

TECHNICAL UPDATE:

Parts Interchangeability for Campagnolo Rear Derailleurs

The purpose of this chart is to help dealers have maximum flexibility when repairing Campagnolo rear derailleurs. With the chart, dealers may be able to repair a unit when the exact replacement part needed is not available by substituting a different part which will interchange with the original.

To use the interchangeability chart, look for the part needed in the left hand column. In the six columns to the right will be the interchangeable parts listed by their respective series (Super Record, Nuovo Record, etc.). An "X" indicates that part is used on that particular unit. A number indicates a part which will work but which

belongs to another series. N.A. means not applicable to the particular unit.

NOTES:

- *1. The original 4001 used part #807/A the same as the 1020/A. The 4001/NT uses a restyled inner arm that has Super Record inscribed on it, that part is number 7117019.
- *2. The Gran Sport cage plates are thinner than the Record. When substituting an 814/A for a 3057 or an 815/A for a 926, longer bolts must be used, and when using the 3057 for an 814/A or a 926 for an 815/A shorter bolts are needed. The new type 4001 uses special cage plates, nuts and bolts. The entire pulley assembly may be interchanged, but the cage plates, nuts and bolts are unique and not interchangeable with the old series.
- *3. A 930/A together with a 931/A may be substituted for a 930/A together with a 931/B. The Nuovo Record bush (#931/A) has a different outside diameter than the Gran Sport (#931/B) and cannot be substituted in the other roller.
- *4. The two rally cage plates may be added to any Campagnolo derailleur except the 980 to increase its capacity to 32 teeth, but this requires the use of additional chain and therefore is not a direct substitution.

CAMPAGNOLO BOTTOM BRACKET ASSEMBLY TOOLS

The following tools are necessary to properly install a Campagnolo crank set and bottom bracket on a frame:

712	769	767
712/1	770	768
713	793/A	

For this article, we will assume the bottom bracket shell has been properly tapped and faced. Without tapping and facing a frame, a Campagnolo bottom bracket assembly cannot be adjusted to as fine an adjustment as with proper frame preparation.

- Step 1: Clean bottom bracket threads with light solvent to remove any metal filings or other contamination. WD-40 works well for this.
- Step 2: Grease the threads on the fixed cup with Campagnolo grease. Use enough to adequately cover the threads in order to prevent any seizing from corrosion; any excess grease will be pushed out of the way when the cup is installed. Install the fixed cup with tool number 793/A. Lock the fixed cup in tightly to prevent any chance that it will back out.
- Step 3: Grease the bearing race on fixed cup. Grease the caged bearing set and place it in the fixed cup. Make sure that the bearing race was cleaned before greasing it.
- Step 4: Insert the bottom bracket sleeve, part number 2110. Make sure that the lipped edge goes in against the fixed cup and seats properly. Without a good seat, the sleeve will not provide a good seal.
- Step 5: Clean and grease the axle. Grease the races and the center shaft to prevent corrosion. Insert the axle with the long taper toward the fixed cup.
- Step 6: Grease and install the second caged bearing set.
- Step 7: Install the sleeve cone, number 2110/1, with taper inward so that the lip will seat against the adjusting cup.
- Step 8: Grease the adjusting cup threads and bearing races. Install the adjusting cup, using the locking and adjust — using tools 712 and 712/1. When disassembling the bottom bracket, always loosen the locking before trying to back out adjusting cup. Trying to loosen the adjusting cup first may break the pins on the 712/1.
- Step 9: Clean axle tapers — the tapers should be clean and dry when installing the crank arms. Install the arms and tighten the bolts with the 769 tool. In the removal of an arm, the crank arm fixing bolt is removed with the 769 tool. Using a crank extractor 770, thread it all the way in, with the center shaft screwed all the way out. With the tool completely screwed in, use the 769 tool to screw center shaft in, which will pull arm off the axle. We recommend lubricating the 770 tool before installing the arm.
- Step 10: Lubricate the dust cap threads and install with a 767 tool.
- Step 11: Check the chainring bolts with tools 767 and 768.
- Step 12: Grease the pedal axle threads and install in arms with tool number 713. For shop use, we recommend using the pedal spanner number 1101.

PARTS INTERCHANGEABILITY FOR CAMPAGNOLO DERAILLEURS

PART NO.	DESCRIPTION	4001	3550	3500	3450	1020/A	980	NOTE*
82/A	Body Ferrule	X	X	X	X	X		
84	Gear Retn. Spg/Scr	X	X	X	X	X		
88	Clamp Washer	X	X	NA	X	X		
93/A	Sprocket Bolt	X	X	NA	X	X	X	
98/A	Gear Retn. Sprg.	X	X	3509	X	X		
99	Gear ADJ Screw	X	X	X	X	X		
120	Lower ADJ Spring	X	X	X	X	X		
120/1	Upper ADJ Spring	X	X	X	X	X		
124	Fixing Screw	X	X	X	X	X		
166/A	Upper Piv. Bolt	4004	3506	3506	NA	X	X	
805/A	Upper Body	4002	3501	3501	NA	X		
806/A	Front Arm	4006	3462	3503	3462	X		
807/A	Inner Arm	7117019	3504	3504	X	X		See *1
808/A	Spindle	X	X	X	X	X	X	
810/A	Lower Body	4003	3501	3501	NA	X		
811/A	Gear Spring Bolt	4005	3505	3505	X	X		
812/A	Spring Cage Cov.	4009	3508	3508	X	X		
812/1A	Grub Screw	X	X	X	X	X		
813/A	Tension Spring	X	X	X	X	X		
814/A	Outer Cage Plate	X	NA	3507	NA	X		See *2
815/A	Inner Cage Plate	X	NA	926	NA	X		See *2
926	Inner Cage Plate	815/A	NA	X	NA	815/A		See *2
930/A	Roller	X	X	930/B	X	X	930/B	See *3
930/B	Roller	930/A	930/A	X	930/A	930/A	X	See *3
931/A	Roller Bush	X	X	931/B	X	X	931/B	See *3
931/B	Roller Bush	931/A	931/A	X	931/A	931/A	X	See *3
932/A	Roller Dust Cov.	937	937	X	937	937	X	
933	Roller Bolt	NA	NA	X	NA	NA	NA	
937	Roller Dust Cov.	X	X	932/A	X	X	932/A	
3451	Upper Body	NA	NA	NA	X	NA	NA	
3452	Outer Cage Plate	NA	X	NA	X	NA	NA	See *4
3453	Inner Cage Plate	NA	X	NA	X	NA	NA	See *4
3454	Toothed Washer	NA	NA	NA	X	NA	NA	
3455	Circlip	NA	NA	NA	X	NA	NA	
3456	Gear Fixing Scrw	NA	NA	NA	X	NA	NA	
3457	Upper Body Bush	NA	NA	NA	X	NA	NA	
3458	Upper Body Sprg.	NA	NA	NA	X	NA	NA	
3459	Upper Body Grub	NA	NA	NA	X	NA	NA	
3460	Gear Retn. Scrw.	NA	NA	NA	X	NA	NA	
3461	Roller Fixg. Scw	93/A	X	NA	X	93/A	X	
3462	Front Arm	4006	X	3503	X	806/A		
3501	Upper Body	4002	X	X	NA	805/A		
3502	Lower Body	4003	X	X	810/A	810/A		
3503	Front Arm	4006	X	X	3462	.806/A		
3504	Inner Arm	807/A	X	X	807/A	807/A		
3505	Spring Cage Bolt	4005	X	X	811/A	811/A		
3506	Upper Piv. Bolt	4004	X	X	NA	166/A		
3507	Outer Cage Plate	814/A	NA	X	NA	814/A		See *2
3508	Spring Cage Cov.	4009	X	X	812/A	812/A		
3509	Gear Rtn. Spring	98/A	X	X	98/A	98/A		
4002	Upper Body	X	3501	3501	NA	805/A		
4003	Spring Cage	X	3502	3502	810/A	810/A		
4004	Upper Piv. Bolt	X	3506	3506	NA	166/A		
4005	Lower Piv. Bolt	X	3505	3505	811/A	811/A		
4006	Front Arm	X	3503	3503	3462	806/A		
4007	Upr. ADS B. Sprg.	X	120/1	120/1	120/1	120/1		
4008	Lwr. ADS B. Sprg.	X	120	120	120	120		
4009	Spring Cage Cov.	X	3508	3508	812/A	812/A		

STAGE RACING: TRAINING GROUND FOR TEAM MECHANICS

By Bill Woodul

It has been said that there is no better teacher than stage racing for the aspiring team mechanic. Unlike working in a bicycle shop with all the conveniences, the team mechanic must learn to work with the basics.

COOR'S INT'L. BIKE CLASSIC

The 1982 Coor's International Bicycle Classic began on June 8th with the time trial prologue. It was here that Campagnolo-U.S.A., Inc. presented the new Buick station wagon for Technical Support. The new Buick displaying Campagnolo and Olympic colours began race service equipped with six Super Record bicycles and twenty spare wheels. Campagnolo special tools and parts were also available to meet any unforeseen problems which Support Liaison Bill Woodul might encounter during the term of the race. Tires, rims and free-wheels for the support vehicle were provided by Pncudan, Mavic and Mallaird.

The new Buick became the "eye-catcher" of the race, getting photographed as much as any of the top caliber cyclists. During the twenty-two stages of racing, no cyclist had difficulty in finding the "neutral" support car since the Campagnolo Buick seemed to attract spectators and competitors alike. When a contender asked where he could get a last minute adjustment on his equipment, the response was "Go to the Campy car, over there behind that crowd!"

The overwhelming reception made the Campagnolo Technical Team feel quite welcomed, and welcomed they were. Support bikes were loaned out twenty-two times while thirty-seven spare wheels were given out in the twelve days of racing. Although the riders' bikes were repaired before the end of the race, they chose to stay on the Campagnolo support bicycle to finish the race. Steve Bauer of G.S. Mengoni crashed in the Vail Criterium, but mounted a Campagnolo support bike and went on to finish second in the stage.

Represented in the race were National teams from Columbia, USSR, Czech-

oslovakia, Mexico, France and Ireland. Eight domestic teams rounded out the field. Campagnolo equipment went on to dominate the Classic in the Men's Competition. Through the 750 miles of racing, Jose Patrocinio Jimenez of Colombia came out the overall winner, and the first foreigner to ever win the Classic. The Colombian team took first place in the team competition with the Russian team placing second, both using Campagnolo equipment.

The Campagnolo "King of the Mountain" jersey went to Colombia's Martin Ramires, who also took second in the general classification behind teammate Jimenez. Points jersey winner was Davis Phinney of the 7-11 team. The 7-11 team, all on Campagnolo, took five stages. Phinney won the Vail Criterium and North Boulder Park Criterium. The difficult Colorado National Monument stage went to Ron Hayman (7-11). Ron also won the Washington Park race with teammate Alex Stieda winning the Grand Junction Criterium. In all, Campagnolo components won 12 of the 13 stages.

In the Women's race, "the Coor's belonged to Connie." Connie Carpenter (Puch) dominated as never before, winning five stages (four in a row). With Sue Novara-Reber winning two stages to go with Connie's five, the Puch women's team had seven out of nine stage wins, giving them the first place team standing thus holding off the tough international competition. The Campagnolo "Queen of the Mountain" jersey also went to Connie Carpenter. With Connie and the Puch team, Campagnolo products took first place in General Classification and team standing. Overall, eight of nine stages were won on Campagnolo equipment.

The mechanic must also organize his work load. Immediately following a stage finish, wheels should be checked. This procedure gives warning of any wheel work needed, often the most time consuming job. Next, a work area is needed. Look for good cover with lighting and water sources as well as a safe storage area. There is nothing worse than working up six bikes and finding them gone the next morning. Besides checking all normal functions, shifting, braking, etc., the bike should be

throughly cleaned. This allows a close inspection for small cracks, fraying cables or loose parts. It also helps rider morale to roll out on a clean bike.

Gear changes should be discussed with the rider and coach after checking a topographic map of the next day's course. Gear changes are personal since different riders have varying needs in relation to their climbing techniques.

In the morning, riders need to check their high and low gears while warming up

since sometimes what may function on the stand may not work on the road. The mechanic should also check on the day's strategy, when to drop back for feeds, when riders to follow when a break goes, for example. There is nothing worse than not being where you are needed.

We have touched lightly on the main points of Bicycle Team Mechanics. Greater depth will be explored in future issues.

This year's "Lanton Rouge" award went to Rick Baldwin of Centurion/Nutritech. In the second stage criterium, Mr. Baldwin finished eighth but later finishes resulted in the last place award.

To many, this was considered the greatest Coor's Classic ever. CBS Sports Saturday gave the race coverage over two week-

ends and live coverage of the final stage when Jimenez won the North Boulder Park Criterium thus sealing his first place General Classification standing. *Newsweek* gave a full page coverage with *Velo-News* and *Cycling-USA* also giving extensive coverage.

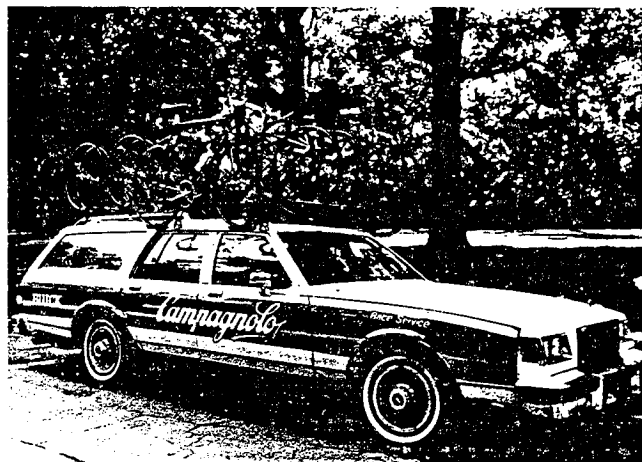
In a joint announcement, the Los Angeles Olympic Organizing Com-

mittee and the Coor's International Bicycle Classic stated that the 1984 Classic will host 20 men's and 20 women's Olympic teams with the race finishing 10 days before the opening of the Olympic Games. Riders be watching each other intently since Olympic gold will be only a few days away.

*Exclusive official
supplier of technical
assistance to the cycling events.*

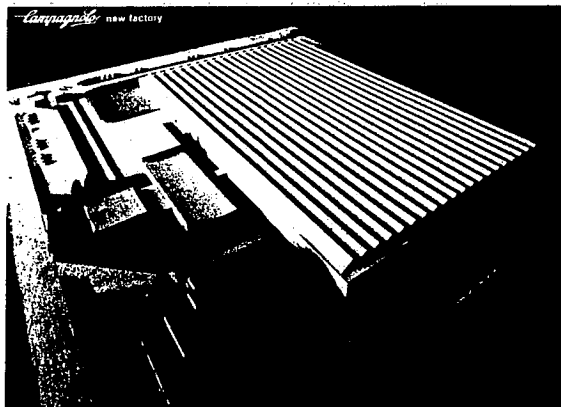


**Games of the
XXIIIrd Olympiad
Los Angeles 1984**



Campagnolo
Technology to Win

NEW CAMPAGNOLO PLANT AT VICENZA



With the ever growing demand on Campagnolo to provide more of the already world-famous components, Tullio Campagnolo proposed building a new production facility to consolidate the four plants already in use. That was 1979, and in the fall of 1981, Italy's premiere manufacturer of quality cycling components dedicated the new industrial plant near Vicenza, Italy.

The new plant was the result of a two year engineering effort between the German Interspan firm, the Gherzie Company of Switzerland and the Campagnolo

production engineers. The new home for Campagnolo provides production area in excess of a quarter million square feet and incorporates the latest in manufacturing techniques.

Designed to meet changing requirements, the new building has the flexibility to deal with technical, economical and administrative changes. In addition, the new environment provides a working atmosphere conducive to employee satisfaction. With the exception of the magnesium smelting plant near Bologna, all Campagnolo employees are housed

in the new complex.

By mid-1982, the production runs are at capacity to meet the needs of a quality hungry world. "The supply has never been better," says Amos York of Campagnolo, U.S.A., Inc., "but it is still not enough."

If your shop did not receive a copy of the "CAMPAGNOLO RECORD NEWS", please send a request on company stationery with your business card.

PLEASE FILL OUT AND RETURN TO:

CAMPAGNOLO-USA
P.O. BOX 37426
HOUSTON, TEXAS 77036

DEALER SURVEY

1. Store Name: _____
 Address: _____
 City/State/Zip: _____
 Phone: _____
2. Who manages the store? _____
 Who buys for the store? _____
3. Do you sell Campagnolo? Yes _____ No _____
 If no, why not? _____
4. Do you regularly stock Campagnolo products, or special order them?
 Stock _____ Special Order _____
5. Do you purchase Campagnolo products as groups or as individual components?
 Individual _____ Groups _____
6. From what distributors do you purchase Campagnolo?
 (a) _____
 (b) _____
 (c) _____
 From what source would you like to buy Campagnolo products? _____
7. Do you regularly stock Campagnolo repair parts? Yes _____ No _____
 Are Campagnolo repair parts readily available from Campagnolo distributors?
 Yes _____ No _____
8. Do your customers ask for Campagnolo? Yes _____ No _____
9. Does our advertising help your sales? Yes _____ No _____
10. Does our commitment to racing activities and the 1984 Olympics help your sales? Yes _____ No _____
11. What brand Campagnolo equipped bicycles do you sell?
 (a) _____
 (b) _____
 (c) _____
 (d) _____
12. Do you have a Campagnolo parts display? Yes _____ No _____
13. In what way can Campagnolo better service you, the dealer? _____

Upon receipt of this questionnaire we will forward to you free of charge a Campagnolo Olympic Lapel Pin with a retail value of over \$5.00.

Campagnolo

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