

Sugino

# TENSION DISC



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# TENSION DISC — AERO DYNAMIC SUPER LIGHT WHEEL

**This Tension Disc has an entirely new structure as a bicycle component.**

Unlike the conventional disc wheel, the Tension Disc is not a single unit. Accordingly, assembly techniques and technical skill equal to the construction of spoke wheels are required.



■ **Soft comfortable cushioning**  
absorbs shocks and decreases rider fatigue.

■ **Gives good cornering**  
with its good elasticity,  
it takes curves like a spoke wheel.

■ **High aero dynamics**  
Higher aero dynamic efficiency because of its thin film construction than a solid-type disc wheel.

■ **Ultra-lightweight**  
owing to kevlar-fiber film construction,  
the Tension Disc set weighs only 250g.

■ **Maintainability**  
for adjusting tension and eliminating wobble.

■ **Economical**  
stock parts of suitable specifications may be used.

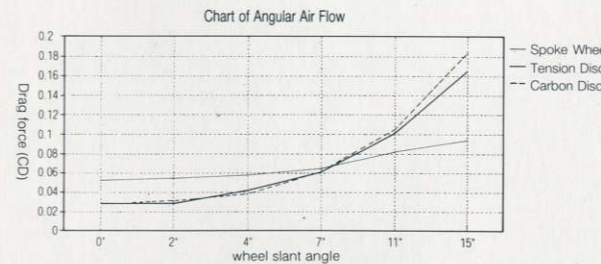
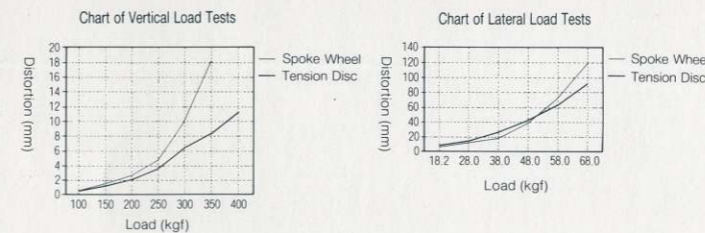
■ **Quiet running**  
minimization of friction and echo noises.



## SPECIFICATIONS

Model Name : TD-700-ROR  
 Sheet Weight : 250 g /1set  
 Assembly Weight : 850 g (total assembly weight using lightweight sew-up rim)  
 Suitable Load : 100kg (inc.rider & fittings)  
 Recommended Rim : 700C-32H Sew-up rim (except aero types)  
 Recommended Hub : Suntour/Superbe 32H, Sprint 32H  
 Shimano/Dura-Ace 32H 7-speed (8-speed requires a separate spacer.)  
 Campagnolo/Super-Record 32H

## COMPARISON AND EFFICIENCY



Tests	Contents	Tension Disc	Spoke Wheel
Vertical Strength Load Tests	Distortion at 250kgf load	3.8mm	4.8mm
	Residual Distortion at 250kgf load	0.5mm	0.6mm
	Load at failure	400kgf	350kgf
	Fatigued components	Damage to the nipple	Damage to the rim
Lateral Strength Load Tests	Distortion at 18.2kgf load	9.0mm	6.6mm
	Residual Distortion at 18.2kgf load	0.4mm	0.6mm
	Distortion at 70kgf load	110mm	140mm
Overall Strength Load Tests	Distortion at 120/40kgf load	15/73.5mm	18.2/72.0mm
	Residual Distortion at 120/40kgf load	5.0mm (Vertical)	6.7mm (Vertical)
Torque Load Cycle Tests	40kgf/60 spin	No damage after 1,000,000 cycles	No damage after 1,000,000 cycles

### Relative Mass Moment of Inertia

Tension Disc	Spoke Wheel	Sugino Carbon Disc	Sugino Aluminum Disc
98	100	88	101

### Relative Mass of Angular Air Flow

Angular	Tension Disc	Spoke Wheel	Sugino Carbon Disc
0°00	54	100	54
3°00	60	107	66

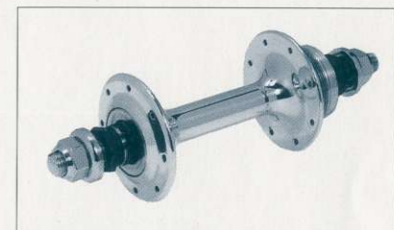
### Relative Mass of Transmission Power from Hub to Rim (50kgf pedal pressure)

Tension Disc	Spoke Wheel	Sugino Carbon Disc
152	100	195

## TRACK HUB

This hub is designed for track racing with the Tension Disc only.  
 The Tension Disc should be equipped with the road-racing Tension Sheet.  
 ※Not for use with spoke wheels.

Model Name : HB-TD-TR  
 TYPE : Small - flange Double thread  
 Sealed-bearing type  
 Material : Light-alloy Anodized  
 LN Width : 120mm (over rock-nut width)  
 Weight : 280 g



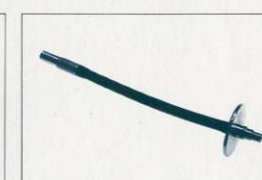
## REPLACEMENT PARTS



Tension Sheets



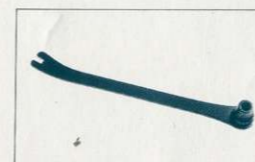
Wheel bag



Air Valve Connector



Protector



Nipple Wrench



Hub Bolt set



Nipple set



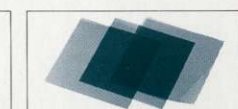
Tension Bolt set



Tension Bolt Rock Liquid



Hub Spacer for 8-speed Dura Ace



Tension Sheet replacement sheet