

Cycling Passion

a passion, an emotion, a sport



Dura-Ace History

62

2

0

Share

0

Dura-Ace is the admiral ship of Shimano, the Japanese (now multinational) manufacturer of cycling components (and some other things like fishing tackle and rowing equipment). Here is a brief history of Dura-ace.

1973 – The first Dura-Ace release

The story begins in 1973, the same year which Campagnolo Super Record group was introduced. The first Dura-Ace was built using aluminum. It was Shimano's first attempt at a professional quality road racing component group which dominated by Campagnolo, the Italian manufacturer who was unchallenged for years.

There were two types of rear derailleur (short-cage, up to 28-teeth compatible and the long-cage, up to 34-teeth compatible). The cranks were 39/52 165mm, 45/54 165mm, 39/52 170mm and 45/54 170mm.

The “pro” model had 5/6 speed options, while “touring” model was 5-speed.



Shimano Dura-Ace 1973
Catalogue: Package
Contents Specifications.
Photo:
SheldonBrown.com



Shimano Dura-Ace 1973
Catalogue: Shifters and
Derailleurs. Photo:
SheldonBrown.com



Shimano Dura-Ace 1973
Catalogue: Crankset,
Cassette and Front
Derailleur. Photo:
SheldonBrown.com



Shimano Dura-Ace 1973
Catalogue: Brakes, Hubs
and Head Parts. Photo:
SheldonBrown.com

1976 – Dura-Ace 10

It was a track groupset used a 10mm pitch chain and gears.

Almost all bike chains are half-inch pitch, so the centers of the pins are half an inch, or 12.7mm, apart. Introduced in 1976, and discontinued some time in the 80s, Dura-Ace 10 used a smaller chain and therefore smaller chainrings and sprockets – the number of teeth was the same, but they were closer together.

The biggest advantage was lower weight, and eventually, according to legend, the Japanese Keirin federation banned the 10mm pitch equipment because it might give some riders an unfair advantage.



John Nicholson was crowned World Professional Sprint Champion after successfully defending his 1975 title in Italy during September, 1976.

Nicholson did more than prove himself the world's best sprinter....he proved Shimano's new Dura-Ace 10 Track System is the new standard among competitive bicycle components.

Dura-Ace 10 is the first major deviation from a standard that has existed in the bicycle industry since mass-production of bikes began some 100 years ago. It was so simple; Shimano reduced the distance between the sprocket teeth from the old 1/2" to the new 10mm. dimension. Ten millimeter pitch allows the front chainwheel and the rear sprockets to be made smaller, and the chain shorter. The smaller size means less weight and more rigidity and when rotating parts are lightened acceleration is increased.

Now competitors on Dura-Ace 10 can climb hills faster, jump out of corners more quickly, and get the lead in the sprint. If there were any doubts about the acceptance of Dura-Ace 10 then World Champion John Nicholson successfully has erased them.

Dura-Ace 10 Road System Components Ensemble will be introduced in 1977.

Front & Rear Hubs with Lock Ring
Model HA-310
DURA-ACE 10
SPECIFICATIONS
Weight: Front 8.4 oz. (240 g.) Rear 10.6 oz. (303 g.)
Material: Duralumin • Almite Finish
Over Lock Nut Dimensions:
Front 3.94" (100mm.)
Rear 4.33" (110mm.) 4.72" (120mm.)
Fork End Slot Width:
Front 0.354" (9mm.), 0.315" (8mm.)
Rear 0.394" (10mm.), 0.315" (8mm.)
Sprocket Thread: BC33 x 24 T.P.I.
Spoke Holes: 28H, 32H, 36H
Lock Ring Thread: BC32 x 24 T.P.I. (Left)
Polished Ball Race

Chain
Model QA-100
DURA-ACE 10
SPECIFICATIONS
Material: Chromium
Molybdenum Steel
Type: Bushed Chain

Front Chainwheel
Model GA-110 (without Bottom Bracket Set)
GB-100 (Bottom Bracket Set)
DURA-ACE 10
SPECIFICATIONS
Material: 75S Extra Super Duralumin • Special Surface Treatment
Type: Cotterless
Chain Ring: 10mm. x 3mm.
Teeth: 46-55T
Crank Lengths: 6-1/2" (165mm.), 6-3/4" (170mm.)
Available by request 6-19/32" (167.5mm.)
Crank Thread: 9/16" x 20t
Cup Thread: English 1.31" x 24t, French 35 x 1.0, Italian 36 x 24t

Sprocket for Track Hub
Model FA-310
DURA-ACE 10
SPECIFICATIONS
Material: Nickel Chromium
Molybdenum Steel
Standard Sprocket: 10mm. x 3mm.
Thread: BC33 x 24 T.P.I.
Teeth: 14, 15, 16

DURA-ACE 10 -- DURA-ACE Comparison Chart
* Weight Comparison (Track Models)

	Dura-Ace 10	Dura-Ace	Saving
Right Hand Crank	8.4 oz. (239 g.)	9.8 oz. (277 g.)	1.4 oz. (38 g.)
Chainwheel (49T)	2.2 oz. (63 g.)	4.1 oz. (116 g.)	1.9 oz. (53 g.)
Chain	11.6 oz. (330 g.)	11.8 oz. (335 g.)	0.2 oz. (5 g.)
Rear Hub W/Lock Ring	10.7 oz. (303 g.)	11.6 oz. (313 g.)	0.9 oz. (24 g.)
Rear Sprocket (14T)	0.6 oz. (24 g.)	1.3 oz. (38 g.)	0.7 oz. (19 g.)
TOTAL	33.7 oz. (959 g.)	38.0 oz. (1,079 g.)	4.3 oz. (120 g.)

Dura-Ace 10 series marked with a white square is shown together with Dura-Ace.

Shimano Dura-Ace 10 Series catalogue (1976).

1977 – Dura-Ace 7100

It was the second generation Dura-Ace. It was slightly different from the First Generation parts. Crank arms appear to be the same, but with different rings and used standard pedal threading.



Shimano Dura-Ace 7100 group (1977)

1978 – Dura-Ace EX 7200

The Dura-Ace EX 7200 introduced Shimano's EX concept as being a

design optimized for the (then radical) idea of using 6-speed, particularly with the new freehubs.



Shimano Dura-Ace EX 7200 group (1978)

1980 – Dura-Ace AX 7300

Shimano Dura-Ace AX 7300 comes out in 1980. It is specifically designed to be more aerodynamic.

Despite being a commercial disaster (Dura-Ace series were not really successful until the introduction of the indexed shifting, the “Shimano Index System – SIS” in 1984), the AX 7300 is arguably one of the foundation stones of Shimano’s current success. It created a fear of being left behind that forced every other derailleur manufacturer in the world to redesign their own derailleurs to incorporate “aerodynamic” elements. With the European manufacturers already on their knees, and SunTour about to be clobbered by technical problems, this expenditure crippled every one of Shimano’s competitors.





Shimano Dura-Ace AX 7300 group (1980).

1984 – Dura-Ace 7400 series with Shimano Index System (SIS)

In 1984, Shimano introduced Dura-Ace S.I.S. (Shimano Indexing System), the first successful indexed-shifting system in cycling history. It was a 6-speed (then 7 and 8-speed with the new versions) system with indexed shifters mounted on the down tube.

1988 – The first Grand Tour Victory: Giro d'Italia

In 1988, Andy Hampsten (Seven-Eleven Team) won the Giro d'Italia with Dura-Ace groupset.



Andy Hampsten climbing Passo di Gavia, Giro d'Italia 1988.

1990 – Dura-Ace 7400 series with Dual Control Levers

The dual-control lever incorporates a shifter mechanism into the brake lever, making it possible to change speeds without removing one's hands from handlebars.



Shimano Dura-Ace 7400 series 1993
catalogue



Shimano Dura-Ace 7400 dual control
levers

alkalinefoods.net





1993 – Dura-Ace 7410

It was actually the last of the Dura-Ace 7400 series, but was enough of a departure from the original 7400 series that many sources list it as a separate group.





Shimano Dura-Ace-7000-7010 group

1996 – Dura-Ace 7700

7700 series are developed after thorough review of the previous derailleur system based on the philosophy of “Stress-Free”.

A review about DA 7700 that I like: *“Reining from 1996 to 2004 as Shimano’s top-end groupset, it is arguable that DA 7700 lacks the technological punch to stand out on its own against breakthrough DA 7400 or ultra-refined DA 7800. It was just a sort of 9-speed filler between the two. But in 1999 it was this component group that allowed Shimano to finally climb to the top of the podium at the Tour de France. A cyclist from Texas, USA may have helped it get there.”*
(campagnolodelta.blogspot.com)



Shimano Dura-Ace 7700 group

1998 – Dura-Ace 25th Anniversary

Groupset

This series is a special Dura-Ace released in commemoration of 25 year since its introduction in to the market.





Shimano Dura-Ace 25th Anniversary Group (1998)

1999 – The first (now annulled) Tour de France victory

Lance Armstrong of the US Postal Team won the Tour de France 1999 using Dura-Ace 7700 groupset, but the U.S. Anti-Doping Agency (USADA) stripped his all seven Tour de France titles in 2012.

2004 – Dura-Ace 7800

Dura-Ace 7800 series components are developed with “For 100% Power Transmission Efficiency” as a catchword. This series consisted of 10-speed rear drive trains, HOLLOWTECH □ cranksets, ergonomic dual control levers, and other higher performance components. It

was the first 10-speed group of the market.



Shimano Dura-Ace 7800 groupset (10-speed)

2007 – The first (not annulled) Tour de

France victory

Alberto Contador, the Spanish rider of Discovery Channel team won the 2007 Tour de France using Dura-Ace 7800 groupset. Now Shimano has total of 6 Tour de France victories (as of 2015).

2008 – Dura-Ace 7900

The 7900 series components were developed under the concept of “Evolution of Perfection”. A derailleur comprising these components embedded the shift cable completely. Its crankset consisted of a HOLLOWGRIDE (hollow gear) in addition to a HOLLOWTECH □. All other components were also reviewed for optimal design. The weight of the groupset w/out hubs reduced from 2181 grams (DA 7800) to 2052 grams (DA 7900).





Shimano Dura-Ace 7900 groupset (2008)

2009 – Dura-Ace Di2 (electronic)

2009 Electronic Shifting System DURA-ACE 7970 is in the market. A new technology called “Digital Integrated Intelligence (or Di2 for short) was introduced into Dura-Ace. The Dura-Ace 7900 series

equipped with this electronic shifting system provide racers with a “complete stress-free” function. Enhanced shifting performance is the most obvious benefit of Shimano’s Di2.

“A solution to a problem that doesn’t exist.” “Unnecessary.” “A marketing gimmick.” Those are lines offered against Shimano’s Dura-Ace Di2 electronic drivetrain, but it quickly became a racing standard. Today, almost every pro team use electronic gears.



Shimano Dura-Ace 7900 Di2 electronic groupset

2012 – Dura-Ace 9000 (11-speed)

The new series have been fully re-engineered across every system. Highlights include a robust four-arm cranksets, the new SLR-EV brake system and a new 11-speed drive train. 9000 is mechanical and 9070 is electronic (Di2) series.



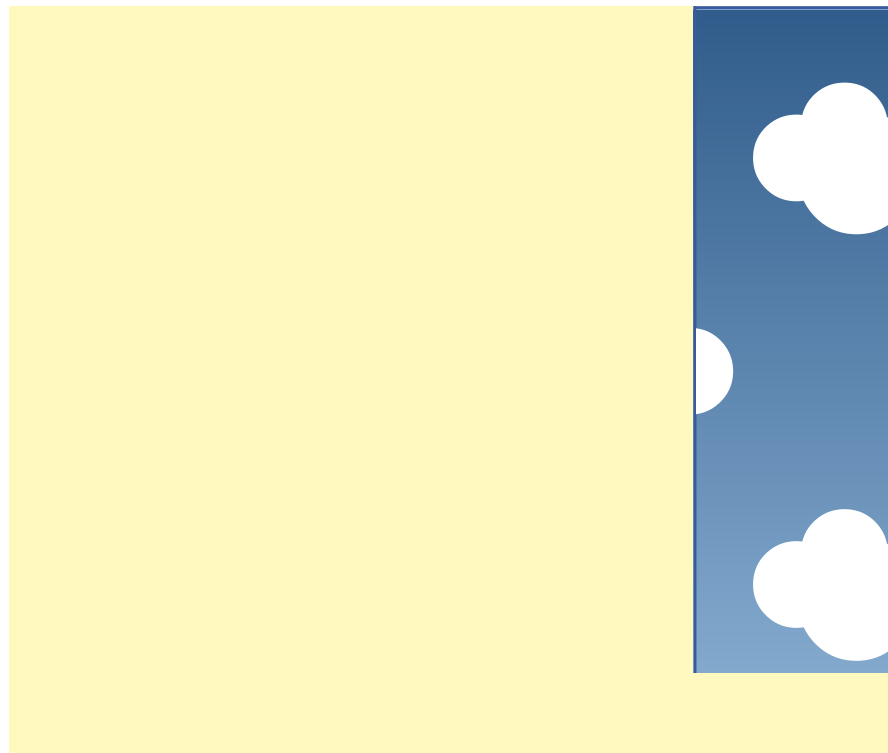


Shimano Dura Ace 9000 mechanical groupset (11-speed)

Sources

- [Shimano on wikipedia](#)
- [Shimano Dura-Ace Compatibility and History on SheldonBrown.com](#)
- [Dura-Ace 10 Pitch on Fixed Gear blog](#)
- [Shimano on Merlin Cycles](#)
- [Shimano Dura-Ace AX \(7300\) on disraeligears.co.uk](#)
- [campagnolodelta.blogspot.com](#)





Powered by Google



**12-speed group: Tiso,
Made in Italy**



**Colnago C35 with
Campagnolo Super
Record gold**



Best Cycling Quotes

Related Posts:



Scott 2015 Road
Bike Series – I –
Scott Foil



Shut up Hour!



Scott 2015 Road
Bike Series – II –
Scott Addict



Team Sky's new
(2016) Pinarello
Dogma F8 Team
Bike Revealed



Shimano 105 goes
11-speed



Cannondale Time
Trial Series 2014
(Slice RS and Slice)

Shop Related Products





...

\$359.99 ✓Prime

★★★★★ (5)



...

\$271.99

★★★★★ (15)



...

\$3656.79 ✓Prime



...

\$11.38

★★★★★ (16)



...

\$69.93 ✓Prime

★★★★★ (8)



...

\$54.95

★★★★★ (1)



...

\$221.99

★★★★★ (21)



...

\$11.98 ✓Prime

★★★★★ (56)

All ▼

Search Amazon

SHARE THIS:



Facebook



Twitter



Google



Tumblr



Pinterest



Reddit



Email

📅 September 6, 2015 👤 cyclingpassion 📁 Bicycles and Equipment, History and Legends 🔖 Alberto Contador, Andy Hampsten, Di2, Di2 9070, Dura-Ace, Dura-Ace Di2, Giro d'Italia, Giro d'Italia 1988, Shimano, Shimano Dura Ace, Shimano Dura Ace Di2, Tour de France, Tour de France 1999, Tour de France 2007

Leave a Reply

Enter your comment here...

PREVIOUS

**Schwalbe Lugano 700x25c Clincher Road Tires
(review)**

NEXT

**Tips & Expert Advice from the pros of the
Boels-Dolmans Women's Cycling Team**

We use cookies to ensure that we give you the best experience on our website. Google, also, as a third party vendor, uses cookies to serve ads to users based on their visit to cycling-passion.com and other sites on the Internet. If you continue to use this site we will assume that you are happy with it.

Ok

Read more