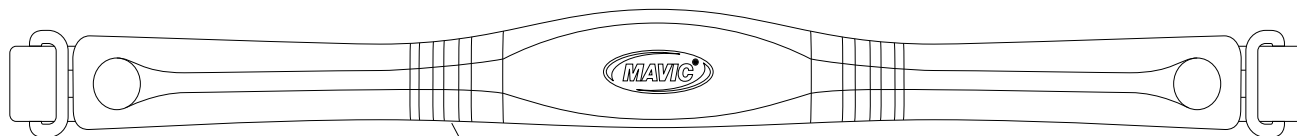
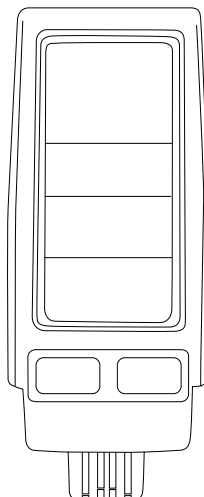
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Computer: 35 g
Heart belt: 55 g

REFERENCE: 107 626 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



995 444 01

ACCESSORY PART NUMBERS

Computer battery cover kit
Heart belt battery cover kit

996 100 01
995 442 01

1-battery kit CR2430 (computer)
10-battery kit CR2032 (heart belt)

996 099 01
M40412

OPERATING SCOPE

Power source:	Computer: battery CR2430 Heart belt: battery CR2032	Maximum receiving distances:	Speed: 2 meters
Circumference:	Minimum: 1,500 mm, Maximum: 2,500 mm	Cumulative odometer:	Rate: 2 meters
Units:	Metric (km) or imperial (miles)	Trip distance:	Up to 99,999 km or miles Up to 1,999.99 km or miles
Time format:	24-hour display only	Stopwatch:	Up to 19:59:59
Water resistance:	Resistant to rainwater. The electronic components must not be fully submerged or subjected to a high-pressure washer.	Speed:	4 to 99 km/h or 2.5 to 62 mph
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F	Rate (optional):	10 to 180 rpm
		Heart rate:	25 to 240 beats/minute
		Internal memory:	Up to 10 recordings of 5 hours each

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

WINTECH USB ALTI

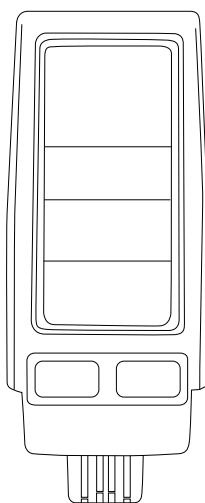
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: 35 g

REFERENCE: 107 625 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

Computer battery cover kit 996 100 01 **1-battery kit CR2430 (computer)** 996 099 01

OPERATING SCOPE

Power source:	Computer: battery CR2430	Maximum receiving distances:	Speed: 2 meters
Circumference:	Minimum: 1,500 mm, Maximum: 2,500 mm	Cumulative odometer:	Rate: 2 meters
Units:	Metric (km, m, °C) or imperial (miles, ft, °F)	Trip distance:	Up to 99,999 km or miles Up to 1,999.99 km or miles
Time format:	24-hour display only	Stopwatch:	Up to 19:59:59
Water resistance:	Resistant to rainwater. The electronic components must not be fully submerged or subjected to a high-pressure washer.	Speed:	4 to 99 km/h or 2.5 to 62 mph
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F	Rate (optional):	10 to 180 rpm
		Altitude:	-500 m to +5,000 m or -1,640 ft to +16,400 ft
		Vertical speed:	0 to 2,500 mph or 0 to 8,200 fph
		Internal memory:	Up to 10 recordings of 5 hours each

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

WINTECH USB

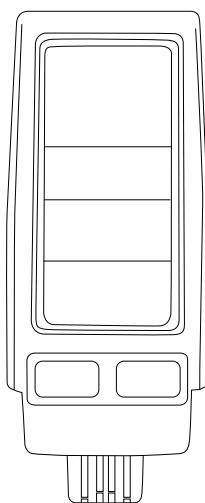
Use: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: 35 g

REFERENCE: 107 624 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

Computer battery cover kit 996 100 01 **1-battery kit CR2430 (computer)** 996 099 01

OPERATING SCOPE

Power source:	Computer: battery CR2430	Maximum receiving distances:	Speed: 2 meters
Circumference:	Minimum: 1,500 mm, Maximum: 2,500 mm	Cumulative odometer:	Rate: 2 meters
Units:	Metric (km) or imperial (miles)	Trip distance:	Up to 99,999 km or miles Up to 1,999.99 km or miles
Time format:	24-hour display only	Stopwatch:	Up to 19:59:59
Water resistance:	Resistant to rainwater. The electronic components must not be fully submerged or subjected to a high-pressure washer.	Speed:	4 to 99 km/h or 2.5 to 62 mph
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F	Rate (optional):	10 to 180 rpm
		Internal memory:	Up to 10 recordings of 5 hours each

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

E-SKEWER

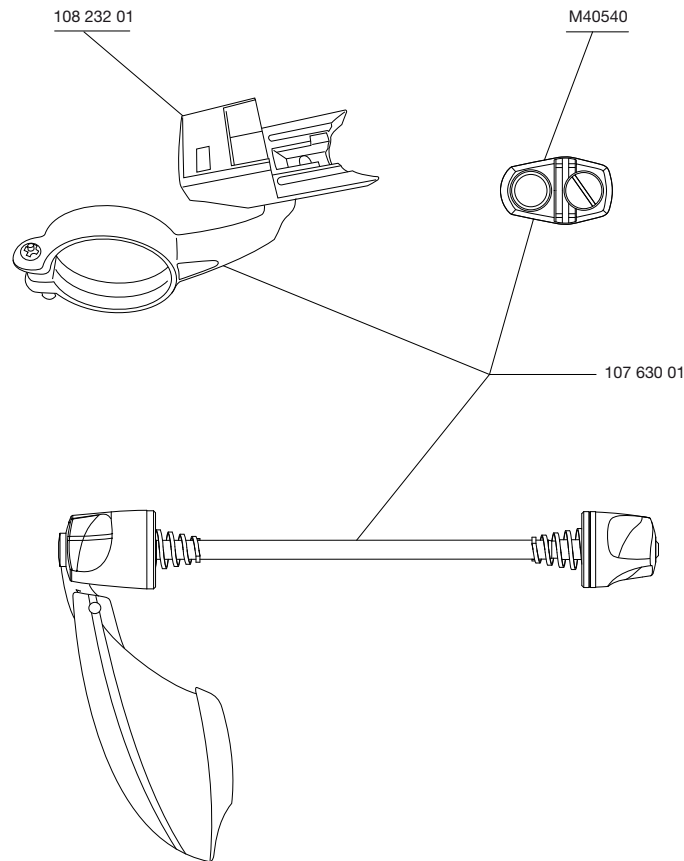
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Quick-release sensor: 66 g
Computer bracket: 21.5 g
Magnet: 5.5 g

REFERENCE: 107 630 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

Battery cover kit	995 441 01
10-battery kit CR2032	M40412
Wintech USB computer bracket (all versions)	108 232 01
Magnet	M40540

OPERATING SCOPE

Power source:	Sensor: battery CR2032	Maximum transmission distances: 2 meters
Water resistance:	The electronic components must not be fully submerged or subjected to a high-pressure washer.	
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F	

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

E-BOLT

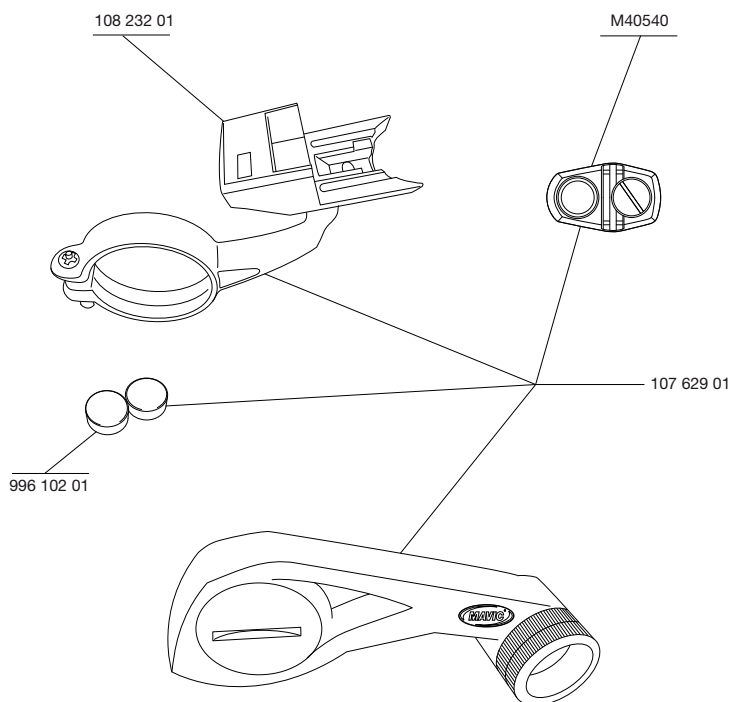
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Sensor: 28 g
Computer bracket: 21.5 g
Magnet: 5.5 g

REFERENCE: 107 629 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

Battery cover kit	995 441 01
10-battery kit CR2032	M40412
Wintech USB computer bracket (all versions)	108 232 01
Magnet	M40540
Adjustment magnets kit	996 102 01

OPERATING SCOPE

Power source:	Sensor: battery CR2032
Water resistance:	The electronic components must not be fully submerged or subjected to a high-pressure washer.
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F

Maximum transmission distances: 2 meters

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

FORK-SENSOR

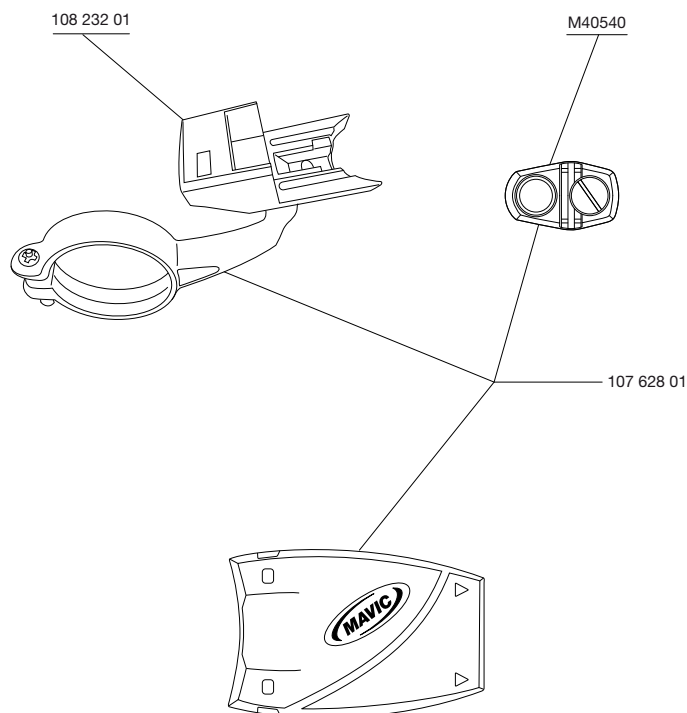
USE: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Sensor: 15 g
Computer bracket: 21.5 g
Magnet: 5.5 g

REFERENCE: 107 628 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

Battery cover kit	995 441 01
10-battery kit CR2032	M40412
Wintech USB computer bracket (all versions)	108 232 01
Magnet	M40540
Retaining straps	M40390

OPERATING SCOPE

Power source:	Sensor : battery CR2032
Water resistance:	The electronic components must not be fully submerged or subjected to a high-pressure washer.
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F

Maximum transmission distances: 2 meters

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

SMART-CADENCE

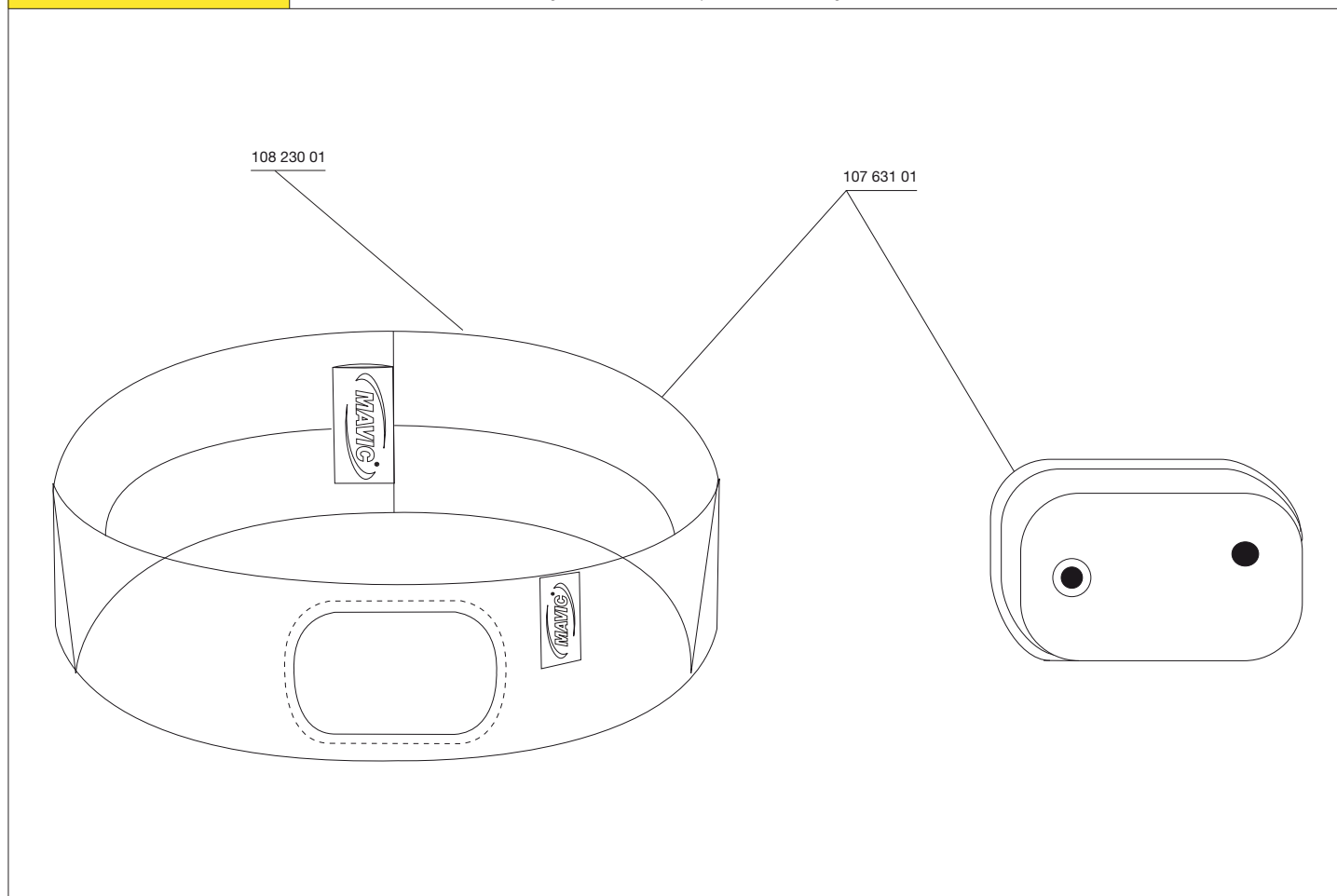
Use: use only on a road bike, tandem, asphalt bike or a cross-country or mountain cross MTB. Any other use (such as on an Extreme MTB, cyclo-cross bike, ...) is highly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT: Sensor: 12.5 g

REFERENCE: 107 631 01

SPARE PARTS

MAINTENANCE: Clean with a dry cloth, or slightly damp if necessary.
Do not use a high-pressure washer.
Avoid extended storage behind a window exposed to direct sunlight.



ACCESSORY PART NUMBERS

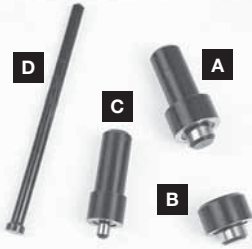
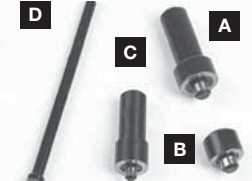






Battery cover kit	108 231 01
10-battery kit CR2032	M40412
Ankle Band kit	108 230 01

OPERATING SCOPE

Power source:	Computer: battery CR2032	Maximum transmission distances: 2 meters
Water resistance:	The electronic components must not be fully submerged or subjected to a high-pressure washer.	
Operating temperature range:	-10 °C to + 50 °C / 14 °F to 122 °F	

After fitting the computer, it **MUST** be synchronized digitally before using it for the first time, as described in the instructions supplied with the computer. Failure to do this will result in no communication between the computer and the various sensors, and your system will not function.

TOOLS

REFERENCE	DESCRIPTION	PRODUCT
108 850 01	Bearing press kit for the bearings of 10/15 mm Crossride front hubs	
M40119	Bearing press kits for bearings: M40075 M40076	
M40120	Bearing press kits for bearings: M40077 M40078	
323 909 01	Bearing press kit for QRM SL bearings	
M40373	Guide ring and bearing press kit for bearings: M40318 M40660	
M40218	Bearing press kit for bearings: M40179	
323 945 01	Bearing press kit for bearings: M40771	
	Bearing press kit for bearings: 324 170 01	
996 887 01	Bearing press kit for hub bearings 9/15: 996 885 01 and 996 886 01.	
996 901 01	Bearing press kit for bearings M40076 used in ITS4 free wheel system hubs.	











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 hex key required to remove the free wheel from Crossroc UST, Crossroc UST Disc, Crossride, Crossride Ceramic, Cosmos and Cosmic Elite wheels.

REFERENCE	DESCRIPTION	PRODUCT
996 080 01	TraComp ring tool	
995 643 01	Mavic tensiometer for all Mavic wheels	
M40001	Spoke adjustment wrench for Cosmic Carbone, Cosmic Carbone SSC, Cosmic Carbone SL and Cosmic Carbone SLR wheels	
101 295 01	R2R spoke head tool	
323 908 01	Cosmic Carbone Pro spoke wrench kit + aerodynamic spoke wrench	
M40567	Aerodynamic spoke wrench kit	
996 079 01	TraComp spoke wrench kit	
M40652	Zamak spoke tightening wrench kit for Fore M7 pierced wheels (except R-System)	
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
323 477 01	<p>Multifunction tool: Removing the UST Tubeless rim tape (A) Fitting the UST® rim tape Adjusting the front axles on the Cosmos, Ksyrium Équipe, Crossland, Crossmax Enduro, Crossmax Enduro Disc, Cosmic Élite 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</p>	
M40123	Hub wrench for adjusting the play on Mavic QRM+ hubs	
99613601	<p>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</p>	
99620401	<p>Mavic threadlocker. Content 5 ml.</p>	
M40410	Mavic abrasive rubber rim stone for cleaning the braking surface of the rim, Céramic or UB Control	

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