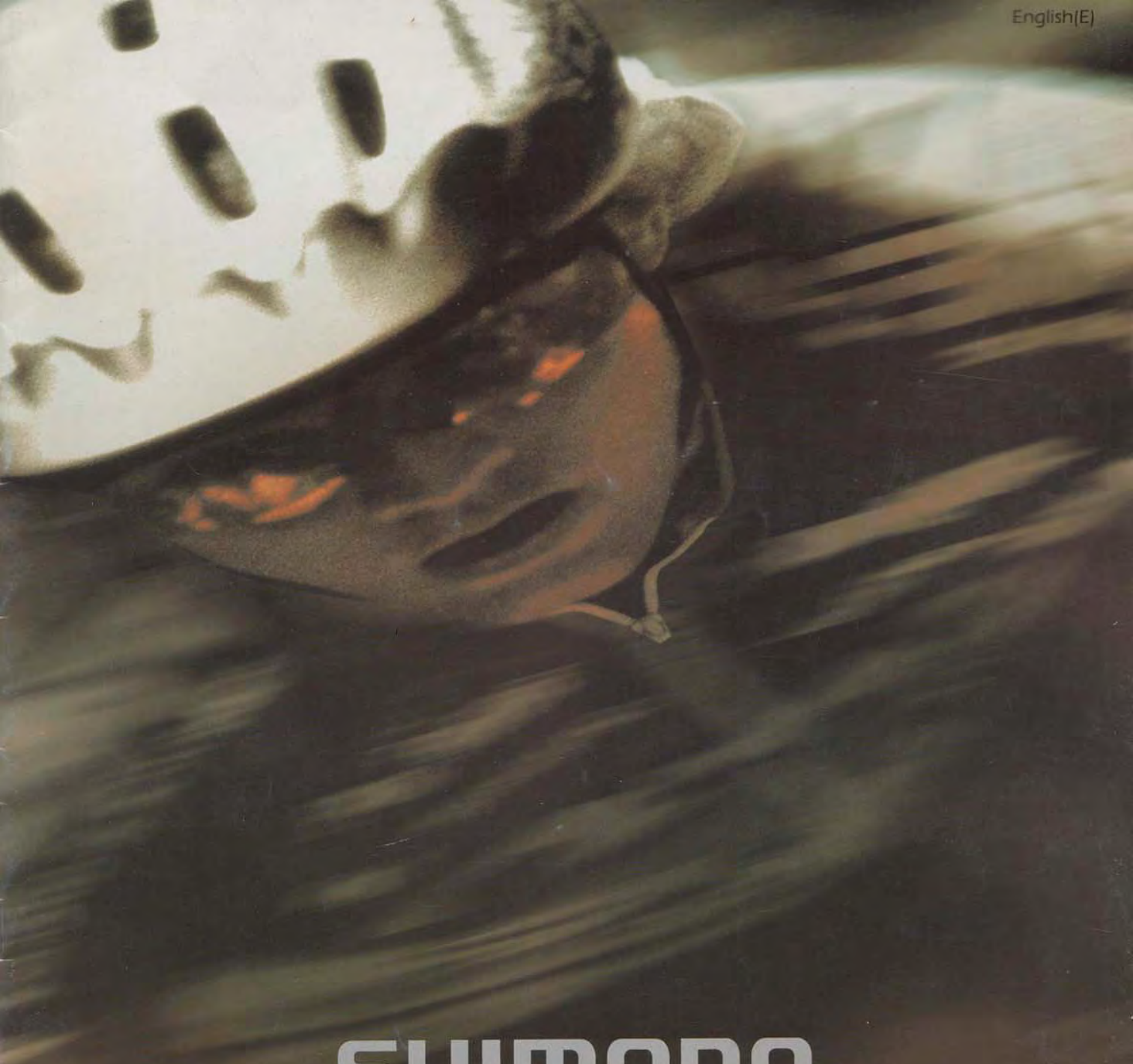


SHIMANO XTR

The new benchmark in off-road racing components.



PERFO

WITHOUT C

Shimano XTR has been completely re-designed to reduse weight while offering you more durability and high-performance functions than ever.

- Component weight has been decreased without any compromise in strength and durability.
- New Rapidfire SL lever delivers faster, more positive shifting through a new short-stroke action.
- V-Brake provides more braking power and improved control.
- Differential plate front derailleur makes chainwheel shifting faster and more positive.
- New crankset reduces weight and increases drive train rigidity through an advanced "spider-less" design.



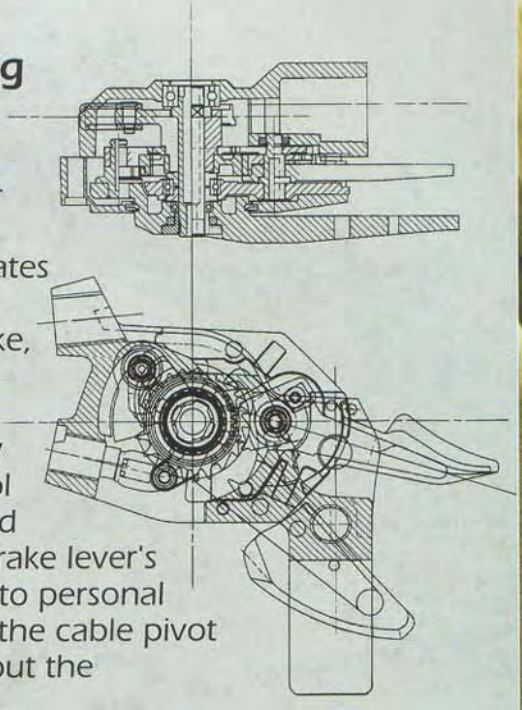
RMANCE
OMPROMISE.

Dave Weins: DIAMOND BACK
Tim Gould: SCHWINN
Henric Djemis: BMW/PROFLEX
Juliana Furtado: GT
Rune Hoydahl: GIANT


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Rapidfire SL...
Short-stroke light-action shifting that just keeps getting better.

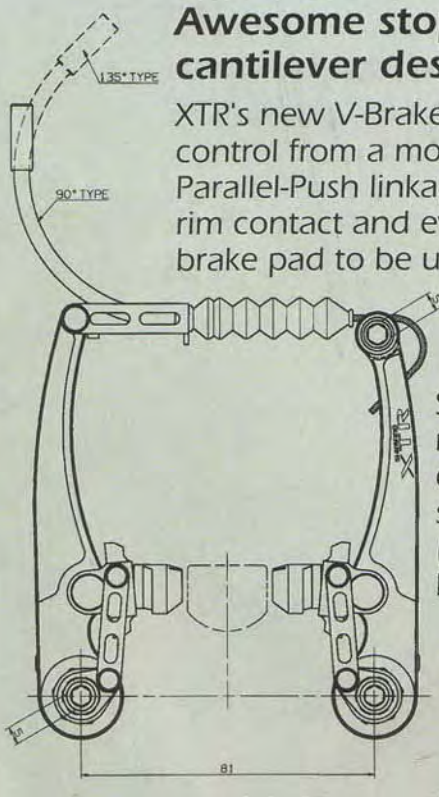
XTR's new Rapidfire SL lever set is 90g lighter than the old unit. Not only lighter and more compact, it uses a new high-precision indexing drum which incorporates three sets of ball bearings. The result is a more precise shifting action, shorter stroke, and decreased effort that combine to reduce hand fatigue, specially during long cross country events. Ergonomically proven underbar design improves control because you shift without changing hand position on the bars. Furthermore, the brake lever's power application ratio can be adjusted to personal preferences by changing the position of the cable pivot on the lever. (Separate brake lever without the Rapidfire shifting unit is also available.)



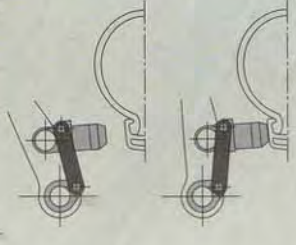
Ball bearing indexing unit provides a more pricise and lighter action with a reduced shift stroke.

The V-Brake...
Awesome stopping power from improved cantilever design.

XTR's new V-Brake delivers increased breaking power and control from a more effective straight cantilever design. The Parallel-Push linkage prevents pad dive-in to assure full pad-rim contact and even pad wear. This allows a thinner, lighter brake pad to be used without any effect on service life. The direct cable linkage maintains the most effective cable/arm angle while eliminating the need for a bridge cable. Self-lubricating long-life pivot bearings maintain precision operation in all environments. The V-Brake mounts to standard cantilever bosses.
(The XTR BR-900-C conventional cantilever brake is still available.)



New V-Brake delivers more braking power with enhanced control.



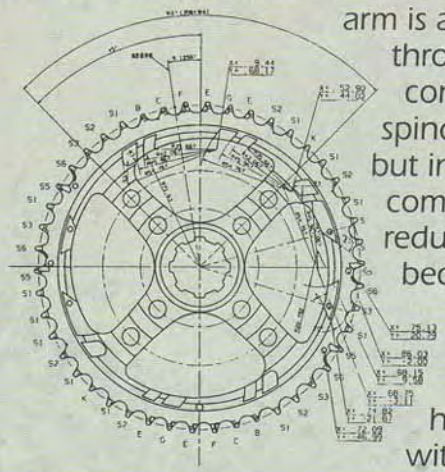
Parallel Push linkage keeps the face of the pad in full contact with the rim for stronger braking and more even pad wear.





Spider-less Crankset... Innovative design reduces weight and increases strength.

The new XTR crankset has been significantly lightened through the use of spider-less hollow forged crank arm. Instead of being mounted to the crank spider with conventional bolts and ring nuts, the large chainring mounts to the base of the crank arm through a special spline and lock ring. The crank arm is attached to the bottom bracket spindle through a tapered spline that provides more contact area than the conventional square spindle end. This design not only reduces weight, but increases the strength and rigidity of the complete crankset assembly. Furthermore, flex is reduced (and power transfer efficiency increased) because the large chainring has a tapered cross section that puts more metal at the mounting spindle. Additional weight is saved in the bottom bracket through the use of a hollow pipe billet spindle that reduces mass without any decrease in strength. (Conventional chainring compatible type FC-M950-HG crankset is also available to mount to the new BB-M950 bottom bracket.)

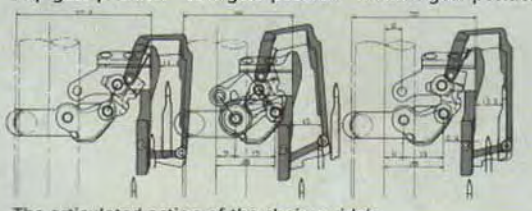


New 4-spoke XTR large chainring mounts to the crank arm through a large spline and lock ring to save weight.

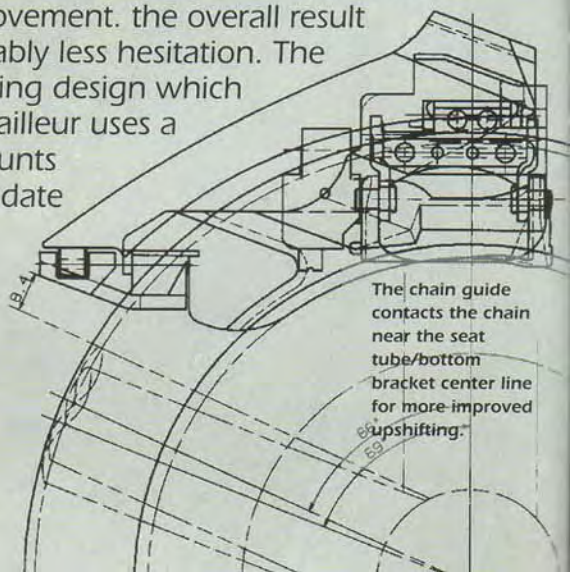
The Differential Plate Front Derailleur... A significant advance in front derailleur design.

XTR now features an innovative "differential plate" front derailleur that accelerates up-shifting. The hinged chain guide operates with an articulated action in which the dimensional relationship between the inner and outer plates actually changes as the shift progresses. The inner plate has a special profile that provides an enlarged chain contact surface which,in combination with its articurated "swing out" action, allows a shorter stroke to complete the shift. Also, the chain contact poit has been set closer to the seat tube/bottom bracket center line. These factors reduse chain-derailleur contact time and "empty" derailleur movement. the overall result is faster, crisper up-shifts with considerably less hesitation. The derailleur also incorporates the Top-Swing design which decrease shifting effort. The E-type derailleur uses a carbon graphite support plate that mounts directly to bottom bracket to accommodate various frame configurations.

Top gear position Low gear position Middle gear position



The articulated action of the chain guide's inner and outer plates provides faster, more precise chainwheel shifting.



The chain guide contacts the chain near the seat tube/bottom bracket center line for more improved upshifting.

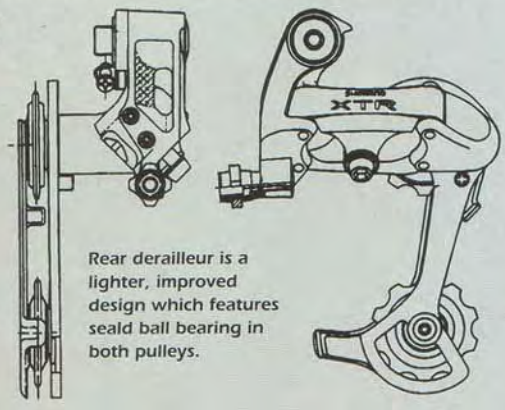

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Rear Derailleur... Precision SIS shifting through a lighter rear derailleur.

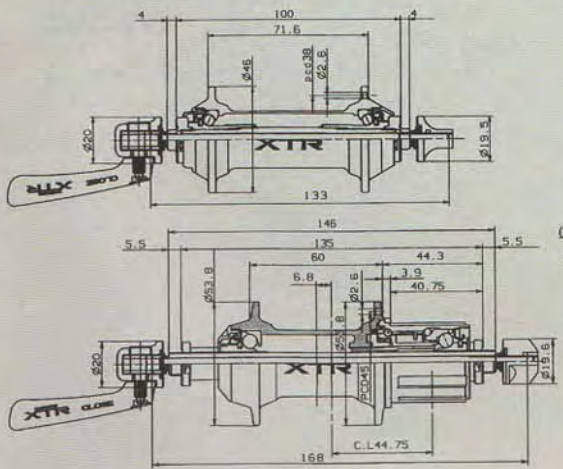
XTR rear derailleur reduces weight through new light weight parallelogram and bracket forgings, titanium mounting pivot bolt, and light alloy pulley plate and pulley pivot. Advanced Light Action design reduces shifting effort through Teflon coated parallelogram pivot bushings and a coil extension spring. Water, dust, and mud are completely shut out through double O-rings at the link pivots and sealed ball bearing units in both pulleys. Adjustable pulley cage tensioning spring lets you set chain tension.

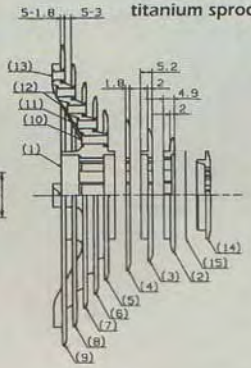


Rear derailleur is a lighter, improved design which features seald ball bearing in both pulleys.

Front hub and Freehub... Stronger wheels for off-road competition

The weight of XTR's new freehub has been reduced through the use of a 10mm titanium axle and freewheel body plus light alloy quick-release and sealing cap. Forged light alloy spider arm further reduces weight while adding rigidity to sprockets. Precision stainless steel ball bearings and ultra-smooth Borozon polished races assure precision operation and a long service life. The wide-ratio P-group uses titanium for the 24, 28, and 32-tooth sprockets, while the ak-group uses titanium for its 23,26 and 30T sprockets. Cassette sprockets are now compatible with IG chains. XTR hubs incorporate the Parallax design that uses an oversize hub shell and heavy-duty tapered spoke flanges to make a stronger wheel. The Parallax design also helps to decrease flex in suspension front ends. XTR's front hub features a heavy-duty 11mm light alloy axle with 9mm ends to fit standard dropouts.





XTR P-group with 24, 28, and 32T titanium sprockets.

ST-M950 Rapidfire SL Lever Set
- Dual SIS compatible
- Advanced Light Action
- Optical Gear Display
- Removable OGD indicator
- Lightweight forged brake lever
- Brake lever position adjuster
- Braking power application adjuster
- SIS SP40 sealed shift cable
- Stainless steel shift cable
- Stainless steel brake cable (option)
- Lever protector cover
- Stainless steel clamp bolt
- For use with V-Brake only

BL-M950 Brake Lever Set
- Lightweight forged lever
- Lever position adjuster
- Power application adjuster
- Stainless steel cable (option)
- Lever protector cover
- Stainless steel clamp bolt
- For use with V-Brake only

BR-M950 V-Brake
- Parallel-Push mechanism
- Accordion boot cable protector
- V-Brake cartridge pad for light alloy rim (optional cartridge pad for ceramic rim)
- Enclosed pivot sleeve
- Self lubricating DU bushings
- Spring tension adjuster
- Easy-Access cable anchor bolt
- Use with special V-Brake only

FC-M950 Crankset
- Hollow forged ultra Duralumin crank arm
- HyperDrive IG-compatible chainrings
- Dual SIS compatible
- 7075 light alloy chainrings
- 7075 light alloy chainring mounting fasteners
- Hard nickel plated middle and small chainrings
- Oversize light alloy crank bolts (M15)
- 24-34-46T chainring combination
- PCD: 112/68(FC-M950)
  110/74(FC-M950-HG*)
- Crank length: 165,170,172.5,175,
  177.5,180mm

*FC-M950-HG: Conventional chainring (48/46-36-26) compatible crankset

BB-M950 Bottom Bracket
- 22mm diameter CR-MO pipe billet spindle
- Tapered serration spline crank arm mounting
- Needle and ball bearings
- Light alloy shell
- Shell width: 68/73
- Spindle length: 112.5mm (chain line 47.5mm/116mm (chain line 50.0mm)

FD-M950 Front Derailleur (band type)
FD-M950-E Front Derailleur (bracket type)
- Dual SIS compatible
- Top Swing action
- Differential plate design
- Compatible with 8-speed systems
- Forged light alloy front and rear bands (FD-M950)
- Carbon mounting bracket (FD-M950-E)
- Steel outer link
- Anodized light alloy inner link
- Anodized light alloy chain guide
- Outer and inner link bushings
- Helicoil insert cable anchor
- Titanium clamp bolt and cable nut (option)
- Stainless steel fasteners and adjuster screws
- Top-low capacity: 22T
- Top-middle capacity: 12T
- Top-gear: 48/46T
- Cable rounting: Top or bottom
- Band size: 28.6, 31.8, 34.9mm

RD-M950(GS) Rear Derailleur
- Advanced Light Action design
- 8-speed compatible
- Titanium mounting pivot bolt
- Stainless steel pulley bolts
- Light alloy parallelogram links
- Light alloy pulley plate
- Light alloy pulley pivot
- Teflon coated parallelogram bushings
- Sealed ball bearing pulleys
- Double O-ring mounting bolt sealing
- Double O-ring pulley cage pivot sealing
- Pulley cage tension adjuster
- Maximum rear sprocket: 32T
- Minimum rear sprocket: 11T
- Front gear difference: 22T max
- Total capacity: 33T

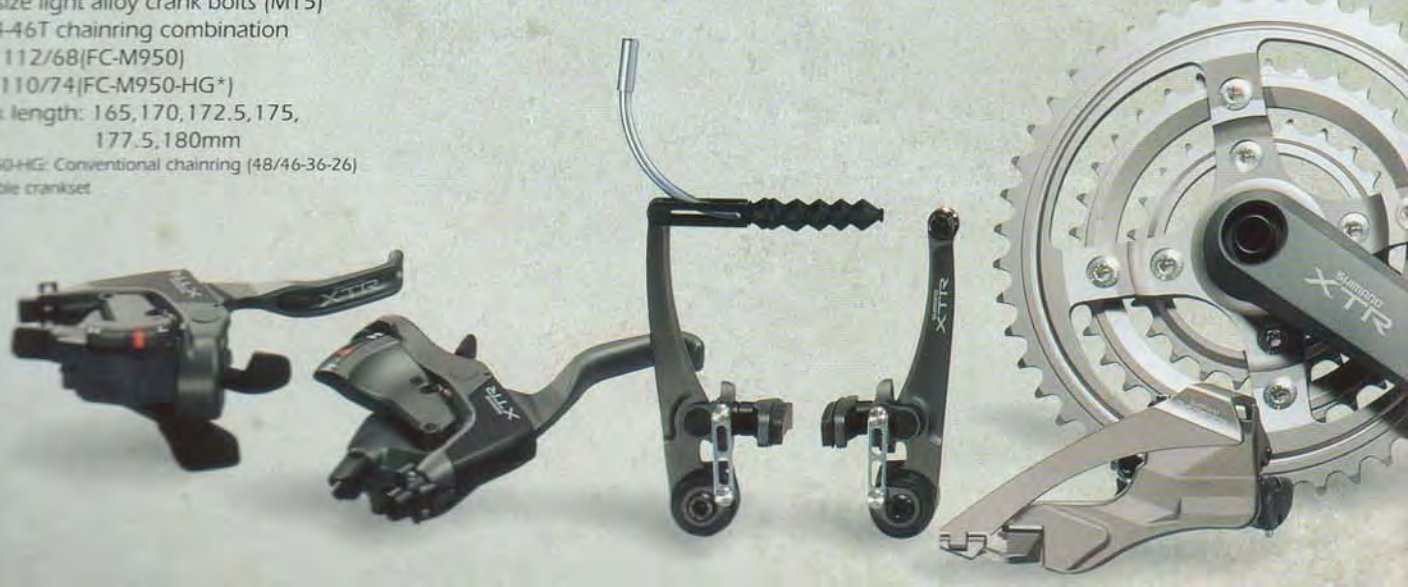
CS-M950 Cassette Sprockets
- 8-speed HG spider arm mount type
- IG chain compatible
- Forged light alloy spider arm
- Gear combinations:
  P-group: 12-14-16-18-21-24*-28*-32*
  ak-group: 11-13-15-17-20-23*-26*-30*

*Titanium sprockets

FH-M950 Freehub
- Parallax design
- 10mm titanium axle
- Titanium freewheel unit
- Stainless steel ball bearings
- Light alloy axle nuts
- Light alloy quick-release
- Light alloy dust cap
- Ultra-smooth Borozon polished races
- Double contact sealing
- Over lock nut dimension: 135mm
- Spoke holes: 36/32H

HB-M950 Front Hub
- Parallax design
- Stainless steel ball bearings
- Light alloy axle nuts
- Light alloy quick-release
- Light alloy dust cap
- 11mm oversize light alloy axle
- Ultra-smooth Borozon polished bearing races
- Double contact sealing
- Over lock nut dimension: 100mm
- Spoke holes: 36/32/28H

CN-IG90 IG Chain
- IG narrow type
- Nickel-plating inner and outer links
- Chromizing link pin
- Polished pin end

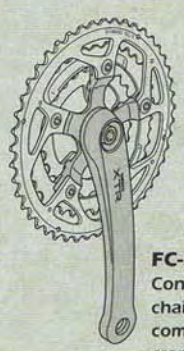




E-type front derailleur mounts to any type of frame because the carbon graphite support prate is attached directly to the bottom bracket.



The XTR bottom bracket uses an oversize splined spindle machined from a lightweight pipe billet.



FC-M950-HG
Conventional chainring compatible type crankset is also available for use with the FC-M950 bottom bracket.

Shimano-sponsored MTB racing teams in Europe:

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