

TECH

TECHNICAL MANUAL

2006

WHEELS+RIMS+SYSTEMS+ACCESSORIES

ROAD/ASPHALT/MTB

www.mavic.com

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BEGINS HERE**



2006

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THIS DOCUMENT ONLY CONCERNS THE NEW PRODUCTS IN 2006.

THIS DOCUMENT UPDATES THE EXISTING TECHNICAL INFORMATION AND SHOULD THEREFORE BE KEPT IN A SAFE PLACE FOR AN UNLIMITED LENGTH OF TIME ALONG WITH THE MANUALS FROM PREVIOUS YEARS.

ALL THE INFORMATION CONCERNING THE EXISTING PRODUCTS IN THE PREVIOUS RANGES CAN BE FOUND IN THE TECHNICAL MANUALS PRINTED SINCE 1997. YOU CAN GO ON-LINE TO THE WEBSITE www.tech-mavic.com TO FIND ALL THE EDITIONS OF THIS MANUAL SINCE 1997.

THE NEW 2006 TECHNICAL MANUAL

THE 2006 TECHNICAL MANUAL IS ESSENTIAL FOR ENSURING THE MAINTENANCE OF MAVIC PRODUCTS. IT CONSISTS OF 4 MAIN PARTS:

- wheels
- rims
- components
- tools and customer service

You will find two types of technical information in each of these parts:

- Product drawings showing individual part numbers;
- Procedures to properly maintain our products as well as those to follow concerning the warranty and Mavic Service Center.

As we have already mentioned, this document only offers technical information regarding the modifications of the existing products and new products in the 2006 range. Therefore, it concerns:

MAVIC CUSTOMER SERVICE



Our objective is that you be the only service partner for the consumer.

You are also assured that through the use of our worldwide Mavic Service Center (MSC), you will benefit from maximum assistance, the best possible service and professional advice.

Mavic MSC will be at your disposal to guide you through the necessary procedures in the event you need to return a part, make repairs, make standard replacements, or to send you spare parts needed for product maintenance.

We simply ask that you **contact your MSC prior to all returns (see page 39)**, to obtain the proper return procedures. Mavic will only accept authorized returns.

For additional information, contact your MSC or consult the end pages of this technical manual.

- **The wheels:** Aksium, Ksyrium™ Equipe 06, Ksyrium™ Elite Black, Ksyrium™ SL 06, Ksyrium™ ES, Cosmic® Carbone Pro, Crossride, Deetraks, Deemax® 12x150.
- **The rims:** Open Sport, A 719, A 319, A 317 Disc, A 119*.
- **The components:** M-Tech.5, M-Tech.7, M-Tech.9, WIN-Tech® 2d bike kit, WIN-Tech® handlebar support kit.

We hope this document will meet your needs and we are always open to listen to any suggestions to improve on it.

Thank you for your confidence in us and have a good 2006 season.

**OEM product only.*

www.tech-mavic.com

This website is at your complete disposal. Every bit of information about Mavic products released since 1997 is available in PDF format both in English and French.

Visit: **www.tech-mavic.com** where you will find all of this information. To connect to this website you will need a code and password. These codes will be communicated by your usual contacts: reps, sales assistants, Customer service, Mavic Service Center...

Among other things on the site, you will find:

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



We hope that this tool will meet your needs. Do not hesitate to inform us of any possible malfunction or improvements that you would like us to make.

MAVIC® WHEELS

SEGMENTATION OF THE 2006 WHEEL RANGE

TRACK	ROAD & TRIATHLON			ASPHALT	MTB		
	AERODYNAMIC	MULTI PERFORMANCE	CLASSIC		CROSS COUNTRY RACING	CROSS MOUNTAIN	EXTREME MTB
iO COMETE TRACK	COMETE ROAD COSMIC CARBONE PRO NEW COSMIC CARBONE SL	KSYRIUM ES NEW KSYRIUM SL NEW			CROSSMAX SL DISC LEFTY CROSSMAX SL DISC + CL CROSSMAX SL	CROSSMAX XL DISC CROSSMAX XL	DEEMAX UST DEEMAX 12x150 NEW
ELLIPSE	COSMIC ELITE	KSYRIUM ELITE NEW KSYRIUM ELITE 650 KSYRIUM EQUIPE NEW	COSMOS	SPEEDCITY + CL	CROSSMAX ENDURO DISC + CL CROSSMAX ENDURO CROSSLAND + CL		DEETRAKS NEW
		AKSIUM NEW			CROSSRIDE NEW		

GENERAL POINTS

Dear dealers, we would like to remind you that it is your responsibility to give the customer all wheel instructions and have them fill out the warranty guide.

It is also your responsibility to provide the customer with the following recommended Mavic wheel instructions:

- Choose a suitable wheel designed for the type of riding you wish to do;
- It is imperative to respect the instructions in the Technical Manual for tire pressure and sizes (see charts page 14);
- Respect the appropriate spoke tensions.
- Clean the rims on a regular basis with 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...);
- Check or have your rims checked on a regular basis, at least at the start of each season and if possible after intensive use should you have a doubt about spoke tensions or the type of tire used. When checking, look inside (especially under the rim tape) and outside the rim. Check for signs of fatigue or wear: deterioration of braking surfaces, cracks in the sidewalls or around the eyelets.

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

AKSIUM

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

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

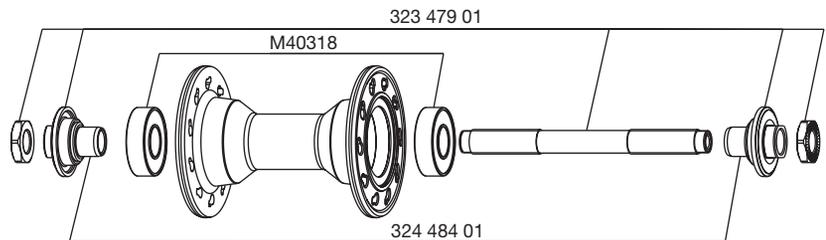
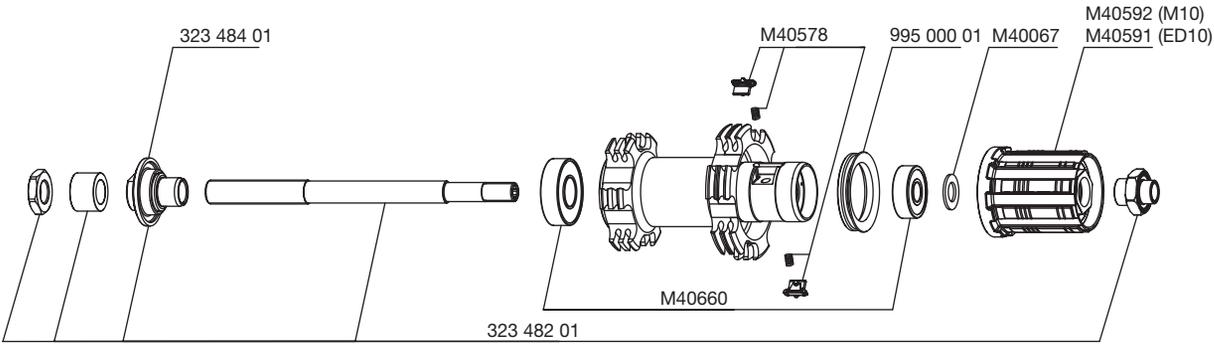
Front: 920 g
Rear M10: 1075 g
Rear ED10: 1060 g

BLACK WHEEL REFERENCES:

Front: 323 992 10
Rear M10: 323 993 11
Rear ED10: 323 994 12
Pair M10 : 324 071 14
Pair ED10: 324 072 14

SILVER WHEEL REFERENCES:

Front: 323 980 10
Rear M10: 323 981 11
Rear ED10: 323 982 12
Pair M10: 324 064 14
Pair ED10: 324 065 14

RIMS	<p>SALES REFERENCES: Black: Front: 324 177 10 Rear: 324 177 13 Silver: Front: 324 176 10 Rear: 324 176 13</p>	
WIDTH	<p>VALVE HOLE Ø</p>  <p>Ø: 6,5 mm Length.: ≥ 32 mm</p>	<p>RECOMMENDED TIRE WIDTH AND PRESSURE</p>  <p>Dimensions: Ø 700 only ETRTO 622 x 15 compatible Recommended tire width: 19 to 32</p>  <p>Recommended tire pressure: See page 14</p>
HUBS	<p>MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water</p>  	
WHEEL BUILDING	<p>REFERENCES AND LENGTHS: Black front: 324 192 01, length 278 mm (per 10 with nipples) Black rear: 324 193 01, length 302 mm (per 12 with nipples) Silver front: 324 190 01, length 278 mm (per 10 with nipples) Silver rear: 324 191 01, length 302 mm (per 12 with nipples)</p>	
FEATURES:	LACING PATTERN:	TENSION:
Silver or black, profiled, stainless steel, straight pull spokes with ABS nipples (self-locking)	Front: radial Rear: crossed 2 on both sides	Front: 75 to 90 kg Rear free wheel side: 130 to 160 kg
ACCESSORIES	WHEEL DELIVERED WITH:	MAINTENANCE
<ul style="list-style-type: none"> Traditional aluminium front quick release skewer M40350 Traditional aluminum rear quick release skewer M40351 ED10 12D locking ring (M40640) with rear wheel Rim tape 622x18x0.6 User guide and warranty card 		<ul style="list-style-type: none"> Replacement of a front wheel spoke or rim <p>See page 17</p> <p>For all other maintenance procedures (hubs, spoke lacing...), refer to the 2004 technical manual (Ksyrium Equipe section) or consult the website www.tech-mavic.com</p>

WHEELS

KSYRIUM™ EQUIPE

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

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

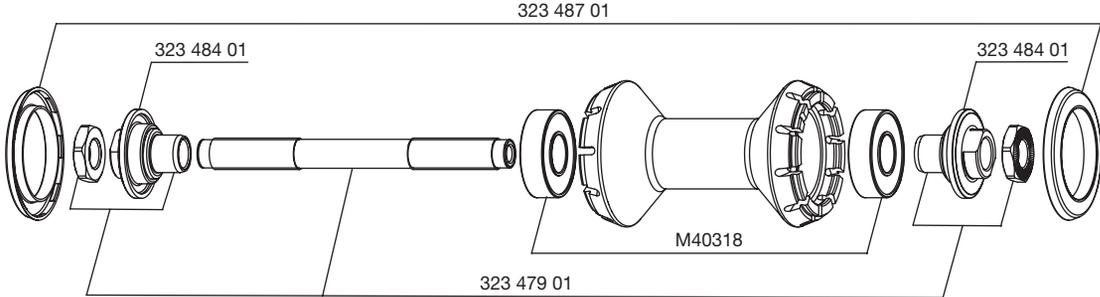
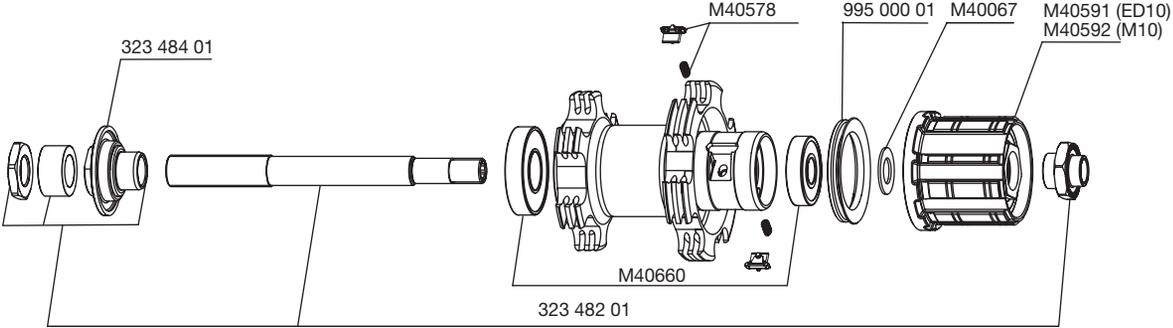
Front: 845 g
Rear M10 : 1010 g
Rear ED10 : 995 g

BLACK WHEEL REFERENCES:

Front: 324 041 10
Rear M10: 324 042 11
Rear ED10: 324 043 12
Pair M10: 324 047 14
Pair ED10: 324 048 14

SILVER WHEEL REFERENCES:

Front: 324 051 10
Rear M10: 324 052 11
Rear ED10: 324 053 12
Pair M10: 324 057 14
Pair ED10: 324 058 14

RIMS	SALES REFERENCES: Black: Front: 324 174 10 Rear: 324 174 13 Silver: Front: 324 175 10 Rear: 324 175 13	
WIDTH	VALVE HOLE Ø  Ø: 6,5 mm Length.: ≥ 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions : Ø 700 only ETRTO 622 x 13 compatible Recommended tire width: 19 to 28  Recommended tire pressure: See page 14
HUBS	MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
 <p>323 487 01 323 484 01 M40318 323 479 01</p>		
 <p>323 484 01 M40578 995 000 01 M40067 M40591 (ED10) M40592 (M10) M40660 323 482 01</p>		
WHEEL BUILDING	REFERENCES AND LENGTHS: Black front: 324 186 01, length 284 mm (per 10 with nipples) Black rear: 324 187 01, length 300 mm (per 12 with nipples) Silver front: 324 188 01, length 284 mm (per 10 with nipples) Silver rear: 324 189 01, length 300 mm (per 12 with nipples)	
FEATURES:	LACING PATTERN:	TENSION :
Silver or black, profiled, stainless steel, straight pull spokes with ABS nipples (self-locking)	Front: radial Rear: crossed 2 on both sides	Front: 75 to 100 kg Rear free wheel side: 130 to 160 kg
ACCESSORIES	WHEEL DELIVERED WITH:	MAINTENANCE
<ul style="list-style-type: none"> Traditional aluminum front quick release skewer M40350 Traditional aluminum rear quick release skewer M40351 ED10 12D locking ring M40640 (with rear wheel) Rim tape 622x18x0.6 User guide and warranty card 		For all maintenance procedures (hubs, spoke lacing...), refer to the 2004 technical manual or consult the website www.tech-mavic.com

KSYRIUM™ ELITE 700

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

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

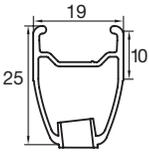
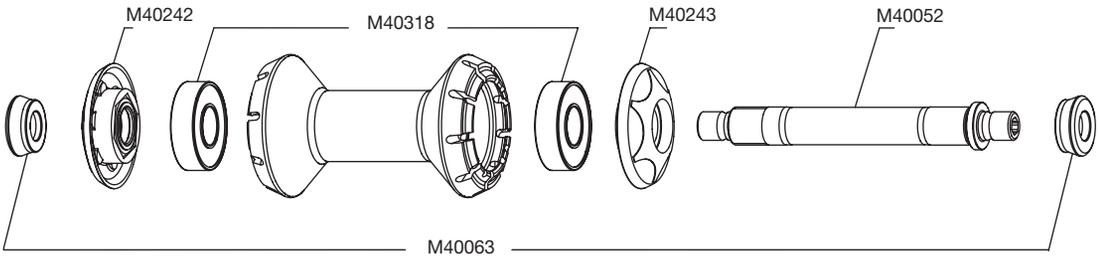
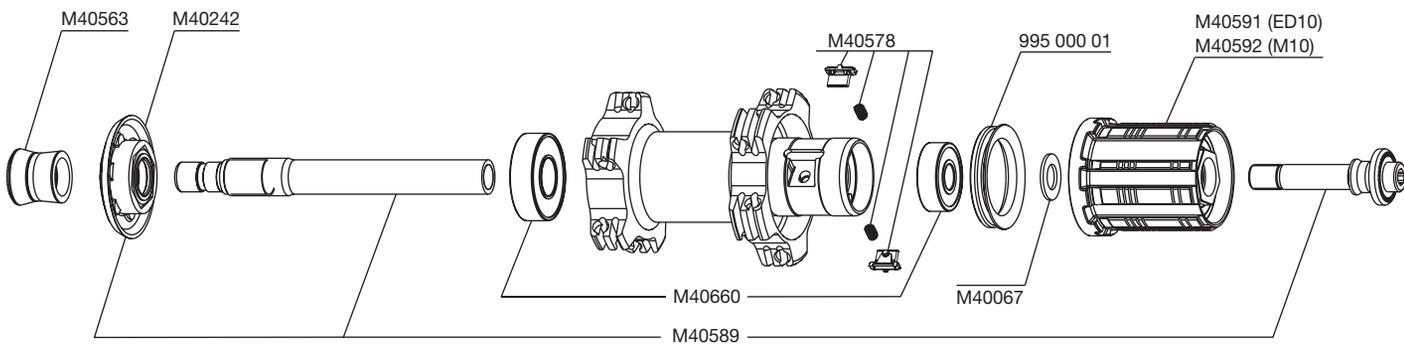
Front: 775 g
Rear M10: 975 g
Rear ED10: 960 g

BLACK WHEEL REFERENCES:

Front: 324 013 10
Rear M10: 324 014 11
Rear ED10: 324 015 12
Pair M10: 324 107 14
Pair ED10: 324 108 14

SILVER WHEEL REFERENCES:

Front: 323 625 10
Rear M10: 323 626 11
Rear ED10: 323 627 12
Pair M10: 324 740 14
Pair ED10: 324 739 14

RIMS	<p>SALES REFERENCES: Black: Front: 324 173 10 Silver: Front: 323 911 10 Rear: 324 173 13 Rear: 323 911 13</p>	
WIDTH		<p>VALVE HOLE Ø</p>  <p>Ø: 6,5 mm Length.: ≥ 32 mm</p>
	<p>RECOMMENDED TIRE WIDTH AND PRESSURE</p>  <p>Dimensions: Ø 700 only ETRTO 622 x 13 compatible Recommended tire width: 19 to 28</p>	 <p>Recommended tire pressure: See page 14</p>
	<p>When replacing the rear rim: 1. With the valve hole near you, the 2 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 inserted on the free wheel side</p>	
HUBS	<p>MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water</p>	
		
		
WHEEL BUILDING	<p>REFERENCES AND LENGTHS: Black front: 324 184 01, length 287 mm (per 9, integrated nipples) Black rear: 324 185 01, length 307 mm (per 10, integrated nipples) Silver front: 323 898 01, length 287 mm (per 9, integrated nipples) Silver rear: 323 899 01, length 307 mm (per 10, integrated nipples)</p>	
	<p>FEATURES: Silver or black, ultra bladed, stainless steel, straight pull spokes with integrated M7 nipples (self-locking)</p>	<p>LACING PATTERN: Front: radial Rear: crossed 2 on both sides</p>
	<p>TENSION : Front: 115 to 135 kg Rear free wheel side: 140 to 165 kg</p>	
ACCESSORIES	<p>WHEEL DELIVERED WITH:</p> <ul style="list-style-type: none"> • Traditional aluminum front quick release skewer M40350 • Traditional aluminum rear quick release skewer M40351 • M7 spoke wrench M40494 (with rear wheel) • Wrench for aerodynamic spokes M40567 (with rear wheel) • ED10 12D locking ring (with rear wheel ED10) • Free play adjustment wrench M40123 (with rear wheel) • User guide and warranty card 	MAINTENANCE
	<p>For all maintenance procedures (hubs, spoke lacing...), refer to the 2002 technical manual (hubs) and 2005 technical manual (spoke lacing), or consult the website www.tech-mavic.com</p>	

WHEELS

KSYRIUM™ SL 06

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

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

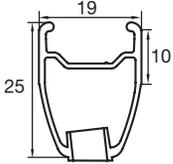
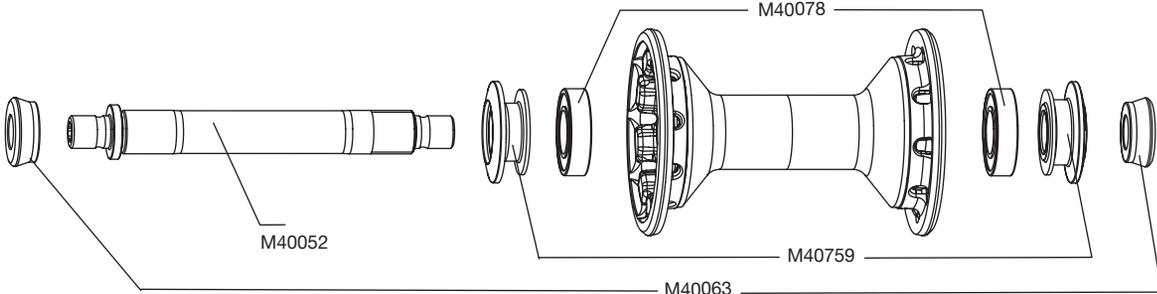
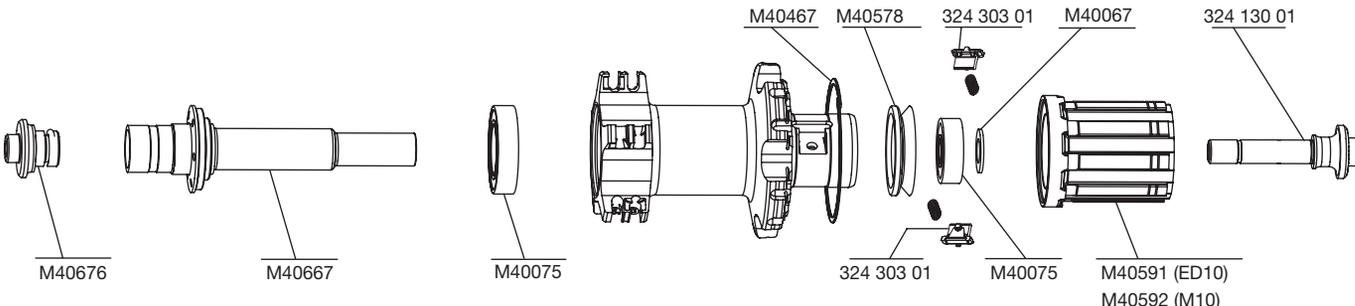
	Clincher	Tubular
Front:	680 g	680 g
Rear M10:	870 g	870 g
Rear ED10:	855 g	855 g

CLINCHER WHEEL REFERENCES:

Front:	323 995 10
Rear M10:	323 996 11
Rear ED10:	323 997 12
Pair M10:	324 032 14
Pair ED10:	324 033 14

TUBULAR WHEEL REFERENCES:

Front:	324 036 10
Rear M10:	324 037 11
Rear ED10:	324 038 12
Pair M10:	324 039 14
Pair ED10:	324 040 14

RIMS	SALES REFERENCES: Clincher: Front: 324 172 10 Rear: 324 172 13 Tubular: Front: 324 305 10 Rear: 324 305 13	
WIDTH	VALVE HOLE Ø  Ø: 6,5 mm Length.: ≥ 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions: Ø 700 only ETRTO 622 x 13 compatible Recommended tire width: 19 to 28  Recommended tire pressure: See page 14
	When replacing the rear rim: 1. With the valve hole near you, the 2 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 inserted on the free wheel side Cleaning: If the rim becomes very dirty, a high pressure water jet may be used This must not under any circumstance be used on the other parts of the wheel	
HUBS	MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
		
		
WHEEL BUILDING	REFERENCES AND LENGTHS: Front: 324 181 01, length 281.5 mm (per 9, integrated nipples) Rear free wheel side: 324 182 01, length 272.2 mm (per 10, integrated nipples) Rear non drive side: 324 183 01, length 301.5 mm (per 10, integrated nipples)	
FEATURES: Silver, profiled, Zicral, straight pull spokes with integrated M7 nipples (self-locking)	LACING PATTERN: Front: radial Rear: Isopulse 	TENSION : Front: 100 to 130 kg Rear free wheel side: 130 to 160 kg
ACCESSORIES	WHEEL DELIVERED WITH:	MAINTENANCE
<ul style="list-style-type: none"> BR 601 composite front quick release skewer M40149 BR 601 composite rear quick release skewer M40150 M7 spoke wrench M40652 (with rear wheel) Wrench for aerodynamic spokes M40567 (with rear wheel) Computer magnet (with front wheel) ED10 12D locking ring M40640 (with rear wheel ED10) Free play adjustment wrench User guide and warranty card 		For all maintenance procedures, refer to the 2002 technical manual (spoke lacing) and 2003 technical manual (hubs, Crossmax SL section), or consult the website www.tech-mavic.com

KSYRIUM™ ES

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

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

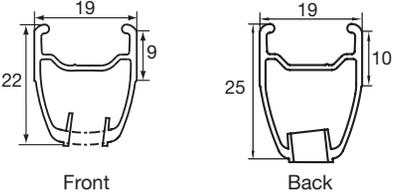
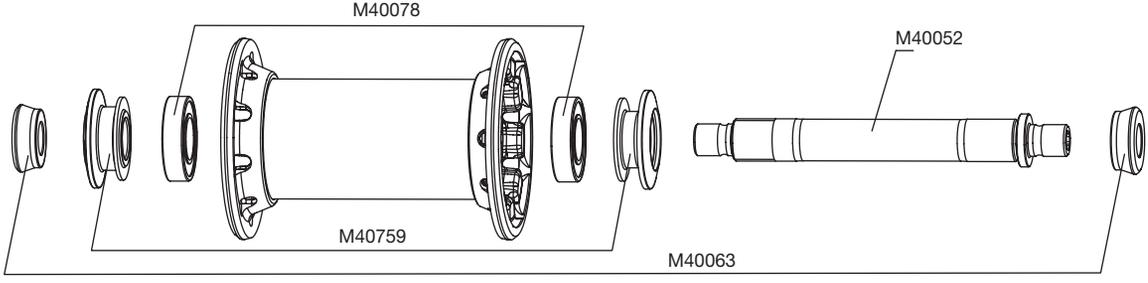
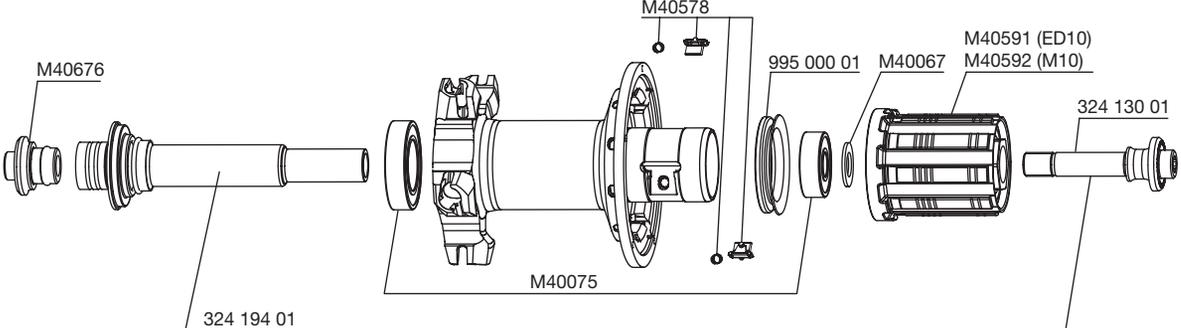
	Clincher	Tubular
Front:	645 g	630 g
Rear M10:	855 g	855 g
Rear ED10:	840 g	840 g

CLINCHER WHEEL REFERENCES:

Front:	324 001 10
Rear M10:	324 002 11
Rear ED10:	324 003 12
Pair M10:	324 023 14
Pair ED10:	324 024 14

TUBULAR WHEEL REFERENCES:

Front:	324 027 10
Rear M10:	324 024 11
Rear ED10:	324 025 12
Pair M10:	324 030 14
Pair ED10:	324 031 14

RIMS		SALES REFERENCES:	
		Clincher: Front: 324 171 10 Rear: 324 171 13	Tubular: Front: 324 304 10 Rear: 324 304 13
WIDTH	 <p>Front Back</p>	VALVE HOLE Ø  Ø: 6,5 mm Length.: ≥ 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions: Ø 700 only ETRTO 622 x 13 compatible Recommended tire width: 19 to 28  Recommended tire pressure: See page 14
When replacing the rear rim: 1. With the valve hole near you, the 2 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 inserted on the free wheel side			
HUBS		MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
			
			
WHEEL BUILDING	REFERENCES AND LENGTHS: Front: 324 178 01, length 284.5 mm (per 9, integrated nipples) Rear free wheel side: 324 179 01, length 275 mm (per 10, integrated nipples) Rear non drive side: 324 180 01, length 298.5 mm (per 10, integrated nipples)		
FEATURES: Black, profiled, Zicral, straight pull spokes with integrated M7 nipples (self-locking)	LACING PATTERN: Front: radial Rear: Isopulse		
		TENSION : Front: 100 to 130 kg Rear free wheel side: 130 to 160 kg	
ACCESSORIES	WHEEL DELIVERED 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 M7 spoke wrench M40494 (with rear wheel) Wrench for aerodynamic spokes M40567 (with rear wheel) Computer magnet M40540 (with front wheel) ED10 12D locking ring M40640 (with rear wheel ED10) Free play adjustment wrench M40123 Special Edition wheel bags • User guide and warranty card 		<ul style="list-style-type: none"> Replacing the rear rim See page 17	For all other maintenance procedures, refer to the 2002 technical manual (spoke lacing, Ksyrium SL section) and 2003 technical manual (hubs, Crossmax SL section), or consult the website www.tech-mavic.com

WHEELS

COSMIC CARBONE PRO

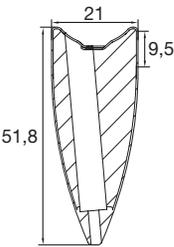
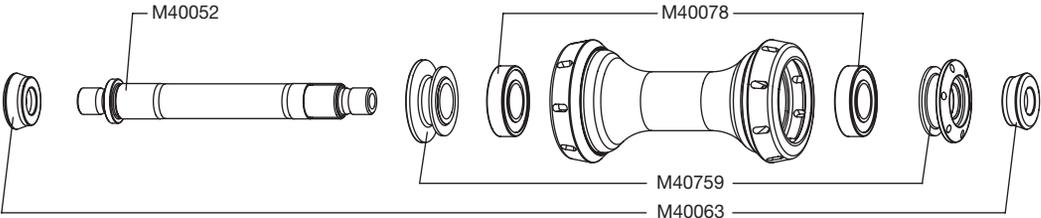
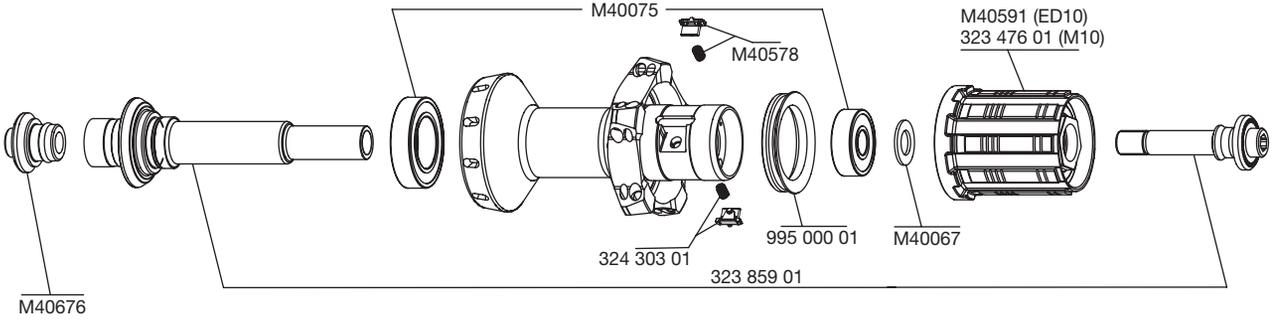
USE: use only on a road bike. Any other use (such as on a tandem, cyclo-cross bike, or off-road use...) is strongly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

Front: 675 g
Rear M10: 835 g
Rear ED10: 850 g

WHEEL REFERENCES:

Front: 323 684 10
Rear M10: 323 685 11
Rear ED10: 323 686 12
Pair M10: 323 757 14
Pair ED10: 323 758 14

RIMS	SALES REFERENCES: Front: 323 851 10 Rear: 323 851 13	
WIDTH	VALVE HOLE Ø  Ø: 6,5 mm Length: ≥ 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions: Ø 700 only ETRTO 622 compatible, for tubular tires only Recommended tubular width: 19 to 22
	When replacing the rear rim: 1. The "Made in France" label must be facing you, and the valve hole must be near you 2. The spoke in the first hole to the right of the valve hole should be inserted on the free wheel side	
Gluing the tubular tire: Clean the rim tape using a cloth soaked in isopropyl alcohol (if unavailable, use acetone) Never scratch the carbon fiber, and don't use a knife, screwdriver or emery cloth Let the first layer of glue dry for at least 24 hours before gluing the tubular tire		
HUBS	MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
		
		
WHEEL BUILDING	REFERENCES AND LENGTHS: Front: 323 900 01, length 271 mm (per 8 with nipples) Rear free wheel side: 323 901 01, length 289 mm (per 10 with nipples) Rear non drive side: 323 902 01, length 270 mm (per 10 with nipples)	
FEATURES: Black, ultra bladed, stainless steel, straight pull spokes with reversed nipples to be glued (see page 18)	LACING PATTERN: Front: radial Rear: crossed 2 free wheel side, radial non-drive side	TENSION : Front: 110 to 140 kg Rear free wheel side: 140 to 165 kg
ACCESSORIES	WHEEL DELIVERED 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 • Spoke wrench 323 908 01 (with rear wheel) • Wrench for aerodynamic spokes M40567 (with rear wheel) • Computer magnet M40540 (with front wheel) • ED10 12D locking ring M40640 (with rear wheel ED10) • Free play adjustment wrench M40123 • Wheel bags M40135 • User guide and warranty card 		<ul style="list-style-type: none"> • Replacing a spoke See page 18 • Replacing the front rim See page 18 • Replacing the rear rim See page 19 <p>For all hub related maintenance procedures, refer to the 2005 technical manual (Cosmic Carbone SL section), or consult the website www.tech-mavic.com</p>

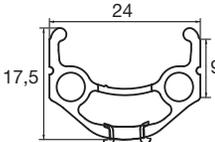
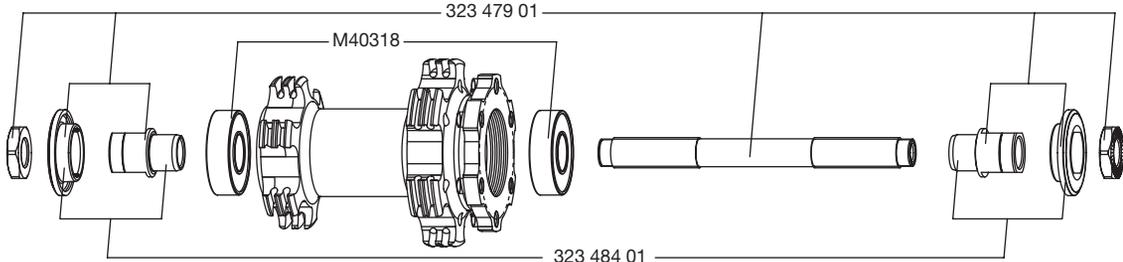
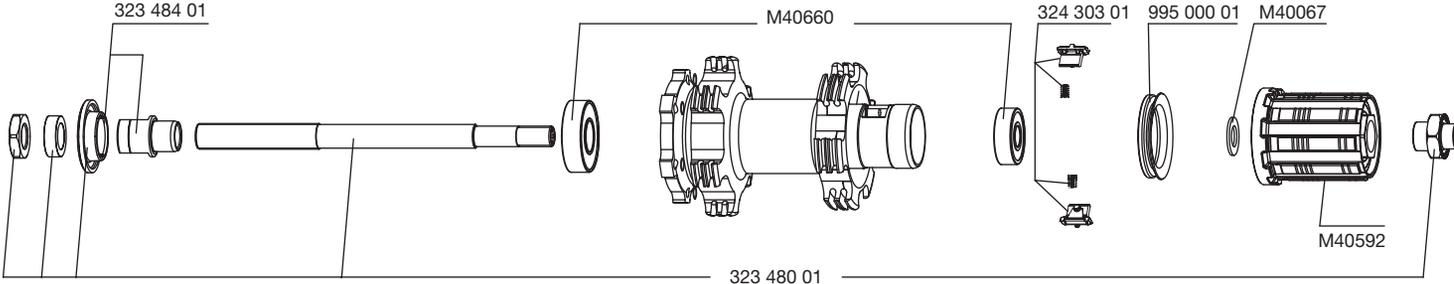
CROSSRIDE

USE: use only on a Cross Country or Cross Mountain MTB. Any other use (such as on a tandem, road bike, cyclo-cross bike...) is strongly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:
 Front: 910 g
 Rear: 1060 g

BLACK WHEEL REFERENCES:
 Front: 323 983 10
 Rear: 323 984 13
 Pair: 324 100 14

SILVER WHEEL REFERENCES:
 Front: 323 973 10
 Rear: 323 974 13
 Pair: 324 090 14

RIMS		SALES REFERENCES: Black (front and rear): 324 200 14 Silver (front and rear): 324 199 14	
WIDTH 	VALVE HOLE Ø  Ø: 8,5 mm Length.: ≥ 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions: Ø 26" only ETRTO 559 x 19 compatible Recommended tire width: 1.5 to 2.3  Recommended tire pressure: See page 14	
HUBS		MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
			
			
WHEEL BUILDING		REFERENCES AND LENGTHS: Black front and rear: 324 223 01, length 274 mm (per 10 with nipples) Silver front and rear: 324 222 01, length 274 mm (per 10 with nipples)	
FEATURES: Silver or black, profiled, stainless steel, straight pull spokes with ABS nipples (self-locking)		LACING PATTERN: Front: crossed 2 on both sides Rear: crossed 2 on both sides	
		TENSION : Front: 95 to 125 kg Rear free wheel side: 115 to 145 kg	
ACCESSORIES	WHEEL DELIVERED WITH:	MAINTENANCE	
<ul style="list-style-type: none"> Traditional aluminum front quick release skewer: M40350 Traditional aluminum rear quick release skewer: M40351 Rim tape 559x20x0.6 User guide and warranty card 		For all maintenance procedures, refer to the 2004 technical manual (Crossland section), or consult the website www.tech-mavic.com	

WHEELS

DEETRAKS

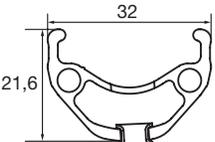
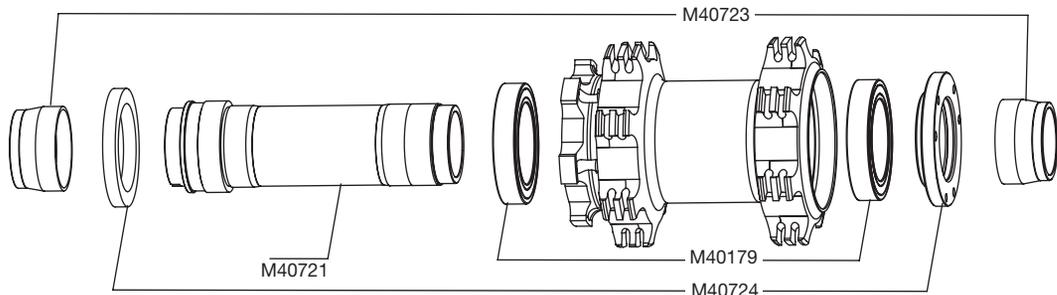
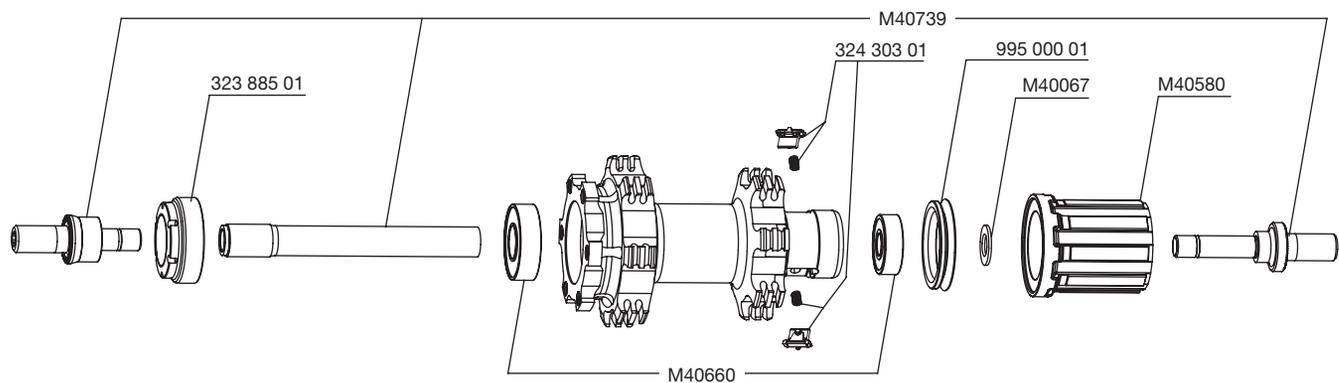
USE: use only on an MTB. Any other use (such as on a tandem, road bike, cyclo-cross bike...) is strongly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WHEEL WEIGHTS WITHOUT QUICK RELEASE SKEWER:

Front: 1210 g
Rear: 1425 g

WHEEL REFERENCES:

Front: 324 011 10
Rear M10: 324 012 13
Pair: 324 077 14

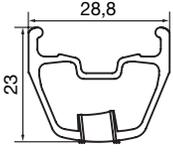
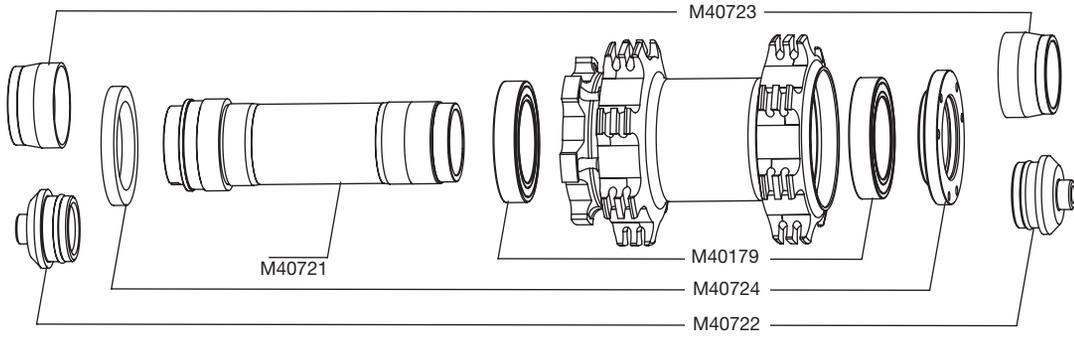
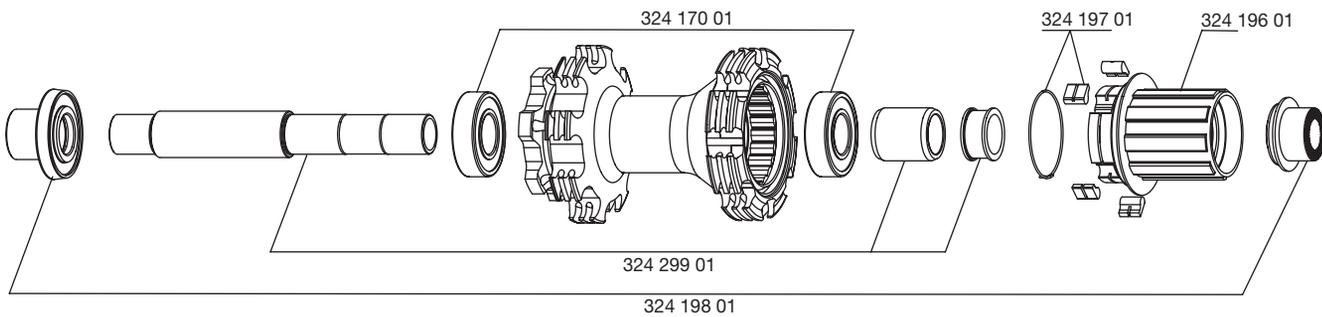
RIMS	SALES REFERENCES: Front and rear: 324 201 14	
WIDTH	VALVE HOLE Ø	RECOMMENDED TIRE WIDTH AND PRESSURE
	 <p>Ø: 8,5 mm Length.: ≥ 32 mm</p>	 <p>Dimensions: Ø 26" only ETRTO 559 x 25 compatible Recommended tire width: 2.0 to 3.0</p>  <p>Recommended tire pressure: See page 14</p>
HUBS	MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water	
		
		
WHEEL BUILDING	REFERENCES AND LENGTHS: Front and rear: 324 224 01, length 272 mm (per 16 with nipples)	
FEATURES: Black, round, stainless steel, straight pull spokes with ABS nipples (self-locking)	LACING PATTERN: Front and rear: crossed 3 on both sides	TENSION : Front: 100 to 145 kg Rear free wheel side: 115 to 155 kg
ACCESSORIES	WHEEL DELIVERED WITH:	MAINTENANCE
<ul style="list-style-type: none"> • 20 mm adapters M40723 (with front wheel) • Fixing nuts M40740 • Rim tape 559x24x0.6 (324 195 01 per 4) • User guide and warranty card 		<ul style="list-style-type: none"> • Replacing the front rim See page 20 • Replacing the rear rim See page 21 <p>For all hub related maintenance procedures, refer to the 2003 technical manual (Deemax UST section), or consult the website www.tech-mavic.com</p>

DEEMAX 12x150

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

WHEEL WEIGHTS WITHOUT FIXING NUTS AND REAR AXLE:
 Front: 1120 g
 Rear: 1490 g

WHEEL REFERENCES:
 Front: 323 691 10
 Rear: 324 114 13
 Pair: 324 127 14

RIMS	SALES REFERENCES: Front: 323 857 10 Rear: 324 202 14		
WIDTH	VALVE HOLE Ø  Ø: 6.5 mm UST valve + Schrader adapter: M40495 Length.: 32 mm	RECOMMENDED TIRE WIDTH AND PRESSURE  Dimensions: Ø 26" only ETRTO 559 x 23 compatible Recommended tire width: 2.0 to 3.0	
	When replacing the rear rim: 1. With the valve hole near you, the 2 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 inserted on the free wheel side Warning: when fitting or removing your rear wheel, the free wheel body is easily knocked out of position. Take care to ensure it remains in place		
HUBS	MAINTENANCE: clean with dry cloth or soap and water Do not use pressurized water		
			
			
WHEEL BUILDING	REFERENCES AND LENGTHS: Front: 323 894 01, length 278 mm (per 14, integrated nipples) Rear: 324 225 01, length 273 mm (per 16, integrated nipples)		
FEATURES: Black, round, stainless steel, straight pull spokes with integrated M7 nipples (self-locking)	LACING PATTERN: Front and rear: crossed 3 on both sides	TENSION : Front: 100 to 145 kg Rear free wheel side: 115 to 155 kg	
ACCESSORIES	WHEEL DELIVERED WITH: <ul style="list-style-type: none"> • 20 mm adapters M40723 (with front wheel) • 9 mm fork support nut M40722 (with front wheel) • Fixing nuts M40740 • User guide and warranty card 	MAINTENANCE	
		<ul style="list-style-type: none"> • Replacing the free wheel body and pawls See page 16 • Replacing the rear axle and bearings See page 16 For all other maintenance procedures, refer to the 2005 technical manual (spoke lacing) and 2003 technical manual (front hub), or consult the website www.tech-mavic.com	

WHEELS

INDEXATION COMPATIBILITY OF ROAD WHEELS

SINCE 2004, ALL THE MAVIC ROAD WHEELS ARE OFFERED WITH THE FTS-L FREE WHEEL BODY DESIGN, AND ARE CONSEQUENTLY M10 AND ED10 COMPATIBLE (YOU CHOOSE WHEN ORDERING THE WHEEL).

Refer to the following chart to know which wheel and which cassette to use according to your transmission:

Your transmission:		SHIMANO				CAMPAGNOLO					
Number of speeds:		8	9	10		8	9	10			
Mavic wheel to be used:		M10				ED10	M10	ED10	M10	ED10	M10
M9 positioning spacer M40417*:		With				Without					
Type of cassette to be used:		HG8	HG9	M10**	HG10	ED8	M10**	ED9	M10**	ED10	M10**
Spacer	Ref.:	Original	Original	M40409	Original	Campagnolo	M40182	Original	M40181	Original	M40573
	Color:			Gray			Alu		Yellow		Black

* The M9 positioning spacer is also supplied with the M10 wheels and the gray spacer kit M40409. It must be:

- Kept for mounting with a Shimano 8, 9 or 10 speed transmission.
- Removed for mounting with a Campagnolo 8, 9 or 10 speed transmission.

** To obtain information on the M10 cassette, refer to our website www.mavic.com, our retailer catalogue or to the user guide supplied with the cassette.

SPECIAL CASE FOR THE SPEEDCITY WHEEL

Since 2004, the Speedcity wheel is offered with M10 compatibility (in place of HG9 in 2003). It is, of course, supplied with the positioning spacer M40417. Consequently, it can be used with:

- the HG 8 or 9 speed cassettes, by keeping the M9 positioning spacer M40417;
- the M10 Mavic cassette with 8 (alu spacers), 9 (gray spacers) or 10 (yellow spacers) speeds, by removing the M9 positioning spacer M40417;

Using the FTS-L technology since 2005, it is also possible to mount an ED10 free wheel body on a Speedcity wheel and therefore an ED9 or ED10 cassette.

RECOMMENDED MAXIMUM TIRE PRESSURES FOR MAVIC WHEELS

ROAD, TRIATHLON and ASPHALT*			
Tire width in mm		Maximum pressure (bars)	Maximum pressure (PSI)
19		10,0	146
23		9,5	138
25		9,0	131
28		8,0	117
32		7,0	103

CROSS COUNTRY and CROSS MOUNTAIN*			
Tire width		Maximum pressure (bars)	Maximum pressure (PSI)
in "	in mm		
1,50	38	6,00	88
1,75	45	5,20	76
1,85	47	4,80	71
1,90	48	4,70	69
1,95	50	4,50	66
2,00	51	4,30	63
2,10	53	4,00	59
2,20	56	3,70	55
2,30	58	3,30	49

EXTREME MTB*			
Tire width		Maximum pressure (bars)	Maximum pressure (PSI)
in "	in mm		
2,10	53	3,70	55
2,20	56	3,50	52
2,30	58	3,30	49
2,40	61	3,20	47
2,50	63	3,00	44
2,60	66	2,80	41
2,70	69	2,70	39
2,80	71	2,50	36
2,90	74	2,40	34
3,00	76	2,20	32

* See riding segmentation chart on page 4.

WHEEL MAINTENANCE

REMINDER OF THE WARRANTY

Before any repair of a Mavic wheel (or any other Mavic product), please note that it has a warranty against manufacturing or material defects for a period of 2 years from the date of original purchase by the original buyer (see Mavic warranty on page 39).

This means that:

- During the warranty period, and when it definitely applies to the warranty (first contact your MSC), you must return the Mavic wheel (or any other Mavic product) directly to your MSC following the procedure explained on page 38 to get the Mavic warranty.
- However, if you decide to repair the wheel by yourself (or any other Mavic product), your customer will lose the Mavic warranty.
- After the warranty period and in case of repair, we advise you to refer to the following pages to intervene on the Mavic wheel. If replacing the rim, please note the new serial number of the rim on the original warranty card and the date of intervention.

Only this procedure will allow your customer to get the Mavic warranty on the replaced rim.

REPAIRS

The following pages will help you to maintain the wheels in the 2006 range and are organized as follows:

1. HUBS

1.1. Deemax 12x150 free wheel body and pawl assemblies	Page 16
1.2. Deemax 12x150 rear axle and bearings	Page 16

2. LACING

Pages 17 to 21

2.1. Aksium wheel: replacing a front rim or spokes	Page 17
2.2. Ksyrium ES wheel: replacing a rear rim	Page 17
2.3. Cosmic Carbone Pro wheels	Pages 18 to 19
2.3.1. Replacing a spoke	Page 18
2.3.2. Replacing a front rim	Page 18
2.3.3. Replacing a rear rim	Page 19
2.4. Deetraks wheels	Pages 20 to 21
2.4.1. Replacing a front rim	Page 20
2.4.2. Replacing a rear rim	Page 21

All maintenance operations not detailed in the following pages can be found in the 2002, 2003 and 2004 technical manuals.
Refer to the product sheets (pages 5 to 13 of this manual) for more details.

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)

1. HUBS

1.1. DEEMAX 12x150 FREE WHEEL BODY AND PAWL ASSEMBLIES; DEEMAX 12x150 REAR AXLE

Tools needed

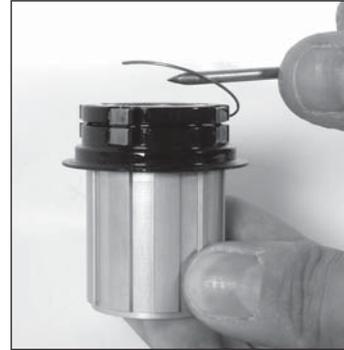
- 1 small flat screwdriver



Unclip the fork support nut on the free wheel side.



Pull the free wheel body into the hub axle.



Insert a small screwdriver under the pawl assembly at the right of the spring insertion hole and pull the spring to remove it from its housing.



Clean the free wheel body, grease the pawl assemblies and replace them in their housing. Insert the elbowed part of the spring into the insertion hole along the groove.



Delicately pull the right hand side of the spring and wind it around the pawl assemblies, ensuring it is correctly positioned at the bottom of the groove.



Re-insert the free wheel body into the hub body by pivoting it anti-clockwise.



Re-clip the fork support nut.

1.2. DEEMAX 12x150 REAR AXLE AND BEARINGS

Tools needed

- A mallet
- Bearing assembly tube 324 300 01

These operations can only be carried out with the free wheel body removed.



Remove the plain bearing and the spacer by sliding them along the axle.



Unclip the fork support nut on the non drive side and then hit the axle on the free wheel side with a mallet to remove the bearing from the non drive side. Repeat the operation for the free wheel side bearing.



Refit the free wheel side bearing first using the assembly tube 324 300 01. Ensure the bearing is correctly seated in the hub body.



Insert the axle from the non drive side and then refit the non drive side bearing using the assembly tube 324 300 01.

Refit the plain bearing and the spacer on the axle.

Finish the operation by refitting the free wheel body and the fork support nuts as described in 1.1.

2. WHEEL BUILDING

2.1. AKSIUM WHEEL: REPLACING A FRONT RIM OR SPOKE

Tools needed

- 1 traditional spoke wrench
- 1 spoke wrench for aerodynamic spokes M40567
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

The reference and length of spokes to be used are given in the product pages (page 5).



Prepare the spokes by screwing a nipple onto each spoke until it locks, then thread the spokes, elbow first, into each rim hole from the outside.



Pass the elbowed part of each spoke through the slot in the hub flange.



Re-tighten the spokes to the correct wheel tension ensuring that the head of each spoke is correctly positioned.



2.2. KSYRIUM ES WHEELS: REPLACING THE REAR RIM

Tools needed

- 1 spoke wrench M40652
- 1 spoke wrench for aerodynamic spokes M40567
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

On the non drive side, the **traction** spokes locate into the notches of the most **inside** slots of the hub. The red spoke should be put at the free wheel side, in the 3rd hole to the right of the valve hole.

Start with the free wheel side.



Insert a 275 mm spoke (324 179 01) into a hole in the hub on the free wheel side from the inside of the flange. **You must select a hole marked by a raised bump.**



Tighten the nipple of this spoke 2 turns into the **1st hole to the right of the valve hole** (hole near to the raised bumps). Repeat these 2 operations for all the spokes on the free wheel side (1 hole in 2 in the rim).



Tighten the nipple of the 298.5 mm spokes (324 180 01) 2 turns into the remaining holes of the rim. As the holes in the rim are orientated, the fitted spokes are naturally positioned in the right direction.



Now insert the spoke heads into the slots in the hub.

Tighten each nipple uniformly in the rim (1/2 turn of the spoke wrench for each spoke and per wheel rotation) to tension the wheel. Set the final tension and center the wheel (130 to 160 kg for spokes on the free wheel side).

2.3. COSMIC CARBONE PRO WHEELS

2.3.1. REPLACING A SPOKE

Tools needed

- 1 spoke wrench 323 908 01
- 1 spoke wrench for aerodynamic spokes M40567
- Thread lock M40315
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

To replace a front spoke or a non drive side spoke, the wheel axle has to be removed. For details on how to do this, refer to the 2005 technical manual page 20 and the 2003 technical manual page 19, or consult the website www.tech-mavic.com

The tubular tire must also be removed.

The nipples are inserted into the rim backwards: the round and wide side first.



Insert the spoke wrench 323 908 01 in the rim hole to unscrew the spoke nipple.



Replace the new spoke into the hub and insert its threaded part into the rim hole.



Position a nipple on the spoke wrench and stick it using thread lock M40315.



Insert the nipple and wrench into the rim hole and screw the nipple onto the spoke to re-tension and re-center the wheel.

2.3.2. REPLACING THE FRONT RIM

Tools needed

- 1 spoke wrench 323 908 01
- 1 spoke wrench for aerodynamic spokes M40567
- Thread lock M40315
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

The wheel axle must be removed to replace the front rim. For details on how to do this, refer to the 2005 technical manual page 20, or consult the website www.tech-mavic.com

Front wheel spokes must be fitted **radially**: they must not cross between the hub and the rim.

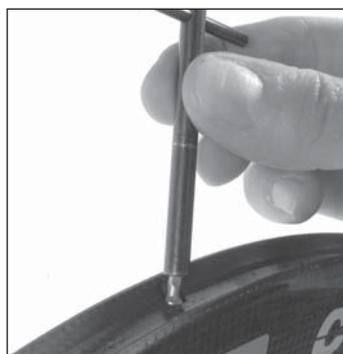
The nipples are inserted into the rim backwards: the round and wide side first.



Place a 271 mm spoke (323 900 01) into a hole in the hub and insert its threaded part into a rim hole.



Position a nipple on the spoke wrench and stick it using thread lock M40315.



Insert the nipple and wrench into the rim hole and screw the nipple 2 turns onto the spoke.

Do the same for all the spokes on the same side of the hub (1 hole in 2 on the rim) and then for the other side of the hub, in the remaining holes in the rim. Tighten each nipple uniformly in the rim (1/2 turn of the spoke wrench for each spoke and per wheel rotation) to tension the wheel. Set the final tension and center the wheel (110 to 140 kg).

2.3.3. REPLACING THE REAR RIM

Tools needed

- 1 spoke wrench 323 908 01
- 1 spoke wrench for aerodynamic spokes M40567
- Thread lock M40315
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

The wheel axle must be removed to replace the rear rim. For details on how to do this, refer to the 2003 technical manual page 19, or consult the website www.tech-mavic.com

Rear wheel spokes must be fitted:

- **radially on the non drive side:** they must not cross between the hub and the rim
- **crossed 2 on the free wheel side,** with the **traction** spokes located in the **outside holes of the slots** on the free wheel side.

Note: the rim holes are orientated laterally and axially. As a consequence, **the rim build order MUST be respected: with the «Made in France» label facing you, the spoke in the first hole to the right of the valve hole should be inserted on the free wheel side.**

The nipples are inserted into the rim backwards: the round and wide side first.

Start with the free wheel side:



Insert a 289 mm spoke (323 901 01) into an inside hole in the hub on the free wheel side, from the widest side of the hole.



Insert its threaded part into the 1st hole to the right of the valve hole, with the «Made in France» label near you and facing you.



Position a nipple on the spoke wrench and stick it using thread lock M40315. Insert the nipple and wrench into the rim hole and screw the nipple 2 turns onto the previously inserted spoke.

Repeat these 3 operations:

- for all spokes in the **inside** holes on the free wheel side (1 hole in 4 on the rim). **These are non-traction spokes.**
- for all spokes in the **outside** holes on the free wheel side, starting with the 3rd hole to the right of the valve hole. **These are traction spokes.**

Turn the wheel round, and then:



Place a 270 mm spoke (323 902 01) into a hub hole on the non drive side.



Insert its threaded part into the corresponding rim hole: the spokes go directly from the rim to the hub, without crossing each other.



Position a nipple on the spoke wrench and stick it using thread lock M40315. Insert the nipple and wrench into the rim hole and screw the nipple 2 turns onto the previously inserted spoke.

Repeat these 3 operations for all spokes on the non drive side.

Then tighten each nipple uniformly in the rim (1 turn of the spoke wrench for each spoke and per wheel rotation) to tension the wheel.

Set the final tension and center the wheel (140 to 165 kg).

2.4. DEETRAKS WHEELS

2.4.1. REPLACING THE FRONT RIM

Tools needed

- 1 spoke wrench
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

Front wheel spokes must be fitted crossed 3 on both sides.

Place the **braking** spokes in the slot's **external** slits, on both sides.

Start by preparing the spokes: screw the nipples onto the spokes until they lock.

Start on the disc side:



Insert a spoke complete with its nipple into the first hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an inside slit of a slot on the disc side. This spoke must pass to the right of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots and rim in an anti-clockwise direction. **These are non-braking spokes.**



Insert a new spoke complete with its nipple into the 3rd hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an outside slit of a slot on the disc side. This spoke must pass to the left of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots and rim in an anti-clockwise direction. **These are non-braking spokes.**

Turn the wheel round, and then:



Insert a new spoke complete with its nipple into the 3rd hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an outside slit of a slot on the disc side. This spoke must pass to the left of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots and rim in an anti-clockwise direction. **These are non-braking spokes.**



Insert a new spoke complete with its nipple into the 1st hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an outside slit of a slot on the non disc side. This spoke must pass to the right of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots and rim in an anti-clockwise direction. **These are braking spokes.**

Then tighten each nipple uniformly in the rim (1 turn of the spoke wrench for each spoke and per wheel rotation) to tension the wheel.

Set the final tension and center the wheel (100 to 145 kg).

2.4.2. REPLACING THE REAR RIM

Tools needed

- 1 spoke wrench
- 1 tensiometer + tension-reading conversion chart adapted to the tensiometer used

Rear wheel spokes must be fitted crossed 3 on both sides:

- **free wheel side**, the **traction spokes** are to be placed in the **slots' external holes**;
- **non drive side**, the **traction spokes** are to be placed in the **slots' internal holes**;

Start by preparing the spokes: screw the nipples onto the spokes until they lock.

Start with the free wheel side:



Insert a spoke complete with its nipple into the first hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an inside slit of a slot on the free wheel side. This spoke must pass to the right of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots in an anti-clockwise direction.

These are non-traction spokes.



Insert a new spoke complete with its nipple into the 3rd hole to the right of the valve hole (with the valve hole near you).



Fix the head of this spoke into an outside slit of a slot on the free wheel side. This spoke must pass to the left of the wheel axle.

Repeat these 2 operations for all the spokes in this layer (1 rim hole in 4) by fitting the spokes into the slots and rim in an anti-clockwise direction.

These are traction spokes.

Turn the wheel round and repeat all the operations described above in an identical manner for the non drive side:

- the spokes of the 1st layer fitted must be traction spokes (inside slits of the slots);
- the spokes of the 2nd layer fitted must be braking spokes (outside slits of the slots).

Then tighten each nipple uniformly in the rim (1 turn of the spoke wrench for each spoke and per wheel rotation) to tension the wheel.

Set the final tension and center the wheel (115 to 155 kg).

MAVIC® RIMS

SEGMENTATION OF THE RIM RANGE						
ROAD & TRIATHLON			ASPHALT	MTB		
CLINCHER		TUBULAR		CROSS COUNTRY RACING	CROSS MOUNTAIN	EXTREME MTB
CLASSIC	PROFILED	CLASSIC				
OPEN PRO	CXP33	REFLEX	A 719 NEW	XC 717 DISC XC 717	XM 819 DISC (UST) XM 819 (UST) XM 719	EX 823 DISC (UST) EX 729 DISC EX 721
	CXP23*		A 319 NEW A 317 DISC* NEW		XM 517* XM 321 DISC XM 317 DISC* XM 317	EX 325 DISC
OPEN SPORT NEW	CXP22		A 119* NEW		XM 117 DISC* XM 117*	

* O.E.M. specific rims

GENERAL POINTS

All the Mavic rims are based on these 4 principles:

- Aluminum alloy profile (6000 series) specified by Mavic;
- Double wall profile for greater strength and rigidity;
- Anodization for its corrosion resistance and aesthetic qualities while facilitating maintenance;
- The eyelet for better distribution of the pressure exerted by the spoke and increased strength and durability of the Mavic rim. The profiled eyelet (Mavic patent) combines the benefits of both the profiled rim and eyelet.

WHAT'S NEW FOR 2006

REMINDER OF THE NEW NAME FOR MAVIC MTB AND ASPHALT RIMS

Mavic has identified 3 different types of MTB riding: Cross Country Racing, Cross Mountain and Extreme MTB. To clarify our MTB rim offer, we have decided to change their names.

Since the trekking segment was baptized Asphalt, it seemed appropriate to have the name of our Asphalt rims evolve accordingly.

Therefore:

- the rims dedicated to Cross Country Racing have the prefix XC;
- those dedicated to Cross Mountain riding have the prefix XM;
- those dedicated to Extreme MTB have the prefix EX;
- those dedicated to Asphalt have the prefix A;
- the 1st digit indicates the level of the rim range. **If this digit is even, the rim is UST Tubeless compatible;**
- the last 2 digits indicate its interior width (size in accordance with ETRTO standards);
- the suffix Disc differentiates the rims that are compatible only with disc brakes from those that are not.

Example: EX 325 Disc

An intermediate (3) MTB Extreme (EX) rim, 25 mm wide (ETRTO: 559 x 25).

MTB AND ASPHALT RIM VALVE ADAPTER

All the valves holes in the MTB, Cross Country Racing, Cross Mountain (except the UST Tubeless) and now the Asphalt rims are drilled with an 8.5 mm diameter hole (Schrader valve). These rims are systematically fitted with a specific valve adapter which reduces the valve hole to a diameter of 6.5 mm, for use with a rim with an inner tube with a Presta type of valve.

The special feature of this new valve adapter is that it automatically ejects when fitting a Schrader valve inner tube (Ø 8,5 mm) on to the rim.

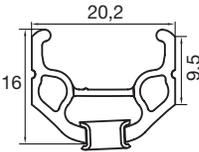
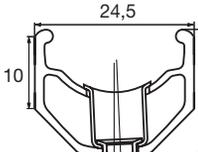
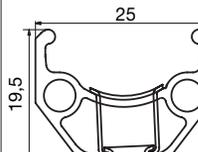
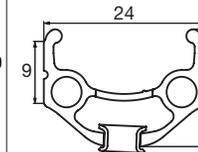
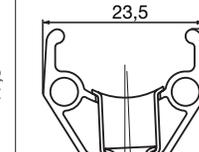
WHAT'S NEW IN THE 2006 RANGE

A new rim profile makes its entry into the 2006 rim range:

- **Open Sport**: a classic entry level road rim, strong and lightweight.

And as for the **Asphalt rims (A 719, A 317 Disc, A 319 and A 119)**, they now have a 8.5 mm valve hole and therefore a valve adapter to enable them to be fitted with an inner tube with a Presta valve (see above).

TECHNICAL FEATURES OF THE NEW 2006 RIMS

	ROAD	ASPHALT			
		Cantilever / V-Brake			Disc
	OPEN SPORT	A 719	A 319	A 119	A 317 Disc
Rim width					
Technologies					
Material	6106	6106	6106	6106	6106
Valve hole diameter (in mm)	6,5	8.5 delivered with valve adapter	8.5 delivered with valve adapter	8.5 delivered with valve adapter	8.5 delivered with valve adapter
ETRTO compatibility	622 x 15	622 x 19	622 x 19	622 x 19	622 x 17
Recommended tire width (in mm)	19 to 32	28 to 47	28 to 47	28 to 47	28 to 47
Eyelets	Single	Double	Double	Single	Double
Average weight (in grams)	490	567	597	540	538
Finish and drilling	Black	32, 36	32, 36, 40	32, 36	-
	Silver	32, 36	36	32, 36	32, 36
Recommended spoke nipple length (in mm)	12	12	12	12	12
Spoke support diameter (in mm)	606	600	600	604	600
Recommended rim tape (ETRTO x length x thickness)	622 x 18 x 0,6	622 x 20 x 0,6	622 x 20 x 0,6	622 x 20 x 0,6	622 x 20 x 0,6
Wear indicator	External	Internal	Internal	External	-

The Mavic rims not mentioned in the above chart have not changed. Their technical features can therefore be found in previous years' technical manuals or on the technical manual website: www.tech-mavic.com

THE WEAR INDICATOR

Mavic has chosen to provide certain of its rim profiles that have a braking surface with a wear indicator.

2 types of wear indicator are used on our rims:

INTERNAL:

Process: The inside of the braking surface of the rim is machined on both of the wings of the rim.

Principle:

When there is too much wear on the rim, a little hole appears on each of the 2 braking surfaces of the rim. Depending on the adjustment of the brake pads, it is possible for the wear indicator to appear on only one of the 2 braking surfaces. In any case, **the appearance of the wear indicator on at least one of the 2 braking surfaces means that the sidewalls are too thin, and it could be dangerous to continue to use the rim. It should be replaced as soon as possible.**

The position of the wear indicator is marked by 2 yellow arrows on the stickers on the rim, opposite the valve hole.

Refer to the chart on the previous page to find out which rims offer this internal wear indicator.

INTEGRATED IN THE PROFILE:

Process: the wear indicator is an integral part of the rim. There is a groove on the entire circumference of the rim, at the center of the braking surface.

Principle : The groove becomes more shallow as the braking wears down the surface of the rim. **Its disappearance, on one side of the rim or the other, means that the thickness of the braking surface is too thin and it could be dangerous to continue to use the rim. It should be replaced as soon as possible.**

Refer to the chart on the previous page to find out which rims offer this integrated wear indicator.

The Ceramic[®] coating, by preventing the braking surfaces to become hollow, can be used as a wear indicator.

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, tire pressure, weather conditions, etc.

Each rim has been designed for a specific use and discipline (road, cross-country, 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 cross-country rims on wheels that will be mounted on free-ride, downhill or dual bikes;
- You must follow the instructions in this technical manual for tire pressure and sizes (see charts on page 26);
- 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 on a regular basis with 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, check using a depth gauge that the maximum wear on each side is not more than 0.4 mm;
- Check or have your rims checked on a regular basis, 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 tire 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...

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

RECOMMENDATION FOR MAXIMUM TIRE PRESSURE

CROSS COUNTRY AND CROSS MOUNTAIN*			
Tire width		Maximum pressure (bars)	Maximum pressure (PSI)
in "	in mm		
1,00	25	7,70	113
1,20	30	7,00	103
1,50	38	6,00	88
1,75	45	5,20	76
1,85	47	4,80	71
1,90	48	4,70	69
1,95	50	4,50	66
2,00	51	4,30	63
2,10	53	4,00	59
2,20	56	3,70	55
2,30	58	3,30	49

EXTREME MTB*			
Tire width		Maximum pressure (bars)	Maximum pressure (PSI)
in "	in mm		
2,10	53	3,70	55
2,20	56	3,50	52
2,30	58	3,30	49
2,40	61	3,20	47
2,50	63	3,00	44
2,60	66	2,80	41
2,70	69	2,70	39
2,80	71	2,50	36
2,90	74	2,40	34
3,00	76	2,20	32

ROAD & TRIATHLON*		
Tire width in mm	Maximum pressure (bars)	Maximum pressure (PSI)
19	10,00	146
23	9,50	138
25	9,00	131
28	8,00	117
32	7,00	103

ASPHALT*		
Tire width in mm	Maximum pressure (bars)	Maximum pressure (PSI)
28	7,00	103
30	7,00	103
32	7,00	103
35	6,00	88
37	6,00	88
40	5,60	82
44	5,20	76
47	4,80	71
50	4,50	66

*See riding segmentation chart on page 22.

DURABILITY

A rim has 2 main functions: support the tire and serve as a brake disc.

In the course of this second function as a braking surface, rims may be subject to wear, especially from intensive or prolonged use. Rims may experience wear for reasons as diverse as the build-up of gravel or mud in the brake pads or the use of worn or poorly adjusted brake pads. These can wear down or damage the rim sidewalls, and may not be noticed by the user.

It is consequently common practise for the user to replace the rims as he would the brake pads. You must make your customers aware of this.

To reduce wear, we have developed a Ceramic coating on our top-of-the-line rims.

If the rim is heavily out of true following a violent shock, the rim should be replaced as soon as possible in order to avoid overloading or possibly broken spokes.

MAINTENANCE

Rims and brake pads must be cleaned with soap and water on a regular basis. Abrasive substances (sand...) may have been deposited during use and could scratch or cause unnecessary damage to the sidewalls of rims.

If cleaning is not sufficient on the braking surfaces, use a Mavic soft stone (M40410), except on rims designed specifically for disc brakes. Only use the Mavic soft stone, a sponge or a cloth.

If there is still grease on the rim, it can be removed with any type of solvent without risking damage to the rim (except for the Deemax rim). However, do not use any solvents in the area of the sticker or tire, as there is risk of damage to these areas.

SPECIAL CONDITIONS FOR USING A UST™ TUBELESS RIM

MAKING SURE THE TUBELESS SYSTEM (UST TUBELESS RIM WITH A UST TUBELESS TIRE) IS AIRTIGHT

We advise you to make sure that your UST Tubeless system (UST Tubeless rim or wheel combined with a UST Tubeless tire) is airtight in the following cases:

- After building the UST Tubeless rim;
- After fitting the UST Tubeless tire.

If you are not sure the tubeless system is airtight, proceed in the following manner:

- Check the outside condition of the tire (cuts, any type of damage...).
- Make sure the tire is locked in place: inflate to 110% of the maximum pressure indicated on the tire and then completely deflate: the tire must stay locked in the rim.
- Make sure the inside of the tire and rim are clean (clean with a cloth if necessary).
- Check the condition of the heel of the tire and the wings on the rim.
- Wet the tire and rim abundantly with soap and water, and then fit the tire.
- Since the UST Tubeless unit is under 3 bars of pressure, immerse the base of the wheel mounted with its tire in a container or spray a leak detector on the rim/tire interface to find a possible leak. If there is a leak:
 - Between the rim and the tire: replace or repair the UST Tubeless tire with a repair patch, after having removed any grease from the tire with trichlorethylene or acetone.
 - Around the UST valve: Remove the valve, grease the rubber part that is in contact with the rim, and then refit it. If there is no improvement, replace the valve.
 - Around the hollow screws, spoke nipples or Zicral spoke nipples: replace the rim.
Warning: The air contained between the 2 bridges of the rim will naturally have a tendency to escape because of the pressure of the water and could be the origin of air bubbles. Therefore, check this phenomena before replacing the rim.
- Fit another tire that you know is perfectly airtight.
- If there is a leak around the valve: Remove the valve, grease the rubber part that is in contact with the rim, and then refit it.

If the tubeless system still isn't airtight after following all these procedures, contact Mavic customer service or your MSC.

USING A UST TUBELESS RIM WITH A CLASSIC TIRE AND A TUBE

The ETRTO standard now integrates the tubeless concept. As a result, by respecting certain conditions of use, a UST rim can officially, and without risk, be combined with a classic tire and tube.

The 3 main conditions for using a UST tubeless rim with a classic tire and tube are:

- Only use ETRTO compatible tires;
- Only use tubes with a Presta type of valve (Ø 6.5);
- Use a UST Tubeless WITHOUT rim tape (except for the rim on the Crossland wheel).

Once the UST Tubeless valve has been removed, you can only insert a Presta type of tube (small valve, Ø 6.5 mm) into the valve hole of the UST Tubeless rim.

Warning: Never try to make the valve hole bigger or drill it. If you do so, you could permanently damage the rim and would not be able to use the UST valve, which is necessary to keep the rim airtight.

When fitting a classic tire on a UST Tubeless rim, follow the same procedure as when using a UST Tubeless tire. That is:

1. Abundantly moisten the rim tape and tire beads with soap and water;
2. Insert the first tire groove into the bottom of the rim groove;
3. Place the Presta tube in the classic manner;
4. Then fit the second bead by starting on the opposite side of the valve and finishing at the valve;
5. Center the heels of the tire on both sides of the valve;
6. Rotate the tire to make sure the beads are properly placed at the bottom of the rim groove;
7. Inflate the tire energetically until the tire beads lock into place. The locking action can generate a series of short sounds due to the tire rising to its final position. **Inflate up to 5 bars to be sure the tire is firmly in place. Being locked in place does not make the tire/rim system completely airtight, but it does guarantee that the tire is properly held in place. In this way, the tire will be properly placed in the rim groove and you can ride without risk of it rolling off the rim.**
8. Adjust the tire pressure to your type of riding and preference. Warning: When using a UST rim with a classic tire and tube, the adjustment of the pressure is not «without risk», just like on an «all UST» assembly (tire + rim).

SYSTEMS

ELECTRONIC		MECHANIC			MISCELLANEOUS	
COMPUTERS	ELECTRONIC ACCESSORIES	BRAKES	TRANSMISSION	WHEEL ACCESSORIES	SPARE PART KITS	ACCESSORIES
WIN-TECH ES	PEDALING CADENCE KIT SENSOR KIT HOME TRAINER 2ND BIKE KIT HANDLEBAR SUPPORT KIT	SSC BRAKES	M10 CASSETTE KIT N°1 M10 CASSETTE KIT N°2 M10 CASSETTE KIT N°3 M10 CASSETTE KIT N°4	QUICK RELEASE SKEWER BR 601 QUICK RELEASE SKEWER BX 601	REPLACEMENT KIT ROAD SPOKE KIT MTB SPOKE KIT	ROAD WHEEL BAG MTB WHEEL BAG SOFT STONE UNIVERSAL MAGNET
WIN-TECH FS				SAINT® DERAILLEUR AXLE KIT QUICK RELEASE AXLE KIT TRACK COG LOCK RING		
M-TECH.9  M-TECH.7  M-TECH.5 	M-TECH. MOUNTING KIT 					

GENERAL POINTS

Dear dealers, we would like to remind you that it is your responsibility to give the customer all component instructions and have them fill out the warranty card.

We also advise the users of Mavic components to follow the instructions below:

- Follow the conditions of use described at the top of each Mavic component product page (pages 29 to 35). Any other use outside of these conditions is inadvisable, the sole responsibility of the user and voids the Mavic warranty.
- Although water resistant, it is strongly inadvisable to use pressurized water on electronic and mechanical components.
- It is also inadvisable to use solvents and petroleum products to clean the various components. It is preferable to use warm water, or soap and water, and to dry with a cloth.
- Do not leave the liquid crystal WIN-Tech screens exposed to the sun (e.g. behind the windshield of your vehicle).



- Each of WIN-Tech's electronic components has its own digital code. The synchronisation operation allows components of the same system to function with the same digital code and therefore be impenetrable to outside signals. This means that each component of a system cannot be used with the components of another system fitted to another bike (WIN technology).

This synchronization operation is vital for the correct operation of the system. It must be carried out before using the system for the first time and each time one of the batteries is replaced.

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

- Biking is a sport which may require intense physical activity and as such poses a risk dependent on the route and the environment. For your own safety, keep an eye on the road and the traffic. Wear a helmet.

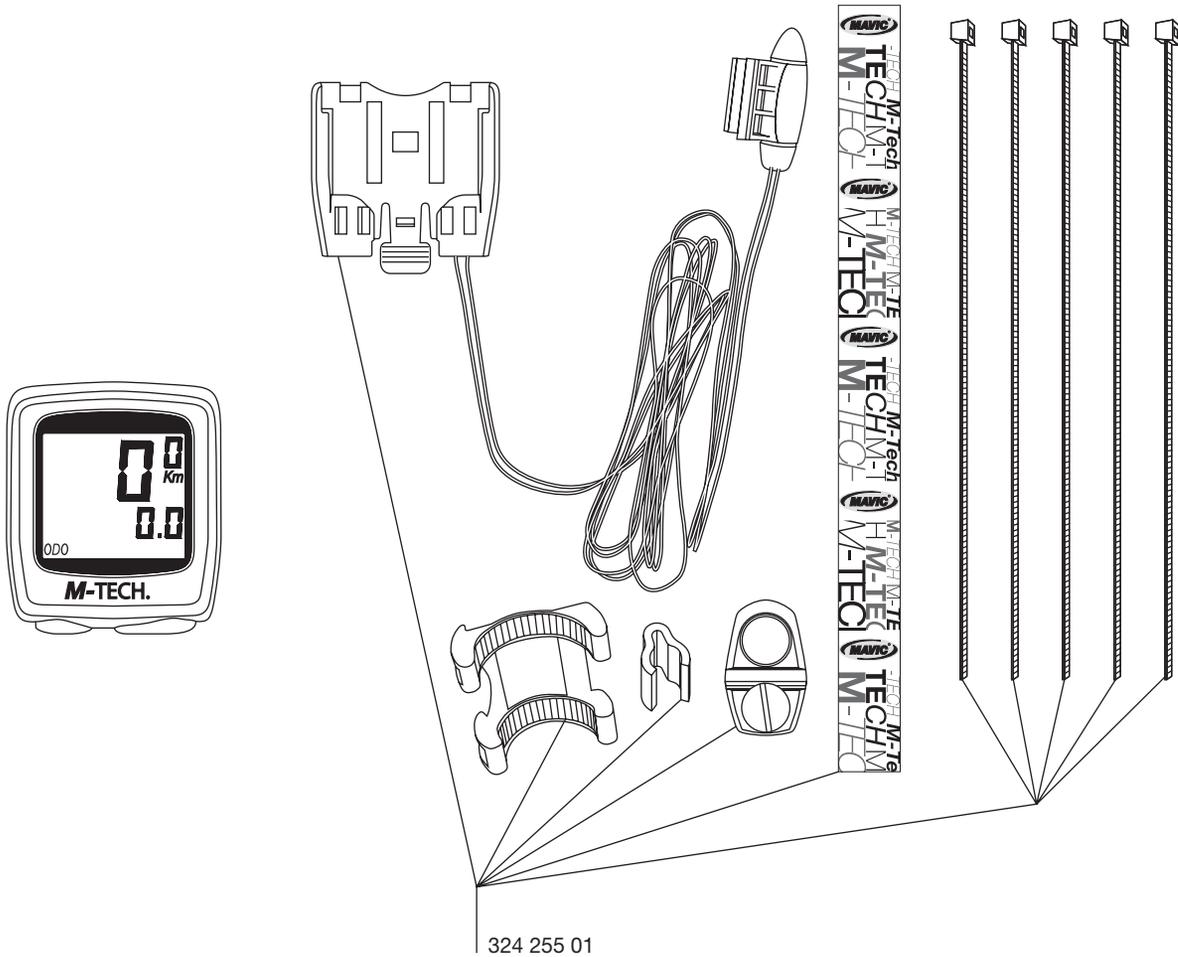
M-Tech.

USE: Use only on a Cross Country or Cross Mountain MTB, a road bike, a tandem or an Asphalt type of bike. Any other use (such as on an Extreme MTB, cyclo-Cross bike...) is strongly inadvisable, is the sole responsibility of the user and voids the Mavic warranty.

WEIGHT:
 Computer: 26 g
 Computer bracket + wire + fork sensor: 18 g

REFERENCES:
 M-Tech.9: 323 989 01
 M-Tech.7: 324 004 01
 M-Tech.5: 324 006 01

SPARE PARTS



MAINTENANCE: clean with dry cloth or soap and water
 Do not use pressurized water
 Do not store near a window exposed to the sun for a long period of time

FUNCTIONING FEATURES

Power supply: battery CR2032 (computer)
Circumference: 1000 mm to 3999 mm
Unit: kilometers or miles
Time format: 12 or 24 hours (M-Tech.9 only)
Water resistance: Resistant to rainwater. Avoid total immersion of the electronic components and do not use pressurized water

Wire length: 88 cm (+/- 0,5 cm)
Cumulative odometer: up to 99,999 km or miles
Trip distance: up to 999.9 km or miles
Stopwatch: up to 9:59:59
Speed: up to 99.9 km/h or 70 miles/h

INSTALLATION, USE AND PROGRAMMING

• **Fitting the computer bracket** See pages 34 to 35

• **Programming** See pages 30 to 32
 • **Use** See pages 32 to 33
 • **Installation** See pages 34 to 35

PROGRAMMING

GENERAL OPERATION

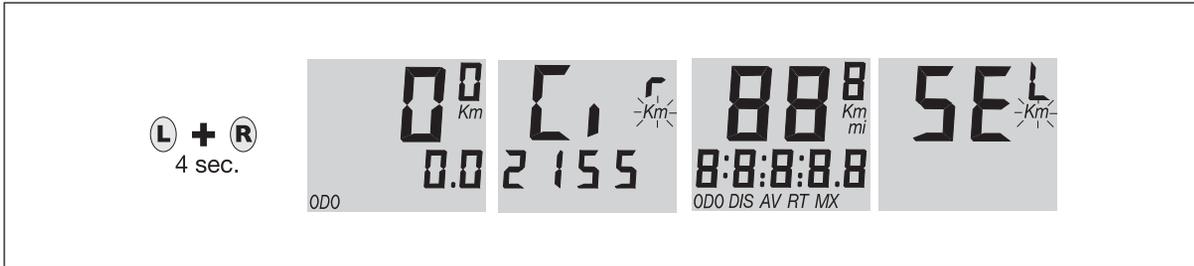
L (left) button: validate, delete, reset.

R (right) button: start, stop, scroll values or functions.

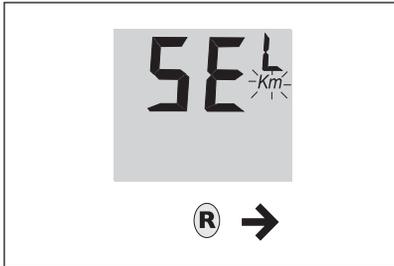
INITIALIZING THE COMPUTER

Press both buttons simultaneously for 4 seconds, until all the segments of the LCD screen are displayed (the phases shown below are successively displayed).

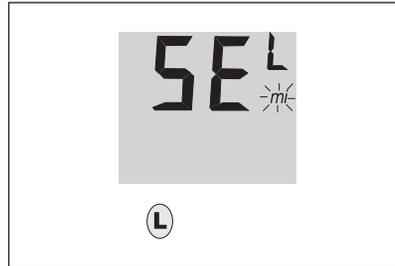
Release the buttons, the "SEL Km" screen appears. The computer is ready for the next step.



SELECTING THE DISTANCE AND SPEED UNITS



In the previous screen, press the R button to select Miles or Kilometers.



Press the L button to validate. The "Cir" screen appears. Go to the next step.

If the "SEL Km" screen is not displayed correctly, open and close the battery cover, making sure the battery is correctly positioned (see page 35).

MEASURING THE WHEEL CIRCUMFERENCE

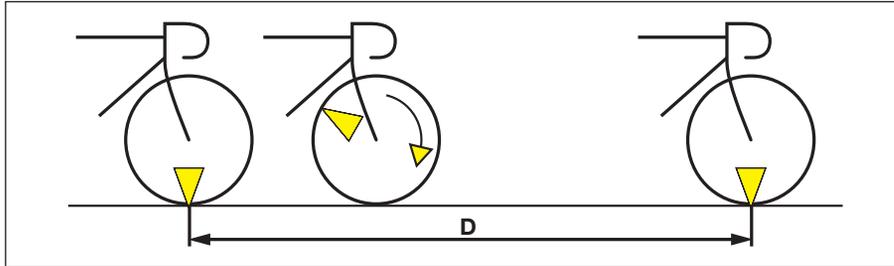
Refer to the chart below for the approximate circumference of your wheel:

TIRE	CIRCUM.	TIRE	CIRCUM.
26" x 1,5	2020	700C x 19	2100
26" x 1,75	2070	700C x 20	2110
26" x 1,9	2090	700C x 23	2130
26" x 2,0	2110	700C x 25	2140
26" x 2,1	2130	700C x 28	2150
26" x 2,2	2150	700C x 32	2170
26" x 2,3	2170	700C x 35	2200
650C x 19	1930		
650C x 23	1990		

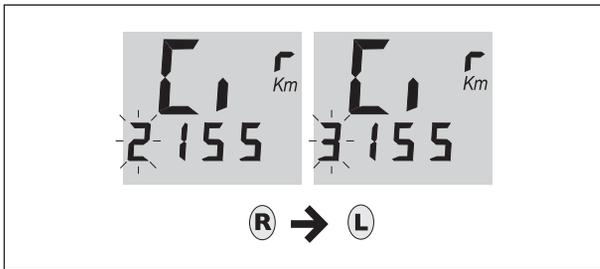
For a more accurate measurement, proceed as follows:

- At the point of contact between the tire and the ground, mark both the tire and the ground.
- Rotate the wheel one full turn and at the point where the mark on the tire next touches the ground, mark the ground again.
- Measure the distance (D) between these two points in mm, and note this distance (D) for the next step.

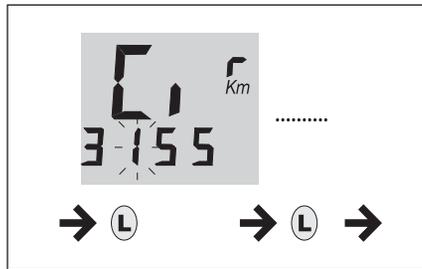
Minimum circumference: 1000 mm. Maximum circumference: 3999 mm.



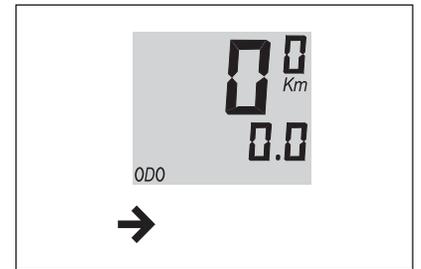
SETTING THE CIRCUMFERENCE



Once the distance unit has been selected, the "Cir" screen is displayed. The default value is 2155 mm. The digit furthest to the left of the screen flashes. Scroll through the values using the R button until the desired value is reached. Validate using the L button.

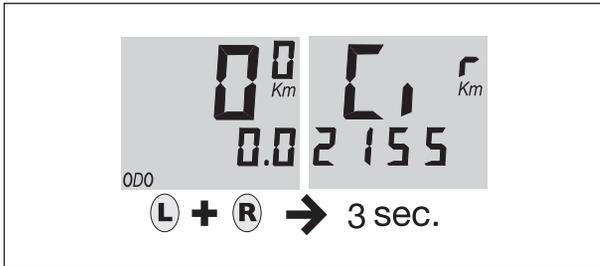


The next digit then flashes. Carry out the same operation for each digit. Once the correct value has been entered, validate by pressing the L button.



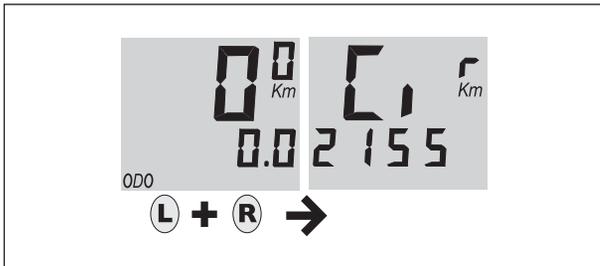
The "ODO" screen is displayed. Go to the next step.

Displaying the stored circumference

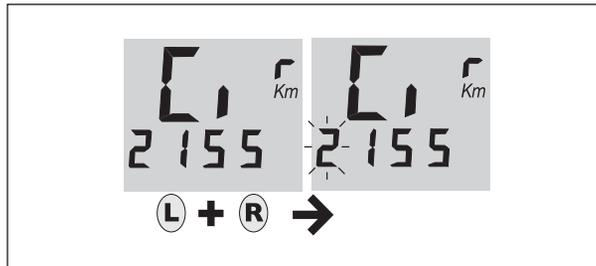


With the «ODO» screen displayed, press the L and R buttons simultaneously to display the stored circumference. This value is displayed for 3 seconds.

Programming a new circumference



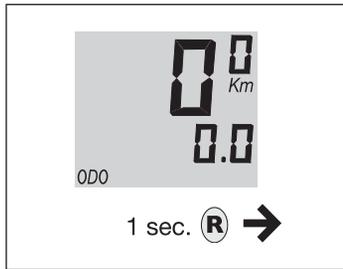
With the «ODO» screen displayed, press the L and R buttons simultaneously, and then release them. The circumference is displayed.



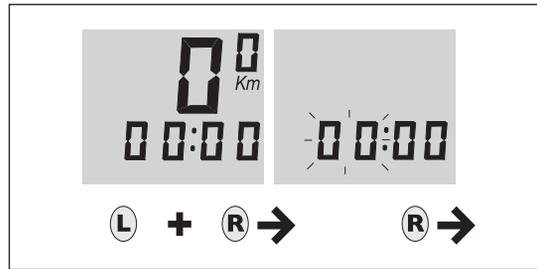
In the 3 seconds that follow, press the L and R buttons simultaneously again to display the "Cir" screen. You can now enter a new value by following the steps detailed above.

Changing the circumference value does not reset the odometer to zero.

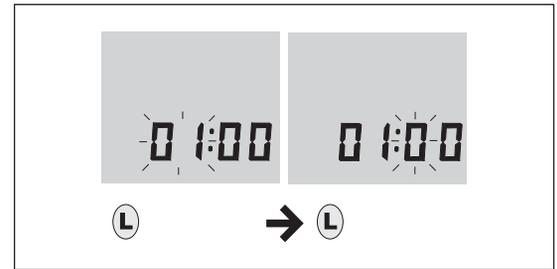
It is thus possible to use two pairs of wheels with different diameters on the same bike, or to use your computer on two different bikes.

SETTING THE TIME (M-TECH.9 ONLY)

When in any screen, press the R button for 1 second to display the clock.



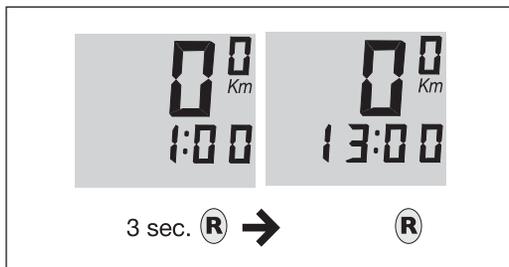
Once the time is displayed, press the L and R buttons simultaneously for 2 seconds. The hours display flashes. Press the R button until the required value is reached.



Press the L button to validate. Repeat the same operation to set the minutes, then validate with the L button.

Selecting 12 or 24 hour display

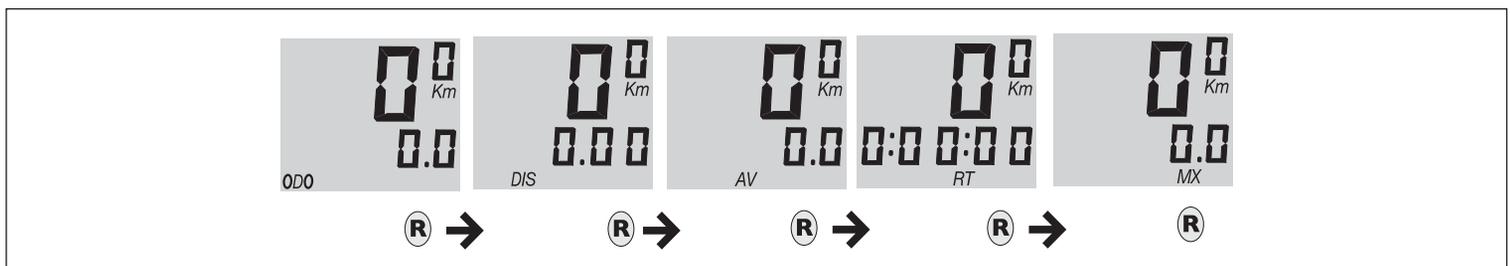
Either a 12 or 24 hour display can be selected.



When in the «clock» screen, keep the R button pressed down for 3 seconds to go from one display to the other.

USE**SCROLLING THROUGH THE FUNCTIONS**

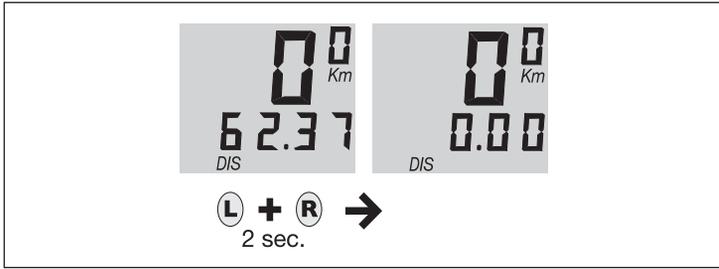
The computer screen is divided into two parts. The Current Speed is always displayed in the upper part of the screen (up to 99 km/h or 70 miles/h). The lower part of the screen is reserved for the other functions.



Scrolling through the functions is achieved by briefly pressing the R button:

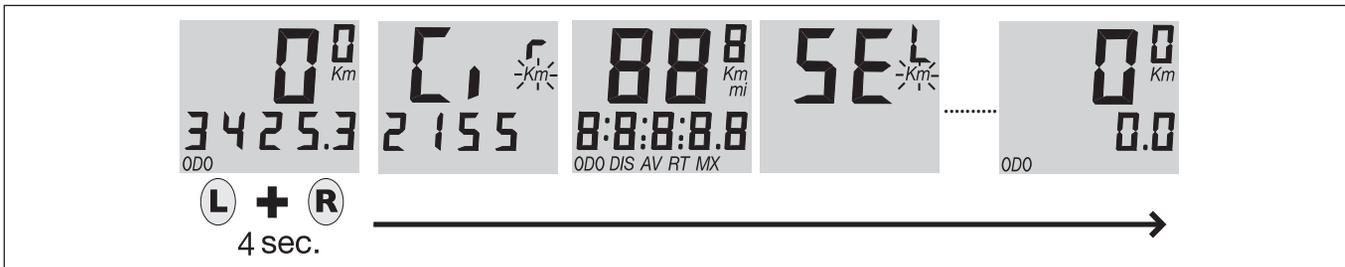
- Odometer (ODO)
- Trip Distance (DIS)
- Average Speed (AV)
- Stopwatch (rolling time) (RT)
- Maximum Speed (MX)

RESETTING TRIP FUNCTIONS



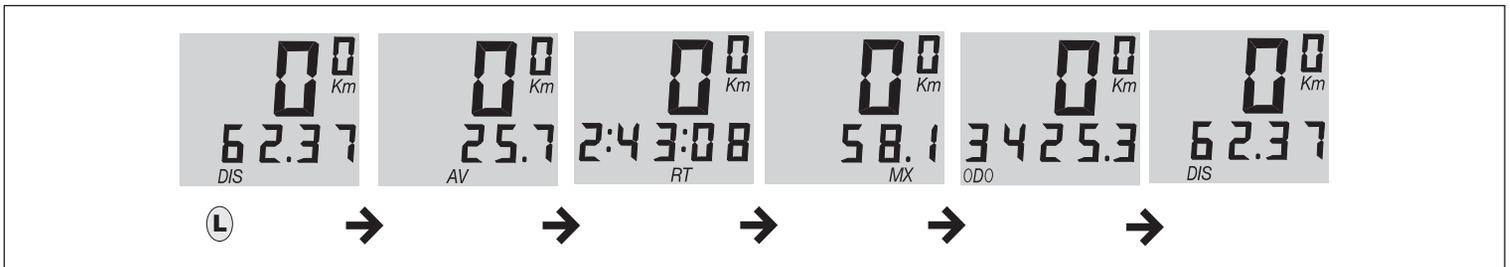
When in any screen (**except ODO**), press the L and R buttons simultaneously for 2 seconds to reset the Trip Distance (DIS), Stopwatch (RT), Average Speed (AV) and Maximum Speed (MX).

COMPLETE RESETTING



When in any screen, press the L and R buttons simultaneously for 4 seconds. This operation deletes all the data stored in the memory. You will have to completely re-program your computer by following the instructions from paragraph 4 onwards of this manual. This resetting operation can also be carried out in the event your computer malfunctions.

AUTOMATIC SCANNING OF FUNCTIONS



When in the «Trip Distance» screen, press the L button to start the automatic scan. The functions will be scrolled through one after the other, each being displayed for 2 seconds. Press either the L or R button to return to normal mode.

AUTOMATIC STARTING / ENERGY SAVING MODE



If after 10 minutes the computer has not received a signal, the main display is switched-off in order to conserve battery life. Only the clock remains displayed. The computer comes back on automatically if it receives a signal or if either the L or R buttons are pressed.

M-TECH. : INSTALLATION

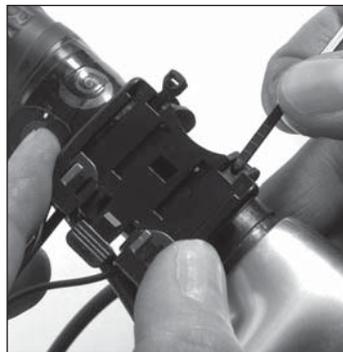
FITTING THE COMPUTER



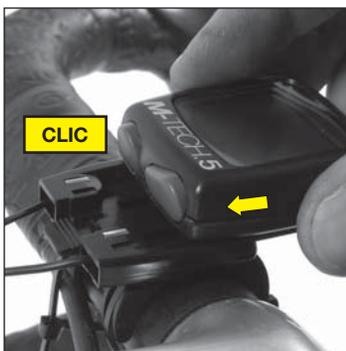
Place the positioning spacer under the computer bracket, with the lugs facing forwards.



Position the bracket unit on the handlebar in the most practical place for operating the computer.



Insert two zip ties from the front of the bracket unit. Then tighten the zip ties around the handlebar and cut the excess lengths. Take care to check the angle of the bracket to ensure the computer screen can be easily seen when in the riding position.

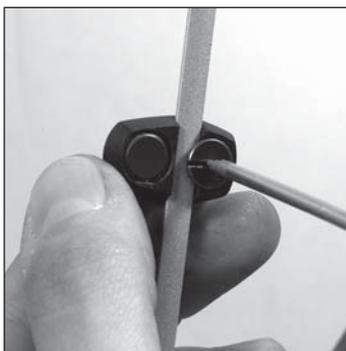


Slide the computer in from the front of the bracket, until you hear the locking click.



To remove the computer, lower the small lever on the back of the bracket and slide the computer out towards the front of the bike.

FITTING THE MAGNET AND SPEED SENSOR



Position the magnet bracket on a spoke on the right hand side of the wheel. The magnet must be facing the outside of the wheel.



Insert two zip ties into the speed sensor. Close the zip ties, without tightening them, around the right hand fork.



Position the speed sensor opposite the magnet. The sensor must be positioned in such a way that the magnet passes as close as possible to the exact center of the sensor. The distance between the magnet and the sensor must not exceed 5 mm.



Once the speed sensor is correctly positioned, tighten the zip ties and cut the excess lengths.



Using the cable guides, fix the computer cable along the sheath of the front brake cable. Space the cable guides at regular intervals along the length of the cable sheath.



Wind the excess cable around the handlebar at the edge of the handlebar tape, or near to the computer bracket. Check that the cable at the bracket end is not too tight.



Then cover the excess cable with handlebar tape.

FITTING / REPLACING THE BATTERY

Use only a CR 2032 battery.



Turn the battery cover anti-clockwise to open it.



Fit the new battery with the + side facing up.



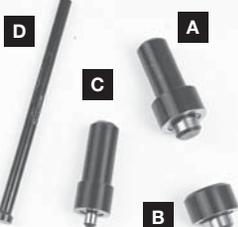
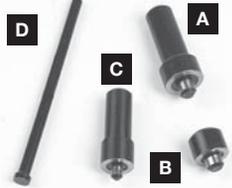
Replace the battery cover and turn it clockwise to close it. Take care not to force the cover.

Each time the cover is opened, check that the o-ring seal has not been damaged. If it is damaged, it must be replaced.

MAINTENANCE

- Replacing the battery resets all the computer's parameters to zero.
- Battery life: around 12 months (depending on use).
- Although water resistant, it is strongly inadvisable to use pressurized water on electronic parts.
- Although resistant to solvents and petroleum products, it is inadvisable to use these types of products to clean the various components.
- Advice: use warm water, or soap and water, and dry with a cloth.
- Do not leave the computer in the sun (e.g. behind the windshield of a vehicle) when not in use.
- **Do not dismantle any component; this will make the warranty void.**
- The features, shape and general presentation are subject to change without prior notification.
- Operating temperature range: 0°C to +40°C / 32°F to 104°F.

TOOLS AND CUSTOMER SERVICE

REFERENCE	NAME	PRODUCT
323 477 01	Multifunction tool: Removing the UST Tubeless rim tape (A) Fitting the UST rim tape (C) Adjusting the front axles on the Cosmos, Ksyrium Equipe, Crossland, Crossmax Enduro, Crossmax Enduro Disc, Cosmic Elite 05, Speedcity 05 (B), Aksium , and Crossride 06 wheels	
M40119	Bearing press kit for the wheels: Crossmax, Crossmax UST, Crossmax XL and Crossmax SL (rear wheel only) Crossmax Disc, Crossmax UST Disc, Crossmax XL Disc and Crossmax SL Disc Crossland (98) Deemax and Deemax UST (rear wheels only), Hélium Ksyrium SSC, Ksyrium SSC SL, Ksyrium Elite (rear, free wheel side only) Cosmos, Ksyrium Equipe, Crossland (2000), Crossmax Enduro, Crossmax Enduro Disc, Cosmic Elite 05 and Speedcity 05 (rear, free wheel side only) Cosmic Carbone SL arrière, Aksium , Cosmic Carbone Pro rear wheel , Crossride 06 and Deetraks	
M40120	Bearing press kit for the wheels: Cosmic Carbone, Cosmic Carbone SSC, Cosmic Carbone SL front wheel, Cosmic Carbone Pro front wheel Classics Pro, Classics Pro CD, Classics SSC Cosmic Pro, Cosmic Expert, Cosmic Equipe Comete Crossmax SL (front wheel only)	
M40631	Bearing press kit for the wheels: Crossroc UST Crossroc UST Disc	
M40373	Bearing press kit and guide ring for the wheels: Crosslink, Crosslink Disc Crossride, Crossride Ceramic Classics Elite, Cosmic Elite (1st and 2nd generation) Cosmos (all colors) Ksyrium Elite (except rear, free wheel side) iO, Speedcity Cosmos, Ksyrium Equipe, Crossland (2000), Crossmax Enduro, Crossmax Enduro Disc, Cosmic Elite 05 and Speedcity 05 (front and rear, non drive side only) Aksium and Crossride 06	
M40218	Bearing press kit for front wheels: Deemax, Deemax UST and Deemax UST 05 Crossmax XL Disc, Crossmax SL Disc Lefty (disc side), Deetraks	
323 945 01	Bearing press kit for the Crossmax SL Disc Lefty front wheel (non-disc side)	
M40410	Mavic soft stone for cleaning the braking surface of the rim, Ceramic or UB Control	

A+B: Bearing press kit for the front wheel.

A+C: Bearing press kit for the rear wheel.

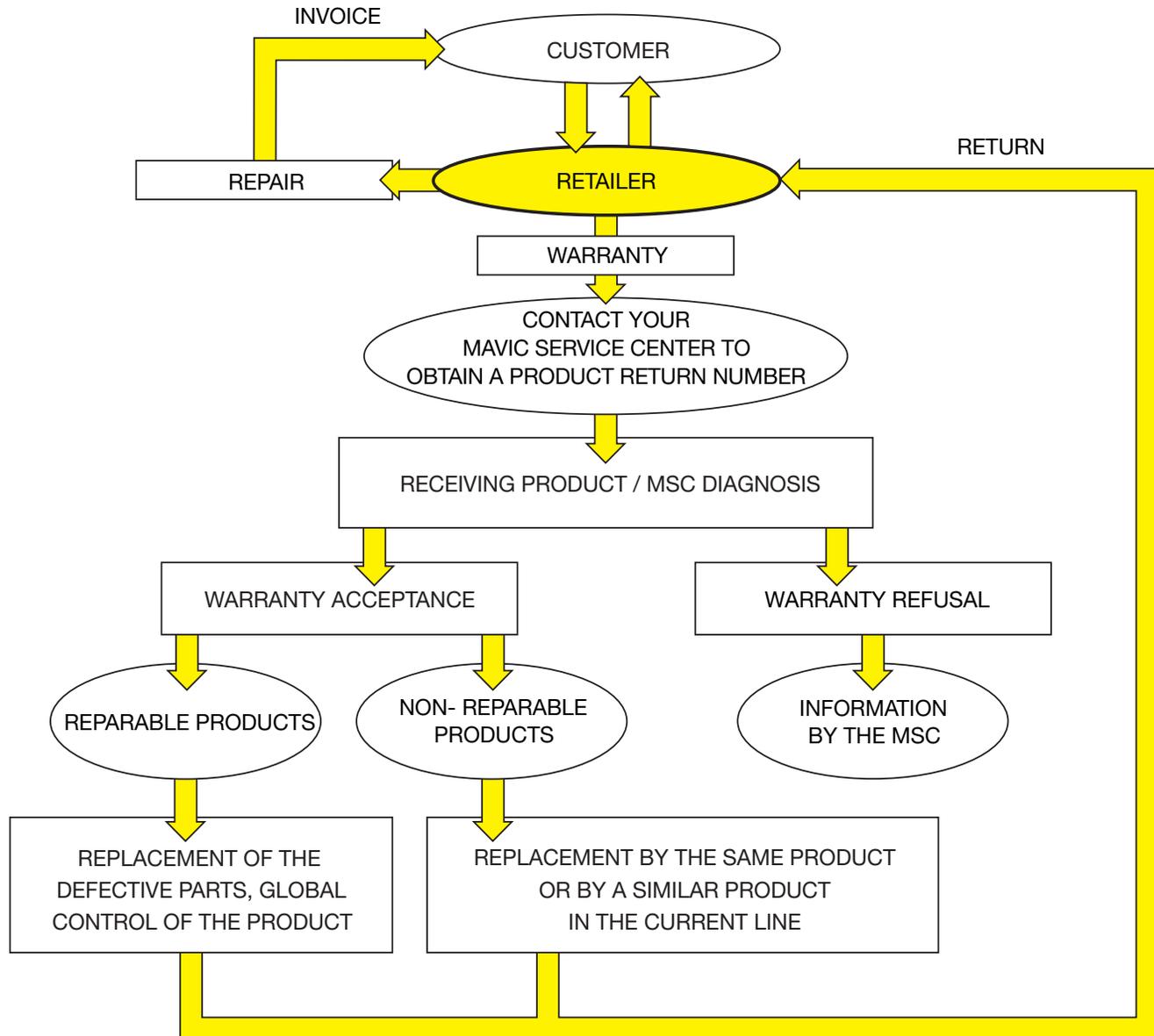
D: Bearing press kit for the front and rear wheels.

E: Bearing press kit for the front and rear wheels.

F: Guide ring for the 12 mm Allen wrench needed for removing the free wheel on the Crossroc UST, Crossroc UST Disc, Crossride, Crossride Ceramic, Cosmos and Cosmic Elite wheels.

REFERENCE	NAME	PRODUCT	
M40001	Spoke wrench for Cosmic Carbone, Cosmic Carbone SSC and Cosmic Carbone SL wheels		
323 908 01	Cosmic Carbone Pro spoke wrench + spoke wrench for aerodynamic spokes		
M40494	Wrench Kit for holding and tensioning spokes on the wheels: Ksyrium SSC, Ksyrium SSC SL, Ksyrium SL 04, Ksyrium Elite 05, Ksyrium Elite 650 05 Crossmax UST, Crossmax XL and Crossmax SL Crossmax UST Disc, Crossmax XL Disc and Crossmax SL Disc Crossmax Enduro and Crossmax Enduro Disc Deemax UST 05		
M40567	Wrench kit for aerodynamic spokes		
M40652	Zamac wrench for adjusting spokes on the wheels: Crossmax UST, Crossmax XL and Crossmax SL Crossmax UST Disc, Crossmax XL Disc and Crossmax SL Disc Ksyrium SSC and Ksyrium SSC SL Crossmax Enduro and Crossmax Enduro Disc		
M40630	Wrench for adjusting hollow screws on the Deemax UST, Crossroc, Crossroc Disc, Ksyrium Elite wheels and the EX 823 Disc, XM 819 and XM 819 Disc rims		
M40123	Hub wrench for adjusting free play on Mavic hubs: iO and Comete (road and track) Cosmic Carbone SSC, Cosmic Carbone, Cosmic Elite (except 05), Cosmic Carbone SL Classics SSC, Classics Elite, Classics Pro (and CD) Ksyrium SSC SL, Ksyrium SSC, Ksyrium Elite 05 and Ksyrium Elite 650 05 Cosmos Crossmax, Crossmax Disc Crossmax UST, Crossmax UST Disc Deemax Crossmax SL, Crossmax SL Disc Crossmax XL, Crossmax XL Disc Deemax UST, Deetraks		
M40122	Mavic mineral oil for lubricating the FTS and FTS-L free wheel bodies Capacity 60 ml Only use this oil for lubricating FTS and FTS-L free wheel bodies		
M40315	Mavic thread lock	M40315	M40122
324 300 01	Bearing press kit for the Deemax 12x150		

GENERAL PROCEDURE FOR ANY REQUEST FOR SERVICE SUPPORT



1. Contact the Mavic Service Center in your geographical zone to obtain a **PRODUCT RETURN NUMBER**.

2. In accordance with the instructions of your Mavic Service Center, send the damaged part or product to them with a note containing the following information:

- Your name and address;
- the product return number that was given to you. This number should also be indicated on the outside of your package;
- the reason for the return;
- **Proof of date of purchase attesting that the product was sold within the last 2 years (receipt or warranty card filled out).**

WARNING: the wheels must be sent without the tire, cassette, skewer, bag or anything else in order to avoid any risk of loss or damage.

To be able to process your request as quickly as possible, we ask you to follow this procedure. ANY OTHER TYPE OF RETURN WILL BE REFUSED.

3. After the Mavic Service Center receives your package, it will make a diagnosis and will declare whether the damaged product is covered by the warranty or not. The product will then be exchanged or repaired.

NOTE: If the warranty is refused, your Mavic Service Center will inform you about the cost of the repair. If the product cannot be repaired, it will be destroyed by Mavic unless you have given prior contrary instructions.

If you decide to repair the Mavic product, please read the preceding pages.

Your Mavic Service Center is available for information regarding repairs and the Mavic warranty. Please do not hesitate to contact them.

MAVIC WARRANTY AND CUSTOMER SERVICE

MAVIC WARRANTY

Mavic products purchased from a Mavic authorized dealer are guaranteed against manufacturing and material defects for a period of 2 years from the date of original purchase, under the following conditions.

OBLIGATIONS

Mavic will replace or repair the product or the part considered to be defective by Mavic. This is Mavic's only liability.

Complementary warranties may exist according to regional laws. In France, Mavic guarantees against hidden defects as required by French law, within the conditions and limits laid down by articles 1641 and the Civil Code.

RESTRICTIONS

This warranty does not cover the consequences of normal wear & tear, damage resulting from shipping, storage, accidents, negligence, shocks or falls, failure to follow instructions for use, improper installation or installation with incompatible products, poor maintenance, normal wear & tear, abnormal or improper use, modification or alteration of the product.

The conditions of the Mavic warranty do not apply to products purchased from dealers other than Mavic authorized dealers, including the conformity of products warranty.

This warranty is not transferable and only applies to the original purchaser.

This warranty does not cover the consequences of normal wear & tear of parts that can wear out such as braking surfaces on rims (with rim braking system), brake pads, bearings, pawl assemblies, seals, rear derailleur jockey wheels, batteries...

This warranty does not cover products whose repair has not been carried out by the Mavic Service Center or its representative in certain countries (1).

This warranty does not cover any product whose item number or identification has deteriorated or been removed.

This warranty does not apply to «Mavic Special Race Service» products (2).

This warranty does not exclude the specific rights in each country. A consumer may have other rights depending on his/her place of residence. Certain jurisdictions do not allow for the exclusion or limitation of specific damages, secondary or as a result of, or limitations on the duration of the warranty. Therefore, these exclusions and limitations do not apply to everyone. Local taxes, customs tariffs or shipping fees may be applied. In the United States, additional rights that are different from one state to another may also be applied. If one part of this warranty was found to be inapplicable by an administrative or judicial procedure, the other parts would remain applicable.

APPLICATION PROCEDURE

Mavic authorized dealers are responsible for managing all claims under the warranty. The authorized dealer must obtain authorization from the Mavic Customer Service (or its representative in certain countries (1)) prior to the return of the defective product (3).

The complete product with proof and date of purchase (sales receipt, copy of the warranty card...) has to be sent by the authorized dealer to the Mavic Customer Service (or its representative in certain countries (1)) who will ensure the proper procedures.

The new or repaired product will be returned to the authorized dealer.

WARRANTY CARD

The warranty card that is printed in the user guide delivered with each product must be dated, signed and stamped by the authorized dealer, and saved by the customer with no limitation in the duration. It must be used in any claims.

(1) Updated lists are available upon request to: Mavic - 74996 Annecy Cedex 09 or on the Mavic website: <http://www.mavic.com>.

(2) Products engraved with «SSC» or for which the serial numbers have been used by the Mavic Race Department.

(3) Any claims made by any other means or without prior agreement for the return cannot be taken into account.

TO CONTACT YOUR MAVIC SERVICE CENTER

COUNTRY	TELEPHONE	FAX
MSC AUSTRALIA	(+61) 3 8878 1000	(+61) 3 8878 1001
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MSC BENELUX	(+32) 01 434 7470	(+32) 01 432 3904
MSC CANADA EAST	(+1-514) 332 1320 or 1-800 363 0693	(+1-514) 335 1691
MSC CANADA WEST	(+1-604) 324 6900 or 1-800 363 0693	(+1-604) 324 6100
MSC CZECH REPUBLIC	(+420) 566 624 336	(+420) 566 626 240
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Please read carefully the recommendations for rim use in this document.
Photos: D. Brandelet-Blue.
Graphic design: wakeUp (Leprince-Riu) / Realization: Didier Brandelet-Blue / Printer: imprimerie Ferreol.