



SUGINO

SPIRIT of JAPAN

2017

2017

Bicycle PARTS

Brand Story

Sugino has over a century of experience as a bicycle parts maker focusing on high-end parts.

Because of its reliable quality, *Sugino* also produces OEM parts for well-known complete bicycle makers.

Especially, its drive-train parts are chosen by many athletes in various competitions, such as Tour de France, Giro d'Italia, World Championship, Olympics, etc. And contribute their winnings.

Thus, with the know-how accumulated through its long experience, *Sugino* can offer higher-quality parts.

SUGINO ENGINEERING CORPORATION

<https://www.suginold.co.jp/us/>

Feb. 2017 Sugino Printed in Japan



www.suginold.co.jp/us/

ENGLISH

OX

Ø24mm Through Axle



The OX crank offers advanced performance in various scenes. Unique system called "Compact Plus+" enables the use of super small inner rings. OX901D is 10% lighter than the conventional model, and designed anew for smoother shifting.



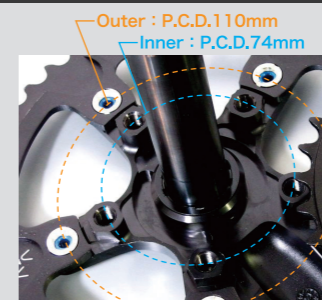
OX901D Compact Plus+ OX901D Classic Compact Plus+

- P.C.D. : 110mm - 110mm / 74mm
- Axle Type : IDS24
- B.B. : MB-608 (BSA) STEEL with B.B.
- Compatibility : SHIMANO 11 Speed / 10 Speed
- Chain Line : 43.5mm
- Q-Factor : 145mm
- Crank Material : Hard forged aluminum alloy
- Crank Length : 160 / 165 / 167.5 / 170 / 172.5 / 175mm
- Color : Silver / Black
- Combinations : 52-36T
50-36T / 50-34T
48-36T / 48-34T / 48-32T
46-36T / 46-34T / 46-32T / 46-30T
44-32T / 44-30T



What is the Compact Plus+?

It is a double crank but designed to use both 74mm and 110mm PCDs. This mounting pattern is SUGINO original, called "Compact Plus+", which enables the use of inner ring smaller than 34T and ensures a wide range of compatible rings and effective gear ratios. Compact Plus+ offers higher performance in such scenes that require physical strength, like hill climbing, cyclocross, granfondo.



Compact

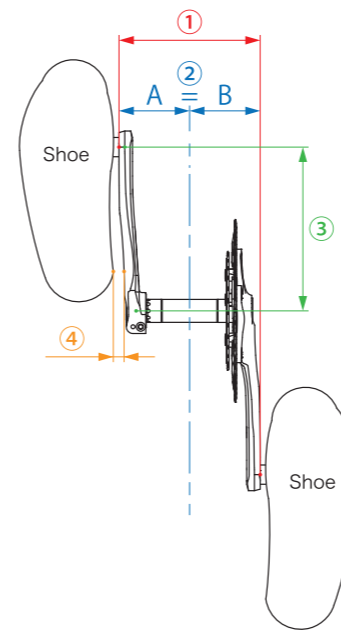
PCD 110mm

- 52-36T
- 50-36T / 50-34T
- 48-36T / 48-34T
- 46-36T / 46-34T

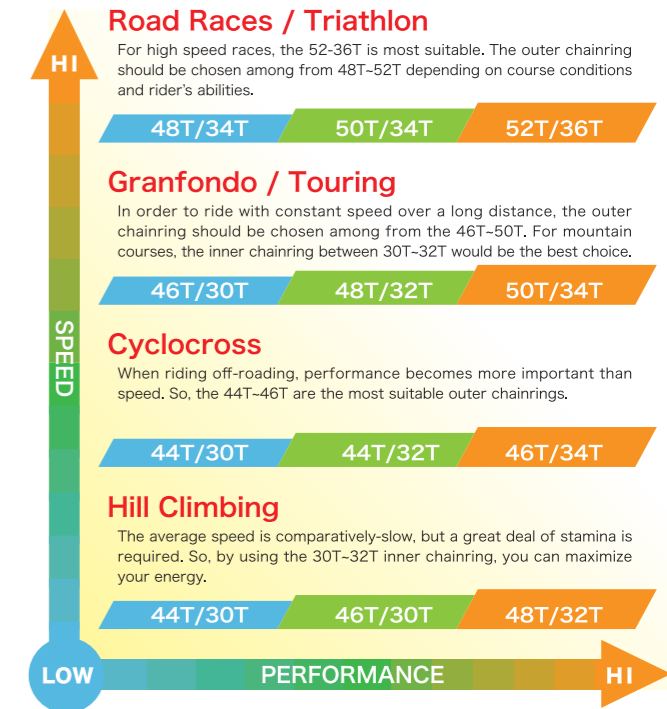
Compact Plus+

PCD 110mm-74mm

- 48-32T
- 46-32T / 46-30T
- 44-32T / 44-30T



Not only a wide range of gearing ratios, OX offers superior shifting for various riders in various scenes. Thus, we never compromise on quality of performance.



Road Races / Triathlon
For high speed races, the 52-36T is most suitable. The outer chainring should be chosen among from 48T-52T depending on course conditions and rider's abilities.

Granfondo / Touring
In order to ride with constant speed over a long distance, the outer chainring should be chosen among from the 46T-50T. For mountain courses, the inner chainring between 30T-32T would be the best choice.

Cyclocross
When riding off-road, performance becomes more important than speed. So, the 44T-46T are the most suitable outer chainrings.

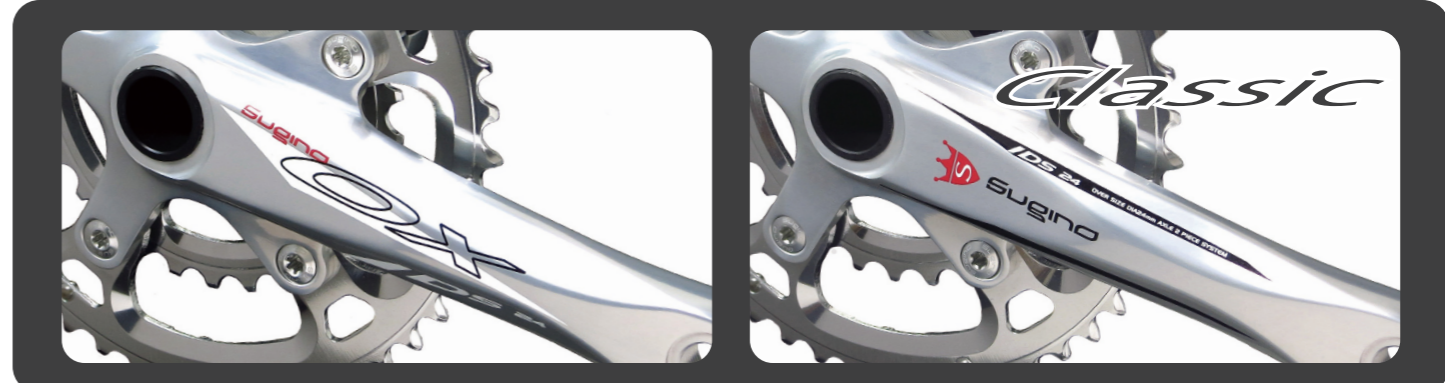
Hill Climbing
The average speed is comparatively-slow, but a great deal of stamina is required. So, by using the 30T-32T inner chainring, you can maximize your energy.

ACCESSORY



* See page 10.

We offer two graphic designs and two color options on each design, bringing your choices to four.



* The same specification but with different graphics.

B.B. CONVERTER

The BB Converter series makes it possible to install a 24mm spindle in various frames.

NEW

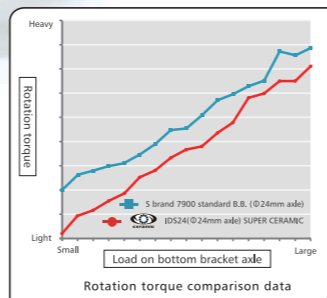
The BB converter series is completely renewed. In addition to the excellence of the rotational performance, the stiffness of the cup is increased, so the cup is less deformable when press-fitted to the frame. The seal is also improved, providing a great protection against dust without impairing the rotational performance.



SUPER CERAMIC



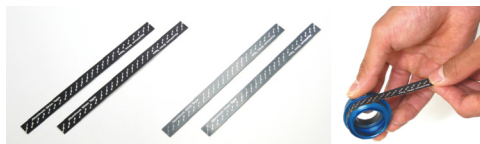
High-end, high precision ceramic bearing realizes smooth rotation. Riding on the ceramic bearing gives you lighter pedal strokes and improve your pedal technique. So, it helps you maximize your performance during competitions.



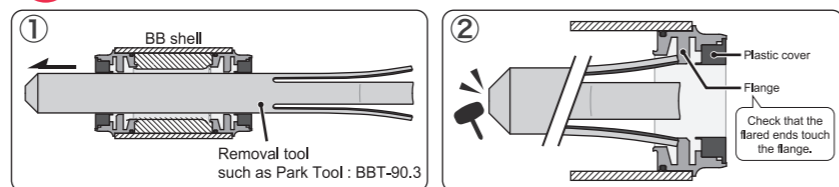
Aluminum Shim Tape

For Sugino press fit BB series, which is used to compensate for gaps between the BB and frame by wrapping it around the BB cup and secure the BB.

Set contents : 2 x Black (thick) & 2 x Grey (thin)

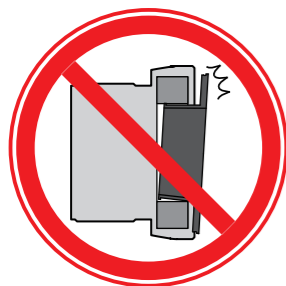


NEW For the Press fit BB, a hammer type removal tool can be used.



SUGINO BB converter series

Extremely Important Points for Maintenance



Do Not Disassemble



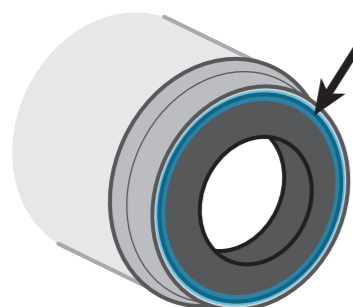
No High pressure washing



No Degreasing



No Brush cleaning



OK

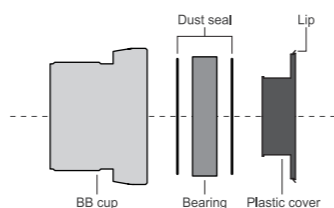
Plastic cover



- 1, Wipe off dirt.
- 2, Apply oil and wipe away any excess.

Do Not Disassemble

Never remove plastic cover and dust seal of the bearing. The warranty is void if part is disassembled.



As the bearing is a very precise part, its assembly must be spotlessly clean. So, overhauling the cup unit will impair its functions. **SUGINO** BB converter series includes excellent water and dustproof structure and provides maintenance-free operation.

Periodical maintenance on the plastic cover will add longevity, (as per the left illustration).

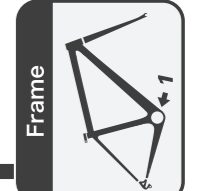
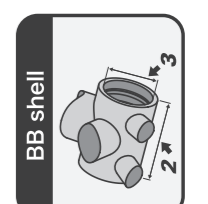
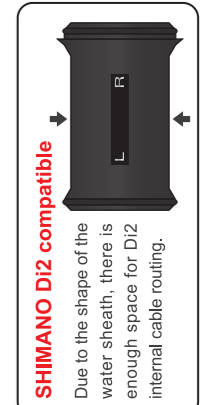
B.B. Converter List

OVERSIZED BB SYSTEMS **IDS 24** CONVERTER

Model	Material	Width	Height
BB 30A-IDS24	SUPER CERAMIC	42mm	73mm
BB 30-IDS24	SUPER CERAMIC	42mm	68mm
BB PF30A-IDS24	SUPER CERAMIC	46mm	73mm
BB PF30-IDS24	SUPER CERAMIC	46mm	68mm
BB 3B6EVO-IDS24	SUPER CERAMIC	46mm	86.5mm
BB SHPF-IDS24	SUPER CERAMIC	41mm	86.5mm
BB BSA-IDS24	SUPER CERAMIC	37x24T	68mm
BB 30A-IDS24	STEEL	42mm	73mm
BB 30-IDS24	STEEL	42mm	68mm
BB PF30A-IDS24	STEEL	46mm	73mm
BB PF30-IDS24	STEEL	46mm	68mm
BB 3B6EVO-IDS24	STEEL	46mm	86.5mm
BB SHPF-IDS24	STEEL	41mm	86.5mm
BB BSA-IDS24	STEEL	37x24T	68mm

Threaded	Model	Width	Height
1	BSA	BC1.37 x 24T	68mm
2	BB30A	42mm	73mm
3	BB30	42mm	68mm
	PF30A	46mm	73mm
	PF30	46mm	68mm
	BB386EVO	46mm	86.5mm
	PF BB86	41mm	86.5mm

Press fit



* When purchasing the BB, please consult with a specialty store.

CXC

Ø24mm Through Axle



The chainwheel set specialized for Cyclocross, featuring CYCLOID II inner ring and high-rigid aerodynamic outer ring.



NEW CXC901D

P.C.D.	: 110mm - 74mm
Axle Type	: IDS24
B.B.	: MB-608 (BSA) STEEL with B.B.
Compatibility	: SHIMANO 11 Speed / 10 Speed
Chain Line	: 43.5mm
Q-Factor	: 145mm
Crank Material	: Hard forged aluminum alloy
Crank Length	: 160 / 165 / 167.5 / 170 / 172.5 / 175mm
Color	: Black
Combinations	: 46-36T

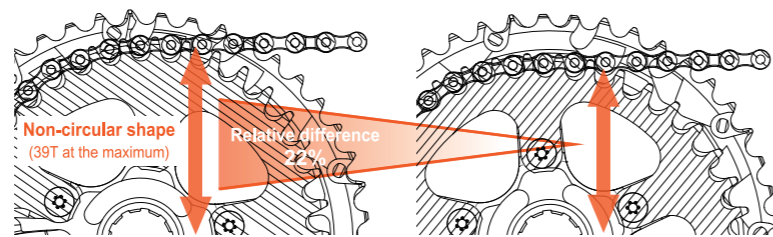


Outer chainring

High-rigid, aerodynamic chainring offers advanced performance in all high speed sections where sprint is necessary. As the solid plate ring provides more surface area, it effectively keeps foreign matter from getting inside.

Inner chainring **CYCLOID II**

Non-circular inner ring incorporating Autofocus mechanism alternates gearing up to 39T. The extreme relative difference allows you to quickly spin through the top and bottom dead spots and ride through difficult terrain such as mud, soil and steep slope.



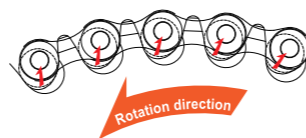
The special tooth profile prevents chain-drop and mud clogging.



What is Autofocus mechanism?

When the great amount of power is produced in the pedal stroke, the chain moves outward, and the ring increases the diameter to the maximum. As the gearing is modulated automatically according to the pedal power, you can get effective gearing throughout the pedal stroke.

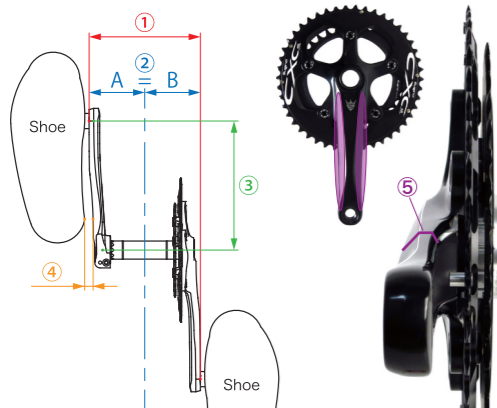
At the most powerful moment of the stroke



- There is no need of pedal stroke analysis for detecting peak point or adjustment of mounting position.
- As positional relation with outer ring is fixed, excellent shifting is ensured.

Crank

- ① Super Low Q-factor 145mm
It ensures smoother and efficient pedaling.
- ② Perfectly symmetrical Q-factor
It ensures smoother and efficient pedaling.
- ③ Variety of crank lengths
Available from 160mm up to 175mm depending on physical needs and riding styles.
- ④ Large ankle clearance
It keeps the shoe from rubbing the crank and helps to prevent mud clogging.
- ⑤ Chamfering
The chamfering applied on the side of the crank helps to clear mud.



EXP

Ø30mm Through Axle



The chainwheel set for professionals, combining both lightweight and high strength, with a 30mm axle for BB30 or PF30 bottom bracket.



High-end model featuring "ZEN STRADA" EXP130 ZEN STRADA

P.C.D.	: 130mm
Axle Type	: IDS30
B.B.	: select from ①~④ types below
Compatibility	: SHIMANO 11 Speed / 10 Speed
Chain Line	: 43.5mm
Q-Factor	: 145mm
Crank Material	: Hard forged aluminum alloy
Crank Length	: 165 / 167.5 / 170 / 172.5 / 175mm
Color	: Black
Combinations	: 54-42T / 54-39T 53-42T / 53-39T



PCD110mm model with various gearing options EXP110 - 901D

P.C.D.	: 110mm
Axle Type	: IDS30
B.B.	: select from ①~④ types below
Compatibility	: SHIMANO 11 Speed / 10 Speed
Chain Line	: 43.5mm
Q-Factor	: 145mm
Crank Material	: Hard forged aluminum alloy
Crank Length	: 165 / 167.5 / 170 / 172.5 / 175mm
Color	: Black
Combinations	: 52-36T 50-36T / 50-34T 48-36T / 48-34T 46-36T / 46-34T



Entry-level model EXP110 - 601D

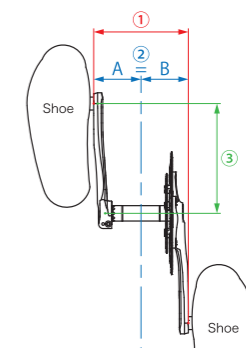
P.C.D.	: 110mm
Axle Type	: IDS30
B.B.	: select from ② or ④ types below
Compatibility	: SHIMANO 11 Speed / 10 Speed
Chain Line	: 43.5mm
Q-Factor	: 145mm
Crank Material	: Hard forged aluminum alloy
Crank Length	: 165 / 167.5 / 170 / 172.5 / 175mm
Color	: Silver / Black
Combinations	: 52-36T 50-36T / 50-34T 48-36T / 48-34T 46-36T / 46-34T



"ZEN STRADA" is Super high-performance chainring, the only road model in ZEN series.

- Aero-shape design suitable for time trial and triathlon
- The world highest level of rigidity
- Precision machined ultra-round ring, no wobbling, less chain noise
- Smooth shifting without loss of power

Weight reduction is also achieved by recessing the backside without impairing rigidity.



- ① Super Low Q-factor 145mm
- ② Perfectly symmetrical Q-factor
It ensures smoother and efficient pedaling.
- ③ Variety of crank lengths
Available from 165mm up to 175mm depending on physical needs and riding styles.



Super Aero

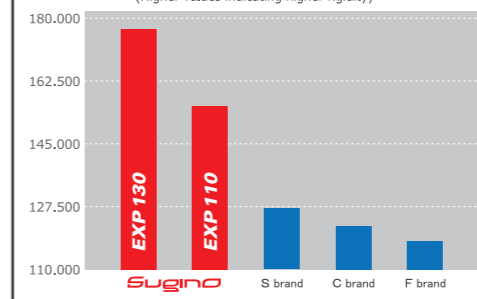
As the spider arms are flat in the same plane as the chainring, the arms are invisible when viewed from the front of the bike. Thus, it is designed to minimize air resistance and maximize aerodynamic effect.

Direct Drive

As the spider arms are flat in the same plane as the chainring, the pedaling power is directly transmitted to the drive.

High-rigid

Rigidity Comparison data of high-end chainwheels
(Higher values indicating higher rigidity)



Mighty

Square Taper Axle



The classic style, square taper chainwheel set, 11 speed compatible, excellent in shifting, incorporating latest technologies.

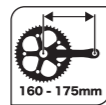
The classic style unaltered through time, succeeded the name of

SUGINO MIGHTY

Mighty Series is popular for its classic, slim style and strikingly beautiful finish. For longtime bike lovers, Mighty series makes your bike more grand and gorgeous.



Mighty series is 11 speed / 10 speed compatible and works with many of the current Shimano components, used on JIS square taper BB (CBBAL-110).

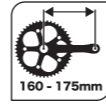


Mighty Tour - 901D

- P.C.D. : 110mm
- Type : 4-TAPER (JIS)
- B.B. : CBBAL-110
- Compatibility : SHIMANO 11 Speed / 10 Speed
- Chain Line : 43.5mm
- Crank Material : Forged aluminum alloy
- Crank Length : 160 / 165 / 167.5 / 170 / 172.5 / 175mm
- Color : Silver / Black
- Combinations : 52-36T
50-36T / 50-34T
48-36T / 48-34T
46-36T / 46-34T



Black



PCD130mm model, available in bigger chainrings

Mighty Comp.Road - 901D

- P.C.D. : 130mm
- Type : 4-TAPER (JIS)
- B.B. : CBBAL-110
- Compatibility : SHIMANO 11 Speed / 10 Speed
- Chain Line : 43.5mm
- Crank Material : Forged aluminum alloy
- Crank Length : 160 / 165 / 167.5 / 170 / 172.5 / 175mm
- Color : Silver / Black
- Combinations : 53-39T / 53-38T
46-39T / 46-38T



Black



Very short crank model

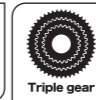
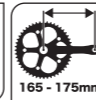
Mighty Mignon - 901D

- P.C.D. : 110mm
- Type : 4-TAPER (JIS)
- B.B. : CBBAL-110
- Compatibility : SHIMANO 11 Speed / 10 Speed
- Chain Line : 43.5mm
- Crank Material : Forged aluminum alloy
- Crank Length : 140 / 145 / 150 / 155mm
- Color : Silver / Black
- Combinations : 52-36T
50-36T / 50-34T
48-36T / 48-34T
46-36T / 46-34T



Black

ALPINA2



ALPINA2 Triple

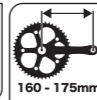
- P.C.D. : 110mm - 110mm - 74mm
- Type : 4-TAPER (JIS)
- B.B. : CBBAL-113
- Compatibility : SHIMANO 10 Speed
- Chain Line : 45mm
- Crank Material : Forged aluminum alloy
- Crank Length : 165 / 170 / 175mm
- Color : Silver
- Combinations : 48-36-26T
46-36-26T

48-36-26T 46-36-26T

Triple model for long distance ride, such as touring, brevet, makes your ride more comfortable and more fun.



XD3BX



XD3BX - 701D

- P.C.D. : 110mm
- Type : 4-TAPER (JIS)
- B.B. : CBBF-110
- Compatibility : SHIMANO 10 Speed / 9 Speed
- Chain Line : 43.5mm
- Crank Material : Forged aluminum alloy
- Crank Length : 160 / 165 / 167.5 / 170 / 172.5 / 175mm
- Color : Silver / Black
- Combinations : 50-36T / 50-34T
48-36T / 48-34T
46-36T / 46-34T



4-TAPER series

CBBAL

- Axle Type : 4-TAPER(JIS)
- Axle : 103 / 110 / 113 / 116 / 119mm
- Cup Thread : BC1.37 x 24T
- B.B. Width : 68mm
- Cup Material : Aluminum alloy



* Italian (110mm spindle only, shell width 70mm, cup thread M36x24T) is available.

CBBF

- Axle Type : 4-TAPER(JIS)
- Axle : 103 / 110 / 113 / 119mm
- Cup Thread : BC1.37 x 24T
- B.B. Width : 68mm
- Cup Material : Steel



TL-CBB

Installation and removal Tool for cartridge BB.



Extractor #202 / #203B

Square taper crank removal tool.



ACCESSORY



* See page 10.

ROAD CHAINRING

SMALL PARTS

11 Speed / 10 Speed (SHIMANO compatible)

11 SPEED

10 SPEED

Model	ZEN STRADA	EV130S	EV110S	CP110S / CP74S
Image				
Type	for Double	for Double	for Double	for Double (*OX901D Compact Plus+)
P.C.D.	130mm	130mm	110mm	110mm / 74mm
Outer	53 / 54 / 55T	46 / 53T (56T Black)	46 / 48 / 50 / 52T	44 / 46 / 48T
Inner	39 / 42T	38 / 39T (42 / 44T Black)	34 / 36T	— / 30 / 32T
Color	●Black	●Black, ○Polish	●Black, ○Polish	●Black, ○Polish



The chainring is precision CNC (Computer Numerical Control) machined. Both front and back sides are precisely machined. The high rigid shifting pins ensure excellent shifting performance. Weight reduction is also achieved by providing recesses without impairing rigidity and strength.



10 Speed / 9 Speed (SHIMANO compatible)

10 SPEED

9 SPEED

Model	POE110S (D)	POE110S (T)
Image		
Type	for Double	for Triple
P.C.D.	110mm	110mm / 74mm
Outer	46 / 48 / 50T	46 / 48T
Center	—	36T
Inner	34 / 36T	— / 26T
Color	○Silver	○Silver

Front Derailleur Position for installing Chainwheel

Before installation, please measure the A and B dimensions as shown in the illustration and check them to make sure that they meet dimensional requirements in the table below.

A dimension (from center of BB to front end of FD)	Teeth number of outer chainring							
	56T	54T	53T	52T	50T	48T	46T	44T
B dimension (from chain stay to rear end of FD)	117 mm	113 mm	111 mm	109 mm	105 mm	101 mm	97 mm	93 mm
	2mm or more							

If you have questions regarding installation and handling, please contact a professional. Incorrect installation and setting may damage the parts and lead to serious accidents.

8 Speed / 7 Speed

8 SPEED

7 SPEED

Model	130J	110J	74J	110J & 74J
Image				
Type	for Double	for Double / Triple	for Triple	Triple set
P.C.D.	130mm	110mm	74mm	110 - 110 - 74mm
Outer	46 / 48 / 50 / 52 / 53 / 54 / 56 / 60T	46 / 48 / 50 / 52 / 53 / 54T	—	Combination 110J - 110J - 74J
Center	—	34 / 36 / 38 / 39 / 40 / 42 / 44T (*Double inner / Triple center)	—	48 - 38 - 28T 48 - 36 - 26T 48 - 36 - 24T
Inner	38 / 39 / 40 / 42 / 44T	—	24 / 26 / 28 / 30 / 32T	—
Color	○Silver	○Silver	○Silver	○Silver

CHAINRING FIXING BOLTS & NUTS					
Model	Color	Material	BOLT	NUT	Applicable Model
#801 for OX Compact	Silver	Aluminum alloy	Torx 30	Hexagon 6	OX901D
	Black				
	Blue				
	Red				
	Gold				
	Pink				
	Green				
#803 for OX Compact Plus+	Silver	Aluminum alloy	Torx 30	Normal NUT	OX901D CXC901D
	Black				
	Blue				
	Red				
	Gold				
	Pink				
	Green				
#703 for Double	Silver	Aluminum alloy	Torx 30	Hexagon 6	EXP series Mighty series XD3BX-701D ALPINA2 Triple
	Black				
	Blue				
	Red				
	Gold				
	Pink				
	Green				
#403 for Double for Triple inner	CP	Steel	5 Hexagon	Normal NUT	—
	Black				
	CP				

CHAINRING SPACER		
Model	Material	Put spacers in between outer ring and inner ring to adjust spacing between the rings.
Chainring Spacer set 15 x 10 x 0.5	Φ15 x Φ10mm t0.5mm 5 pieces set	
Chainring Spacer set 15 x 10 x 3.4	Φ15 x Φ10mm t3.4mm 5 pieces set	

CRANK SPACER	
Model	Material
2 piece Crank Adjust Spacer set	Cr-Mo Steel
	Φ29 x Φ24mm t0.5mm 3 pieces set

Cranks spacers for Φ24mm spindles. Put spacers in between crank and bearing to adjust spacing.

4-TAPER BB AXLE BOLTS			
Model	Tool	Material	Reference
KPB	8 Hexagon	Cr-Mo Steel	M8 x 0.1
14BK			
14CP			
15CP			

CRANK DUST CAP		
Model	Tool	Material
CNS Alloy Dust Cap (with 14 bolt)	5 Hexagon	Aluminum alloy

The ultra-lightweight alloy cap and axle bolt set for square taper crank. The wide range of colors allows you to choose the most suitable one for your bike.

SEATPOST CLAMP BOLT			
Model	Size	Tool	Material
Seatpost Clamp Bolt	17mm	5 Hexagon	Cr-Mo Steel (CP finish)
	19mm		
	22mm		
	25mm		

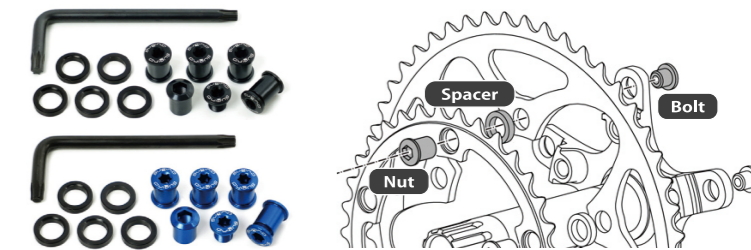
Aluminum alloy

The high-strength aluminum alloy torx bolt is much more durable compared with a standard alloy bolt. It is lightweight, strong and beautifully colored.



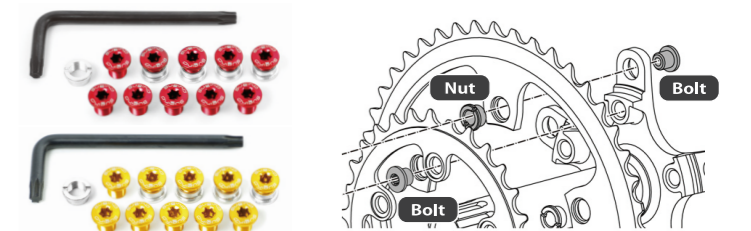
#801 for OX Compact

For OX901D Compact (PCD110mm) w/3.4mm spacers



#803 for OX Compact Plus+

For OX901D Compact Plus+ (PCD110mm - 74mm), For CXC901D



#703 for Double



#403 for Double



#403 for Triple Inner

