

CAMPAGNOLO
2011
GROUPSETS

SUPER RECORD 2011

NEW LOGO

2010 →

SUPER RECORD™

2011 →

SUPER RECORD™

REAR DERAILLEUR

**New fixing screw**

- anodized alu alloy instead of titanium
- lighter

**New upper/lower body:**

- full carbon fiber
- lighter
- stiffer
- long life

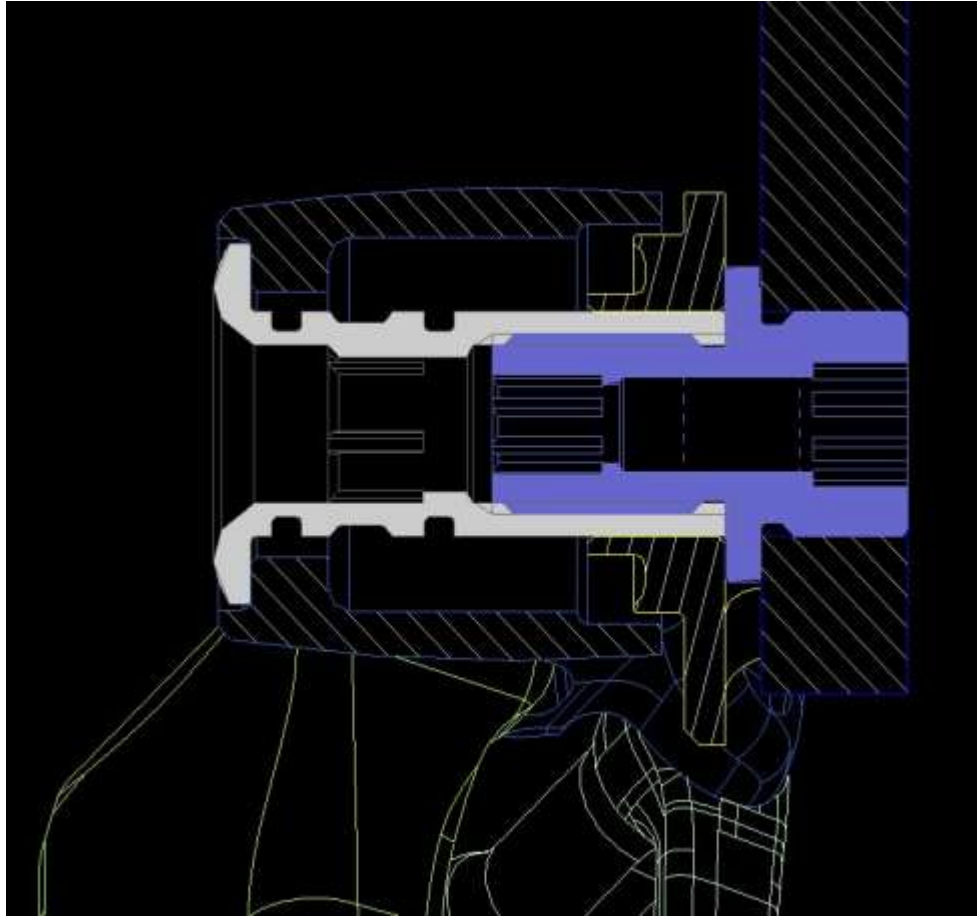
**New light alloy roller fixing screws:**

- Anodized alu alloy instead of steel
- Lighter
- Long life

**New bicolor graphics**

Weight: 155 g (- 17g)

Zoom Tech on Fixing screw

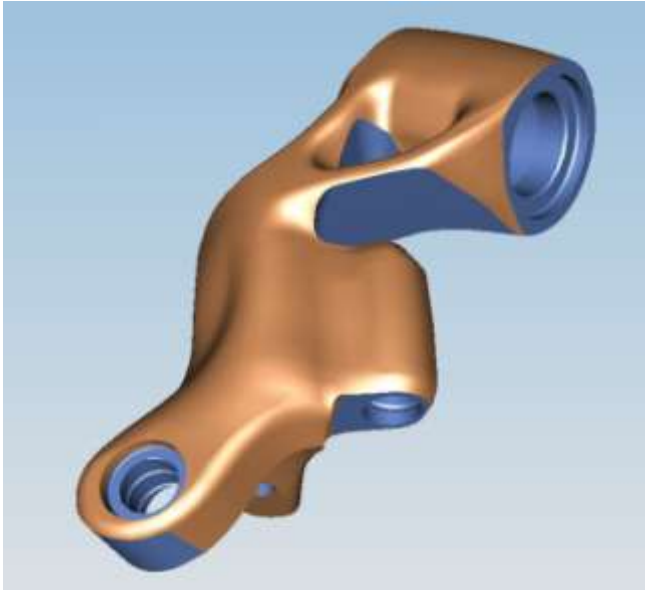


New innovative 2-pieces screw:

- 52% Lighter than steel screw
- 22% Lighter than titanium screw
- No wear thanks to hard anodizing and PTFE treatment
- High corrosion resistance (at least twice than chrome plated steel)

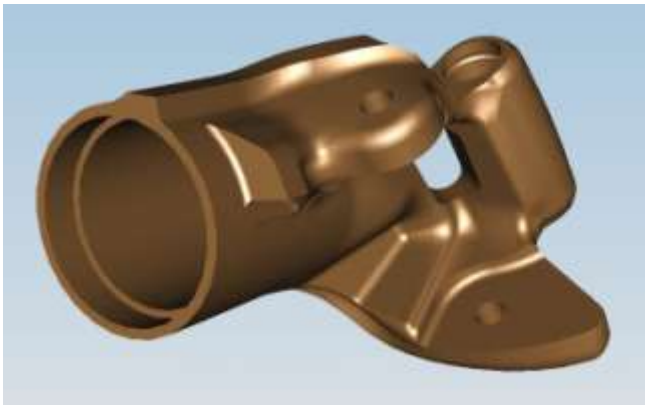
Fig. 3 – New innovative 2-pieces screw

Zoom Tech on Carbon Fiber Upper/Lower body



Main technical advantage in using carbon composite :

- 43% lower weight than aluminum
- 290% % higher stiffness than aluminum
- 250% higher resistance than aluminum
- High performance compression moulding process to obtain a complex 3D shape
- High precision machining process to keep narrow tollerances
- High quality surface finishing (no need of painting thanks to very good finishing from the mould)



Zoom Tech on Carbon Fiber Upper/Lower body



THE FINAL RESULT IS :

- incredible low weight without using magnesium alloy (no risk of corrosion)
- full carbon look
- high stiffness and precision
- not comparable with other product in the market

FRONT DERAILLEUR



Options:

- braze-on
- clip-on Ø 32 mm
- clip-on Ø 35 mm

Weight: 72 g



New front lever:

- optimized geometry for improved shifting performance



New bicolor graphics

Zoom Tech on front derailleur lever

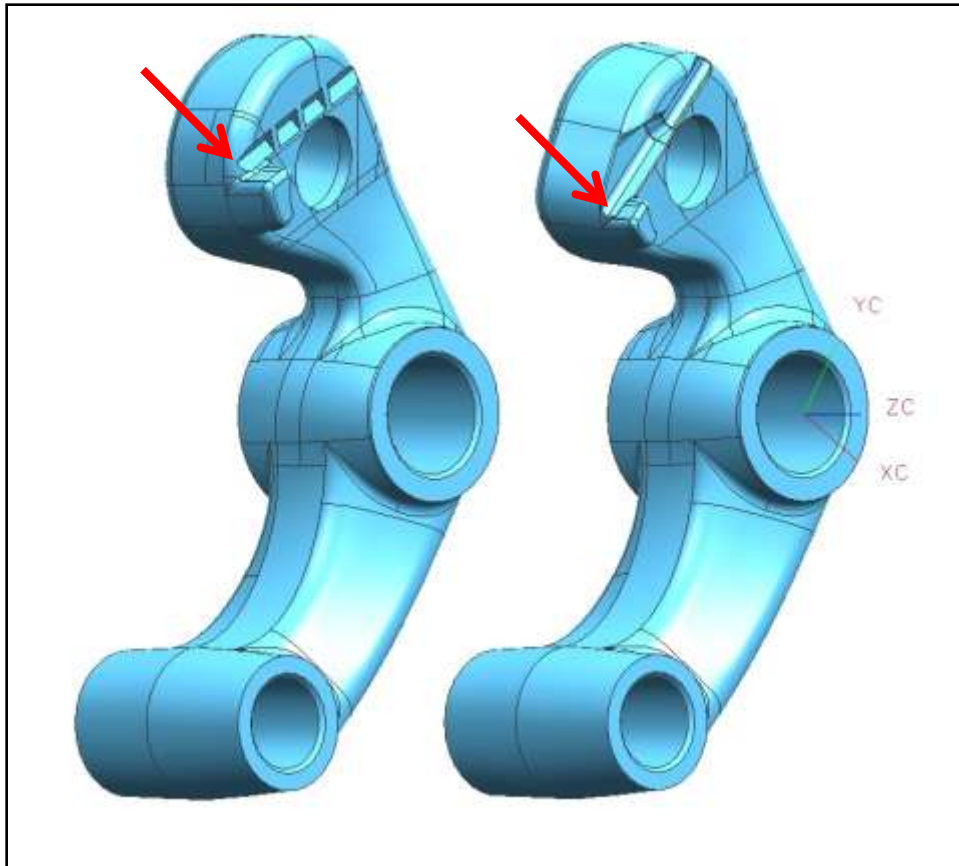


Fig. 5 – front derailleur lever: 2010 vs 2011

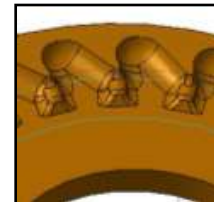
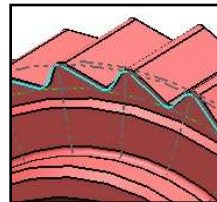
New optimized lever geometry:

- The new geometry allows a modified cable fixing in order to increase the total stroke.
- Faster and more precise shifting

ERGOPOWER™

**Ergopower body:**

- new lighter and stiffness material

**New right indexation:**

- improved rear shifting with critical internal cable routing frame

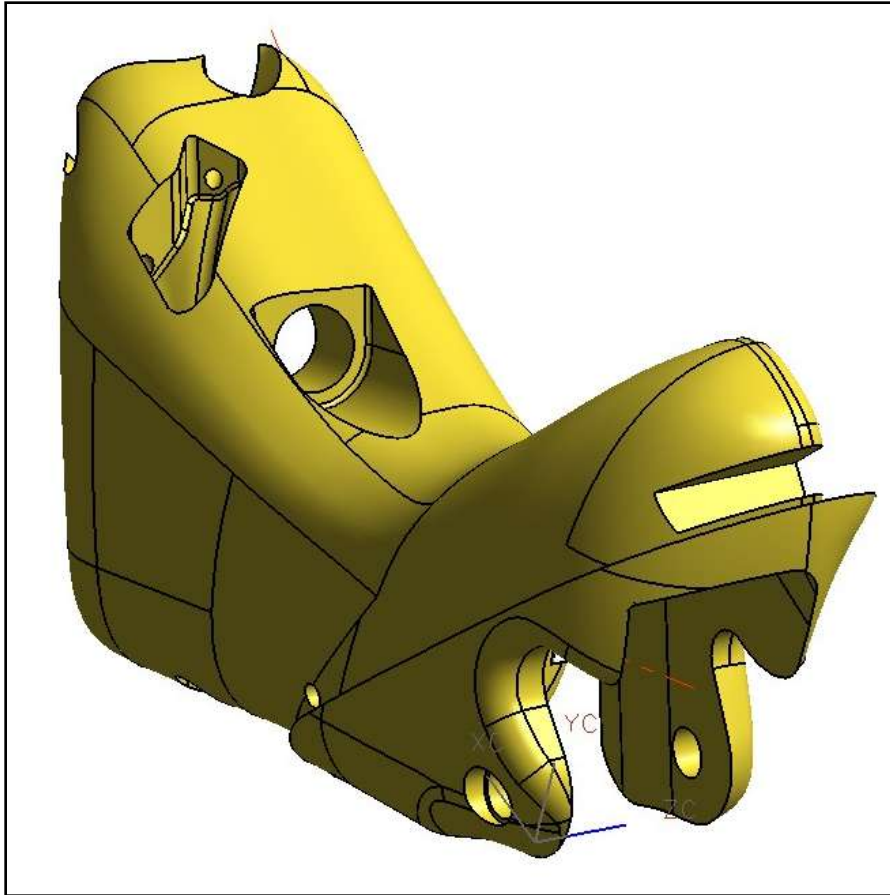
**New optimized left coiling cable bushing:**

- Improved front shifting performance

**New bi-color graphics**

Weight: 330 (-10g)

Zoom Tech on Ergopower body



New material:

This new material is a long fibre reinforced Polyamide which combines:

- Low density : 11% less
- High strength : 8% more
- High impact resistance : more than double in the impact test
- Low water absorption

Fig. 6 – New material for Ergopower body

ULTRA-TORQUE™ CRANKSET



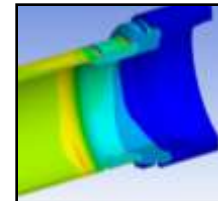
Weight: 680g (-15g) (with BB)



New chainring geometry:
• X.P.S.S. eXtreme Performance Shifting System



New chainring fixing system

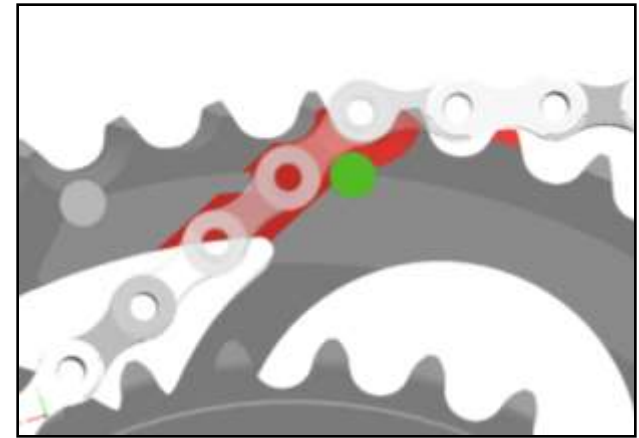
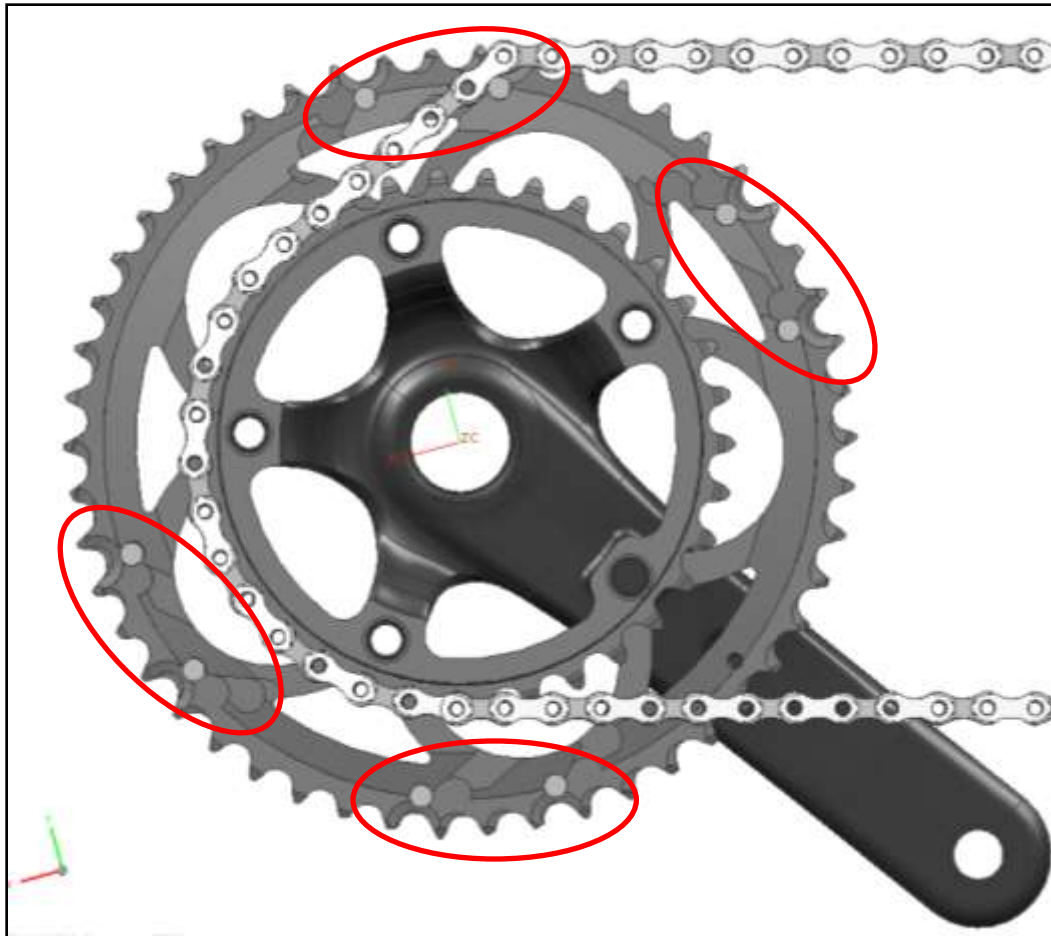


New lightened UT spindle



New bi-color graphics

Zoom Tech on optimized chainring geometry: up-shifting



New optimized up-shifting sectors:

- Make easier and faster up-shifting

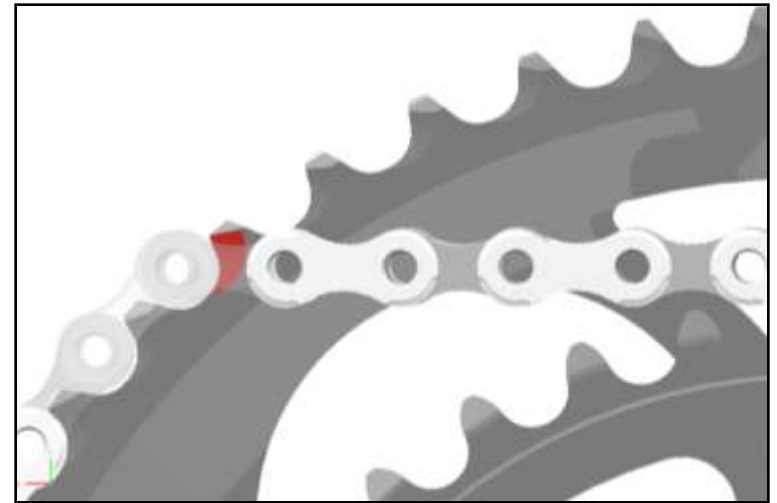
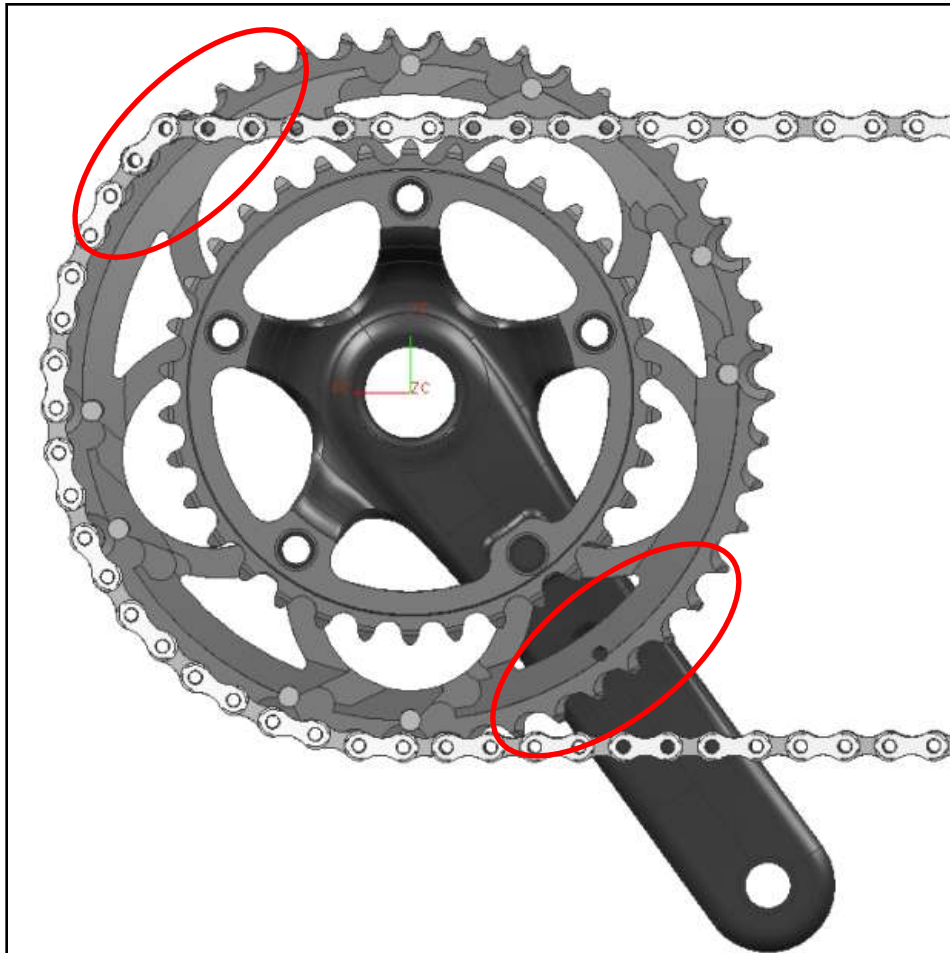
New teeth profile:

- Fast precise shifting

Ultra-Shift™ chainrings synchronization:

- 8 dedicated sectors for upshifting

Zoom Tech on optimized chainring geometry: down-shifting



New optimized 2 down-shifting sectors:

- Make easier and faster down-shifting

New down-shift teeth profile:

- More precise shifting

Zoom Tech on chainring fixing system

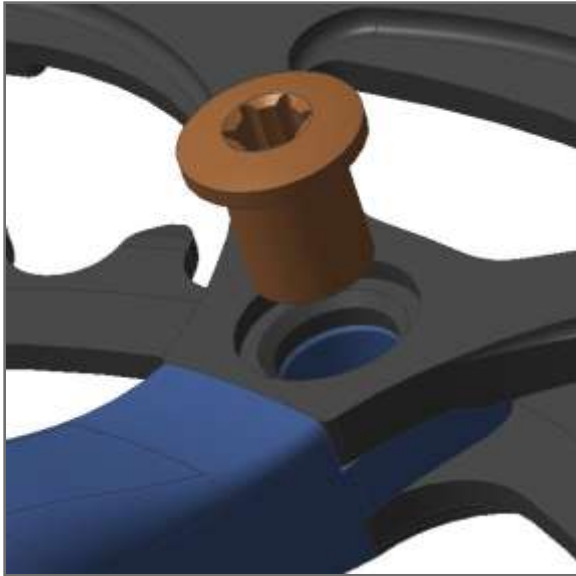


Fig. 9

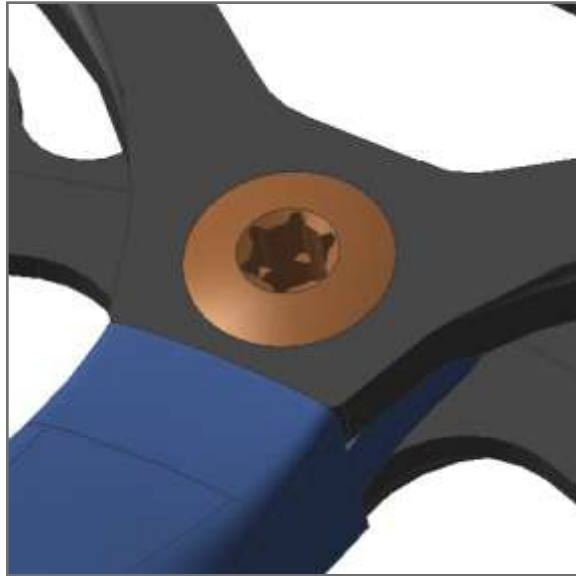


Fig. 10



Fig. 11

New chainring fixing system:

- The big chainring is assembled through 5 screws into the small ring which is now threatened
- Easy to assemble, lighter, stiff and safe

Zoom Tech on lightened UT spindle

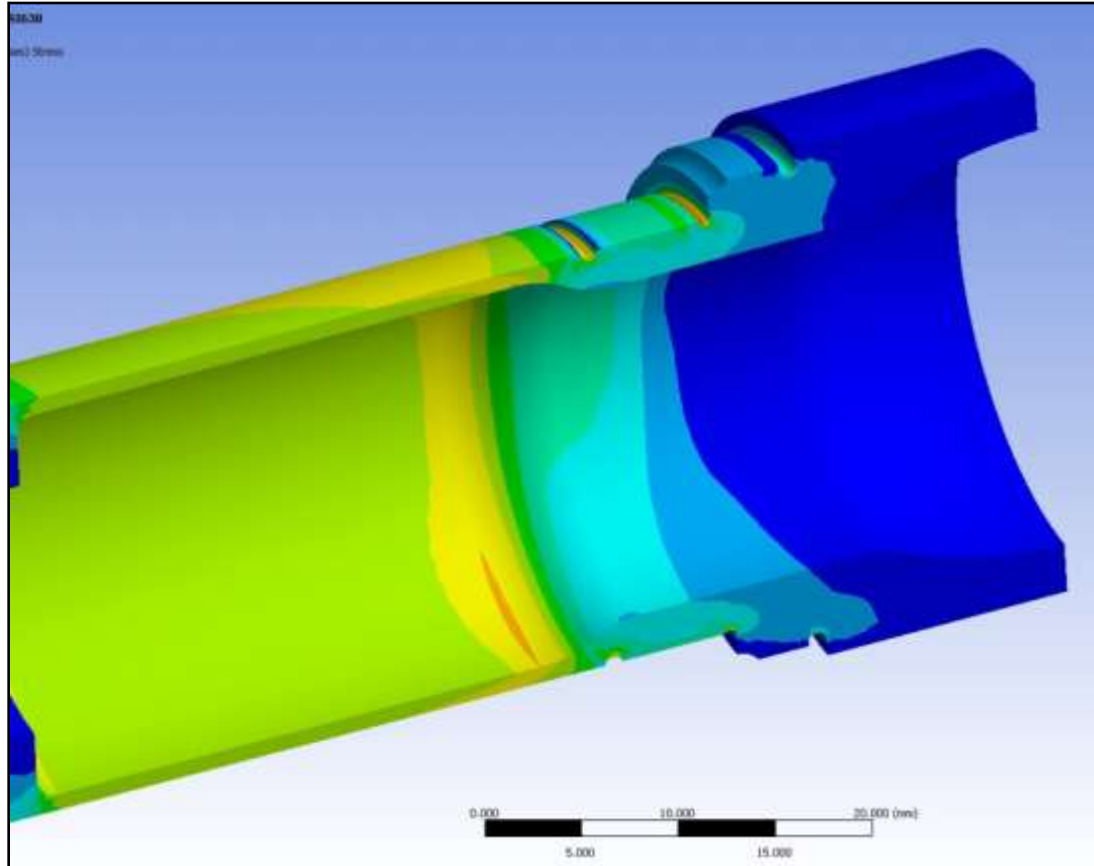


Fig. 12: FEM simulation on spindle

New Lightened UT spindle:

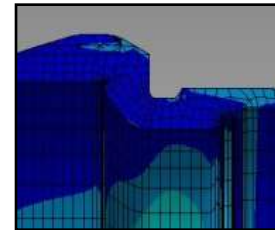
Working on low stress area we obtained:

- Same stiffness
- Same fatigue life
- Lower weight

NEW UltraTorque CUPS



New marking



New Lightened cups:

Working on low stress area we obtained:

- Same stiffness
- Same fatigue life
- Lower weight (-11%)

BRAKES

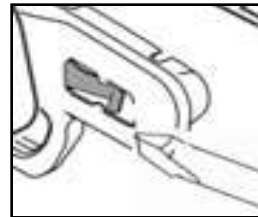


Weight: 272 g (-3g)



New brake shoe:

- new lightened aluminum brake shoe



New pad fixing system:

- safe for US rules
- easy pad assembling /disassembling



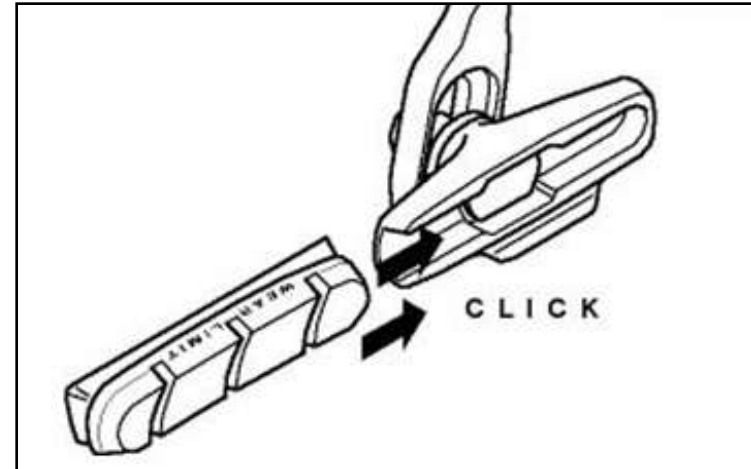
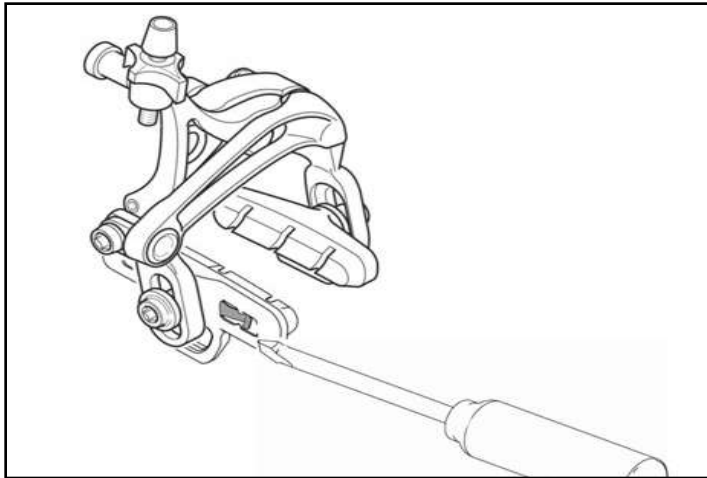
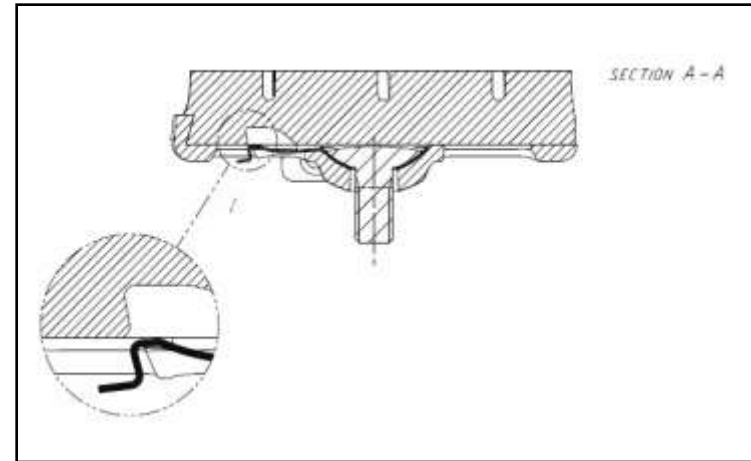
New bicolor graphics



New pad compound :

- better performance in all weather conditions
- low wear on rim

Zoom Tech on brake shoe and pad fixing system



SUPER RECORD 2011 GROUPSET



TECHNICAL IMPROVEMENTS ON S. RECORD : 2011 vs 2010

- *new bi-color graphics*
 - *innovative and lighter rear der. fixing screw*
 - *improved front der. shifting performance*
 - ✓ *front lever*
 - ✓ *cable coiling bushing*
 - ✓ *new chainring geometry*
 - *new lighter and high strength material for Ergo body*
 - *improved indexation for rear shifting (critical frames)*
 - *new chainrings fixing system*
 - *new lightened UT spindle*
 - *new lightened cups*
 - *lightened chain pins*
 - *new pad compound*
 - *new brake shoes and pad fixing system*
-

WEIGHT COMPARISON: 2011 vs 2010

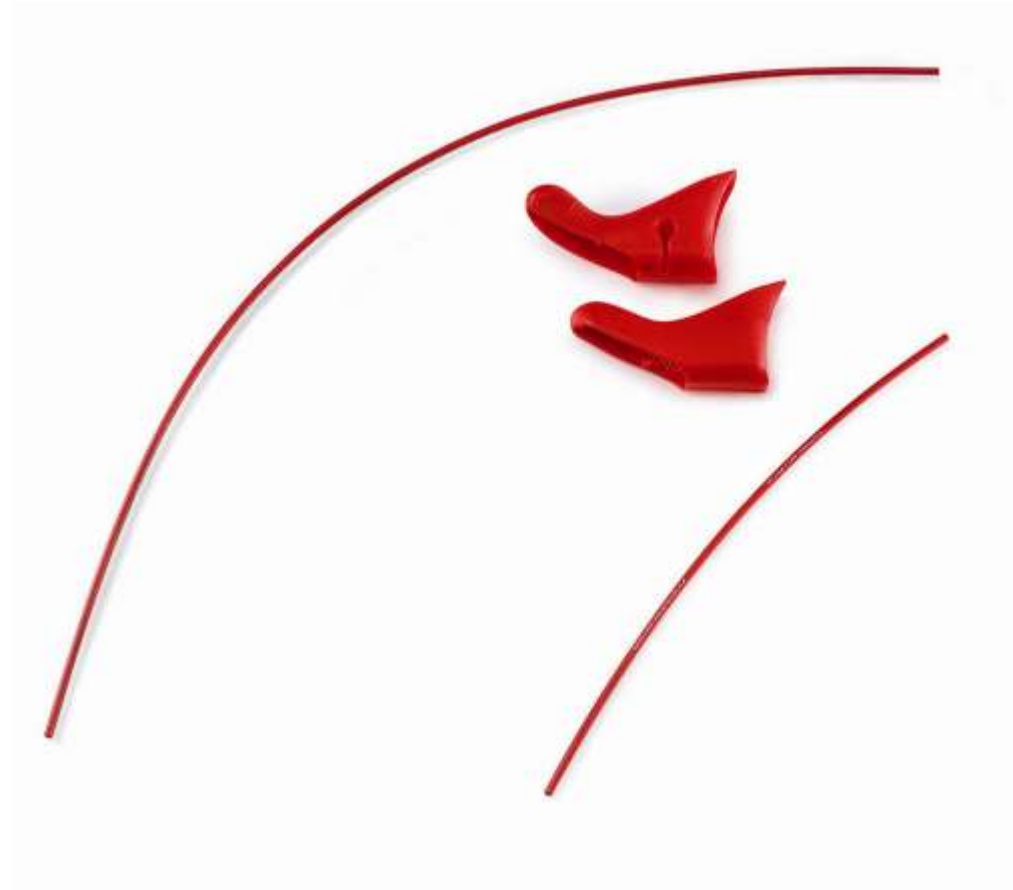
	SUPER RECORD 11S 2010	SUPER RECORD 11S 2011
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	1.973 g	1.925
		- 48 g

OPTIONS AVAILABLE for SUPER RECORD 11S

OPTIONS - 1: WHITE HOODS/CABLE SET



OPTIONS - 2: RED HOODS/CABLE SET



OPTIONS – 3: DUAL PIVOT FRONT/REAR BRAKE

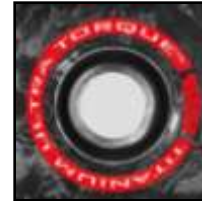


TITANIUM VERSION

OPTIONS – 4 : U.T. CRANKSET – TITANIUM SPINDLE



Weight: 640g (-40g compared with standard SR crankset) (with BB)



New Titanium spindle and "ad hoc" graphic



New Titanium UT screw



New chainring geometry:
• X.P.S.S. Extreme Performance Shifting System

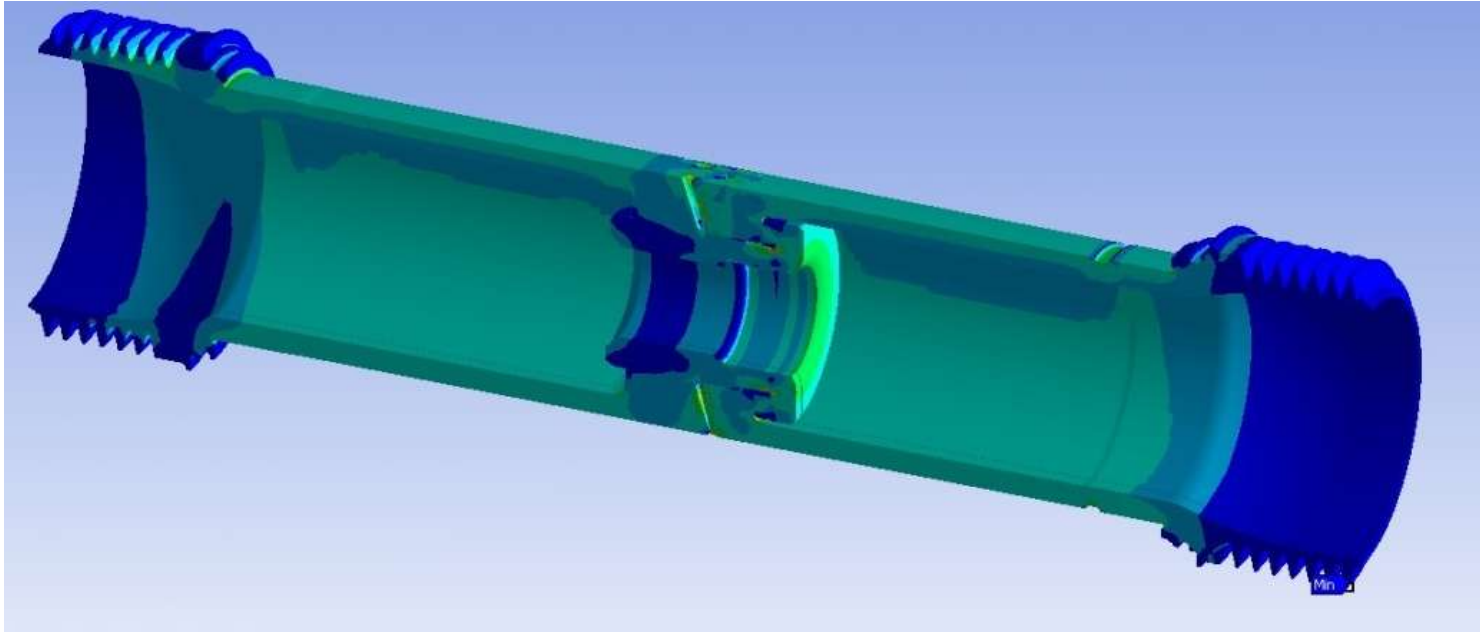


New chainring fixing system



New bi-color graphics

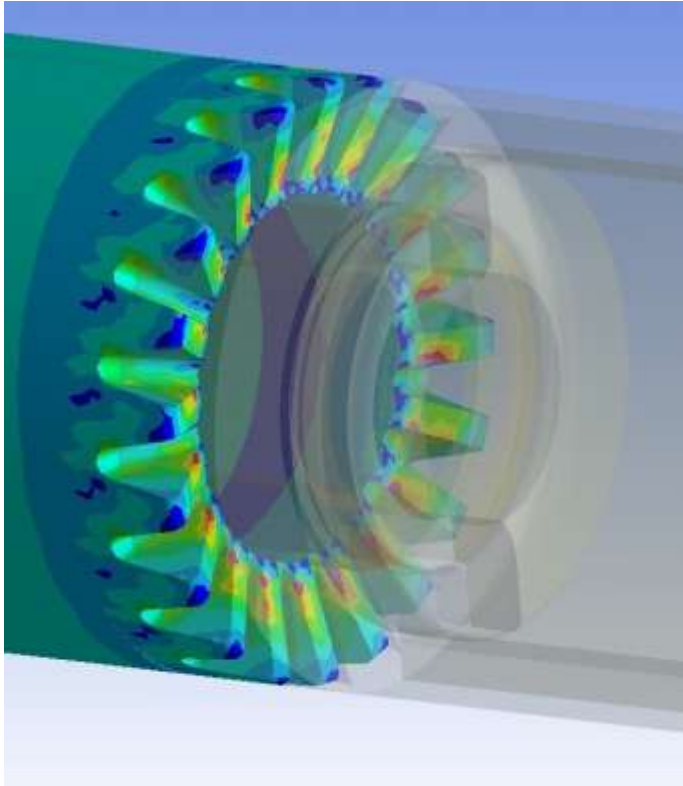
Zoom Tech on titanium spindle



Material :

- high quality titanium alloy (compliant with stringent Aeronautical standard)
- 100% quality check for defect in raw material
- 43 % lighter than steel
- strength comparable with steel
- extremely high corrosion resistance

Zoom Tech on titanium spindle



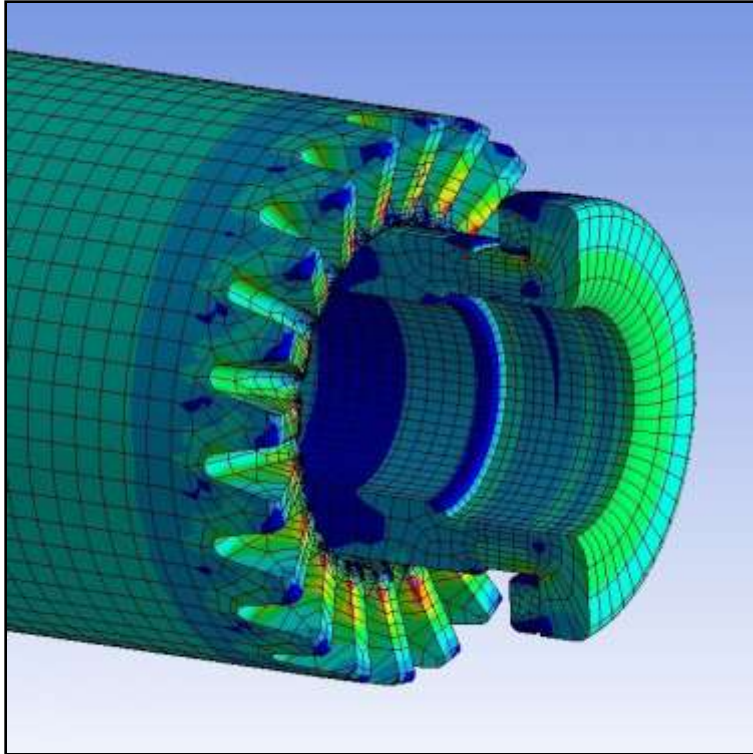
F.E.M simulation on Hirth coupling

Benefits

- 25% lighter than standard UT spindle
- same fatigue life as steel
- exactly same stiffness as steel



Zoom Tech on titanium screw



F.E.M. simulation of coupling
between titanium spindle and
titanium screw

- Same material as spindle
- Special surface protection treatment to reduce friction
- 40% lighter than steel



WEIGHT COMPARISON: 2010 vs 2011

	SUPER RECORD 11S 2010	SUPER RECORD 11S 2011	SUPER RECORD 11S 2011 (titanium version)
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	1.973 g	1.925 g	1.885 g
			- 88g

RECORD 2011

NEW LOGO

2010 →

RECORD™ 41™

2011 →

RECORD™

REAR DERAILLEUR



Weight: 172 g (-7g)



New fixing screw

- anodized aluminum alloy instead of steel
- lighter and durable



Ceramic ball bearings on lower roller

- lower friction
- longer life



New bi-color graphics



New finishing:

- "Full black"

FRONT DERAILLEUR



Options:

- braze-on
- clip-on Ø 32 mm
- clip-on Ø 35 mm

Weight: 74 g



New front lever:

- optimized geometry for improved shifting performance



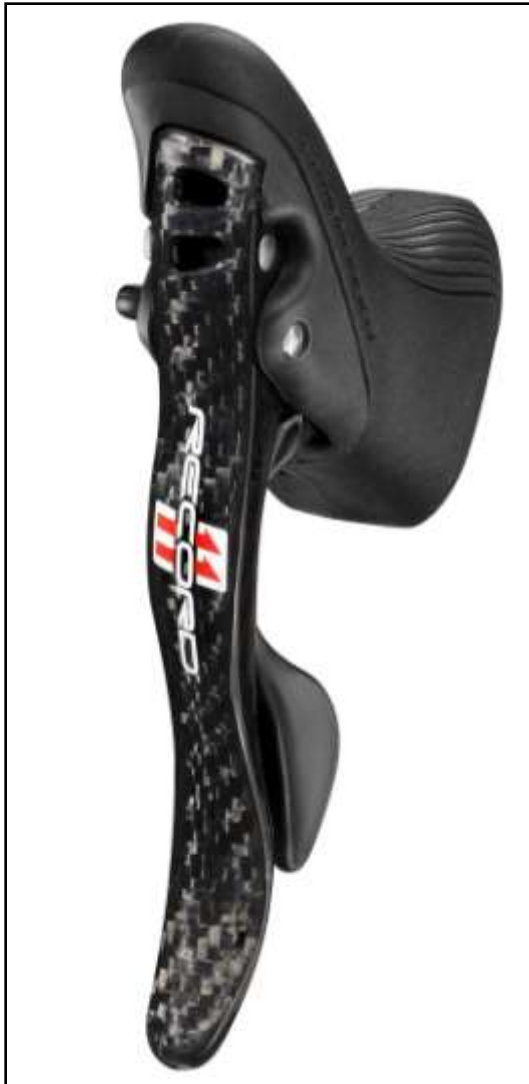
New bi- color graphics



New finishing:

- "Full black"

ERGOPOWER™



Weight: 337 (-10g)

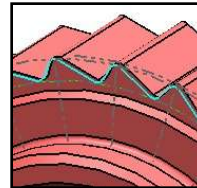
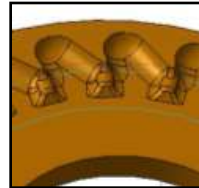


Ergopower body:

- new lighter and stiffer material



New lightened brake levers



New right indexation:

- improved rear shifting with critical internal cable routing frame



New optimized left coiling cable bushing:

- Improved front shifting performance



New bi-color graphics

ULTRA-TORQUE™ CRANKSET



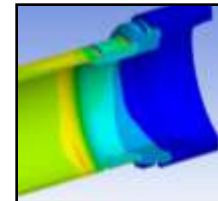
Weight: 683g (-16g) (with BB)



New chainring geometry:
• X.P.S.S. eXtreme Performance Shifting System



New chainring fixing system



New lightened UT spindle

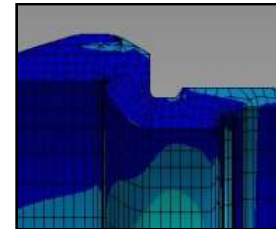


New bi-color graphics

NEW UltraTorque CUPS



New marking

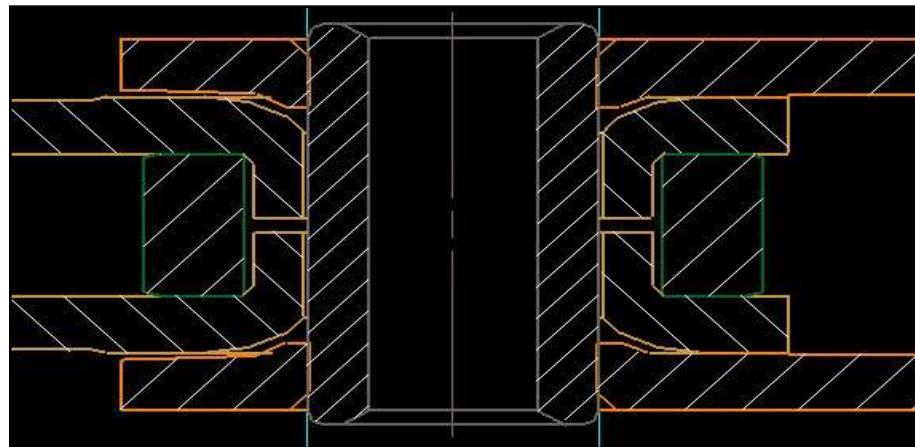


New Lightned cups:

Working on low stress area we obtained:

- Same stiffness
- Same fatigue life
- Lower weight (-11%)

CHAIN



Lightened hollow pin

Weight: 239g (-3g)

BRAKES

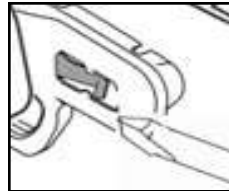


Weight: 278g (- 4g)



New brake shoe:

- new lightened aluminum brake shoe



New pad fixing system :

- safe for US rules
- Easy pad assembling/disassembling

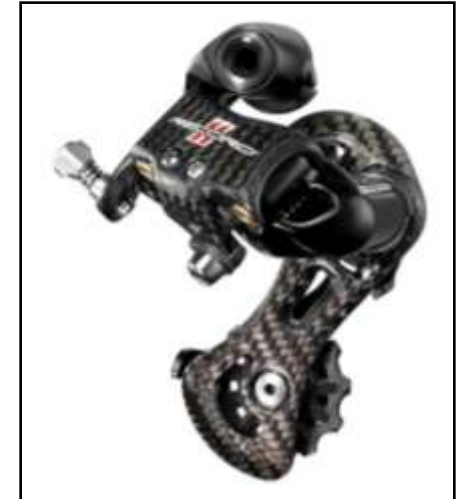


New bi-color graphics



New pad compound :

- better performance in all weather conditions
- low wear on rim



TECHNICAL IMPROVEMENTS ON RECORD : 2011 vs 2010

- *new bi-color graphics*
 - *full black finishing*
 - *innovative and lighter rear der. fixing screw*
 - *improved front der. shifting performance*
 - ✓ *front lever*
 - ✓ *cable coiling bushing*
 - ✓ *new chainring geometry*
 - *new lighter and high strength material for Ergo body*
 - *improved indexation for rear shifting (critical frames)*
 - *new chainrings fixing system*
 - *new lightened UT spindle*
 - *new lightened cups*
 - *lightened chain pins*
 - *new pad compound*
 - *new brake shoes and pad fixing system*
-

WEIGHT COMPARISON: 2011 vs 2010

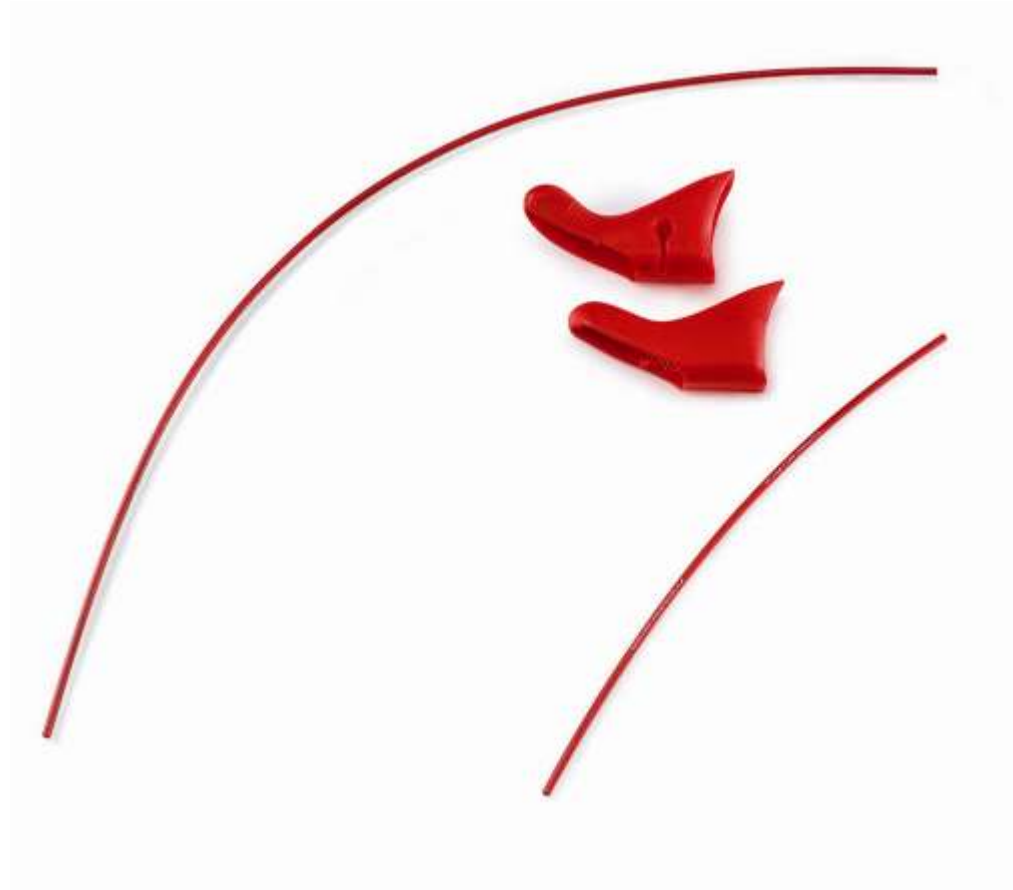
	RECORD 11S 2010	RECORD 11S 2011
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	2.025 g	1984 g
		- 41g

OPTIONS AVAILABLE for RECORD 11S

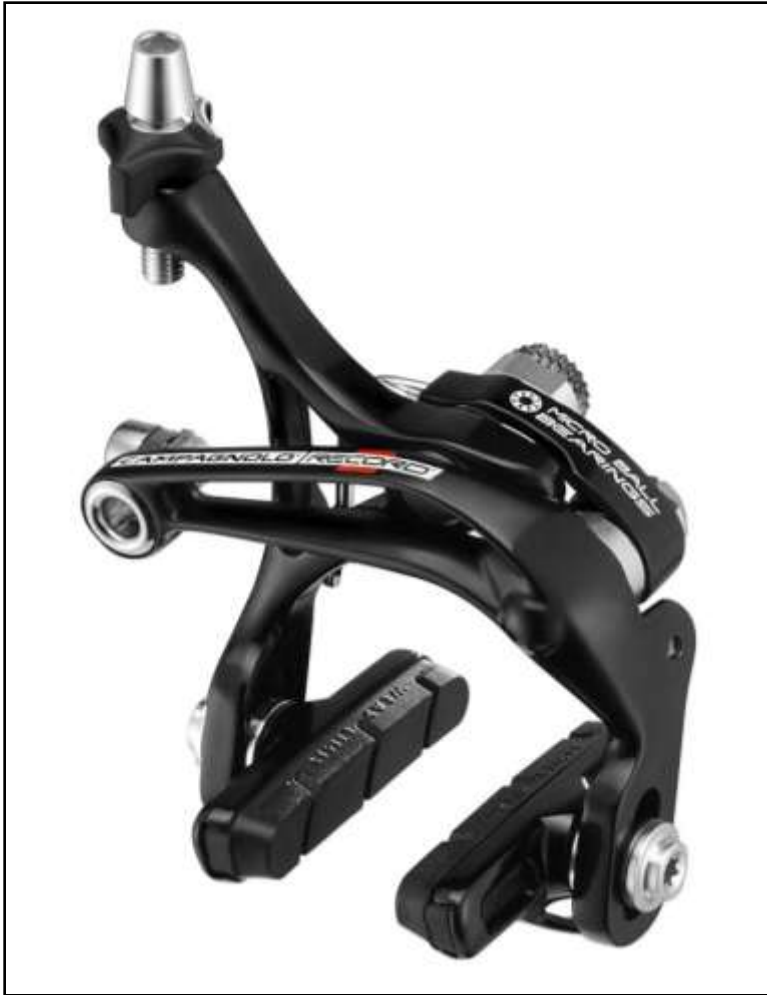
OPTIONS - 1: WHITE HOODS/CABLE SET



OPTIONS - 2: RED HOODS/CABLE SET



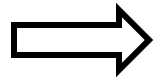
OPTIONS – 3: DUAL PIVOT FRONT/REAR BRAKES



CHORUS 2011

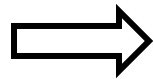
NEW LOGO

2010



CHORUS™ 41™

2011



CHORUS™
W

REAR DERAILLEUR



New fixing screw :

- Anodized alluminum alloy instead of steel
- Lighter and durable



New graphics



New finishing:

- “Full black”

Weight: 186 g (-6g)

FRONT DERAILLEUR

**Options:**

- braze-on
- clip-on Ø 32 mm
- clip-on Ø 35 mm

Weight: 76 g

**New front lever:**

- Optimized geometry for improved shifting performance

**New graphics****New finishing:**

- "Full black"

ERGOPOWER™

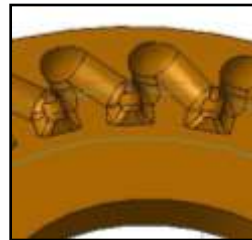
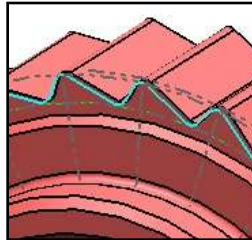


Weight: 337 (-10g)



Ergopower body:

- New lighter and stiffer material



New right indexation:

- Improved rear shifting with critical internal cable routing frame



New optimized left coiling cable bushing:

- Improved front shifting



New graphics

ULTRA-TORQUE™ CRANKSET



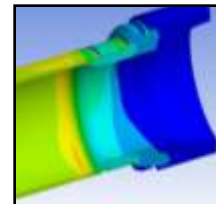
Weight: 723g (-16g) (with BB)



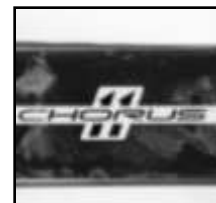
New chainring geometry:
• X.P.S.S. eXtreme Performance Shifting System



New chainring fixing system



New lightened UT spindle



New graphics

BRAKES

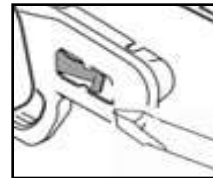


Weight: 299g (- 19g)



New brake shoe:

- new lightened aluminum brake shoe



New pad fixing system :

- safe for US rules
- easier assembling/disassembling



Aluminum nuts

- Lighter



New graphics and finishing:

- New look "full black"



New pad compound :

- better performance in all weather conditions
- low wear on rim



TECHNICAL IMPROVEMENTS ON CHORUS: 2011 vs 2010

- *new graphics and “full black” finishing*
 - *innovative and lighter rear der. fixing screw*
 - *improved front der. shifting performance*
 - ✓ *front lever*
 - ✓ *cable coiling bushing*
 - ✓ *new chainring geometry*
 - *new lighter and high strength material for Ergo body*
 - *improved indexation for rear shifting (critical frames)*
 - *new chainrings fixing system*
 - *new lightened UT spindle*
 - *new lightened cups*
 - *new brake shoes and pad fixing system*
 - *new pad compound*
 - *new aluminum brake nuts*
-

WEIGHT COMPARISON: 2011 vs 2010

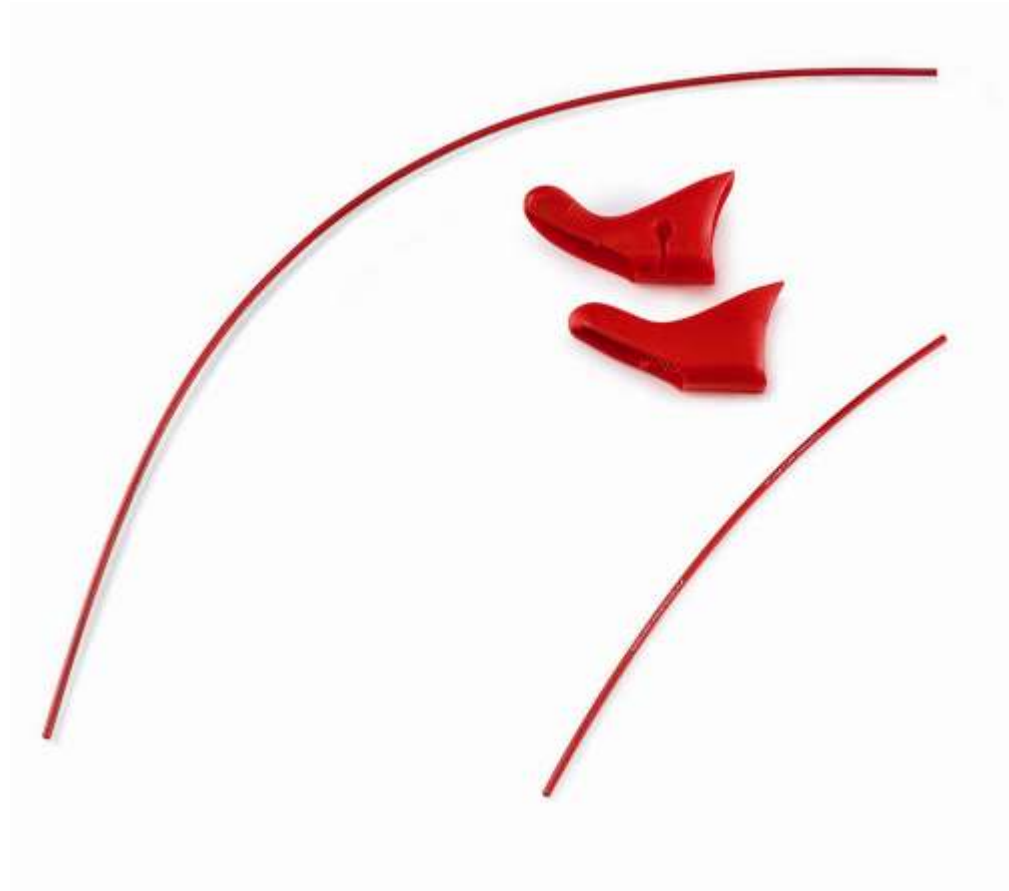
	CHORUS 11S 2010	CHORUS 11S 2011
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	2.157 g	2.106 g
		- 51g

OPTIONS AVAILABLE for CHORUS 11S

OPTIONS - 1: WHITE HOODS/CABLE SET



OPTIONS - 2: RED HOODS/CABLE SET



OPTIONS – 3: DUAL PIVOT FRONT/REAR BRAKE



ATHENA 2011

ERGOPOWER



New Power-Shift™ mechanism



New 11 speed graphics

Weight: 372 g

REAR DERAILLEUR



Weight: 208 g (-
10g)



New fixing screw:

- Anodized aluminum alloy instead of steel
- Lighter and durable

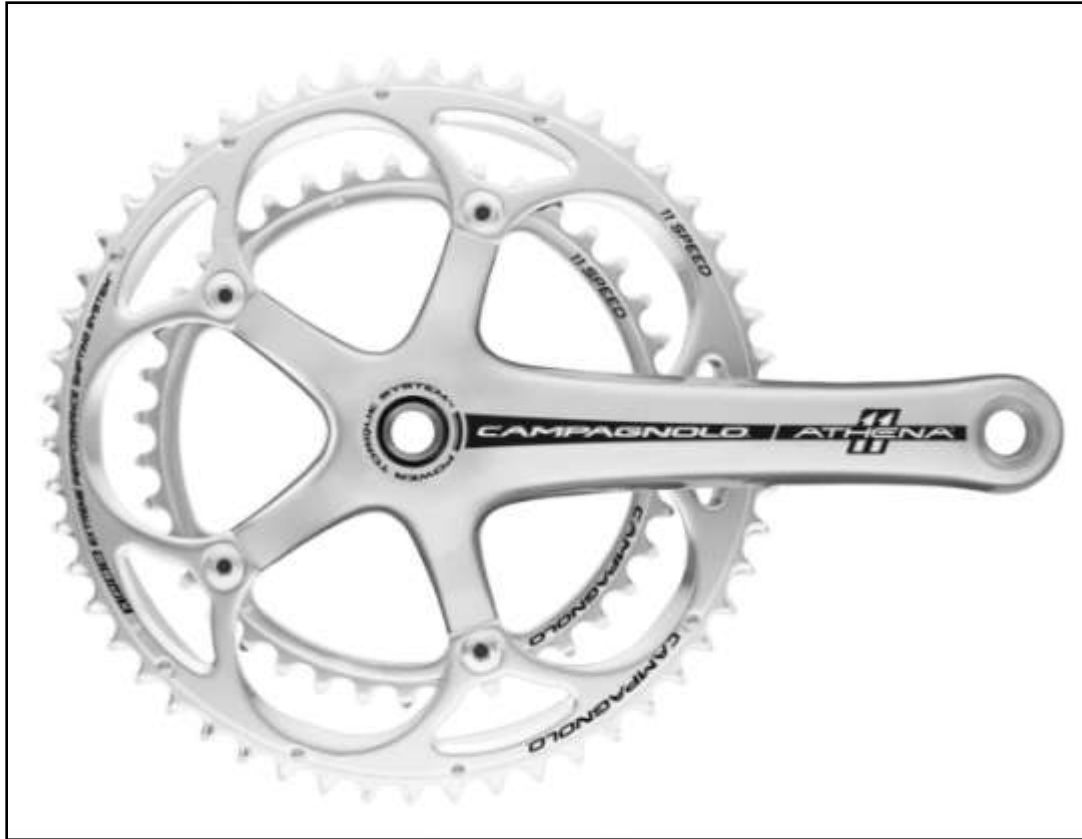


New lightened upper body



New graphics

CRANKSET – POWER TORQUE SYSTEM™



Weight: 817 g (with BB)



New chainring geometry:

- X.P.S.S. : eXtreme Performance Shifting System



Power Torque System:



New Lightened crank



New graphic

FRONT DERAILLEUR



New graphic

Options:

- braze-on
- clip-on Ø 32 mm
- clip-on Ø 35 mm

Weight: 92 g

BRAKES



New aluminum nuts:

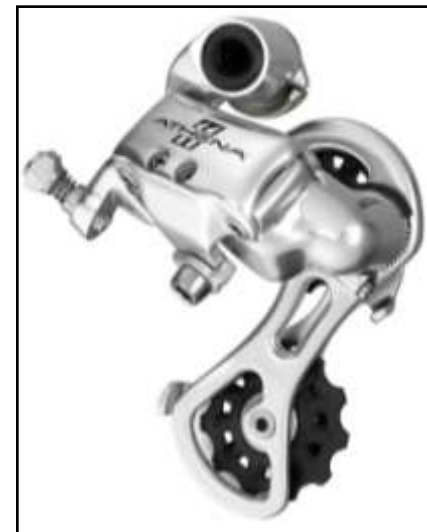
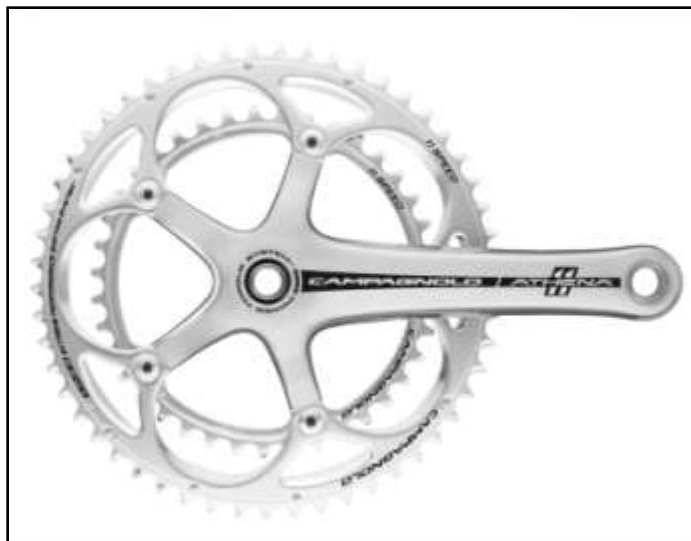
- Lighter



New pad compound :

- better performance in all weather conditions
- low wear on rim

Weight: 305g (-17g)



TECHNICAL IMPROVEMENT ON ATHENA: 2011 vs 2010

- *new graphics and full silver finishing*
- *new Power Shift mechanism system on Ergopower*
- *innovative and lighter rear der. fixing screw*
- *improved front shifting (new chainring geometry)*
- *new improved indexation for rear shifting*
- *new Power Torque system*
- *new lightened cups*
- *new aluminum brake nuts*

WEIGHT COMPARISON: 2011 vs 2010

	ATHENA 11S 2010	ATHENA 11S 2011
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	2.369 g	2.279 g
		- 90g

OPTIONS AVAILABLE for ATHENA 11S

OPTIONS – 1: CARBON VERSION



Brake lever:

- Carbon fiber with aluminum core

Weight: 372 g

OPTIONS – 2: CARBON FIBER CRANKSET

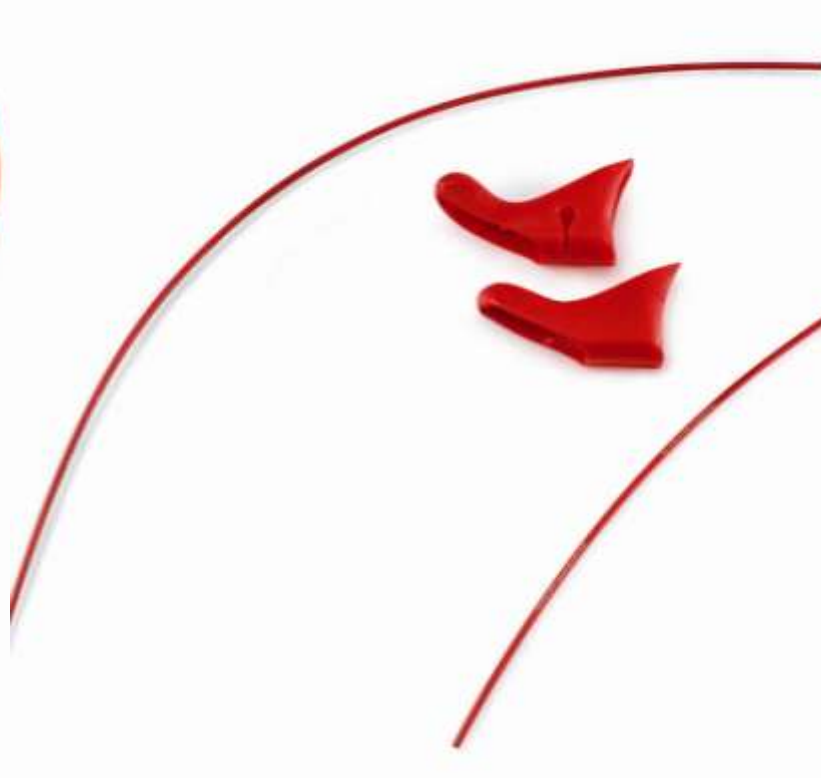


Weight: 726 g
(with BB)

OPTIONS - 3: WHITE HOODS/CABLE SET



OPTIONS - 4: RED HOODS/CABLE SET



WEIGHT COMPARISON : 2011 vs 2010

	ATHENA CARBON 2010	ATHENA CARBON 2011
TOTAL GROUPSET WEIGHT (g) 53/39 – 172,5	2.257 g	2.187 g
		- 70g

AVAILABLE CUPS

ULTRA-TORQUE CUPS: Options available

GROUPSET	Standard ITA	Standard ENG	BB30 68x42	86,5 x 41	BB30 68x46
SUPER RECORD					
RECORD/ CHORUS					

POWER-TORQUE CUPS: Options available

GROUPSET	Standard ITA	Standard ENG	BB30 68x42	86,5 x 41	BB30 68x46
ATHENA CENTAUR VELOCE					