

Chain And Sprocket Measurement Sheet

Chain pitch is a real published standard, so this one can be measured exactly. Count, measure and record before you order.

Roller chain sizes follow a published standard, so unlike most parts on these machines this one has a definite answer. You just have to measure the right thing.

PRINT CALIBRATION — CHECK BEFORE MEASURING



Lay a steel rule along this scale. The 150mm mark must fall at exactly 150mm. If it does not, reprint at 100% / "Actual size" with page scaling off — every measurement you take from a scaled sheet will be wrong.

MEASURING PITCH

Pitch is the distance from the centre of one pin to the centre of the next. Not across a roller, and not from pin edge to pin edge. Lay the chain flat and pulled straight, then measure across ten pitches and divide by ten — measuring one pitch magnifies any error by a factor of ten, and measuring ten divides it by the same.

ACROSS TEN PITCHES

 mm

DIVIDED BY TEN

 mm

ROLLER WIDTH BETWEEN PLATES

 mm

WHAT THE CHAIN NUMBER MEANS

A chain designation such as 420, 428 or 520 encodes two things. The first digit gives the pitch in eighths of an inch — a 4 means four eighths, which is half an inch or 12.7mm. The remaining digits describe the roller width and construction, which is why a 420 and a 428 share a pitch but are not the same chain. Measure both.

COUNTING LINKS

Count the links on the old chain if you can, but treat the number as a maximum: a chain that has stretched reads longer than the one that replaced it needs to be. If the old chain is missing, count the teeth on both sprockets and measure the axle centre distance, and a supplier can work it out.

LINKS COUNTED

CHAIN MEASURED TAUT

 mm

SPROCKET CENTRE DISTANCE

 mm

SPROCKETS

SPROCKET	TOOTH COUNT	BORE / BOLT CIRCLE MM	BOLT COUNT	THICKNESS MM	MARKINGS

Write *FRONT / DRIVE* in the first row and *REAR / DRIVEN* in the second.

TOOTH COUNTS ARE A GEARING DECISION

Fitting a rear sprocket with more teeth raises acceleration and lowers top speed; fewer does the opposite. That is a legitimate thing to change deliberately. It is not a legitimate thing to change accidentally because a listing had a different number and looked close enough. Record what you have before you order.

WEAR INSPECTION — DO BOTH TOGETHER**CHAIN**

- ☐ Tight spots when you turn the wheel slowly through a full revolution
- ☐ Kinked or seized links that will not flex sideways
- ☐ Rust or dry links
- ☐ Chain can be pulled away from the rear sprocket at the back
If you can see daylight under it, it has stretched

SPROCKETS

- ☐ Teeth hooked or curled over to one side
- ☐ Teeth visibly shorter or thinner than others
- ☐ Sprocket bolts loose or missing

ALIGNMENT

- ☐ Rear wheel adjusters set to the same mark each side
- ☐ Chain runs centrally on both sprockets
- ☐ Wear pattern on the sprocket teeth is even across their width

THIS SHEET RECORDS, IT DOES NOT RECOMMEND

Nothing here tells you which part to buy. It tells you what you currently have, in the units a seller works in. Machines built to the same nominal specification were fitted with different components by different suppliers, sometimes inside one model year, so the only reliable reference is the item in your hand.

Need to work out what you actually own?

The Scooter Parts Registry is a free public record of the Chinese factories behind US-market scooters, ATVs and go-karts — brand, engine family, VIN prefix, factory and related machines. No account, no email.

thescooterparts.com/identify