

Front Drive System

Before use, read these instructions carefully, and follow them for correct use.

In order to realize the best performance, we recommend that the following combination be used.

ALTUS C20

Shifting lever	Outer casing	Front derailleur	Front chainwheel
ST-CT20 SL-CT20	SIS outer casing	FD-CT20	FC-CT20
Bottom bracket	Chain	Bottom bracket cable guide	
BB-CS11	CN-HG50 CN-UG50	SM-SP55 / SM-SP25 SM-SP16 / SM-SP15	

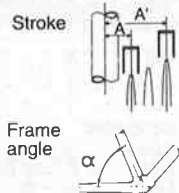
Specifications

Shifting lever

	ST-CT20	SL-CT20
Sprockets	6	6
Type	Uni-lever	Thumb shifter

Front Derailleur

Type	Normal type
Capacity	28.6mm(S)
Stroke (A-A')	38-54
Frame angle (α)	66° - 69°



Chainwheel

Material	Steel
Chainwheel tooth combination	48T-38T-28T
Crank arm length	170mm
Pedal thread dimensions	BC 9/16" X 20 T.P.I. (English thread)
Bottom bracket cup thread dimensions	BC 1.37" X 24 T.P.I. (68, 73mm), M36 X 24 T.P.I. (70mm)

Bottom Bracket

Type	Chain line	Spindle length	Shell width	Stamped marking	
Triple	47.5mm	122.5mm	68	D-NL	BC 1.37" X 24 T.P.I.
			70	D-NL	M36 X 24 T.P.I.
			73	D-NL	BC 1.37" X 24 T.P.I.

Note: For the chain, be sure to use only the Shimano narrow type of chain. The wide type of chain cannot be used.

SHIMANO

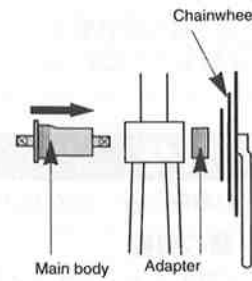
SHIMANO AMERICAN CORPORATION
One Shimano Drive, P.O. Box 19615, Irvine, California U.S.A. 92718 Tel. (714) 951-5003

SHIMANO (EUROPA) GmbH
Wienhausen 1-3 40710 Hilden, Germany Tel. 02103-5005-0 SHIMANO INC.
7-1-1 Ohmachi-cho, 3-cho, Sakai, Osaka. 590 Japan Tel. (0722) 21-3243

Please note: specifications are subject to change for improvement without notice. (English)
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Installation of the bottom bracket

Install using the special tool TL-UN72. First install the main body, then the adapter.



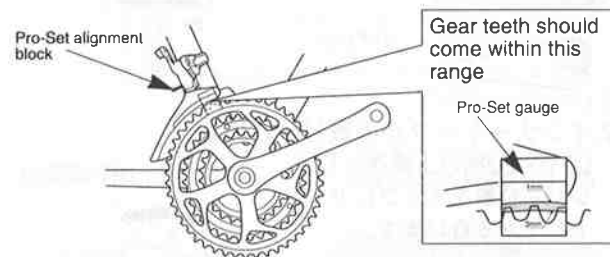
Tightening torque:
500-700 kg / f / cm
(430 - 610 in. lbs.)

Installation to the frame

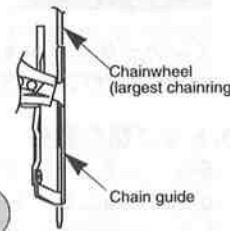
1. Use a 9mm spanner to install the chainwheel.

Tightening torque: 350-450 kg / f / cm (307 - 395 in. lbs.)

2. Adjust and then install the front derailleur as shown in the illustration. Do not remove the Pro-Set alignment block at this time.



3. The level section of the chain guide outer plate should be directly above and parallel to the largest chainring.



4. Secure using a 9mm spanner.

Tightening torque: 50-70 kg / f / cm
(43 - 61 in. lbs.)

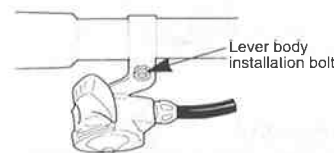
Installation of the lever

Install using a "+" screwdriver or a T wrench.

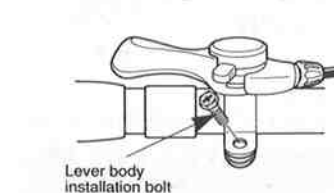
Use a handlebar with an outside diameter of 22.2mm.

Tightening torque:
25-30 kg / f / cm
(21 - 25 in. lbs.)

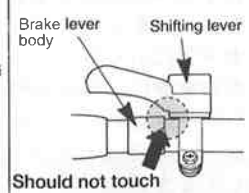
Uni-lever (ST-CT20)



Thumb shifter (SL-CT20)

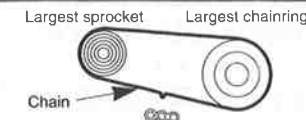


Note: Install the shifting lever so that it does not contact the brake lever body when it is moved to shift the chain from the smallest chainring to the largest chainring.



Chain length

Add 2 links (with chain tightened)

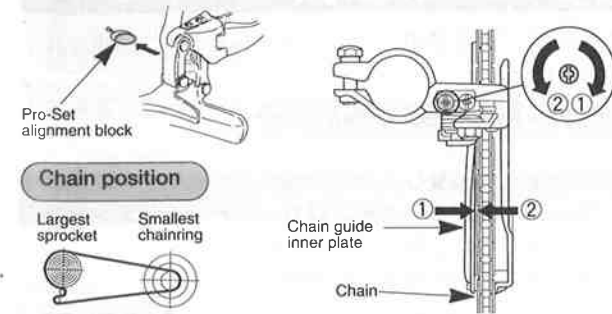


SIS adjustment

Be sure to follow the sequence described below.

1. Low adjustment

First remove the Pro-Set alignment block. Next, set so that the clearance between the chain guide inner plate and the chain is 0-0.5mm.



2. Connection and securing of cable

Operate the lever 2 or more times to shift the chain to the largest chainring.

Uni-lever (ST-CT20)

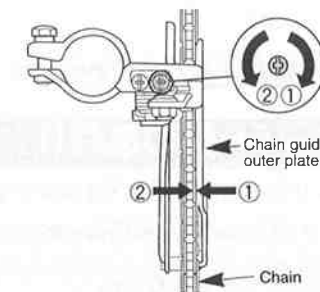


Tightening torque:
50-70 kg / f / cm
(43 - 61 in. lbs.)

While firmly pulling the cable, tighten the fixing bolt with a 9mm spanner to secure the cable.

3. Top adjustment

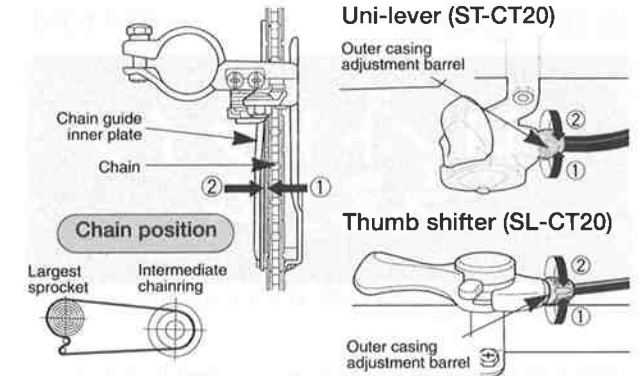
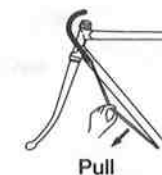
Set so that the clearance between the chain guide outer plate and the chain is 0-0.5 mm.



4. Adjustment of cable tension

After taking up the initial slack in the cable, reattach to the front derailleur as shown in the illustration.

When carrying out adjustment, set the chain to the largest sprocket, and at the front, set the chain to the intermediate chainring. Adjust using the outer casing adjustment barrel so that the clearance between the chain guide inner plate and the chain is 0-0.5mm.



5. Troubleshooting chart

After completion of steps 1 - 4, move the shifting lever to check the shifting. (This also applies if shifting becomes difficult during use.)

If the chain falls to the crank side	Tighten the top adjustment screw clockwise (about 1/4 turn).
If shifting is difficult from the intermediate chainring to the largest chainring	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If shifting is difficult from the intermediate chainring to the smallest chainring	Loosen the low adjustment screw counterclockwise (about 1/4 turn).
If there is interference between the chain and the front derailleur inner plate at the largest chainring	Tighten the top adjustment screw clockwise (about 1/8 turn).
If there is interference between the chain and the front derailleur outer plate at the largest chainring	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If the intermediate chainring is skipped when shifting from the largest chainring	Loosen the outer casing adjustment barrel counterclockwise (1 or 2 turns).
If there is interference between the chain and front derailleur inner plate when the rear sprocket is shifted to the largest sprocket when the chainwheel is at the intermediate chainring position.	Tighten the outer casing adjustment barrel clockwise (1 or 2 turns).
If the chain falls to the bottom bracket side	Tighten the low adjustment screw clockwise (about 1/2 turn).

Front Lever operation (ST-CT20)

The Uni-lever always returns to the initial position when it is released after shifting.

When operating the levers, always be sure to turn the crank arm at the same time.

To shift from a large chainring to a smaller chainring
Move the lever as far as possible to the inside (direction ②).

To shift from a small chainring to a larger chainring
Move the lever toward the outside (direction ①).

